TOWN OF CALEDON
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GEI Consultants Canada

Master Environmental Servicing Plan Update

Simpson Road

Caledon, Ontario

Submitted to:
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Executive Summary

A Master Environmental Servicing Plan (MESP) has been prepared to establish the preferred method of servicing for the study area located within the West Rainbow Creek. The aim of the MESP is to present the preliminary design of the municipal sanitary sewers, storm drainage, water supply and distribution systems, stormwater management, site grading and road design to support future development within the study area. The development area is identified as part of the Phase 2 South Simpson Industrial Secondary Plan in Schedule C of Staff Report 2022-0374.

Previously an MESP for the area was completed by R.J. Burnside for the Bolton South Industrial Lands in December 2000. The Town has requested that the MESP be updated by the Simpson Road Landowner's Group (LOG) for the study area to better understand the servicing strategy for these lands. GEI Consultants was retained by the LOG to prepare a Block Plan and update to the Master Environmental Servicing Plan (MESP).

Development Proposal

It is proposed to develop the subject lands part of the Phase 2 Secondary Plan Area into individual site plan blocks and extend the current Simpson Road southwards towards Mayfield Road.

Natural Heritage

The original MESP completed by R.J. Burnside in 2000 provided a baseline for the physical setting of the Subject Lands. Detailed field studies were completed in 2023 to confirm and further characterize the existing natural heritage features present on the landscape. Located within the Humber River Watershed, Tributary D of West Rainbow Creek flows southward along the eastern boundary of the Subject Lands. Two individual wetland units are also present on site, existing within an otherwise highly disturbed and anthropogenic landscape.

Geotechnical Study

The Ontario Geological Survey and Quaternary mapping identified clay and silt till deposits with minor sand or gravel content and non-free-flowing groundwater. In 2012, Golder's Environmental Assessment for Simpson Road found silt and clay soils up to 3.5 meters deep without encountering groundwater or installing monitoring wells. GEI's preliminary investigation for the Block Plan found topsoil and pavement over clayey silt, sandy clayey silt, and glacial till. Groundwater after stabilization was found at depths of 0.5 to 4.7 meters.

The geotechnical report provides recommendations for the proposed road services. Typical trenching and backfilling are recommended in accordance with OHSA and OPS/Standard OPSD's. The native soil was found suitable to support the pipe and groundwater is generally not expected to be an issue during service installation.

Stormwater Servicing and Stormwater Management (SWM)

Along the proposed Simpson Road right-of-way (ROW) extension, there is an approved storm network that consists of a series of 1800(w)x900(d)mm, 1200mm, 1050mm, 900mm, and 600mm sewers collecting flows from Simpson Road, Parts 1B and 2B of the subject sites and collecting partial flows from Parts 1A and 2A of the subject sites. The Extended Stormwater Management Pond (SWMP) 4.2m x 1.5m box culvert Outlet pipe and proposed channel west of Simpson Road will collect flows from Parts 3, 4, 5, 6, and 10, as well as the remaining flows from Parts 1A and 2A. Parts 7, 8, 9 and 11 will have their flows collected and discharged through a shared easement and outlets to the existing 525mm storm sewer on Mayfield Road.

On-site controls are proposed within each of the site plans to meet the quantity, quality and erosion requirements before discharging to the proposed Extended SWMP Outlet, proposed channel, or existing storm sewer system.

Sanitary Servicing

The sanitary servicing for Parts 1, 2, 3, 4, 5, and 10 will connect to the approved 250mm diameter sanitary sewer on Simpson Road. The flow discharge to Simpson Road accumulates to a total of 25.56 L/s. The sanitary servicing for Parts 6, 7, 8, 9, 11, and 12 will connect to the existing 750mm diameter sanitary sewer on Coleraine Drive. The flow discharge to Coleraine Drive contributes an additional total of 2.08 L/s.

Water Supply Servicing

The water supply for Part 1, 2, 3, 4, 5, and 10 is anticipated to have a maximum daily consumption of 178,394 L/d and connected to the approved 300mm diameter watermain on Simpson Road. The water supply for Part 6, 7, 8, 9 and 11 is anticipated to have a maximum daily consumption of 33,474 L/d and connected to the existing 300mm diameter watermain on Coleraine Drive. The water supply for Part 12 is anticipated to have a maximum daily consumption of 32,760 L/d and connected to the existing 300mm diameter watermain on Mayfield Road.

Grading

The proposed grading will match into the existing grades where needed and maintain the existing overland flow patterns. For this concept of grading 0.3% min. slope has been maintained running west to east with a 3:1 slope matching into existing. The study area is governed by the approved Simpson Road extension drawings. This extension has proposed grades that are approximately averaging between 1-2m higher than existing which would cause this site to require fill. Additional grading details will be required upon preparation of the detailed engineering plans at detail design.

1. Introduction

1.1 Study Purpose

GEI Consultants Canada Ltd. (GEI) have been retained by Simpson Road Landowners Group Inc. to update the Master Environmental Servicing Plan (MESP) to support the Block plan and the Official Plan Amendment (OPA) for the Bolton South Industrial Lands. The previous MESP was prepared by Burnside Development Services dated, December 2000.

The subject sites are a part of the Phase 2 Secondary Plan Area consisting of the extension of Simpson Road to Mayfield Road and are comprised of 14 parcels; Parts 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, A, and B which are located at the north-east intersection of Mayfield Drive and Coleraine Drive in Bolton within the Town of Caledon, Ontario, in Peel Region. These sites consist of participating, non-participating landowners, pending participation and adjacent landowners. The Block Plan area consists of Parts 1 – 12. Refer to **Figures 1-1** and **1-2** for the location plan and aerial ownership plan outlining the study area respectively. The Phase 2 Secondary Plan Area is reflective of the Ownership Map prepared by Weston Consultants dated July 31, 2023.

The following report provides a compilation of ecological, geomorphic and servicing information for the various lands within the Study Area. The MESP Terms of Reference South Simpson (Headwaters of West Rainbow Creek) Master Environmental Servicing Plan Update (TOR), specific to the preparation of the MESP for the Subject Lands, was prepared by the Town of Caledon. A copy of the approved TOR is provided in **Appendix A – Background Information.**

1.2 Study Location

The Phase 2 Secondary Plan Area consists of 14 subject sites along with the extension of Simpson Road to Mayfield Road. These subject sites consist of parcel Parts 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, A, and B which is located at the north-east intersection of Mayfield Drive and Coleraine Drive in Bolton within the Town of Caledon, Ontario, The Regional Municipality of Peel. The site is located within the jurisdiction of the Toronto and Region Conservation Authority (TRCA).

1.3 Overview of Background Information

The following documents were available for review for the preparation of this report:

- Ownership map, Drawing OM, prepared by Weston Consulting, dated July 31, 2023;
- Bolton South Industrial Lands Master Environmental Servicing Plan (MESP), prepared by Burnside Development Services dated, December 2000;
- Stormwater Management Design Brief, prepared by Pitura Husson Limited, dated June 2008;
- Stormwater Management Pond Report, Simpson Road Extension, Proposed SWM Pond, prepared by Schaeffers Consulting Engineers, dated August 2020;

- Environmental Study Report Final, prepared by AMEC Environmental & Infrastructure A division of AMEC Americas Limited, dated December 2012;
- Simpson Road Extension Phase 3 drawings, prepared by Wood Consultants, Issued September 2021;
- Staff Report 2022-0374, prepared by the Town of Caledon, dated July 12, 2022;
- Simpson Road MESP Channel Work – Channel Re-Alignment and Naturalized Concept, prepared by Greck and Associates Limited, Issued July 30, 2025;
- Town of Caledon Development Standards Manual Version 5.0, dated 2019;
- Region of Peel Public Works Design Criteria Manual dated July 2009, modified March 2017;
- Region of Peel Public Works Watermain Design Criteria dated June 2010;
- Stormwater Management Planning and Design Manual, dated March 2003;
- Toronto and Region Conservation Authority Stormwater Management Criteria, Version 1.0, dated 2012;
- Town of Caledon Municipal Stormwater Management System, ECA Number: 324-S701, dated October 2022.
- Environmental Compliance Approval for a Municipal Stormwater Management System, CLI ECA Number: 324-S701, dated August 29, 2025.
- Functional Servicing and Stormwater Management Report for Proposed 1 Storey Industrial Building, 8522 Mayfield Rd., Town of Caledon: Bolton, prepared by A.M. Candaras Associates Inc., dated June 23, 2023 and Site Plan Approved on February 20, 2024.

1.4 Planning and Environmental Policy Context

The Simpson Road area is subject to the planning policy framework, including direction related to environmental matters, established by the Province, the Region and the Town under the *Planning Act*. The following summarizes the key directions of the planning and environmental policy framework most relevant to Simpson Road. Reference should be made to the specific policy and regulatory documents themselves for a full understanding of the applicable policies and regulations. Detailed policies within these documents were reviewed and applied where appropriate.

1.4.1 Town of Caledon Official Plan (Consolidated March 2024)

Per the Town of Caledon Official Plan (OP) the subject lands are characterized as having land use of “Prestige Industrial” and being very close in proximity to “General Industrial” lands. This is noted in Schedule C and with more detail in Schedule C-5.

1.4.2 South Simpson Secondary Plan

The South Simpson Industrial Secondary Plan consists of Prestige Industrial and General Industrial designations. The secondary plan area is separated into Phase 1 and Phase 2 lands. The Phase 1 lands occur north of the Subject Lands. With exception of lands on both sides of George Bolton Parkway, Phase 1 has been developed. The Phase 2 lands encompass the entirety of the Subject Lands. These lands are identified as “Prestige Industrial” and illustrate the Simpson Road extension as conceptual road network.

1.4.3 Region of Peel Official Plan (2022)

The Region of Peel's OP characterizes the subject lands as being part of the "Urban System" as noted in schedule E-2 and being in close proximity to the Greenbelt Area in Peel and the Bolton Residential Expansion Settlement Area (Schedule E-1). This area is part of the CTC Region Source Protection Plan Area and is considered Settlement Area Outside the Greenbelt. Schedule E-3 marks this land as being Designated Greenfield Area, while Schedule E-4 indicates this is Employment area.

1.4.4 Provincial Planning Statement (MMAH 2024)

The PPS (2024) provides direction on matters of provincial interest related to land use planning and development. It "…supports a comprehensive, integrated and long-term approach to planning…" The PPS is to be read in its entirety and land use planners and decision-makers need to consider all relevant policies and how they work together.

This report addresses those policies that are specific to Natural Heritage (**Section 4.1**) with some reference to other policies with relevance to Natural Heritage and impact assessment considerations and areas of overlap (e.g., those related to Sewage, Water and Stormwater, Section 3.6; Water, Section 4.2; Natural Hazards, Section 5.2).

Eight types of significant natural heritage features are defined in the PPS, as follows:

- Significant wetlands;
- Significant coastal wetlands;
- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat;
- Fish habitat;
- Habitat of endangered and threatened species; and,
- Significant Areas of Natural and Scientific Interest (ANSIs).

Development and site alteration shall not be permitted in significant wetlands within Ecoregions 5E, 6E or 7E, or in significant coastal wetlands. Development and site alteration shall not be permitted in significant woodlands, significant valleylands, significant wildlife habitat or significant ANSIs, unless it is demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Development and site alteration shall not be permitted in the habitat of endangered and threatened species or in fish habitat, except in accordance with provincial and federal requirements.

1.4.5 Toronto and Region Conservation Authority

A new regulation, Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits, came into effect on April 1, 2024, under the Conservation Authorities Act, 1990 (amended 2024). The new regulation refines where development is prohibited. It updates the definition of "watercourse" and adjusts the scope of development restrictions around wetlands. The regulation maintains some regulated areas as they were previously described by regulation, including river and stream valley limits, and areas that are adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to inland lakes.

The TRCA administers Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits. Through this regulation and in accordance with section 28 of the Conservation Authorities Act, no person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority:

- Activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland.

Development activities in areas that are within the authority's area of jurisdiction and are:

- hazardous lands,
- wetlands,
- river or stream valleys the limits of which shall be determined in accordance with the regulations,
- areas that are adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to an inland lake and that may be affected by flooding, erosion or dynamic beach hazards, such areas to be further determined or specified in accordance with the regulations, or
- other areas in which development should be prohibited or regulated, as may be determined by the regulations. 2017, c. 23, Sched. 4, s. 25.

Authorizations are required from the TRCA for any development within their regulated areas. TRCA may issue a permit if an activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; and the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health and safety of persons or result in the damage or destruction of property.

Ontario Regulation 41/24 defines the extent of the regulated area within the TRCA watersheds. Regulated areas exist on the Subject Lands along the Tributary of West Rainbow Creek. Works within the regulated area will require permits from the TRCA for development or site alteration that would affect a watercourse, wetland and hazardous land as noted above.

1.4.5.1 The Living City Policies (2014)

The TRCA's 'The Living City Policies' (2014) contains the principles, goals, objectives, and policies approved by the TRCA for their planning and development approvals process. This document outlines policies related to the determination of the Natural System and recommends buffer widths for natural heritage features such as woodlands, wetlands, and valley and stream corridors.

1.4.6 Fisheries Act (1985)

Fisheries and Oceans Canada (DFO) administers the federal Fisheries Act (1985) which defines fish habitat as “spawning grounds and other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes” [subsection (2)1]. The Fisheries Act prohibits the death of fish by means other than fishing [subsection 34.4 (1)] and the harmful alteration, disruption or destruction of fish habitat [HADD; subsection 35. (1)]. A HADD is defined as “any temporary or permanent change to fish habitat that directly or indirectly impairs the habitat’s capacity to support one or more life processes” (DFO 2021).

Some projects may be eligible for exemption from the DFO review process, as specified under Step 3 of the DFO Fish and Fish Habitat Protection Program review process, such as clear-span bridges and bridge maintenance projects where DFO mitigation measures are applied, artificial waterbodies with no hydrological connection to occupied fish habitat, and projects that follow the Standards and Codes of Practice defined by DFO (DFO, 2021). All other projects or activities that have the potential to impact fish or fish habitat should be submitted to DFO through the “Request for Review” process. DFO will review the proposed project to determine whether there is potential to (1) impact an aquatic species at risk, (2) cause the death of fish or (3) result in HADD of fish habitat. The death of fish by means other than fishing or a HADD of fish habitat can be authorized by DFO under paragraphs 34.4(2)(b) or 35(2)(b) of the Fisheries Act. Authorizations require the preparation and submission of an application package identifying the impacts on fish and fish habitat as well as the avoidance, mitigation and offsetting measures that will be implemented as well as any monitoring that is proposed.

1.4.7 Migratory Birds Convention Act (1994)

The MBCA (1994) provides protection to migratory birds, their habitats and nests at the federal level by prohibiting the destruction of active migratory bird nests. Currently, 700 migratory bird species are protected under this Act, including songbirds, woodland birds, waterfowl, shorebirds and seabirds. Although no permit is required by the legislation, appropriate timing constraints on potentially disruptive activities such as vegetation clearing (e.g., tree removal) where migratory birds may be nesting are required to avoid contravention of this Act.

1.4.8 Endangered Species Act (2007)

The Endangered Species Act, 2007 (ESA 2007; as amended June 2025) was developed to:

- Identify species at risk, based upon best available science;
- Provide for the protection and conservation of species at risk while taking into account social and economic considerations including the need for sustainable economic growth in Ontario.

The ESA 2007 protects all threatened, endangered and extirpated species listed on the Species at Risk in Ontario (SARO) list. These species are legally protected from harm. In addition, the habitat of endangered and threatened species is also legally protected from damage or destruction, as defined under the ESA 2007. As part of Bill 5, the Species Conservation Act received Royal Assent and will be enacted on a date yet to be determined. Upon its enactment, the ESA 2007 and its associated regulations will be repealed. The

Species Conservation Act provides many of the same protections to species at risk as the ESA 2007.

It should be noted that for the purposes of this report, SAR will be considered those species designated as either Endangered or Threatened on the SARO list. Habitats for species with a designation of Special Concern on the SARO list are treated as a Species of Conservation Concern (SOCC) and are protected under the PPS as a type of Significant Wildlife Habitat (SWH).

2. Description of the Study Area

2.1 Study Limits and Land Ownership

The Phase 2 Secondary Plan Area is made up of 14 landowners, including participating landowners, non-participating landowners, pending participation and adjacent landowners not within Block Plan Area. The Simpson Road right-of-way (ROW) Extension is proposed through the land parcel identified as Part A, Part B, Part 1, and Part 2.

Within the Block Plan Area there are five (5) participating landowners that form the Simpson Road Landowners Group Inc., six (6) non-participating landowners and one (1) pending participation which is as follows:

- Part 1: PT LT 1 CON 6 Albion. Ownership is Arion Services Ltd.
  (Participating Landowners)
- Part 2: 12155 Coleraine Drive. Ownership is Triple X Inc.
  (Participating Landowners)
- Part 3: PT LT 1 CON 6 Albion. Ownership is Coleraine Properties Inc.
  (Participating Landowners)
- Part 4: 0 Coleraine Drive. Ownership is 2781823 Ontario Inc.
  (Participating Landowners)
- Part 5: 8602 Mayfield Road. Ownership is Anatolia Investments Corp
  (Participating Landowners)
- Part 6: 12197 Coleraine Drive. Ownership is 2840928 Ontario Inc.
  (Pending Participation)
- Part 7: 10265 Coleraine Drive. Ownership is Morresi Holdings Limited.
  (Non-Participating Landowners)
- Part 8: 12045 Coleraine Drive. Ownership is Morpo Holdings Inc.
  (Non-Participating Landowners)
- Part 9: 12029 Mayfield Road. Ownership is 11446835 Canada Inc.
  (Non-Participating Landowners)
- Part 10: 8576 Mayfield Road. Ownership is 2833720 Ontario Inc.
  (Non-Participating Landowners)
- Part 11: 0 Coleraine Drive. Ownership is 2744801 Ontario Inc.
  (Non-Participating Landowners)
- Part 12: 8522 Mayfield Road. Ownership is Vespa Engineers Ltd. The Corporation of the Town of Caledon
  (Non-Participating Landowners)

The following are adjacent landowners not within Block Plan Area:

- Part A: 88 Simpson Road. Ownership is 88 Simpson Road Ltd. The Corporation of the Town of Caledon. 5008545 Ontario Inc.
  (Adjacent Landowners Not within Block Plan Area)
- Part B: 100 Pilsworth Road. Ownership is Anatolia Real Estate Corp. The Regional Municipality of Peel
  (Adjacent Landowners Not within Block Plan Area)

The study area and land ownership are delineated and identified on **Figure 1-2** – Aerial Ownership Map.

2.2 Existing Conditions

2.2.1 Land Use

The study area / Phase 2 Secondary Plan Area is approximately 39.6 ha (395,764.2 m²) with 12 Landowners and two (2) adjacent Landowners. The Block Plan Area is approximately 23.6 ha (236,506.3 m^2) and consists of the 12 Landowners/Parts. Five (5) of the 12 Parts have a combined 17.9ha (179,098.7m²) of participating Landowners. One (1) of the 12 Parts is 1.1ha and their participation is pending. The remaining six (6) of the 12 Parts have a combined 4.6ha of non-participating Landowners. The two (2) adjacent Landowners that are not within the Block Plan Area have a combined 16.0ha.

The study area is bounded by industrial buildings to the northeast, Simpson Road to the north, an existing stormwater management (SWM) facility (Equity Prestige Business Park SWM pond) to the northwest, Coleraine Drive to the southwest, Mayfield Road to the southeast, and an existing SWM facility (pond named Bolton_WetP_118 as per Plan 43R34749) to the east.

The land is currently occupied lands of various truck and transportation uses, with various permanent buildings and some non-permanent trailers on site. There are a variety of current companies such as Panam Trans Inc., Blue Shark Transport, Phantom Logistics, Caledon Truck Drive School, Everest Road Xpress and Babbar Transport Bolton Yard off Coleraine Drive, and The Tow Company off Mayfield Road. There are also three (3) in use and one (1) not in use residential single house dwellings off Coleraine Drive.

2.2.2 Existing Drainage

Under existing conditions, A portion of the study site to the southwest corner located in the non-participating landowners drains from north to south to an existing 900mm culvert on Mayfield Road described as ‘A1 – Pre’ in the Pre-Development Drainage Area Figure.

The remainder of the study areas flows drain north to south with majority of the drainage flowing to the pre-existing ditch in the southeast corner of the study area. This ditch drains to the northern ditch of Mayfield Road and ultimately flows through the existing north to south 1300mm culvert on Mayfield Road, described as ‘A2 – Pre’ in the Pre-Development Drainage Area Figure.

Refer to **Figure 2-1** for the Pre-Development Drainage Area Figure.

2.2.3 External Drainage Area

Northern section of the subject site (Industrial lands) discharges into the existing SWM pond (SWMP) (Equity Prestige Business Park) located northeast of the 12197 Coleraine Drive property (Part 6). The outflows from the SWMP are systematically directed southwards, flowing through the ditch/channel transversing through the subject site.

2.2.4 Existing Hydrology

As part of a 2015 and 2018 study by Civica Infrastructure, the Humber River watershed was meticulously divided into 714 subcatchments, guided by topography, drainage, and land use patterns illustrated in the Humber River Hydrology update's "Figure 2.1: Subcatchments of the Humber River watershed". The subject land is specifically situated within subcatchment 24.10. Refer to the figure in **Appendix D.1**.

The existing flow for the subject site was estimated utilizing the TRCA 2015 Existing model and Ministry of Transportation (MTO) prorating methodology. The estimated flows for the 12hr AES which were found to be higher, are presented in **Table 2.1**.

Table 2.1: Pre-development Peak Flow Rates from Subject Land using MTO Prorating Method

Catchment ID / Subject Site	Area (ha)	Storm Event (m^3/s) – 12hr AES					
		2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
24.10 / 7417	90.03	0.500	0.813	1.038	1.331	1.553	1.779
A1 - Pre	13.93	0.123	0.285	0.472	0.737	0.997	1.276
A2 - Pre	10.84	0.102	0.247	0.425	0.681	0.939	1.220

Detailed calculations and flows for 6hr AES and 24hr AES are presented in **Appendix D.2**.

2.2.5 Existing Hydraulics and SWM Infrastructure

The subject site is situated in the headwaters of the Rainbow Creek tributary. Prior phases to the north of the study area have undergone complete industrial development and currently direct runoff to a constructed SWM facility located at Coleraine Drive. This existing facility, known as the Equity Prestige Business Park SWM Pond, discharges the Rainbow Creek drainage feature within the study area. The pond's outflow is conveyed through an existing ditch from north to south and directly discharges to the existing 1300mm diameter culvert beneath Mayfield Road.

Moreover, the land situated to the east of the study area has been developed and is served by a SWM pond positioned at the northeast corner of Mayfield Road and the Rainbow Creek drainage feature. This SWM facility is known as Bolton_WetP_118 as per Plan 43R34749, ultimately entering the Rainbow Creek feature south of Mayfield Road through 750mm Storm Sewer, as shown on Drawing No. SWM-1B, Simpson Road SWM Pond Ultimate (prepared by Schaeffers, October 2019).

Floodplain mapping for the reach of Rainbow Creek traversing the subject lands has not been identified in the background studies reviewed or within TRCA's current floodplain mapping. The tributary area contributing to this reach, up to Mayfield Road, is approximately 100 ha, which satisfies TRCA's threshold for delineating floodplain areas. As such, flood hazard limits have been identified for this reach as part of the current study.

Refer to **Appendix A** for Drawing No. SWM-1B prepared by Schaeffers.

2.2.6 Existing Soils and Groundwater

On the regional level, the Ontario Geological Survey and Quaternary mapping show the subsurface conditions to consist of till deposits that are predominately comprised of clay and silt soils with minor sand or gravel content. Groundwater is not free flowing within these soils.

In 2012, Golder completed a Municipal Class Environmental assessment for the completion of Simpson Road and an accompanying geotechnical report was completed for the site. The boreholes within the area of this study revealed silt and clay soils to the 3.5 m depth of exploration. No groundwater was encountered in the borehole during or upon completion of drilling. No monitoring wells were installed to monitor the groundwater levels.

As part of the scope of work for this Block Plan, GEI completed a preliminary geotechnical investigation and report. For details, refer to the attached report in **Appendix C – Geotechnical Engineering**.

The boreholes revealed topsoil and parking lot pavement over a thin layer of fill, overlying native soil predominately comprising competent clayey silt, sandy clayey silt/clayey silt glacial till. During drilling and upon completion groundwater was typically not encountered. Seepage is expected to be slow, so produces low volumes in these soils. More stabilized groundwater levels were measured in the monitoring wells about a month later and the groundwater was recorded at depths between 0.5 and 4.7 m depth below existing grade.

2.2.7 Existing Municipal Services

2.2.7.1 Existing Storm Sewers

The study area / Phase 2 Secondary Plan Area is surrounded by ditches along Coleraine Drive to the west and Mayfield Road to the south with several culverts at existing driveway locations. There are also two culverts that outlet the ditches on either side of Mayfield Road from north to south. On Coleraine Drive and Mayfield Road there are a series of existing storm sewers fronting the site which are as follows:

Mayfield Road

- 400mm diameter CSP culvert (fronting Parts 10 and 12)
- 525mm diameter (fronting Parts 9 and 12)
- 600mm diameter (fronting Parts 5 and 10)
- 600mm diameter CSP culvert (fronting Part 10)
- 750mm diameter (outlets across Mayfield Road fronting Part 5)
- 900mm diameter CSP culvert (outlets across Mayfield Road fronting Part 10)
- 1300mm diameter CSP culvert (outlets across Mayfield Road fronting Part 5)
- 6.0m x 1.5m concrete box culvert (outlets across Mayfield Road from the channel)

Coleraine Drive

- 375mm diameter (fronting Parts 7 and 11)
- 450mm diameter (fronting Parts 8 and 9)

The sewers that flow from north to south and from west to east ultimately discharge close to either the existing 1300mm CSP culvert outlet or existing 900mm CSP culvert outlet across Mayfield Road.

2.2.7.2 Existing Sanitary Sewers

The study area / Phase 2 Secondary Plan Area only has an existing sanitary sewer west of the site on Coleraine Drive. There are currently no sanitary sewers on Mayfield Road. The following streets have sanitary sewers:

Coleraine Drive

- 750mm diameter (fronting Parts 1, 2, 3, 4, 6, 7, 8, 9, and 11)

The 750mm diameter sanitary sewer drains north to south and continues to drain south down Coleraine Drive.

2.2.7.3 Existing Watermains

The study area / Phase 2 Secondary Plan Area has two existing watermains on Coleraine Drive. There is also one watermain to the south of the study area on Mayfield Road. The following streets have watermains:

Coleraine Drive

- 300mm diameter (fronting Parts 1, 2, 3, 4, 6, 7, 8, 9, and 11)
- 750mm diameter (fronting Parts 1, 2, 3, 4, 6, 7, 8, 9, and 11)

Mayfield Road

- 300mm diameter (fronting Parts 5, 9, 10, and 12)

The existing 300mm diameter watermain on Mayfield Road network continues east. The existing 300mm diameter watermain on Coleraine Drive network continues north and the existing 750mm diameter trunk watermain on Coleraine Drive network continues north and south.

2.3 Natural Heritage Features

GEI completed a review of background information to provide additional insight into the overall character of these Subject Lands. This information was used to support the field studies which were then undertaken to confirm and characterize the natural heritage features present.

2.3.1 Secondary Source Review

The following resources were reviewed for information relating to natural features and species that may be found on the Subject Lands and within the greater Study Area:

- Ministry of Natural Resources and Forestry's (MNRF) Natural Heritage Information Centre (NHIC) database (2023);
- MNRF's Land Information Ontario (LIO) database (2023);
- Bird Studies Canada's Atlas of the Breeding Birds of Ontario (BSC et al. 2008);

- Ontario Nature's Reptile and Amphibian Atlas (2019);
- Toronto Entomologists' Association's (TEA) Ontario Butterfly and Moth Atlases (2020 a, b); and
- Fisheries and Oceans Canada's (DFO) Aquatic Species at Risk (SAR) Map (2023).
- Online citizen science databases (e.g., eBird and iNaturalist).

2.3.1.1 NHIC Database Results

The Natural Heritage Information Centre Database (NHIC, MNRF 2022) was searched for records of provincially significant pants, vegetation communities and wildlife on and within the vicinity of the Subject Lands. The database provides occurrence data by 1km^2 area squares, there were three (3) squares that overlapped the Subject Lands (17PJ0354, 17PJ0455 and 17PJ0454). Three species of interest were noted, Yellow-banded Bumble Bee (*Bombus terricola*) which is listed as Special Concern on the SARO list and, two threatened species, Eastern Meadowlark (*Sturnella magna*) and Bobolink (*Dolichonyx oryzivorus*).

2.3.1.2 Land Information Ontario Natural Features Results

Based on the MNRF LIO geographic database, one watercourse feature was identified on the Subject Lands; this feature is identified as West Rainbow Creek. Potential impacts associated with site alteration and/or development will be discussed within the updated MESP, including potential impacts to its ecological function.

2.3.1.3 Ontario Breeding Bird Atlas Results

The Ontario Breeding Bird Atlas (OBBA) contains detailed information on the population and distribution status of Ontario birds (Cadman et al. 2007). The data is presented on 100 km^2 area squares with one square overlapping the Subject Lands (17PJ05). It should be noted that the Subject Lands are a small component of the overall bird atlas square, and therefore it is unlikely that all bird species are found within the Subject Lands. Habitat type, availability and size are all contributing factors in bird species presence and use.

A total of 100 bird species were recorded in the atlas square that includes the Subject Lands, with the following species of interest noted:

- Species listed as Threatened or Endangered on the SARO List:
    a. Acadian Flycatcher (*Empidonax virescens*) – Endangered;
    b. Bank Swallow (*Riparia riparia*) – Threatened;
    c. Bobolink (*Dolichonyx oryzivorus*) – Threatened;
    d. Chimney Swift (*Chaetura pelagica*) – Threatened; and
    e. Eastern Meadowlark (*Sturnella magna*) – Threatened.
- Species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species):
    a. Common Nighthawk (*Chordeiles minor*) – Special Concern;
    b. Eastern Wood-Pewee (*Contopus virens*) – Special Concern;
    c. Upland Sandpiper (*Bartramia longicauda*) – S2B and
    d. Wood Thrush (*Hylocichla mustelina*) – Special Concern.

2.3.1.4 Ontario Reptile and Amphibian Atlas Results

The Ontario Reptile and Amphibian Atlas contains detailed information on the population and distribution status of Ontario herpetofauna (Ontario Nature 2019). The data is presented on 100 km^2 area squares with one square overlapping the Subject Lands (17PJ05). It should be noted that the Subject Lands are a small component of the overall atlas square, and therefore it is unlikely that all herpetofauna species are found within the Subject Lands. Habitat type, availability and size are all contributing factors in herpetofauna species presence and use.

A total of 17 species were recorded in the atlas square that overlaps with the Subject Lands, of which three are salamander and lizard species, eight are frog and toad species, two are turtle species and four are snake species.

2.3.1.5 Ontario Butterfly and Moth Atlas Results

The Ontario Butterfly and Moth Atlases (Toronto Entomologists' Association 2022a, 2020b) contain detailed information on the population and distribution status of butterflies and moths in Ontario. The database provides occurrence data by 10 km x 10 km squares. The Study Area is located within the atlas square (17PJ05), which was used to determine a potential butterfly and moth species list for the area. The Study Area is a small component of the overall atlas square, and therefore all the butterfly and moth species listed for this atlas square may not be found within the Study Area. Habitat type, availability, and size are all contributing factors to reptile and amphibian species presence and use.

A total of 74 species including 62 butterfly species and 12 moth species were recorded in atlas square. Of these reported species, the following species of interest is noted:

- Species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species):
    a. Monarch (*Danaus plexippus*) – Special Concern

2.3.1.6 Aquatic SAR Distribution Mapping Results

The DFO Aquatic Species at Risk Map (2023) was reviewed to identify any known occurrences of aquatic SAR, including fish and mussels, on the Subject Lands. No aquatic SAR were identified on the Subject Lands.

2.3.1.7 iNaturalist

The iNaturalist (2023) database is a large citizen science-based identification and data collection app. It allows any citizen to submit observations to be reviewed and identified by other naturalists and scientists to help provide accurate species observations. As the observations can be submitted by anyone, and the records are not officially vetted, the data obtained from this tool should not be used as a clear indicator of species presence, and species may be filtered out based on habitat and target survey efforts.

This online database was examined to identify observations made within the Subject Lands that were research grade. No significant species were found on the Subject Lands or within 120 meters of its boundaries.

2.3.1.8 eBird

The eBird (2023) database is a large citizen science-based project with a goal to gather bird diversity information in the form of checklists of birds, archive it, and share it to power new data-driven approaches to science, conservation and education. As the observations can be submitted by anyone, and the records are not officially vetted, the data obtained from this tool should not be used as a clear indicator of species presence, and species may be filtered out based on habitat and target survey efforts.

This online database was examined to identify observations made within the Subject Lands. However, no significant bird species were found on the Subject Lands or within 120 meters of its boundaries.

2.3.2 Field Surveys

The following ecological field investigations were completed to inform the presence and extent of natural heritage features within the Subject Lands and Study Area. A summary of field studies completed is provided in **Table 1** (Refer to **Appendix B**).

2.3.2.1 Ecological Land Classification

Methodology

Vegetation communities were first identified on aerial imagery and then verified in the field. Vegetation community types were confirmed, sampled and revised, if necessary, using the sampling protocol of the ELC for Southern Ontario (Lee at al. 1998). Vegetation communities of at least 0.5 ha in size were mapped; where appropriate, distinct communities smaller than this were also mapped. Where a suitable ELC classification code was not available in the 1998 manual, codes from the unpublished 2008 ELC 2nd Approximation (Lee, H. T. 2008) were used.

Results

The Subject Lands consist of tableland topographic features, which primarily contain disturbed features but do contain some natural vegetation communities. Two ELC community types were documented and classified as vegetation type, while three were classified as ecosite (e.g., Mineral Cultural Thicket); ecosite codes were generally used where the species assemblage did not match any available vegetation type codes.

ELC mapping of the Subject Lands is shown on **Figure 2-2**. A description of each ELC type is provided in **Table 2** (Refer to **Appendix B**). No provincially rare vegetation communities were present on the Subject Lands (NHIC, 2022).

Wetlands

Identification of wetlands generally relies on the ‘50/50 rule’, where features having over 50% relative cover of wetland plants are classified as wetland. Based on this, wetland is present on the Subject Lands, collectively occupying approximately 0.296 ha. These consisted of two individual wetland units, which were either mineral meadow marsh or mineral shallow marsh ecosites.

The Land Information Ontario (LIO) database was accessed to determine if any MNRF-identified wetlands have been mapped on or in the vicinity of the Subject Lands. Such wetlands could include Provincially Significant Wetlands (PSW), MNRF evaluated wetlands, or unevaluated wetlands. Results show that no wetland units overlap with the Subject Lands; although a small wetland (approximately 0.25 acres) is located on the opposite side of Mayfield Rd approximately 125 m at its closest.

2.3.2.2 Botanical Inventory

Methodology

Scientific botanical names primarily follow the nomenclature from the Database of Vascular Plants of Canada (Brouillet et al. 2010+). The provincial status of all plant taxa and vegetation communities is based on NHIC (2023). Identification of potentially sensitive native plants is based on their assigned coefficient of conservatism (CC) value, as determined by Oldham et al. (1995). This CC value, ranging from 0 (low) to 10 (high), is based on a species tolerance of disturbance and fidelity to a specific natural habitat. Species with a low CC value tend to have little or no fidelity to pristine or unique natural ecosystems and can be found in a variety of natural or anthropogenic habitats. Species with a CC value of 9 or 10 are potentially sensitive as they tend to have a consistent fidelity to high-quality or unique ecosystems.

Results

Vascular Plants

Botanical inventories completed on the Subject Lands recorded a total of 93 species (i.e., taxa, inclusive of subspecies, varieties, and hybrids). Of these, 46% are native to Ontario and 50% are exotic. A complete list of species documented from the Subject Lands is provided in **Table 3** (Refer to **Appendix B**).

Most of the native plants (95%) are ranked S5 (secure in Ontario). Two species (5%) are ranked S4 (apparently secure in Ontario), and none are ranked S1-S3). Three locally rare species were observed, as per the Peel Region rarity rankings (Varga et al. 2005; Credit Valley Conservation 2002). None of the locally rare species are considered rare in Ontario, and none had a co-efficient of conservatism value of 9 or 10.

An NHIC search was conducted for the Subject Lands using the MNRF Make a Map: Natural Heritage Areas mapping application. The following rare plants have been historically documented on or in the vicinity of the Subject Lands:

Butternut (*Juglans cinerea*; S2?). This species was not observed on the Subject Lands; it typically prefers hedgerows and woodland edges but was not present on the Subject Lands and does not appear to be present on adjacent lands.

Species at Risk Plants

No Species at Risk plant were identified on the Subject Lands.

Provincially Rare Plants

Provincially rare plants are those that are ranked S1-S3 by the NHIC (2022). No provincially rare plants were documented on or adjacent to the Subject Lands.

Locally Rare Plants

Local plant rarity is based on the number of population occurrences for a given area. For Peel Region, a plant is considered rare if it has 10 or fewer known occurrences, the data of which is derived primarily from historical checklists, MNRF reports, site records, and herbaria records (Varga et al. 2005; Credit Valley Conservation 2002). Overall, three locally rare plants were observed on the Subject Lands. These were:

- Eastern Ninebark (*Physocarpus opulifolius; R1*)
    - Occasional within CUT1 community.
- Big Bluestem (*Andropogon gerardii; R5*)
    - Abundant within CUT1 community.
- Yellow Indiangrass (*Sorghastrum nutans; R2*)
    - Occasional within CUT1 community.

Invasive Plants

Invasive plants are those that can become (or presently are) a serious problem within a defined location. These plants reproduce and spread aggressively, reducing the local biodiversity and threatening ecological function. Depending on existing conditions, some invasive species can outcompete all other species.

Urban Forest Associates (2002) provides a categorical ranking system for plants known to be invasive in southern Ontario. Of the 50 exotic species observed on the Subject Lands, six are ranked as Category 1 by Urban Forest Associates.

Category 1 plants are deemed to be the most invasive and can dominate a site indefinitely. These are a threat to natural areas wherever they occur because they have very effective reproduction and dispersal mechanisms. The six Category 1 plants observed on the Subject Lands are:

- Canada Thistle (*Cirsium arvense*)
- Tartarian Honeysuckle (*Lonicera tatarica*)
- Purple Crown-Vetch (*Securigera varia)*
- Purple Loosestrife (*Lythrum salicaria*)
- Manitoba Maple (*Acer negundo)*
- European Reed (*Phragmites australis* ssp. *australis*)

2.3.2.3 Breeding Bird Survey

Methodology

Breeding bird surveys were conducted following protocols set forth by the Ontario Breeding Bird Atlas (Cadman et al. 2007), the Ontario Forest Bird Monitoring Program (Cadman et al. 1998). These protocols generally follow the Bird and Bird Habitats: Guidelines for Wind Power Projects (OMNR 2010) recommended under the SWH Criteria Schedules for Ecoregion 7E

and 6E (MNRF 2015) but have been adjusted, based on professional experience, to implement a more comprehensive approach that combines area search and point count techniques.

Surveys were conducted between dawn and five hours after dawn with suitable wind conditions, no thick fog or precipitation (Cadman et al. 2007). A total of four (4) point count stations were surveyed within the Subject Lands and are illustrated on **Figure 2-3**. Point count stations were placed in various habitat types, where present, within the Subject Lands and combined with area searches to help determine the presence, variety, and abundance of bird species. Each point count station was surveyed for 10 minutes for birds within 100 m and outside 100 m. All species recorded on a point-count were mapped to provide specific spatial information and were observed for signs of breeding behavior. Surveys were conducted at least 7 days apart.

Breeding bird surveys were completed on the following dates and times:

Table 2.2: Dates and Times of Breeding Bird Surveys

BREEDING BIRD SURVEY (Round #)	DATE (Month Day Year)	TIME (AM)
1	June 11, 2023	6:30 to 7:30
2	June 29, 2023	6:15 to 7:15

Results

A total of 19 bird species was observed within the Subject Lands. Of this total, no species are confirmed, 11 are probable, and eight are possible breeders on the Subject Lands. No bird species are considered non-breeders, flyovers, or migrants. No additional species were observed only on surrounding lands within 120 m. The observed breeding bird species are discussed in the sections below. All species observed on the Subject Lands are listed in **Table 4** (Refer to **Appendix B**).

A total of 19 (100%) of the confirmed, probable, or possible breeders are provincially ranked S5 (common and secure), S4 (apparently common and secure) or SNA (species not native to Ontario). No bird species are considered provincially rare (S1-S3; NHIC 2023).

2.3.2.4 Amphibian Call Count Survey

Methodology

Survey protocols are based on the ‘Marsh Monitoring Program’ (Bird Studies Canada (BSC) 2014).

Survey station locations were determined through an assessment of orthophotography, existing vegetation communities and ground observations. A total of 5 amphibian call count stations were surveyed within the Subject Lands. Stations were located within an industrialized transport area (**Figure 2-3**).

The call count surveys were conducted at night within the appropriate timing window from approximately 30 minutes after sunset until midnight. Each station was surveyed three times (once in April, once in May and once in June) during optimal weather conditions (low wind levels, no heavy rain). Minimum night air temperatures at the time of survey of 5°C, 10°C and 17°C were applied to each of the respective survey periods. Surveys were conducted at least 15 days apart. All calls heard within a survey station were recorded, as well as any call observations outside of the survey station, including on adjacent lands. The provincial and global statuses of species identified on the Subject Lands were obtained from the Natural Heritage Information Centre (NHIC 2022) and the Species at Risk of Ontario (SARO) list.

Amphibian surveys were conducted on the following dates and times:

- Round 1 – April 20, 2023; 20:30 to 21:06;
- Round 2 – May 12, 2023; 21:00 to 21:31;
- Round 3 – June 22, 2023; 21:40 to 22:06.

Results

A total of 2 amphibian species were heard calling within the Subject Lands during the three rounds of call count surveys (full details are provided in AMC station results Table, attached). 2 amphibian species were heard calling on adjacent lands. All of these species are provincially ranked S5 (common and secure) or S4 (apparently common and secure).

- AMC Station 1 is a SWM pond located within an industrialized transport yard. Water was present during all three surveys. No species were heard calling from this feature, but a new feature (small pond) was present during round 2 and 3, southeast of station 1. Two AMTOs were heard calling during round 2 and were observed in the feature during round 3.
- AMC Station 2 is a pond located within an industrialized transport yard. This survey was conducted offsite, listening into the property. Water presence was unknown during all three surveys. No species were heard calling from this feature, but two species, AMTO and SPPE were heard calling from outside the station, from AMC 3.
- AMC Station 3 is a pond located within an industrialized transport yard. This survey was conducted offsite, listening into the property. Water presence was unknown during all three surveys, but presumed present based on calling. A total of two species were heard calling from this feature, AMTO and SPPE. Call abundance was listed as a 1, calls can be counted without error.
- AMC Station 4 is located adjacent to the property, at a culvert located within an agricultural field. Water was present during all three surveys. No species were heard calling from this feature, but one species, SPPE was heard calling from outside the station, from AMC 3.
- AMC Station 5 is a SWM pond located within an industrialized zone. Water was present during all three surveys. No species were heard calling from this feature, but one species, AMTO was heard calling from outside the station, from AMC 3.

2.3.2.5 Aquatic Habitat Assessment

Methodology

The Aquatic Habitat Assessment consisted of a visual survey of existing instream and riparian habitat conditions along and adjacent to the watercourse running through the Subject lands. The assessment took note of any of the following features:

- Hydrology (e.g. flowing or standing water)
- General watercourse morphology (e.g. riffle, run, pools)
- Wetted width and depth (at time of survey)
- Bed and bank substrate
- Instream habitat (e.g. woody debris, aquatic vegetation, undercut banks)
- Presence of obstructions to fish movement (e.g. culverts, debris dams)
- Evidence of groundwater inputs (e.g. seeps or springs, iron flocculation/staining)
- Riparian habitat.

Results

The Subject Lands occur within the Humber River Watershed. Tributary D of West Rainbow Creek flows southward along the eastern boundary of the Subject Lands (**Figure 2-2**). This feature originates from a stormwater management (SWM) pond located immediately north of the study area. Flow is conveyed onto the Subject Lands through a discharge pipe at the northern boundary of site. The feature is contained within a narrow and isolated band of marsh community (MAM2/MAS2). Channel conditions at this location are very poorly defined, obstructed by large amounts of Phragmites and cattail (*Typha sp*.). Accumulated vegetation and debris were noted to obstruct the channel at multiple locations. Channel morphology is relatively flat and lacks sinuosity, no pools or riffles were present. Sediment within this area was dominated by a mixture of silt and muck. Channel flows are eventually directed into a small diameter corrugated steel pipe (CSP) approximately 55 meters onto the Subject Lands. The undersized culvert appeared to back up flows and cause pooling during higher flow periods.

Tributary D remains buried for approximately 90 meters before discharging into a narrow and highly channelized drainage ditch along the eastern boundary of site. The dug drainage ditch averages approximately 2-3 meters in bankful width, bordered by a narrow band of cultural meadows to the east and active trucking yards to the west. Debris and crushed parking asphalt regularly encroach the channel along the length of the study area. Riparian growth is highly limited along the west bank of the channel, as industrial land use directly abuts much of the channel. The band of cultural meadow along the east of the channel extends for approximately 30 meters until reaching a large storage warehouse on the adjacent property. Phragmites and cattail are found throughout much of the channel reach. Accumulated garbage was also noted to be abundant throughout much of the channel. Sediment was composed primarily of silt and muck with erosion evident along both banks. Tributary D is eventually conveyed beneath Mayfield Road through a large diameter CSP. At the southern side of Mayfield Road, the tributary forms a confluence with discharge from a headwall connecting to a SWM pond located adjacent to the storage facility on the neighboring property.

2.3.2.6 Fish Community Sampling

Methodology

Fish community sampling was completed at multiple locations across the Subject Lands (**Figure 2-3**). A Halltech HT-2000 Battery Back Electrofisher and a D-frame dip net with a 500-micron mesh size was used to retrieve fish from the features. Sampling was conducted using the Ontario Stream Assessment Protocol (OSAP) standard single pass survey method (Stanfield 2017). The purpose of the survey was to determine whether fish were present within the watercourse on the Subject Lands.

Weather conditions and electrofisher shocking parameters were recorded. All data recorded was then reported to the MNRF in accordance with License to Collect Fish for Scientific Purposes permit requirements.

Results

Fish community sampling was completed June 14, 2023 at three locations along the tributary. Sampling was completed using the OSAP standard single pass method. Sampling Results are summarized in **Table 6** (Refer to **Appendix B**).

Sampling Reach 1 (SR1) SR1 is located along the northern boundary of site, occurring immediately upstream of the piped section of tributary and downstream of the adjacent SWM pond. The channel at this location is very poorly defined. Abundant cattail and phragmites, in combination with the generally flat terrain, impede natural flow and cause the channel to widen outwards. The entirety of the area was sampled to determine the presence or absence of fish within this isolated section of tributary. A single Creek Chub (*Semotilus atromaculatus*) was captured within SR1. The low capture abundance at this location is indicative of the poor-quality fish habitat which is present. In stream cover at SR1 is provided only by the overgrown emergent vegetation. The SWM pond outlet and piped portion of the tributary downstream were also both identified as likely barriers to fish passage, isolating this section of tributary to only those species which get washed out of the upstream SWM pond.

Sampling Reach 2 (SR2) is located towards the southern boundary of site, upstream of Mayfield Road. Deep silt and muck at this location provided for difficult sampling conditions. The channel at this location is contained within a straitened drainage ditch, abundant with phragmites and cattail. Large amounts of garbage and debris were also noted within the channel. Riparian conditions provided little shade to the channel. A single Fathead Minnow (*Pimephales promelas*) and six (6) Brook Stickleback (*Culaea inconstans*) were captured within SR2. The capture results demonstrate low species diversity and low species abundance at this location, characteristic of the poor-quality fish habitat present.

Sampling Reach 3 (SR3) is located within the road allowance on the southern side of Mayfield Road. Spot sampling was completed at this location to better evaluate the distribution of fish within and us surrounding the study area. A full survey transect could not be completed at this location due to site access limitations. Sampling was concentrated within a scour pool located at the outlets of the CSP from the Subject Lands and a headwall from the nearby storage facility. A total of fifteen (15) Fathead Minnow and two (2) Pumpkinseed (*Lepomis gibbosus*) were captured at this location. Although these results still demonstrate relatively low species diversity, the species abundance at this location was significantly higher, given that the total sampling effort occurred over only approximately 15% of the time that the other stations were completed in. Instream cover was provided by overhanging vegetation, riprap stone, and a

deep refuge pool. Riparian conditions were still highly limited, bordered by active agricultural fields on both sides. Overall fish habitat was still reasonably poor but was improved when compared to the habitat present on the Subject lands.

2.3.2.7 Headwater Drainage Feature Assessment

Methodology

Ahead of conducting the first round HDFA, GEI completed a desktop review to identify the locations of potential headwater drainage features. This was completed through an ArcGIS mapping exercise using available LiDAR data to determine where potential flow paths may be located within the landscape based on relative topographic relief. The presence of all feature locations within the Subject Lands were confirmed during the first round HDFA. If features were not present within the landscape or were dry upon site assessment, these features were not mapped.

Per the requirements of the HDFA Guidelines, GEI completed three site visits to assess headwater drainage features on the Subject Lands on the following dates:

Round 1 – April 19, 2023
Round 2 – May 29, 2023

During the first site visit, all areas of the Subject Lands were walked to identify potential headwater drainage features. Each headwater drainage feature observed was separated into specific reaches, per the guidance on reach delineation in the HDFA Guidelines, and data collection was completed for each reach based on Ontario Stream Assessment Protocols for Unconstrained Headwater Sampling, Section 4: Module 11 (Stanfield, ed. 2017).

Following completion of the three survey rounds, the collected data was used to classify each headwater drainage feature, based on the HDFA Guideline hierarchy.

Results

As depicted on **Figure 2-2**, a total of two (2) headwater drainage features were identified on the Subject Lands. These features have been further broken down into specific reaches, per the guidance on reach delineation in the HDFA Guidelines. A description of each feature reach is provided below.

H1S1

H1S1 is characterized as a poorly defined swale located between active industrial parking areas. During the initial assessment, H1S1 demonstrated a slow flowing and narrow connection to the discharge location of the piped watercourse. The feature was completely dry at the time of the second-round assessment. No riparian or terrestrial habitat was noted to be present along the feature. H1S1 is likely to contribute to seasonal flow downstream but does not represent direct fish habitat.

H2S1

H2S1 is characterized as a dug drainage ditch which conveys flow from the surrounding parking areas. This feature is highly channelized and connects to the watercourse at the eastern boundary of site. H2S1 demonstrated a slow flowing connection to the watercourse during the first-round survey but was completely dry by the second-round assessment. A narrow band of anthropogenically disturbed cultural meadow borders the right bank of H2S1. Riparian and terrestrial habitat was not present along the left bank of the feature, encroached upon by active industrial parking areas. H2S1 is likely to contribute to seasonal flow downstream but does not represent direct fish habitat.

Management Recommendations

Part 2 of the HDFA Guidelines provides an approach to classify HDFs by providing a step-by-step characterization of specific functions that may be associated with the features assessed, including hydrology, riparian function and provision of fish or terrestrial habitat. **Table 7** (Refer to **Appendix B**) highlights the key components of this analysis based on the three rounds of HDFA completed in 2023.

Part 3 of the HDFA Guidelines provides guidance on linking the characteristics and functions of features to specific management recommendations that may be applied to those features. To assist, the HDFA Guidelines include Figure 2: “Flow Chart Providing Direction on Management Options”. The flow chart depicts various decision points associated with hydrology, fish habitat, riparian vegetation and terrestrial habitat, and ultimately leads the user to an appropriate management recommendation for each HDF segment.

Both headwater drainage features located on the Subject lands were assigned a Mitigation management strategy. The recommended management of a mitigation feature, per the assessment guidelines, is provided below.

Mitigation

- Replicate or enhance functions through enhanced lot level conveyance measures, such as well-vegetated swales (herbaceous, shrub and tree material) to mimic online wet vegetation pockets or replicate through constructed wetland features connected to downstream;
- Replicate on-site flow and outlet flows at the top end of system to maintain feature functions with vegetated swales, bioswales etc. If catchment drainage has been previously removed due to diversion of stormwater flows, restore lost functions through enhanced lot level controls (i.e., restore original catchment using clean roof drainage);
- Replication functions by lot level conveyance measures (e.g. vegetated swales) connected to the natural heritage system, as feasible and/or Low Impact Development (LID) stormwater options.

The proposed grading on site will match the existing grades where needed and maintain the existing overland flow patterns. Grading in combination with efforts made through detailed design will ensure the continued function of headwater features H1S1 and H2S1, despite their removal from the landscape.

2.4 Updated Geotechnical Report/Considerations

Geotechnical recommendations are provided in the updated geotechnical investigation report in **Appendix C – Geotechnical Engineering.**

Regarding the proposed services for the road, the final approved Simpson Road Extension drawings prepared by Wood Consultants (September 2021) (Refer to Appendix A for approved Simpson Road Extension drawings) show the sanitary service as deep as 4 m below existing grades corresponding to 5 to 6 m below the proposed grades. The watermain and storm sewer were typically only about 2.0 to 2.5 m below existing grade. The creek will also be piped, and is assumed to be above the sanitary inverts, based on the drawings provided. Typical trenching and backfilling are recommended in accordance with OHSA and OPS/Standard OPSD's. The native soil is suitable to support the pipe, and groundwater is generally not expected to be an issue during service installation.

The pavement design from previous works coincides with the latest GEI recommendation in **Table 2.3** as follows:

Table 2.3: Pavement Design Recommendation

Pavement Layer	Compaction Requirements	Minimum Component Thickness
Surface Course Asphaltic Concrete: HL3 (OPSS 1150) with PG 58-28 Asphalt Cement (OPSS.MUNI 1101)	OPSS 310	40 mm
Binder Course Asphaltic Concrete: HDBC (OPSS 1150) with PG 58-28 Asphalt Cement (OPSS.MUNI 1101)	OPSS 310	50 mm over 60 mm
Base Course: Granular A (OPSS.MUNI 1010)	100% SPMDD (ASTM-D698)	150 mm
Subbase Course: Granular B Type I (OPSS.MUNI 1010)	100% SPMDD (ASTM- D698)	450 mm

General guidance for building construction on the lots is also provided in the geotechnical report; however, the recommendations will need to be reviewed once lot grading has been established.

2.5 Existing Zoning

The existing zoning and land use for the study area is outlined in the official plan prepared by the Town of Caledon Consolidated in April 2018. The study area land use is outlined on the zoning map 1a BY-LAW 2006-50 dated April 3, 2006; revised February 27, 2003. The land use is for prestige industrial and serviced industrial. Refer to Zone Map 1a in **Appendix A**.

3. Hydrology

3.1 Design Criteria

The study area, identified as the south Simpson – Headwaters of West Rainbow Creek, is situated at the northeast junction of Mayfield Road and Coleraine Drive in Bolton, within the Town of Caledon, Ontario. In general, the following criteria from the Consolidated Linear Infrastructure Environmental Compliance Approval 324-S701 (CLI ECA), which needs to be met for the proposed development in the subject site:

- **Quantity Control:** For areas discharging directly to natural watercourses or municipal/Regional rights-of-way (ROW), allowable release rates are to be determined using the unit flow relationship equations provided by the TRCA for Humber River Sub-Basin 36. These equations are provided in **Table 3.1** below.

Table 3.1: Unit flow relationship for Sub-Basin 36

Return Period	Sub-Basin 36 Equations*
2 Year	Q=9.506-0.719 *ln(A)
5 Year	Q=14.652-1.136 *ln(A)
10 Year	Q=17.957-1.373 *ln(A)
25 Year	Q=22.639-1.741 *ln(A)
50 Year	Q=26.566-2.082 *ln(A)
100 Year	Q=29.912-2.316 *ln(A)

*Where Q is flow in L/s/ha and A is area in ha

Where developments are proposed to discharge to a communal SWM facility, the Town of Caledon applies to a maximum release rate of 180 L/s/ha, with an additional rooftop discharge limit of 42 L/s/ha.

- **Quality Control:** Enhanced Quality Control – 80% TSS removal is required to be provided for the subject lands.

- **Erosion Control:** 5mm from each of the site plans to be retained on site and/or detain 25mm and discharge over 48hrs.

- **Water Balance:** The subject lands are not located in Wellhead Protection areas Q1 or Q2 nor in the significant groundwater recharge areas, therefore best efforts need to be made to meet the post-to-pre water balance requirements.

3.2 Hydrologic Model Selection

Similar to the TRCA Humber River Hydrology Model 2015, Visual OTTHYMO (VO) software, was utilized to analyze and simulate the proposed development conditions.

3.3 Hydrologic Modelling Parameters

The hydrologic modeling has incorporated the subsequent hydrograph commands:

- NasHYD – Undeveloped area
- STANDHYD – Developed area
- Route Reservoir – Used specifically for underground storage facilities (Water Quantity Control)

Additional parameters such as the Curve Number (CN), TIMP and XIMP were calculated for each of the site plans are presented in **Section 3.3.2**.

3.3.1 Existing Model

As stated in **Section 2.2**, the study area is part of the TRCA Existing Humber River Hydrology Model subcatchment 24.10. Based on the review of the model, it was noted that the subcatchment was modelled as a NasHYD which is generally used to model undeveloped areas and areas with imperviousness less than 20%.

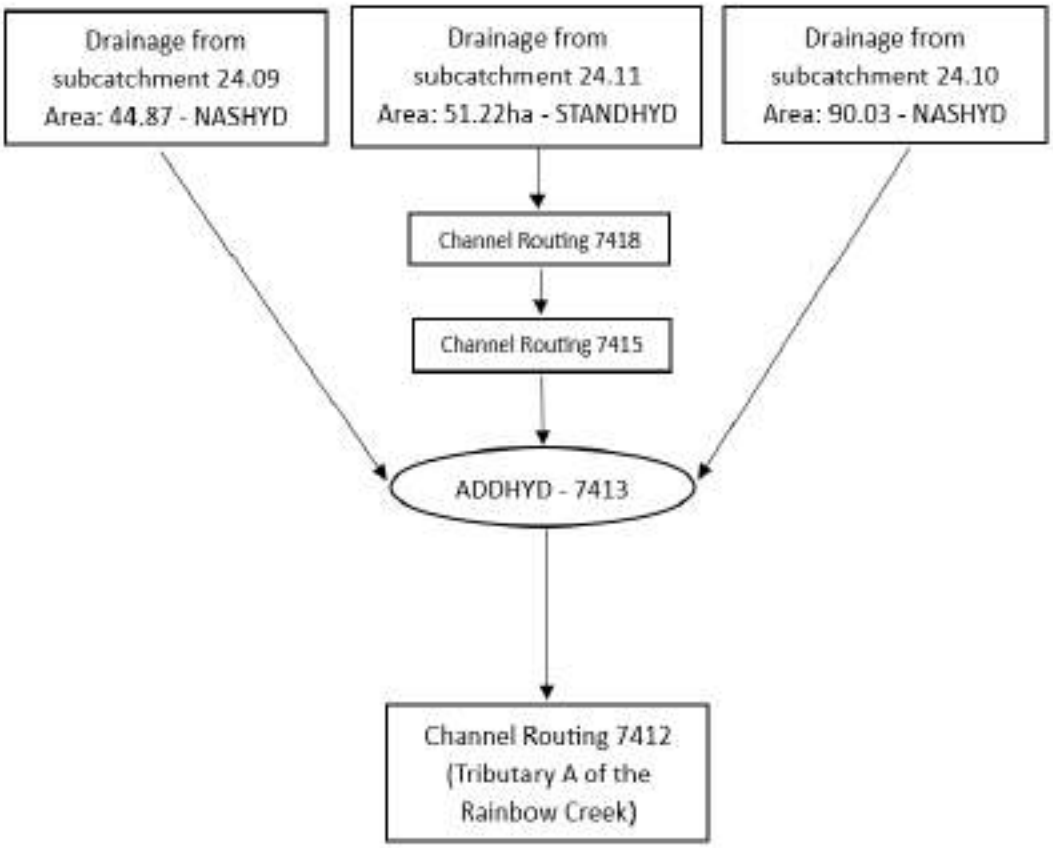
In existing condition, catchment 24.10 encompasses the subject area, covering approximately 23.79ha. This specific area is a subset of the broader NasHYD 24.10 region, which has total area of 90.03ha.

Table 3.2 below summarizes the catchments parameters of the original TRCA Humber River model, while **Figure 3-1** shows the schematic from existing TRCA model.

Table 3.2: Existing Humber River Model Parameters

	Catchment ID	Command	NHYD	Area (ha)	DT (min)	CN	IA
Existing model for 2-500-yr	24.10	NASHYD	7417	90.03	5	89	10

Figure 3-1: TRCA VO Model schematic



The existing peak flow within the NasHYD catchment 24.10 along with the subject site flows calculated using MTO proration is detailed in **Table 3.3** below.

Table 3.3: Existing flow rates

Catchment ID / Subject Site	Area (ha)	Storm Event (m^3/s) – 12hr AES					
		2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
24.10 / 7417	90.03	0.500	0.813	1.038	1.331	1.553	1.779
A1 - Pre	13.93	0.123	0.285	0.472	0.737	0.997	1.276
A2 - Pre	10.84	0.102	0.247	0.425	0.681	0.939	1.220

3.3.2 Post-development Modeling

Post development modelling was completed based on the established post development drainage pattern discussed in **Section 5.4**.

In the post-development scenario, the model was programmed to represent Catchments C1, C2.1, C3.1, C4, C5, C10, and C11 as draining into the bypass channel. This drainage pathway

continues through the box culvert located south of the subject site at Mayfield Road. Specifically, Catchment C1 will drain into the bypass channel through the proposed easement as shown in **Figure 5-6** – Post-Development Drainage Area Figure.

The parameters outlined in **Table 3.4** below confirm the characteristics of these catchments within this scenario. Each of the catchments are proposed to drain to a route reservoir representing the proposed storage on site.

Table 3.4: Updates on Catchment draining through Channel towards Mayfield Rd box culvert

Property ID	Command	Catchment ID	Area (ha)	TIMP	XIMP	Slope (%)
C1	STANDHYD	7623	1.15	0.99	0.99	0.5
C2.1	STANDHYD	7624	2.08	0.99	0.99	0.5
C3.1	STANDHYD	7567	2.81	0.99	0.99	0.5
C4	STANDHYD	7629	4.09	0.99	0.99	0.5
C5	STANDHYD	7631	3.91	0.99	0.99	0.5
C10	STANDHYD	7641	2.21	0.99	0.99	0.5
C11	STANDHYD	7643	2.02	0.99	0.99	0.5

While catchments C6, C7, C8, C9, and C12 will undergo on-site management utilizing underground storage facilities to control their discharge. This approach guarantees that the stormwater runoff from these catchments is in line with the Town of Caledon requirements and the capacity of the storm sewers at Mayfield Road. Considering the block areas are less than 2ha, the analysis was conducted using the Rational method, as detailed in **Section 5.6.2** of the report.

Lastly, Catchments C2.2.1, C2.2.2, C3.2.1, and C3.2.2 will undergo on-site control measures as well to meet the requirements set up in the Stormwater Management Pond Report, Simpson Road Extension dated June 2021, prepared by Schaeffers Consulting Engineers. Route reservoirs were utilized to estimate the on-site control requirements for these subject sites.

This comprehensive analysis delineates the varied drainage pathways and destinations for runoff from the catchments, informing future development and stormwater management strategies effectively.

3.4 Design Storms

In accordance with the guidelines outlined by the Toronto and Region Conservation Authority (TRCA) for developments within the Humber River watershed, we utilized 6-hour and 12-hour Antecedent Effective Storm (AES) events to evaluate existing flows and proposed condition flows. Additionally, for the analysis of underground storage and flow regulation, we incorporated the 4-hour Chicago storm event. Furthermore, for catchments directing runoff to storm sewers, Rational method was utilized to determine the flow and storage requirements as the site plans were less than 2ha.

4. Overview of Key MESP Requirements

4.1 Existing Relevant Studies

- Stormwater Management Pond Report, Simpson Road Extension, Proposed SWM Pond, prepared by Schaeffers Consulting Engineers, dated June 2021.
- West Rainbow Creek Channel Re-Alignment – Simpson Road Extension, Town of Caledon Conceptual Flood Hazzard Assessment and Natural Channel Design., dated July 30, 2025.
- Equity Prestige Business Park, West Phase, Stormwater Management Report, prepared by A.M. Candaras Associates Inc., dated October 2003.
- Simpson Road Extension and Tributary to West Rainbow Creek – Scoped Fluvial Geomorphology Assessment, Aquatic Habitat Review and Evaluation of Alternative Flow Conveyance Options, prepared by Palmer, dated May 2024.
- Functional Servicing and Stormwater Management Report for Proposed 1 Storey Industrial Building, 8522 Mayfield Rd., Town of Caledon: Bolton, prepared by A.M. Candaras Associates Inc., dated June 23, 2023 and Site Plan Approved on February 20, 2024.

4.2 Environmental Constraints and Agency Requirements

The MESP TOR requires that limits of the Natural Heritage System (NHS) be established during the Block Plan process based on the recommendations of the PPS (2020), applicable municipal and/or TRCA policies, and features staking/surveying.

It is the purpose of this MESP to create a framework to guide the development of lands and natural heritage system planning so that significant natural heritage features, along with their linkages and respective functions, are protected, restored and (where appropriate) enhanced.

Eight types of natural features are identified in the PPS (MMAH 2020):

- Significant wetlands;
- Significant coastal wetlands;
- Significant woodlands;
- Significant valleylands;
- SWH;
- Fish habitat;
- Habitat of endangered and threatened species; and
- Significant areas of natural and scientific interest.

The presence/absence of these natural features in the Study Area are discussed in the subsequent sections below. The NHRM (MNR 2010), Town of Caledon's OP (2024), Peel Region's OP (2022) and TRCA O.Reg 166/06 were referenced to assess the potential significance of other natural features, and their associated forms and functions on the landscape.

Resulting from the fieldwork summarized in **Section 2**, GEI has confirmed the presence of all natural heritage features in the Study Area based on criteria outlined in applicable policies. It is the goal of development to achieve no net loss of NHS function, and when possible, to strive for a net gain. The remainder of **Section 4.2** summarizes the proposed of the NHS. All NHS features and buffers are then further discussed in **Section 4.3**, in the context of environmental enhancement opportunities and constraints.

Significant Valleylands

Significant valleylands should be defined and designated by the planning authority. General guidelines for determining significance of these features are presented in the NHRM (MNR 2010) for Policy 2.1 of the PPS. Recommended criteria for designating significant valleylands include prominence as a distinctive landform, degree of naturalness, and importance of its ecological functions, restoration potential, and historical and cultural values.

No valleylands are present on the Subject Lands.

Significant Woodlands

Woodlands, as defined by the Peel OP and Caledon OP, include woodlots, cultural woodlands, cultural savannahs, plantations and forested areas and may also contain remnants of old growth forests.

No woodland communities are present on the Subject Lands.

Significant Wetlands and Other Wetlands

No significant wetland is present on the Subject Lands.

Wetland is present on the Subject Lands, collectively occupying approximately 0.296 ha. This area is composed of two individual wetland units, consisting of mineral meadow marsh and mineral shallow marsh ecosites.

Environmentally Sensitive/Significant Areas

Environmentally Significant Areas are identified by the relevant Conservation Authority or Municipality according to their established criteria and would be reflected on Schedule C of the City's OP. There are no Environmentally Sensitive/Significant Areas designated by TRCA or the Town within the study area.

Area of Natural and Scientific Interest (ANSIs)

Areas of Natural and Scientific Interest (ANSIs) are designated by the MNRF and include sites of particular ecological or geological significance. There are no ANSIs located on the Subject Lands.

Fish Habitat

Fish habitat, as defined in the federal Fisheries Act, C.F-14, means “spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes.” Fish, as defined in S.2 of the Fisheries Act, C.F-14, includes “parts of fish, shellfish, crustaceans, marine animals and eggs, sperm, larvae, spat and juvenile stages of fish, crustaceans and marine animals” (DFO 2019).

Tributary D of West Rainbow Creek is present along the eastern boundary of the Subject Lands and provides direct fish habitat.

Significant Wildlife Habitat

Significant wildlife habitat (SWH) is one of the more complex natural heritage features to identify and evaluate. There are several provincial documents that discuss identifying and evaluating SWH: the NHRM (MNR 2010), the Significant Wildlife Habitat Technical Guide (MNR 2000), and the SWH Ecoregion Criterion Schedule (MNRF, 2015). The Simpson Lands are in Ecoregion 6E and were therefore assessed using the 6E Criteria Schedule (MNRF 2015). There are four general types of significant wildlife habitat: seasonal concentration areas, rare or specialized habitats, habitat for species of conservation concern, and animal movement corridors. Candidate habitat, in relation to the Study Area, is discussed in detail below.

Seasonal Concentration Areas of Animals

Seasonal concentration areas are those sites where large numbers of a species gather together at one time of the year or where several species congregate. Several types of seasonal concentration areas of animals include criteria such as a large body of water, or for the habitat to be within 5km of a Great Lake - both of which are not present within, or adjacent to, the Subject Lands. Deer yard and deer wintering congregation areas are mapped and provided by the MNRF. Neither of these habitat types were identified through agency correspondence, nor is this habitat type identified on the Subject Lands with MNRF’s Land Information Ontario (LIO) database.

Rare Vegetation Communities or Specialized Habitat for Wildlife

Rare or specialized habitat, are two separate components. Rare habitats are those with vegetation communities that are considered rare in the province. SRANKS are rarity rankings applied to species at the ‘state’, or in Canada at the provincial level, and are part of a system developed under the auspices of the Nature Conservancy (Arlington, VA). Generally, community types with SRANKS of S1 to S3 (extremely rare to rare-uncommon in Ontario), as defined by the NHIC, could qualify. It is assumed that these habitats are at risk and that they are also likely to support additional wildlife species that are considered significant. No rare vegetation communities were identified within or surrounding the Subject Lands.

Specialized habitats require large areas of suitable habitat for successful breeding. This SWH type is community/diversity-based. The largest and least fragmented habitats are generally considered more significant. Similar to the approach taken with Seasonal Concentration Areas, this SWH component requires specific habitat criteria to warrant targeted surveys.

Amphibian Breeding Habitats

A total of 5 amphibian call count stations were surveyed in 2023. Both Spring Peeper (*Pseudacris crucifer*) and American Toad (*Anaxyrus americanus*) were recorded with a call code level of 1 (individuals) at Amphibian Call Station 3, however, the species abundance and habitat do not meet the criteria for Significance for this SWH type.

Habitat of Species of Conservation Concern

Species of conservation concern include those that are rare and whose populations are significantly declining. Habitats of species of conservation concern do not include habitats of endangered or threatened species as identified by the ESA, 2007.

As indicated in the SWH categories above, this SWH component requires specific habitat criteria to warrant targeted surveys, none of which were met on the Subject Lands.

Animal Movement Corridors

Animal movement corridors are areas that are traditionally used by wildlife to move from one habitat to another. This is usually in response to different seasonal habitat requirements. Some examples are trails used by deer to move to wintering areas, and areas used by amphibians between breeding and summering habitat.

No evidence of traditional mammal trails was found during any of the site visits. While mammals utilize these lands, there is no indication of a formal migration corridor or other evidence of “high traffic” trails. The detailed technical work completed and summarized in this report identifies the role of the Subject Lands as providing limited function in this regard.

Summary
Based on detailed field survey programs completed during 2023, no SWH has been identified to be present on the Subject Lands.

4.3 Enhancement Areas/Buffering

Buffers are intended to preserve the ecological integrity of natural features and their associated processes. The Town of Caledon requires the establishment of buffers and setbacks to protect natural heritage features, including hazardous lands. A buffer refers to the distance from adjacent land uses to a natural heritage feature and/or hazard land. Ecological buffers can be effective in mitigating adverse impacts (e.g. noise, light, pollution, etc.) to individual natural heritage features and the NHS itself.

Per Section 7.9.6.1 of Caledon’s OP (2024), *no lands within the South Simpson Industrial Area Secondary Plan are designated as an Environmental Policy Area. However, all lands within the Plan are subject to the Ecosystem Planning and Management provisions of Section 3.2 of the Official Plan*.

Natural heritage feature buffers, or Vegetation Protection Zones (VPZs), and setbacks were reviewed including requirements set out in the TRCA’s The Living City Policies (2014b), the Town of Caledon OP (2024), the Peel OP (2018), the Significant Wildlife Habitat Criteria Schedules for Ecoregions 6E and 7E (MNRF 2015a and 2015b), and the Natural Heritage Reference Manual (MNR 2010). These policies and guidelines were reviewed in the context

of feature form, function, sensitivity, as well as the extent and nature of the proposed development or site alteration on adjacent lands to support VPZ recommendations. Based on this review, the following VPZs are recommended to be applied to features on the Study Area.

The guiding principles are listed in brackets.

a) Identified wetlands = 10 m (Caledon OP 2024; TRCA 2014b);

b) Fish habitat (warm water) = 15 m (Caledon OP 2024); and

c) Floodplain = 10 m (Caledon OP 2024; TRCA 2014b).

The Simpson Road LO group explored multiple alternative approaches to convey flow and benefit ecology in association with the construction of the Simpson Road extension and development of the adjacent lands. Consideration was given to a variety of objectives over the course of the design process: natural environment, technical criteria, financial criteria, constructability, public safety, and land use planning.

The proposed design incorporates an extended SWM pond outlet (4.2m x 1.5m box culvert) into a 33-meter-wide realigned channel corridor. The proposed channel corridor will parallel the western side of the Simpson Road extension, with conveyance beneath Mayfield Road through a 6m x 1.5m box culvert. Two (2) 9m wide shared driveway entrances are proposed to cross the channel, providing access to all lots on the Subject Lands from Simpson Road. Drawing No. C1 (Greck 2025) is provided in **Appendix D.1**.

The proposed channel design represents a significant improvement to the current existing conditions described in **Section 2.3.2**. Gravel and cobble will be placed strategically throughout the redesigned channel to improve substrate composition and provide hydraulic habitat heterogeneity. Brush layering is proposed along the outer banks of meanders to limit channel migration and improve fish habitat. A series of cascading pools are proposed along the southernmost 45m of the redesigned channel. These pools are intended to allow for year-round fish passage through a section of the realigned tributary which requires a 3.1% channel grade to pass beneath Mayfield Road. Native riparian plantings are proposed throughout the entirety of the channel corridor.

The channel design results in a total of approximately 425m of realigned channel length. The channel and buffer conditions associated with this design represent a significant improvement to the existing conditions.

4.4 Implementation

As identified in **Section 4.3**, consideration was given to a variety of objectives over the course of the design process: natural environment, technical criteria, financial criteria, constructability, public safety, and land use planning. The proposed design needed not only to consider the environmental and legislative requirements outlined in previous sections but also needed to satisfy many technical and financial requirements in order to be feasible. These design criteria, as well as the needs of the landowners, were all considered in identifying the proposed servicing plan. Consideration and collaboration of all parties involved is intended to result in the highest potential for the successful implementation of the proposed servicing design.

4.5 Existing Master Financial Agreement

There has been a Master Financial Agreement between Anatolia Corp., Arion Service Ltd., Simpson Road Landowners Group and the Region and Town for development of the subject site executed on December 17, 2020. There has also been a Shared Works Cost Sharing Agreement for the subject site development dated March 6, 2020. Refer **Appendix A – Background Information** for the Letters of Agreement between Landowners.

5. Master Environmental Servicing Plan

5.1 Development Concept

The proposed development plan within the study area / Phase 2 Secondary Plan Area includes individual site plan blocks and extending the current Simpson Road southwards towards Mayfield Road. The following sections provide a brief description of the proposed site plan blocks as well as the proposed ROW extension.

5.1.1 Site Plans

The study area / Phase 2 Secondary Plan Area is broken down into five (5) participating parcel parts; Parts 1, 2, 3, 4, and 5. There are also six (6) non-participating parcels (Parts 7, 8, 9, 10, 11, and 12) and one (1) pending participation parcel (Part 6) that are within the Block Plan Area. There are also two (2) adjacent Landowners not within the Block Plan Area (Parts A and B). Each part will consist of its own site plan development. Refer to **Tables 5.1-5.4** below.

Table 5.1: Participating Parcel Parts

PART	ADDRESS	SITE AREA	DEVELOPMENT TYPE	GFA	OWNER
Part 1	PT LT 1 CON 6 Albion	4.01ha (40,11.9m²)	Industrial	3,309.00m²= Warehouse 4,020.00m²= Office	Arion Service Ltd
Part 2	12155 Coleraine Drive	4.16ha (41,551.8m²)	Industrial	1,995.57m²	Arion Service Ltd
Part 3	PT LT 1 CON 6 Albion	3.97ha (39,746.4m²)	Industrial	19,873.20m²	Coleraine Properties Inc
Part 4	0 Coleraine Drive	3.83ha (38,278.1m²)	Industrial	19,139.05m²	2840928 Ontario Inc
Part 5	8602 Mayfield Road	1.94ha (19,410.5m²)	Industrial	7265.92m²	Anatolia Investments Corp

Table 5.2: Pending Participation Parcel Parts

PART	ADDRESS	SITE AREA	DEVELOPMENT TYPE	GFA	OWNER
Part 6	12197 Coleraine Drive	1.13ha (11,326.6m²)	Industrial	5,663.3m²	Coleraine Properties Inc

Table 5.3: Non-Participating Parcel Parts

PART	ADDRESS	SITE AREA	DEVELOPMENT TYPE	GFA	OWNER
Part 7	12197 Coleraine Drive	0.22ha (2,235.4m²)	Industrial	1,177.00m²	Morresi Holdings Limited
Part 8	12045 Coleraine Drive	0.24ha (2,360.0m²)	Industrial	1,180.0m²	Morpo Holding Limited
Part 9	12029 Coleraine Drive	0.47ha (4,721.9m²)	Industrial	2,360.95m²	11446835 Canada Inc
Part 10	8576 Mayfield Road	2.32ha (23,229.0m²)	Industrial	11,614.5m²	2833720 Ontario Inc
Part 11	0 Coleraine Drive	0.20ha (2.008.7m²)	Industrial	1,004.35m²	2744801 Ontario Inc
Part 12	8522 Mayfield Road	1.15ha (11,526.0m²)	Industrial	Site Plan not provided	The owner is Vespa Engineers Ltd. The Corporation of the Town of Caledon

Table 5.4: Adjacent Parcel Parts not within Block Plan Area

PART	ADDRESS	SITE AREA	DEVELOPMENT TYPE	GFA	OWNER
Part A	88 Simpson Road	3.15ha (31,515.9m²)	Industrial	Site Plan not provided	Vespa Engineers Ltd. The Corporation of the Town of Caledon
Part B	100 Pillsworth Road	12.77ha (127,742.0m²)	Commercial	Site Plan not provided	Anatolia Real Estate Corp

5.1.2 Simpson Road ROW Extension

The extension of Simpson Road consists of a 24m ROW that runs north to Mayfield Road. The Simpson Road extension at approximately station 11+220 starts the left hand turn lane off of Simpson Road to Mayfield Road. The lanes are a 5.5m lane width with the south-bound lanes going to a 5.5m northbound lane, 4.0m southbound and 3.5m southbound left hand turn lane. The total pavement width varies from 11-13.0m. The boulevards on each side will each be 6.5m to the north and to the south with the turn lane will vary from 4.5-6.5m. All servicing and utilities are proposed in this ROW.

The Simpson Road Extension Phase 3 drawings, prepared by Wood Consultants, Issued September 2021 show the approved design of the Simpson Road Extension. Refer to **Figures 5-1-1, 5-1-2 and 5-1-3** for plan and profiles and refer to **Appendix A** for the approved Simpson Road Extension drawings by Wood Consultants.

5.2 Proposed Municipal Servicing

5.2.1 Sanitary Servicing

The proposed sanitary flows were separated discharging into Simpson Road or Coleraine Drive. These flows were calculated by the site areas outlined in Section 5.1.1. The estimated sanitary discharge from the sites has been calculated using the Region of Peel Public Works Design Criteria Manual dated July 2009, modified March 2017. – Sanitary Sewer. Refer to the sanitary design sheets in **Appendix E** for flows contributing to the sanitary network on Coleraine Drive and Simpson Road, the Sanitary drainage area **Figure 5-2** and Conceptual Sanitary Servicing **Figure 5-3**.

The flows discharging to the Simpson Road Extension sanitary network had a combined site development industrial area of 6.72ha. The flows discharge to Simpson Road accumulates to a total of 10.51 L/s. The pipe at most capacity is the last leg sewer a 250mm diameter pipe at 24.6% full. A 200mm sanitary lateral will be provided to Parts 1A, 1B, 2A, 2B, 3, 4, 5 and 10 from the mainline within the Simpson Road Extension. The sanitary laterals to the Parts listed above are intended to cross underneath the proposed Extended SWMP 4.2m by 1.5m box culvert Outlet pipe and channel (designed by Greck). To protect the sanitary pipe a steel liner will need to be installed to protect the pipe and will be designed during detailed design. For Parts 1A and 2A, a gravity sewer cannot be discharged to the Simpson Road sanitary infrastructure, so sanitary pumps will be required at the control manholes located at the west side of Simpson Road ROW limits.

The flows contributing to Coleraine Drive sanitary network had a combined site development industrial area of 1.36ha. The flows discharging to Coleraine Drive contribute an additional total of 2.15 L/s. This does not include existing flows upstream. Parts 6, 7, 8, 9, 11, and 12 will require a sanitary connection to the existing sanitary sewer located within Coleraine Drive.

5.2.2 Water Supply

The proposed watermain was separated with connections into Simpson Road, Coleraine Drive and Mayfield Drive. The water consumption flow rate is calculated by the site areas outlined in section 5.1.1. The estimated water demands from the sites have been calculated using the Region of Peel Public Works Watermain Design Criteria dated June 2010. Refer to the water demand calculations and **Figure 5-4** for Conceptual Water Servicing.

It is anticipated that for Parts 1, 2, 3, 4, 5, and 10, there is an average consumption of approximately 127,424 L/d (1.47 L/s), a maximum daily consumption of 178,394 L/d, a minimum hourly demand of 3,451 L/hr, and a peak hourly demand of 4.42 L/s will be required to service Parts 1, 2, 3, 4, 5, and 10 connected to the watermain fronting Simpson Road Extension. Watermain laterals to each Part listed above will be provided using Regional standard 1-8-6. The water services to the Part 1A and 2A are intended to cross underneath the proposed Extended SWMP 4.2m by 1.5m box culvert Outlet pipe and channel (designed

by Greck). To protect the watermain pipe a steel liner will need to be installed to protect the pipe and will be designed during detailed design.

It is anticipated that for Parts 6, 7, 8, 9, and 11, there is an average consumption of approximately 23,910 L/d (0.28 L/s), a maximum daily consumption of 33,474 L/d, a minimum hourly demand of 648 L/hr, and a peak hourly demand of 0.83 L/s will be required to service Parts 6, 7, 8, 9, and 11 connected to the watermain fronting Coleraine Drive. Water services will be provided to each Part listed above at the time they go for Site Plan Approval. Laterals will be sized appropriately at that time.

Based on the approved Functional Servicing and Stormwater Management Report (FSSR) for Part 12 dated June 23, 2023, prepared by A.M. Candaras Associates Inc., it is anticipated that there is an average consumption of approximately 23,400 L/d (0.27L/s), a maximum daily consumption of 32,760 L/d, and a peak hourly demand of 0.81 L/s will be required to service Part 12. The water service connection for Part 12 is to be connected to the existing watermain fronting Mayfield Road. The site statistics listed that the building roof area is approximately 5,195 m^2. The water supply system will be designed to convey the fire flow plus maximum day demand, which the FSSR calculated to be about 200.4 L/s. Water service will be provided to Part 12 at the time they go for Site Plan Approval. Laterals will be sized appropriately at that time.

Refer to **Appendix A** for the approved FSSR for Part 12 prepared by A.M. Candaras Associates Inc.

5.2.2.1 Hydrant Flow Test

Two fire hydrant flow tests were conducted on September 23, 2021, by IQ Environmental Inc. The hydrant tests were performed on Mayfield Road, west of the proposed intersection of Simpson Road and Mayfield Road, and on the existing Simpson Road, immediately north the proposed developments. The static pressure was shown to be 90 psi from both hydrant tests.

5.2.2.2 Water Modelling

A water model using WaterCAD was completed to simulate the site watermain distribution system to confirm that water supply requirements have been achieved. The WaterCAD model utilizes the calculated demands for the proposed site and confirms that sufficient flows and pressures can be achieved for the following scenarios: peak hour and maximum day + fire flow.

A dummy reservoir (R-1) is placed at the Simpson Road connection and a second dummy reservoir (R-2) is placed at the Mayfield Road connection. The hydraulic grade line (HGL) of the dummy reservoirs is set to the static pressure of the corresponding hydrant test location, in order to apply the corresponding boundary conditions to the model. The hydraulic grade line applied to each reservoir is shown below in **Table 5.5**.

Table 5.5: WaterCAD Boundary Conditions

Boundary Connection	Ground Elevation (m)	Measured Static Pressure (psi)	Total Hydraulic Grade (m)
Simpson Road	235	90	280.5
Mayfield Road	230	90	291.0

A C-factor value of 120 was applied to all 300mm watermain pipes.

The WaterCAD model was tested for Parts 1, 2, 3, 4, 5, and 10. Refer to the WaterCAD schematic in **Appendix F** for the model schematic. The results showed that the pressure for the site during the maximum day demand scenarios range between 87 to 91 psi (600 to 627 kPa) for all six Parts and is therefore within the required range of the required operating range of 40 psi to 100 psi, in accordance with the Region of Peel. Similarly, During the peak hour demand scenarios range between 87 to 91 (600 to 627 kPa) for all six sites, therefore, is within the required operating range of 40 – 100 psi.

Fire flow demand was run individually for each site. The WaterCAD model results below show the corresponding pressure of all tested hydrants and during the fire flow scenario. All site connections and hydrants have a minimum of 20 psi (140 kPa) and, therefore, there is sufficient fire flow to meet firefighting requirements of the proposed developments. See **Appendix F** for detailed modelling results.

5.3 Proposed Grading

The proposed grading will match into the existing grades where needed and maintain the existing overland flow patterns. The site will match into existing grades to the south-east, adjacent to Mayfield Road and abutting Parts 5, 9, 10, and 12. The site will match into the existing grading to the west, adjacent to Coleraine Drive and abutting Parts 1A, 2A, 3, 4, 6, 7, 8, 9, and 11. Also, the site will also match into the existing grading to the north-west along Parts 1A, 1B, and 6. There is an approved road extension for Simpson Road designed by Wood Consultants that runs through the study area and connects into Mayfield Road. There is also a proposed Extended SWMP Outlet box culvert and channel (designed by Greck) on the west side of Simpson Road. Study area Parts 2A, 3, 4, 5, and 10 will match into the channel limits. Parts 1B and 2B will match into the approved Simpson Road ROW. Allowing for the majority of the overland flow route to flow from north-west to south-east for Parts 1A, 2A, 3, 4, and 5 to the proposed channel. The overland flow route for Part 10 will flow south to Mayfield Road and a portion will flow east to the channel. The overland flow route for Part 6 flows towards the existing Equity Prestige Business Park SWM Pond to the north. The road extension splits Parts 1 and 2 (into Parts 1A, 1B, 2A, and 2B) and will match into the existing grading to the north and south property limits.

For this conceptual grading, Part 1A, 2A, 3, and 4 will have property line sloping of 0.3-0.4% running west to east matching into the west side of the channel (designed by Greck) with a 3:1 slope matching into the existing property line to the west. Part 5 and a portion of Part 10 will match along the west side channel sloping at 0.5% from west to east. Parts 5 and 10 will also match into the existing grades along Mayfield Road sloping at 0.6-6.5% from north to south. Part 10 will also match with 3:1 sloping to existing grades along Part 12. The south edge of Part 6 will match into Coleraine Drive property line to the west and the existing Equity Prestige Business Park SWM Pond to the east with slopes at 0.3% flowing from west to east to the existing pond. Part 6 will match into existing grades along the west, north, and east

limits with 3:1 sloping. Parts 7, 8, 9, and 11 will match into Coleraine Drive to the west and match into the existing grades along the internal block boundaries. Part 9 and 12 will match into Mayfield Road to the south. Part 11 will match into the existing grades to the north and east with 3:1 sloping, and Part 12 will match into the existing grades to the east with 3:1 sloping along the shared boundary with Part 4 and Part 10. There are three (3) proposed storm easements within the site. A storm easement is proposed for the Extended SWMP box culvert Outlet (designed by Greck). Another storm easement is proposed along the north-east edge of Part 1A to allow a storm connection to service Part 6. There is also a storm easement proposed within Parts 7, 8, and 9 along the east boundaries to allow storm connections that service Parts 7, 8, 9, and 11 to pass through to Mayfield Road.

The study area is governed by the approved Simpson Road extension drawings. This extension has proposed grades that are approximately averaging between 1-2m higher than existing which would cause this site to require fill. Each individual Part will require detailed grading design during the Site Plan Application stage of development. The detailed grading will be required to maintain the general grading and emergency overland flow indicated on the conceptual grading plan providing. Refer to **Figure 5-5** for Conceptual Grading and **Figures 5-1-1, 5-1-2, and 5-1-3** for plan and profiles.

5.4 Post Development Stormwater Management Plan

In order to meet the SWM design criteria mentioned in **Section 3.1** and taking into consideration the proposed development plan and grading plan discussed in the previous sections, it is proposed to provide on-site control within each of the site plans blocks. The flows from the on-site SWM facilities will ultimately either discharge to the existing storm sewer on Mayfield Road, the proposed storm sewer on Simpson Road extension, the proposed SWM pond outlet extension culvert or the proposed open channel. The discharge locations are based on the proposed grading and site topography.

Majority of the proposed development is proposed to drain to the proposed bypass channel, proposed to replicate the existing reach traversing the subject lands. The design of the bypass channel has been completed by Greck and Associates and presented in the drawing titled “Simpson Road MESP Channel Work, Naturalized Channel Design Concept, Drawing No. C1, dated July 2025”. The drawing shows the construction of a bypass channel to manage forthcoming flows from the developed subject site as well as the existing SWM pond located on the north of the subject site. The proposed low-flow channel is designed to convey both storm servicing outflows and overland drainage through a gently graded open channel terminating at a **4**.2 m x 1.5 m concrete box culvert with a 1.7% slope. The culvert has an inlet invert of 232.00 m and an outlet invert of 230.02 m, providing sufficient capacity to convey major system flows downstream. Upstream of the culvert, an emergency pond inlet structure is proposed at 233.75 m, representing the 100-year water surface elevation. The channel is crossed by four shared driveways, each serviced by 3.6 m by 1.5 m box culverts aligned with the low-flow line. The overall design incorporates regulatory flood elevation limits, with all grading, culverts, and crossings coordinated to maintain hydraulic capacity, minimize backwater, and provide safe flow conveyance through the development area. For additional details regarding the proposed bypass channel design please refer to the above-mentioned Greck drawing included in **Appendix D.1.**

Due to the proximity of the existing storm sewer along Mayfield Road, it is proposed that certain site plans adjacent to the roadway be directly connected to the storm sewer system, which ultimately discharges at the same location as the proposed bypass channel. The approved Functional Servicing and Stormwater Management Report (FSSR) for C12 (Part 12), prepared by A.M. Candaras Associates Inc. and dated June 23, 2023, outlines the allowable release rate based on the 2-year pre-development condition. This information will be used to guide the SWM strategy for the specific site. Refer to **Figure 5-7** for the Post-Development Drainage Area and **Figure 5-8** for the Conceptual Storm Servicing.

As part of the SWM scheme to support the development of Parcel B, some of the Block Plan area, precisely Catchments C2.1, C2.2 and C3.2 were considered in the design of the existing SWM pond at the northeastern corner of Simpson Road Extension and Mayfield Road, referred to as Bolton_WetP_118 as per Plan 43R34749, which was designed to provide Quantity, Quality and Erosion control. It is expected that these catchments will drain to the approved SWM facility via the proposed storm sewer system on Simpson Road. Details of the proposed SWM scheme can be found in **Table 5.6**.

Table 5.6: Proposed SWM Scheme

Parcel	Catchment	Area (ha)	Runoff Coefficient (Imper)	Discharge Location	SWM Scheme
Part 6 (P)	C1	1.15	0.9 (100%)	Proposed Channel via Extended SWMP 4.2m x 1.5m Box Culvert Outlet (Designed by Greck)	**Quantity control:** On-site control to meet the SWM requirements. Refer to **Section 5.6.1** for additional details. **Quality Control:** On-site measures such as OGS, Filter units etc. Refer to **Section 5.7** for additional details. **Erosion Control:** Retain 5mm on site. Refer to **Section 5.8** for additional details.
Portion of Part 1 (P)	C2.1	2.08	0.9 (100%)		
Portion of Part 2 (P)	C3.1	2.81	0.9 (100%)		
Part 3 (P)	C4	4.09	0.9 (100%)		
Part 4 (P)	C5	3.91	0.9 (100%)		
Part 10 (NP)	C10	2.21	0.9 (100%)		
Part 5 (P)	C11	2.02	0.9 (100%)		
	Total	18.27			
Part 11 (NP)	C6	0.19	0.9 (100%)	Existing storm sewer on Mayfield Road	**Quantity control:** On-site control to meet the SWM requirements. Refer to **Section 5.6.2** for additional details. As per FSSR, dated June 23, 2023, C12
Part 7 (NP)	C7	0.21	0.9 (100%)		

Parcel	Catchment	Area (ha)	Runoff Coefficient (Imper)	Discharge Location	SWM Scheme
Part 8 (NP)	C8	0.23	0.9 (100%)		(Part 12) the allowable release rate will be 65.8l/s. **Quality Control:** On-site measures such as OGS, Filter units etc. Refer to **Section 5.7** for additional details. **Erosion Control:** Retain 5mm on site. Refer to **Section 5.8** for additional details. As per the FSSR, dated June 23, 2023, the water balance required for C12 (Part 12) will be 310.0 m^3.
Part 9 (NP)	C9	0.45	0.9 (100%)		
Part 12 (NP)	C12	1.12	0.9 (100%)		
	Total	2.20			
-	R1	1.41	0.76	Approved Storm Sewer System on Simpson Road	**Quantity control:** Control to 180 l/s/ha primarily using roof controls. Additional control is provided by the downstream SWM Facility. Refer to **Section 5.6.3** **Quality Control:** No quality control required on site, as it will be provided by the Equity Prestige Business Park SWMF. **Erosion Control:** No erosion control required, as it will be provided by the Equity Prestige Business Park SWMF.
Portion of Part 1 (P)	C2.2.1	0.71	0.81		
Portion of Part 1 (P)	C2.2.2	0.47	0.81		
Portion of Part 2 (P)	C3.2.1	1.26	0.81		
Portion of Part 2 (P)	C3.2.2	1.03	0.81		
	Total	4.03			
	Total Area	24.77			

(P) – Participating (NP) – Non-Participating

5.5 Stormwater Management Alternatives

Based on the Stormwater Management Planning and Design Manual dated March 2003, a hierarchy of stormwater management practices is recommended to be incorporated in SWM plan for a development. The hierarchy is as follows:

5.5.1 Lot Level Controls

Lot level controls refer to those measures that can be implemented at the individual lot levels. Lot level controls are primarily used to provide storage and/or on-site infiltration/filtration. Common lot level controls include the following:

- **Rooftop storage:** Provide storage on rooftops by controlling the flows using roof drains.
- **Ponding Areas (Parking):** Provide storage on parking lots where feasible by implementing Catchbasin restrictors or orifices in the storm sewer system. At Site Plan Application stage, ponding within parking areas and rooftops of the commercial/industrial lands will be considered for water quantity control.
- **Downspout Disconnection:** Disconnect rooftop leaders onto grassed ponding areas, soak away pits or rain barrels.
- **Permeable Pavers:** Permeable Pavers can be utilized instead of regular asphalt driveways to reduce the amount of runoff from the lot areas and to promote infiltration. However, there are additional operation and maintenance requirements required to ensure efficiency of the system. Considering this measure is costlier to implement than the other infiltration-based measures on site, this measure should generally be considered if other measures are not applicable to the site.
- **Lot Grading and Topsoil Amendments:** Overland flow routes can be maximized, and lot grading can be reduced to increase the runoff time and maximize the infiltration potential.
- **Stormwater Reuse:** Stormwater can be collected and reused within industrial/commercial developments for either irrigation or as 'grey water'. This measure is quite effective at reducing runoff volumes and can be utilized to meet the retention requirements on site plan. This measure also requires continued operation and maintenance of the facility.
- **Additional Low Impact Development (LID) Measures**: Additional LID measures such as green roofs, rain gardens, constructed infiltrated basins can be reviewed depending on site soil conditions and development plans.

5.5.2 Conveyance Controls

Conveyance controls refer to the measures that can be implemented to convey from the source point, i.e. lot level to the outlet point (either end of pipe control or outlets). Some of the common recommended conveyance controls include the following:

- **Perforated storm sewers and catchbasins**: Infiltration can be promoted by utilizing perforated storm sewer system to enhance infiltration. However, pre-treatment is required to ensure only clean water runoff is infiltrated. Additionally, consideration should be given to the GWL table and feasibility on site. Operation and Maintenance requirements for such type of a system is also expected to increase.

- **Right of Way LID Measures:** Runoff from the roads can be captured in the catchbasins and can be directed to an adjacent bioswale/tree pits to promote infiltration before discharging to the storm sewer system. This measure replaces the traditional curb and gutter drainage system on the right of ways.

5.5.3 End of Pipe Controls

End of pipe controls represent the downstream measures that can be implemented on site prior to discharge to the outlet location. The following are most commonly used end of pipe controls for both quantity and quality control:

- **Wet Ponds:** The most commonly used end of pipe system. Effective in providing both quantity and quality control if sized as per MECP Standards. Minimum required tributary area to a pond is 5ha.
- **Dry Ponds:** Utilized in areas where the main goal is to provide quantity/flood control. Additional treatment methods are required to meet the quality controls. Dry ponds are generally recommended to be proposed in parks or in multipurpose land uses to maximize the space available.
- **Underground Storage Tanks and Superpipes:** Recently, underground storage chambers are becoming the most favored measure to provide quantity control or even quality control especially on-site plans where spacing is restricted. When sized appropriately, the underground storage chambers provide all the required SWM controls and can also accommodate infiltration where feasible. There are multiple underground storage chambers available in the industry and the most efficient and applicable system should be utilized.
- **Oil Grit Separators/Filtration Devices:** Quality control is commonly provided by utilizing oil grit separators (OGS) devices or filtration systems. Considering only quality control is provided by this measure, additional measures need to be implemented on site to meet the SWM criteria. The efficiency of each of the available devices varies and needs to be considered in detailed design to meet the 80% TSS removal.

5.5.4 Recommended SWM Measures

Considering the proposed development on subject sites is mainly commercial/industrial and taking into consideration that the development timeline will vary for each of the different site plans, it is recommended to utilize the following measures to meet SWM control within each of the site plan areas. The final SWM strategy will be established at the detailed design stage.

It is proposed that each of the site plans will provide quantity, quality and erosion control and discharge to the proposed Extended SWMP box culvert Outlet. The following SWM alternatives are recommended to meet the SWM criteria:

- **Quantity Control**: Roof control, ponding storage and/or underground storage/super pipe storage
- **Quality Control**: Filtration Units, Oil Grit Separators (additional treatment required to achieve 80% TSS control), Green Roofs (if feasible).
- **On-site retention (5mm) for Erosion Control:** Rainwater Harvesting Systems to reuse as grey water or for irrigation, green roofs.

- **Water Balance:** Site plans must include infiltration best management practices using roof water as best-efforts approach.

5.6 Flood Control & Conveyance of Runoff

While, in the absence of effective stormwater management controls, there is an anticipated elevation in peak flows downstream from the study area during post-development conditions. To address the potential risk of the downstream flooding, quantity control is proposed within each of the site plan blocks. This infrastructure is designed to exert quantitative control over the flows, ensuring that post-development peak flow rates align with those observed in the pre-development phase. This control mechanism is intended to be effective for all storm events, including 100-year storms.

Adhering to the regulations set forth by the Town of Caledon, it is mandatory for all industrial and commercial developments to incorporate onsite controls, which may involve underground storage, rooftop storage, or parking storage. The allowable discharge rates for each of the catchments are further discussed in sections below and are separated based on the discharge locations.

5.6.1 Catchments Draining to Proposed Box Culvert and Channel

Control manholes are proposed to collect the flows from the individual site plans and convey the discharge to the proposed Extended SWM Pond Outlet box culvert and open channel designed by Greck. The allowable release rates for each of these site plans were established based on the TRCA Unit flows for Sub-Basin 36. The Allowable Release Rates for each catchment are presented in **Table 5.7** below.

Table 5.7: Allowable release rates for catchments draining to the Proposed Channel

Catchment ID	Parts/ Parcels	Area (ha)	Return Period (cms)					
			2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
C1	Part 6	1.15	0.010	0.017	0.020	0.025	0.030	0.034
C2.1	Part 1A	2.08	0.018	0.029	0.036	0.046	0.052	0.059
C3.1	Part 2A	2.81	0.023	0.038	0.047	0.059	0.068	0.075
C4	Part 3	4.09	0.033	0.053	0.065	0.082	0.097	0.109
C5	Part 4	3.91	0.031	0.051	0.063	0.079	0.093	0.104
C10	Part 10	2.21	0.018	0.030	0.037	0.047	0.055	0.062
C11	Part 5	2.02	0.017	0.028	0.034	0.043	0.051	0.057
Total Area	**18.27**		**0.15**	**0.246**	**0.302**	**0.381**	**0.446**	**0.5**

The maximum required quantity control volume for each of the site plan blocks is presented in **Table 5.8** below. The required volumes were based on the 4hr Chicago design storms which were found to be governing than the 6hr/12hr/24hr AES design storms. Refer to **Appendix D.3** for detailed calculations and VO output.

Table 5.8: Storage volume required

Catchment ID	Parts/Parcels	Area (ha)	Maximum Storage Volume (m^3)	Chambers needed (GreenStorm ST* full block Chambers)
C1	Part 6	1.15	815	2,412
C2.1	Part 1A	2.08	1460	4,321
C3.1	Part 2A	2.81	2020	5,976
C4	Part 3	4.09	2935	8,682
C5	Part 4	3.91	2805	8,299
C10	Part 10	2.21	1575	4,659
C11	Part 5	2.02	1440	4,260

Table 5.9 outlines the proposed storm pipe connections to the proposed Extended SWMP Outlet and channel, along with the preliminary invert elevations and approximate elevations above the chamber at each site based on the use of GreenStorm ST chambers. These values are intended for preliminary grading estimation purposes and may be refined as the detailed design progresses. A minimum cover of 0.75 m above the chambers has been assumed for this grading exercise as well, which can be updated as per required.

Table 5.9: Approximate Outlet invert at the Proposed Channel from individual site

Catchment ID	Parts/ Parcels	Approx. Pipe length (m)	Connecting pipe invert as per 0.6% slope (m)	Elevation above Chamber (m)
C1	Part 6	20	232.68	234.09
C2.1	Part 1A	20	232.65	234.06
C3.1	Part 2A	20	232.12	233.53
C4	Part 3	20	231.92	233.33
C5	Part 4	20	231.72	233.13
C10	Part 10	20	231.52	232.93
C11	Part 5	20	229.82	231.23

Flows from Equity Prestige Business Park

Flows from the Equity Prestige Business Park Pond ultimately discharge to the proposed bypass channel. The site's post-development outflows were evaluated under various storm events, and the results are summarized in the table below. These outflows have been assessed in the context of the MESP allowable release rates to ensure consistency with the broader stormwater management strategy.

As shown in **Table 5.10**, the proposed outflows for all storm events are equal to or less than the allowable MESP values. This confirms that the discharges from the Equity Prestige Business Park are compliant with the TRCA unit flow targets for Sub-Basin 36 and are appropriate for connection to the downstream storm conveyance system.

Table 5.10: Ultimate Stormwater Management Facility Performance

Storm Event	Inflow (m^3/s)	Outflow (m^3/s)	Pre-Development (m^3/s)	MESP Outflow (m^3/s)
2-yr 6hr AES	3.775	0.146	--	0.09
2-yr 24hr AES	1.292	0.154	0.28	0.13
5-yr 24hr AES	1.670	0.239	0.43	0.31
10-yr 24hr AES	1.925	0.378	0.53	0.45
25-yr 24hr AES	2.248	0.557	0.67	0.63
100-yr 24hr AES	2.735	0.839	0.88	0.88
25mm Chicago	5.364	0.118	0.13	--

The flow from the site plan block is approximately **0.5 cms** for the 100-year return period, while the flow from the Equity Prestige Business Park is about **0.88 cms**. Therefore, the total flow expected to be discharged into the proposed bypass channel is roughly **1.38 cms**.

5.6.2 Catchments Draining to Existing Storm Sewer System

Catchment C6/C7/C8/C9/C12 are proposed to drain through adjacent parcels via a dedicated easement, as illustrated in Drawing DAP-2, and ultimately discharge into the existing storm sewer on Mayfield Road. This approach maintains consistency with existing drainage patterns, where these areas naturally flow toward Mayfield Road.

As the subject lands are currently non-participating, the proposed drainage strategy will be implemented upon future development. The allowable release rates for these catchments have been established based on 2-year pre-development flows from approximately half the site plan areas. This is due to uncertainty regarding the full contributing area to the existing storm infrastructure, based on the current topographic data.

The allowable release rates and corresponding storage volume requirements are provided in **Table 5.11**. Supporting hydrologic calculations is included in **Appendix D.4.**

Table 5.11: Allowable release rates and required storage for catchments draining to existing storm system

Catchment ID	Parts/Parcels	Area (ha)	100-yr Allowable Release Rate (m^3/s) based on 2-yr Pre-development Flows	Required Storage (m^3)
C6	Part 11	0.19	0.007	98
C7	Part 7	0.21	0.008	108
C8	Part 8	0.23	0.009	118
C9	Part 9	0.45	0.017	232
C12	Part 12	1.12	0.017	708
Total Area	**2.20**		**0.057**	**1264**

5.6.3 Catchments Draining to Existing SWM Pond – Bolton_WetP_118 Plan 43R34749

According to the Stormwater Management Pond Report, Simpson Road Extension dated June 2021 prepared by Schaeffers Consulting Engineers (SCE), the Existing SWM Pond – Bolton_WetP_118 Plan 43R34749 was designed to accept flows from some of the Block Plan areas as well as the Simpson Road Extension. Catchments R1 (SCE Catchment 204) and Catchments 2.2.1, 2.2.2, 3.2.1, 3.2.2 (SCE Catchments 203+205) were considered in the design with imperviousness of 80% for Catchment R1 and combined imperviousness of 86.6% for Catchments 2.2.1, 2.2.2, 3.2.1, 3.2.2. However, the design assumed that the site plans provide on-site control utilizing rooftop controls for at least 35% of the area. If the roof area reduces more than 35% of the total area of 3.22ha then additional on-site controls are required.

A summary of the max. flow from the catchments tributary to the pond based on the SCE report is provided in **Table 5.12** below based on the assumption that 35% of the area will be roof area.

Table 5.12: Release rates for catchments draining to existing SWMP Bolton_WetP_118

Catchment ID	Parts/ Parcels	Area (ha)	Peak Release Rate (m^3/s)	Quantity Control
R1	--	1.41	n/a	Provided by the SWM Pond
C2.2.1/C2.2.2/C3.2.1/C3.2.2	Part 1B and 2B	1.88	n/a	Provided by the SWM Pond
C2.2.1/C2.2.2/C3.2.1/C3.2.2 Roof*	Part 1B and 2B	1.01	0.048	Roof Control

*Assuming 35% of the site plan compromises of Roof and provides control based on 42L/s/ha

Based on the preliminary review of the latest site plans, it is noted that the catchments are likely to be developed as parking lot, therefore on-site control is required to ensure the flows are less than 180L/s. The required volumes calculated using rational method as individual site plan areas are less than 2ha are provided in **Table 5.13** below along with the allowable release rates based on 180L/s/ha.

Table 5.13: Required volumes and allowable release rates

Catchment ID	Parts/ Parcels	Area (ha)	Peak Release Rate (m^3/s)	Required Storage (m^3)
C2.2.1	Part 1B	0.47	0.0846	103.4
C2.2.2	Part 1B	1.26	0.2268	277.2
C3.2.1	Part 2B	0.13	0.0234	28.6
C3.2.2	Part 2B	1.03	0.1854	226.6
Total Area	**2.89**		**0.520**	**635.8**

The total area considered in the SWM Pond - Bolton_WetP_118 Plan 43R34749, was 4.67ha (SCE Catchments 203+ 204 +205) which is greater than the sum of R1/ C2.2.1/C2.2.2/C3.2.1/C3.2.2 = 2.89ha, therefore no constraints are expected in the downstream pond. Please refer to **Appendix D.5** for additional information.

5.7 Water Quality Control

Enhanced quality controls are required to meet the 80% TSS removal design requirements. The quality control requirements for each of the site plans discharging to the Box culvert and the existing storm sewer system is proposed to be met via onsite quality controls while the proposed Simpson Road ROW extension as well as Catchments C2.2.1/C2.2.2/C3.2.1/C3.2.2 are proposed to drain to the Equity Prestige Business Park SWMF where quality control is provided utilizing the permanent pool volume. The total area draining to the SWMF from the subject lands as well as the ROW extension remained the same or it is lower, therefore no additional measures are required on these site plans.

On-site control for the site plans can include either infiltration/filtration based Low Impact Development Measures or manufactured filtration (such as Jellyfish Filter (JF) units) or oil/grit separator devices (OGS's). It's worth highlighting the variability in performance levels among different OGS devices; some can meet the water quality criteria of achieving an 80% removal of suspended solids, while others may fall short of this criterion. Conservation authorities generally assign only 50% credit to OGS devices, therefore additional measures are required in addition to the OGS to meet the 80% TSS removal. On the contrary, filtration devices such as a JF unit are assigned 80% TSS removal, therefore, they are currently considered as the most preferred option for site plans.

However, the choice of quality control measures should be tailored at the detailed design stage to the specific characteristics and requirements of the site plan, considering both efficacy and feasibility. The sizing for the proposed treatment measures will be completed at the site plan stage when additional details are available.

5.8 Erosion Control

As detailed in the preceding section, the pre-development condition reflects a greenfield state, which is not anticipated to result in a substantial increase in erosion.

Where feasible, it is proposed to retain the first 5mm from the impervious areas of all events on-site for each of the site plan areas draining directly to the box culvert or the existing storm sewer system. The site plans draining to the SWM pond are not required to provide onsite control as the downstream SWM facility provides the required erosion control. The required 5mm retention volumes for each of the catchment areas are presented in **Table 5.13** below based on the assumption that the site plans are 100% impervious.

Table 5.13: Required 5mm Retention Volume for Erosion Control

Catchment ID	Area (ha)	Required 5mm retention volume (m^3)
C1	1.15	58
C2.1	2.08	104

Catchment ID	Area (ha)	Required 5mm retention volume (m^3)
C2.2.1	0.47	24
C2.2.2	1.26	63
C3.1	2.81	141
C3.2.1	0.13	7
C3.2.2	1.03	52
C4	4.09	205
C5	3.91	196
C6	0.19	10
C7	0.21	11
C8	0.23	12
C9	0.45	23
C10	2.21	111
C11	2.02	101
C12	1.12	56

5.8.1 Rainbow Watershed (per MESP 2000 – Section 5.5.3)

Due to unstable existing conditions in the Rainbow Creek watercourse, heavily altered by cultivation, erosion control was assessed approximately 1300 m downstream of the study area to locate a more stable reach. Based on this assessment, two critical flow reaches were identified:

- Reach A (Mayfield to Countryside): Qc = 30 L/s, EI = 4830 m^3
- Reach B (Downstream of Countryside): Qc = 80 L/s, EI = 4060 m^3

The MESP determined that:

- Existing erosion index values can be maintained under post-development conditions with extended detention;
- If Reach A governs the erosion index, detention times may exceed 100 hours;
- If Reach B governs and downstream in-stream erosion control is implemented, detention drawdown can be reduced to 48 hours;
- As more SWM facilities are added, the effectiveness of extended detention per facility decreases;
- Additional downstream mitigation (e.g., channel stabilization or flow redirection) may be required, especially for erosive flows from portions of Reach A.

These criteria guide stormwater design to mitigate downstream erosion risks while acknowledging local instability and varying flow thresholds.

5.8.2 West Rainbow Creek Watershed – Offsite Erosion Considerations (per MESP 2000 – Section 5.5.3)

As noted in the MESP (2000), the West Rainbow Creek Watershed is erosion-prone, particularly due to future flows from the Bolton South Industrial Park. To mitigate impacts, offsite works south of Mayfield Road include regrading 700 m of an existing ditch (up to 4.5 m deep, 0.25% slope) to provide adequate outlet depth. Surface treatments such as vegetation, rip-rap, or bioengineering will be finalized during detailed design with TRCA approval.

Coordination with the Region of Peel is required should this reach (Tributary D) serve as a sanitary sewer alignment. Additionally, diverting storm flows between Coleraine and Countryside Drives is under consideration to reduce erosion. Preliminary grading shows a 100-year pre-development flow ditch can fit within the municipal ROW, subject to City of Brampton approval.

5.9 Site Water Balance

The subject site is not located in Wellhead Protection Areas Q1 or Q2 nor in the Significant Groundwater recharge area. Moreover, under existing conditions, the subject site is pervious. The existing impervious area for the site was estimated to be approximately 9%. Under post development conditions the imperviousness is expected to increase to 99%. Considering the above, the best efforts are required to be implemented on site to meet post to pre-development requirements.

The pre-development water balance assessment was completed utilizing the TRCA Water Balance Tool. Based on the assessment, the annual pre-development infiltration volume was estimated to be around 2,116m^3/year. Under post-development conditions, the infiltration volume is estimated to be reduced to approximately 25m^3/year. The deficit was estimated to be approximately **2,091m^3/year**. If infiltration-based measures are proposed to meet the 5mm erosion requirements on site, they can help meet the water balance requirements as well. Best efforts need to be made to promote infiltration on site.

Refer to **Appendix D.6** for detailed water balance calculations.

5.10 Extended SWMP Box Culvert Outlet and Channel

The approved Simpson Road Extension drawings dated September 2021 prepared by Wood Consultants show the proposed Simpson Road Extension works along with a proposed open channel re-alignment for the headwater reach of Rainbow Creek.

Greck and Associates Limited (Greck) reviewed the feasibility of replacing the proposed open channel with a proposed SWM pond outlet extension culvert plus channel system located beside the Simpson Road Extension.

The study determined that most of the proposed developments will drain to a bypass channel designed to replicate the existing watercourse across the site. Designed by Greck and Associates, as shown in “Simpson Road MESP Channel Work, Naturalized Channel Design Concept, Drawing No. C1, July 2025,” the channel conveys flows from both the developed

site and the existing Equity Prestige Business Park SWM Pond to the north. The outfall from the existing SWM pond was shifted east by Greck to better accommodate the proposed Simpson Road Extension. A gently graded low-flow channel directs runoff to an approximately 120m long, 4.2 m by 1.5 m concrete box culvert with a 1.7% slope (inlet at 232.00 m, outlet at 230.02 m). The exact length is to be confirmed during detailed design. An emergency pond inlet at 233.75 m represents the 100-year water level. Four shared driveways will cross the channel via 3.6 m by 1.5 m culverts.

Based on Drawing No. SWM-1B for the Simpson Road SWM Pond (Ultimate) prepared by Schaeffers and with the revision dated June 25, 2021, there is a 900mm concrete bypass overflow pipe near the existing SWMP (Bolton_WetP_118 Plan 43R34749) directing overflow from CTL.MH-9 to a future channel along the west side of Future Simpson Road via a headwall. Greck's Drawing No. C1 proposed to shift this bypass pipe so that the overflow is directed to an emergency spillway proposed in Drawing No. C3 of the approved Simpson Road Extension drawings dated November 19, 2020 and prepared by Wood Consultants.

Refer to **Appendix A** for Drawing No. SWM-1B prepared by Schaeffers and Drawing No. C3 prepared by Wood Consultants. Refer to Appdenix D "Simpson Road MESP Channel Work, Naturalized Channel Design Concept, Drawing No. C1" prepared by Greck.

The proposed naturalized flood channel has an estimated low-flow conveyance capacity of approximately 1.6 m^3/s, suitable for continuous baseflow. Under bank full flood conditions, the channel can convey up to 15.75 m^3/s, assuming a longitudinal slope of 0.5% and Manning's roughness of 0.035, over its 400-meter length. These estimates are based on geometric interpretation from the typical cross-section provided from Greck.

Please refer to **Appendix D.1** for a copy of the drawing titled "Channel Re-Alignment and Naturalized Concept, Drawing No. C1" dated July 2025 and prepared by Greck.

5.11 Erosion and Sediment Control (ESC) During Construction

5.11.1 Part 1: PT LT 1 CON 6 ALBION – (Participating Landowners)

The ESC construction for Landowner Part 1 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. A temporary sediment trap will be constructed at the low point of the site adjacent to Coleraine Drive and discharge to the existing ditch on the east side of Coleraine Drive. Rock check dams, and temporary swales will surround the site and flow into the temporary sediment pond. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. The construction access mud mat will be accessible off of the extension of Simpson Road.

It is expected that the Contractor will protect all tree limbs, roots and trunks outside of the construction boundary at all times during construction.

5.11.2 Part 2: 12155 Coleraine Drive – (Participating Landowners)

The construction for Landowner Part 2 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. A temporary sediment pond will be constructed at the low point of the site adjacent to Coleraine Drive and discharge to the existing ditch on the east side of Coleraine Drive. Rock check dams, and temporary swales will surround the site and flow into the temporary sediment pond. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. The construction access mud mat will be accessible off of the extension of Simpson Road.

5.11.3 Part 3: PT LT 1 CON 6 ALBION – (Participating Landowners)

The construction for Landowner Part 3 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. A temporary sediment pond will be constructed at the low point of the site adjacent to Coleraine Drive and discharge to the existing ditch on the east side of Coleraine Drive. Rock check dams, and temporary swales will surround the site and flow into the temporary sediment pond. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. The construction access mud mat will be accessible off of the extension of Simpson Road.

5.11.4 Part 4: 0 Coleraine Drive – (Participating Landowners)

The construction for Landowner Part 4 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. A temporary sediment pond will be constructed at the low point of the site adjacent to Coleraine Drive and will discharge to the existing ditch on the east side of Coleraine Drive. Rock check dams, and temporary swales will surround the site and flow into the temporary sediment pond. These erosion control measures are intended for silt and erosion control protection of existing vegetation,

watercourses, and adjacent properties. The construction access mud mat will be accessible off of the extension of Simpson Road.

5.11.5 Part 5: 8602 Mayfield Road – (Participating Landowners)

The construction for Landowner Part 5 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. A temporary sediment trap will be constructed at the low point of the site adjacent to Mayfield Road and discharge to the existing ditch on the north side of Mayfield Road. Rock check dams, and temporary swales will surround the site and flow into the temporary sediment trap. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. The construction access mud mat will be accessible off of the extension of Simpson Road.

5.11.6 Part 6: 12197 Coleraine Drive – (Pending Participation)

The construction for Landowner Part 6 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. A temporary sediment trap will be constructed at the low point of the site adjacent to Coleraine Drive and discharge to the existing ditch on the east side of Coleraine Drive. Rock check dams, and temporary swales will surround the site and flow into the temporary sediment trap. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. The construction access mud mat will be accessible off Coleraine Drive.

5.11.7 Part 7: 10265 Coleraine Drive – (Non-Participating Landowners)

The construction for Landowner Part 7 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. The construction access mud mat will be accessible off Coleraine Drive.

5.11.8 Part 8: 12045 Coleraine Drive – (Non-Participating Landowners)

The construction for Landowner Part 8 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. The construction access mud mat will be accessible off Coleraine Drive.

5.11.9 Part 9: 12029 Mayfield Road – (Non-Participating Landowners)

The construction for Landowner Part 9 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. A temporary sediment trap will be constructed at the low point of the site adjacent to Coleraine Drive and discharge to the existing ditch on the east side of Coleraine Drive. Rock check dams, and temporary swales will surround the site and flow into the temporary sediment trap. The construction access mud mat will be accessible off Coleraine Drive.

5.11.10 Part 10: 8576 Mayfield Road – (Non-Participating Landowners)

The construction for Landowner Part 10 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. A temporary sediment trap will be constructed at the low point of the site adjacent to Mayfield Road and discharge to the existing ditch on the north side of Mayfield Road. Rock check dams, and temporary swales will surround the site and flow into the temporary sediment trap. The construction access mud mat will be accessible off of the extension of Simpson Road.

5.11.11 Part 11: 0 Coleraine Drive – (Non-Participating Landowners)

The construction for Landowner Part 11 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. The construction access mud mat will be accessible off Coleraine Drive.

5.11.12 Part 12: 8522 Mayfield Road – (Non-Participating Landowners)

The construction for Landowner Part 12 will have three stages of erosion control. Stage 1 will require topsoil stripping (refer to the geotechnical report), Stage 2 will be required to match into pre-grade elevation and Stage 3 will include the installation of the proposed underground services.

The following ESC measures will be required for each stage of sediment and erosion control during construction and will be maintained until siltation control is no longer required. For this site, silt fence surrounding the site will be required. These erosion control measures are intended for silt and erosion control protection of existing vegetation, watercourses, and adjacent properties. A temporary sediment trap will be constructed at the low point of the site adjacent to Mayfield Road and discharge to the existing ditch on the north side of Mayfield Road. Rock check dams, and temporary swales will surround the site and flow into the temporary sediment trap. The construction access mud mat will be accessible off Mayfield Road.

The erosion control installations will be completed prior to commencing work, as required. The Developer, Contractor and Engineer will monitor these devices bi-weekly during the cut / fill earthworks program and monthly following the completion of the cut / fill earthworks program or immediately following any significant rainfall or snowmelt event. The Contractor is to make every attempt necessary to interrupt concentration of surface run-off areas within the site and ensure that drainage is directed to the erosion control measures. Monitoring reports for siltation controls are to be forwarded to the Town on a monthly basis at a minimum. The Contractor will be responsible for the removal and disposal of collected sediments when necessary or as directed by the Engineer. The aforementioned ESC measures will be maintained in good working condition for the duration of the construction and maintenance period or until such time as the siltation is no longer required. When directed by the Engineer, these items will be removed, and the disturbed areas restored.

6. Implementation

6.1 Preferred SWM Strategy

The SWM strategy outlined in **Sections 5.5-5.10** is deemed well-suited to meet the design criteria and objectives of the Municipal Environmental Site Plan (MESP) for the subject site. Specifically, the recommended on-site control involves the utilization of underground storage and other LIDs to maintain quality control. This approach is believed to offer significant flexibility in implementing the MESP guidelines and for phasing of the developments. A detailed breakdown of the preferred stormwater strategy is provided below:

- **Quantity Control**: Roof control, ponding storage and/or underground storage/super pipe storage
- **Quality Control**: Filtration Units, Oil Grit Separators (additional treatment required to achieve 80% TSS control), Green Roods (if feasible).
- **On-site retention (5mm) for Erosion Control:** Rainwater Harvesting System s to reuse as grey water or for irrigation, green roofs.
- **Water Balance:** Best efforts need to be made to meet the post-to-pre-water balance requirements.

6.2 Requirements for Offsite Works

Within the Simpson Road extension roadway, proposed storm, sanitary and watermain will be installed. Each site will have its own proposed storm, sanitary and waters service connection that will be connected from either the Simpson Road extension, Coleraine Drive and Mayfield Road. Site access will also be provided off Simpson Road extension, Coleraine Drive and Mayfield Road.

There is a proposed 4.2m x 1.5m Extended SWM Pond Outlet pipe that collects flows upstream from existing stormwater management pond and outlets to a proposed channel. The proposed channel runs south through a 33m easement on the west side of Simpson Road through Parts 1A, 2A, 3, 4, 5 and 10.

An approved Simpson Road has been prepared by Wood Consultants. The approved storm sewer catch basins will remain as designed on Simpson Road. The approved storm network runs south on Simpson Road with a network series of 1800(w)x900(d)mm, 1200mm, 1050mm, 900mm, 750mm and 600mm pipes. The approved 250mm sanitary network runs south to Mayfield Road and then east on Mayfield Road and connects to the existing 250mm on Mayfield Road. The approved 300mm watermain on Simpson Road will connect to the existing 300mm watermain on Simpson Road to the north and the existing 300mm watermain on Mayfield Road to the south.

6.2.1 Part 1: PT LT 1 CON 6 ALBION – (Participating Landowners)

Part 1 is split into two locations, named Part 1A and Part 1B, and will require two separate connections with the Simpson Road extension running through it. Part 1 has two storm connections: Part 1A will connect to the proposed Extended Stormwater Management Pond (SWMP) 4.2m x 1.5m box culvert Outlet pipe, and Part 1B will connect into the Simpson Road storm sewer. The storm service will be a min. 250mm diameter @ 2.0% and connect into the approved 600mm diameter storm sewer. Sanitary and watermain connections to Part 1A and 1B will be into the Simpson Road infrastructure. Part 1A will need a sanitary pump to provide the sanitary servicing connection. The sanitary sewers will be a min. 200mm diameter @ 2.0% and connect into the approved 250mm diameter sanitary sewer on Simpson Road. The watermains will be min. 200mm diameter and connect into the approved 300mm watermain on Simpson Road. The site access will front Simpson Road with two (2) required access.

6.2.2 Part 2: 12155 Coleraine Drive – (Participating Landowners)

Part 2 is split into two locations, named Part 2A and Part 2B, and will require two separate connections with the Simpson Road extension running through it. Part 2A will connect to the proposed channel (designed by Greck) aligned west of Simpson Road, and Part 2B will connect into the Simpson Road storm sewer. The storm services will be a min. 250mm diameter @ 2.0%. Sanitary and watermain connections to Part 2A and 2B will be into the Simpson Road infrastructure. Part 2A will need a sanitary pump to provide the sanitary servicing connection. The sanitary sewers will be a min. 200mm diameter @ 2.0% and connect into the approved 250mm diameter sanitary sewer on Simpson Road. The watermains will be min. 200mm diameter and connect into the approved 300mm watermain on Simpson Road. Part 2A site access will front Coleraine Drive and Part 2B site access will front Simpson Road.

6.2.3 Part 3: PT LT 1 CON 6 ALBION – (Participating Landowners)

Part 3 sanitary and watermain connections will cross the proposed channel (designed by Greck) aligned west of Simpson Road and connect to Simpson Road infrastructure. The storm service will be a min. 250mm diameter @ 2.0% and connect into the proposed channel. The sanitary sewer will be a min. 200mm diameter @ 2.0% and connect into the approved 250mm diameter sanitary sewer on Simpson Road. The watermain will be min. 200mm diameter and connect into the approved 300mm watermain on Simpson Road. The site access will front Simpson Road.

6.2.4 Part 4: 0 Coleraine Drive – (Participating Landowners)

Part 4 sanitary and watermain connections will cross the proposed channel (designed by Greck) aligned west of Simpson Road and connect to Simpson Road infrastructure. The storm service will be a min. 250mm diameter @ 2.0% and connect into the proposed channel. The sanitary sewer will be a min. 200mm diameter @ 2.0% and connect into the approved 250mm diameter sanitary sewer on Simpson Road. The watermain will be min. 200mm diameter and connect into the approved 300mm watermain on Simpson Road. The site access will front Coleraine Drive.

6.2.5 Part 5: 8602 Mayfield Road – (Participating Landowners)

Part 5 sanitary and watermain connections will cross the proposed channel (designed by Greck) aligned west of Simpson Road and connect to Simpson Road infrastructure. The storm service will be a min. 250mm diameter @ 2.0% and connect into the proposed channel. The sanitary sewer will be a min. 200mm diameter @ 2.0% and connect into the approved 250mm diameter sanitary sewer on Simpson Road. The watermain will be min. 200mm diameter and connect into the approved 300mm watermain on Simpson Road. The site access will front both Simpson Road and Mayfield Road.

6.2.6 Part 6: 12197 Coleraine Drive – (Pending Participation)

Part 6's sanitary and water connections will connect into Coleraine Drives infrastructure, and the storm connection will be into the proposed channel designed by Greck as there is no storm sewer fronting Part 6. The storm service will be a min. 250mm diameter @ 2.0% and discharge to the proposed Extended Stormwater Management Pond (SWMP) 4.2m x 1.5m box culvert Outlet pipe via a proposed storm easement. The sanitary sewer will be a min. 200mm diameter @ 2.0% and connect into the existing 750mm sanitary sewer. The watermain will be min. 300mm diameter and connect into the existing 300mm diameter watermain. The site access will front Coleraine Drive.

6.2.7 Part 7: 10265 Coleraine Drive – (Non-Participating Landowners)

All Part 7 connections will connect into Coleraine Drives infrastructure. The storm service will be a min. 250mm diameter @ 2.0% and connect into the proposed storm sewer easement along parts 7, 8, 9, and 11 and ultimately to the existing 525 on Mayfield Road. The sanitary sewer will be a min. 200mm diameter @ 2.0% and connect into the existing 750mm sanitary sewer. The watermain will be min. 300mm diameter and connect into the existing 300mm diameter watermain. The site access will front Coleraine Drive.

6.2.8 Part 8: 12045 Coleraine Drive – (Non-Participating Landowners)

All Part 8 connections will connect into Coleraine Drives infrastructure. The storm service will be a min. 250mm diameter @ 2.0% and connect into the proposed storm sewer easement along parts 7, 8, 9, and 11 and ultimately to the existing 525 on Mayfield Road. The sanitary sewer will be a min. 200mm diameter @ 2.0% and connect into the existing 750mm sanitary sewer. The watermain will be min. 300mm diameter and connect into the existing 300mm diameter watermain. The site access will front Coleraine Drive.

6.2.9 Part 9: 12029 Mayfield Road – (Non-Participating Landowners)

All Part 9 connections will connect into Coleraine Drives infrastructure. The storm service will be a min. 250mm diameter @ 2.0% and connect into the proposed storm sewer easement along parts 7, 8, 9, and 11 and ultimately to the existing 525 on Mayfield Road. The sanitary sewer will be a min. 200mm diameter @ 2.0% and connect into the existing 750mm sanitary sewer. The watermain will be min. 300mm diameter and connect into the existing 300mm diameter watermain. The site access will front Coleraine Drive.

6.2.10 Part 10: 8576 Mayfield Road – (Non-Participating Landowners)

Part 10 sanitary and watermain connections will cross the proposed channel (designed by Greck) aligned west of Simpson Road and connect to Simpson Road infrastructure. The storm service will be a min. 250mm diameter @ 2.0% and connect into the proposed channel. The sanitary sewer will be a min. 200mm diameter @ 2.0% and connect into the approved 250mm diameter sanitary sewer on Simpson Road. The watermain will be min. 200mm diameter and connect into the approved 300mm watermain on Simpson Road. The site access will front Mayfield Road.

6.2.11 Part 11: 0 Coleraine Drive – (Non-Participating Landowners)

All Part 11 connections will connect into Coleraine Drives infrastructure. The storm service will be a min. 250mm diameter @ 2.0% and connect into the proposed storm sewer easement along parts 7, 8, 9, and 11 and ultimately to the existing 525 on Mayfield Road. The sanitary sewer will be a min. 200mm diameter @ 2.0% and connect into the existing 750mm sanitary sewer. The watermain will be min. 300mm diameter and connect into the existing 300mm diameter watermain. The site access will front Coleraine Drive.

6.2.12 Part 12: 8522 Mayfield Road – (Non-Participating Landowners)

Part 12 connections will connect into Mayfield Road infrastructure. The storm service will be a min. 250mm diameter @ 2.0% and connect into the existing 525mm storm sewer on Mayfield Road. There is no sanitary sewer fronting the site. A sanitary sewer extension connected to the 750mm diameter on Coleraine Drive will be needed. The sanitary sewer connection will be a min. 200mm diameter @ 2.0% and connect into the existing 750mm diameter on Coleraine Drive via a proposed min. 250mm sanitary sewer. The watermain will be min. 200mm diameter and will connect to the existing 300mm diameter watermain on Mayfield Road. The site access will front Mayfield Road.

6.2.13 Part A: 88 Simpson Road – (Adjacent/Non-Participating Landowners)

Part A connects into the existing infrastructure on Simpson Road, north of the Simpson Road extension. The site access will front Simpson Road.

6.2.14 Part B: 8522 Mayfield Road – (Adjacent/Non-Participating Landowners)

Part B stormwater will discharge to the existing pond at the south of Part B and east of the Simpson Road extension via a 1200mm diameter concrete storm sewer. Refer to **Appendix A** for Drawing No. SWM-1B for the Simpson Road SWM Pond (Ultimate) prepared by Schaeffers and with the revision dated June 25, 2021. The sanitary sewer connection will be the approved 200mm diameter sanitary sewer connecting into the existing sanitary maintenance hole south of Part B on Mayfield Road. The water connection is to be serviced internal to the building through Phase 2 development. Refer to **Appendix A** for the Site Servicing Plan, Drawing No. C2.9, for Anatolia Tile & Stone (Phase 3), 100 Pillsworth Road, City File # SPA 19-13, prepared by MTE Consultants and dated March 16, 2021. The site access will front Mayfield Road.

6.3 Development Phasing and Cost Sharing

Per Section 6.5 of the previous MESP (2000), stormwater management facilities should be constructed to ultimate design conditions with interim phasing limited. Based on this, the phasing of the lands will be split into two phases. Phase 1 will consist of the entire road allowance of the Simpson Road Extension, the proposed 4.2m x 1.5m Extended Stormwater Management Pond (SWMP) Outlet pipe and open channel designed by Greck, and the proposed works along Mayfield Road. The proposed works along Mayfield Road include the proposed sanitary sewer east of Simpson Road, the sanitary service connection for Part 12 and the water service connection for Part 12, all of which connect to existing infrastructure. Phase 2 will consist of the individual blocks site plan development for industrial use including the servicing connections, should they not be a part of Phase 1 works. Refer to the Phasing Plan shown in **Figure 6-1**.

Also included in Section 6.5 of the previous MESP (2000), cost sharing agreements should be in place prior to determining the phasing of site works. A Shared Works Cost Sharing Agreement for the Simpson Road Extension and Stormwater Channel was executed on March 6, 2020, and a Master Financial Agreement was executed on December 17, 2020. Per the Master Financial Agreement, dated December 2020, the landowners shall convey any part of their land required by the Town/Region for the public infrastructure works or easements located on their land to the Town/Region gratuitously.

In addition to the cost sharing agreement, grading agreements between participating landowners should be executed during the site plan development process. The execution of the grading agreements should dictate how the individual blocks will have their grading coordinated between landowners and also provide interim grading/erosion control design scenarios.

6.4 Anticipated Construction Timing

Unless there is a significant delay caused by unanticipated factors, the intention is for the Simpson Road Extension Phase 1 construction to begin around Q3 to Q4 2026.

Coordination will be completed with other capital projects in proximity to the Simpson Road Extension in both location and timing. Through this coordination, detailed interim designs will be coordinated with all parties to ensure interim functionality with all construction projects.

7. Summary

7.1 Storm Sewers/Drainage

The proposed storm sewers will consist of a 4.2m x 1.5m Extended Stormwater Management Pond (SWMP) Outlet box culvert that collects upstream flows from the Equity Prestige Park SWM pond. This outlet pipe will flow to a proposed channel that follows the alignment of the proposed Simpson ROW extension and is located west of Simpson Road. The proposed channel will collect flows from Parts 1A, 2A, 3, 4, 5, 6, and 10. Along the proposed Simpson ROW extension, there is an approved storm network that comprises a series of 1800(w)x900(d)mm, 1200mm, 1050mm, 900mm, 750mm and 600mm diameter sewers collecting flows from Simpson Road and a portion of Parts 1A and 2A Parts as well as all of Parts 1B and 2B of the subject sites. The Simpson Road storm sewers drain to the existing SWMP (Bolton_WetP_118 Plan 43R34749). Parts 7, 8, 9, and 11 will connect into the proposed storm sewer easement along rear lot line of Parts 7, 8, and 9 before discharging to the existing 525 on Mayfield Road. Part 12 will connect to the existing 525mm diameter storm sewer on Mayfield Road.

On-site measures are proposed within each of the site plans to meet the quantity, quality and erosion requirements before discharging to the proposed Extended SWM Pond Outlet, the proposed open channel, Simpson Road storm sewers or existing storm sewer system.

7.2 Sanitary Sewers

The sanitary sewers for Parts 1, 2, 3, 4, 5, and 10 will connect to the approved 250mm sanitary sewer on Simpson Road. The flows discharging to Simpson Road from the Parts listed above contribute additional flows of 10.51 L/s. The sanitary sewers for Parts 6, 7, 8, 9, 11, and 12 will connect to the 750mm sanitary sewer on Coleraine Drive. The flows discharging to Coleraine Drive from the Parts listed above contribute additional flows of 2.15 L/s.

7.3 Water Supply

The water supply for Parts 1, 2, 3, 4, 5, and 10 is anticipated to have a maximum daily consumption of 178,394 L/d and connected to the approved 300mm watermain on Simpson Road. The water supply for Parts 6, 7, 8, 9, and 11 is anticipated to have a maximum daily consumption of 33,474 L/d and connected to the existing 300mm watermain on Coleraine Drive. The water supply for Part 12 is anticipated to have a maximum daily consumption of 32,760 L/d and connected to the existing 300mm watermain on Coleraine Drive.

7.4 Site Grading

The proposed grading will match into the existing grades where needed and maintain the existing overland flow patterns. For this concept of grading 0.3% min slope has been maintained running west to east with a 3:1 slope matching into existing.

The study area is governed by the approved Simpson Road extension drawings. This extension has proposed grades that are approximately averaging between 1-2m higher than existing which would cause this site to require fill. Additional grading details will be required upon preparation of the detailed engineering plans at detail design.

7.5 Natural Heritage

The Subject Lands were surveyed to identify and evaluate the significance of existing natural heritage features present on the landscape. Two individual wetland cells, and a highly channelized tributary to West Rainbow Creek (Tributary D) represent the primary natural heritage features present. These features exist across an otherwise industrial and anthropogenically influenced landscape with little to no buffers to adjacent uses.

The proposed design incorporates an extended SWM pond outlet, connecting into a 33-meter-wide open channel corridor with two driveway crossings (Drawing No. C1, **Appendix D.1**). The proposed channel design will remove the two individual wetland cells but represents a significant improvement to the current existing conditions on site. Fish habitat diversity and availability will be improved with the strategic installation of gravel and cobble within the channel, improving substrate composition and providing hydraulic habitat heterogeneity. Brush layering along the outer banks of meanders and native riparian plantings throughout the corridor will further improve the overall habitat present. A series of cascading pools are proposed along the southernmost 45m of the redesigned channel to allow for permanent fish passage through a section of the realigned tributary which requires a 3.1% channel grade to pass beneath Mayfield Road. The channel design results in a total of approximately 425m of realigned channel. The channel and buffer conditions associated with this design represent a significant improvement to the existing conditions.

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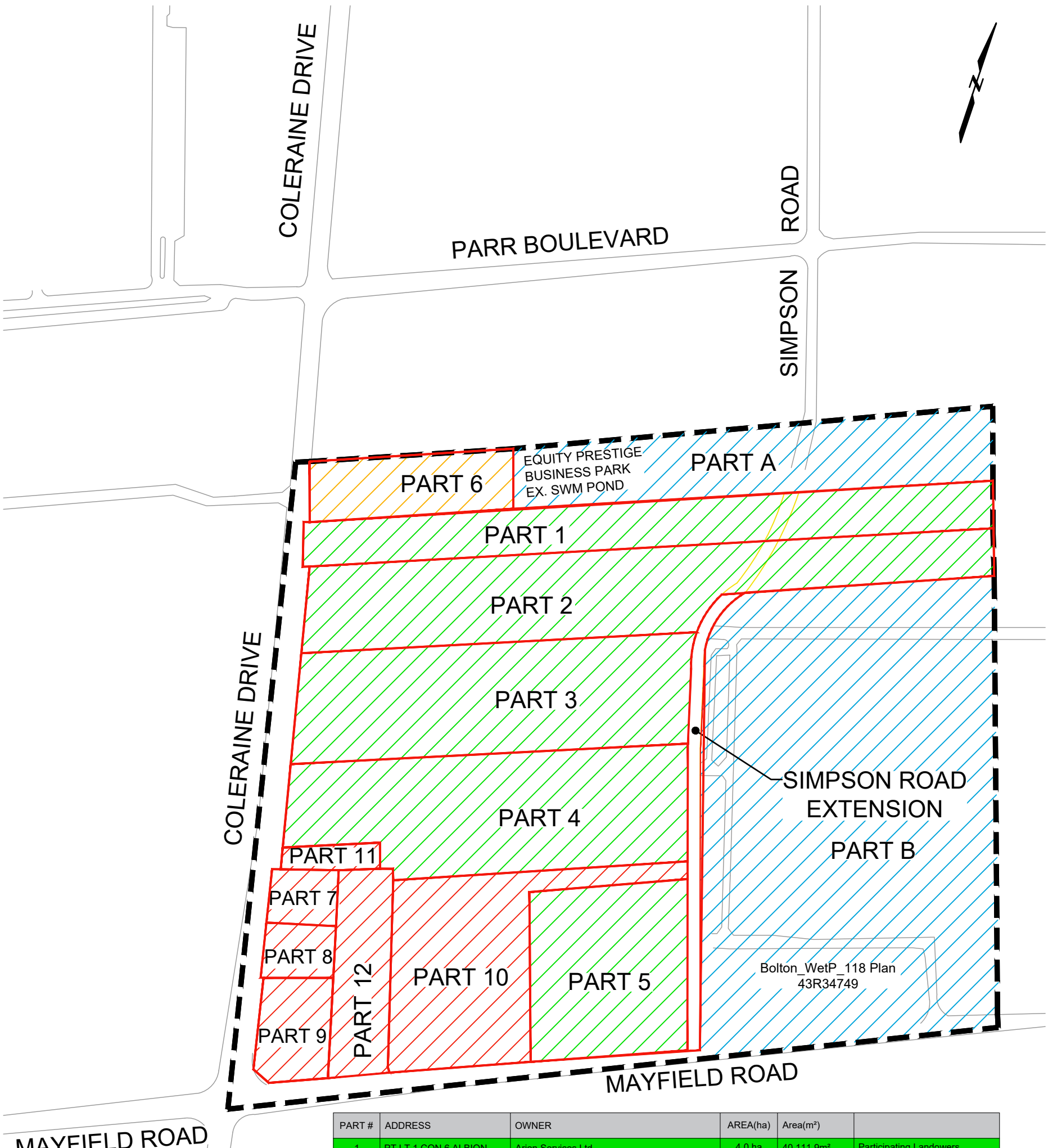
Reviewed By:

GEI Consultants Canada Ltd.





Trevor Van Lierop, P.Eng.
Project Manager
905.955.9965
tvanlierop@geiconsultants.com



PART #	ADDRESS	OWNER	AREA(ha)	Area(m²)	
1	PT LT 1 CON 6 ALBION	Arion Services Ltd.	4.0 ha	40,111.9m²	Participating Landowers
2	12155 Coleralne Drive	Triple X Inc.	4.2 ha	41,551.8m²	Participating Landowers
3	PT LT 1 CON 6 ALBION	Coleraine Properties Inc.	4.0 ha	39,746.4m²	Participating Landowers
4	0 Coleraine Drive	2781823 Ontario Inc.	3.8 ha	38,278.1m²	Participating Landowers
5	8602 Mayfield Road	Anatolla Investment Corp.	1.9 ha	19,410.5m²	Participating Landowers
6	12197 Coleraine Drive	2840928 Ontario Inc.	1.1 ha	11,326.6m²	Pending Participation
7	10265 Coleraine Drive	Morresi Holdings Limited	0.2 ha	2,235.4m²	Non-Participation Landowers
8	12045 Coleraine Drive	Morpo holdings Ltd.	0.2 ha	2,360.0m²	Non-Participation Landowers
9	12029 Coleraine Drive	11446835 Canada Inc.	0.5 ha	4,721.9m²	Non-Participation Landowers
10	8576 Coleraine Drive	2833720 Ontario Inc.	2.3 ha	23,229.0m²	Non-Participation Landowers
11	0 Coleraine Drive	2744801 Ontario Inc.	0.2 ha	2,008.7m²	Non-Participation Landowers
12	8522 Mayfield Road	-VESPA ENGINEERS LTD. -THE CORPORATION OF THE TOWN OF CALEDON	1.2 ha	11,526.0m²	Non-Participation Landowers
A	88 Simpson Road	-88 SIMPSON ROAD LTD. -THE CORPORATION OF THE TOWN OF CALEDON -5008545 ONTARIO INC	3.2 ha	31,515.9m²	Adjacent Landowners Not Within Block Plan Area
B	100 Pillsworth Road	-ANATOLIA REAL ESTATE CORP	12.8 ha	127,742.0m²	Adjacent Landowners Not Within Block Plan Area
TOTAL AREA			39.6 ha	395,764.2m²	

BLOCK AREA

PHASE 2 SECONDARY PLAN AREA

TOWN OF CALEDON
REGION OF PEEL, ONTARIO

SIMPSON ROAD LANDOWNER GROUP

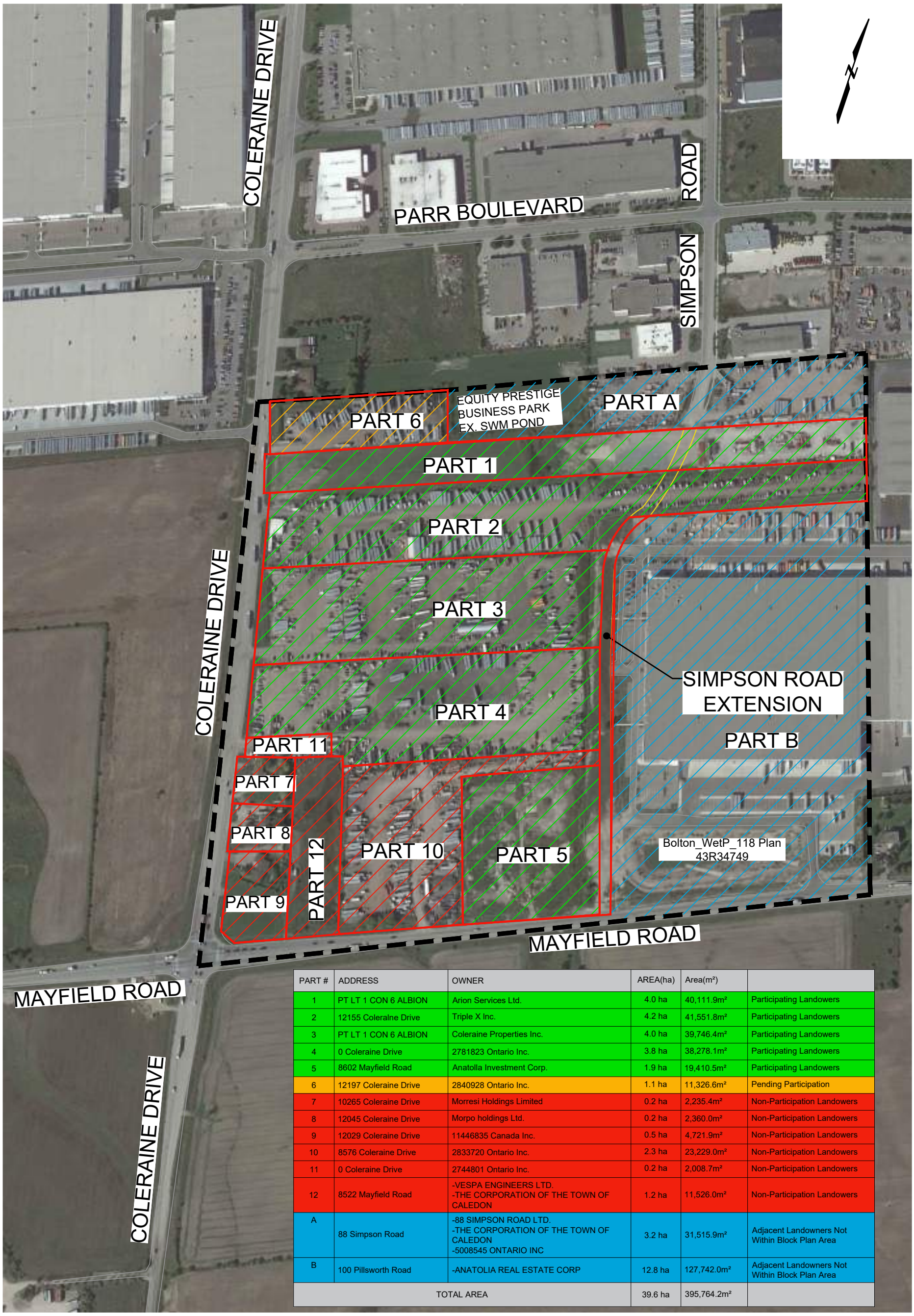
GEI Consultants

LOCATION PLAN

Project 2301130

JULY 2025 1-1

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PART #	ADDRESS	OWNER	AREA(ha)	Area(m²)	
1	PT LT 1 CON 6 ALBION	Arion Services Ltd.	4.0 ha	40,111.9m²	Participating Landowers
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B	100 Pillsworth Road	-ANATOLIA REAL ESTATE CORP	12.8 ha	127,742.0m²	Adjacent Landowners Not Within Block Plan Area
TOTAL AREA			39.6 ha	395,764.2m²	

BLOCK AREA

PHASE 2 SECONDARY PLAN AREA

TOWN OF CALEDON
REGION OF PEEL, ONTARIO

SIMPSON ROAD LANDOWNER GROUP

GEI Consultants

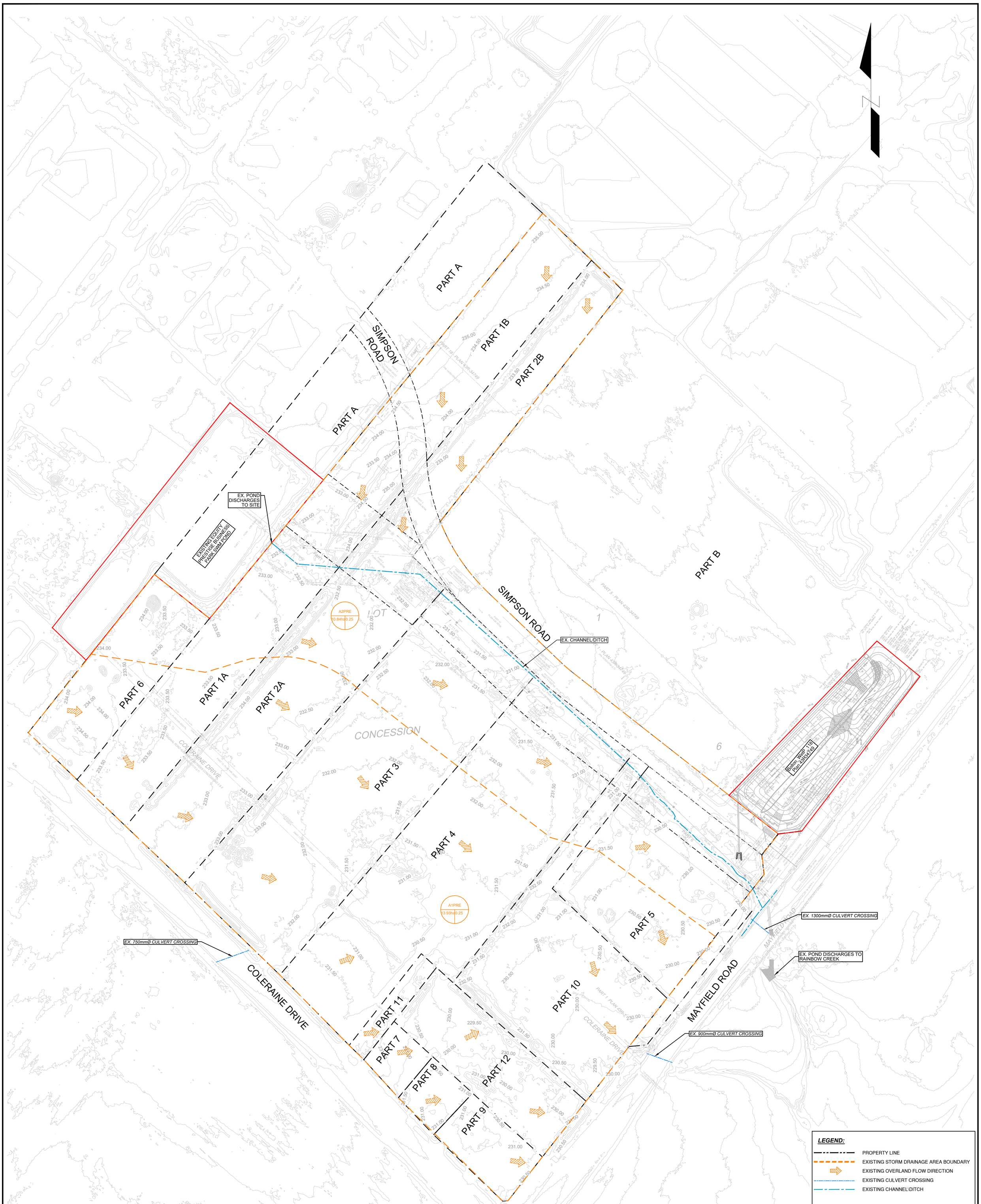
AERIAL OWNERSHIP PLAN

Project 2301130

JULY 2025

1-2

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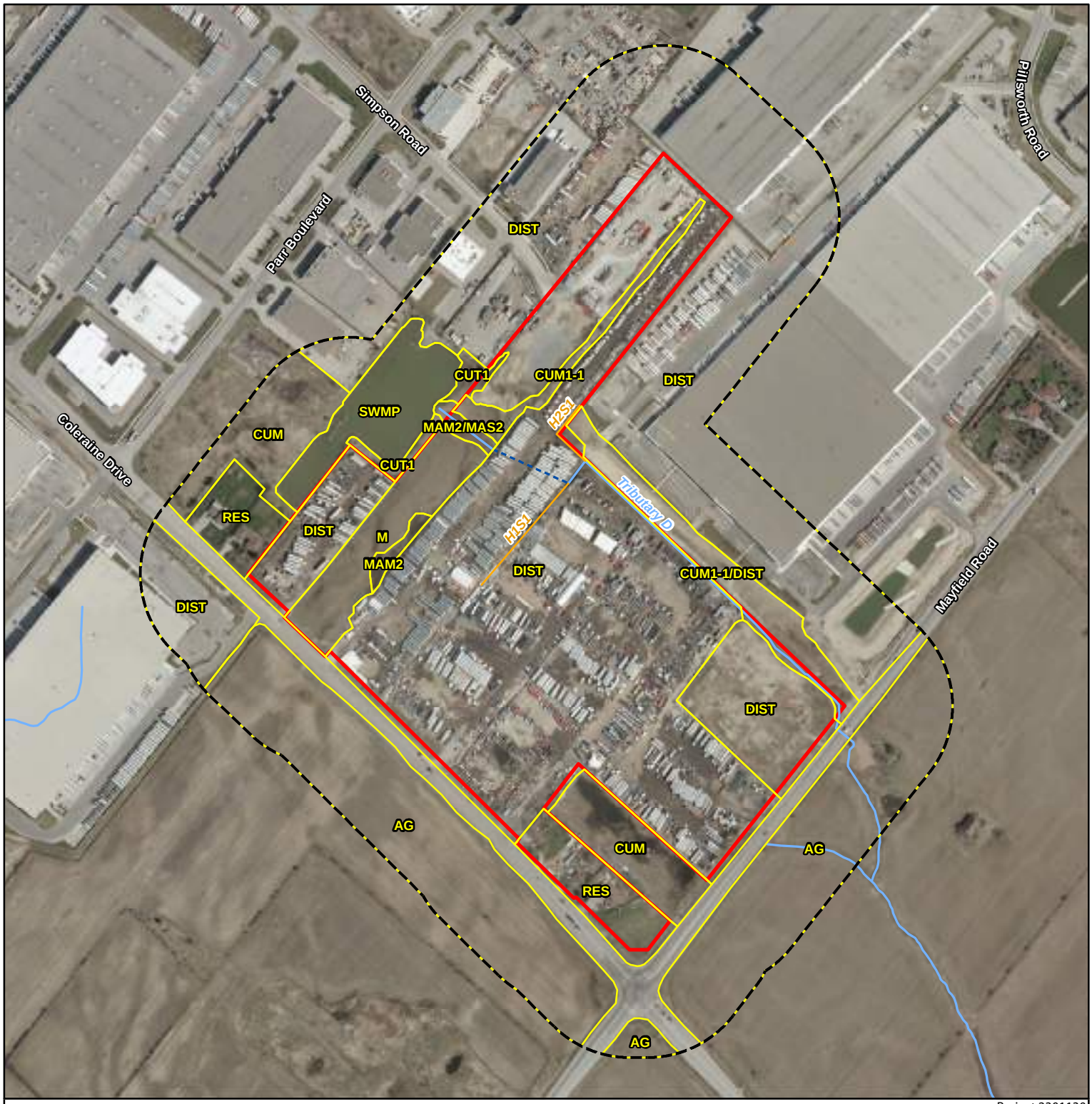
PRE-DEVELOPMENT DRAINAGE AREA FIGURE

SIMPSON ROAD MESP UPDATE

SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	2-1
SCALE:	1:1500
DATE:	JULY 2025

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Project 2301130

NOTES:
1. Coordinate System: NAD 1983 UTM Zone 17N.
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3. Orthoimagery © First Base Solutions, 2024. Imagery taken in 2022.

Legend

- Site Boundary
- Site Boundary +120m
- Watercourse
- Buried Pipe
- Headwater Drainage
- Ecological Land Classification

ELC Legend

AG, Agricultural
CUM, Cultural Meadow
CUM1-1, Mineral Cultural Meadow
CUT1, Mineral Cultural Thicket
DIST, Disturbed
M, Maintained
MAM2, Mineral Meadow Marsh
MAS2, Mineral Shallow Marsh
RES, Residential
SWMP, Swamp

Simpson Road, Caledon
Simpson Road Landowners Group Inc.

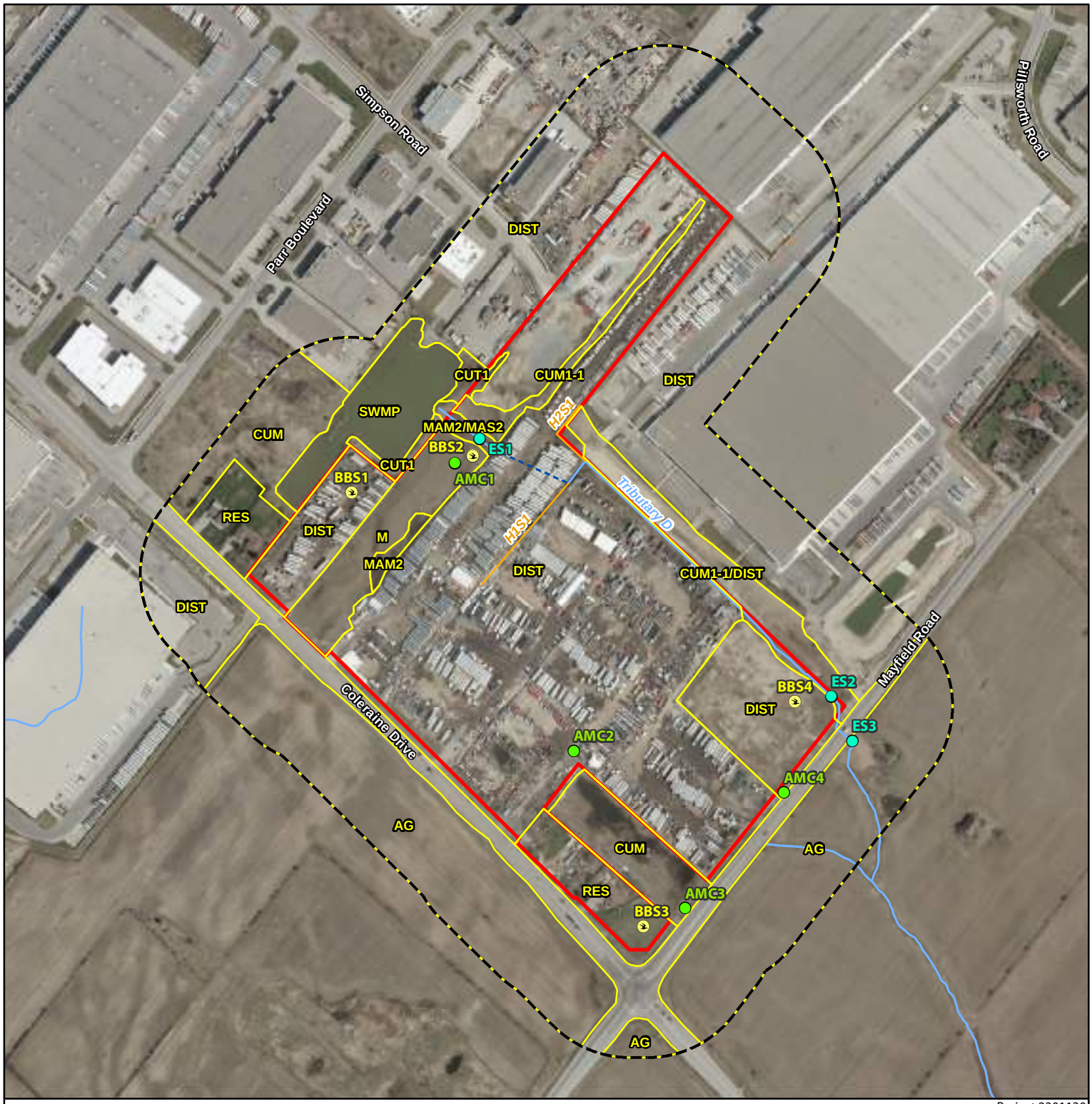
Figure 2-2
Existing Conditions

0 75 m
1:6,000

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Project 2301130

NOTES:
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Legend

- Site Boundary
- Site Boundary +120m
- Watercourse
- Buried Pipe
- Headwater Drainage
- Ecological Land Classification
- Amphibian Call Count Survey Location
- Electrofishing Survey Location
- Breeding Bird Station

ELC Legend

AG, Agricultural
CUM, Cultural Meadow
CUM1-1, Mineral Cultural Meadow
CUT1, Mineral Cultural Thicket
DIST, Disturbed
M, Maintained
MAM2, Mineral Meadow Marsh
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Simpson Road, Caledon
Simpson Road Landowners Group Inc.

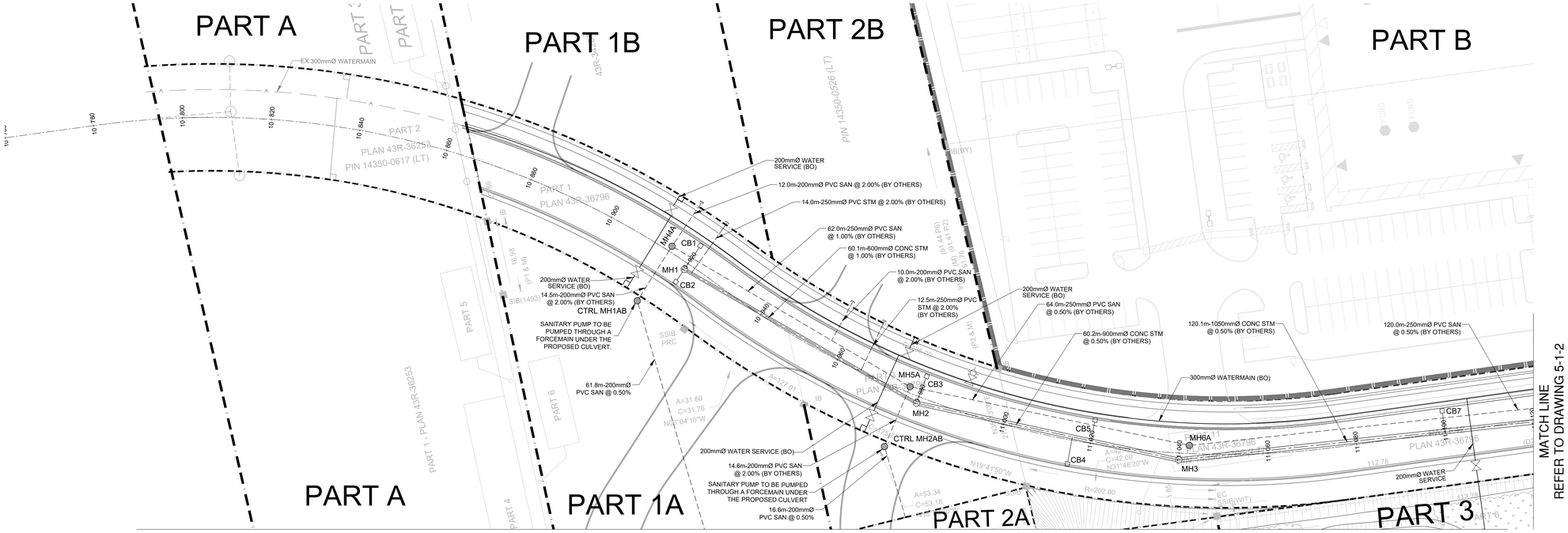
Figure 2-3
Survey Locations

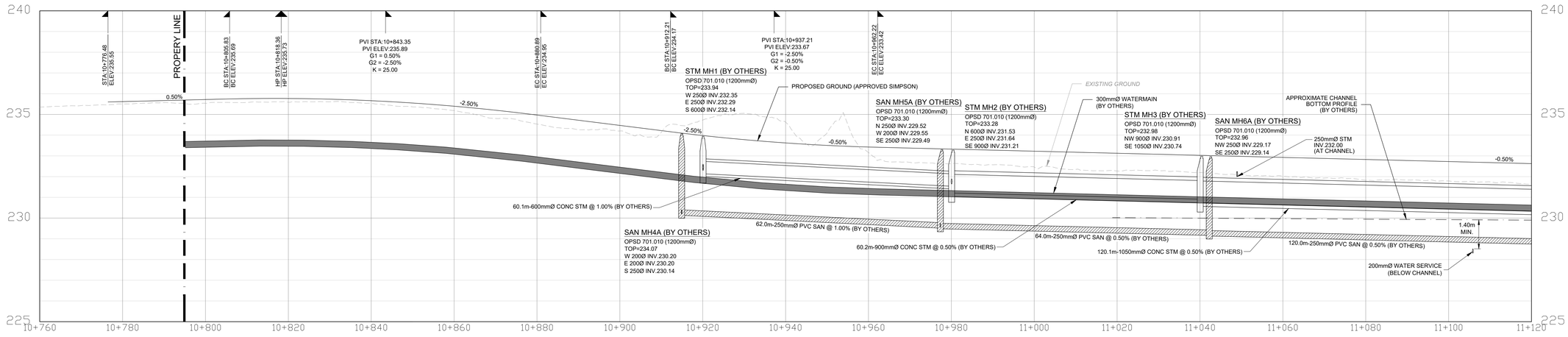
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NOTE:

SERVICING WORKS WITHIN THE SIMPSON ROAD RIGHT-OF-WAY ARE FROM THE APPROVED DESIGN BY WOOD CONSULTANTS (CONTRACT 14-093, SIMPSON ROAD EXTENSION PHASE 3).

LEGEND:

- PROPERTY LINE
- × 461.07 APV — APPROVED SIMPSON ROAD GRADES
- ◇(459.92) — PROPOSED GRADES (BY GRECK ENGINEERING)

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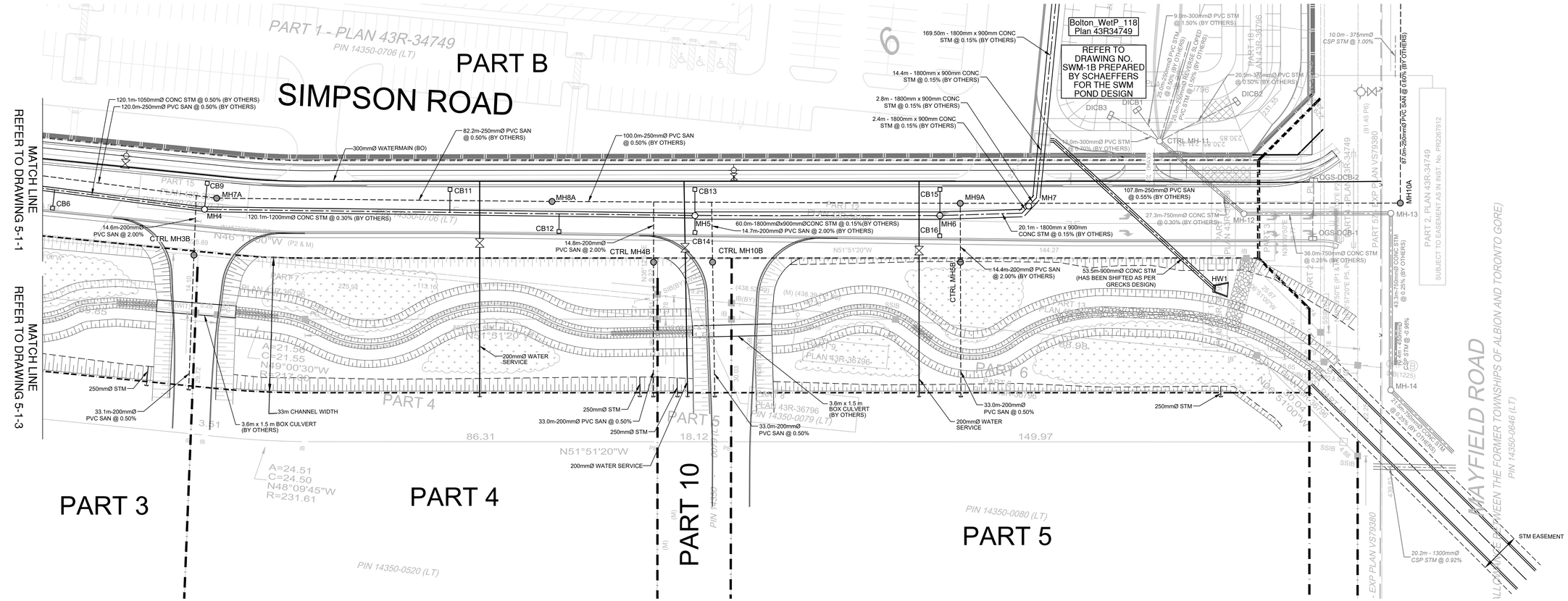
PLAN AND PROFILE

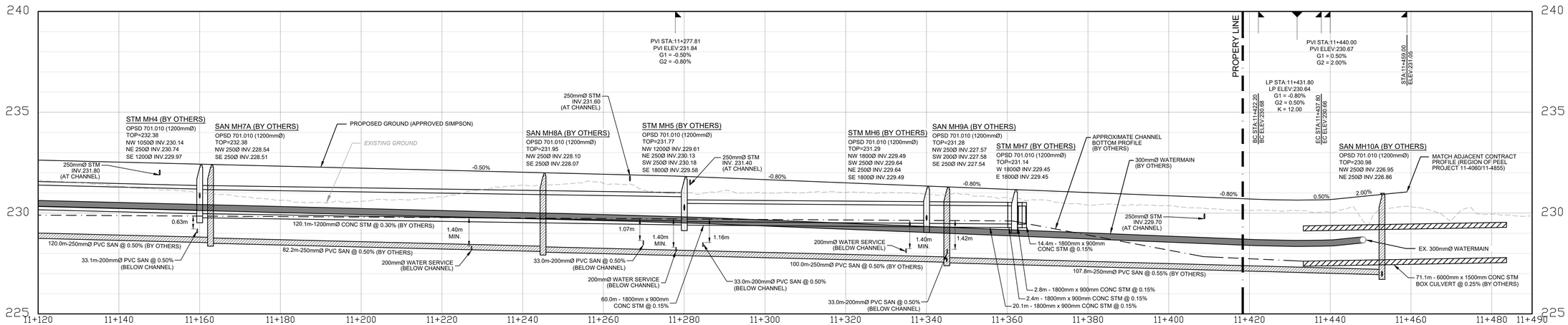
SIMPSON ROAD
(STA. 10+760 TO STA. 11+120)

SIMPSON ROAD MESP UPDATE

SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	5-1-1
SCALE:	1:500
DATE:	JULY 2025





NOTE:

SERVICING WORKS WITHIN THE SIMPSON ROAD RIGHT-OF-WAY ARE FROM THE APPROVED DESIGN BY WOOD CONSULTANTS (CONTRACT 14-093, SIMPSON ROAD EXTENSION PHASE 3).

LEGEND:

- PROPERTY LINE
- × 461.07 APV — APPROVED SIMPSON ROAD GRADES
- ⟡(459.92) — PROPOSED GRADES (BY GRECK ENGINEERING)

GEI Consultants

PLAN AND PROFILE

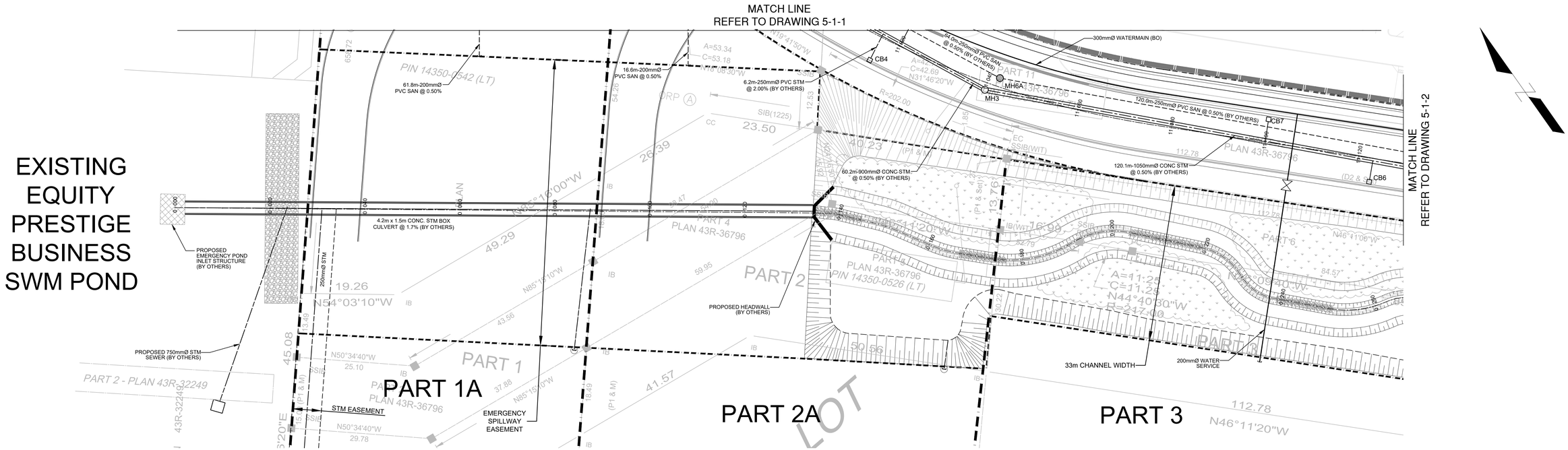
SIMPSON ROAD
(STA. 11+120 TO STA. 11+490)

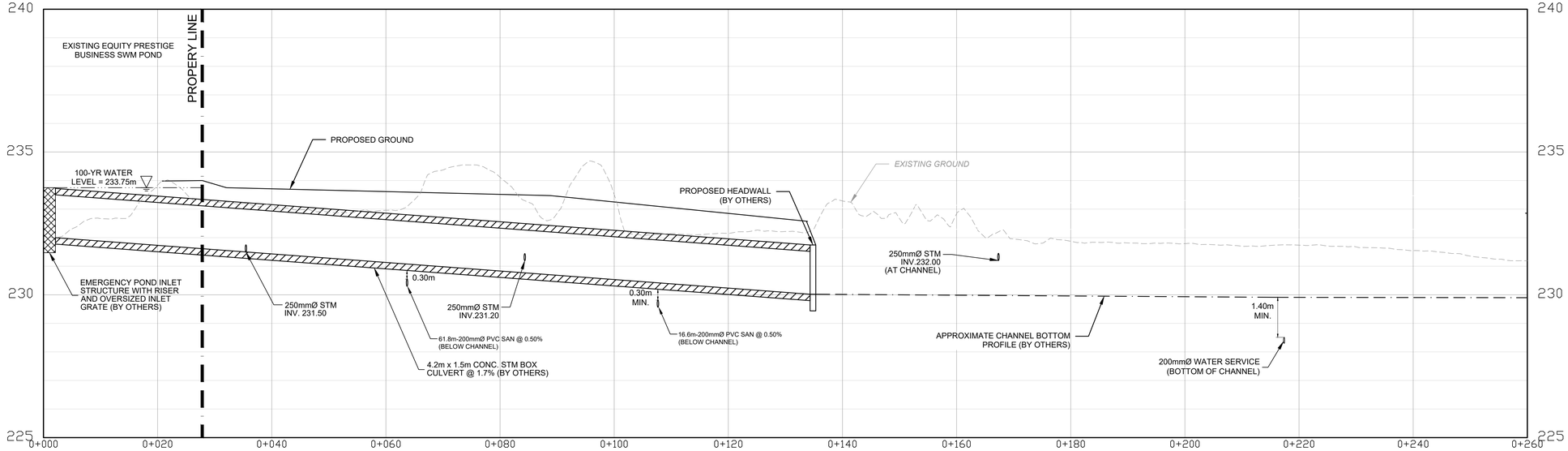
SIMPSON ROAD MESP UPDATE

SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	5-1-2
SCALE:	1:500
DATE:	JULY 2025

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NOTE:
SERVICING WORKS WITHIN THE SIMPSON ROAD RIGHT-OF-WAY ARE FROM THE APPROVED DESIGN BY WOOD CONSULTANTS (CONTRACT 14-093, SIMPSON ROAD EXTENSION PHASE 3).

LEGEND:

- PROPERTY LINE
- × 461.07 APV — APPROVED SIMPSON ROAD GRADES
- ⟡(459.92) — PROPOSED GRADES (BY GRECK ENGINEERING)

GEI Consultants

PLAN AND PROFILE

CHANNEL
(STA. 0+000 TO STA. 0+260)

SIMPSON ROAD MESP UPDATE

SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	5-1-3
SCALE:	1:400
DATE:	JULY 2025

EX SAN MH29

150.4m-750mmØ CONC SAN @ 0.27%

EX.SAN MH 28

PART 6
AREA: 1.14 ha
ZONING: IND

SAN SEWER

EQUITY PRESTIGE BUSINESS PARK EX. SWM POND

PART A
AREA: 3.35 ha
ZONING: IND

150.2m-750mmØ CONC SAN @ 0.32%

B1 0.48ha

PART 1
AREA: 3.08 ha
ZONING: IND

PART 1A

COLERAINE DRIVE

61.8m-200mmØ PVC SAN @ 0.50%

CTRL MH1AB

MH1AA

14.5m-200mmØ PVC SAN @ 2.00%

12.0m-200mmØ PVC SAN @ 2.00%

A1 0.84ha

PART 1B

CTRL MH2AB

MH6SA

16.6m-200mmØ PVC SAN @ 0.50%

14.6m-200mmØ PVC SAN @ 2.00%

62.0m-250mmØ PVC SAN @ 1.00%

10.0m-200mmØ PVC SAN @ 2.00%

PART 2B

EX.SAN MH27

PART 2
AREA: 3.43 ha
ZONING: IND

PART 2A

LOT

A2 0.67ha

64.0m-250mmØ PVC SAN @ 0.50%

B2 0.48ha

150.1m-750mmØ CONC SAN @ 0.28%

CONCESSION

PART 3
AREA: 3.73 ha
ZONING: IND

A3 0.69ha

120.0m-250mmØ PVC SAN @ 0.50%

33.1m-200mmØ PVC SAN @ 0.50%

CTRL MH3B

EX SAN: MH26

COLERAINE DR

B3 0.49ha

PART 11
AREA: 0.20 ha
ZONING: IND

PART 4
AREA: 3.55 ha
ZONING: IND

A4 0.49ha

82.2m-250mmØ PVC SAN @ 0.50%

MH7A

MH8A

SIMPSON ROAD

PART B
AREA: 12.77 ha
ZONING: IND

145.9m-750mmØ CONC SAN @ 0.30%

SAN SEWER

CTRL MH4B

33.0m-200mmØ PVC SAN @ 0.50%

CTRL MH4AB

EX SAN MH25

PART 7
AREA: 0.22 ha
ZONING: IND

A5 0.57ha

100.0m-250mmØ PVC SAN @ 0.50%

14.4m-200mmØ PVC SAN @ 2.00%

MH9A

CTRL MH5B

PART 8
AREA: 0.24 ha
ZONING: IND

PART 10
AREA: 2.14 ha
ZONING: IND

PART 5
AREA: 1.62 ha
ZONING: IND

107.8m-250mmØ PVC SAN @ 0.55%

Bolton_WetP_118
Plan 43R34749

A6 0.54ha

B4 0.52ha

153.2m-750mmØ CONC SAN @ 0.76%

PART 12
AREA: 1.15 ha
ZONING: IND

COLERAINE DRIVE

MH2AB

44.0m-200mmØ PVC SAN @ 2.00%

85.0m-250mmØ PVC SAN @ 0.60%

EX.MH

EX SAN MH24

MH10A

87.0m-250mmØ PVC SAN @ 0.48%

MH11A

90.0m-250mmØ PVC SAN @ 0.49%

MH12A

MAYFIELD ROAD

PART 9
AREA: 0.47 ha
ZONING: IND

11.50m ROAD WIDENING

22.4m-200mmØ PVC SAN @ 2.00%

SANITARY MH

MAYFIELD ROAD
(ORIGINAL ROAD ALLOWANCE BETWEEN THE FORMER TOWNSHIPS OF ALBION AND TORONTO GORE)

69.3m-750mmØ CONC SAN @ 0.55%

EX SAN MH 23

B5 0.21ha

150.4m-750mmØ CONC SAN @ 1.20%

LEGEND:

- PROPERTY LINE
- EXISTING SANITARY DRAINAGE AREA BOUNDARY
- A1 / 0.74ha — SANITARY DRAINAGE AREA NUMBER; DRAINAGE AREA IN HECTARES
- SITE1 / AREA: 0.4 ha / ZONING: IND — SITE NUMBER; DRAINAGE AREA IN HECTARES; TYPE OF DEVELOPMENT

GEI Consultants

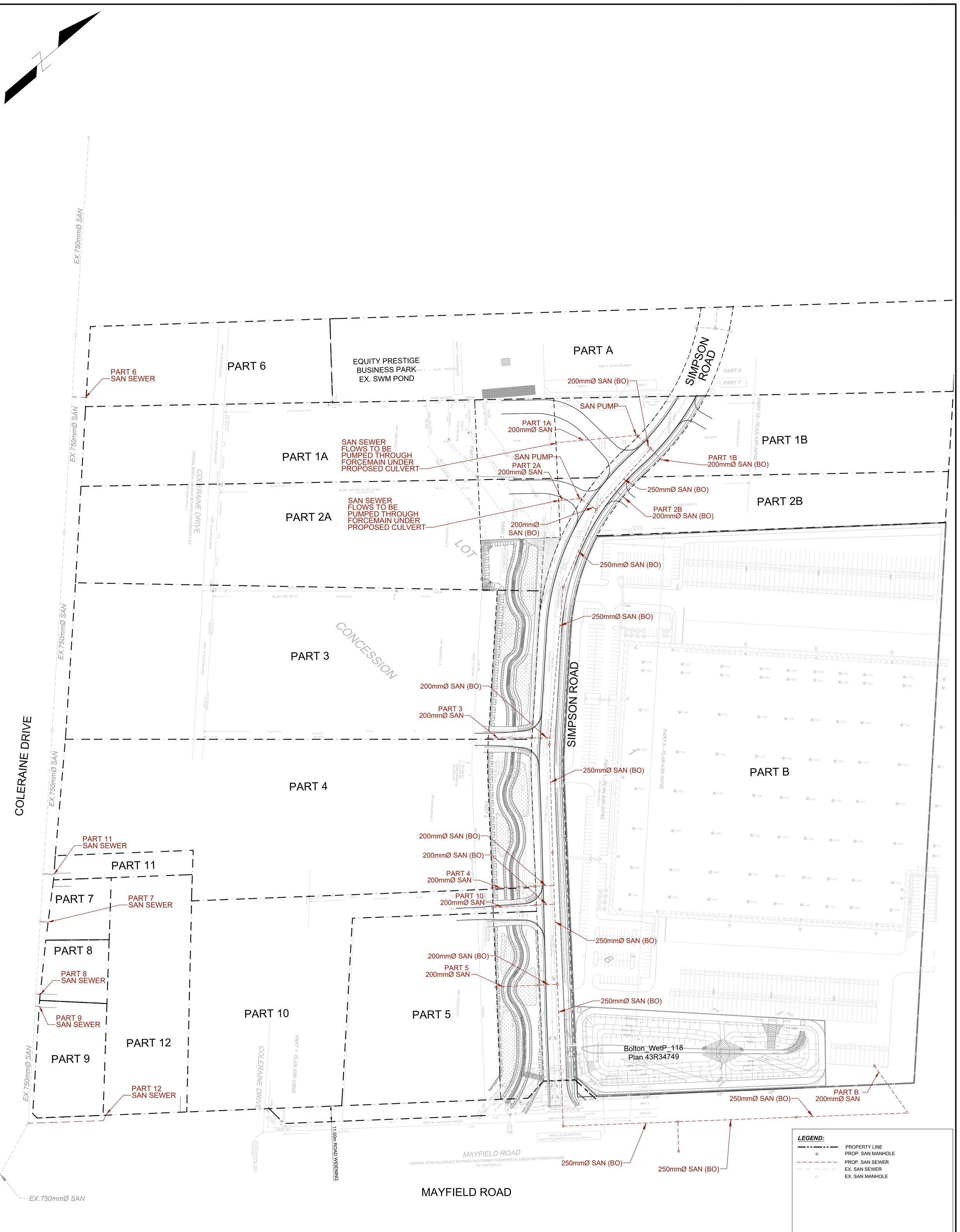
SANITARY DRAINAGE AREA FIGURE

SIMPSON ROAD MESP UPDATE

SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	5-2
SCALE:	1:1250
DATE:	JULY 2025

B:\Working\SIMPSON RD LANDOWNERS GRP INC\2301130 Simpson Rd Block Plan MESP Update\00_CAD\Figures\MESP\2301130-MESP-SAN-DAP.dwg - 8/5/2025



GEI Consultants

CONCEPTUAL SANITARY SERVICING

SIMPSON ROAD MESP UPDATE

SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	5-3
SCALE:	1:1250
DATE:	JULY 2025

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PART 6

EQUITY PRESTIGE
BUSINESS PARK
EX. SWM POND

PART A

PART 1A

PART 1B

PART 2A

PART 2B

PART 3

PART 4

PART 5

PART B

PART 7

PART 8

PART 9

PART 10

PART 11

PART 12

COLERAINE DRIVE

SIMPSON ROAD

CONCESSION

LOT

MAYFIELD ROAD

PART 6
WATER SERVICE

PART 1A
WATER SERVICE (BO)

PART 1B
WATER SERVICE (BO)

PART 2A
WATER SERVICE (BO)

PART 2B
WATER SERVICE (BO)

PART 3
WATER SERVICE (BO)

PART 4
WATER SERVICE (BO)

PART 5
WATER SERVICE (BO)

PART 7
WATER SERVICE

PART 8
WATER SERVICE

PART 9
WATER SERVICE

PART 10
WATER SERVICE

PART 11
WATER SERVICE

PART 12
WATER SERVICE

300mmØ WATERMAIN (BO)

EX.750mmØ WM

EX.300mmØ WM

EX.300mmØ WM

11.50m ROAD WIDENING

Bolton_WetP_118
Plan 43R34749

NOTE: WATER CONNECTIONS (DOMESTIC & FIRE) FOR PART B TO BE SERVICED (BO) INTERNAL TO THE BUILDING. REFER TO SITE SERVICING PLAN (DRAWING NO. C2.9) FOR ANATOLIA TILE & STONE (PHASE 3), 100 PILLSWORTH ROAD, CITY FILE # SPA 19-13, PREPARED BY MTE CONSULTANTS AND DATED MARCH 16, 2021.

LEGEND:

- PROPERTY LINE
- HYDRANT
- VALVE AND BOX
- PROP. WATERMAIN
- EX. WATERMAIN

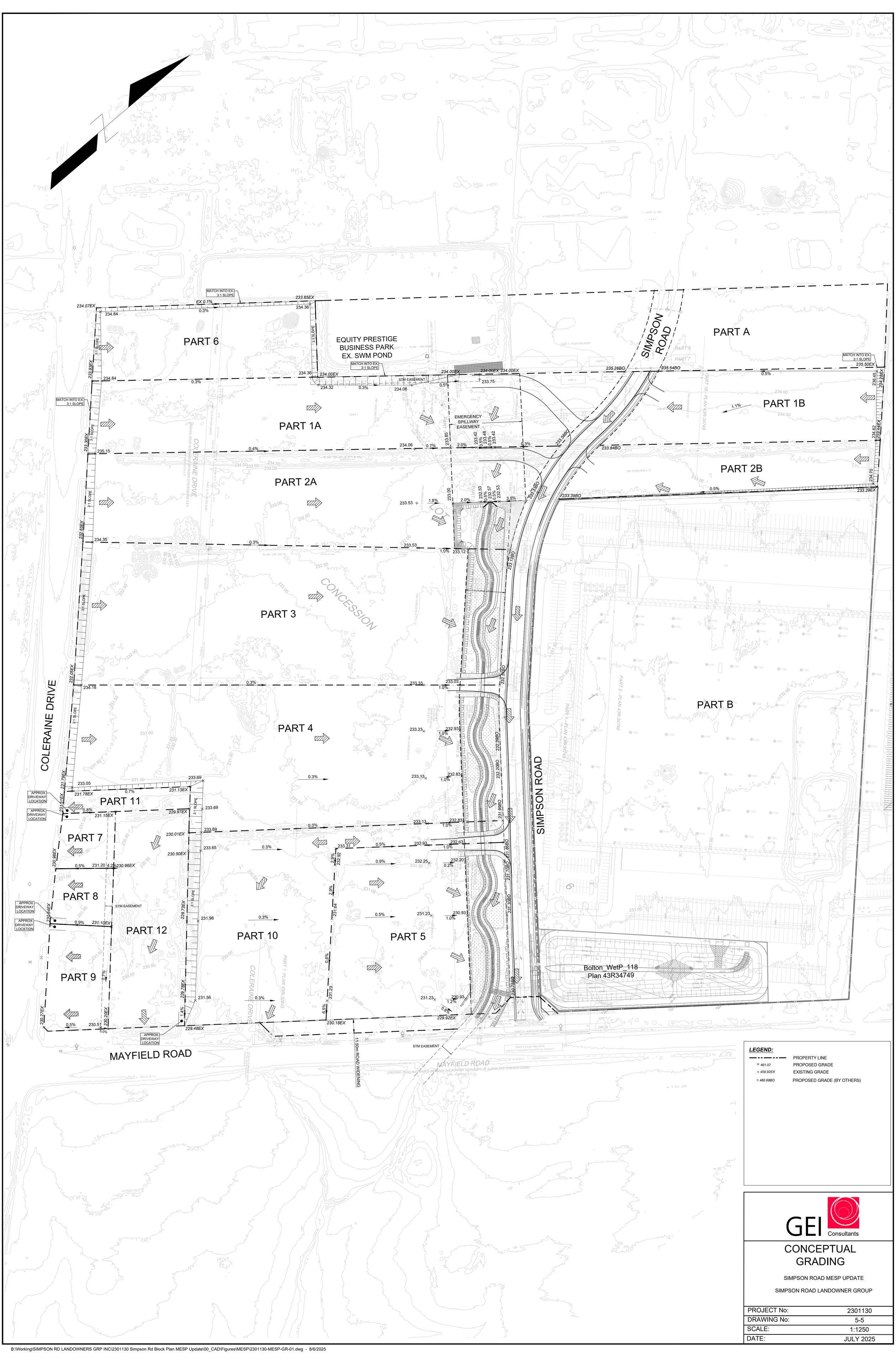
GEI Consultants

CONCEPTUAL WATER SERVICING

SIMPSON ROAD MESP UPDATE

SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	5-4
SCALE:	1:1250
DATE:	JULY 2025



LEGEND:

—·—·—	PROPERTY LINE
× 461.07	PROPOSED GRADE
× 459.92EX	EXISTING GRADE
× 460.68BO	PROPOSED GRADE (BY OTHERS)

GEI Consultants

CONCEPTUAL GRADING

SIMPSON ROAD MESP UPDATE

SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	5-5
SCALE:	1:1250
DATE:	JULY 2025

B:\Working\SIMPSON RD LANDOWNERS GRP INC\2301130 Simpson Rd Block Plan MESP Update\00_CAD\Figures\MESP\2301130-MESP-GR-01.dwg - 8/6/2025

PART A
PART 1B
PART 2B
PART B
SIMPSON ROAD
RELOCATED 40m WIDE EMERGENCY SPILLWAY (PREPARED BY GRECK)
EMERGENCY POND INLET STRUCTURE WITH RISER AND OVERSIZED INLET GRATE (PREPARED BY GRECK)
EX. POND DISCHARGES TO SITE
RE-DIRECTED EX 750mmØ POND OUTFALL (PREPARED BY GRECK)
EXISTING EQUITY PRESTIGE BUSINESS PARK SWM POND
STM EASEMENT
EMERGENCY SPILLWAY EASEMENT
HEADWALL (PREPARED BY GRECK)
4.2m x 1.5m BOX CULVERT CROSSING (PREPARED BY GRECK)
CHANNEL DESIGN (PREPARED BY GRECK)
EMERGENCY SPILLWAY PER GRECK DRAWING NO. C1.
APPROVED 750mmØ CULVERT CROSSING
EX. 1300mmØ CULVERT CROSSING TO BE REMOVED
APPROVED 6.0m x 1.5m BOX CULVERT CROSSING
EX. POND DISCHARGES TO RAINBOW CREEK
EX. 750mmØ CULVERT CROSSING
EX. 900mmØ CULVERT CROSSING
PART 1A
PART 2A
PART 6
PART 3
PART 4
PART 5
PART 10
PART 11
PART 7
PART 8
PART 9
PART 12
COLERAINE DRIVE
MAYFIELD ROAD
CONCESSION
C1 1.15ha 0.9
C2.1 2.08ha 0.9
C2.2.1 0.47ha 0.81
C2.2.2 1.26ha 0.81
C3.1 2.81ha 0.9
C3.2.1 0.13ha 0.81
C3.2.2 1.03ha 0.81
C4 4.09ha 0.9
C5 3.91ha 0.9
C6 0.19ha 0.9
C7 0.21ha 0.9
C8 0.23ha 0.9
C9 0.45ha 0.9
C10 2.21ha 0.9
C11 2.02ha 0.9
C12 1.12ha 0.9
R1 1.41ha 0.76
Bolton, WelP 718 Plan 43R34749
PART 1, PLAN 43R-34749
PART 5, PLAN 43R-34749

LEGEND:

- PROPERTY LINE
- PROPOSED STORM DRAINAGE AREA BOUNDARY TO BOX CULVERT AND CHANNEL DESIGN (DESIGNED BY GRECK)
- PROPOSED STORM DRAINAGE AREA BOUNDARY TO POND
- PROPOSED STORM DRAINAGE AREA BOUNDARY TO EXISTING STORM SEWER
- PROPOSED OVERLAND FLOW DIRECTION
- EXISTING CULVERT CROSSING
- APPROVED CULVERT CROSSING

STORM DRAINAGE AREA NUMBER — A1 POST — RUNOFF COEFFICIENT
DRAINAGE AREA IN HECTARES — 0.25ha — 0.50

GEI Consultants

POST-DEVELOPMENT DRAINAGE AREA FIGURE

SIMPSON ROAD MESP UPDATE

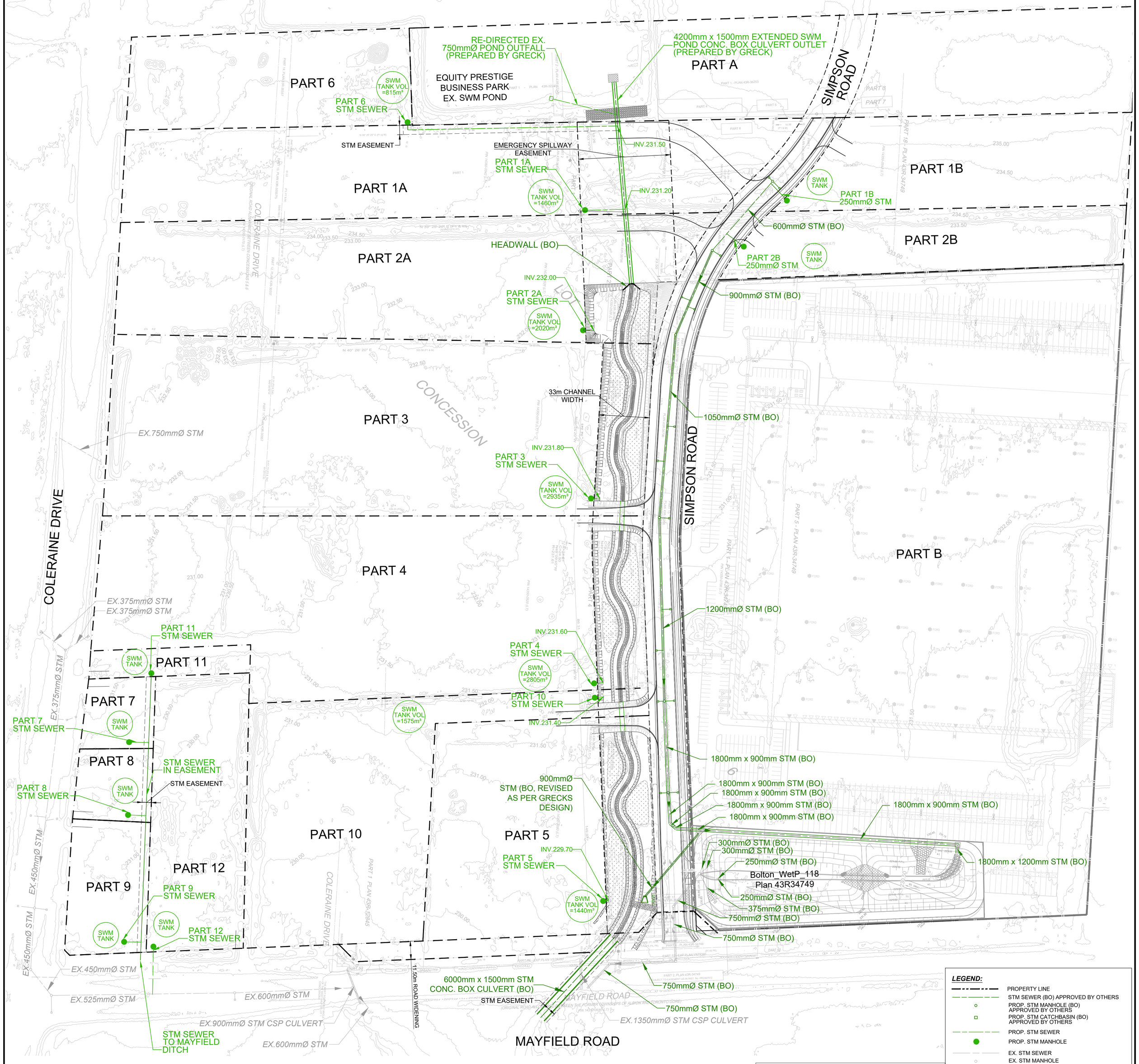
SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	5-6
SCALE:	1:1500
DATE:	JULY 2025

B:\Working\SIMPSON RD LANDOWNERS GRP INC\2301130 Simpson Rd Block Plan MESP Update\00_CAD\Figures\2301130-SIMPSON ROAD DAP.dwg - 8/5/2025

SITE REQUIREMENTS

PART	CATCHMENT ID	RELEASE RATES (L/S)	MIN. GRADE FOR STM SEWER	STORAGE VOLUME (m³)
1A	C2.1	58.70	234.06	1460.00
1B	C2.2.1	127.80	-	156.20
1B	C2.2.2	226.80	-	277.20
2A	C3.1	77.30	233.53	2020.00
2B	C3.2.1	43.20	-	52.80
2B	C3.2.2	185.40	-	226.60
3	C4	109.00	233.33	2935.00
4	C5	104.60	233.13	2805.00
5	C11	57.10	231.23	1440.00
6	C1	34.00	234.09	815.00
7	C7	9.80	-	100.50
8	C8	10.70	-	110.10
9	C9	21.00	-	215.40
10	C10	62.00	232.93	1575.00
11	C6	8.90	-	90.93
12	C12	21.60	-	677.30



LEGEND:

- PROPERTY LINE
- STM SEWER (BO) APPROVED BY OTHERS
- PROP. STM MANHOLE (BO) APPROVED BY OTHERS
- PROP. STM CATCHBASIN (BO) APPROVED BY OTHERS
- PROP. STM SEWER
- PROP. STM MANHOLE
- EX. STM SEWER
- EX. STM MANHOLE

PRE- WATER BALANCE

PART	CATCHMENT ID	ET (m³)	INFILTRATION (m³)	RUNOFF (m³)
1A	C2.1	11856	187	5824
1B	C2.2.1	2437	38	1563
1B	C2.2.2	7182	113	3528
2A	C3.1	15969	252	7917
2B	C3.2.1	596	9	512
2B	C3.2.2	1466	11	7371
3	C4	22974	362	11797
4	C5	22287	352	10948
5	C11	11514	182	5656
6	C1	6555	104	3220
7	C7	1149	18	637
8	C8	1166	18	792
9	C9	2517	40	1309
10	C10	12161	191	6632
11	C6	1083	17	532
12	C12	6384	101	3136
R1	ROAD	7795	122	4195

POST- WATER BALANCE

PART	CATCHMENT ID	ET (m³)	INFILTRATION (m³)	RUNOFF (m³)
1A	C2.1	2680	0	15187
1B	C2.2.1	606	0	3432
1B	C2.2.2	1624	0	9200
2A	C3.1	3621	0	20517
2B	C3.2.1	168	0	949
2B	C3.2.2	1327	0	7521
3	C4	5270	0	29863
4	C5	5038	0	28549
5	C11	2603	0	14749
6	C1	2680	0	15187
7	C7	271	0	1533
8	C8	296	0	1679
9	C9	580	0	3286
10	C10	2848	0	16136
11	C6	245	0	1387
12	C12	1443	0	8178
R1	ROAD	3061	25	9026

ANNUAL INFILTRATION VOLUME DEFICIT

PART	CATCHMENT ID	m³/year
1A	C2.1	187
1B	C2.2.1	38
1B	C2.2.2	113
2A	C3.1	252
2B	C3.2.1	9
2B	C3.2.2	11
3	C4	362
4	C5	352
5	C11	182
6	C1	104
7	C7	18
8	C8	18
9	C9	40
10	C10	191
11	C6	17
12	C12	101
R1	ROAD	97
TOTAL		2091

GEI Consultants

CONCEPTUAL STORM SERVICING

SIMPSON ROAD MESP UPDATE

SIMPSON ROAD LANDOWNER GROUP

PROJECT No:	2301130
DRAWING No:	5-7
SCALE:	1:1250
DATE:	JULY 2025



BLOCK AREA

PHASE 2 SECONDARY PLAN AREA

PHASE 1

PHASE 2

TOWN OF CALEDON
REGION OF PEEL, ONTARIO

SIMPSON ROAD LANDOWNER GROUP

GEI Consultants

PHASING PLAN

Project 2301130

JULY 2025

6-1

B:\Working\SIMPSON RD LANDOWNERS GRP INC\2301130 Simpson Rd Block Plan MESP Update\00_CAD\Figures\23001747-Location & Aerial Plan.dwg - 8/6/2025

Appendix A

Background Information

South Simpson Secondary Plan Area Subject to Block Plan

Town of Caledon,
Regional Municipality of Peel

Legend

Subject Lands

Key Map



Subject Lands

Date: May 25, 2022

File: N/A

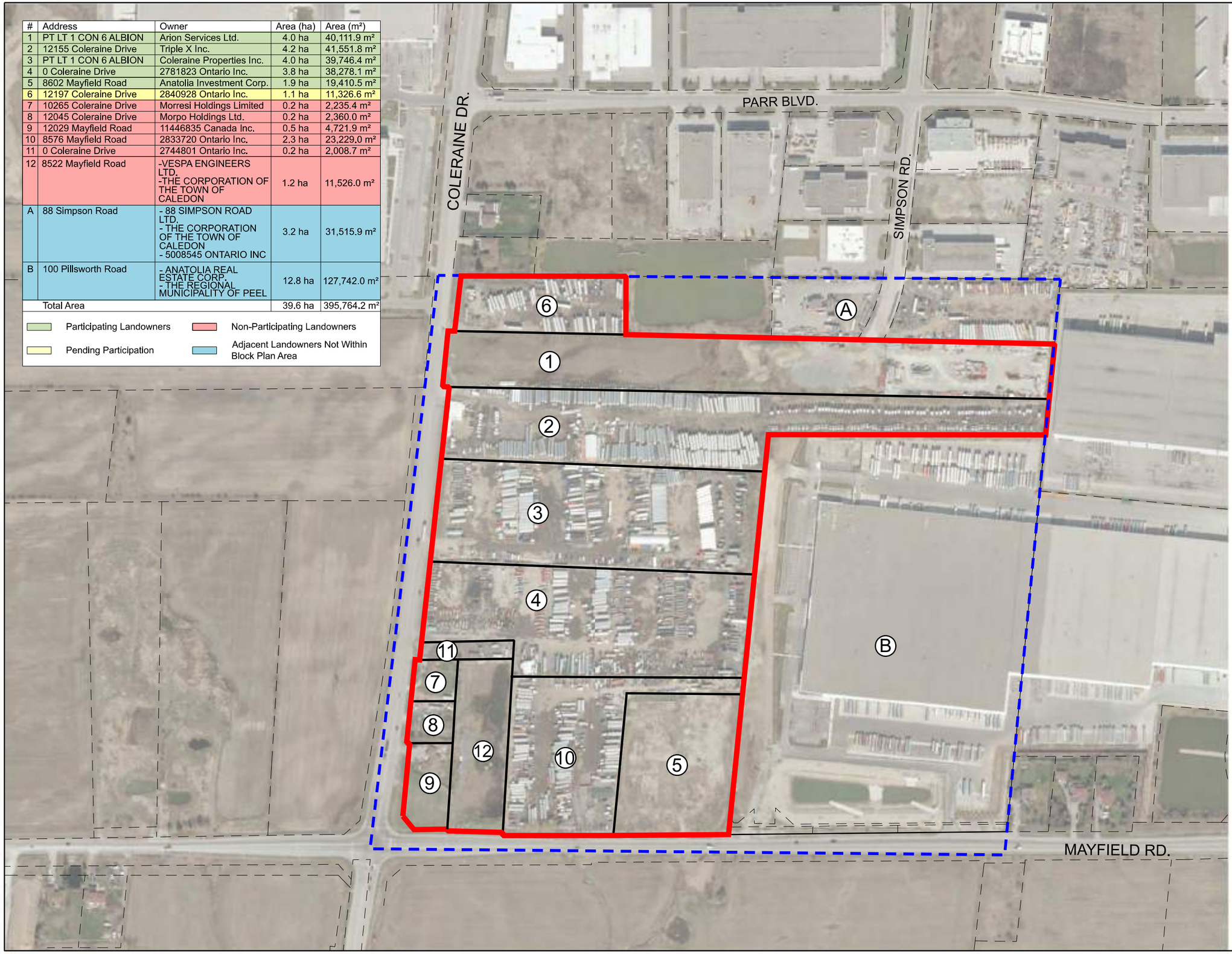
#	Address	Owner	Area (ha)	Area (m²)
1	PT LT 1 CON 6 ALBION	Arion Services Ltd.	4.0 ha	40,111.9 m²
2	12155 Coleraine Drive	Triple X Inc.	4.2 ha	41,551.8 m²
3	PT LT 1 CON 6 ALBION	Coleraine Properties Inc.	4.0 ha	39,746.4 m²
4	0 Coleraine Drive	2781823 Ontario Inc.	3.8 ha	38,278.1 m²
5	8602 Mayfield Road	Anatolia Investment Corp.	1.9 ha	19,410.5 m²
6	12197 Coleraine Drive	2840928 Ontario Inc.	1.1 ha	11,326.6 m²
7	10265 Coleraine Drive	Morresi Holdings Limited	0.2 ha	2,235.4 m²
8	12045 Coleraine Drive	Morpo Holdings Ltd.	0.2 ha	2,360.0 m²
9	12029 Mayfield Road	11446835 Canada Inc.	0.5 ha	4,721.9 m²
10	8576 Mayfield Road	2833720 Ontario Inc.	2.3 ha	23,229.0 m²
11	0 Coleraine Drive	2744801 Ontario Inc.	0.2 ha	2,008.7 m²
12	8522 Mayfield Road	-VESPA ENGINEERS LTD. -THE CORPORATION OF THE TOWN OF CALEDON	1.2 ha	11,526.0 m²
A	88 Simpson Road	- 88 SIMPSON ROAD LTD. - THE CORPORATION OF THE TOWN OF CALEDON - 5008545 ONTARIO INC	3.2 ha	31,515.9 m²
B	100 Pillsworth Road	- ANATOLIA REAL ESTATE CORP. - THE REGIONAL MUNICIPALITY OF PEEL	12.8 ha	127,742.0 m²
	Total Area		39.6 ha	395,764.2 m²

Participating Landowners

Non-Participating Landowners

Pending Participation

Adjacent Landowners Not Within Block Plan Area



LEGEND

- Surroudning Parcel Fabric
- Block Plan Area
- Lot Subdivision
- Phase 2 Secondary Plan Area

Notes:

- Parcel fabric, Block plan Area and lot subdivision are approximate and subject to confirmation by a survey.
- Areas are approximate and subject to confirmation by a survey.
- Phase 2 Secondary Plan Area is sourced from Schedule C-5 from the South Simpson Industrial Secondary Plan (Town of Caledon OP).
- Air Photo is from First Base Solutions, dated 2022.

DRAWN / REVISED	
31 JUL 2023	First Draft

OWNERSHIP MAP

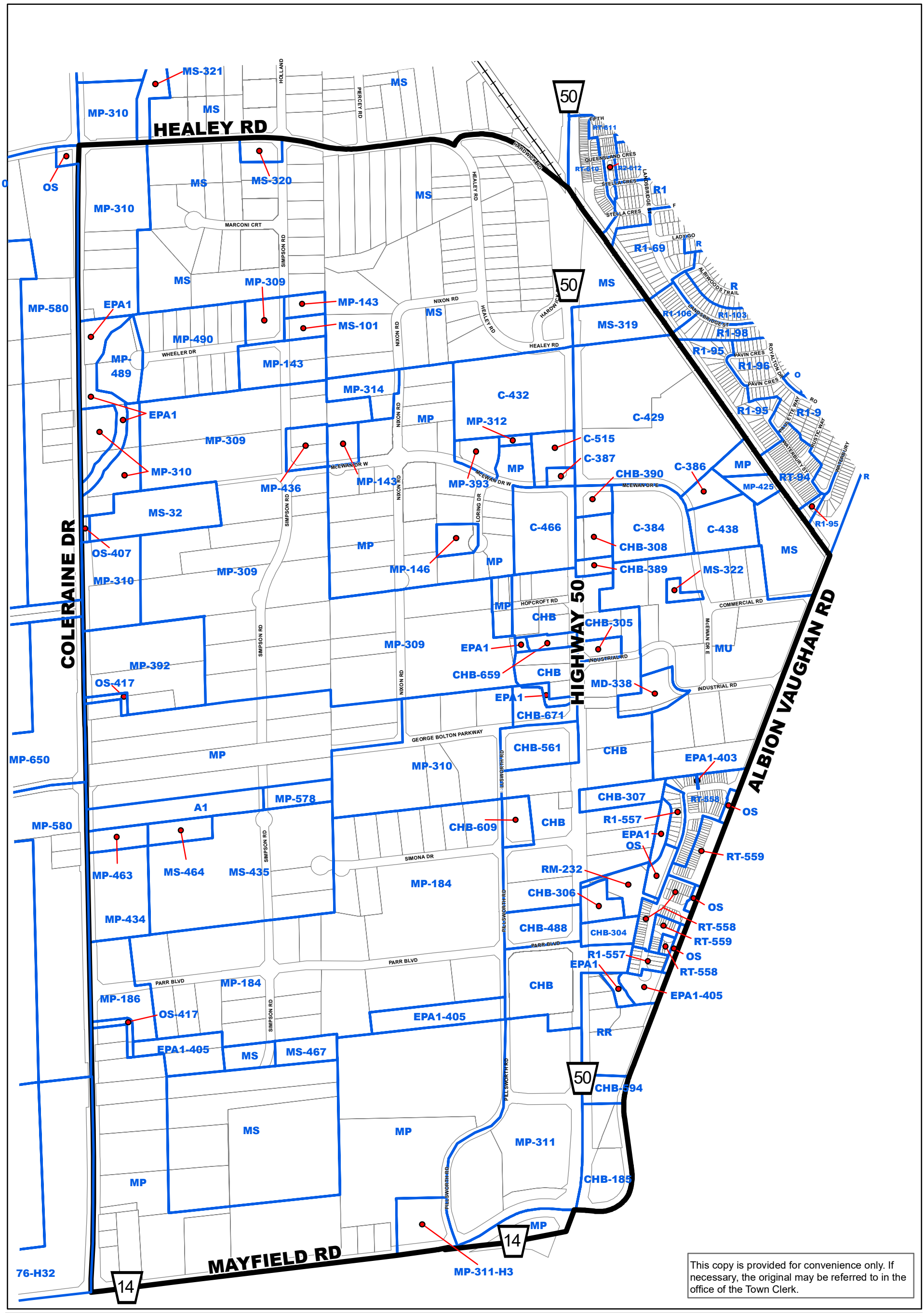
NORTHEAST CORNER OF COLERAINE DR. AND MAYFIELD RD.
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

SCALE
0 20 50 100m

WESTON CONSULTING

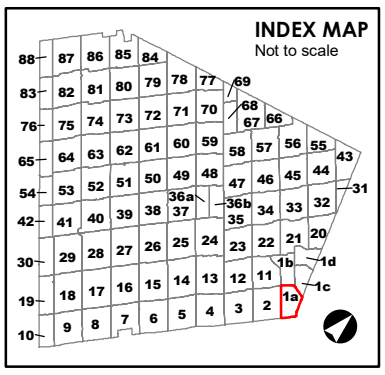
File Number: 10846
Date: 2023-07-31
Drawn By: ADB
Planner: SS
CAD: 10846_Ownership Map_2023-07-31.dgn

Drawing
OM



This copy is provided for convenience only. If necessary, the original may be referred to in the office of the Town Clerk.

INDEX MAP
Not to scale



A2 ZONE SYMBOL

A2-### ZONE SYMBOL
Note: Number of suffixes represent Exceptions which can be looked up in the Exceptions section of the By-law.

ZONE BOUNDARY

STRUCTURAL ENVELOPE MAP

NIAGARA ESCARPMENT DEVELOPMENT CONTROL AREA
Lands lying within the Development Control area pursuant to the Niagara Planning and Development Act are subject to permit requirements under Ontario Regulations 685/50, as amended.

OAK RIDGES MORAINE CONSERVATION PLAN AREA BOUNDARY

WELLHEAD PROTECTION AREA BOUNDARY
WP-2 WP-5 WP-10 WP-25
Zone Maps amended to indicate the 2, 5, 10, and 25 year Wellhead Protection Areas.

The base data on this map is provided for convenience only. The Town of Caledon is not responsible for any deficiency or inaccuracy in the base data, and will not accept any liability whatsoever therefor. The reporduction of the base data, in whole or in part, by any means is prohibited without the prior written permission of the Town of Caledon.

BY-LAW 2006-50
ZONE MAP 1a
SCHEDULE "A"

0 110 220 440 m

TOWN OF CALEDON

Date: 3 April 2006
Revised: February 27, 2023

File: S:\POLICY SECTION\GIS\zoning_bylaw\2015_mxd

1a

Studies Required to Process South Simpson Block Plan

1. Completed Application Form
2. Fee pursuant to Town's Fees By-law
3. Block Plan showing all lands in the immediate area (including Schedule C to Staff Report 2022-0374 and any adjacent non-participating landowners)
4. Transportation Study (Confirm scoped TOR with Town and Regional Transportation staff)
    a. Road Network Capacity Review
    b. Active Transportation Network Connections
    c. Transportation Demand Management Plan
5. Access Management Plan
6. MESP as per attached Town, Peel and TRCA joint TOR
7. Planning Justification Report (including the recommended outcomes of the Study and any policy and zoning updates that would be needed).

DRAFT

Terms of Reference:
South Simpson (Headwaters of West Rainbow Creek) Master Environmental Servicing Plan Update

Purpose:

The Town retained R.J. Burnside to prepare a Master Environmental Servicing Plan (MESP) for the Bolton South Industrial Lands (December 2000). To support development of the remaining portion of the West Rainbow Creek, the MESP (Burnside, 2000) needs to be updated inclusive of an implementation plan for the subject lands to support the Block Plan application.

The development area is identified in Schedule C to Staff Report 2022-0374. The MESP update will establish the preferred method of servicing for the Study Area and West Rainbow Creek, including municipal sanitary sewers, storm drainage, water supply and distribution systems, stormwater management, site grading and road design at a preliminary engineering level of detail, in order to support future development of the study area.

The MESP update is to follow and utilize the framework from the previously completed MESP 2000 and be scoped specifically to West Rainbow Creek. While the primary focus of the Study will be on the development area identified in Schedule C to Staff Report 2022-0374, the Study must also examine the downstream reaches of West Rainbow Creek as well as upstream and external drainage.

Content:

1.0 Executive Summary

- Description of why the MESP is being completed and how it relates to the broader planning process, as well as any applicable master planning or environmental assessment processes for the area.
- Integrated summary of the work completed and conclusions of the individual sections.
- Concise summary of the significance and implications of the findings of the MESP, conclusion and recommendations.

2.0 Introduction

- Study purpose
- Study location
- Overview of background information

3.0 Description of the Study Area

- Overview of study limits and land ownership
- Existing condition, land use, drainage features, hydrology, hydraulics, physiography etc.
- Natural heritage features and all regulation limits
    - Identify valley and stream corridors, woodlands, wetlands, watercourses and headwater drainage features (see TRCA's Evaluation, Classification and Management of Headwater Drainage Features Guidelines, for identifying HDFs)
    - Identify aquatic habitat and management objectives from the Fisheries Management Plan or other documents that may contain aquatic management objectives for the watershed
    - Identify existing vegetation communities (ELC)
    - Conduct flora/fauna species inventory using accepted protocols and seasonal sensitivities
    - Identify species or communities of conservation concern as per the TRCA rankings
    - Identify areas that have federal and/or provincial designations such as federally designated aquatic species, provincially significant wetlands (PSWs), Areas of Natural and Scientific Interest (ANSIs), significant wildlife habitat and endangered species, etc.
    - Identify the natural heritage system for the subject lands and document sensitivities to changes in land uses. This includes the identification of the habitats that support species that have designations under the Endangered Species Act or the Species At Risk Act; and

provincially significant areas under the Provincial Policy Statement such as valley lands, woodlands, wildlife habitat and wetlands (PSWs). In addition, the natural heritage system will include species and communities of concern as ranked by TRCA, as well as Locally Significant Features and Areas pursuant to applicable municipal and TRCA policies.
    - Downstream erosion potential of watercourse - Erosion assessment needs to be undertaken based on TRCA Erosion Assessment Guideline (please refer to https://trca.ca/conservation/stormwater-management/understand/swm-criteria-2012/download)
- Existing soils and groundwater
- Existing municipal services in the vicinity of the study area and anticipated extension of services
- Existing zoning

4.0 Hydrology

- General overview
- Hydrologic model selection - As Humber River Watershed Hydrology is modelled using Visual Ottohymo, for consistency purposes, TRCA recommends that the selected model be in line with the watershed hydrology model.
- Design storms - As part of the recent Humber River Watershed hydrology update, TRCA established design storms of 6-hr and 12-hr AES storms are critical design storms for the watershed. Hurricane hazel is the regional storm established by the province.
- Hydrologic modelling parameters
- Existing drainage
- External drainage areas
- Existing flow rates
- Post development modelling

5.0 Overview of Key MESP Requirements

- Existing relevant studies
- Environmental constraints and agency requirements
- Enhancement Areas/Buffering
    - Identify the natural heritage system for the subject lands and document sensitivities to changes in land uses. This includes the identification of the habitats that support species that have designations under the Endangered Species Act or the Species At Risk Act; and provincially significant areas under the Provincial Policy Statement such as valley lands, woodlands, wildlife habitat and wetlands (PSWs). In addition, the natural heritage system will include species and communities of concern as ranked by TRCA, as well as Locally Significant Features and Areas pursuant to applicable municipal and TRCA policies.
    - Identify minimum buffers for natural features and natural hazards (flooding and erosion) required by any applicable provincial plans, municipal policies and/or TRCA policies.
    - Identify restoration/enhancement opportunities using municipal official plan mapping and policies, TRCA's Terrestrial Natural Heritage System Strategy, and the applicable watershed plan(s).
    - Should realignment be sought, updated MESP to include an updated Natural Channel Design Report following current natural channel design guidelines and integrating other disciplinary findings. Identification of NHS, including buffers from the realigned corridor need to be identified.
- Existing Master Financial Agreement
    - Simpson Road extension, channel re-alignment and Stormwater Management Pond

6.0 Master Environmental Servicing Plan

- Development concept
- Post development drainage patterns

Terms of Reference:
South Simpson (Headwaters of West Rainbow Creek) Master Environmental Servicing Plan Update

- Flood control and conveyance of runoff
- Site Water Balance
- Water quality control
- Erosion control
- Conceptual SWM facility design
- Sediment and erosion control during construction
- Stormwater management alternatives

7.0 Implementation

- Preferred SWM strategy
- Flood control, conveyance and lot level controls
- Water quality and erosion control
- Requirements for offsite works
- Development phasing and cost sharing

8.0 Summary

9.0 References

Resources:

- Staff Report 2022-0374
- Master Environmental Servicing Plan 2000
- Simpson Road ESR
- Simpson Road & Channel Design Drawings
- Equity Prestige Business Park SWM Report and SWM Pond Drawings
- Simpson Road Extension SWM Design Brief and SWM Pond Expansion Drawings
- Town of Caledon Engineering Guidelines
- Ministry of Environment Stormwater Management Planning and Design Manual
- Toronto and Region Conservation Authority Stormwater Management Guideline

DRAFT

Staff Report 2022-0374

Meeting Date:	July 12, 2022
Subject:	Block Planning for the South Simpson Secondary Plan, North-East Corner of Coleraine Drive and Mayfield Road, Ward 5
Submitted By:	Stephanie McVittie, Manager of Development and Design, Planning Department

RECOMMENDATION

That Staff be directed to require the South Simpson Landowners Group to prepare and receive approval of a Block Plan and to update the Master Environmental and Servicing Plan to the satisfaction of the Town, prior to the submission of any development application and site development occurring in the South Simpson Secondary Plan lands as shown on Schedule 'C' to Staff Report 2022-0374, save and except any development applications deemed 'complete' on or before July 8, 2022.

REPORT HIGHLIGHTS

- The South Simpson Secondary Plan applies to lands north of Mayfield Road on the east side of Coleraine Drive.
- The lands at the north-east corner (quadrant) of Mayfield Road and Coleraine Drive are designated Prestige Industrial and General Industrial in the Town's Official Plan, permitting various industrial land uses.
- The policies of the South Simpson Secondary Plan speak to development adhering to the Master Environmental Servicing Plan (MESP), completed in 2000, and stormwater management be required as per the MESP.
- An updated Environmental Assessment for Simpson Road (2013) indicates an alternative stormwater management scheme including a new channel, additional ponds in alternative locations and requiring that the properties along Mayfield Road and the southern portion of Coleraine Drive require future local stormwater management, with no further direction provided.
- An update to the Master Environmental Servicing Plan (MESP) is required to evaluate development applications and provide for a comprehensive servicing solution.
- From a transportation and access perspective, there are constraints and potential opportunities to be explored. Consolidated accesses and an internal road network will be critical in developing this area as it has limited access to roads to the east, south and west; while the Town is looking to evaluate a new east/west road within the area.
- There are immediate development pressures on the fragmented lands within the area, with proposals being considered on a site-by-site basis, with no overall

consideration of transportation, access, grading, stormwater management, servicing, etc.

- In keeping with the Strategic Growth Directions report 2022-0247 Caledon must plan Caledon, staff is requesting that lands at the north-east corner of Mayfield Road and Coleraine Drive be required to submit a Block Plan prior to any future development application or site development proceeding (not deemed complete on or before July 8, 2022).
- The Block Plan will help to ensure transportation, access, servicing, stormwater and other important considerations are appropriately and strategically addressed and improve the quality of development.

DISCUSSION

The South Simpson Secondary Plan applies to lands north of Mayfield Road, on the east side of Coleraine Drive. The lands at the north-east corner (quadrant) of Mayfield Road and Coleraine Drive are designated Prestige Industrial and General Industrial in the Official Plan.

Master Environmental Servicing Plan

The policies of the South Simpson Secondary Plan speak to development adhering to the Master Environmental Servicing Plan (MESP), completed in 2000, and stormwater management be required as per the MESP. There are policies requiring communal stormwater management facilities to be designed and furthermore that that improvements are required downstream for acceptable receiving of stormwater discharge. See Schedule 'A' attached, for an excerpt of the Plan identifying stormwater management infrastructure for the area (Street 'A' is Parr Boulevard). The stormwater management pond identified as the "Di Iulio & Spinelli Facility" has been constructed but is slightly south of the location identified on the map. The "Mayfield Facility" has not been constructed in this area.

To support the extension of Simpson Road south to Mayfield Road the Town undertook an Environmental Assessment (EA) for Simpson Road (2013). See Schedule 'B' attached, for an excerpt of the Plan identifying a different stormwater management strategy for the area. The EA alters the previously approved MESP from 2000 as follows:

- Illustrates a realigned Simpson Road
- Changes the stormwater management catchment areas
- Identifies existing stormwater management ponds
- Identifies a new realigned creek/channel running along the west side of Simpson Road

- Identifies the newly constructed stormwater management facility at the north-east corner of Mayfield Road and Simpson Road (identified as WR) to generally service the east side of Simpson Road and the Simpson Road extension
- Identifies two other possible stormwater management facilities (identified as WR2a and WR2b)
- Indicates that the properties along Mayfield Road are to have future local stormwater management controls, with no further detail provided.

Considering the fragmented ownership of land in the area, the changes which have occurred since the approved MESP in 2000 and the lack of detail on how some of the lands in the South Simpson Secondary Plan will be appropriately serviced, an update to the Master Environmental Servicing Plan is required to support development in the area. This update is further supported by the Secondary Plan which requires that where modifications to the MESP are required, an applicant will need to submit studies to support the modification. This MESP update is required prior to the receipt of any development application or any site development occurring to ensure that the area is appropriately serviced and developed; otherwise, piecemeal development will occur based on site specific development applications.

Block Plan

With the fragmented ownership of the area coupled with the immediate development pressures and proposals being considered on a site-by-site basis, there is an inability to plan the area cohesively, resulting in piecemeal planning and development.

From a transportation and access perspective, there are constraints and potential opportunities to be explored. Consolidated accesses and potentially an internal road network will be critical in developing this area as there is no access available to the north (Parr Boulevard) and it has limited access to roads to the east, south and west:

- Coleraine Drive and Mayfield Road are Regional Roads with controlled access by-laws and requirements to limit (i.e. right-in/right-out) and/or consolidate accesses where they are permitted.
- There is an approved channel which will run north/south along the west side of Simpson Road, creating challenges to accessing Simpson Road.

In addition, through Staff Report 2022-370 being brought forward to Planning and Development Committee on July 12th, staff are requesting an Interim Control By-law be placed on lands on the west side of Coleraine Drive, to study, among other things, land uses and a transportation network which may include a potential new east/west road intersecting with Coleraine Drive. This may result in an opportunity to create a four-way intersection with a potential east/west road on the east side of Coleraine Drive.

Developing on the “Caledon plan Caledon” direction, consistent with Strategic Growth Directions Report (Staff Report 2022-0247), and in keeping with the policies of the Official Plan, the South Simpson Landowners Group will be required to prepare and receive approval of a Block Plan and to update the Master Environmental and Servicing Plan to the satisfaction of the Town, Region of Peel, City of Brampton and applicable Conservation Authority, prior to the submission of any development application and site development occurring in the South Simpson Secondary Plan lands as shown on Schedule ‘C’ to Staff Report 2022-0374, save and except any development applications deemed ‘complete’ on or before July 8, 2022. The Block Plan will include a Framework Plan which explains how the lands within the area will develop comprehensively including considerations of transportation, road network, access, grading and servicing (water, sanitary and stormwater), etc.

Staff have made arrangements to meet with the landowners to discuss the report in advance of the Planning and Development Committee.

FINANCIAL IMPLICATIONS

Stormwater management and the studies required to support development are the financial responsibility of the individual landowners. There are no immediate financial implications associated with this report.

COUNCIL WORK PLAN

Sustainable Growth: Advance proactive infrastructure development solutions for growth management

Improved Service Delivery: Plan for improved stormwater management to reduce drainage issues

ATTACHMENTS

Schedule A: Excerpt from the Master Environmental Servicing Plan (2000)

Schedule B: Excerpt from the Environmental Assessment (EA) for Simpson Road (2013)

Schedule C: South Simpson Secondary Plan Area Subject to a Block Plan

DRAFT

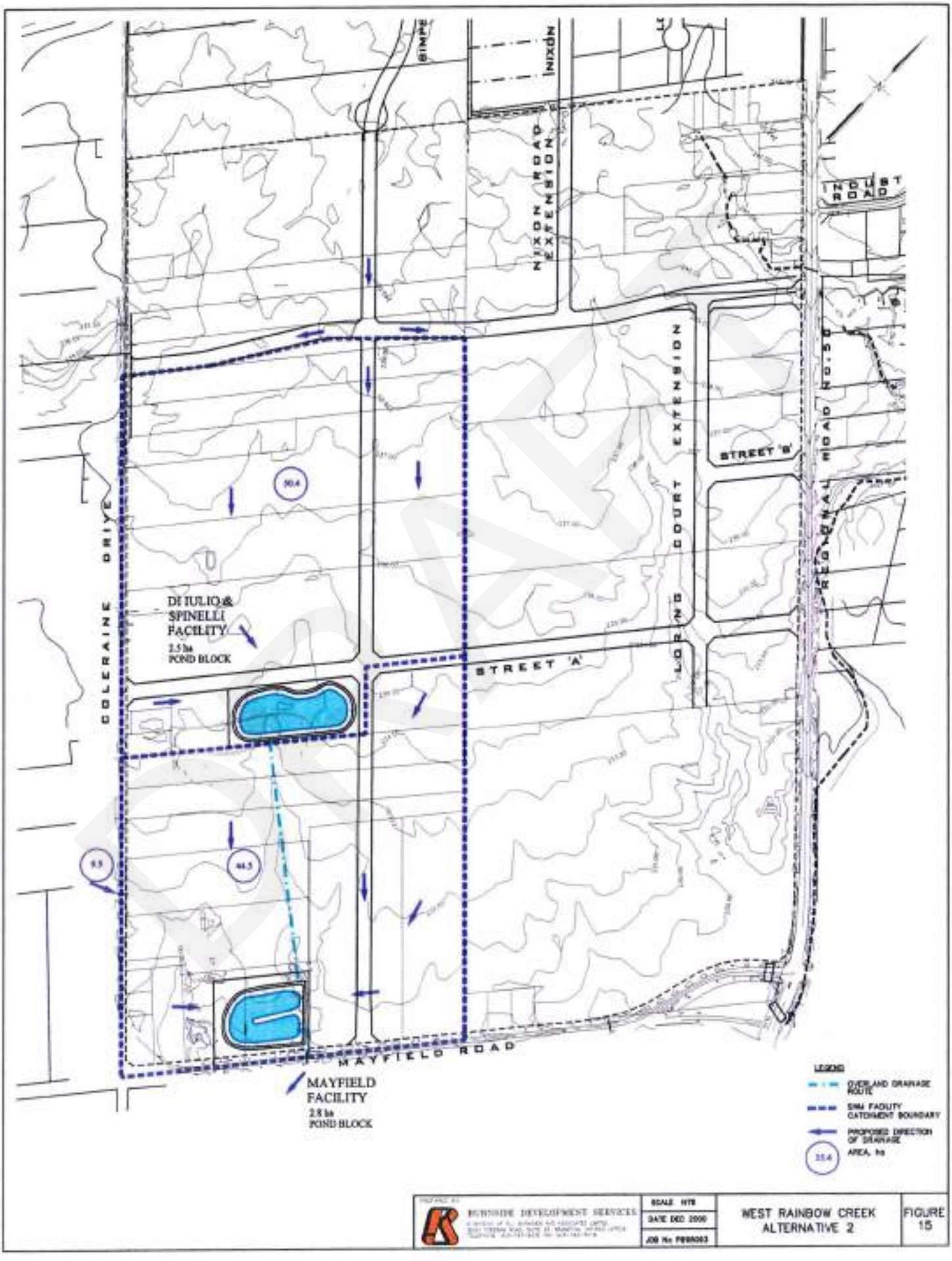
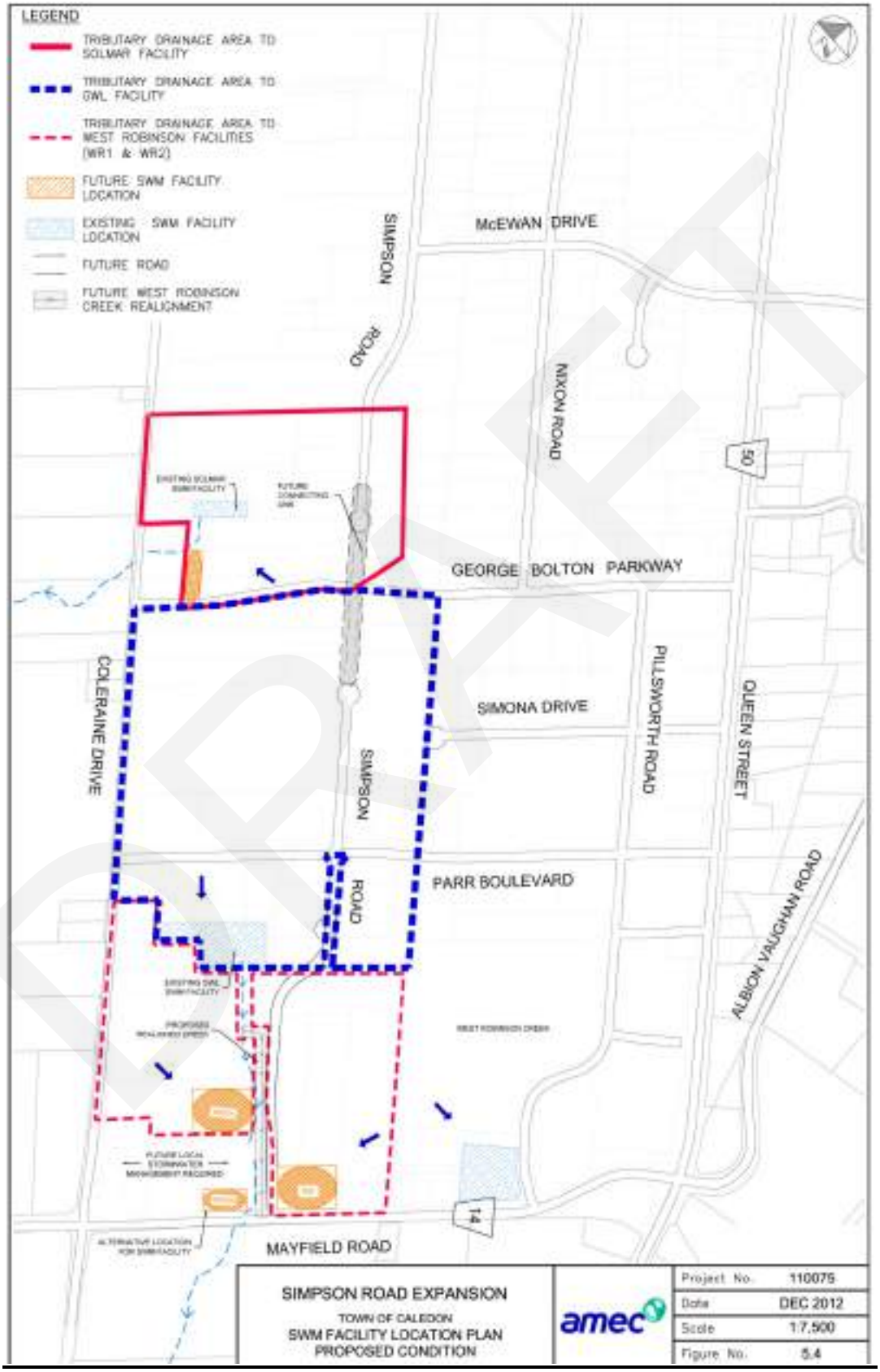

SIMPSON
NIXON ROAD EXTENSION
INDUST ROAD
REGIONAL ROAD 56
STREET 'B'
LORNE COURT EXTENSION
COLERAINE DRIVE
DI IULIO & SPINELLI FACILITY
2.5 ha
POND BLOCK
STREET 'A'
MAYFIELD ROAD
MAYFIELD FACILITY
2.8 ha
POND BLOCK
LEGEND
OVERLAND DRAINAGE ROUTE
SWM FACILITY CATCHMENT BOUNDARY
PROPOSED DIRECTION OF DRAINAGE
AREA, ha
SCALE NTS
DATE DEC 2000
WEST RAINBOW CREEK ALTERNATIVE 2
FIGURE 15

Figure 5.4: SWM Facility Location Plan Proposed Condition



DRAFT

TOWN OF CALEDON

March 26, 2021

DELIVERED BY MAIL

Simpson Road Landowners Group Inc.
c/o 7501 Keele St, Suite 200
Vaughan, ON L4K 1Y2

Attention: Helen Mihailidi

Dear Madame:

RE: Master Financial Agreement
Simpson Road South Extension

Enclosed please find one copy of the Master Financial Agreement between Anatolia Capital Corp., Arion Services Ltd., Simpson Road Landowners Group Inc., the Region and the Town which has been registered upon the title of the above lands as Instrument No. PR3804318 on March 24, 2021 for your records.

Respectfully,

Tiffany McClain
Law Clerk
Legal Services, Corporate Services Department
TOWN OF CALEDON

Tel: 905.584.2272 ext. 4036
Fax: 905.584.4325
tiffany.mcclain@caledon.ca

Encl.

Properties

PIN 14350 - 0542 LT
Description PT LT 1 CON 6 ALBION AS IN RO1058882 EXCEPT PT 1, EXPROP PL PR1169810; CALEDON
Address COLERAINE DRIVE CALEDON

PIN 14350 - 0706 LT
Description PT LT 1, CON 6 ALBION DESIGNATED PTS 1, 2, 3, 6, 9, 10, PL 43R39745; SUBJECT TO AN EASEMENT IN GROSS OVER PTS 2, 3, 10, PL 43R39745 AS IN PR2207912; TOWN OF CALEDON
Address CALEDON

Consideration

Consideration $2.00

Applicant(s)

The notice is settled to the effect a valid and existing estate, right, interest or equity in land

Name THE CORPORATION OF THE TOWN OF CALEDON
Address for Service 6311 Old Church Rd
Caledon, ON L7C 1J6
This document is not authorized under Power of Attorney by this party.
This document is being authorized by a municipal corporation: The Corporation of the Town of Caledon by Akhil Bhalla, Assistant Town Solicitor, pursuant to By-law 2016-108.

Name THE REGIONAL MUNICIPALITY OF PEEL
Address for Service 10 Peel Centre Drive
Brampton, ON L6T 4B9
This document is not authorized under Power of Attorney by this party.
This document is being authorized by a municipal corporation: The Regional Municipality of Peel, Rajeshree Sanchana, Senior Legal Counsel, pursuant to By-law 92-2017, as amended

Statements

This notice is pursuant to Section 71 of the Land Titles Act
This notice is for an indeterminate period
Schedule: See Schedule
The registration of this document is not prohibited by registration PR3822804 registered on 2020/03/12.

Signed By

Rajeshree Sanchana 10 Peel Centre Dr acting for Applicant(s) Signed 2021 03 24
Brampton
L6T 4B9
Tel 905 791 7800
Fax 905-791-6992
I have the authority to sign and register the document on behalf of the Applicant(s).

Submitted By

REGIONAL MUNICIPALITY OF PEEL 10 Peel Centre Dr. 2021 03 24
Brampton
L6T 4B9
Tel 905 791 7800
Fax 905-791-6992

Fees/Taxes/Payment

Statutory Registration Fee $65.30
Total Paid $65.30

MASTER FINANCIAL AGREEMENT – SIMPSON ROAD SOUTH EXTENSION

This Agreement is made as of the 17th day of December, 2020.

BETWEEN:

THE CORPORATION OF THE TOWN OF CALEDON

(the "Town")

- and -

THE REGIONAL MUNICIPALITY OF PEEL

(the "Region")

and

ANATOLIA CAPITAL CORP.

- and -

ARION SERVICES LTD.

(collectively and individually, as the context requires, the "**Owners**")

- and -

SIMPSON ROAD LANDOWNERS GROUP INC.

(the "Trustee")

WHEREAS:

[A] The Owners are the owners of the lands in the Town of Caledon more particularly described in Schedule "A" to this Agreement;

[B] The Owner's Lands are located in the Town's South Simpson Secondary Plan (the "Secondary Plan") area and further within the Benefiting Area, as shown conceptually on Schedule "B" and to be confirmed on Schedule "I" to this Agreement through the future ASDC By-law;

[C] the Owners seek to develop their lands without applying for approval of and registering a plan of subdivision;

[D] in order to facilitate the Owners' desire to develop their lands without obtaining approval of and registering a plan of subdivision, the Town and the Region are requiring the Owners to provide in the Benefiting Area certain services and facilities, to make certain financial arrangements and to convey certain lands similar to how these may be required in conjunction with approval and registration of a plan of subdivision, so that the Benefiting Area may be developed in accordance with the Secondary Plan. In particular these obligations include:

(i) the conveyance to the Town of certain lands within the Benefiting Area for the purpose of a public highway in the form of an extension to existing Simpson Road and other appurtenant Public Infrastructure Works, including a channel and Stormwater Management Facilities as defined herein (the "Future Public Road/SWM Lands"), as shown on the reference plan identified in Schedule "G" attached hereto;

(ii) the conveyance to the Region of certain lands within the Benefiting Area for the purpose of daylight triangles, road widening, reserves, a drainage ditch and for appurtenant works

and infrastructure ("Intersection Lands") as shown on the reference plan identified in Schedule "G" attached hereto

(iii) The conveyance to Ontario Hydro of a permanent easement for two (2) hydro pole anchors over, under, along and through the Future Public Road/SWM Lands.

(iv) The completion of the design and construction work at the Owners' expense of all services and facilities required to construct a road to municipal standards on the Future Public Road/SWM Lands and Intersection Lands that complies with the approved drawings, plans, reports and specifications listed in Schedule 'C' attached hereto

(v) The completion of the design and construction work at the Owners' expense of all other services facilities identified under this Agreement and on Schedule "E" as Public Infrastructure Works.

(vi) Entering into a Cost Sharing Agreement to ensure the adequate provision of the Public Infrastructure Works, including the Future Public Road/SWM Lands and Intersection Lands and that all participating landowners share proportionately in the costs of providing the Public Infrastructure Works;

[F] the Owners may require the Town's assistance to acquire the lands necessary to construct the Public Infrastructure Works, the terms of which assistance shall be governed by this Agreement;

[E] the Owners have appointed the Trustee to assist with the implementation of this Agreement and the Cost Sharing Agreement;

[G] to expedite the construction of the Public Infrastructure Works, the Town has undertaken certain studies, reports, designs and applications for approvals, which the Owners through this Agreement will reimburse the Town for;

[H] the Owners will be reimbursed for the Recoverable Capital Cost of the Public Infrastructure Works being provided pursuant to this Agreement by credits for area specific development charges otherwise payable by the Owners pursuant to the Area Specific Development Charges By-law for the Benefiting Area, as well as by remittances of ASDCs paid by Benefiting Owners to the Town

[I] section 38 of the *Development Charges Act*, 1997, S.O. 1997, c. 27 authorizes the Town to enter into an agreement for the purpose of granting development charge credits in exchange for the provision of services, but any such credits will not apply to any of the Region's Works, including but not limited to, sanitary and watermain works, as set out in this Agreement;

NOW THEREFORE this agreement witnesses that in consideration of the mutual covenants hereinafter contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Trustee, Owners, the Region and the Town hereby agree as follows:

PART ONE – DEFINITIONS AND GENERAL PROVISIONS

DEFINITIONS

1. In this Agreement and in the recitals above,

'Agreement' means this agreement;

'Area Specific Development Charge' or **"ASDC"** means a development charge imposed pursuant to the ASDC By-law passed pursuant to the DC Act with respect to the Capital Cost of the Public Infrastructure Works and the Land Acquisition Costs and payable in addition to Town of Caledon development charges that may be payable pursuant to by-law 2019-031 and/or any other similar charge(s) imposed by the Town;

'ASDC Background Study' means a future Town area specific development charge background study applicable to the Benefiting Area with respect to the Capital Cost of the Public Infrastructure Works and the Land Acquisition Costs;

"**ASDC By-law**" or "**Area Specific Development Charges By-law**" a future Town by-law, being an area specific development charge by-law with respect to the Capital Cost of the Public Infrastructure Works and the Land Acquisition Costs and applicable to the Benefiting Area, enacted by Council under the Act, as amended or re-enacted from time to time;

"**ASDC Credit**" or "**Credit**" means Redeemable ASDC Credits actually used to offset area specific development charges otherwise payable pursuant to this Agreement.

"**ASDC Credit Balance**" means the difference, if any, between the Recoverable Capital Cost paid for or secured via a financial security posted with the Town under this Agreement less the total amount of:

- all ASDC Credits;
- all ASDC Remittances already paid to the Trustee; and
- any adjustments properly accounted for and reported to the Trustee in accordance with this Agreement, including but not limited to as a result of updates to the ASDC By-law or Recoverable Capital Cost incurred by the Town.

"**ASDC Remittance**" means a monetary payment from the Town to the Trustee drawn from the ASDC Reserve Account pursuant to this Agreement.

"**ASDC Reserve Account**" means the Town's general ledger account in which is held all payments of Area Specific Development Charges by the Benefiting Owners.

"**Benefiting Area**" means those lands that will derive a benefit from the construction, installation or provision of the Public Infrastructure Works, as conceptually shown on Schedule "H" and to be confirmed on Schedule "I" by the future ASDC By-law;

"**Benefiting Owner**" means any owner of land within the Benefiting Area, other than the Owners

"**Business Day**" shall mean any day other than Saturday, Sunday, or a statutory holiday in the Province of Ontario;

"**Capital Cost**" means all costs related to the Public Infrastructure Works, including without limitation, the costs of financing, engineering, monitoring, construction, environmental mitigation measures, maintenance and assumption of the Public Infrastructure Works, as well as:

(1) all costs paid under contracts awarded for the construction of the Public Infrastructure Works, as certified by the Consulting Engineer (and accompanied by back-up invoices);

(2) all engineering, legal, project management, administrative and other consulting fees, whether paid to consultants or to the Town or Region.

(3) any studies, Class Environmental Assessments, reports, designs, permit applications or any other approvals, prepared in advance of, or in support of the construction of the Public Infrastructure Works;

(4) all fees and charges, whether payable to the Town, Region, TRCA or any other governmental agency, body or authority; and

(5) the costs paid for the preparation of the ASDC Background Study and the enacting of the ASDC By-Law;

"**Certificate of Assumption**" means written correspondence from the Town confirming assumption of the Public Infrastructure Works has been approved by Council by way of an attached by-law;

"**Claims**" includes all losses, damages (including without restriction all indirect damages, consequential damages, special damages, business losses and economic losses, howsoever arising), injuries (including without restriction injuries resulting in death), claims, causes of action, demands, liabilities and litigation;

"**Cost Sharing Agreement**" means a private agreement, separate and apart from this Agreement, entered into among the Owners setting out how the Capital Cost, Land

Acquisition Cost, Recoverable Capital Cost and all other costs may be shared and apportioned between them;

"**Council**" means the Town council;

"**Construction Commencement Deadline**" has the same meaning as in section 34 of this Agreement;

"**DC Act**" or "**Act**" means the *Development Charges Act, 1997*, S.O. 1997 c. 27 as amended, re-enacted or consolidated from time to time, and any successor statute;

"**Defaulting Owner**" means an Owner that is in default of its obligations under this Agreement;

"**Development**" means the construction, erection or placing of one or more buildings or structures on land or the making of an addition or alteration to a building or structure that has the effect of increasing the size or changing the use thereof from non-residential to residential, and includes redevelopment, zoning by-law amendments and official plan amendments;

"**Development Approval**" means approval of site plans, plans of subdivision, zoning by-law amendments and official plan amendments and any minor variance that in the opinion of the Town or Region requires servicing by the Public Infrastructure Works;

"**Estimated Capital Cost**" means the estimate of the Capital Cost as of the date of this Agreement, which is set out in Schedule "D", and which the parties acknowledge may vary from the actual Capital Cost in accordance with this Agreement;

"**Estimated Land Acquisition Cost**" has the same meaning as in section 31(1) of this Agreement;

"**Future Public Road**" means the road to be constructed on the Future Public Road/SWM Lands as part of the Public Infrastructure Works, as set out in this Agreement;

"**General Manager**" means the General Manager, Finance and Infrastructure Services of the Town or a designate;

"**Internal Works**" means local works exclusively internal to and for the sole benefit of an Owner's Lands and which works are not listed in Schedule "C";

"**Intersection**" means the intersection to be constructed at the intersection of the Future Public Road and Mayfield Road as part of the Public Infrastructure Works, as set out in this Agreement;

"**Land Acquisition Costs**" means all reasonable costs related to the acquisition of land or rights in land required for the construction, installation, operation and maintenance of the Public Infrastructure Works, including the cost of expropriation by the Town, any payments or awards for injurious affection, loss of business profits or damages, and all appraisal fees, consultant fees and Litigation Costs;

"**Land Acquisition Security**" or "**Land Acquisition Securities**" means Letter(s) of Credit in the form attached as Schedule "J", certified cheque or cash, or any combination thereof in a form satisfactory to the Treasurer, representing 100% of the Land Acquisition Costs as estimated in accordance with this Agreement;

"**Letter of Credit**" means irrevocable, standby, demand letter(s) of credit issued by a Schedule "I" or Schedule "II" Canadian chartered bank and in a form attached as Schedule "J" to this Agreement that is to the satisfaction of the Treasurer and to the Region with respect to the Intersection Lands;

"**Litigation**" includes all appeals, actions, applications or other proceeding before a court of law or administrative tribunal;

"**Litigation Costs**" includes all reasonable costs related to advancing, prosecuting or defending the Litigation, including, without restriction, all legal fees, filing fees, appraisal fees, consultant fees, expert fees, witness fees, disbursements, and adverse costs orders;

"MECP" means the Ontario Ministry of the Environment, Conservation and Parks

"**Naturalization**" means a process of ecological restoration that involves returning an altered or degraded site to a more natural condition through the use of trees, shrubs and flowers that are native to the area, as shown on the approved landscaping drawing, plans, reports and specifications listed in Schedule "C" attached to this Agreement

"**Owners' Lands**" means the lands in the Town of Caledon, located within the Benefiting Area, title to which is vested in the Owners, and which are more particularly described in Schedule "A";

"**Planning Act**" means the *Planning Act*, R.S.O. 1990, c. P.13, as amended and replaced from time to time;

"**Public Infrastructure Works**" means all work related, incidental or provided therefore, thereto or in connection therewith, the design, construction and implementation and final completion of the Future Public Road and the Stormwater Management Facilities as defined in this Agreement, including grading, servicing works, boulevards and sidewalks, and streetlighting, as well as accommodation for and/or provision of utilities, sanitary and storm sewer system, and water supply system, including all connection works to the Region's lands described as Wayfield Road, all of which are to be located within the stormwater management ponds that will accept drainage from this road, erosion and sediment control measures, preservation of existing vegetation, grading, topsoiling, landscaping works, driveway construction, curbs, traffic control devices, and sidewalks and all other relevant items included on the approved drawings, plans, reports and specifications listed in Schedule "C" attached to this Agreement;

"**Public Infrastructure Works Security**" or "**Public Infrastructure Works Securities**" means Letter(s) of Credit in the form attached as Schedule "I", certified cheque or cash, or any combination thereof in a form satisfactory to the Treasurer, and where applicable the Region, representing 100% of the Capital Cost to be completed by the Owners;

"**Recoverable Capital Cost**" means the Land Acquisition Cost and the Capital Cost of the Town's Works as identified in the initial ASDC Background Study and ASDC By-law, following any appeals, and subject to updates to be initiated by the Town to increase ASDC rates to reflect the actual Land Acquisition Costs and the actual Capital Cost of the Public Infrastructure Works, which the parties acknowledge may differ from the Estimated Capital Cost identified in Schedule "D" of this Agreement;

"**Redeemable ASDC Credit**" means an Area Specific Development Charge Credit eligible for redemption pursuant to this Agreement.

"**Region's Works**" has the same meaning as in section 8 of this Agreement,

"**Required Benefiting Lands**" has the same meaning as in section 19 of this Agreement;

"**Secondary Plan**" has the same meaning as in recital [B] of this Agreement;

"**Stormwater Management Facilities**" or "**SWM Facilities**" means the stormwater management facilities to be constructed on the Future Public Road/SWM Lands as part of the Public Infrastructure Works which is necessary for adequate stormwater drainage from the Future Public Road, as well as to control storm water from private property

"**TRCA**" means the Toronto Region Conservation Authority and any successor agency;

"**Treasurer**" means the Treasurer for the Town or a designate,

"**Trustee**" means the Trustee retained by the Owners, whose responsibilities are more particularly described in Part Five of this Agreement.

"**Town's Works**" has the same meaning as in section 8 of this Agreement.

SCHEDULES

2. The Schedules attached to this Agreement shall form part of this Agreement and are as follows:

Schedule "A"	Owners' Lands
Schedule "B"	Conceptual Benefiting Area
Schedule "C"	Public Infrastructure Works -- Approved Plans, Drawings and Reports
Schedule "D"	Public Infrastructure Works -- Estimated Capital Cost
Schedule "E"	Financial Obligations - Region
Schedule "F"	Region of Peel Requirements
Schedule "G"	Reference Plan for Public Infrastructure Works
Schedule "H"	Owners' Addresses
Schedule "I"	Final Benefiting Area to be confirmed through ASDC By-law
Schedule "J"	Town standard Letter of Credit
Schedule "K"	Trustee Certificate
Schedule "L"	TRCA Conditional Approval Letter
Schedule "M"	Owner's Statutory Declaration Certifying Discharge of Liabilities
Schedule "N"	Insurance Certificate
Schedule "O"	Conveyances

3. The Owners acknowledge and agree that the Town or the Region may amend Schedules "C", "D", "E", "F", "G", "I" and "O" from time to time, at their sole discretion and according to their respective standards and requirements for the Public Infrastructure Works, the Future Public Road/SWM Lands and Intersection Lands, as applicable. Each such amendment will be deemed to be fully part of this Agreement and will be effective and binding on all of the parties hereto upon receipt by each party in accordance with the requirements for giving notice contained herein.

RECITALS

4. The statements contained in the recitals, which are an integral part of this Agreement, are true and correct.

APPLICATION OF AGREEMENT

5. This Agreement applies to the Owners' Lands described in Schedule "A", and the Benefiting Area in Schedule "I", to be confirmed by the future ASLIC By-law.

PRINCIPLES

6. The following principles, which accord with the Secondary Plan, guided the drafting of this Agreement and govern its interpretation and implementation:

(1) the owners of lands within the Benefiting Area are responsible for all of the costs of the local services, including Public Infrastructure Works outlined in this Agreement and all related costs including all Capital Costs and all Land Acquisition Costs, subject to Credits and reimbursements as set out in this Agreement;

(2) the Town, the Region and the Owner's taxpayers outside of the Benefiting Area will not pay for any of the costs related to the local services and Public Infrastructure Works outlined in this Agreement;

(3) the Owners and Trustee shall fully support the implementation of this Agreement;

(4) the Town nor the Region shall incur no new or additional costs, liabilities, or liability for Claims, howsoever arising, as a result of entering into this Agreement.

(5) the Owners shall remain subject to the ASDC By-law (but subject to ASDC Credits in accordance with the Agreement), regardless of the timing of any site plan applications submitted by either one of them and regardless of any legislative amendments made to the DC Act.

(6) the Town will collect the Recoverable Capital Cost on behalf of the Owners through the imposition of the ASDC By-law and the application of development approval conditions on development applications within the Remaining Area (to the extent such development approval conditions are permitted by the Town's Secondary Plan policies), but does not guarantee that the ASDC or development approval conditions will be finally adopted by Council or the Local Planning Appeal Tribunal (the "LPAT"). However Town staff shall use their best efforts to recommend and implement such final adoption

COUNCIL DISCRETION

7. Nothing in this Agreement fetters or restricts the discretion of Council. Without limiting the generality of the forgoing, the Owners and Trustee acknowledge and agree that:

(1) the Town is obliged to duly consider applications under the *Planning Act* and *Building Code Act* on the merits of the applications to hear and consider any objections, comments or concerns with respect thereto, and to make appropriate determinations in the Council's unfettered discretion on such applications;

(2) nothing contained in this Agreement shall derogate the various rights of appeal, which the Owners or the Town or the Region, as applicable shall have in respect of the implementation of any Official Plan amendments, secondary plan(s), zoning by-laws, minor variances, consents or approval of site plans or plans of subdivision; and

(3) the Town is under no obligation by virtue of this Agreement or otherwise, to grant any approvals whatsoever, under any legislation or by-law, including without limitation, any approvals related to any contemplated Development or use of the Owners' Lands.

PART TWO – PUBLIC INFRASTRUCTURE WORKS

OWNERS' OBLIGATION

8. The Owners shall design, supply, install, construct and maintain in a good and efficient manner all Public Infrastructure Works required by the Town, as set out in Schedule "C" (the "Town's Works") to the satisfaction of the Town, and in accordance with the Town's standard specifications as set out in the "Development Standards Policies and Guidelines" and the Region's "Design, standards specification and procedures" in effect at the time of execution of this Agreement by the Owner and amended from time to time and all Public Infrastructure Works required by the Region, as set out in Schedule "C" (the "Region's Works") to the satisfaction of the Region so as to comply with the scheduling contemplated by this Agreement or within such time or times as are required by the Town or the Region. Notwithstanding the foregoing and/or any other provision to the contrary contained in this Agreement, the parties acknowledge and agree that the Owners may, with the approval of the Town and the Region, alter the design of the Public Infrastructure Works (including, without limitation, re-designing the Public Infrastructure Works) and install and construct such Public Infrastructure Works in accordance with such altered designs, to the satisfaction of the Town and Region.

9 The Owner further agrees to adhere to the standard specifications of the Region and such amendments as may be made thereto prior to the Region's approval of the drawings, plans, specifications and reports for the Public Infrastructure Works required by the Region.

10 Without limiting the generality of the forgoing, the Owners acknowledge that the HRCA conditional approval letter, attached as Schedule "L", is subject to the future modeling, monitoring and study requirements noted in the letter, and subject to comments from MECP pursuant to an application for Environmental Compliance Approval which are the

responsibility of the Owners to fulfill and that any changes to the design for the Public Infrastructure Works subsequent to the time of conditional approval, may result in additional requirements. Any additional costs associated with any such changes shall form part of the Capital Cost, subject to the final approval of the Town or the Region, as the case may be.

BENEFITING AREA

11. (1) The Parties agree that the Benefiting Area for the Public Infrastructure Works is conceptually shown on Schedule "B" and the final Benefiting Area to be confirmed by the ASDC Background Study and ASDC By-law shall be inserted at Schedule "I" at such time as the ASDC By-law is finally adopted by Council and the Benefiting Area which is conceptually shown in Schedule "B" may not be the same as the final Benefiting Area to be inserted at Schedule "I" and to which the ASDC By-law, the ASDC Background Study and any Area Specific Development Charge and ASDC Credits under this Agreement will ultimately apply. Notwithstanding the foregoing the Town acknowledges and confirms that it supports the scope, location and configuration of the Benefiting Area as shown conceptually on Schedule "B" attached hereto.

(2)

(A) The Town shall impose, to the extent permitted by the Town's Secondary Plan policies a condition of any Development Approval within the Benefiting Area requiring the Benefiting Owner/Owner (as the case may be) to become a party to the Cost Sharing Agreement and to satisfy its obligations pursuant to this Agreement and the Cost Sharing Agreement (the "Development Condition"). The Town shall refuse to grant a Development Approval within the Benefiting Area unless it has received confirmation from the Trustee that the Benefiting Owner/Owner has executed the Cost Sharing Agreement and that such Benefiting Owner/Owner is in good standing pursuant to this Agreement and the Cost Sharing Agreement.

(B) If an applicant appeals the Development Condition set out above to the LPAT (or other applicable authority), the Town will notify the Trustee in writing and the Owners will appoint a representative to confer with the Town.

(C) Subject to the approval of Council, the Town shall defend the Development Condition at any LPAT (or other applicable authority) hearing. However, if the Owners' representative advises the Town that the Owners do not require the Town to defend or continue its defense of the Development Condition, or if the Development Condition is determined to be inconsistent with the policies of the Secondary Plan, the Town shall not be required to defend, or to continue its defense of the condition, but the Town may, at its option and expense, defend or continue its defense of the condition.

(D) Prior to commencing the defence and on an ongoing basis throughout the defence, the Town and the Owners' representative shall consult with one another with respect to the direction and extent of the Town's defence, and for so long as the Owners bear the cost of the Town's legal and consulting costs in defending the Development Condition before the LPAT (or other applicable authority), the direction, extent and estimated cost of the Town's defence will be subject to the approval of the Owners' representative, acting reasonably.

(E) Unless the Owners' representative has advised the Town that the Owners do not require the Town to defend or to continue its defence of the Development Condition, the Owners' representative shall be entitled to participate in the negotiation of any settlement of the matter and the Town and the Owners' representative shall mutually agree to accept or reject the settlement.

(F) The Owners shall bear the cost of the Town's legal and consulting costs in defending the Development Condition before the LPAT (or other applicable authority), unless the Owners' representative has advised the Town that the Owners do not require the Town to defend or to continue its defense of

the condition, in which case the Town shall be responsible for any and all such costs incurred by it following such advice.

(G) Upon the Development Condition being appealed to the LPAT (or other applicable authority), the Town shall provide written notice to the Trustee of the estimated reasonable legal and consulting costs to defend the condition before the LPAT (or other applicable authority), as approved by the Landowner's representative, and the Trustee shall, unless the Trustee advises the Town that the Owners do not require the Town to defend the condition, provide by certified cheque or letter of credit satisfactory to the Town, to the Town, within thirty (30) days of the notice, the estimated costs as security for the Town's costs (the "**Development Condition Security**"). The Owners will provide additional security through the Trustee within thirty (30) days of receipt of a revised estimate from the Town of its legal and consulting costs to defend the Approval Condition, as approved by the Owners' representative, such that at all times the Town has security for its estimated costs. The Town may draw down the Development Condition Security as legal costs and expenses are actually incurred, provided proof of such costs in a format to be mutually agreed upon by the Town and the Trustee, is first provided to the Trustee. The Town will return the balance of any remaining Development Condition Security, within thirty (30) days of the Trustee advising the Town that they do not require the Town to continue its defense of the Approval Condition, or upon the final disposition of the appeal.

(H) If the Town is unsuccessful in defending the Development Condition before the LPAT (or other applicable authority), the Town shall not in any way be liable to the Owners for any financial loss sustained from the inability of the Owners to recover costs pursuant to the terms of the Cost Sharing Agreement from any applicant.

(I) Notwithstanding the foregoing, the Owners shall be entitled to participate in and have separate representation at any LPAT (or other applicable authority) hearing if they so desire.

CONSULTING ENGINEER / LANDSCAPE ARCHITECT

12. The Owners shall retain and keep retained a professional consulting engineer registered with the Professional Engineers of Ontario (the "**Consulting Engineer**") and a professional landscape architect registered with the Ontario Association of Landscape Architects (the "Landscape Architect") until final acceptance by the Region and the granting of a Certificate of Assumption by the Town for all of the Public Infrastructure Works, upon whom the Town and the Region shall be entitled to rely as the Owner's agents. The Owners agree that the Town may rely upon the representations of the agents as if these representations were those of the Owners and the Owners shall be bound by these representations as if the representations had been made by the Owners. The Consulting Engineer and/or Landscape Architect shall:

(1) prepare and provide such drawings, plans, reports and specifications as are required by the Town and the Region in order to fully describe the Public Infrastructure Works;

(2) co-ordinate and integrate the drawings, plans, reports and specifications prepared by any other consultants retained in connection with the Public Infrastructure Works;

(3) comply with all federal, provincial and municipal laws, by-laws (including by-laws enacted by the Town and the Region), rules and regulations affecting the Future Public Road/SWM Lands and Intersection Lands (including the obtaining of all necessary permits and licenses required to complete the Public Infrastructure Works, and the Owners shall save the Town and the Region harmless from any liability or cost suffered by them as a result of the failures of the Consulting Engineer and Landscape Architect to do so;

(4) obtain approvals and acceptances from the Town, the Region and all other relevant bodies, including the TRCA and MECP that require approvals or acceptances in order to complete the Public Infrastructure Works;

(5) prepare all contracts required for the supply, installation, construction and maintenance of the Public Infrastructure Works and provide copies thereof to the Town and the Region before the installation or construction of any of the Public Infrastructure Works is commenced;

(6) provide co-ordination and scheduling with respect to the installation and construction of the Public Infrastructure Works so as to comply with the scheduling contemplated by this Agreement and the requirements of the Town and the Region;

(7) provide field layout verification, siting control, contract administration, co-ordination, inspection of the installation, construction and maintenance of the Works. In this regard, the Consulting Engineer shall provide full-time resident supervision and inspection during the construction of all of the Public Infrastructure Works and the Landscape Architect shall provide supervision and inspection of the construction of those components of the Public Infrastructure Works that are designed by the Landscape Architect (i.e., boulevard works, tree planting) as needed to certify that they have been constructed and installed in accordance with the approved drawings, plans, specifications and reports as listed at Schedule "C" in accordance with this Agreement;

(8) provide such certifications with respect to the installation and construction of the Public Infrastructure Works as are required by the Town and the Region;

(9) provide deficiency lists to the Town and the Region and co-ordinate and supervise the repair, reinstallation, reconstruction, replacement or rectification of any deficient Public Infrastructure Works;

(10) maintain all records of construction and keep the Town and the Region informed of all construction changes;

(11) provide the Town and the Region with final "as recorded" and/or "as constructed" drawings of the Public Infrastructure Works; and

(12) act as the Owners' agent in all matters pertaining to the design, supply, installation, construction and maintenance of the Public Infrastructure Works.

PLANS

13. Subject to Sections 5 and 8 of this Agreement (regarding the alteration of designs) the Public Infrastructure Works to be installed or constructed are shown on the approved drawings, plans, reports and specifications which have been provided to the Town and the Region by the Owners and listed in Schedule "C" attached to this Agreement. The parties hereby agree that the said drawings, plans, reports and specifications shall be deemed to be an integral part of this Agreement. In the event that the designs for the Public Infrastructure Works are altered by the mutual agreement of the parties, then Schedule "C" attached to this Agreement will be amended and replaced accordingly.

14. The Owners shall comply with all of the requirements and recommendations set out in any approved drawings, plans, reports and specifications listed in Schedule "C" attached to this Agreement or as may be added or amended upon written notice from the Town or the Region from time to time in accordance with current industry standards and approved by the Town and the Region.

15. While the Town and the Region have reviewed the approved drawings, plans, reports and specifications listed in Schedule "C" attached to this Agreement, the Owners shall at all times be responsible for ensuring the accuracy of the drawings, plans, reports and specifications and for ensuring that the stripping, grading, servicing and related works shall meet the standard specifications of the Town and the Region. This provision shall apply to any additional, supplementary or amended drawings, plans, reports and specifications not listed in Schedule "C" attached to this Agreement and prepared in connection with the stripping, grading, servicing and related works.

APPROVAL OF PLANS

16. The approval of the drawings, plans, reports and specifications for the Public Infrastructure Works by the Town and the Region respectively shall operate as a review of the drawings, plans, reports and specifications only and shall not relieve the Owners from the responsibility for providing such Works as are required by the Town and the Region.

CONVEYANCE AND EXPROPRIATION

17. All Public Infrastructure Works constructed and all lands and easements to be conveyed under this Agreement, including any conveyances contained in Schedule 'C' hereto, shall be conveyed to the Town or the Region, as applicable, at no cost or expense to the Town or Region, free and clear of all liens and encumbrances except for municipal and development agreements and related interests.

18. The Owners shall gratuitously convey to the Town or the Region, as applicable, any part of the Owners' Lands which are required by the Town or the Region for the construction, installation, operation and maintenance of any of the Public Infrastructure Works located on the Owners' Lands, free of all liens and encumbrances and at no cost or expense to the Town or Region within thirty (30) days of receiving written notice from the Town or Region of the lands to be conveyed or upon such later date as may be determined by the Town or Region.

19. The Owners shall pay for any and all costs associated with acquiring any part of the lands not owned by them within the Benefiting Area required for the construction, installation, operation or maintenance of the Public Infrastructure Works, including any part of the Future Public Road/SWM Lands and Intersection Lands ('**Required Benefiting Lands**'), free and clear of all liens and encumbrances at the Owners' sole cost, and in accordance with a budget to be agreed upon, and revised from time to time, by the Owners and the Town and the Region. Such costs shall form part of the Land Acquisition Costs. This section shall apply to all Required Benefiting Lands, save and except the lands to be acquired as part of the Region's Mayfield road widening project as determined by the Region in their sole discretion.

20. To the extent that any Required Benefiting Lands are required for the construction, installation, operation and maintenance of the Public Infrastructure Works, the other Owners shall use their commercially reasonable best efforts to acquire such lands. For clarity, commercially reasonable best efforts shall include:

    (1) a land appraisal of the Required Benefiting Lands by a certified appraiser acceptable to the Town;

    (2) a written offer to purchase the Required Benefiting Lands ("**Offer to Purchase**"); and,

    (3) evidence, satisfactory to the Town (acting reasonably), that the Offer to Purchase was delivered to the Benefiting Owner who owns the Required Benefiting Lands and that a rejection or counter-offer was received from the Benefiting Owner, or an affidavit sworn by the Trustee that no response was received to the Offer to Purchase by the irrevocable date and time for a response set out therein.

21. The Owners shall gratuitously convey to the Town or the Region, as applicable, any Required Benefiting Lands which they have acquired, free of all liens and encumbrances and at no cost or expense to the Town or Region, and immediately following the acquisition of such lands by the Owners.

22. Within 180 days of conveying any Owner's Lands, Required Benefiting Lands or easements required under this Agreement to the Town or the Region, the Owners shall:

    (1) submit a Phase 1 Environmental Site Assessment ("ESA") report for the applicable Owner's Lands, Required Benefiting Lands or easements that are conveyed, prepared in accordance with the requirements of Regulation 153/04 under the *Environmental Protection Act*, R.S.O. 1990, c. E.19, as amended (the "*Environmental Protection Act*"), and a Phase 2 ESA report, if such a report has

been recommended in the Phase 1 ESA report, and shall reimburse the Town or Region, as applicable, for the cost of peer review of the reports

(2) submit a record of site condition for the applicable Owner's Lands, Benefiting Lands or easements that are conveyed to the Town or Region, and provide proof to the Town or Region, as applicable, that the record of site condition has been acknowledged by the MECP and registered on the Environmental Site Registry.

23. Immediately after completion of the Public Infrastructure Works, the Owners shall provide certification to the Town or Region, as applicable, that any fill material imported onto the applicable Owner's Lands, Benefiting Lands or easements meets the requirements of Table 2 (Full Depth Generic Site Condition Standards in a Potable Groundwater Condition) of the Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the *Environmental Protection Act*.

24. The Town shall use its commercially reasonable best efforts to directly acquire by expropriation or other means, all Required Benefiting Lands, the Intersection Lands, any other lands required for the construction, installation, operation and maintenance of the Public Infrastructure Works, and the lands for the construction, installation, operation and maintenance for the Intersection (to be transferred to the Region gratuitously, free and clear of all encumbrances) where the Owners have provided to the Town the Land Acquisition Security, and where:

(1) the Owners have provided, in the Town's reasonable discretion, satisfactory evidence to the Town that they have used commercially reasonable best efforts without success;

(2) the Town, in its sole discretion, deems it convenient or expedient to directly acquire any Required Benefiting Lands or any lands on which any part of the Public Infrastructure Works and Intersection are to be constructed; or,

(3) the Owners have not initiated the commercially reasonable best efforts referred to in section 20 to acquire all of the lands of Benefiting Owners required for the Public Infrastructure Works, by that date which is one (1) year following the date of execution of this Agreement by all parties.

25. If the Town commences a process to acquire or expropriate any lands required by this Agreement, the Town will draw upon the Land Acquisition Security, in accordance with paragraph 91 below.

TREE PRESERVATION

26. The Owners shall retain a registered arborist or forester who shall prepare a vegetation inventory report and tree preservation plan for the review and approval of the Town and for review of the TRCA.

27. The Owners shall implement any tree preservation measures set out in the approved tree preservation plan to the satisfaction of the Town.

28. The Owners shall maintain the tree preservation measures in a good and workmanlike condition, to the satisfaction of the Town and the TRCA, and shall submit such monitoring reports as may be required by the Town and the TRCA and shall not remove any tree preservation measures without the approval of the Town who may consult the applicable Conservation Authority.

CONSTRUCTION OF THE WORKS

29. (1) Subject to Section 8 of this Agreement, the Owners shall install and construct all Public Infrastructure Works or cause all Public Infrastructure Works to be installed and constructed in accordance with the drawings, plans, reports and specifications listed in Schedule 'C' attached to this Agreement and in accordance with the requirements of the Town and the Region.

(2) In order to facilitate the construction of the Public Infrastructure Works, the Town and the Owners shall enter into the Town's standard form of license agreement which shall authorize and permit the Owners, together with their agents, servants,

employees, consultants, contractors, contractor's workmen, subcontractors, subcontractors' workmen, the right, license, liberty and privilege of access to the Town's lands (including, without limitation, any lands conveyed to and/or expropriated by the Town pursuant to this Agreement), together with supplies, equipment and machinery for the installation and construction of the Public Infrastructure Works, in accordance with and subject to this Agreement.

(3) Notwithstanding any other provisions to the contrary contained in this Agreement, the Owners shall be entitled to proceed with construction of the Public Infrastructure Works in stages, phases or components (i.e. grading, pre-servicing and then full road/above ground construction), subject to the approval of the Town and the Region in respect of each stage, phase or component, and all relevant provisions of this Agreement shall be interpreted and implemented to apply with respect to the particular stage, phase or component, as the case may be.

30. Should the Region proceed with the planned widening of Mayfield Road as set out in Schedule "F", the Region will undertake the water and sanitary sewer components of the Public Infrastructure Works in order to facilitate the widening, which may occur prior to the planned constructed date by the Owner. The construction of the water and sanitary sewer components of the Public Infrastructure Works will require additional securities by the Owner as set out in Schedule "F" to this Agreement and any and all additional constructed costs.

31. Notwithstanding the provisions of Town By-law 86-170, as amended, the Owners shall not construct any structure or Public Infrastructure Works, except during the period from Monday to Saturday, 7:00 am to 7:00 pm and shall not construct any Public Infrastructure Works on statutory holidays.

32. During the construction and maintenance of the Public Infrastructure Works, all erosion sediment control facilities shall be inspected by the Consulting Engineer once a week and after each rainfall of 10 mm or greater, or a significant snow melt. The Owners shall provide erosion and sediment control reports to the Town within five (5) days of the inspection.

SCHEDULING OF CONSTRUCTION

33. Except with respect to construction on any Required Benefiting Lands, the Owners shall commence construction on the Future Public Road/SWM Lands as soon as reasonably possible following receipt of approval of the plans, drawings, reports and specifications of the Public Infrastructure Works from the Town and the Region and all permits required for construction from the Town, Region, TRCA, and any other governmental agency, body or authority.

34. The Owners shall commence construction on the Required Benefiting Lands no later than twelve (12) months after either the Owners or the Town acquiring all of the Required Benefiting Lands (the "**Construction Commencement Deadline**"), subject to receipt of approval of the plans, drawings, reports and specifications of the Public Infrastructure Works from the Town and the Region and all permits required for construction from the Town, Region, TRCA and any other governmental agency, body or authority.

35. Where, in the opinion of the Town or the Region, any of the Public Infrastructure Works will in any manner benefit or serve any lands outside the Future Public Road/SWM Lands, the Owners shall install and construct the Public Infrastructure Works in such order as is required by the Town or the Region provided that reasonable advance written notice of such order is provided to the Owners.

36. During the construction of the Public Infrastructure Works, the Owners shall ensure that all construction traffic for which it is responsible uses only such routes and such locations for ingress and egress to the Future Public Road/SWM Lands that are approved by the Town and/or the Region.

37. During the construction of the Public Infrastructure Works, the Owners shall take such steps as are necessary, including such steps as are required by the Town or the Region, to prevent any mud tracking from the Future Public Road/SWM Lands or on any lands on which the Public Infrastructure Works are being constructed, to any roads in the vicinity of

such lands.

CONSTRUCTION SITE

38. During the construction on the Future Public Road/SWM Lands and any lands on which the Public Infrastructure Works are being constructed, the Owners shall keep such lands reasonably free of all debris, refuse, rubble and waste material. Such material shall not be stockpiled or stored on the Future Public Road/SWM Lands, or on any lands on which the Public Infrastructure Works are being constructed, for any longer than is reasonably necessary to effect its removal and, only then, in a safe and orderly manner. The Owners shall take such reasonable measures as are required by the Town to prevent debris, refuse and waste material from blowing off the Future Public Road/SWM Lands or any lands on which the Public Infrastructure Works are being constructed onto any other lands, and to remove the same immediately upon being directed to do so by the Town or Region.

HOUSEKEEPING DEPOSIT

39. Upon execution of this Agreement by the Owners, the Owners shall deposit with the Town cash in the amount of **SEVEN THOUSAND, FIVE HUNDRED DOLLARS ($7,500.00)** (the "**Housekeeping Deposit**") to be used at the discretion of the General Manager for such housekeeping items as control of dearts and dust, damage to Town or Region roads, and any other similar items pertaining to the construction on the Future Public Road/SWM Lands and any lands on which the Public Infrastructure Works are being constructed. The Owners shall maintain the Housekeeping Deposit at no less than **SEVEN THOUSAND, FIVE HUNDRED DOLLARS ($7,500.00)** until the issuance of a Certificate of Assumption for all Public Infrastructure Works and the enactment of a by-law by Town Council dedicating and/or making the Future Public Road a public highway, at which time the Town shall refund any remaining Housekeeping Deposit to the Owners without interest.

40. Within five (5) Business Days of written notice being given to them or their agent by the Town, the Owners shall undertake such work as directed by the Town to clean and/or clean the roads, control dust, clean up debris, repair fences, or any other work that might be reasonable to maintain the site in a tidy and orderly condition. If the Owners fail to comply with the notice, the Town may perform the necessary work at the expense of the Owners. At the Town's discretion and without further notice, the cost of this work shall be drawn from the Housekeeping Deposit, and if insufficient funds are available from that source, any remaining costs may be drawn from the Public Infrastructure Works Securities.

DAMAGE TO ANY LANDS, BUILDINGS OR STRUCTURES

41. The Owners shall be responsible for and shall immediately repair, at its own cost, any damage caused to any lands, buildings or structures outside the Future Public Road/SWM Lands and Intersection Lands or any lands on which the Public Infrastructure Works are being constructed as a result of construction or constructed Public Infrastructure Works on the Future Public Road/SWM Lands and Intersection Lands or any lands on which the Public Infrastructure Works are being constructed.

42. The Owners shall assume full responsibility for any claims related to any damage to effected neighbouring properties as a result of construction or constructed Public Infrastructure Works on the Future Public Road/SWM Lands and intersection Lands or any lands on which the Public Infrastructure Works are being constructed.

43. In the event that any private well systems in the zone of influence deteriorate due to the Public Infrastructure Works, the Owners will provide temporary water supply to the residents/owners upon notice by the Region and it will continue supplying the water to the effected residents/owners until the issue is resolved to the satisfaction of the involved parties. If the quantity of water in the existing wells is not restored to its original condition within a month after first identification of the issue, the Owners shall engage the services of a recognized hydrogeologist to evaluate the wells and recommend solutions including deepening the wells, drilling a new well or providing a permanent water service connection from the watermain to the residence/property.

EMERGENCY REPAIRS

44. Upon execution of this Agreement by the Owners, the Owners shall deposit with the Town cash in the amount of **TWENTY THOUSAND DOLLARS ($20,000.00)** (the "**Emergency Repairs Deposit**"), to be used at the discretion of the General Manager for emergency repairs to the Public Infrastructure Works. The Town, the Region and their agents, contractors and employees shall be entitled to enter upon the Future Public Road/SWM Lands and Intersection Lands or any lands on which the Public Infrastructure Works are being constructed at any time or from time to time for the purpose of making emergency repairs to the Public Infrastructure Works. Such entry and repair shall not be deemed an acceptance of any of the Public Infrastructure Works by the Town or the Region, nor an assumption by the Town or the Region of any liability in connection therewith, nor a release of the Owners from any of their obligations under this Agreement. The Owners shall maintain the Emergency Repair Deposit at no less than **TWENTY THOUSAND DOLLARS ($20,000.00)** until the issuance of a Certificate of Assumption and the enactment of a by-law by Town Council dedicating and/or making the Future Public Road a public highway, at which time the Town shall refund any remaining Emergency Repair Deposit to the Owners without interest. Nothing in this provision limits the General Manager from using the Securities to perform emergency repairs on the Public Infrastructure Works should the Emergency Repairs Deposit not be sufficient to cover the costs of the repairs. Notwithstanding the foregoing or any other provision to the contrary contained in this Agreement, the Emergency Repairs Deposit shall not be drawn on unless the Owners have been given five (5) Business Days prior written notice of the required repairs and the Owners have failed to perform the necessary work and/or repairs.

INSPECTION OF CONSTRUCTION

45. The Owners agree that the Town, the Region and inspectors employed or retained by the Town or the Region are entitled to enter upon the Future Public Road/SWM Lands and Intersection Lands or any lands on which the Public Infrastructure Works are being constructed at any time or from time to time for the purpose of inspecting the installation, construction and maintenance of the Public Infrastructure Works.

46. The Owners shall comply with any direction or order given or issued by the Town and the Region that is related to health and/or safety or to a dangerous or hazardous or potentially dangerous or hazardous situation or to the prevention or repair of damage to the community or any other lands.

ADDITIONAL PUBLIC INFRASTRUCTURE WORKS

47. If at any time or from time to time during the installation or construction of the Public Infrastructure Works, the Town or the Region is of the opinion, acting reasonably, that, because of previously unknown or unforeseen conditions, it is necessary to design, supply, install or construct additional works which are related to the Public Infrastructure Works described in this Agreement, in order to adequately provide services which are related to the Public Infrastructure Works for the Benefiting Area or in order to prevent damage to lands outside the Future Public Road/SWM Lands or any lands on which the Public Infrastructure Works are being constructed and arising from such construction, the Owners shall perform any required studies and design, supply, install or construct such additional works at the request of the Town or the Region, subject to delivery of prior written notice to, and consultation with, the Owners in respect of such additional works. Such additional works shall be deemed to be Public Infrastructure Works and form part of the Capital Costs and so subject to ASDC Credits/ASDC Remittances under this Agreement. Town staff shall recommend that Council adopt updates to the ASDC By-law from time to time to include such additional Public Infrastructure Works which shall form part of the Recoverable Capital Cost.

GRADING AND DRAINAGE

48. The Owners shall complete the drainage system including all grading, swales, ditches, watercourses, ponds, chambers, SWM Facilities, sewers and related appurtenances, catchbasins, service connections, and other related work in accordance with the approved drawings, plans, reports and specifications listed in Schedule "C" attached to this Agreement. The Town may connect or authorize connections to said drainage system but said connections shall not constitute acceptance of the drainage system by the Town. During

construction of the SWM Facilities over-excavation of the facility will require prior approval from the Town

ROADS

49. The Owners shall complete the Future Public Road and the Intersection, including all grading, utilities, gravel, asphalt, sidewalks, curbing, street lighting, street name, parking and traffic control signs, utility crossings and boulevard grading, topsoiling, seeding and sodding, as required by and according to the drawings, plans, reports and specifications approved by the Town and listed in Schedule "C" attached to this Agreement. The Owners shall also complete all boulevard trees and other vegetation planting in accordance with the drawings, plans, reports and specifications listed in Schedule "C" attached to this Agreement when required by and to the satisfaction of the Town. Unless otherwise authorized or directed by the Town or Region, as applicable, all road paving shall consist of at least two (2) courses of asphalt and the top course of asphalt shall not be laid until at least one (1) winter season after the base course of asphalt is laid. The top course of asphalt shall not be laid without the approval of the Town and Region, as applicable.

50. The Owners shall clear and clean roads outside the Future Road Lands and the Intersection upon which obstructions, mud or dust are deposited as a result of any work being done on the Future Public Road/SWM Lands and Intersection Lands or any lands on which the Public Infrastructure Works are being constructed or by construction traffic travelling to or from Future Public Road/SWM Lands and Intersection Lands or any lands on which the Public Infrastructure Works are being constructed.

WATER SYSTEM

51. The Owners shall complete the water supply system, including but not limited to all wells, pumps, mains, hydrants, valves, valve chambers, meters, service connections, apparatus and equipment, as required by and according to the drawings, plans, reports and specifications approved by the Region and shown in the plans at Schedule "C" attached to this Agreement. The Region may connect or authorize connections to the water system but such connections shall not constitute acceptance of the water system by the Region.

52. The Owners acknowledge and agree that the Region may require at the Owners' cost the construction of a sampling hydrant within the Future Public Road/SWM Lands and Intersection Lands and any lands on which the Public Infrastructure Works are being constructed. The location of and the requirement for a sampling hydrant will be determined during the engineering review.

53. The Owners shall maintain adequate chlorine residuals in the watermain the Future Public Road/SWM Lands and any lands on which the Public Infrastructure Works are being constructed from the time the watermain is connected to the municipal system until such time as the Region issues final acceptance. In order to maintain adequate chlorine residuals, the Owners will be required to either install automatic flushing devices or retain Region staff to carry out manual flushing. Region staff will conduct the monitoring and testing for chlorine residuals. The costs associated with the monitoring and flushing will be the responsibility of the Owners pursuant to the Region's Fees By-law. If construction of the Future Public Road is phased, and the watermain works will not be constructed in its entirety; any actual and ongoing maintenance costs associated with this phased construction will be the responsibility of the Owners. Those costs may include, but are not limited to, automatic flushing costs of the watermain.

54. The Owners acknowledge that any existing water service connections which are installed to service any lands within the Benefiting Area that will not be utilized within one (1) year of Preliminary Acceptance shall be disconnected and removed at the subject Owner/Benefiting Owner's expense in accordance with the Region's standards. Any re-commissioning of any disconnected services shall be the subject Owner/Benefiting Owner's responsibility and at the subject Owner/Benefiting Owner's cost.

SANITARY SEWER SYSTEM

55. The Owners shall complete the sanitary sewer system, including but not limited to all mains, pipes, manholes, service connections, apparatus and equipment, as required by and according to the drawings, plans, reports and specifications approved by the Region

and shown in the plans listed at Schedule 'C' attached to this Agreement. The Region may connect or authorize connections to the sanitary sewer system but such connections shall not entail acceptance of the sanitary sewer system by the Region.

56. The Owners acknowledge that any existing sanitary sewer service connections which are installed to service any development that will not be utilized shall be removed at the subject Owner/Benefiting Owner's expense in accordance with the Region's standards.

UTILITY SERVICES

57. Prior to the placement of base course asphalt for the Future Public Road on the Future Public Road/SWM Lands, the Owners shall make arrangements for the supply and installation of hydro-electric service (i.e. for purposes of street lighting) to be located in, on or under the Future Public Road in accordance with the composite utilities plan listed in Schedule "C" attached to this Agreement. The Owner shall co-ordinate the installation and/or relocation of hydro-electric service (i.e. street lighting) with the installation and construction of the Public Infrastructure Works so as to comply with the scheduling contemplated by this Agreement.

58. Unless otherwise approved by the General Manager all duct structures necessary for the installation of utilities shall be installed prior to the placement of the base course asphalt.

59. Prior to assumption of any of the Public Infrastructure Works, easements as may be required for utility, drainage or construction purposes shall be granted to the appropriate authority free of all charge and encumbrances.

USE OF PUBLIC INFRASTRUCTURE WORKS

60. Any of the Public Infrastructure Works may be used by the Town or the Region or anyone authorized by the Town or the Region at any time or from time to time for the purpose for which such Public Infrastructure Works were designed. Such use shall not be deemed an acceptance of any of the Public Infrastructure Works by the Town or the Region, nor an assumption by the Town or the Region of any liability in connection therewith nor a release of the Owners from any of their obligations under this Agreement.

ENGINEERING PRELIMINARY ACCEPTANCE

61.

(1) On behalf of the Owners, the Consulting Engineer shall certify in writing to the General Manager and to the Region that the Public Infrastructure Works have been completed. Certification shall be no earlier than the time when the following Public Infrastructure Works shown on the approved plans at Schedule 'C' attached to this Agreement have been completed to the base course asphalt stage to the satisfaction of the Town and of the Region, as applicable:

a) any sanitary and storm sewer system to be located on the Future Public Road/SWM Lands and Intersection Lands or any lands on which the Public Infrastructure Works are constructed;

b) any water supply system to be located on the Future Public Road/SWM Lands and Intersection Lands or any lands on which the Public Infrastructure Works are constructed;

c) any stormwater management system, including the SWM Facilities, to be located on the Future Public Road/SWM Lands and Intersection Lands or any lands on which the Public Infrastructure Works are constructed; and

d) the roads including granulars, base asphalt, first stage curbs, street name signs, street light system, and regulatory traffic signage as required to be located on the Future Public Road/SWM Lands and Intersection Lands.

(2) The Owners shall perform such tests, analyses, CCTV inspections, and to provide such reports or certifications as may be required by the Town or the Region prior to Preliminary Acceptance being granted for the Town's Works and the Region's Works.

(3) Notwithstanding the generality of the foregoing, at the sole cost of the Owners, the Owners shall engage the services of a qualified geotechnical engineering firm which shall, for every 25 metres in alternating lanes of road, take core samples of the base asphalt and granular material of the Future Public Road ("Core Sample Test") to confirm thickness used in construction meets the Town's Engineering Standards.

(4) The Owners shall submit the Core Sample Test and the pavement structure assessment report ("PSAR") to the Town for review and approval prior to Preliminary Acceptance. The Owners shall provide to the Town a letter from their geotechnical engineer stating that the Town may rely on the PSAR.

(5) If the General Manager or the Region is satisfied that the Public Infrastructure Works are complete and acceptable, he may grant preliminary acceptance for the Public Infrastructure Works, in whole or in part, at his discretion ("Preliminary Acceptance")

AS CONSTRUCTED DRAWINGS (REGION) / AS RECORDED DRAWINGS (TOWN)

62. The Owners acknowledge and agree that its consultant is required to provide all "as constructed" drawings and all "as recorded" drawings within sixty (60) days of issuance of Preliminary Acceptance of the Region's Works. The "as constructed" drawings and "as recorded" drawings must be submitted in digital format and be in accordance with the latest Region Digital Format Guidelines. In addition, the Owners' consultant shall also be required to provide files to all manhole valves, ties to individual water service boxes, linear ties to sanitary sewer services and GPS coordinates of all watermain and sanitary sewer appurtenances in accordance with the latest requirements of the Region's Development Procedure Manual.

MAINTENANCE OF THE PUBLIC INFRASTRUCTURE WORKS

63. During the maintenance period for the Public Infrastructure Works described in this Agreement, the Owners shall maintain all of the Public Infrastructure Works in a good and workmanlike manner, and in accordance with the standards of the Town and Region, as applicable, at its sole cost, to the satisfaction of the General Manager and to the Region.

64. With the prior written approve of the General Manager, the Owners may place the second or top layer of asphalt and complete the remaining roadworks, but such roadworks shall not occur sooner than one (1) year after the completion of the base course of asphalt.

65. The maintenance period shall run for the longest period of:

(1) two (2) years from the date of the granting of Preliminary Acceptance, or,

(2) one (1) year from the date of placement of top course asphalt and completion of the roads constructed on the Future Public Road/SWM Lands; or,

(3) from the date of the granting of Preliminary Acceptance to the date of the issuance of the Certificate of Assumption.

66. Notwithstanding the above, the maintenance period for any Naturalization and other landscaping works which form part of the Public Infrastructure Works installed on the Future Public Road/SWM Lands shall commence once the said Naturalization and other landscaping works have been substantially completed to the satisfaction of the General Manager and shall terminate upon issuance of the Certificate of Assumption. The maintenance period will be for a minimum of:

(1) three (3) years for any Naturalization areas forming part of the Public Infrastructure Works and

(2) two (2) years for all other landscaping works forming part of the Public Infrastructure Works

67. During the maintenance period, the Owners shall, as determined by the Town and the Region, if applicable:

(1) repair, reinstall, reconstruct or replace any damaged or destroyed Public Infrastructure Works, and,

(2) rectify any incorrectly installed or constructed Public Infrastructure Works.

WINTER MAINTENANCE OF FUTURE PUBLIC ROAD

68. Until the enactment of a by-law by the Town dedicating and/or making the Future Public Road/SWM Lands a public highway, the Owners agree that once occupancy of any sites serviced by the Public Infrastructure Works occurs, the Town will commence winter maintenance, including spring clean-up, on the Future Public Road. The Owners shall pay the Town these costs as set out in the part of this Agreement addressing financial considerations.

PLACEMENT OF TOP COURSE ASPHALT AND COMPLETION OF ROADWORKS AND STORMWATER MANAGEMENT WORKS

69. With the prior written approval of the General Manager, the Owners may place the second or top layer of asphalt and complete the remaining roadworks but such work shall not occur any sooner than one (1) year after the completion of the base course of asphalt.

70.

(1) The Owners shall make available to the Town all road tests and investigative results carried out on behalf of the Owners by the Consulting Engineer within one (1) month of the placing of top asphalt; and

(2) The Town, Consulting Engineer and sub engineers shall perform a site inspection of the pavement surface within one week of placement to identify any surface defects and confirm acceptance of work.

71. The Owners shall not actually place the top layer of asphalt on Future Public Road until the following work is completed to the satisfaction of the Town in accordance with the approved drawings, plans, reports and specifications listed in Schedule "C" attached to this Agreement:

(1) construction of all sidewalks.

(2) construction of the top curb.

(3) installation of topsoil, seeding and sod in the boulevards;

(4) planting of street trees and any other required vegetation in the boulevard;

(5) installation of any urban design features required to be installed in the boulevards;

(5) the undertaking of a Falling Weight Deflectometer (FWD) test to determine pavement structural integrity and capacity under the supervision of the Consulting Engineer;

(7) flush all storm sewers, storm manholes, and catch basins free of road materials, building debris, and other foreign matter and to remove such materials from the storm and sewer system;

(8) provide the Town with the results of a CCTV inspection of the storm sewer system in a format acceptable to the Town; and

(9) stormwater management pond operation and maintenance manual including, recorded drawings, Bathymetric survey, gate keys, agency sign off and CCTV for stormwater management pond works.

REQUIREMENTS PRIOR TO THE ISSUANCE OF CERTIFICATE OF ASSUMPTION

72. Immediately prior to requesting the issuance of the Certificate of Assumption for any portion of the Public Infrastructure Works, the Owners shall perform the following work and provide the following documentation, all to the satisfaction of the Town:

(1) flush all storm sewers, storm manholes, and catch basins free of road materials, building debris, and other foreign matter and to remove such materials from the storm and sewer system;

(2) provide the Town with the results of a CCTV inspection of the storm sewer system in a format acceptable to the Town;

(3) sweep roadway pavements and sidewalks clear of building debris and earth deposits and to remove such materials;

(4) rectify and repair all damage to the sidewalks, and curbs constructed under the terms of this Agreement, including relocation of curb depressions as may be required by the General Manager;

(5) rectify and repair all settlements, depressions, or other defects on roadways and boulevards;

(6) remove sediment from all stormwater management facilities as necessary, so that the full design capacity of said facilities is available for use; and certification that the full design capacity of all stormwater management facilities is available for use;

(7) require the Consulting Engineer to provide to the Town's General Manager with:

a) certification that all of the Town's Public Infrastructure Works have been completed in accordance with the approved drawings, plans, reports and specifications as listed in Schedule "C" attached to this Agreement;

b) certification that the full design capacity of all SWM Facilities is available for use, including, a bathymetric survey;

c) certification from an electrical consultant that all street lighting has been constructed in accordance with the approved drawings, plans, reports and specifications listed in Schedule "C" attached to this Agreement;

d) certification that sight lines have been constructed in accordance with the approved drawings, plans, reports and specifications listed in Schedule "C" attached to this Agreement;

e) certification from a registered Ontario Land Surveyor that they have found or replaced all standard iron bars pertaining to the Future Public Road/SWM Lands or any lands on which the Public Infrastructure Works are constructed as shown in approved drawings, plans, reports and specifications listed at Schedule "C" attached to this Agreement;

f) certification from a registered Ontario Land Surveyor indicating the establishment of the required benchmark(s) as shown in the approved drawings, plans, reports and specifications listed at Schedule "C" attached to this Agreement;

(8) to provide the Town and Region, if applicable, with "as constructed" and "as recorded" drawings of all the Public Infrastructure Works presented in the following manner:

a) full size plans which are photographically or mechanically reproduced on a medium satisfactory to the General Manager and to the Region; and

b) electronic copies of the drawings in a format acceptable to the General Manager and to the Region;

(9) to provide the Town with certification from the Region that the Region's Intersection and Infrastructure Works have been completed to the satisfaction of the Region, that the Region has granted final acceptance for the Region's Works, that the Region approves the release of any remaining securities posted for the construction of the Region's Works, and that the Region has no objection to the issuance of a Certificate of Assumption by the General Manager;

(10) to provide the Town with a statutory declaration, in a form acceptable to the Town and as attached to this Agreement at Schedule "M", certifying that all liabilities of whatever nature and kind incurred by the Owners in relation to this Agreement have been discharged in full;

(11) to complete and fully comply with all other terms and conditions of this Agreement to the satisfaction of the Region and all other departments within the Town;

(12) to pay all fees and monies required pursuant to this Agreement including any amounts outstanding for the purposes of the Emergency Repair Deposit, the Housekeeping Deposit and the Insurance deductible and any outstanding real property taxes;

(13) to obtain written clearances from the appropriate agencies confirming compliance;

(14) to require the Landscape Architect to provide the Town's General Manager with:

a) certification that all landscape works have been completed in accordance with the approved drawings, plans, reports and specifications as listed in Schedule "C" attached to this Agreement;

b) an as constructed tree planting summary chart in excel format;

c) all testing and sub consultant certifications as required, and

d) as recorded and/or as constructed landscape drawings in PDF and CAD format on a portable USB drive.

(15) to pay all invoices in respect of utility costs for streetlights constructed on the Future Public Road/SWM Lands until the enactment of a by-law by the Town dedicating and/or making the Future Public Road a public highway. Until such time, the Owners shall be responsible for the streetlight utility costs for the energized streetlights on the Future Public Road/SWM Lands. The Town shall provide an invoice of the streetlight utility costs payable by the Owners to the Owners and the Owners shall pay the Town the said costs within fifteen (15) Business Days of the date of the invoice. The amount of the invoice shall be calculated in accordance with this Agreement.

(16) to provide the Town with an electronic copy of all GIS information created in a digital GIS database. The GIS data layers are to be provided in a File Geodatabase (.gdb) or Shapefile (.shp) format in the Towns standard coordinate system.

FINAL ACCEPTANCE – CERTIFICATE OF ASSUMPTION

71. The General Manager shall issue a Certificate of Assumption for the whole of the Public Infrastructure Works upon the longest period of:

(1) the expiry of two (2) years from the date of the granting of the preliminary acceptance;

(2) one (1) year from the date of placement of top course asphalt and completion of road system;

(3) satisfactory completion of all applicable matters set out in this Agreement;

(4) enactment of a by-law by Town Council dedicating and/or making the Future Public Road a public highway; and,

(5) completion of the maintenance periods applicable to any landscaping works that are part of the Public Infrastructure Works.

74

(1) Upon issuance of the Certificate of Assumption, the Town will assume ownership of the Town's Works (which shall vest in the Town), and the Region shall assume ownership of the Region's Works (which shall vest in the Region), and the operation and maintenance of same, and the Owners hereby agree that they relinquish all rights, titles, and/or claims they may have to the Public Infrastructure Works.

(2) Notwithstanding the foregoing, the Owners agree that the issuance of a Certificate of Assumption by the Curatial Manager or the final acceptance of the Public Infrastructure Works by the Region, if applicable, shall not relieve the Owners of any liability in law arising from the provisions of this Agreement

PART THREE – FINANCIAL CONSIDERATIONS

COSTS

75. Subject to Part 4 below the Owners agree to be responsible for the Capital Cost and Land Acquisition Costs of the Public Infrastructure Works, and Intersection Works, regardless of any variance from the Estimated Capital Cost, Estimated Land Acquisition Cost, or Recoverable Capital Cost. The Town or the Region shall not be required to pay any portion of the Capital Cost or Land Acquisition Cost (subject to section 19 and Part 4 of this Agreement).

76. The Owners shall pay to the Town, via certified cheque:

(1) upon execution of this Agreement, the Town's costs for the preparation of this Agreement, in accordance with the Town's Fees By-law, in the amount of **Seven Thousand Seven Hundred and One Dollars** inclusive of HST (**$7,701.00**); and,

(2) upon delivery to the Trustee of a complete summary of costs together with all invoices and back-up information related thereto, the Town's costs related to the Public Infrastructure Works incurred prior to the execution of this Agreement, including, but not necessarily limited to the cost of an environmental assessment, designs, permits, external legal services, internal project management and ongoing administrative costs ("Overhead"), in the amount of approximately **Seven Hundred Twenty-Five Thousand One Hundred Nine Dollars and Sixty-seven Cents ($725,109.67)** which exact amount shall be confirmed by the Town after the execution of this Agreement.

77. Upon payment to the Town of the fees and costs set out above, and execution of this Agreement by the Owners, the Owners shall be entitled to copies of all studies, reports, drawings, designs and approvals completed by the Town as of the execution of this Agreement. The Town agrees that it shall authorize and direct its consultants to deal with the Owners on a go-forward basis

78 The Owners acknowledge and agree that any studies, reports, drawings, designs and approvals provided by the Town and Region may not be in their final form or may be subject to change or may contain errors and inaccuracies and the Owners rely on them at their own risk.

SECURITIES

79. Prior to the Owners commencing construction of the Public Infrastructure Works (or applicable component thereof) and in any event, prior to the Construction Commencement Deadline, the Owners shall provide to the Town the Public Infrastructure Works Security equivalent in aggregate to 100% of the Estimated Capital Cost for the applicable component, as set out on Schedule "D" and as set out on Schedule "E". For greater clarity, the Owners or Trustee may provide individual securities to fulfil in aggregate 100% of the Public Infrastructure Works Security requirements.

60. INTENTIONALLY DELETED

61. INTENTIONALLY DELETED

62.

(1) The Owners shall provide any and all letters of credit required by this Agreement in the form attached at Schedule "J" to this Agreement including provision of the Public Infrastructure Works Security.

(2) The Owners acknowledge and agree that the Public Infrastructure Works Securities and letters of credit as provided for in this part of the Agreement are to serve in part as a guarantee for the repair, reinstallation, reconstruction, replacement or rectification, as well as for the maintenance of the Public Infrastructure Works.

63.

(1) The Owners shall keep the Public Infrastructure Securities and any Letters of Credit provided pursuant to this Agreement in full force and effect until the enactment of a by-law of the Town Council dedicating and/or making the Future Public Road a public highway. If the Owners fail to keep such Public Infrastructure Securities in full force and effect, the Town and the Region shall be entitled to stop all work on the Future Public Road/SWM Lands or any lands on which the Public Infrastructure Works are being constructed and to refuse to grant approvals, to grant acceptances, and to refuse assumption of the Public Infrastructure Works until such failure is remedied to the satisfaction of the Town and the Region.

(2) The Owners acknowledge and agree that neither the Town nor the Region shall accept any Public Infrastructure Securities or letters of credit from any party other than the Trustee and/or Owners as stated on the first page of this Agreement.

64.

(1) If, in the opinion of the Town or the Region, the Owners:

a) are carelessly or improperly installing or constructing any of the Public Infrastructure Works;

b) are not installing or constructing the Public Infrastructure Works so as to comply with the scheduling contemplated by this Agreement;

c) neglect or abandon any of the Public Infrastructure Works before completion or unreasonably delays the installation or construction of the Public Infrastructure Works;

d) fail, neglect or refuse to maintain the Public Infrastructure Works;

e) fail, neglect or refuse to repair, reinstall, reconstruct or replace any of the Public Infrastructure Works that may be rejected by the Town or the Region as defective or unsuitable; or,

f) are in default of any provision of this Agreement,

the Town or the Region shall notify the Owners in writing of such default or neglect.

(2) If such default or neglect as identified in accordance with section 64(1) is not remedied by the Owners within ten (10) calendar days after notice of same, or if satisfactory arrangements have not been made with the Town to remedy such default or neglect within the ten (10) calendar days:

a) the Town or the Region shall be entitled to immediately purchase such materials, tools and machinery and employ such workers and retain such consultants as are required for the proper completion of the Works in accordance with the provisions of this Agreement and to use all or any part of the Public Infrastructure Securities provided pursuant to this Agreement to pay the cost thereof, and in so doing the Town or the Region are not bound by the allocation of costs between the Public Infrastructure Works as set out in Schedule "D" to this Agreement;

b) The cost of such works shall be calculated by the Town or the Region, and the decision of the Town or the Region shall be final and shall be in accordance with any applicable by-law. Notwithstanding the generality of the foregoing, such costs shall include the actual cost, plus such other charges as may be detailed in the Town's Fees By-law or the Region's Fees By-law, as amended or in effect from time to time;

c) in the case of emergency, such work may be done without prior notice, but the Town or Region shall notify the Owners forthwith thereafter; and

d) any work done at the direction of the Town or the Region pursuant to the provisions of this Agreement shall not be deemed an acceptance or assumption of any of the Public Infrastructure Works by the Town or the Region, nor an assumption by the Town or the Region of any liability in connection therewith nor a release or waiver of the Owners from any of its obligations under this Agreement.

85. Notwithstanding any other provision of this Agreement, if the Town or Region undertakes any work pursuant to 84 of this Agreement, the following charges shall apply:

(1) if the work is undertaken by Town or Region employees, one hundred and fifteen percent (115%) of the actual cost, based on the applicable hourly rates for the employees and the equipment used in undertaking the work, with a minimum charge for four (4) hours;

(2) if the work is undertaken by a contractor retained by the Town or Region, one hundred and fifteen percent (115%) of the actual cost.

86. Notwithstanding any other provision of this Agreement, the Town may use the Public Infrastructure Securities to perform housekeeping work and emergency repairs to the Public Infrastructure Works.

87. If the Owners or any corporate assignee makes an assignment for the benefit of creditors, or becomes insolvent or commits an act of bankruptcy as defined by the *Bankruptcy and Insolvency Act*, R.S.C. 1985, c. B-3, or if Owners' interest in the Lands is at any time seized or taken in execution or in attachment, or if the Owners or any corporate assignee is subject to voluntary or compulsory liquidation or winding-up, then, at the option of the Town, the Town may take all steps necessary to cash the Public Infrastructure Securities.

88. If the Town or Region receives a notice from the financial institution that has issued the Public Infrastructure Securities that the Public Infrastructure Securities shall not be renewed, then, at the option of the Town or Region the Town or Region may take all steps necessary to cash the Public Infrastructure Securities.

PAYMENT OF WINTER MAINTENANCE COSTS

89. The Owners shall pay the costs incurred by the Town for the winter maintenance of the Future Public Road based on the number of lane kilometres as per the Town's Fees By-law currently in effect as of November 1 of the current year. Said costs shall continue until the Town has passed a by-law dedicating and/or making the Future Public Road a public highway. If the Owners fail to pay the said costs then the Town shall be entitled to use all or any part of the Public Infrastructure Works Securities to pay the costs thereof.

DRAW DOWN ON SECURITIES

90. The Town shall be entitled to draw on the Public Infrastructure Works Security for the purpose of satisfying any default or neglect referred to in paragraph 84(1). Ten (10) Business Days prior to making any draw on the Public Infrastructure Works Security, the Town shall provide the Owners with a description of the payments to be made from the draw. If the Town draws upon the Public Infrastructure Works Security for the purpose of completing any Public Infrastructure Works, the Owners shall be entitled to ASUC Credits and ASCC Remittances for such Public Infrastructure Works to the extent the works are included within the Recoverable Capital Cost, except in the case of draws made to pay for the cost of repairing, reinstating, reconstructing or replacing works that the Town or the

Region have rejected as deficient or unsuitable, in which case such costs shall not be considered part of the Recoverable Capital Cost.

91. If the Town undertakes a process to directly acquire or expropriate some or all of the lands for the construction, installation or maintenance of Public Infrastructure Works, the Town will request a Land Acquisition Security as follows:

(1) Town staff and/or Town consultant(s) will estimate the Land Acquisition Costs for the land to be acquired or expropriated ("Estimated Land Acquisition Cost");

(2) The Town will provide a copy of the Estimated Land Acquisition Cost to the Trustee;

(3) within twenty (20) Business Days following receipt of the Town's Estimated Land Acquisition Cost, the Owners shall provide the Town a Land Acquisition Security.

92. If the full amount of the Land Acquisition Security is not provided to the Town within twenty (20) Business Days as aforesaid, all internal and external costs incurred by the Town to obtain the Estimated Land Acquisition Cost shall be reimbursed to the Town via a draw from any Land Acquisition Security provided, and the balance from Public Infrastructure Works Security. Future requests to acquire or expropriate the same property will be subject a revised cost estimate.

93. The Town may draw on the Land Acquisition Securities as follows:

(1) draws from the Land Acquisition Security will be based upon the Town's estimate as to the costs incurred at the time of the draw and future costs that will be incurred over the next six (6) month period;

(2) on less than ten (10) Business Days' notice and either evidence that the Town has initiated an expropriation proceeding against one or more Required Benefiting Lands or documentation that the Town has received acceptance of its offer to purchase lands from one or more Benefiting Owners shall be provided to the Owners via the Trustee;

(3) the Town will create a separate capital project, or track separately, within one capital project, draws from the Land Acquisition Securities for each property;

(4) the Town will provide the Owners an annual status update on the properties the Town is assisting in acquiring/expropriating that includes a financial summary comparing original cost estimate, revised cost estimates, and amount spent to-date; and

(5) draws shall form part of the Capital Costs and be subject to ASDC Credits/ASDC Remittances under this Agreement;

94. In the event that the Owners provide individual securities to the Town, the Trustee shall provide, within five (5) Business Days following written request by the Town, particulars as to the amounts to be drawn against the individual Owners' securities in accordance with this Agreement, and the Town shall be entitled to rely on the Trustee's statement in this regard and shall not be required to confirm or inquire further into such draw-down breakdowns, provided that the aggregate amount to be drawn-down from the Owners securities, as set out in the Trustee's statement, shall be equal to the total amount which the Town requires to be drawn-down pursuant to this Agreement.

CHANGES IN AMOUNT OF SECURITY REQUIRED

95. The Town may review the Estimated Capital Cost and Estimated Land Acquisition Cost at any time the Town deems appropriate, in its sole discretion, and may adjust either estimate to reflect changes in estimated or actual costs and anticipated or actual changes in scope. In the event that the Capital Cost or Land Acquisition Cost is revised, the Town shall provide to the Owners a statement and back-up information setting out the revised Capital Cost or Land Acquisition Cost and the deficit or surplus compared to the security held by the Town.

96. In the event that the revised Capital Cost or Land Acquisition Cost is higher than the Public Infrastructure Works Security or Land Acquisition Security held by the Town, the Owners shall be required to provide to the Town additional security within ten (10) business days of a written request from the Town, to bring the balance of the Public Infrastructure Works Security or Land Acquisition Security to one hundred percent (100%) of the outstanding revised cost.

97. In the event that the revised Capital Cost or Land Acquisition Cost, is lower than Public Infrastructure Works Security or Land Acquisition Security held by the Town, the Owners may request, in writing, that the Town reduce the Public Infrastructure Works Security or Land Acquisition Security to a balance equal to 100% of the revised Capital Cost or Land Acquisition Cost and the Town shall complete such reduction within thirty (30) days after receipt of the aforesaid written request.

98. The circumstances in which the actual Capital Cost or Land Acquisition Cost may vary from the Estimated Capital Cost or Estimated Land Acquisition Cost, include but are not limited to:

(1) changes in scope or design, whether due to changes required by the Town, the Region, the Town, Region, TRCA, any other governmental agency, body or authority or the Owners;

(2) unforeseen costs or contingencies that may arise during construction of the Public Infrastructure Works or the acquisition of land, including Litigation Costs;

(3) draws on securities in accordance with this Agreement;

(4) inflation; or

(5) changes in cost estimation methodology.

RELEASE OF LAND ACQUISITION SECURITIES

99. Land Acquisition Security shall only be reduced or released after the Town determines that:

(1) any land acquisition or expropriation process undertaken by the Town has been fully and finally determined whether by agreement, settlement, or the exhaustion of all available appeals; and

(2) all Land Acquisition Costs are known.

RELEASE OF PUBLIC INFRASTRUCTURE WORKS SECURITIES

100. Provided that there are no outstanding liens or other claims with respect to the Public Infrastructure Works and provided that the Owners are in compliance with the provisions of this Agreement and has satisfied all provisions of the *Construction Act*, R.S.O. 1990, c. C.30, as amended, the Town shall authorize no more than five (5) interim reductions in the Public Infrastructure Works Security down to an amount equal to ten (10%) percent of the total cost of the Public Infrastructure Works, as estimated by the Town or the Region on the basis of the prevailing costs thereof at such time, upon:

(1) receipt by the Town and the Region of a statutory declaration that all accounts with respect to the design, supply, installation, construction and maintenance of the Public Infrastructure Works (or applicable component thereof) have been paid and that there are no outstanding actions, causes of action, suits, liens, claims or demands with respect to the design, supply, installation, construction or maintenance of the Public Infrastructure Works; PROVIDED THAT, notwithstanding the foregoing, in respect of the Public Infrastructure Works, in the event that a lien is filed against the Lands in respect of the Public Infrastructure Works, the reduction(s) of the Public Infrastructure Works Security shall nonetheless proceed in the amount that is certified by the Consulting Engineer and approved by the Town less the amount of the lien plus twenty-five per cent (25%) of the lien amount, until such time as the lien is discharged and vacated at which time the balance of the reduction shall occur;

(2) receipt by the Town and the Region of a certificate from the Consulting Engineer and Landscape Architect certifying that the Public Infrastructure Works (or applicable component thereof) have been completed in accordance with the requirements of this Agreement, including the drawings, plans, reports and specifications listed in Schedule "C" attached to this Agreement,

(3) the Town and the Region granting Preliminary Acceptance of the Public Infrastructure Works (or applicable component thereof); and,

(4) the Town confirming that all cash deposits are in full amount as required by this Agreement

101. The minimum ten percent (10%) holdback as per Section 100 in the amount of the Public Infrastructure Works Security, as provided for in this Agreement, shall be released by the Town within 30 days following the issuance of a Certificate of Assumption

102. A suitable amount will be held back on the Public Infrastructure Works Security provided in this Agreement to cover the costs of services completed by the Region that are covered under time and material basis in accordance with the latest requirements of the Region's Public Works Design, Specifications and Procedures Manual.

103. The amount of TWENTY THOUSAND DOLLARS ($20,000.00) shall be held in the Public Infrastructure Works Security until the issuance of a Certificate of Assumption by the Town to serve as protection for the private wells in the zone of influence of the Public Infrastructure Works

104. To secure a reduction in the Public Infrastructure Works Security, the Owners shall provide to the Town a request in writing and shall provide sufficient information for the General Manager to determine whether a reduction may be authorized in accordance with the provisions of this Agreement

105. Upon the issuance of the Certificate of Assumption by the General Manager, the Town shall release the Public Infrastructure Works Security, or any remaining part thereof, in such amounts and upon such conditions as determined by the Town.

106. Until all of the Public Infrastructure Works have been completed and the Certificate of Assumption has been issued by the General Manager the Town or the Region may review the estimated cost of the design, supply, installation, construction and maintenance of the Public Infrastructure Works to be completed and, if necessary, may adjust the estimated cost thereof in accordance with the current cost estimates deemed at such time. If the estimated cost of the Public Infrastructure Works is increased as a result of the review and adjustment, the Owners shall, within thirty (30) days, deposit with the Town a letter of credit, in a form satisfactory to the Town or the Region, as the case may be, in an amount equal to the said increase and the said letter of credit shall be held upon the same terms and conditions as the Public Infrastructure Works Security. If the Owners fail to deposit the said letter of credit, if and when required, the Town or the Region shall be entitled to stop all construction on the Public Infrastructure Works and on the Lands and refuse to grant any approval, acceptance or grant any assumption until such failure is remedied.

INSURANCE

107. Prior to commencing any work of any nature on the Future Public Road/SWM Lands and Intrusion Lands or any lands on which the Public Infrastructure Works are to be constructed, the Owners shall insure against all damages or claims for damage with an insurer satisfactory to the Town and the Region, and the Owners shall keep such insurance in full force and effect until acceptance of all of the Public Infrastructure Works, the enactment of a by-law by Town Council dedicating and/or making the Future Public Road a public highway and an issuance of a Certificate of Assumption by the General Manager. The insurance policy or policies shall comply with all of the following requirements:

(1) The minimum limits shall be Five Million Dollars ($5,000,000.00) all inclusive,

(2) There shall not be an exclusion for blasting;

(3) The insurance policy or policies shall include the Town and the Region as insured parties;

(4) The insurance policy or policies shall not be cancelled unless notice has been sent by registered mail to the Town and the Region at least thirty (30) days in advance of the cancellation date;

(5)

a) It is the obligation of the Owners to process any claim in the first instance. Failure by the Owners to process a claim in an expeditious manner shall result in the Town processing the claim in accordance with this Agreement.

b) If the policy or policies contain a deductible clause, the Owners shall post an additional cash deposit with the Town in the amount of the deductible. The Owners agree to pay any claim made against the Town in an amount less than the deductible amount, authorizes the Town to retain an independent adjuster to investigate claims less than the amount of the deductible and authorizes and directs the Town to pay such claims as are deemed valid by the adjuster from the deductible in the event that the Owners fail to do so. The Town shall use its best efforts to assist in the investigation of any claim by the adjuster and to provide any information required to resolve such claim. Lastly, the Owners shall be responsible for all adjustment service costs and shall maintain the cash deposit in the amount of the deductible until the Securities is released in accordance with this Agreement;

c) The insurance policy shall be in a form satisfactory to the Town and Region and shall be issued by an insurer satisfactory to the Town and Region;

(6) If the Owners fail to keep the insurance policy or policies in full force and effect, the Town and the Region shall be entitled to stop all work on the Public Infrastructure Works and to refuse to grant any approval or acceptance or issue any Certificate of Assumption until such failure is remedied;

(7) The issuance of the insurance policy or policies shall not be construed as relieving the Owners from responsibility for other or larger claims, if any, for which it may be held liable, and

(8) Where cash is deposited with the Town pursuant to this Agreement, the Owners agree that the Town shall not be required to pay to the Owners any interest on the amount received.

PAYMENT OF EXISTING UTILITY CHARGES

105. The Owners agree to be responsible for all streetlight energization/connection and ongoing electricity utility costs for all of the streetlights constructed on the Future Public Roads/SWM Blocks up until Preliminary Acceptance. The ongoing utility costs will be a prorated amount of the electricity costs associated with the unassumed road streetlighting. This will be calculated by dividing the kilowatt-hour consumption (energy consumption X 12 hours a day X days per year that streetlights are operational) for the unassumed road streetlighting by the total kilowatt-hour consumption for all streetlights that exist as of December 31st of each year, multiplied by 100 to determine the percentage of consumption of the Town's streetlight portfolio. This percentage is then applied to the total annual cost incurred by the Town for all streetlights to determine the electricity cost of the unassumed streetlights. The Town shall provide an invoice of the streetlight utility costs and/or associated energization/connection fees to the Owners, and the Owners shall pay the Town the said costs within fifteen (15) Business Days of the date of the invoice. If the Owners fail to pay the said costs then the Town shall be entitled to use all or any part of the Securities provided in this Agreement to pay the cost thereof.

PART FOUR – AREA SPECIFIC DEVELOPMENT CHARGE CREDITS, REMITTANCES AND CREDIT BALANCE

109. The Town shall bring forward and enact the Area Specific Development Charge By-law (which shall include, for clarity, the Recoverable Capital Cost of the Public Infrastructure Works and the Land Acquisition Costs) as soon as reasonably possible following the date of this Agreement and, subject to paragraph 122 shall keep same in force until the Capital Costs and Land Acquisition Costs are reimbursed in full to the Owners via Credits or reimbursements, as set out in this Agreement. This Agreement shall be conditional upon such Area Specific Development Charge By-law being enacted and not appealed, or all appeals of such by-law being finally disposed of.

110. Notwithstanding anything else in this Agreement, ASDC Credits and ASDC Remittances shall be administered as set out in this Part of the Agreement.

111. Upon the enactment of the ASDC By-law, the Owners are eligible for ASDC Credits and ASDC Remittances to a maximum of the ASDC Credit Balance, subject to paragraphs 112, 116 and 121 of this Agreement. The ASDC Credits and ASDC Remittances shall apply only to those Public Infrastructure Works identified as the Town's Works in this Agreement and in accordance with the ASDC By-law (including the Capital Cost and Land Acquisition Costs).

112. Subject to paragraph 117, the Owners shall be permitted to redeem the ASDC Credits described in this Part to reduce the Area Specific Development Charges otherwise payable by the Owners for the development within the Benefiting Area. The amount of the redeemed ASDC Credits shall be the amount of the Area Specific Development Charges otherwise payable by the applicable Owner at the time that the ASDC would otherwise be payable and must be accompanied by the Trustee's certificate confirming the amount of the Redeemable ASDC Credit the applicable Owner is eligible for and indicating that the subject Owner is in good standing with the Trustee. Redeemable ASDC Credits provided by the Town shall reduce the ASDC Credit Balance. No further ASDC Credits may be redeemed by the Owners if the ASDC Credit Balance is zero or less than zero.

113. The Trustee shall advise the Town in writing as to the distribution and allocation of the ASDC Credits amongst the Owners who are then in good standing under this Agreement and such ASDC Credits shall be distributed to such Owners and allocated accordingly. The Town shall apportion and allocate such ASDC Credits as directed in writing by the Trustee, and the Town shall not be responsible for the proper/private distribution of the ASDC Credits amongst the Owners. Prior to the granting of any ASDC Credits or payment of any ASDC Remittances, the Town shall request, and the Trustee shall provide, written notice as to the distribution of such ASDC Credits amongst the Owners, or, in the alternative, the direction to pay such ASDC Credits to the Trustee for distribution amongst the Owners. Arrangements for the redistribution of such ASDC Credits or ASDC Remittances amongst the Owners are the sole responsibility of the Owners through the Trustee. The decisions and directions of the Trustee shall be final, and the Town shall not become involved in any way with disputes between individual Owners and the Trustee. The parties acknowledge and agree that the ASDC Credits shall be "pooled" among the Owners, such that an Owner shall be entitled to ASDC Credits as directed by the Trustee and not necessarily based on its pro-rata share of the Capital Costs.

114. ASDC Credits may not be applied to development charges related to growth related infrastructure recovered pursuant to any other development charges by-laws in effect in the Town.

115. The ASDC Credit shall only be available with respect to Area Specific Development Charges imposed upon development of the lands subject to this Agreement and may only be applied against the Recoverable Capital Cost, and not to any other lands owned by the Owners or any one of them.

116. The Owners acknowledge and agree that the entitlement to an ASDC Credit shall accrue to a successor in title to an Owner to be distributed by the Trustee in the event that title to either or both of the Owners' Lands are transferred prior to entitlement to all or part of an ASDC Credit. The Town shall not be required to reconcile the ASDC Credits between the Owners; reconciliation of this amount as between the Owners, or any successors in title, shall be the responsibility of the Trustee.

117. The Owners acknowledge and agree that any Public Infrastructure Works which are temporary in nature, such as, but not limited to, temporary access roads, temporary turning circles and road alignments, temporary road connections, temporary interchange and temporary storm ponds, shall not be considered Recoverable Capital Costs and the Town shall not provide ASDC Credits nor ASDC Remittances for same, unless such temporary works were required in connection with the construction of the permanent Public Infrastructure Works. Except as aforesaid, all such costs shall be at the sole cost and expense of the Owners.

118. ASDC Credits and ASDC Remittances available to Owners pursuant to this Agreement shall only be given to the extent that the Public Infrastructure Works have been completed and paid for, or secured, by the Owners. No ASDC Credits or ASDC Remittances shall be accrued or be given to the Owners for any Public Infrastructure Works which are not yet complete and paid for, or secured, by the Owners, or as otherwise agreed to by the Town.

119. The Town shall collect ASDCs related to Public Infrastructure Works and hold these collections in an ASDC Reserve Account.

120. Following the enactment of the Area Specific Development Charge By-law with respect to the Public Infrastructure Works, the Town will provide the Trustee, on an annual basis, a financial summary (the "**Financial Summary**") outlining

(1) Recoverable Capital Cost;

(2) Receivable ASDC Credits redeemed to-date;

(3) ASDC Remittances provided to-date;

(4) ASDC Credit Balance;

(5) ASDC Reserve Account balance;

(6) Recoverable Capital Costs completed and paid for, or secured, by the Owners; and

(7) Any portion of the Recoverable Capital Cost that has been paid for by the Town.

121. If, upon providing the Financial Summary, the ASDC Credit Balance is greater than zero or in a positive balance, the Town shall reimburse itself from the ASDC Reserve Account for any portion of the Recoverable Capital Cost that has been paid for by the Town, as set out in the Town's Financial Summary, and not reimbursed for by the Owners. Any reimbursements shall reduce the ASDC Credit Balance. Subject to paragraph 106, the Town shall then pay to the Trustee, within sixty (60) days following the issuance of the applicable Financial Summary, any ASDC Remittance that is available from the ASDC Reserve Account to a maximum of the ASDC Credit Balance. Any ASDC Remittances provided by the Town shall reduce the ASDC Credit Balance.

122. If, per the Trustee, no further ASDC Credits are owing, the Town shall do the following until such time as either the Owners' ASDC Credit Balance reaches $0, or the end of a period of twenty-five (25) years from the date the ASDC By-law was enacted, whichever is earlier:

(1) make additional ASDC Remittances, from the ASDC Reserve Account, to the Trustee, subject to paragraph 106, within sixty (60) days of the Town receiving an ASDC payment from any Benefiting Owner or Owner;

(2) provide Financial Summaries to the Trustee annually; and,

(3) renew the ASDC By-law, at a minimum, every five (5) years where the cost of renewal has been provided by the Trustee on behalf of the Owners.

123. Following the issuance of the Certificate of Assumption, the Town shall calculate the final Capital Cost. Should the final Capital Cost vary from the Recoverable Capital Cost by an amount equal to or greater than ten thousand dollars ($10,000), the Town shall, in consultation with the Owners, initiate an ASDC By-law update to establish revised ASDC rates to collect the final Capital Cost from the Benefiting Owners. For clarity, no part of

the ASDC, or ASDC By-law update, shall apply to any of the Region's Works including sanitary and water sewers, or work on the Intersection Lands

PART FIVE – TRUSTEE RESPONSIBILITIES

TRUSTEE

124. The Trustee shall:

(1) keep all ASDC Credits, Public Infrastructure Works Security and Land Acquisition Security current and manage on behalf of the Owners all reductions, payments, defaults, releases and return of securities posted pursuant to this Agreement;

(2) provide one or more letters of credit to the Town and apportion the security requirements under this Agreement as between the Owners;

(3) ensure that all Public Infrastructure Works Security and Land Acquisition Securities have been posted;

(4) advise the Town from time to time, or upon request, which parties are required to post Public Infrastructure Works Security/Land Acquisition Security, which parties have complied with their obligation to do so, and which parties are in good standing under the Cost Sharing Agreement; and

(5) provide the Town a certificate confirming the amount of the ASDC Credit the Owners are eligible for and whether the Owner applying for the ASDC Credit is in good standing with the Trustee.

125. The Town shall be entitled to rely upon the Trustee's advice regarding the status of the ASDC Credits, Public Infrastructure Works Security and the Land Acquisition Security, including but not limited to all reductions, payments, defaults, releases and return of the Public Infrastructure Works Security and the Land Acquisition Security posted and the Town shall not be required to inquire further as to the validity, accuracy or authority of such advice

126. In the event that the Town or the Region receives an application for development approval from any Benefiting Owner for lands within the Benefiting Area prior to the coming into force of the ASDC By-law, the Trustee, on behalf of the Owners, shall be solely responsible for ensuring that such Benefiting Owner pay its proportionate share of the Capital Cost of the Public Infrastructure Works and the Land Acquisition Costs as would have been required had the ASDC By-law been in force at the time of its application for development approval, provided that the Town shall impose the Developer's Condition to the extent permitted by the Town's Secondary Plan policies, as per paragraph 11(2) of this Agreement.

PART SIX – DEFAULTING OWNERS

127. If the Owners do not provide to the Town the full amount of the Public Infrastructure Works Security or the Land Acquisition Security required to be provided by such Owners under Part Three of this Agreement within the time provided therein or if any Owners are otherwise in default of any of the Owners' obligations pursuant to this Agreement, then the Town shall give notice of such default to the Owners.

128. Failure by the Defaulting Owner(s) to comply with any of the provisions of this Agreement including any of the schedules attached hereto shall, until such time that the Defaulting Owner(s), have cured the failure, entitle the Town, in its sole discretion, to take any or all of the following steps:

(1) stop the construction of the Public Infrastructure Works;

(2) claim any securities deposited with the Town or refuse to agree to reductions in or release of, any securities deposited with the Town pursuant to this Agreement;

(3) refuse to grant preliminary acceptance for the Public Infrastructure Works and/or assume the Public Infrastructure Works;

(4) refuse to issue Development Approvals for the Defaulting Owner(s);

(5) seek specific performance of this Agreement before the Superior Court of Justice; and

(6) any other step that the Town is entitled to take under this Agreement or at law.

PART SEVEN – INDEMNIFICATION

INDEMNITY

129. The Owners shall comply with all provisions of the *Construction Act*, R.S.O. 1990, c. C.30, as amended including retention of all holdbacks and liens required. The Owners shall at their own expense, within ten (10) days of receiving written notice from the Town or the Region to do so, pay or otherwise discharge or vacate any lien, charge or claim brought or registered pursuant to the *Construction Act*, R.S.O. 1990, c. C.30, as amended (whether perfected or not) which affects any lands owned by the Town, the Region, or in which the Town or the Region has an interest, and which arise out of the performance of this Agreement.

130. In consideration of the Town and the Region entering into this Agreement at the request of the Owners in order to advance construction of the Public Infrastructure Works, the Owners shall defend, indemnify and save harmless the Town, its Mayor, the Region, its Chair, their respective Council Members, employees, elected officials, contractors, subcontractors and agents against all Claims which may arise either directly or indirectly by reason of the Town and the Owners entering into this Agreement, including, but not limited to Claims arising out of or in any way related to:

(1) a breach by the Owners or the Trustee of its obligations under this Agreement.

(2) the construction, installation or maintenance of the Public Infrastructure Works and any related work, undertaken by, or on behalf of the Owners, and in particular suits and claims pursuant to the *Construction Act*, R.S.O. 1990, c. C.30, as amended. This Indemnity does not extend to the negligence of the Town or the Region, its employees, agents or contractors.

(3) the acquisition or expropriation of the lands for the Public Infrastructure Works;

(4) the Town denying a Development Approval or imposing a condition to a Development Approval on any lands within the Benefiting Area relating to the Public Infrastructure Works, Capital Costs, Land Acquisition Costs or Cost Sharing Agreement;

(5) the Town's reliance upon the Trustee's certificate;

(6) any Town stoppage of the Public Infrastructure Works;

(7) the cost of the Public Infrastructure Works, including Capital Costs or Land Acquisition Costs;

(8) any provision for reimbursement, or actual reimbursement, by the Owners' Trustee;

(9) suits, claims or orders (including orders of the Ministry of Environment, Conservation and Parks) of any nature arising out of or connected with any form of environmental contamination and/or damage existing on the Future Public Road/SWM Lands and any lands on which the Public Infrastructure Works are being constructed and any form of environmental contamination and/or damage caused by or attributable to the actions or inactions of the Owners on the Future Public Road/SWM Lands and any lands on which the Public Infrastructure Works are being constructed. With respect to the Future Public Road/SWM Lands, this indemnity expires upon the Town issuing a Certificate of Assumption and passing a by-law dedicating and/or making the Future Public Road/SWM Lands a public highway. With respect to lands that contain the Region's Works, this indemnity expires upon the Region's final acceptance of the Region's Works;

(10) any preliminary or final designs, cost estimates, plans, drawings, reports or studies or approvals related to the Public Infrastructure Works that were prepared, completed, submitted or applied for by the Town or any consultant or agent of the Town ("Designs and Approvals"), including any charges to Designs and Approvals made by the Town, Owner(s) or approval authorities; and

(11) all indirect damages, consequential damages, special damages, business losses, economic losses, property damage, and personal injury, including without restriction injuries resulting in death;

PROVIDED THAT the Owners shall not be required to indemnify, defend or save harmless the Town and Region for Claims arising out of or in any way related to the foregoing if such Claims are the direct result of the fraud or negligence of the Town, Region, its Mayor, Council Members, employees or elected officials.

131. On each occasion when Litigation is commenced by or against the Town or Region:

(1) related to the matters described in paragraph 130; or

(2) to defend or enforce the imposition of this Agreement, the Development Condition or cost-sharing upon Benefiting Owners;

the Owners shall participate in the Litigation, at their sole cost, to support the Agreement and shall reimburse the Town and Region for all costs incurred by the Town and Region up to a maximum of Three Hundred Thousand Dollars ($300,000.00). The Owners shall fund the Town and/or Region's participation in the Litigation by providing a Letter of Credit in the amount of Three Hundred Thousand Dollars ($300,000.00) at the commencement of the Litigation, which may be drawn on by the Town or Region for its Litigation Costs. If it appears that the cost of Litigation will likely exceed Three Hundred Thousand Dollars ($300,000.00), then the Owners may, at their sole option:

(1) provide the Town and/or Region with additional funds in the form of a Letter of Credit within ten (10) Business Days of a written request from the Town or Region; or

(2) require that the Town and/or Region discontinue the Litigation at no cost to the Town or Region.

132. Notwithstanding the foregoing, where the Litigation was for the benefit of the Owners to defend or enforce the imposition of this Agreement and/or cost sharing from other owners in the Benefiting Area, the Owners may, at any time, through the Trustee advise the Town in writing that they do not wish to fund the Town's costs related thereto, ("Right to Discontinue").

133. Where the Owners, through the Trustee, exercise their Right to Discontinue:

(1) the Town may rely on the Trustee's exercise of the Right to Discontinue regardless of any objection(s) by individual Owner(s);

(2) the Town is under no obligation to continue with the Litigation;

(3) if the Town does not continue with the Litigation, the Owners shall reimburse the Town for all Litigation Costs, including without restriction Litigation Costs related to settling, withdrawing from, abandoning or otherwise bringing the Litigation to an end; and

(4) if the Town continues with the Litigation, the Owners shall reimburse the Town for all Litigation Costs incurred by the Town up to the time the Owners exercise the Right to Discontinue, including without restriction the portion of any future adverse costs awarded against the Town related to costs incurred as a result of steps taken in the Litigation prior to the exercise of the Right to Discontinue.

134. The Town and/or the Region has the right to withhold and/or use any portion of the Securities to indemnify the Town or Region for any legal fees that the Town or Region incurs to defend its interest against any suit or claim of any nature arising out of or connected with the carrying out of the Owners' obligations under this Agreement or the

entering into of this Agreement.

135. The Town or the Region may use all or part of the Securities to pay, discharge, vacate and obtain and register a release of all charges, claims, liens, and all preserved or perfected liens, inside, brought, or registered pursuant to the *Construction Act*, R.S.O. 1990, c. C.30, as amended which affect any lands owned by the Town or the Region, or in which the Town or the Region has an interest, in the event that the Owners default in respect of their obligations in Section 84 of the Agreement.

INDEMNITY RE ASDC BY-LAW AMENDMENTS

136. In the event that the Town Council has enacted an amendment to the ASDC By-law for the purpose of recovering Increased Capital Costs of the Public Infrastructure Works by way of development charges in accordance with this Agreement and that amendment is the subject of litigation,

(1) The Owners agree to indemnify and save harmless the Town, its Mayor, Council Members, employees, elected officials, contractors, subcontractors and agents against all actions, causes of action, suits, claims and demands whatsoever, which may arise either directly or indirectly by reason of the Town enacting the amending ASDC By-law.

(2) Where any litigation is commenced against the Town whether before any court of law or any administrative tribunal, including the LPAT and as the result of the Town Council enacting the amending ASDC By-law, the Owners shall participate in the litigation, at their sole cost, and shall support the amending development charges by-law. If the Owners refuse to participate in the litigation to support the amending ASDC By-law, the Town may choose not to participate in the litigation in support the amending ASDC By-law. In the event that the ASDC By-law is struck down in its entirety by the LPAT, the parties agree that the Town shall endeavor to use its commercially reasonable best efforts to recover the Capital Cost from the Benefiting Owners on behalf of the Owners by means of, inter alia, the imposition the Development Condition in accordance with paragraph 111(2).

(3) The Owners may elect to fund all of the Town's costs incurred by the Town in defending the Town's imposition of the requirement. Where the Owners elect not to fund all of the Town's costs incurred by the Town in defending the amending development charges by-law and/or fail to provide security satisfactory to the Town in respect of such Town costs, the Town may at its discretion elect not to defend the Town's enactment of the amending ASDC By-law.

WAIVER AND RELEASE

137. The Trustee, and each Owner hereby release the Town, its Mayor, the Region, its Chair, their respective Council Members, employees, elected officials, contractors, subcontractors, representatives and agents from any liability for Claims of any kind arising out of or in connection with:

(1) recovery, or reimbursement for any costs or securities related to this Agreement, the Public Infrastructure Works, Capital Costs or Land Acquisition Costs from Benefiting Owners;

(2) Development Approvals for Benefiting Owners, including without restriction, the failure to include conditions related to this Agreement, the Public Infrastructure Works, Capital Costs or Land Acquisition Costs;

(3) Designs and Approvals including any changes to Designs and Approvals made by the Town, the Region, Owner(s) or approval authorities; and

(4) any delay in the construction, preliminary acceptance or assumption of the Public Infrastructure Works, including without restriction, delays in acquiring the lands necessary for the Public Infrastructure Works,

PROVIDED THAT the foregoing release shall not be applicable to Claims arising out of or in any way related to the foregoing if such Claims are the direct result of the fraud or

negligence of the Town, the Region, the Town's Mayor, Council Members, employees or elected officials.

138. In addition to, and without limitation to the release of liability set out in paragraph 137, the Trustee and the Owners hereby release the Town, the Region, the Town's Mayor, Council Members, employees, elected officials, contractors, subcontractors, representatives and agents from anything referred to in Section 139.

139. Any liability for all other Claims of any kind arising out of or in connection with this Agreement or the Public Infrastructure Works except where said Claims are the direct result of the fraud or negligence on the part of the Town, its Mayor, Council Members, employees or elected officials.

DISPUTE RESOLUTION

140. The Town, the Region and the Owners agree that they shall use their commercially reasonable efforts to resolve any disputes regarding the Public Infrastructure Works or otherwise arising from this Agreement by alternative dispute resolutions (mediation, arbitration, etc.) prior to commencing court proceedings in respect thereof.

PART EIGHT – MISCELLANEOUS

WAIVER OF CLAIMS INCONSISTENT WITH AGREEMENT

141. Each Owner and the Trustee hereby acknowledge that this Agreement is entered into and executed for the purpose of having the Town or Region act in reliance on the covenants contained herein and each Owner and Trustee waives any right or claim which it now has or may hereinafter acquire which is inconsistent with the terms of this Agreement.

NO PARTNERSHIP OR JOINT VENTURE

142. The Town and/or the Region, as applicable, is not a partner of the Owners nor party to a joint venture with the Owners and nothing herein shall be construed to make the Town or Region a partner or joint venturer or to impose any liability on the Town or the Region as partner or joint venturer.

WARRANTY AS TO CAPACITY

143. Each Owner represents and warrants to the Town and the Region as follows:

(1) Each Owner is a corporation validly subsisting under the laws of Ontario and has full corporate power and capacity to enter into this Agreement and any documents arising from this Agreement.

(2) All necessary corporate action has been taken by each Owner to authorize the execution and delivery of this Agreement.

(3) Each Owner owns the lands described in Schedule "A" as being owned by that Owner.

JOINT AND SEVERAL RESPONSIBILITY

144. The individual Owners and Trustee agree that they are both jointly and severally liable for all costs and obligations contained in this Agreement.

TAXES

145. All amounts payable pursuant to this Agreement are exclusive of taxes and the Owners shall pay all applicable taxes (if any) in addition to the amounts set out herein.

INTERPRETATION

146. All obligations contained in this Agreement, although not expressed to be covenants, shall be deemed to be covenants.

147. Whenever a statement or provision in this Agreement is followed by words denoting inclusion or example and then a list of or reference to specific items, such list or reference shall not be read so as to limit the generality of that statement or provision, even if words such as "without limiting the generality of the foregoing" do not precede such list or reference.

148. This Agreement shall be construed with such changes in gender and number as the context may require.

149. The headings and paragraph numbers in this Agreement shall be deemed to be inserted for convenience of reference only and shall not affect the construction or interpretation of this Agreement.

150. References in this Agreement to any statute, regulation or by-law or any provision thereof include such statute, regulation or by-law as amended, revised, re-enacted or consolidated from time to time and any successor thereto.

151. Every provision of this Agreement by which the Owners are obligated in any way to perform any work or do any act shall be deemed to include the words "at the expense of the Owners" unless the context otherwise requires.

152. A word interpreted in the singular has a corresponding meaning in the plural and vice versa.

BINDING UPON SUCCESSORS

153. The parties agree that this Agreement shall be enforceable by and against the parties, their heirs, executors, administrators, successors and assigns and that this Agreement and all the covenants by them shall run with the lands owned by the Owners for the benefit of the Town and the Region.

154. No Owner shall transfer title to all or any part of the lands described in Schedule "A", unless the purchaser of such lands agrees with the Town and the Region to assume the obligations of that Owner pursuant to this Agreement and provided further that such purchaser delivers such payment or other security as the Trustee may require in order to secure such purchaser's obligations under this Agreement. Any conveyance in contravention of this provision shall be null and void. Following assumption by any assignee, the Owner herein shall be released of any further obligations and liability.

REGISTRATION

155. The parties hereby consent to the registration of this Agreement against title to the Owners' Lands.

156. Prior to the registration of this Agreement, the Owners shall obtain and deliver to the Town postponements in electronic form for any and all encumbrances of the Owners' Lands postponing such encumbrance(s) and subordinating it in all respects to this Agreement in favour of the Town and Region.

RELEASE OF AGREEMENT

157. The Town and Region agree that, upon completion of the construction of the Public Infrastructure Works to the satisfaction of the Town and Region and upon fulfilment of an Owner's obligations under this Agreement, the Town and Region shall deliver to such Owner an executed release from the terms of this Agreement.

TIME OF THE ESSENCE

158. Time shall be of the essence of this Agreement and each of its provisions.

SEVERABILITY AND JURISDICTION

159. This Agreement shall be interpreted under and is governed by the laws of the Province of Ontario. If any ambiguity is found in the Agreement, the ambiguity shall be resolved in favour of the interpretation that is most consistent with the laws of the Province of Ontario.

160. If any term, provision or part of a term or provision of this Agreement is determined to be fully or partially invalid, illegal, void, or unenforceable, all other conditions and provisions of this Agreement shall nevertheless remain in full force and effect. Upon such determination that any term or provision or part of a term or provision is invalid, illegal or incapable of being enforced, the parties hereto shall negotiate in good faith to modify this term so as to effect the original intent of the parties as closely as possible in a manner consistent with the principles of this Agreement.

161. The Owners acknowledge that the Town and the Region have the lawful authority to proceed with and enter into this Agreement. The Owners represent that they have all requisite power and authority to enter into this Agreement and to bind the Owners' lands to the terms of the Agreement and that this Agreement does not conflict with any other Agreement or agreement to which the Owners are a party or by which they are bound.

162. It is agreed and acknowledged by the parties that each is satisfied as to the jurisdiction of each party to enter into this Agreement. The parties agree that they shall not question the jurisdiction of any party to enter into this Agreement nor question the legality of any portion hereof, nor question the legality of any obligation created hereunder and the parties, their successors and assigns are and shall be estopped from contending otherwise in any proceeding before a Court of competent jurisdiction or any administrative tribunal.

163. The Owners shall be and are hereby estopped from asserting in any proceeding at any time and in any forum that the Town or Region does not or did not have lawful authority to enter into this Agreement, or that any of the terms of this Agreement are not within the jurisdiction or capacity of the Town or Region to enter into. The Owners acknowledge that they have voluntarily entered into this Agreement.

NOTICES

164.

(1) Any notice, demand, acknowledgement or request required to be given hereunder in writing, shall be deemed to be given if either personally delivered or mailed by registered mail, postage prepaid, (at any time other than during a general discontinuance of postal services due to a strike, lockout or otherwise) and addressed to the Owners, with a copy provided to the Trustee as provided below, at the addresses set out in Schedule "H", or such change of address as the Owners have by written notification forwarded to the Town,

and to the Town as follows

Town of Caledon
6311 Old Church Road
Caledon, Ontario
L7C 1J6

Attention: General Manager, Finance and Infrastructure Services

or such change of address as the Town has by written notification forwarded to the Owners.

to the Trustee as follows

Simpson Road Landowners Group Inc.
c/o 7501 Keele Street, Suite 200
Vaughan, Ontario
L4K 1Y2

Attention: Helen Mihaildi
Phone: 905-760-2600 ext. 277
Email: hmihailidi@thrally.com

and to the Region as follows.

Region of Peel
10 Peel Centre Drive, Suite A
Brampton, Ontario

L6T 4B9

Attention: Director, Development Services

or such change of address as the Region has by written notification forwarded to the Owners.

(2) Any notice shall be deemed to have been given to and received by the party to which it is addressed:

a) if delivered, on the date of delivery, or

b) if mailed, then on the fifth day after the mailing thereof.

ENTIRE AGREEMENT

165. This Agreement constitutes the entire agreement between the parties with respect to the subject matter of this Agreement and supersedes any prior agreements, undertakings, declarations, representations and understandings between the parties, written or verbal, in respect thereof.

166. No modification, variation, amendment or termination by mutual consent of this Agreement, and no waiver of the performance of any of the responsibilities of the parties shall be effective unless such action is taken in writing by instrument or document executed by the parties, excepting that the foregoing shall not apply where an express provision of this Agreement permits such modification, variation, amendment or termination pursuant to any other means, and in such instance the said provision shall apply. All representations and understandings of the parties with respect to the lands owned by the Owners and the subject matter of this Agreement are contained in this Agreement, and there are no other representations or understandings between the parties.

COVENANT

167. The covenants, agreements, conditions and undertakings contained in this agreement on the part of the Owners shall run with the lands on which it is registered and shall be binding upon them and upon the Owners' successors and assigns.

COUNCIL DISCRETION

168. Notwithstanding any other provision of this Agreement, the Owners acknowledge and agree that none of the provisions of this Agreement is intended to operate, nor shall have the effect of operating in any way to fetter the discretion of the municipal council of the Town and the Region in its determinations. The Owners acknowledge and agree that they do not expect and shall not receive any additional planning or other consideration from the Town or the Region by virtue of having entered into this Agreement or by virtue of the contents of this Agreement.

AUTHORITY

169. The Owners shall not object to or contest the jurisdiction, authority or right of the Town or the Region to enter into this Agreement or to enforce any provision of this Agreement.

INDEPENDENT LEGAL ADVICE

170. The Owners acknowledge that, prior to executing this Agreement, they have obtained or have had a reasonable opportunity to obtain independent legal advice with respect to this Agreement and the easements, covenants and restrictions set out in this Agreement.

ASSIGNMENT OF THE AGREEMENT

171. The Owners may assign this Agreement only with the consent, in writing, of the Town and the Region. Notwithstanding the foregoing, any Owner may transfer title to all or any part of the lands described in Schedule "A" if the transferee of such lands agrees with the Town to assume the obligations of the applicable Owner pursuant to this Agreement and provided further that such transferee delivers such payment or other security as the

Trustee may require in order to secure such transferee's obligations under this Agreement.

BUSINESS AGREEMENT

172. This Agreement is made for business purposes and is a "business agreement" as defined under the *Limitations Act, 2002*, S.O. 2002, c. 24, as amended. Further, no limitation periods set out in the *Limitations Act, 2002*, S.O. 2002, c. 24, as amended other than the ultimate limitation period set out in section 15 of the *Limitations Act, 2002*, S.O. 2002, c. 24, as amended shall apply to this Agreement and to the obligations imposed herein.

GOVERNING LAW

173. This Agreement shall be governed by and construed in accordance with the laws of Canada and the Province of Ontario.

REMEDIES

174. The rights and remedies provided for in this Agreement are in addition to and shall not limit the ability of the Town and the Region to take such actions as may be available to it to ensure compliance with this Agreement.

175. Failure by the Owners to comply with any of the provisions of this Agreement including any of the schedules attached hereto ("**Defaulting Owner**") shall, until such time that the Defaulting Owner has cured the failure, result in:

(1) the Town and/or the Region, in its sole discretion, taking all necessary steps to avoid incurring further expenses, including not proceeding with the Public Infrastructure Works or stopping the Public Infrastructure Works;

(2) the Town, in its sole discretion, revoking any stormwater servicing allocation to the Defaulting Owner's Lands or refusing any conveyances from or granting any conveyances to the Defaulting Owner;

(3) the Town or Region, as applicable, in its sole discretion, refusing to grant any approvals required by this Agreement;

(4) the Town, in its sole discretion, cashing any Securities deposited with the Town or refusing to agree to reductions in, or release of, any Securities deposited with the Town; and

(5) the Town and/or the Region, in its sole discretion, refusing to grant Preliminary Acceptance of the Public Infrastructure Works and/or assuming the Public Infrastructure Works.

176. This Agreement prevails over all prior agreements to the extent of any inconsistencies or conflict.

FURTHER DOCUMENTS

177. The Town, the Region and the Owners shall execute such further documents and cause the doing of such acts and cause the execution of such further documents as are within their power as the Town, the Region or the Owners may reasonably request be done or executed, in order to give full effect to the provisions of this Agreement.

COUNTERPARTS

178. This Agreement may be executed in any number of counterparts and by different parties in separate counterparts and each of such counterparts shall be deemed to be an original document and such counterparts, taken together, shall constitute one and the same document. To evidence the fact that it has executed this Agreement, a party hereto may send a copy of its executed counterpart to all parties hereto by facsimile transmission or other electronic means. Such party shall be deemed to have executed and delivered this Agreement on the date it sent such facsimile transmission or other electronic signature. In such event, such party shall forthwith deliver to the other parties hereto an original

counterpart (copy) of this Agreement executed by such party.

IN WITNESS WHEREOF the parties have executed this Agreement.

THE CORPORATION OF THE TOWN OF CALEDON

Per: _____
Allan Thompson
Mayor

Per: _____
Laura Hall
Acting Town Clerk

We have authority to bind the Town.

THE REGIONAL MUNICIPALITY OF PEEL

Per: _____
John Hardcastle
Interim Director, Public Works, Development Services

Execution No. 023-2020-9008

I have authority to bind the Region pursuant to By-law 32-2017, as amended.

ANATOLIA CAPITAL CORP.

Per: _____
Name: Bakir Rwangacli
Title: CEO/CRO

Per: _____
Name:
Title:

I/We have authority to bind the Corporation.

ARION SERVICES LTD.

Per: _____
Name: Domenico Saverino
Title: Director - President

Per: _____
Name:
Title:

I/We have authority to bind the Corporation.

counterpart (copy) of this Agreement executed by each party.

IN WITNESS WHEREOF the parties have executed this Agreement.

THE CORPORATION OF THE TOWN OF CALEDON

Per: _____
Allan Thompson
Mayor

Per: _____
Laura Hall
Acting Town Clerk

We have authority to bind the Town

THE REGIONAL MUNICIPALITY OF PEEL

Per: _____
Jeff Hardcastle
Interim Director, Public Works, Development Services

Region By-law No. 603-2020-9408

I have authority to bind the Region pursuant to By-law 32-2017, as amended.

ANATOLIA CAPITAL CORP.

Per: _____
Name: Berkin Bilmezsoy
Title: CEO

Per: _____
Name:
Title:

I/We have authority to bind the Corporation

ARION SERVICES LTD.

Per: _____
Name: Domenico Severino
Title: Director - President

Per: _____
Name:
Title:

I/We have authority to bind the Corporation.

SIMPSON ROAD LANDOWNERS GROUP INC.

Per: _____
Name: Helen Michailidi
Title: A.S.O.

Per: _____
Name:
Title:

I/We have authority to bind the Corporation.

SCHEDULE "A"
OWNERS' LANDS

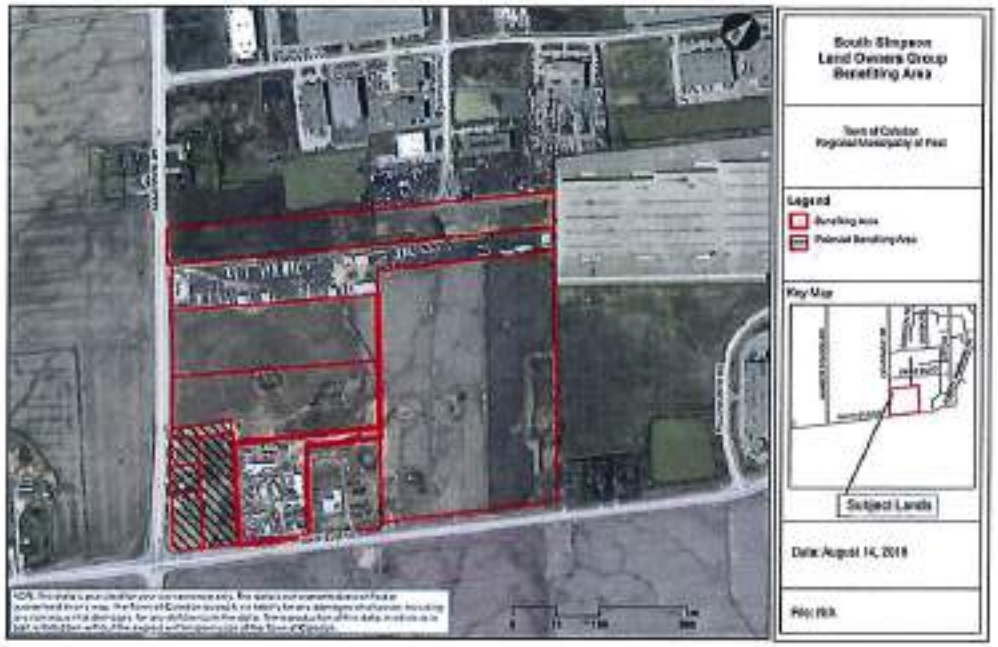
1. **ANATOLIA CAPITAL CORP.**

   PIN: 14356-0706 (LT) Part Lot 1, Concession 6 (Albion), designated as Parts 1, 2, 5, 5, 9, and 10 on 43R-34749 Town of Caledon; Regional Municipality of Peel.

2. **ARION SERVICES LTD.**

   PIN: 14356-0542 (LT) – Part Lot 1, Concession 6 (Albion), as in HO1058982, except Part 1 on Expropriation Plan PR1156816, Town of Caledon; Regional Municipality of Peel

SCHEDULE "B"
BENEFITING AREA (CONCEPTUAL)



SCHEDULE "C"
PUBLIC INFRASTRUCTURE WORKS – PLANS, DRAWINGS AND REPORTS

The following plans, drawings and reports shall form the set of construction plans, drawings and reports required for the completion of the Public Infrastructure Works as of the execution of this Agreement, and may be amended by the Region or Town from time to time, at their sole discretion, and each such amendment will be deemed to be fully part of this Schedule "C" and this Agreement.

SCHEDULE C1

Documents Provided by Owners

- Drawings:
  - Drawing No. SWM-1A, Simpson Road SWM Pond (Interim), prepared by Schaeffers, dated October 7, 2020;
  - Drawing No. SWM 2A, SWM Pond Sections SEC-1A TO SEC-5A, prepared by Schaeffers, dated October 7, 2020;
  - Drawing No. SWM 3, Control Flow Structure Details, prepared by Schaeffers, dated October 7, 2020;
  - Drawing No. SWM 4, Manholes 9, 10 and 10 details, prepared by Schaeffers, dated October 7, 2020; and
  - Drawing No. SWM-5, Storm Outfall Detail, prepared by Schaeffers, dated October 7, 2020.

- Reports:
  - Stormwater Management Pond Report-Simpson Road Extension-Proposed SWM Pond-Town of Caledon, prepared by Schaeffers, Revision No. 3.0, dated September 2020.
  - Proposed SWM Pond Operations and Maintenance Report, prepared by Schaeffers, Revision No. 1.0, dated September 2020;
  - Storm Drainage Design Chart for Circular Drains Flowing Full 5-Year Storm Event, prepared by Schaeffers, dated October 2, 2020;
  - Summary of Cost Estimate, prepared by Schaeffers, dated October 9, 2020, and
  - Review of Proposed SWM Pond, prepared by Schaeffers Engineering, dated October 2, 2020

SCHEDULE C2

Documents To Be Provided by Owners

- Drawings:
  - TBD

- Reports:
  - TBD

SCHEDULE C3

Documents Provided by Owners

- Drawings
  - Drawing No. SWM-1B, Simpson Road SWM Pond (Ultimate), prepared by Schaeffers, dated October 7, 2020;
  - Drawing No. SWM 2B, SWM Pond Sections SEC-1B TO SEC-5B, prepared by Schaeffers, dated October 7, 2020;
  - Drawing No. SWM 3, Control Flow Structure Details, prepared by Schaeffers, dated October 7, 2020;
  - Drawing No. SWM-4, Manholes, 9, 10 and 10 details, prepared by Schaeffers, dated October 7, 2020
  - Drawing No. SWM-5, Storm Outfall Detail, prepared by Schaeffers, dated October 7, 2020;
  - Landscape Letter of Conformance, dated December 22, 2020, prepared by Adesso Design Inc. Landscape Architecture;
  - Letter of Credit Cost Estimate – SWM Pond, dated December 22, 2020 prepared by Adesso Design Inc. Landscape Architecture in the amount of $105,040.25;

- Landscape Drawing Schedule, December 22, 2020, prepared by Adesso Design Inc. Landscape Architecture;
- L-1, Tree Inventory and Preservation Plan, revision #10, dated December 22, 2020, prepared by Adesso Design Inc. Landscape Architecture,
- L-2, Tree Inventory and Preservation Plan, revision #10, dated December 22, 2020, prepared by Adesso Design Inc. Landscape Architecture,
- L-3, SWM Planting Plan, revision #10, dated December 22, 2020, prepared by Adesso Design Inc. Landscape Architecture;
- L-4, Details, revision #10, dated December 22, 2020, prepared by Adesso Design Inc. Landscape Architecture; and
- L-5, Naturalization & SWM Pond Specifications, revision #9, dated December 22, 2020, prepared by Adesso Design Inc. Landscape Architecture

•Reports:

- Stormwater Management Pond Report-Simpson Road Extension-Proposed SWM Pond-Town of Caledon prepared by Schaeffers, Revision No. 3.0, dated September 2020.
- Proposed SWM Pond Operations and Maintenance Report, prepared by Schaeffers, Revision No. 1.0, dated September 2020,
- Storm Drainage Design Chart for Circular Drains Flowing Full 5-Year Storm Event, prepared by Schaeffers, dated October 2, 2020;
- Summary of Cost Estimate, prepared by Schaeffers, dated October 5, 2020,
- Review of Proposed SWM Pond, prepared by Forward Engineering, dated October 2, 2020, and
- Arborist Report, dated January 23, 2016, revised December 17, 2019 prepared by Adesso Design Inc. Landscape Architecture

Documents Provided by Town of Caledon

- Contract Drawings dated Nov. 20 unless noted otherwise (Total of 35 sheets)
  - Title Page
  - Drawing 1 - Legend
  - Drawing 2 – General Notes
  - Drawing 3 – Simpson Road Erosion & Sediment Control Plan
  - Drawing 4 – Simpson Road General Plan Above Ground
  - Drawing 5– Simpson Road General Plan Below Ground
  - Drawing 6 – Simpson Road Alignment
  - Drawings 7-8 – Simpson Road Removals
  - Drawings 9-11 – Simpson Road New Construction Plan and Profile dated Aug. 20
  - Drawing 12 – Mayfield Road New Construction Plan and Profile dated Aug. 20
  - Drawings 13-14 – Simpson Road Pavement Markings and Signs
  - Drawing 15 - Details
  - Drawing 16 – Simpson Road Water Distribution and Commissioning Plan
  - Drawing 17 – Sanitary Drainage Area Plan
  - Drawing 18 – Storm Drainage Area Plan
  - Drawing C1 - West Rainbow Creek Tributary Erosion & Sediment Control & Staging Plan dated 20/11/19
  - Drawings C2-C3 - West Rainbow Creek Tributary Plan and Profile dated 20/11/19
  - Drawing C4 - West Rainbow Creek Tributary Cross Sections dated 20/11/19
  - Drawing C5 - West Rainbow Creek Tributary Bankfull Sections dated 20/11/19
  - Drawing C6 - West Rainbow Creek Tributary Pool Profiles dated 20/11/19
  - Drawing C7 - West Rainbow Creek Typical Details dated 20/11/19
  - Drawings E01-E03 – Simpson road – South Electrical Layout dated 2020-01-31
  - Drawing E04 - Simpson road – South Wiring Diagram dated 2020-01-31
  - Drawing E05 - Simpson road – Electrical Details dated: 2020-01-31
  - Drawings L1-L2 – Landscaping Plan dated Dec. 07/20
  - Drawings L3 L4 – Landscaping Details dated Dec. 07/20
  - Landscape Cost Estimate, dated March 15, 2020, prepared by McWilliam & Associates in the amount of $178,250.00

- Contract Documents.
  - Schedule of Unit Prices
  - Earth excavation volumes report
  - Special Provisions – General
  - Special Provisions - Items

AGENCY APPLICATIONS

Agency Applications to be submitted by the Simpson Road Landowner Group upon acquisition of municipal infrastructure lands and completion of the interim Simpson Road detailed design. The following is being provided to assist with the agency approval process.

Toronto Region Conservation Authority

Toronto Region Conservation Authority letter Ontario Regulation #166/06: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Application #1095/17/CAL Simpson Road Extension and West Rainbow Creek Realignment - Submission #4 Humber River Watershed; Town of Caledon, Regional Municipality of Peel dated August 21, 2019

Region of Peel – Sanitary and Watermain

- Environment Compliance Approval Application with data fields completed to the extent possible
- Sanitary and Water Environmental Compliance Approval Application with data fields completed to the extent possible;
- Sanitary Sewer Design Calculations.
- Pipe Data Form – Watermain, Storm Sewer, Sanitary Sewer, and Forcemain Design Supplement to Application for Approval for Water and Sewage Works;
- Form 1 – Records of Watermains Authorized as a Future Alteration with data fields completed to the extent possible;
- Form 0709 – Schedule B Form 1 Attachment.
- Public Consultation documents to support the application – See below reference documents

Ministry of Environment and Climate Change - Storm

- Environment Compliance Approval Application with data fields completed to the extent possible;
- Storm Drainage Design Chart (MH1 to MH 5) dated 2020 12 11,
- Storm Drainage Design Chart by Schaeffer's Consulting Engineers dated October 2 2020;
- Pipe Data Form – Watermain, Storm Sewer, Sanitary Sewer and Forcemain Design Supplement to Application for Approval for Water and Sewage Works;
- Public Consultation documents to support the application – See below reference documents

Reference Documents – Reports

- Environmental Study Report prepared by AMEC Environment and Infrastructure, dated December 22, 2012 and mandatory notices,
- Geotechnical Investigation Report prepared by AMEC Earth and Environmental dated December 22, 2010

SCHEDULE "D"
PUBLIC INFRASTRUCTURE WORKS – CAPITAL COST

SIMPSON ROAD SOUTH EXTENSION
TOWN OF CALEDON CONTRACT 14-093
REGION OF PEEL C02 312

	Town Works		
A	GENERAL ITEMS		$[illegible]
B	GRADING		$[illegible]
C	ROAD WORKS		$[illegible]
D	STORM SEWER		$[illegible]
E	LANDSCAPING - SIMPSON ROAD		$[illegible]
G	LANDSCAPING - NATURALIZED CHANNEL PLANT		$[illegible]
H	ELECTRICAL		$[illegible]
I	CHANNEL		$[illegible]
J	SWM FACILITY (Engineering)		$[illegible]
J	SWM FACILITY (Landscaping)		$[illegible]
		Subtotal - Works	$[illegible]
		10% Engineering and Contingency	$[illegible]
		Total - Works	$[illegible]
	TOWN OF CALEDON ENGINEERING FEE		
	(Cost of Town Works (excl. 13% HST) x [illegible]%)	Cost of Town Works for Fee Calculation.	$[illegible]
	[illegible]% Town Works as 1%	Subtotal - Town Fees	$[illegible]
		13% HST	$[illegible]
		Total - Town Fees:	$[illegible]
	Region Works		
F	SANITARY		$[illegible]
G	WATERMAIN		$[illegible]
	INTERIM ROAD WORKS		$[illegible]
	INTERIM TRAFFIC SIGNALS		$[illegible]
		Subtotal - Region Works	$[illegible]
		10% Engineering and Contingency	$[illegible]
		Total - Region Works	$[illegible]
	REGION OF PEEL ENGINEERING FEE		
	Total Region Works of 7.0% (excl.13% Eng. & Cont.)		$[illegible]
		Subtotal - Region Fee	$[illegible]
		Total - Region Fees	$[illegible]
	REQUIRED SECURITY FOR CONSTRUCTION PURPOSES		$1,703,118.33

SCHEDULE "E"
FINANCIAL OBLIGATIONS – REGION AND TOWN
(to be collected by the Region and the Town)

Region

ITEM	TOTAL AMOUNT	AMOUNT PAID	AMOUNT OWED	TIMING
Securities Cost of Works	$1,705,139.00		$1,705,139.00	Included in amount owed for securities Cost of Works To be collected by Town
Well Security	$20,000.00	$0	$20,000.00	Included in amount owed for securities Cost of Works To be collected by Town
Administration fees Plan & E (7.00%)	$119,218.33	$0	$119,218.33	Prior to Construction
Hydrant Inspection (3 @ $575)	$1,725.00	$0	$1,725.00	Prior to Construction
Record updating 1 640 km @ $750.00 plus HST	$1,362.44 (HST included)	$0	$1,362.44 (HST included)	Prior to Construction
Development Charges	TBD	TBD	TBD	In accordance with Schedule F

Town

ITEM	TOTAL AMOUNT	AMOUNT PAID	AMOUNT OWED	TIMING
Engineering Administration Fee (5%)	$313,778.21 HST $40,791.17 $354,569.37	$0.00 HST $0.00 $0.00	$313,778.21 HST $40,791.17 $354,569.37	Prior to Construction
Development Charges	As per ASDC		As per ASDC	At building permit
Benchmark Fee	$2,754.00 HST $358.02 $3,112.02	$0.00	$2,754.00 HST $358.02 $3,112.02	Prior to Construction
Drawing Management Fee ($540.00 per km of road, up to max of $330)	$300.00 HST $39.00 $339.00	$0.00	$300.00 HST $39.00 $339.00	Prior to construction
Preparation of Master Financial Agreement	$6811.04 HST $885.36 $7,701.00	$6815.04 HST $885.96 $7,701.00	$0.00	Prior to Execution of Agreement

SCHEDULE "F"
REGION OF PEEL REQUIREMENTS

1. The Owner acknowledges that payment of appropriate development charges shall be payable prior to issuance of building permits.

2. The Owner acknowledges and agrees that the Region may require the Owner to construct a sampling hydrant (at the Owners cost) within the proposed Simpson Road South extension. The location of and the requirement for a sampling hydrant will be determined during the engineering review.

3. The Owner shall maintain adequate chlorine residuals in the watermains within the Simpson Road South extension from the time the watermains are connected to the municipal system until such time as the Region issues final acceptance. In order to maintain adequate chlorine residuals, the Owner will be required to either install automatic flushing devices or retain Regional staff to carry out manual flushing. Regional staff will conduct the monitoring and testing for chlorine residuals. The costs associated with the monitoring and flushing will be the responsibility of the Owner pursuant to Region's Fees By-law.

4. The Owner represents, warrants, acknowledges and agrees that the Owners nor any Builder will apply for building permits for any lots or blocks within the Simpson Road South extension until the Region's, Public Works Department has given written notice to the Town and the Owner that the internal watermains have been completed to the Region's satisfaction and have been preliminary approved. In addition, the Region will not accept payment for connection permits until fire protection for the development is available and all securities for the development are in place.

5. The Owner acknowledges and agrees that prior to the issuance of building permits for all lots and blocks within the Simpson Road South extension, satisfactory arrangements must be made with the Region with regard to water servicing applications and payments of the required connection charges.

6. The Owner hereby acknowledges and agrees that location and offsets for the Region's infrastructure such as watermains must be acceptable to the Region.

7. The Owner shall pay the Region's costs for updating its electronic "As Constructed" information for the infrastructure installed by the Owner. The cost will be based on a "per kilometer" basis for combined watermains and sanitary sewers installed pursuant to the Region's Fees By-law.

8. The Owner acknowledges and agrees that satisfactory arrangements are to be made with the Region with respect to construction and looping of watermains within the limits of the Simpson Road South extension. The works are 100% the financial responsibility of the Owner. The Owner is responsible to ensure that their design, materials and construction practices conform to the latest Region's standards, specifications, material's and design criteria.

9. The Owner acknowledges that existing services which were installed to service any of the block within the Simpson Road South extension that will not be utilized shall be removed at the Owner's expense in accordance with the current Region's Standards.

10. The Owner shall assume full responsibility for any Claims related to any impact on the effected neighbouring properties, their servicing or otherwise, related to the proposed works for the development. Prior to the construction commencement of the proposed works for the development, the Owner may conduct a pre construction survey of the neighbouring lands within the zone of influence at the Owner's cost and shall provide to the Region upon request the final report and all background material relating thereto. The Owner shall assume all costs and expenses relating to the resolution of any such Claims.

11. The Owner acknowledges and agrees that their consultant is required to provide all "as constructed" drawings within sixty (60) days of issuance of preliminary approval of the underground services. The "as constructed" drawings must be submitted in the digital format and be in accordance with the latest Region's Digital Format Guidelines. In addition, the Owner's consultant is also required to provide ties to all metering valves, ties to individual water service boxes, linear ties to sanitary sewer services and GPS coordinates of all

watermain and sanitary sewer appurtenances in accordance with the latest requirements of the Region's "Development Procedure Manual".

12. The Owner acknowledges and agrees that a suitable amount will be held back on the Letter of Credit until the "as-constructed" drawings have been received in accordance with the requirements specified in the Region's, Public Works Design, Specifications & Procedures Manual.

13. The Owner acknowledges that:

a) It shall maintain all Regional Underground and Aboveground Works currently set for a period of Two (2) years from the date of Preliminary Acceptance by the Region. All Regional works must be constructed and approved prior to any maintenance period commencing
b) Prior to the end of the maintenance period, the Owner's consultant shall confirm in writing that the works meet all Regional standards and specifications manual and are ready for final acceptance
c) Should the Region be involved in re-inspection or maintenance works, the rates will be as set out in the Region's Standard and Specification Manual current at the time

14. The Owner acknowledges and agrees that a suitable amount will be held back on the Letter of Credit to cover the costs of services completed by the Region that are covered under time and material basis as noted in the Region's current Development Procedure Manual

15. The parties acknowledge and agree that municipal watermains shall be assumed by the Region after the maintenance period is complete, and all deficiencies shall be rectified by the Owner, at its expense, to the satisfaction of the Region

16. The Owner agrees that:

a) Prior to assumption of the Works by the Region, the Works may be used by the Town, the Region or by any member of the public for purposes for which such Works are designed,
b) Such uses shall not constitute nor be deemed to be an acceptance of the Works by the Region; and
c) Such use shall not in any way relieve the Owner of the Owner's obligations in respect of the construction, installation and maintenance of the Works so used

17. The Owner acknowledges and agrees that after fulfilling the maintenance obligations by the Owner, the Region will clear the requirements and conditions for assuming the Works. The Final Assumption by the Region will occur at the same time as the Assumption By-law is enacted by the Town's Council.

18 The Owner acknowledges and agrees that landscaping, signs, fences, gateway features or any other encroachments are not be permitted within the Region's easements and/or right-of-way lands.

19 The Owner acknowledges and agrees that the amount of $25,000 shall be held in the Letter of Credit until final acceptance of the Works by the Municipality to serve as protection for the private wells in the zone of influence of the Simpson Road South extension. If the private well systems in the zone of influence deteriorate due to the servicing of the Simpson Road South, the Owner will provide temporary water supply to the residents upon notice by the Region and it will continue supplying the water to the affected residents until the issue is resolved to the satisfaction of involved parties. If the quantity of water in the existing wells is not restored to its original condition within a month after first identification of the problem, the Owner will engage the services of a recognized hydrogeologist to evaluate the wells and recommend solutions including deepening the wells, drilling a new well or providing a permanent water service connection from the watermain to the dwelling unit.

20 The Owner acknowledges and agrees that prior to final acceptance, the Owner's engineer is required to submit to the Region's, Public Works Department, all Engineering Drawings in Micro-Station Format as set out in the latest version of the Region's "Development Procedure Manual"

21 The Owner acknowledges and agrees that financing and construction of all temporary/permanent infrastructures not covered by the current Development Charges By-law (watermains and sanitary sewers) are the financial responsibility of the Owner

22 Where construction of the Future Public Road occurs before the Region's planned widening of Mayfield Road, the Owner acknowledges and agrees that the Owner is responsible for all costs associated with the relocation of existing services to accommodate the Future Public Road. The Owner shall have made appropriate arrangements with the Region regarding financing and relocation of Regional services prior to execution of this agreement.

23. If the Region proceeds with Mayfield Road widening works before the Simpson Road South extension works are undertaken and completed, the Owner hereby acknowledges and agrees that prior to starting Mayfield Road's construction for this intersection, the Region will require a Letter of Credit in the amount of $250,000 (130% of the total projected costs) for the installation of sanitary sewers and watermains within Mayfield Road's right-of-way.

24. The Owner hereby agrees to make payment to the Region, in full, for all actual costs as identified in the Clause 24 related to the sanitary sewers and watermains installation within Mayfield Road's right-of-way within 30 days upon being notified of the incurred expenses.

25. The Owner acknowledges that prior to final approval by the Town, a print of the proposed final plan be forwarded to the Region. Prior to the Region granting clearance of the site, the following must be forwarded to the Region's Legal Services Division.

a) A copy of the final 42 R plans, and
b) Easement and conveyance documents required pursuant to Schedule D of this agreement

SCHEDULE "G"
REFERENCE PLAN FOR PUBLIC INFRASTRUCTURE WORKS

The following plan shall be the Reference Plan which depicts the Simpson Road Extension and Public Infrastructure Works as referred to in this Agreement and shall be included in this Schedule "G":

- Reference Plan 43R-36706
- Reference Plan 43R-39439
- Reference Plan 43R-XXXXX
- Reference Plan 43R-XXXXX

The parties acknowledge and agree that this Reference Plan is subject to change depending on any modifications that may be made to the Public Infrastructure Works as required.

SCHEDULE "H"
OWNERS' ADDRESSES

NAME OF PARTY	MAILING ADDRESS
ANATOLIA CAPITAL CORP.	Anatolia Capital Corp. 8300 Huntington Road Vaughan, ON L4L 1A5 Attention: Baran Yilmaz Phone: (905) 771-3800 ext. 740 Email: baran.yilmaz@anatoliacapitalcorp.com
ARION SERVICES LTD.	63 Progress Court, Unit 3 Brampton, ON L6S 5X2 Attention: Paul Ricciuto Phone: (905) 789-5769 Email: paul@percor.ca

SCHEDULE "I"
BENEFITING AREA (FINAL)



Watson & Associates ECONOMISTS LTD

Map Ref	Municipal Address	Developable Land Area (ha.)	D.C. Payable		
			Services Related to a Highway	Stormwater Management Services	Total D.C. per Property
S-3	12155 COLERAINE DR	3.65	3,157,134	550,881	3,708,014
S-8	8576 MAYFIELD RD	2.30	1,991,441		1,991,441
S-2	0 COLERAINE DR	3.60	3,117,184	928,936	4,046,120
S-4a	8664 MAYFIELD RD	10.46	9,055,275	5,114,548	14,169,822
S-4b	0 MAYFIELD RD				
S-4c	8746 MAYFIELD RD				
S-5	0 COLERAINE DR	3.46	2,995,324		2,995,324
S-6	0 COLERAINE DR	3.30	2,854,690		2,854,690
S-7	8602 MAYFIELD RD	1.55	1,345,703		1,345,703
TOTAL SIMPSON RD. PHASE 3 LANDS		**28.32**	**24,516,751**	**6,594,364**	**31,111,116**

SCHEDULE "J"
TOWN STANDARD LETTER OF CREDIT

AUTOMATIC EXTENSION

LETTERHEAD OF BANK OR OTHER FINANCIAL INSTITUTION
ADDRESS OF FINANCIAL INSTITUTION

DATE

TO: THE CORPORATION OF THE TOWN OF CALEDON
6311 OLD CHURCH ROAD
CALEDON, ONTARIO
L7C 4J6

ATTENTION: TREASURER

Dear Madam/Sir:

RE: Irrevocable Standby Letter of Credit No. _____

We hereby authorize you to draw on *(Name and Address of Bank)*, for the account of *(Customers Name and Address)*, up to an aggregate amount of $_____ available on demand.

Pursuant to the request of *(Name of Customer)*, we *(Name of Bank)*, hereby establish and give to you an Irrevocable Standby Letter of Credit in your favour in the total amount of $_____, which may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you, which demand we shall honour without inquiring whether you have a right as between yourself and our said customer to make such demand, and without recognizing any claim of our said customer.

Provided, however, that you are to deliver to us at such time as a written demand for payment is made upon us, a certificate confirming that monies drawn pursuant to this Irrevocable Standby Letter of Credit are to be retained and used to meet obligations incurred or to be incurred by you in connection with an Agreement entered into by (Customers Name) with the Town of Caledon regarding Lot _____, Concession or Registered Plan _____, being _____. Town of Caledon, Regional Municipality of Peel.

The amount of this Irrevocable Standby Letter of Credit shall be reduced from time to time as advised by notice in writing given to us from time to time by you.

This Irrevocable Standby Letter of Credit will expire at our counters *(Name of Bank)* on *(expiry date)*.

It is a condition of this Irrevocable Standby Letter of Credit that it shall be deemed to be automatically extended for one year from the present or any future expiration date hereof, unless thirty (30) days' prior to any such date we shall notify you in writing by Registered Mail that we elect not to consider this Irrevocable Standby Letter of Credit renewed for any such additional period. Upon receipt by you of such notice, you may draw hereunder by means of your demand accompanied by your written confirmation that the amounts drawn will be retained and used by you to meet obligations incurred or to be incurred in connection with the above agreement; further, that you will release any amounts not required by you to *(Name of Customer)*.

Partial drawings are permitted.

The drawings under this Irrevocable Standby Letter of Credit are to state on their face that they are drawn under *(Name and Address of Bank)*, Irrevocable Standby Letter of Credit No. _____ dated _____.

We hereby agree that drawings under this Irrevocable Standby Letter of Credit will be duly honoured upon presentation provided that all terms and conditions of the Credit have been complied with.

NAME OF BANK OR FINANCIAL INSTITUTION

Per: _____

Per: _____

SCHEDULE "K"
TRUSTEE CERTIFICATE

TO: THE CORPORATION OF THE TOWN OF CALEDON

FROM: Simpson Road Landowners Group Inc. (the "Trustee")

RE: (INSERT DETAILS OF APPLICABLE OWNER AND APPLICABLE LANDS)

1. The undersigned is the Trustee for the Simpson Road Landowners Group Inc. and hereby confirm to the Town that (insert name of Benefiting Owner):

   a) has executed the Cost Sharing Agreement and is in good standing thereunder, and
   b) has paid its share of all payments due and payable to date under the Cost Sharing Agreement in respect of the Lands within the areas referenced (insert legal descriptions of the applicable lands).

2. I have no objection to the Town granting final approval of the site plan application OR issuing a building permit for development on the Lands OR otherwise permitting development of the Lands.

3. The Town shall be entitled to rely upon this certificate in respect of the matters set out herein, and the Town shall not be required to inquire further as to the validity, accuracy or authority of this certificate.

Dated at _____ this _____ day of _____ 20

SIMPSON ROAD LANDOWNERS GROUP INC

Per: _____
Name

I have authority to bind the corporation.

SCHEDULE "L"
TRCA CONDITIONAL APPROVAL LETTER

Toronto and Region Conservation Authority

November 7, 2019

CTN 58448
XREF CFN 44569, 34067

BY E-MAIL ONLY (ian.todhunter@caledon.ca)

Ian Todhunter
Senior Project Manager, Engineering Services
Town of Caledon
6311 Old Church Road
Caledon ON, L7C 1J6

Dear Mr. Todhunter:

Re: Ontario Regulation #166/06, Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Application #1006/17/CAL
Simpson Road Extension and West Rainbow Creek Re-alignment – Submission #6
Humber River Watershed; Town of Caledon; Regional Municipality of Peel

Toronto and Region Conservation Authority (TRCA) staff received the design drawings, Town of Caledon cover letter dated October 9, 2019, Appendix A, Appendix B, Appendix C (Hydraulics, Hydrology, Natural Channel Design), Wood response dated October 4, 2019 and a digital copy of these materials, on October 11, 2019.

PROJECT OVERVIEW

TRCA staff understands that this proposal involves the extension of Simpson Road from south of Parr Boulevard to Mayfield Road, in the Town of Caledon. It is further understood that the proposed road work also includes installation of catch basins, manholes, sanitary and storm sewers, and watermains. In addition, a realignment of the existing creek that extends from the existing stormwater management (SWM) pond located south of Parr Boulevard to West Rainbow Creek at Mayfield Road is proposed to run along the western boundary of the Simpson Road Extension.

It is also staff's understanding that the Town of Caledon is requesting TRCA's conditional approval on this application, including confirmation that all requirements have been satisfied apart from the landowner acquisition and authorization.

PROJECT REVIEW

Based on the latest submission it is now our understanding that:

- The landowners group will be responsible for the construction of Simpson Road and the channel.
- A temporary stormwater management (SWM) facility is no longer being proposed and that the Town is working with the landowners group to design the ultimate SWM facility (one pond) to address stormwater requirements for both the Town infrastructure and the development lands.
- The Mayfield Road works including the culvert upgrade will precede the Simpson Road construction and channel reconfiguration.
- The Town and landowners group are in the process of securing all landowner permissions.

In concept this approach seems reasonable and is subject to meeting our requirements through each of these permit applications.

Notwithstanding the above, the phasing and proponency of these works has changed several times throughout our review of this application. It is our understanding that the above- noted phasing of these works is now confirmed and it is our expectation that all of this will be coordinated moving forward. Furthermore, given that this application is being made based on hypothetical scenarios, please be advised that additional review of supporting documentation for the future pond and Mayfield Road, at the crossing location, will be required prior to permit issuance to confirm that all stormwater requirements have been met.

Staff has reviewed the above-noted information and while many of our previous comments have been addressed (refer to Appendix A), because the design is based on a hypothetical scenario in which the SWM pond, Mayfield Road culvert and Mayfield Road are in place additional comments may be provided in subsequent submissions as this information has not been reviewed by TRCA staff to date. In addition, should phasing of this work change from what was provided in the latest response from the Town and Wood, then further discussions with TRCA staff will be required and our previous comments which have been removed from the table in Appendix A may still apply.

Finally, we understand that this file will be transferred to a landowners group to coordinate through the final stages of the permitting process. Please ensure that one point of contact is established through that group who will be responsible for full coordination including, but not limited to, ensuring quality control of future submissions to TRCA. We respectfully request that the Town or landowner lead contact Glenn Pitura at glenn@arutip.com to further discuss a similar working relationship that we have on-going with the Bolton landowners group.

SUBMISSIONS

In order to facilitate the review of the next submission, please provide the following:

- One (1) copy of a cover letter with Central File Number (CFN) 59448 quoted, which outlines how the comments in Appendix A have been addressed.
- Revised and signed permit application with the new permit holder, if this has changed from what was originally submitted.
- Four (4) individually folded full size copies of the submission (**complete set of plans**), signed and stamped by a professional
- One (1) hard copy of all background materials for Simpson Road and the channel, including but not limited to supporting information for the SWM pond, Mayfield Road culvert sizing and Mayfield Road design at the crossing.
- Digital modeling to support the above.
- Please include a digital copy of all submitted material. Materials must be submitted in PDF format, with drawings pre-scaled to print on 11"x17" pages. Materials may be submitted on discs, via e-mail (if less than 2.5 MB), or through file transfer protocol (FTP) sites (if posted for a minimum of two weeks).

REVIEW FEES

Please be advised that additional fees are applied as per the fee schedule for reviews beyond three (3) submissions, including the final as per our 2018 Fee Schedule. Additional fees will be applied for all subsequent submissions.

Should you have any questions, or require any additional information, please contact me at extension 5717 or at sharon.lingertat@trca.ca.

Regards,

Sharon Lingertat
Senior Planner, Infrastructure Planning and Permits
Development and Engineering Services

BY E-MAIL

cc: Wood: Felix Wong (felix.wong@woodplc.com)
Brian Bishop (brian.bishop@woodplc.com)
Caledon: Melissa Mohr (Melissa.Mohr@caledon.ca)
Ryan Grodecki (Ryan.Grodecki@caledon.ca)
Peel: John Hasselbacher (John.hasselbacher@peelregion.ca)
TRCA: Jason Wagler, Senior Planner, Development Planning and Permits
Beth Williston, Associate Director, Infrastructure Planning and Permits
Quentin Hanchard, Associate Director, Development Planning and Permits

#	TRCA (October 27, 2017)	[illegible] (May 17, 2018)	TRCA (June 22, 2018)	[illegible] (March 12, 2019)	TRCA (April 17, 2019)	[illegible] (June 27, 2019)	TRCA (August 21, 2019)	[illegible] (September 24, 2019)	TRCA (November 1, 2019)
OUTSTANDING COMMENTS FROM DRAFT SWM (November 2017)									
Hydrology and Stormwater Management									
1.	Draft SWM + SAR Calculation Package (2017): Please provide a figure/drawing to clearly highlight the location of the tributary catchment lacking and grassed swale which are Water Number and relocated and the [illegible] temporary road pending work on the West Rainbow Creek crossing. Please provide reference to the drawing number(s) for the grades and relief structures. Also, please provide [illegible] to [illegible] to ensure the facility current criteria can be achieved. Draft SSR - Response Consultant Response (November 2018): A figure will be provided to clearly show the proposed realigned, the to include 210 CN#86. Functional grades have been based on the available topographic mapping. Similarly, as there are several dwelled relative for proposed swales and the slopes are relatively gentle we propose that the required flow, velocity, and length criteria can all be met at the detailed design stage. Detail Design - TRCA Comment (October 2017): Please address the previous comment. Please also provide supporting calculations for the Allowable peak flow discharge for the West Rainbow subwatershed catchment.	[illegible] peak flow for the West Humber subwatershed catchment was calculated using the unitary discharge criteria adjusted which the subwatershed is fully [illegible] Beam 36-Equator, P_ynt, TRCA August 2012) As per the May 23rd Comment, as the temporary facility and [illegible] the current project limits. Separate modifications will be submitted as a later date as a requirement for the 3rd plan development application.	[illegible] and supporting calculations were not provided, staff was unable to review the target flows and resulting actions. Please provide the digital HEC model, [illegible] and supporting [illegible] In regards to the SWM facility, initial correspondence from the Town (Geoff Hebbert) dated June 4, 2018, requested that the pond cell be constructed at the north east corner of the new Simpson Road and Mayfield Road will be constructed to ultimate size to service both the road and the proposed Arcadia development by the developer. However, contrary to this email correspondence and the Response Memorandum dated May 10, 2018, a SWM facility still appears to be proposed as a part of the Simpson Road project as depicted on Drawings No. 1, 8, 10, 14, C3 and C4. If the SWM facility is outside of the Simpson Road project limits and scope, please remove	[illegible] including all scenarios and storm events has been provided. As noted by the Town in the August 9, 2018 meeting of TRCA [illegible] the industrial development will proceed [illegible] construction of Mayfield Road, as such the stormwater pond that serves the road will be implemented [illegible] actual and full servicing has been established for the road.	[illegible] and resulting outflows will be reviewed once the drainage characteristics [illegible] modal is submitted. b) Comments on the temporary SWM facility and erosion control [illegible]. Based on the responses these comments will be addressed at a later date. Discussion on how the temporary SWM facility is [illegible] function in the interim will need to be provided including modelling calculations consistent with the revised hydrology model. The information should be compiled in a	c) The overall timing of the project was discussed with TRCA, SWM Branch, has further comments. b) TRCA and consultant the proposed temporary SWM [illegible] facility, and [illegible] a SWM report to [illegible] design, along with the [illegible]. The Town provided a SWM [illegible] the most [illegible] to discussed that the temporary facility would function, if the road was constructed in advance. The Town confirmed that this scenario will not be pursued. c) See response to #1. the Developer is to provide the information. Developer is to construct the outlet, and provide all details of the [illegible] d) Elevation were confirmed in the April 22, 2019 [illegible]	a) [illegible] and conditions with TRCA, SWM Branch, has further comments. b) TRCA and consultant the proposed temporary SWM [illegible] facility, and [illegible] a SWM report to [illegible] design, along with the [illegible]. The Town provided a SWM [illegible] the most [illegible] to discussed that the temporary facility would function, if the road was constructed in advance. The Town confirmed that this scenario will not be pursued. c) See response to #1. the Developer is to provide the information. Developer is to construct the outlet, and provide all details of the [illegible]. d) Elevation were confirmed in the April 22, 2019 [illegible].	a) Further to the proposed phasing discussed above (Duncan email response of September 24, 2019), the Mayfield or temporary facility is not planned, further design will not be necessary. b) Agreed, a single construction facility is planned, as no further temporary facility design is planned	No phase 1 temporary facility is not planned. Therefore, there is no [illegible] comment on this matter. Based on the response provided by the Town of Caledon Email (September 24, 2019) and Wood memo dated October 4, 2019 a design for the ultimate SWM facility to address Town and development areas, will be completed prior to road/channel construction. This will need to be reviewed by TRCA staff as part of the road submission, as it relates to the construction of Simpson Road and the channel. Once the SWM facility and Mayfield Road design are approved, a copy of these details will [illegible] to TRCA staff for review in conjunction with the Simpson Road/channel submission to ensure water have been considered as a whole to determine controls for the project. Info matter such as modelling and design parameters need to be provided to confirm that adequate [illegible] can impose SWM and LID requirements for the new roadway channel.

#	TRCA COMMENTS (October 31, 2017)	PROPONENT RESPONSE (May 17, 2018)	TRCA COMMENTS (June 22, 2018)	PROPONENT RESPONSE (March 12, 2019)	TRCA COMMENTS (April 17, 2019)	PROPONENT RESPONSE (June 27, 2019)	TRCA COMMENTS (August 31, 2019)	PROPONENT RESPONSE (September 30, 2019)	TRCA COMMENTS (November 7, 2019)
			...tion, as it is still within the project scope, please provide exclusive information as requested in previous comments. In addition, please clarify if the road construction will proceed prior to the Applicable development, or if the road and Applicable development will occur concurrently. It is staff understanding that the Applicable development will require the temporary road extension for access during construction. Also, provide all calculations in response to Comments #4 and #5 to identify the factors and/or criteria in what circumstances will [illegible] development to proceed prior to the road construction and provide the detailed plans for the development to [illegible] provide assurance for SWM quantity and quality control measures within the road right of way.			...SWM report on the temporary pond including details for the design showing how the quality, quantity and erosion criteria for the Phase pond being met. Please provide. 1) Report for the 103 Papworth Road Phase 1 development plan, it is our understanding a second SWM pond will be constructed adjacent to the temporary pond. Please ensure the design and function of these ponds is coordinated as the Applicable development proposes [illegible] pond is required to service the road will be maintained by the Town. Staff also require clarification on who is the responsible for	Provided to confirm the Limitation of the SWM report and revised design drawings for the Applicable SWM facility. a) Noted and the Region advises, as provided on the [illegible] submitted in March 2019, and resubmitted in June 2019. For the May 22, 2019 e-mail, the Town will provide landowner clearance and finalize as they become available. See attached memorandum summarizing the proposed [illegible] consultant's	...the area. c) Staff [illegible] that the proponent apply for a variance for SWM facility to provide water quality, quantity and erosion control for the road and surrounding area. Extensive works will be required to bring the temporary pond to [illegible] MECP standards as not only would [illegible] of the outlet structure be required but also [illegible] permanent pool [illegible] a [illegible] a floatable, submerged detention and [illegible] compensation for the 95.50 ha draining to the pond. 4 the Town decides to go ahead with the temporary SWM pond we require supporting information that demonstrates the facility has adequate capacity to ensure potential increases in flows [illegible] from the road extension and the adjacent lands. Further, measures to provide water quality control for the Simpson road extension (i.e. OI and Grit separator)		

#	TRCA comments (October 27, 2017)	Resubmission (May 11, 2018)	TRCA comments (June 22, 2018)	PROPONENT RESPONSE (March 13, 2019)	TRCA COMMENTS (April 17, 2019)	PROPONENT RESPONSE (June 27, 2019)	TRCA COMMENTS (August 21, 2019)	PROPONENT RESPONSE (September 24, 2019)	TRCA COMMENTS (November 7, 2019)
					constructing the canal and the walkway. If the client [illegible] at the same location where the temporary pond is proposed, we [illegible] including relevant [illegible] on the proposed channel structure and outfall plan to confirm that channel and culvert upgrades are not [illegible] proposed for Hedden road.		should also be provided. In addition, staff [illegible] from the [illegible] provided by Wood that the proposed temporary pond [illegible] to provide quantity control. However, [illegible] accurate [illegible] does [illegible] permanent pool. Please note that permanent pond [illegible] typically recommended for drainage areas [illegible] than 5 [illegible]. Please clarify or adjust accordingly.		
					31 Please confirm the elevations of the pond as it relates to the [illegible] to the [illegible] and [illegible] are [illegible] shown in [illegible]. Please confirm how the pond will be configured for [illegible] and [illegible] all storm events up to [illegible] is [illegible] in the SWM report.				

#	TRCA COMMENTS (October 27, 2017)	PROPONENT RESPONSE (May 17, 2018)	TRCA COMMENTS (June 27, 2018)	PROPONENT RESPONSE (March 28, 2018)	TRCA COMMENTS (April 17, 2018)	PROPONENT RESPONSE (June 21, 2018)	TRCA COMMENTS (August 31, 2018)	POST-PROPONENT RESPONSE (September 24, 2018)	TRCA COMMENTS (November 7, 2018)
					a) "Please [illegible] storm sewer through the temporary pond and outlet pipe [illegible] the proposed culvert at Mayfield Road and include the proposed crossing in the report. Please also coordinate with the Region of Peel and include their input in your design submission for the alignment of the realigned culvert and road as they will [illegible] operating."				
5.	Draft SSR – TRCA Comment (October 2017): This will provide a figure showing / identifying the contributing drainage area to each of the temporary SWM facility. Please provide supporting calculations for the target rate of each temporary SWM facility. As requested above, please provide a digital copy of the hydrologic model(s) to provided with the next submission. Draft SSR – Proponent / Consultant Response (November 2017): A figure has been included in the current proposal package. A digital copy of the hydrologic models will be submitted. Detail Design – TRCA Comment (October 2017):	Target release rate for the temporary SWM facility was calculated using the unit flow method (Q=qA) as per the Humber River Watershed Sub-Basin 36 Equation #1 (ref. TRCA August 2012). Given the request by the TRCA to achieve the water balance criteria for the storm condition (i.e. Storage Fixed preceding the Industrial development), the "Over-all Imperviousness" LID infiltration measures within the right-of-way. Water quality and flow control is proposed to be provided in the temporary SWM facility.	Comment remains outstanding. Please refer to the report for [illegible]	Details of the Stormwater pond design are attached to the site plan as an appendix. The pond volume requirement is based on the rate and schedule design guidelines, the pond is provided between 25 and 42 m³/s volume, managing the volume from roughly the equivalent of 2 to 20, 25, 50, 100 & 2 mm events	a) As mentioned in previous correspondence, a separate SWM pond will provide water quantity, quality and erosion control for the proposed Sunpine Road extension only, while the [illegible] detention, quality and provide the required water	Based on the iterative [illegible] of the geotechnical report for Sunpine Road [illegible], [illegible] attached), storage [illegible] Hydrogeo [illegible] and additional [illegible] and the Peel [illegible] the [illegible] Sunpine Road [illegible]	The proposed LID measures are acceptable. The EA for the proposed realignment of the crossing at Mayfield road (Culvert [illegible] and Mayfield Road) Original City Region proposes a new 3000 USF culvert like and the Peel [illegible] proceed a 3,000 [illegible] [illegible], it is our understanding that the final crossing will be a 6.0m [illegible]	We (Caledon) confirm that the proposed Region crossing is as per the TRCA comment (i.e. 1.5 m [illegible], [illegible] phasing, [illegible] (Caledon email [illegible] of September 24, 2018). The [illegible] are not planned to	The consultant confirms the new crossing at Mayfield Road will be a 6.0m [illegible] which may pose up to the Region's [illegible]. TRCA will have no real opportunity to review the new [illegible] by the Region. Staff is looking forward to reviewing the final culvert design which was to be provided by the Region of Peel since it is completed. [illegible] and proceeding of the phasing of this area the current will remain as it is now prior to construction

#	TRCA COMMENTS (October 20, 2017)	PROPONENT RESPONSE (May 11, 2018)	TRCA COMMENTS (June 22, 2018)	PROPONENT RESPONSE (March 15, 2018)	TRCA COMMENTS (April 13, 2018)	PROPONENT RESPONSE (June 27, 2018)	TRCA COMMENTS (August 21, 2018)	PROPONENT RESPONSE (September 28, 2018)	TRCA COMMENTS (November 7, 2018)
	As requested previously, please provide supporting calculations for the target rate of the temporary SWM facility as well as a digital copy (.dwg, hydrograph model, Permanent, the SWM Memo only discussed proposed water quality control. Please provide information on how water quality (MOE OG Enhanced level), sweep drainage (minimum 5 mm, or area restrictor) and erosion control would be provided for the proposed extension of Bonnieglen Road	Details of the proposed temporary LID measures will be included in the next submission, drawings. The Owner anticipates the use of infiltration trenches, and calculations will be provided to demonstration the 5 mm infiltration.			i) The draft comment in regard to the lack of quantity, quality and erosion control (page ###, required volumes etc) will be provided once we receive the drainage plan, as mentioned in comment 3 above, as the drainage plans may influence the type of maintenance required for the pond. ii) Ref to the option that the proponent LID measures may be able to provide the required 5 mm rainfall retention. However, the following information should be acknowledged as well as the next submission: • Please provide an area drainage plan indicating how	The stormwater and proposed stormwater. Therefore, we assume that a hydraulic conductivity of 0.01 mm/hr be applied. Typical value for Silty Clay soil type) and this value has been used in the Bioswale calculations. This value was confirmed via survey between Wood and TRCA. Updated calculations are attached. The bioswales will provide the 5 mm retention. The bioswales are supplementary measures, in addition to the SWM facility. a year discussed at the April 23, 2018 meeting, where the Owner has taken a proactive approach and	embedded GI-LIDs, which is consistent with the models and methods provided by request. A discussion should be provided regarding the phasing of all of this work including the channel implementation, road construction of the SWM pond and the installation of Culvert 1B. Coordination among the consultants for Region and the Town is required. It is very unclear, the channel works advance prior to installation of culvert 1B, a scenario assessing the performance of the proposed channel will be required. No stormwater drainage or water surface elevations upstream or downstream of the proposed channel works.	provide Culvert 1B. Original culvert and Riverfill Road.	of Sanipac Associates channel, as per recommendations from the Town and Conservation Board

#	TRCA COMMENTS (October 27, 2017)	PROPONENT RESPONSE (May 17, 2018)	TRCA COMMENTS (June 22, 2018)	PROPONENT RESPONSE (March 12, 2018)	TRCA COMMENTS (April 17, 2018)	PROPONENT RESPONSE (June 27, 2018)	TRCA COMMENTS (August 31, 2018)	PROPONENT RESPONSE (September 24, 2018)	TRCA COMMENTS (November 7, 2018)
1					• the proposed re-naturalization corridor will function (i.e., which re-naturalization corridor will maximize ecological and achieve TRCA water balance requirements for the new development) • The proposed hydraulic connectivity (bidirectional) and associated infiltration (bi-directional) appears to be too high for the area in question, as per TRCA's guidelines, the hydrologist is required to provide additional information that corresponds with TRCA protocol described in Appendix D of the TRCA Low Impact Development guide (Stormwater Management Planning and Design Guide (2010)) • There are no supporting calculations	permitted the Proponent to submit an supplementary document that the maximum offsets for quality treatment will be provided in the detailed design. The report also optimized the location and size of the bioretention swale procedure. Improving can the MECP will always also be asking for road network way. JDs. Per the May 23, 2018 TRCA e mail, we need to provide information when later provided to TRCA for review, and to response to the Per			

#	TRCA COMMENTS (October 31, 2017)	PROPONENT RESPONSE (May 17, 2018)	TRCA COMMENTS (June 22, 2018)	PROPONENT RESPONSE (March 12, 2018)	TRCA COMMENTS (April 17, 2018)	PROPONENT RESPONSE (June 27, 2018)	TRCA COMMENTS (August 21, 2018)	PROPONENT RESPONSE (September 24, 2018)	TRCA COMMENTS (November 7, 2018)
					consistent with section 4.5 (page 4-44) of the above noted LID Guide.	basis for selection of the hydraulic conductivity.			
NEW COMMENTS ON DETAIL DESIGN									
General									
1	Staff understand that the Town of Caledon (Town) is currently in the process of obtaining ownership of the proposed Sandalwood Road extension. Please provide an update on the status of land acquisition and ownership.	This is ongoing by the Town.	Please provide an update when information is available.	The Landowner Group has been formed, and negotiations are ongoing.	To be provided.	Town will provide landowner details and dates as they become available. See attached memorandum detailing the Sandalwood Developer memorandum.	Landowner authorization to be provided.		Landowner authorization to be provided.
Hydrology and Channels: Meadowland									
20.	Staff note that the submitted information demonstrates the proposed natural channel will safely existing expansion and will not create additional flood risk. Please update the HEC-RAS model and proposed conditions for the 2-Yr, 100-year and Regional storms consistent with the TRCA Technical Guidelines for Flood Hazard Mapping (attached). The HEC-RAS model should be grandfathered and the existing (XXXXXX-existing) to include all formal cross sections to match the proposed morphology. Adding these cross sections to the existing model will allow comparison of proposed recession in water surface elevation at each cross section. Please note that less steep gradients are typically required to properly represent and capture debris through the crossings. Please refer to the HEC-RAS manual and hydraulic reference manual for further guidance.	The HEC-RAS model has been grandfathered as requested, and additional sections have been added such that top cross sections are included at each crossing location. As the purpose of the channel re-alignment is to facilitate the development of the neighbouring lands a comparison of building and proposed conditions is not applicable for the study area. It is noted that under future condition, the floodplain is maintained within the channel banks for the regional storm.	Although the purpose of the proposed channel re-alignment is to facilitate development of neighbouring lands, a water surface elevation comparison (at the same cross-sections) can not be completed regardless of the floodplain of the XXXXXX (XXX). Please provide a comparison of surface water elevations for the existing and proposed conditions according to the enclosed TRCA Erosion and Guidelines for Flood Hazard Mapping.	A table comparing the two options has been provided.	Comment is outstanding. Please refer to the HEC-RAS existing condition cross section and water surface elevation comparison at each cross section (between the existing and proposed scenario) can be appropriately assessed.	Further to the TRCA staff request, the proposed conditions HEC-RAS model has been updated to include those corrections with the existing conditions HEC-RAS model cross sections. The HEC-RAS model files have been updated accordingly. The updated results tables and the floodplain depiction HEC-RAS results are attached to this letter.	Please refer to comment 22.		Refer to comment 22.
XX.	Both developers stated February and March 2017 between the Town (Geoff Neilson) and TRCA (Sharon Jingura) (staff identified issues with the existing SWM pond located on the Caledon Valley Estates Development site and the lack of Part 2 plan and Title	The Town recognizes that there are two developers in the headwaters of this watercourse. Stantec (2005) and Great Way Life development (2008) Cite	A copy of the report and addendum should be included, signed by the engineer, as per the direction received at the August 9, 2018	A copy of the channel design report has been updated. We have an comment on this item on the	A copy of the channel design report has been updated. We have an comment on this item on the	-	The HEC-RAS model and watercourse mapping prepared by Wood (email to Peter Wheeler, on August 21, 2018).	A final copy of the HEC-RAS model, hydraulic assessment, and	A final copy of the HEC-RAS model along with the hydraulic assessment (approved and signed) were provided. The hydraulic assessment

#	[illegible] (October 27, 2017)	[illegible] (May 17, 2018)	[illegible] (June 20, 2018)	[illegible] RESPONSE (March 13, 2019)	TRCA [illegible] (April 17, 2019)	[illegible] RESPONSE (June 27, 2019)	[illegible] (August 2, 2019)	[illegible] (September [illegible], 2019)	TRCA COMMENTS (November 7, 2019)
	[illegible]	locally has a 72-hour [illegible] and the second [illegible] [illegible] [illegible]

#	TRCA COMMENTS (October 27, 2017)	PROPONENT RESPONSE (May 17, 2018)	TRCA COMMENTS (June 20, 2018)	PROPONENT RESPONSE (March 12, 2019)	TRCA COMMENTS (April 17, 2019)	PROPONENT RESPONSE (June 27, 2019)	TRCA COMMENTS (August 21, 2019)	PROPONENT RESPONSE (September 6, 2019)	TRCA COMMENTS (November 7, 2019)
		[illegible]							

SCHEDULE "M"
OWNERS' STATUTORY DECLARATION CERTIFYING DISCHARGE OF LIABILITIES

STATUTORY DECLARATION

CANADA PROVINCE OF ONTARIO	)	IN THE MATTER OF the Master Financial and Development Agreement between
	)	and
	)	the CORPORATION OF THE TOWN OF CALEDON and THE REGIONAL MUNICIPALITY OF PEEL.
To Wit	)	

Of the of in the Regional Municipality of

SOLEMNLY DECLARE that

1. I am the of and as such have knowledge of the matters herein deposed to.

2. All accounts due relevant to the design, supply, installation, construction and maintenance of the Town's Works (as defined in the Agreement) for the relevant lands have been paid and there are no outstanding actions, causes of action, suits, claims or demands whatsoever relating to the design, supply, installation, construction and maintenance of the Town's Works.

3. All accounts due relevant to the design, supply, installation, construction and maintenance of the Region's Works (as defined in the Agreement) for the relevant lands have been paid and there are no outstanding actions, causes of action, suits, claims or demands whatsoever relating to the design, supply, installation, construction and maintenance of the Region's Works.

4. This declaration is made in support of a request for a reduction in the letter of credit posted with respect to the above mentioned Master Financial Agreement.

AND I make this solemn Declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath.

Declared before me at the		)
of		)
in the		) _____
of		) Name
this	day of 20__	)

A Commissioner etc.

Name

SCHEDULE "N"
INSURANCE CERTIFICATE

"" This is to certify that the insured named below is insured as described below ""

"" This form must be completed and signed by your insurer or insurance broker ""

NOTE: 1 Proof of liability insurance will be accepted on this form only (with no amendments)

2 Insurance company must be licensed to operate in Canada.

me of Insured (Landowner)	lephone No. (including area code)
	( )
ured's address (street name, city, province and postal code)	No. (including area code)
	( )

s of Insurance	urer's Name	licy Number	licy Period		mits of Liability (Bodily Injury & property damage – inclusive)	Portfolio
			m 12:01 AM Y MM DD	12:01 AM Y MM DD		
mmercial General Liability						
Umbrella Excess						
Other (Explain)						

mmercial/General Liability includes

mises Ioss, Including Personal Injury, Property Damage, Broad Form Property Damage, Contractual Liability, Non-owned Auto ility, Cross Liability and Severability of Interest Clause, Pollution Liability (Owners & Contractors not less than $2 Million)

s policy contains no exclusions for damage or loss from vibration (including pile driving), the removal or weakening of support, shoring and underpinning, or from any other activity or work that may be done on, and owned by the Town of Caledon in connection with the development referred to in the Agreement. Such policy shall be written with a limit of not less than FIVE MILLION Dollars ($5,000,000.00) inclusive of and not in addition to costs.

mmercial Legal Liability: ☐ No or ☐ Yes, Limits $

ellor Liability ☐ No or ☐ Yes

THE CORPORATION OF THE TOWN OF CALEDON has been added as an additional insured but only with respect to their interests in the operations of the Named Insured

ner policies	urer's Name	licy Number	licy Period		nits of Coverage
			m 12:01 AM Y MM DD	12:01 AM Y MM DD	
tor Vehicle Liability "All vehicles owned or operated by the Insured"					

Motor Vehicle Liability – must cover all vehicles owned, operated by or on behalf of the Insured – Not Less than $2 Million

s certifies that the policies of insurance described above have been issued by the Corporation of the Town of Caledon l underwritten to the insured named above and are in force at this time.

ancellation or materially changed in any manner that would affect the Town of Caledon as an additional insured, for any reason, as is affect this certificate, thirty (30) days prior written notice by registered mail or facsimile transmission will be given by the Insurer(s) to:

Manager of Finance and Infrastructure Services

6311 Old Church Road

Caledon, ON L7C 1J6

: (935) 584-339

SCRIPTION OF OPERATIONS/LOCATIONS

ption of –

ation No.: 21T-

ority Address:

This is to certify that the Policies of Insurance listed above have been issued by the undersigned to the insured named above and are in force at this time. This Certificate is furnished and issued to the aforesaid Corporation of the Town of Caledon this day and date noted below.

me of Insurance Company or Broker (completing form)	phone No. (including area code)
ress (street name, city, province and postal code)	) No. (including area code)
me of Authorized representative or official	nature of authorized representative or official

SCHEDULE "O"
CONVEYANCES

The parties acknowledge and agree that this Agreement and Schedule "O" may be amended by the Town or the Region to include all Public Infrastructure Works, lands and easements to be conveyed to the Town or the Region, as applicable.

Land and easements to be gratuitously conveyed free and clear of any encumbrances:

Lands to be Transferred to the Town:

1. Future Simpson Road and Channel – designated as Parts 1 to 13, and 16 to 17 43R-39795
2. Future Simpson Road and Channel – designated as Parts 1 to 6, 43R-39132
3. Future Simpson Road and Channel – designated as Parts X to X, 43R-XXXXX
4. Storm Water Management Pond – designated as Parts 3, 4, 28 and 29, 43R-XXXXX

March 6, 2020

SIMPSON ROAD (CALEDON) - SHARED WORKS (SIMPSON ROAD EXTENSION AND STORMWATER CHANNEL) COST SHARING AGREEMENT

HELEN A. MIHAILIDI
BRATTYS LLP
Barristers and Solicitors
7501 Keele Street
Suite 200
City of Vaughan
Ontario
L4K 1Y2

SIMPSON ROAD (CALEDON) - SHARED WORKS (SIMPSON ROAD EXTENSION AND STORMWATER CHANNEL) COST SHARING AGREEMENT

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SIMPSON ROAD (CALEDON) - SHARED WORKS (SIMPSON ROAD EXTENSION AND STORMWATER CHANNEL) COST SHARING AGREEMENT

THIS AGREEMENT made as of the 6th day of March, 2020

A M O N G:

ANATOLIA CAPITAL CORP.,

(hereinafter referred to as "**Anatolia**")

OF THE FIRST PART;

-and-

ARION SERVICES LTD.,

(hereinafter referred to as "**Arion**")

OF THE SECOND PART;

-and-

SIMPSON ROAD LANDOWNERS GROUP INC.,

(herein referred to as the "**Trustee**")

OF THE THIRD PART;

-and-

SCS CONSULTING GROUP LTD.,

(herein referred to as the "**Cost Sharing Consultant**")

OF THE FOURTH PART.

WHEREAS the parties of the First and Second Parts are the owners of those lands situate in the Town of Caledon, in the Regional Municipality of Peel, which are identified on the plan annexed hereto as Schedule "A", and more particularly described on Schedule "B" attached hereto;

AND WHEREAS, in order to further the development and servicing of the Owners' Lands (as hereinafter defined), the Shared Works (as hereinafter defined) are required to be constructed;

AND WHEREAS the Owners have agreed to cooperate with respect to the construction of the Shared Works (as hereinafter defined), and contribute towards the cost of the Shared Works and the security required to be delivered in respect thereof, in accordance with the terms of this Agreement;

NOW THEREFORE IN CONSIDERATION OF ONE ($1.00) DOLLAR and other good and valuable consideration now paid by each of the parties, one to each other, the receipt and sufficiency of which is hereby acknowledged, the parties hereto hereby acknowledge, covenant and agree as follows:

ARTICLE I: DEFINITIONS

1.01 In this Agreement and in the Schedules annexed hereto, the following words and expressions shall have the following meanings:

(a) "**Administration and Consultant Costs**" shall mean the aggregate of all costs and expenses incurred from time to time by or on behalf of the Owners for the benefit of the Lands in respect of the following:

(1) the costs of studies, plans, fees of lawyers, planners, engineers and other professionals and Cost Sharing Consultants engaged in connection with and/or in order to implement this Agreement;

(2) the costs related to the preparation of reference plans and the legal costs related to the transfer of lands and easements by the Owners pursuant to Article II of this Agreement;

(3) the costs associated with obtaining an appraisal to determine the Land Compensation Rate (if applicable);

(4) the costs related to the preparation and administration of this Agreement and the schedules hereto (including without limitation, updating of schedules from time to time) and the costs of the Trustee and Cost Sharing Consultant hereunder;

(5) the costs of the Trustee, the Cost Sharing Consultant and any other consultant engaged on behalf of the Owners from time to time for the purposes of this Agreement;

(b) "**Approval Requirements**" shall have the meaning ascribed thereto in Section 5.02 of this Agreement;

(c) "**Constructor**" shall mean Anatolia;

(d) "**Constructor's Consultant**" shall mean the engineer engaged by the Constructor in connection with the supervision and administration of the construction of the Shared Works;

(e) "**Cost Sharing Consultant**" means **SCS CONSULTING GROUP LTD.**;

(f) "**Default Amount**" shall have the meaning ascribed thereto in Section 6.01 of this Agreement;

(g) "**Defaulting Owner**" shall have the meaning ascribed thereto in Section 6.01 of this Agreement;

(h) "**Development Event**" means the earlier to occur of:

(1) the registration of a plan of subdivision against an Owner's lands; or

(2) the registration of a plan of condominium against an Owner's lands; or

(3) the final approval of a severance obtained for development purposes in respect of an Owner's lands, provided that, where an Owner's payment obligations are triggered by such severance, such Owner's payment obligation shall be calculated and pro-rated based on the area of the severed lands only; for greater clarity, and notwithstanding the foregoing, a "Development Event" shall be

deemed not to have occurred where lands are severed for purposes of proceeding with the development of the severed lands by means of any of other means of development set out in items (1), (2), (4) or (5) herein; or

(4) the execution of a site plan agreement or other development agreement in respect of an Owner's lands; or

(5) where none of (1) to (4) apply, the final approval of rezoning, development or re-development of an Owner's lands; or

(6) where none of (1) to (5) apply, the issuance of a building permit in respect of an Owner's lands;

(i) "**Firm**" shall have the meaning ascribed thereto in Section 7.15 of this Agreement;

(j) "**Governmental Authorities**" shall have the meaning ascribed thereto in Section 3.01(c) of this Agreement;

(k) "**Group**" means all of the Owners of the Lands who are parties to this Agreement from time to time;

(l) "**Land Area**" means the area of the Owners' Lands;

(m) "**Land Compensation Rate**" shall mean the land value, calculated on a per acre basis, for compensation of lands included in the Shared Costs under this Agreement; the said Land Compensation Rate shall be calculated based on the fair market value of the remainder of the Owner's Lands within which the subject lands are located at the time of payment of such land compensation, as agreed to by the Owners in accordance with the Approval Requirements, or, failing such agreement, as determined by appraisal to be obtained by the Trustee, which such appraiser and the terms of reference for such appraisal shall be approved by the Owners, acting reasonably; provided that the parties agree that the Land Compensation Rate as of the date of this Agreement shall be Nine Hundred Thousand Dollars ($900,000.00) per acre;

(n) "**Master Financial Agreement**" means the Master Financial Agreement - Simpson Road South Extension to be entered into by the Owners, the Town, the Region and the Trustee, with respect to the sharing of costs and burdens related to the design and construction of the Public Infrastructure Works (as defined in the Master Financial Agreement) in connection with the development of the Owners' Lands, a copy of which will be attached as Schedule "G" hereto when same is finalized and duly executed;

(o) "**Municipality**" means the Town of Caledon and/or, as the context requires, the Regional Municipality of Peel and/or any other governmental authority which has jurisdiction over the Shared Works, and including without limitation any other authority which may be involved in the approval, location, design, construction or assumption of the Shared Works;

(p) "**Non-Defaulting Owner**" shall have the meaning ascribed thereto in Section 6.01 of this Agreement;

(q) "**Non-Developable Lands**" shall mean those Lands which are rendered undevelopable as a result of the location and/or configuration of the Simpson Road Extension, the Stormwater Channel and/or the stormwater outfall arising from the Stormwater Channel, generally as shown on Schedule "C" attached hereto, and as determined by the Cost Sharing Consultant;

(r) "**Non-Participating Owner**" means an owner of lands who is not a signatory to this Agreement and "**Non-Participating Owners**" shall have a corresponding meaning;

(s) "**Owner**" means any of the Parties of the First and Second Parts inclusive hereto and any party or parties who become(s) a party to this Agreement pursuant to Section 7.01 hereof, and "**Owners**" means all of such parties. A Party that is comprised of more than one person shall be treated as one Party and each member of such Party shall be jointly and severally responsible for the performance of the obligations of such Party;

(t) "**Owners' Lands**" means those lands identified on the plan attached hereto as Schedule "A" and more particularly described in Schedule "B" attached hereto, as well as the lands of any additional party who becomes a party to this Agreement pursuant to Section 7.01;

(u) "**Participating Owners**" means Anatolia and Arion;

(v) "**Proportionate Shares**" means, unless otherwise expressly set out herein, the proportion that the Land Area of an Owner's Lands bears to the Land Area of all the Owners' Lands, as determined and/or confirmed by the Cost Sharing Consultant from time to time, provided that, notwithstanding the foregoing:

(1) "Proportionate Shares" in respect of the Simpson Road Extension (road portion) shall be calculated based on the proportion that the length of road frontage (regardless of access) of the Simpson Road Extension within or adjacent/appurtenant to an Owner's Lands bears to the entire length of road of the Simpson Road Extension, as determined and/or confirmed by the Cost Sharing Consultant. For clarity, road frontage also includes the portion of the Simpson Road Extension which may be adjacent to another feature (e.g. Stormwater Channel) within such Owner's Lands;

(2) "Proportionate Shares" in respect of the Stormwater Management Pond and related facilities, shall be calculated based upon the post-development tributary area for various land uses which an Owner's Lands bear in proportion to the total post-development tributary area of all the Owners' Lands to be calculated by the Cost Sharing Consultant based on contributing drainage area x Run-off Co-efficient (AxC); provided that the portion of the tributary share attributable to the Simpson Road Extension and the Shared Local Road portion thereof shall be shared on the same basis as the Simpson Road Extension and the Shared Local Road, respectively;

(3) "Proportionate Shares" in respect of the Stormwater Channel (including the Simpson Road stormwater outfall arising from the Stormwater Channel) shall be calculated on a benefitting basis, as determined by the Cost Sharing Consultant, taking into account, without limitation, the existing floodplain area versus the design requirements for the new floodplain area and water storage within the Stormwater Channel; provided that if the Stormwater Channel has been moved from one Owner's Lands to another Owner's Lands, without benefit to the second Owner and resulting in the repatriation of developable lands within the lands of the first Owner, the Owner on whose Lands the Stormwater Channel has been moved to shall not be required to pay for the Shared Costs in respect of the Stormwater Channel and such Shared Costs shall be paid by the Owner who has repatriated developable lands as aforesaid;

(4) "Proportionate Shares" in respect of storm sewers (and appurtenances) which form part of the Simpson Road Extension shall be calculated based upon the post-development tributary area which an Owner's lands bear in proportion to the total post-development tributary area of all the Owners' Lands which are tributary to any given sewer segment or manhole, on a leg by leg basis, based on contributing drainage area x Run-off Co-efficient (AxC);

(5) "Proportionate Shares" in respect of sanitary sewers (and appurtenances) which form part of the Simpson Road Extension shall be calculated based upon the post-development tributary area which an Owner's lands bear in proportion to the total post-development tributary area of all the Owners' Lands which are tributary to any given sewer segment or manhole, on a leg by leg basis;

(6) "Proportionate Shares" in respect of watermains (and appurtenances) which form part of the Simpson Road Extension shall be calculated on the same basis as the road portion of the Simpson Road Extension (i.e. based on length of road within/appurtenant to each Owner's Lands);

(7) "Proportionate Shares" in respect of land compensation for the Shared Local Road shall be calculated on a 50-50 basis as between Anatolia and each Owner(s) whose lands are immediately adjacent/appurtenant to such Shared Local Road (or the applicable portion thereof);

(8) "Proportionate Shares" in respect of Non-Developable Lands shall be calculated on the same basis as the Shared Work(s) which caused the Non-Developable Lands, provided that if the Non-Developable Lands are located between two (2) features of Shared Works, then the Proportionate Shares thereof shall be based on a blended share based on the average of the Proportionate Shares of the said features, as determined by the Cost Sharing Consultant;

Notwithstanding the foregoing, any service connections of the Shared Works to an Owner's Lands which are required by an Owner shall not form part of the Shared Costs and shall be paid for by such Owner, without reimbursement from the other Owners;

For greater clarity, and for purposes of calculating the Owners' Proportionate Shares and preparation of the schedules pursuant to this Agreement, Anatolia shall carry the burden of the cost-sharing obligations attributable to the lands of the Non-Participating Owners who benefit from the Shared Works, until such time as such Non-Participating Owners join this Agreement and/or otherwise pay their share of the Shared Costs;

(w) "**Region**" means the Regional Municipality of Peel;

(x) "**Reimbursements**" shall have the meaning ascribed thereto in Section 4.07 of this Agreement;

(y) "**Shared Costs**" means:

(1) any and all costs related to the design, construction, completion, maintenance, repair and assumption of the Shared Works, including but not limited to approvals, plans, studies, fees, municipal approval costs, testing, inspections, contingencies and land and easement acquisition costs and including, without

limitation, any such costs as may be paid, funded and/or secured by the Owners to the Municipality in connection with the Shared Works;

(2) without limiting (1) hereinabove, with respect to the construction of the Simpson Road Extension, the Shared Costs shall include (without limitation), earthworks, road base and sub-base, pavement, curbs, sub-drain, underground services as required, sidewalk(s), street trees, landscaping, fencing, hydro and utilities, illumination, signage, signalization, and sodding of boulevard;

(3) without limiting (1) hereinabove, with respect to the construction of the Stormwater Management Pond, the Shared Costs shall include (without limitation), earthworks, fine grading, control structures, headwalls, landscaping, walkways, maintenance roads, outfall sewers, erosion protection, fencing, monitoring, maintenance, flushing, clean-out and assumption costs of the Stormwater Management Pond, and structures for capturing overland flow of surface water;

(4) without limiting (1) hereinabove, with respect to the construction of the Stormwater Channel, the Shared Costs shall include (without limitation), earthworks, fine grading, control structures, headwalls, landscaping, walkways, maintenance roads, outfall sewers and related facilities and improvements in order to accommodate stormwater outfall arising from the Stormwater Channel, realignment, lowering, restoration, erosion protection, measures for the protection of endangered species as may be required pursuant to the *Endangered Species Act* (Ontario) (as same may be amended and/or replaced from time to time), monitoring and maintenance costs;

(5) land compensation, based on the Land Compensation Rate, for the area of lands within the Land Area required for:

(A) the Shared Local Road (payable to Anatolia by the Owner(s) whose lands are located adjacent or appurtenant to such Shared Local Road, based on their Proportionate Shares);

(B) the Stormwater Management Pond (payable by all Owners to Anatolia, based on their Proportionate Shares);

(C) the Non-Developable Lands, subject to Section 4.09 of this Agreement [payable by all Owners to the Owner with the Non-Developable Lands, based on their Proportionate Shares];

(D) the Stormwater Channel realignment, payable by the Owner who has repatriated developable land to the Owner on whose Lands the Stormwater Channel is located;

(6) costs attributable to the acquisition of lands [or related interests (for example, easements), and including without limitation, expropriation costs] of Non-Participating Owners until such time as such Non-Participating Owners enter into this Agreement in accordance with Section 7.01;

(7) the costs and security related to the Master Financial Agreement;

(8) such other costs as the Owners may decide from time to time in accordance with the Approval Requirements;

as certified or confirmed by the Cost Sharing Consultant;

(z) "**Shared Local Road**" means that portion of Simpson Road which is located within the lands owned by Anatolia, as shown on Schedule "C" attached hereto;

(aa) "**Shared Works**" means:

(1) the Simpson Road Extension;

(2) the Stormwater Channel;

(3) the Stormwater Management Pond;

(4) such other works, services or infrastructure as the Owners may decide from time to time in accordance with the Approval Requirements;

For clarity, the parties acknowledge and agree that, unless otherwise agreed by the Owners in accordance with the Approval Requirements, the Shared Works shall not include the culvert crossing on Mayfield Road, which is anticipated to be constructed by the Region.

(bb) "**Simpson Road Extension**" means the extension of Simpson Road through the Owners' Lands, together with all appurtenant services therein (i.e. storm sewers, sanitary sewers, watermains, and related appurtenances), as set out on Schedule "C" attached hereto;

(cc) "**Stormwater Channel**" means:

(1) the storm water drainage channel to be constructed/re-aligned through the Lands;

(2) the Simpson Road stormwater outfall arising from the Stormwater Channel; and

(3) the removal of the existing stormwater channel and the restoration of the Owners' Lands, if required;

as shown on Schedule "C" attached hereto;

(dd) "**Stormwater Management Pond**" means the storm water management pond to be constructed on the Lands owned by Anatolia in order to accommodate stormwater drainage from:

(1) the Simpson Road Extension; and

(2) the other Owners' Lands (or portions thereof), as set out on the Schedules attached hereto;

(ee) "**Town**" means the Town of Caledon;

(ff) "**Transferee**" shall have the meaning ascribed thereto in Section 7.14 of this Agreement; and

(gg) "**Trustee**" means **SIMPSON ROAD LANDOWNERS GROUP INC.**.

ARTICLE II: CONVEYANCES OF LANDS AND EASEMENTS

2.01 Conveyances of Lands and Easements

(a) Each Owner shall grant, transfer and convey to the Municipality, as and when required to do so by the Municipality and/or the Trustee, such lands, easements, permission(s) to enter, or other similar rights over their respective Lands as may be required for the Shared Works. Such transfers or easements shall be granted on such terms as may be required by the Municipality, without cost or compensation (except as otherwise expressly set out in this Agreement), and free and clear of all mortgages, liens and encumbrances save and except as may be acceptable to the Municipality (or subject to postponements of such mortgages, liens and encumbrances, as may be required by the Municipality).

(b) The Shared Costs shall include expropriation costs attributable to the acquisition of lands of Non-Participating Owners until such time as such Non-Participating Owners enter into this Agreement in accordance with Section 7.01 herein.

(c) The costs related to the preparation of a reference plan and the legal costs related to transfer of lands and easements pursuant to this Article II shall be borne by the Owners based on their Proportionate Shares.

ARTICLE III: CONSTRUCTION OF SHARED WORKS

3.01 Construction of Shared Works

(a) The parties agree to cooperate with each other to coordinate the construction and completion of the Shared Works with a view to ensuring that same are completed efficiently and expeditiously and in order to accommodate the proposed development on all of the Owners' Lands, for purposes of both timing and servicing. The Owners agree to execute all such applications, consents and other like documentation as may be reasonably required in conjunction with applying for and obtaining all permits and approvals related to the Shared Works, subject to review and approval thereof by the Owners and the Cost Sharing Consultant, acting reasonably and expeditiously.

(b) The parties acknowledge that the majority of the design of the Shared Works has been undertaken and completed by the Town and the Owners shall undertake the balance of the design, and/or any re-design thereof, and completion of the Shared Works.

(c) The parties further acknowledge that the Town and/or Constructor (as the case may be) shall submit the design drawings and specifications for the Shared Works for approval by any public bodies as are necessary including without limitation the Municipality and any other applicable authority (collectively, the "**Governmental Authorities**"). The Owners agree to execute all applications, consents and other like documentation as the Town and/or Constructor may require in conjunction with applying for and obtaining such approvals, subject to review and approval thereof by the subject Owners and their respective engineer, acting reasonably and expeditiously.

(d) The Owners agree that the construction of the Shared Works shall also be subject to the following further provisions:

(i) The Constructor will construct the Shared Works with reasonable speed, due diligence and in a good and workmanlike manner, in accordance with applicable laws and permits and the requirements of the Municipality and all other applicable Governmental Authorities, and in accordance with this Agreement.

(ii) The Owners shall approve the final design drawings and specifications of the Shared Works in accordance with the Approval Requirements, which approval shall not be unreasonably withheld or delayed.

(iii) The Constructor shall prior to awarding the contracts for construction of the Shared

Works give notice to the other Owners of the Constructor's Consultant and the contractor it intends to select to construct the Shared Works, and the details of any contract terms, including payment terms and contract price, that the Constructor has negotiated with such consultant and contractor, which shall be consistent with commercially reasonable terms for such work in the Region of Peel. The contract for the construction of the Shared Works as well as the appointment of the Constructor's Consultant, shall be approved by the Owners in accordance with the Approval Requirements, which approval shall not be unreasonably withheld or delayed.

(iv) Subject to this Agreement, the Constructor shall be the party to the contract for construction of the Shared Works and shall enter into such contract with a contractor of the Constructor's choice. Notwithstanding the foregoing, each other Owner hereby agrees it shall be liable for its Proportionate Share of all liabilities under such contract for construction, in accordance with this Agreement.

(v) The parties agree that the Constructor's Consultant shall be responsible to certify all Shared Costs respecting the Shared Works constructed by such Constructor.

(vi) When the Constructor commences construction of the Shared Works, it shall fully enforce its rights pursuant to the contract for construction of the Shared Works.

(vii) The parties agree that if the Constructor enters into a contract for construction of the Shared Works, the Constructor will not approve any material change orders or material extras to the construction contract (i.e. which will result in an increase in the contract price by more than $50,000.00 per change or extra, and/or which in the aggregate will increase the contract price by more than ten (10%) percent) without first obtaining the approval of the other Owners, acting reasonably. If any Owner does not respond to a request for approval of such increased cost(s) within a period of ten (10) business days from the date of request by the Constructor, its approval shall be deemed to have been given.

(viii) The Constructor agrees to have the Constructor's Consultant prepare the as-built construction drawings for the Shared Works within a reasonable period of time following completion of the said works and deliver copies of such drawings to the other Owners, and any required Governmental Authorities, provided that the Constructor's Consultant in its role as supervising engineer and administrator of the construction contract ensures that the contractor provides as-built construction information in accordance with the provisions of the construction contract.

(ix) The Constructor agrees that it shall be responsible to post any security required by the Municipality in respect of the construction of the Shared Works. The Constructor shall also be responsible for entering into any pre-servicing agreement required by the Municipality in respect of the Shared Works and to enter into other agreements as may be required by any Governmental Authority in connection with the construction of the Shared Works. The form of such agreements shall be approved by the other Owners, acting reasonably and expeditiously, to the extent that they relate to the Shared Works. Notwithstanding the foregoing, each other Owner hereby agrees it shall be liable for its Proportionate Share of all obligations and liabilities under such agreements as they relate to the Shared Works, in accordance with this Agreement. All costs incurred by the Constructor in connection with same (including without limitation, the commercially reasonable costs of providing security in connection with the Shared Works) shall be included in the Shared Costs and shall be subject to reimbursement based on the Proportionate Shares. In addition, the Constructor shall be allowed to invoice the other Owners an amount equal to to the prime commercial lending rate charged by The Toronto-Dominion Bank plus two (2%) percent of the principal amount of the security as part of the applicable Shared Costs, for the costs incurred by the Constructor for posting the required security for the applicable Shared Works. For greater certainty, the other Owners' (other than the Constructor) obligations under this Section are monetary only and they shall have no obligation to post any security

or letters of credit pursuant to this Agreement or any municipal agreement, where the Constructor is the party constructing the Shared Works. Notwithstanding the foregoing:

(A) in the event that security is required by the Town for the acquisition and/or expropriation from Non-Participating Owners of lands required for the Shared Works, the Owners shall provide such security together and collectively, through the Trustee or individually (if permitted by the Town), in accordance with their Proportionate Shares; and

(B) the other Owners shall be entitled to provide any security required by the Municipality in respect of the construction of the Shared Works together and collectively through the Trustee or individually (if permitted by the Town) in which case such other Owners will not be required to pay interest to the Constructor on the principal amount of the security, as set out hereinabove.

(x) The Constructor agrees that at all times during construction of the Shared Works, the Constructor shall instruct and require the Constructor's Consultant to fully cooperate with the other Owners and their respective engineers and to provide them with such information as they may reasonably request including proposed schedules for undertaking the Shared Works and all drawings and specifications respecting the said works. Each other Owner and/or its engineer shall at all times and from time to time upon twenty-four (24) hours prior written notice have the right to inspect and have access, at its sole risk and expense, to the Shared Works located on the Lands being constructed by the Constructor.

(xi) If, at any time following the awarding of the contract for construction of the Shared Works, the Constructor is not proceeding with the construction of the Shared Works in an active, diligent and expeditious manner (other than for reasons beyond its reasonable control, including without limitation, *force majeure*) then any other Owner may provide thirty (30) days' notice to the Constructor that such other Owner intends to proceed with the construction of the Shared Works (or any portion thereof). During such thirty (30) day period the Constructor may provide notice to the other Owners that it intends to construct (or continue with the construction of, as the case may be) the Shared Works. If the Constructor provides such notice then the Constructor shall be required to proceed with the construction of the Shared Works on an expeditious basis in accordance with the terms of this Agreement. If the Constructor does not provide such notice to the other Owners within such thirty (30) day period then such other Owner and its Engineer may proceed with the construction of the Shared Works in accordance with the terms of this Agreement on an expeditious basis. For greater certainty, if such other Owner intends to proceed with the construction of the Shared Works (or any portion thereof) as set out herein, all provisions of this Agreement respecting the rights, responsibilities and obligations of: (i) the Constructor as the constructing party shall apply *mutatis mutandis* to such Owner as the constructing party; and (ii) the other Owner(s), as the non-constructing party, shall apply *mutatis mutandis* to the original Constructor, as a non-constructing party.

(e) The Owners agree to co-operate and to use their collective commercially reasonable best efforts to pursue (via negotiation with and approval by all applicable authorities):

(i) the relocation of the new storm water drainage channel to be constructed as part of the Stormwater Channel included in the Shared Works, such that same will align closer with the Simpson Road Extension at the northern end thereof; and

(ii) the reduction of the width of the creek corridor from its currently proposed width of 45 metres.

All costs related to the foregoing shall be included in Shared Costs.

3.02 Works to Accommodate Future Development

The parties acknowledge and confirm that the Shared Works have been or will be designed, engineered and constructed such that same are sufficient to accommodate the anticipated transportation and servicing requirements arising from the proposed developments on the Owners' Lands, in accordance with the standards required by the Municipality and the plans and specifications for the Shared Works have been or will be approved by the Owners and/or by the Cost Sharing Consultant on their behalf.

3.03 Permission to Enter

(a) The Owners hereby grant permission to the Constructor, Constructor's Consultant, the Trustee, the other Owners and all contractors and consultants engaged in connection with the Shared Works (and their respective agents, employees and contractors) to enter upon, along, over and under those portions of their respective lands (together with equipment and materials) as may be required for the purposes of the construction, installation and maintenance of the Shared Works.

(b) The Constructor shall repair and restore all damage to the other Owners' Lands and any improvements thereon arising from or relating to the entry onto such Lands and/or the construction of the Shared Works, and the costs related thereto shall be included in the Shared Costs, save and except where caused by the negligence, act or omission of such other Owner or those whom it is at law responsible.

(c) The Constructor shall indemnify, reimburse and save harmless the Owner from and against any loss of, or damage to, property, personal injury or death, or any other losses, actions, claims, damages, liabilities, costs, expenses, fines, penalties, liens or other sanctions, suffered or sustained by the Owner(s) which result from the Constructor's entry upon and/or activities on the other Owners' Lands.

3.04 Certificate of Insurance

No work shall be commenced by the Constructor and/or its contractors until it has filed with the other Owners and the Trustee a certificate of public liability insurance with reasonable coverages, in accordance with this Agreement and which are then acceptable with the Municipality or other applicable Governmental Authorities and which insurance coverages and terms are mutually agreed upon by the Owners, acting reasonably. All costs related to such insurance shall be included in the Shared Costs.

ARTICLE IV - COST SHARING

4.01 Owners to Share Costs

(a) Each Owner shall pay its Proportionate Share of the Administration and Consultant Costs to the Trustee, within ten (10) business days following written request by the Trustee.

(b) The balance of the Shared Costs shall be shared and paid by the Owners in accordance with their Proportionate Shares, and in accordance with this Agreement.

4.02 Payment of Shared Costs

(a) Payments by Participating Owners -

(i) Unless otherwise agreed to by the Owners (as hereinafter set out), payment of the Shared Costs shall be coordinated by the Trustee on behalf of the Owners.

(ii) In order to give effect to the foregoing, each Owner shall pay its Proportionate Share of the Shared Costs (or applicable portions thereof) related to the Shared

Works to the Trustee within ten (10) business days after written request by the Trustee together with a progress certificate in respect of such payment issued by the Constructor's Consultant and confirmed by the Cost Sharing Consultant.

(iii) Notwithstanding the foregoing, the Trustee may call for the delivery of payment or securities in respect of the entire Shared Costs (or estimates thereof), or portions thereof, at such time or times as may be determined by the Trustee and/or the Cost Sharing Consultant. Such payment shall be made either by certified funds or by unconditional and irrevocable standby letter of credit in favour of the Trustee, drawn on a Schedule 1 Canadian Chartered Bank, and on such terms as may be acceptable to the Trustee. In the event of delivery by an Owner of a letter of credit as aforesaid, the Trustee shall be entitled to draw down on such letter of credit as may be required from time to time in order to fulfill such Owner's obligations under this Agreement.

(iv) The Trustee shall retain such funds or letter(s) of credit and shall utilize same to satisfy such Owner's obligations with respect to the Shared Works in accordance with certification issued by the Constructor's Consultant and confirmed by the Cost Sharing Consultant.

(v) For clarity, each Owner's Proportionate Share of the Shared Costs payable as aforesaid shall be based upon the actual Shared Costs incurred to date, as well as the estimated Shared Costs to be incurred to completion of the Shared Works and assumption of same by the Municipality. In the event that the Shared Costs (estimated or actual) for the Shared Works shall increase following the date of such payment by an Owner, each Owner shall pay its Proportionate Share of such increase to the Trustee within ten (10) business days following written request therefor. In the event that the actual Shared Costs shall be less than the estimated Shared Costs, any remaining funds or letter(s) of credit shall be returned by the Trustee to the other Owners.

(vi) In the alternative, the parties may agree, in accordance with the Approval Requirements, that the Constructor shall pay the contractor directly for the construction of the Shared Works, in which case the above shall only be applicable to the Owners other than the Constructor and with respect to reimbursement to the Constructor of amounts paid to the contractor(s), and the Constructor shall pay the Shared Costs related to the Shared Works directly to the contractor.

(vii) For clarity, Arion shall not be required to make any payments on account of cost-sharing obligations attributable to the lands of the Non-Participating Owners, which obligations shall be carried by Anatolia until such time as such Non-Participating Owners join this Agreement in accordance with the terms hereof.

(b) Payments by Non-Participating Owners - The Non-Participating Owners shall be required to join this Agreement and become an Owner hereunder, as per Section 7.01, and shall pay their Proportionate Share of the Shared Costs, as certified by the Cost Sharing Consultant, prior to the occurrence of the first Development Event in respect of such Non-Participating Owners' lands, together with indexing of such Shared Costs based on the Statistics Canada Construction Index applicable to the Lands (or other appropriate index as determined by the Cost Sharing Consultant), from the date of substantial completion of the Shared Works.

4.03 Payment to Contractor/Constructor

The amounts received by the Trustee under this Agreement on account of the Shared Costs shall be paid by the Trustee to the contractor/Constructor (provided it is otherwise in good standing under this Agreement), as the case may be, as soon as reasonably possible following receipt of such payment, in accordance with the certification of the Constructor's Consultant (and confirmation of the Cost Sharing Consultant) confirming the completion of the subject works (or applicable portion thereof) and the amount to be paid in respect thereof.

4.04 Information re: Shared Costs

The Constructor and/or Constructor's Consultant shall provide to the Owners up to date records, including payment certificates, of the Shared Costs, and the payment thereof, including all invoices and payment certificates. The Constructor and/or Constructor's Consultant and/or Trustee (as the case may be) shall circulate copies of all invoices and payment certificates to the Owners prior to payment thereof, and shall give the Owners a period of no less than ten (10) business days to review same and provide any comments and/or objection thereto (in writing). Any Owner(s) who does not provide written comments and/or objections to such invoices or payment certificates within the said review period shall be deemed to have approved such invoices or payment certificates, and the Constructor and/or Constructor's Consultant shall thereafter be entitled to proceed to pay same out of Group funds, without further notice to or direction or approval from the Owners.

4.05 Liens

Subject to payment of the Proportionate Shares of the Shared Costs by the other Owner(s), the Constructor shall pay all Shared Costs in a timely manner so as to avoid the registration of any construction or other liens against the Owners' Lands. If any construction or other liens or order for the payment of money shall be filed against the Owners' Lands by reason, or arising out of any labour or material, work or service furnished to or by the Constructor, the Constructor shall, within ten (10) days after notice to the Constructor of the filing thereof, cause the same to be discharged. The Constructor shall defend all suits to enforce such lien or order whether against the Constructor or the other Owners, provided that any such suits are not caused by the actions of the other Owners. The costs incurred by the Constructor to defend such suits shall be included as part of the Shared Costs unless such suits are caused by the negligence, act, omission or wilful misconduct of the Constructor or those whom it is at law responsible, in which case the costs shall be paid by the Constructor. If the same are not discharged within such time, either of the other Owners shall have the right to pay any sums necessary to discharge the same and such sums thereupon shall be reimbursed by the Constructor within five (5) days of written demand, save and except where such lien was caused by the negligence, act, omission or wilful misconduct of the other Owners (or any of them) or those whom it is at law responsible.

4.06 Benefit to Other Lands

The parties acknowledge and agree that the Shared Works may also provide benefit to lands other than the Owners' Lands. The parties agree to co-operate and to use their reasonable efforts to recover such Shared Costs from the owner(s) of such benefitting lands as soon as reasonably possible.

4.07 Reimbursements for Works

The Owners acknowledge that certain of the Shared Costs may be eligible for reimbursement to the Owners through development charge credits (against existing and/or future development charges) and/or other payments by the Municipality (hereinafter collectively referred to as "**Reimbursements**"). The parties hereby acknowledge and agree that any Reimbursements made or paid from time to time shall be directed and paid to the Trustee, and shall thereafter be distributed by the Trustee amongst the Owners based on each Owner's actual proportionate share of the total Shared Costs paid to the date of such Reimbursement, up to the amount of the Shared Costs actually paid by such Owner to the date of such Reimbursement, less any previous Reimbursements already paid and/or distributed to the Owners. Any Reimbursements which an Owner is entitled to receive in respect of the Shared Works which are shared by the Owners pursuant to this Agreement shall be assigned, paid and delivered to the Trustee and shall be distributed and/or credited to the Owners on the same basis as such Works were shared by the Owners in accordance with the foregoing. Any Reimbursements received directly by any Owner shall be held by such Owner in trust for the Owners in accordance with the foregoing and shall be paid over to the Trustee forthwith upon receipt. In the event that an Owner receives a Reimbursement by way of development charge credits, rather than payments, the Owner shall pay to the Trustee an amount equivalent to such credits, and the Trustee shall distribute such amount to the Owners in accordance with the foregoing. The share of any Reimbursements otherwise payable to an Owner in default of its obligations under this Agreement may be held by the

Trustee and set-off and/or applied against amounts then owed by such Defaulting Owner pursuant to this Agreement.

4.08 Land Compensation

(a) For clarity, the Owners agree that land compensation included in the Shared Costs shall be paid by the applicable Owner(s), based on their Proportionate Share thereof, as part of the payment by such Owner of their Proportionate Share of the Shared Costs pursuant to Section 4.02 of this Agreement, and to be paid to the subject Owner (i.e. transferor of the lands and/or Non-Developable Lands) following conveyance of the subject lands (or in the case of Non-Developable Lands, following conveyance of adjacent lands which render such lands non-developable, as certified by the Cost Sharing Consultant).

(b) The Trustee may call for payment of such land compensation at any time prior to the conveyance of the subject lands, and same shall be paid by each Owner, in accordance with Section 4.02 of this Agreement. The Trustee will pay such land compensation to the other Owner following conveyance of the subject lands (or in the case of Non-Developable Lands, following conveyance of adjacent lands which render such lands non-developable, as certified by the Cost Sharing Consultant).

4.09 Non-Developable Lands

The parties agree that compensation for Non-Developable Lands shall be payable to the Owner of such Lands, in accordance with the foregoing, PROVIDED THAT:

(a) prior to payment of compensation, the subject Owner has used commercially reasonably efforts to sell the Non-Developable Lands at a commercially reasonable price to a third (3rd) party;

(b) if the Owner cannot sell Non-Developable Lands to a third (3rd) party, then prior to payment of compensation, it shall use commercially reasonably efforts to convey such Non-Developable Lands to the Municipality;

(c) any consideration received by the Owner of the Non-Developable Lands from a third (3rd) party or the Municipality shall be deducted from the compensation payable to the Owner of such Non-Developable Lands;

(d) the Owner shall consent to the registration of a restrictive covenant at the time that the land compensation is paid, which such restrictive covenant shall provide that:

(i) the Non-Developable Lands shall not be used for any purpose other than as vacant lands; and

(ii) the Owner shall not transfer or encumber the Non-Developable Lands without the consent of the Trustee (and the Trustee will act on the direction of the Group in this regard);

(e) the Owner of such Non-Developable Lands shall continue to be responsible for obligations related to such lands, including (without limitation), taxes, maintenance and insurance;

(f) if the Owner of such Non-Developable Lands later proceeds to develop such lands, any compensation received by the Owner shall be repaid to the other Owner(s) in full prior to the occurrence of a Development Event in respect of such lands.

4.10 Master Financial Agreement

(a) Each Owner agrees to satisfy its covenants and obligations under the Master Financial Agreement.

(b) Each Owner agrees to bear its Proportionate Share of the costs and security related to or arising from the Master Financial Agreement, in accordance with this Agreement.

ARTICLE V - ADMINISTRATION

5.01 Professional and Administrative Fees

The fees and charges of the consultants, advisors and professional personnel involved in the preparation and administration of this Agreement, and the administration thereof by the Trustee and the Cost Sharing Consultant, shall be borne and paid for by the Owners in accordance with their respective Proportionate Shares.

5.02 Decision Making by Owners

Subject to the terms of this Agreement, all decisions, determinations, consents, actions and approvals required to be made, given or taken by the Owners shall, unless otherwise provided in this Agreement, be made by the approval of no less than two (2) Non-Defaulting Owners who also represent no less than seventy (70%) percent of the Proportionate Shares of all the Non-Defaulting Owners at the time that such decision is made (the "**Approval Requirements**"), and all such decisions shall be binding upon the Owners. For the purposes of the foregoing, Owners who are related to one another (affiliates, parents/subsidiaries, etc.) shall be deemed to be one Owner for the purposes of the number of Owners required to approve a decision, as set out above.

5.03 Appointment of Trustee

Upon the execution hereof, the Owners hereby appoint the party of the Third Part as Trustee to perform the duties of the Trustee hereunder. Such party hereby accepts such appointment and agrees to perform the obligations required of the Trustee pursuant to this Agreement. The Owners hereto hereby confer upon the Trustee the powers and authorities herein expressly mentioned together with such other powers and authorities as the Owners shall confer upon the Trustee from time to time in writing.

5.04 Release by Trustee

Each of the Owners agrees to a condition being inserted into its subdivision or other development approval in respect of its lands whereby such subdivision or development approval shall be conditional upon the delivery to the Town of acknowledgement by the Trustee that such Owner is a party in good standing with respect to its participation in this Agreement, and each Owner shall direct the Town to include such condition in its subdivision or other development approval.

5.05 Duties of Trustee

(a) The Trustee shall supervise and administer the terms of this Agreement and the funds and/or security delivered pursuant hereto (if applicable), and perform such other duties as may be required by the Owners from time to time subject to the direction and control of the Owners. The Trustee shall not be required to expend any of its own funds in the performance of any duties hereunder. The Owners shall be responsible in their Proportionate Shares for the payment of all amounts invoiced by the Trustee (including without limitation, the fees of the Trustee with respect to the performance of its duties under this Agreement as agreed by the parties herein or otherwise approved by the Owners). The Trustee shall enter into such contracts and agreements with the Municipality, the contractor(s), or other party or authority in relation to the Shared Works as may be approved by the Owners. The Owners shall, on a joint and several basis, indemnify and save the Trustee harmless from and against all payments, claims, costs, expenses, liabilities and obligations arising from or relating to such agreements and/or this Agreement.

(b) The Trustee shall open a bank account on behalf of the Group. Notwithstanding the

foregoing, the parties acknowledge and agree that the Trustee shall administer the collection of funds and payment of invoices for and on behalf of the Owners, to the effect that the Trustee shall facilitate the collection and payment of monies for invoices incurred by the Owners collectively as a group, and the Trustee will not be incurring such costs or the goods or services and/or invoices related thereto for or on its own behalf. In other words, there is merely a "flow-through" of funds, through the Trustee, from and between the Owners to the other Owners, consultants, contractors, etc. engaged on behalf of the Group, and the actual goods and services are not incurred by the Trustee but are incurred by the Owners themselves and paid for the Owners based on their respective Proportionate Shares. The parties hereby further confirm, acknowledge and agree that the Trustee will be administering all funds and accounts herein for and on account of the Owners and, as such, any accounting/reporting for harmonized sales taxes and/or other applicable taxes (HST), and the application for and administration of any credits with respect thereto, will be the responsibility of each individual Owner in respect of their respective Proportionate Shares thereof. Accordingly, the Trustee shall not be required to apply for an HST number on its own behalf and/or on behalf of the Group, although it may do so, and each Owner shall use its own HST number for the administration of its own HST account in respect of Group costs, as aforesaid. Each Owner shall be responsible for maintaining its own accounts and filing its own individual returns and/or applications for input credits for purposes of HST. All accounting records kept by the Trustee shall be made available for inspection/review by any Owner.

5.06 Duties of Cost Sharing Consultant

(a) The Cost Sharing Consultant shall co-ordinate, supervise and administer the provisions of this Agreement, as required or directed by the Trustee and/or the Owners from time to time, and perform such other duties as may be required by the Owners from time to time subject to the direction and control of the Owners.

(b) Without limiting any provision of this Agreement, the functions of the Cost Sharing Consultant shall include:

(1) determining and/or reviewing and confirming (as the case may be) the estimated and final Shared Costs;

(2) preparing preliminary and final calculations with respect to all matters relating to the determination of each Owner's Proportionate Share; and

(3) reviewing and adjusting preliminary calculations from time to time and certifying any variations to the Trustee for the purposes of adjusting accounts.

(c) None of the provisions contained in this Agreement shall require the Cost Sharing Consultant to expend or risk its own funds or otherwise incur financial liability and the Owners agree to indemnify in their Proportionate Shares the Cost Sharing Consultant and to have the Trustee pay all fees and disbursements in connection with the performance by the Cost Sharing Consultant of any of its duties or in the exercise of any of its rights or powers hereunder, as agreed by the parties herein or as otherwise approved by the Owners.

ARTICLE VI - REMEDIES

6.01 Default by Owner

If at any time or from time to time an Owner does not advance its share of monies and/or security required pursuant to this Agreement, such Owner is hereinafter referred to as a "**Defaulting Owner**" and the other Owners as "**Non-Defaulting Owners**". In the event of default as aforesaid and should such default continue for five (5) days after written notice thereof is given to the Defaulting Owner by the Trustee, the Trustee shall deliver notice of such default to the Non-Defaulting Owners, and the Non-Defaulting Owners may (but are not

required), within seven (7) days of receipt of such notice from the Trustee, elect to advance the Defaulting Owner's share of monies and/or security (as the case may be) required as aforesaid (the "**Default Amount**"), in accordance with its Proportionate Share, provided that in the event that any Non-Defaulting Owner shall elect not to advance its share of the Default Amount, then the other Non-Defaulting Owners shall be entitled, with five (5) days thereof, to advance the balance of the Default Amount in such shares as such Non-Defaulting Owners shall agree, provided further that in the event that any balance of the Default Amount shall then remain outstanding, each Non-Defaulting Owner shall, within five (5) days after receipt of written notice from the Trustee, advance its Proportionate Share of such balance of the Default Amount. The amounts so advanced by the Non-Defaulting Owners shall be owing and repaid forthwith by the Defaulting Owner, together with the costs (including without limitation, any bank charges) related to any security delivered by the Non-Defaulting Owners pursuant to the foregoing, and, until repaid, shall bear interest at a rate per annum as is from time to time equal to the prime commercial lending rate charged by the Canadian Imperial Bank of Commerce plus 10% (or such greater rate of interest as may be authorized by the Owners at any time or from time to time) and, until so repaid, such amounts together with interest thereon as aforesaid shall, to the extent thereof, be and constitute a first lien and charge on and against the lands of the Defaulting Owner and the proceeds derivable from the sale of the lands of such Defaulting Owner and any other monies to which the Defaulting Owner would otherwise be entitled, it being the intent of the parties hereto that a security interest, lien or other encumbrance would thereby be created or imposed upon the Defaulting Owner's interest therein and the Non-Defaulting Owners shall have all the rights and remedies of a secured party under the Personal Property Security Act, R.S.O. 1990, and the Mortgages Act, R.S.O. 1990, as from time to time amended. The Trustee is hereby irrevocably appointed and shall execute, as attorney for the Defaulting Owner, such further assurances for such purposes or charge as may be necessary to protect the interest of the Non-Defaulting Owners, including therein the execution and registration, if necessary, of a security agreement. The Trustee shall register such charge against the title of the lands of the Defaulting Owner. Such Defaulting Owner shall also be responsible for and shall indemnify and hold the Trustee and the other Owners harmless from and against all damages, costs, losses, charges, claims and/or expenses arising from or related to such Defaulting Owner's default under the terms of this Agreement.

6.02 Force Majeure

In the event any Owner or any other party shall be delayed or hindered in or prevented from the performance of any act required to be performed by such party by reason of Acts of God, strikes, lockouts, unavailability of materials or services, failure of power, prohibitive governmental laws or regulations, delays in issuance of governmental approvals, riots, insurrections, the act or failure to act of the other party, adverse weather conditions preventing the performance of work as certified to by an architect, war or other reason beyond such party's control, then the time for performance of such act shall be extended for a period equivalent to the period of such delay. Lack of adequate funds or financial inability to perform shall not be deemed to be a cause beyond the control of such party.

6.03 Dispute Resolution

(a) Any dispute between the parties may be litigated under the provisions of any simplified procedure for court determination of disputes applicable under the laws of the Province of Ontario, if appropriate and available, or may be submitted to arbitration as hereinafter set out, in either of which events, all parties will join in a request for expediting the disposition of any proceeding brought to resolve the dispute. The prevailing party in the dispute shall be reimbursed for any court charges related to the resolution of the dispute and its reasonable solicitor's fees.

(b) In the event that any party wishes to submit any dispute to arbitration, then the party desiring such arbitration shall give written notice to that effect to the other party and shall on such notice appoint a disinterested person of recognized competence in the field involved as arbitrator on its behalf. Within five (5) business days thereafter, the other party shall, by written notice to the original party, either accept the first person as the sole arbitrator or shall appoint a second disinterested person of recognized

competence in such field as arbitrator on its behalf. If the other party chooses a second arbitrator, then the arbitrators thus appointed shall appoint a third disinterested person of recognized competence in such field, and such three arbitrators shall as promptly as possible determine such matter provided, however, that:

(i) if the second arbitrator shall not have been appointed as aforesaid, the first arbitrator shall proceed to determine such matter; and

(ii) if the two arbitrators appointed by the parties shall be unable to agree, within five (5) business days after the appointment of the second arbitrator, upon the selection of such third arbitrator, they or either of them shall give written notice of such failure to agree to the parties, and if the parties fail to agree upon the selection of such third arbitrator within five (5) business days after such notice is given by the arbitrators or either of them as aforesaid, then either of the parties, upon written notice to the other party at any time thereafter, may request such appointment in accordance with the provisions of the Arbitrations Act of Ontario, or any successor to that Act. Each party shall be entitled to present evidence and argument to the arbitrators. The costs of arbitration shall be determined by the arbitrators having regard to the provisions of this Agreement and any surrounding circumstances.

Any arbitration hereunder shall be conducted in accordance with the provisions of the Arbitrations Act of Ontario, or any successors to that Act, insofar as the same are not in conflict with any of the provisions of this Agreement.

ARTICLE VII - GENERAL

7.01 Additional Parties

Whenever a person (including, without limitation, a Non-Participating Owner) who owns land within the benefitting area of the Shared Works is agreeable to becoming a party to this Agreement or is required by the Town to become a party to this Agreement, the parties hereto may consent to such person becoming a party to this Agreement, provided that:

(a) such person shall execute a covenant in the form attached hereto as Schedule "E" whereupon such person shall be bound by all terms and provisions of this Agreement as fully as if such person had been originally named as a party to this Agreement;

(b) such person shall pay and deliver to the Trustee its share, as determined by the Cost Sharing Consultant, of the Administration and Consultant Costs incurred and/or provided up to the date that such party becomes a party to this Agreement, which costs shall be indexed from the date same were incurred until the date same are paid by such additional party, in accordance with the Statistics Canada Construction Index (or similar, as determined by the Cost Sharing Consultant). Upon receipt of any such sums by the Trustee from an additional party on account of such costs, such sums shall forthwith be distributed by the Trustee amongst the other Owners based on each such Owner's actual proportionate share of such costs paid to the date of such additional party payment; provided that the share of such additional party payment otherwise payable to an Owner in default of its obligations under this Agreement may be held by the Trustee and set-off and/or applied against amounts then owed by such Defaulting Owner pursuant to this Agreement; and

(c) such person shall pay and deliver to the Trustee an amount equal to any proceeds, compensation and/or other consideration received by such person on account of expropriation or other acquisition of lands required for the Shared Works prior to the date that such person entered into this Agreement, and which were funded by the Owners herein.

7.02 Notices and Communications

All payments and communications which may be or are required to be given by any party to another herein, shall be in writing and shall be delivered by hand or courier, or sent by prepaid registered mail to the parties at their addresses set forth in Schedule "F" hereto or if a communication also by facsimile transmission using the facsimile telephone number designated in Schedule "F". If any such payment or communication is sent by prepaid registered mail, it shall, subject to the following sentence, be conclusively deemed to have been received on the third business day following the mailing thereof and if delivered or sent by facsimile it shall be conclusively deemed to have been received at the time of delivery or transmission. Notwithstanding the foregoing provisions with respect to mailing, in the event that it may be reasonably anticipated that due to any strike, lockout or similar event involving an interruption in postal services any payment or communication will not be received by the addressee by no later than the third (3rd) business day following the mailing thereof, then the mailing of any such payment or communication as aforesaid shall not be an effective means of sending the same but rather any payment or communication must then be sent by an alternative means by which it may reasonably be anticipated will cause the payment or communication to be received reasonably expeditiously by the addressee. A party may from time to time change its address hereinbefore set forth by notice to the other of them in accordance with this clause.

7.03 Waiver

The failure of any party to this Agreement to enforce at any time any of the provisions of this Agreement or any of its rights in respect thereto or to insist upon strict adherence to any term of this Agreement shall not be considered to be a waiver of such provision, right or term or in any way to affect the validity of this Agreement or deprive the applicable party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement. The exercise of any right under this Agreement shall not preclude or prejudice such party from exercising any other right it may have under this Agreement, irrespective of any previous action or proceeding taken by it hereunder. Any waiver by any party hereto of the performance of any of the provisions of this Agreement shall be effective only if it is in writing and signed by a duly authorized representative of such party.

7.04 Remedies Cumulative

No remedy herein conferred upon or reserved in favour of any party hereto shall exclude any other remedy herein or existing at law or in equity or by statute, but each shall be cumulative and in addition to every other remedy given hereunder or now or hereafter existing.

7.05 Further Assurances

The parties hereto agree to execute such other instruments as may from time to time be necessary or desirable to give effect to the provisions of this Agreement.

7.06 Time is of the Essence

Time shall be of the essence of this Agreement and each of its provisions.

7.07 Interpretation

Words importing the singular number only shall include the plural, and vice versa; and words importing the masculine gender shall include the feminine and neuter genders and vice versa; and words importing persons shall include firms and corporations and vice versa; and words such as "hereunder", "hereto", "hereof" and other words commencing with "here" shall, unless the context clearly indicates to the contrary, refer to the whole of this Agreement not to any particular article or paragraph thereof.

7.08 Counterpart Execution and Electronic Transmission

This Agreement may be executed in any number of counterparts and by facsimile or other

electronic transmission, and each such facsimile or electronic copy shall constitute an original and all such counterparts shall for all purposes constitute one agreement, binding on all parties hereto notwithstanding that all parties are not signatories to the same counterpart.

7.09 Headings

The headings in this Agreement, and in the Schedules hereto are solely for convenience or reference and shall not affect the interpretation thereof nor be deemed to define, limit or construe the contents of any provision of this Agreement.

7.10 Severability

If any term, covenant or condition of this Agreement or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Agreement and/or the application of such term, covenant or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each term, covenant or condition of this Agreement shall be separately valid or enforceable to the fullest extent permitted by law.

7.11 Form of Payment

Except as otherwise provided in this Agreement, all payments required to be made by the Owners pursuant to this Agreement shall be made by way of certified cheque.

7.12 Enurement

This Agreement shall enure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators, successors and assigns and shall run with and bind the Owners' Lands.

7.13 Registration of Agreement

The Trustee is hereby irrevocably and unconditionally authorized and directed to register this Agreement (or notice thereof) against title to the lands of the Owners, in the event of default or anticipated default by an Owner under this Agreement, and/or otherwise as may be necessary or advisable in order to protect the interests of the Group.

7.14 Disposition of Lands

Any Owner may convey all or any part of its lands as herein described prior to the occurrence of a Development Event in respect of the lands intended to be conveyed and the fulfilment by the Owner of its obligations pursuant to this Agreement in respect of such lands provided the Owner wishing to convey the lands and the person acquiring such lands (the "**Transferee**") enter into an agreement in registrable form with the other Owners on the terms of Schedule "E" attached hereto and provided further that such Transferee delivers such letters of credit or other security as the Trustee may require in order to secure such Transferee's obligations under this Agreement. Upon satisfaction of such requirements, and provided the transferring Owner is then in good standing under this Agreement, the transferring Owner shall be released from any further obligations under this Agreement, and the Transferee shall thereafter be entitled and subject to all benefits and obligations under this Agreement. Any conveyance in contravention of this provision shall be null and void.

7.15 Acknowledgement re: Brattys LLP

The parties hereto, and each of them, hereby acknowledge that they have requested BRATTYS LLP (the "**Firm**") to prepare this Agreement and facilitate the completion hereof amongst all of the parties hereto. The parties hereto each further acknowledge that the Firm has advised them that, because it is preparing this Agreement and acting as the facilitator for the completion of this Agreement amongst all of the parties hereto, it is not acting on behalf of any individual Owner herein, and it cannot treat any information received from or on behalf of any of the parties hereto as confidential insofar as any of the other parties hereto are concerned, and that if a dispute arises between or among any of the parties hereto, the Firm

cannot (except for efforts to resolve such dispute by consent) act for any of the parties in that matter. The parties hereto each hereby consent to the Firm preparing this Agreement and facilitating the completion hereof, subject to the foregoing. The parties hereto each hereby further acknowledge that the Firm has advised each of them that they obtain independent legal advice and representation prior to signing this Agreement and that each of them has either obtained such independent legal advice and representation or has been given reasonable opportunity to do so and voluntarily elected not to do so.

[BALANCE OF PAGE LEFT INTENTIONALLY BLANK]

IN WITNESS WHEREOF the parties hereto have duly executed this Agreement.

ANATOLIA CAPITAL CORP.

Per: _____
Name: Bekir Elmacioglu
A.S.O.

Per: _____
Name:
A.S.O.

I/We have the authority to bind the corporation.

ARION SERVICES LTD.

Per: _____
Name:
A.S.O.

Per: _____
Name:
A.S.O.

I/We have the authority to bind the corporation.

SIMPSON ROAD LANDOWNERS GROUP INC.

Per: _____
Name:
A.S.O.

Per: _____
Name:
A.S.O.

I/We have the authority to bind the corporation.

SCS CONSULTING GROUP LTD.

Per: _____
Name:
A.S.O.

Per: _____
Name:
A.S.O.

I/We have the authority to bind the corporation.

IN WITNESS WHEREOF the parties hereto have duly executed this Agreement.

ANATOLIA CAPITAL CORP.

Per:_____
Name:
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

ARION SERVICES LTD.

Per:_____
Name: DOMENIC TAVERNISE
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

SIMPSON ROAD LANDOWNERS GROUP INC.

Per:_____
Name:
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

SCS CONSULTING GROUP LTD.

Per:_____
Name:
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

IN WITNESS WHEREOF the parties hereto have duly executed this Agreement.

ANATOLIA CAPITAL CORP.

Per:_____
Name:
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

ARION SERVICES LTD.

Per:_____
Name:
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

SIMPSON ROAD LANDOWNERS GROUP INC.

Per:_____
Name: Helen Mihailidi
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

SCS CONSULTING GROUP LTD.

Per:_____
Name:
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

IN WITNESS WHEREOF the parties hereto have duly executed this Agreement.

ANATOLIA CAPITAL CORP.

Per:_____
Name:
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

ARION SERVICES LTD.

Per:_____
Name:
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

SIMPSON ROAD LANDOWNERS GROUP INC.

Per:_____
Name:
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

SCS CONSULTING GROUP LTD.

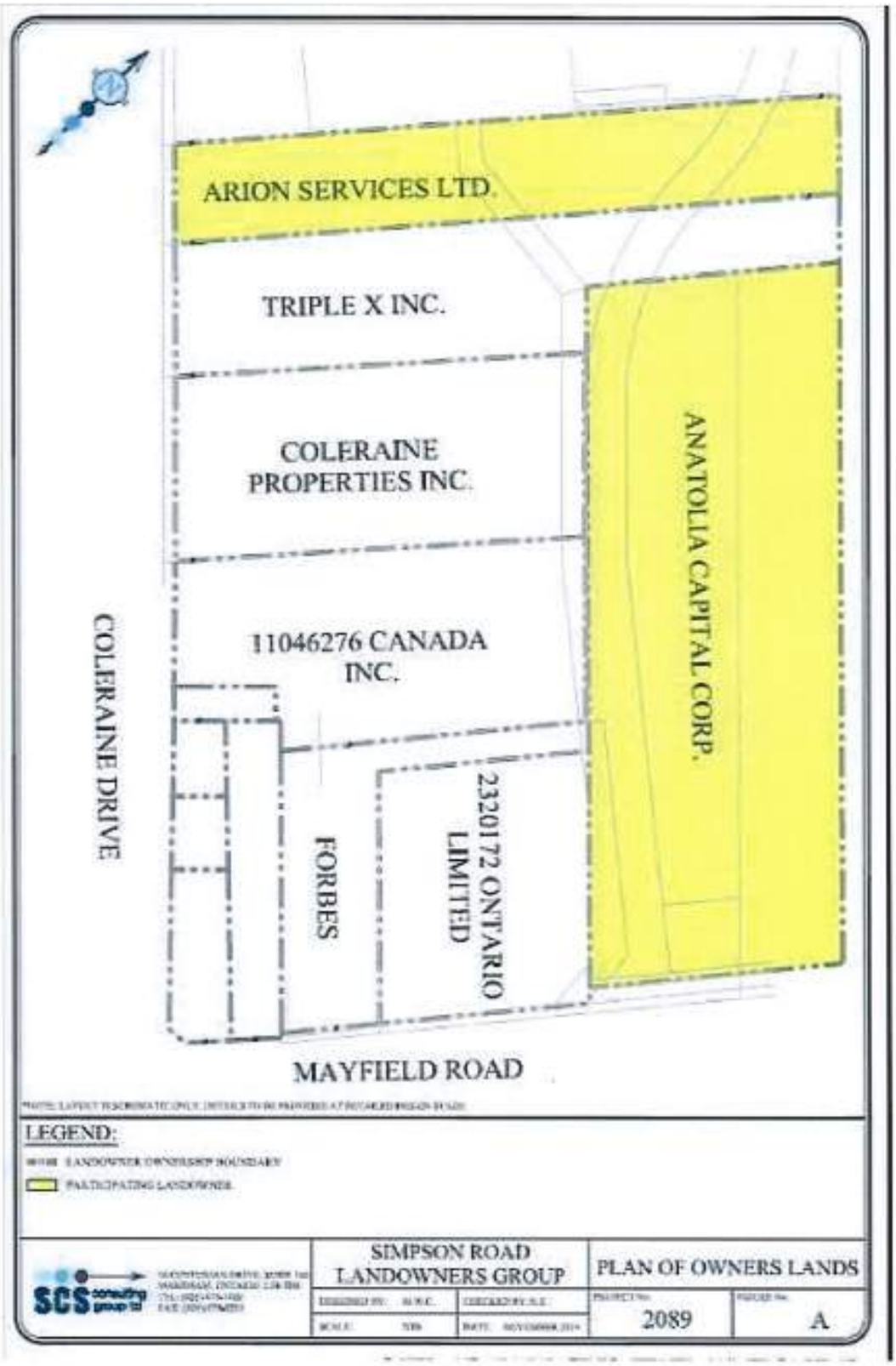
Per:_____
Name: Nick Zeibots ASO
A.S.O.

Per:_____
Name:
A.S.O.

I/We have the authority to bind the corporation.

SCHEDULE "A"

PLAN OF OWNERS' LANDS



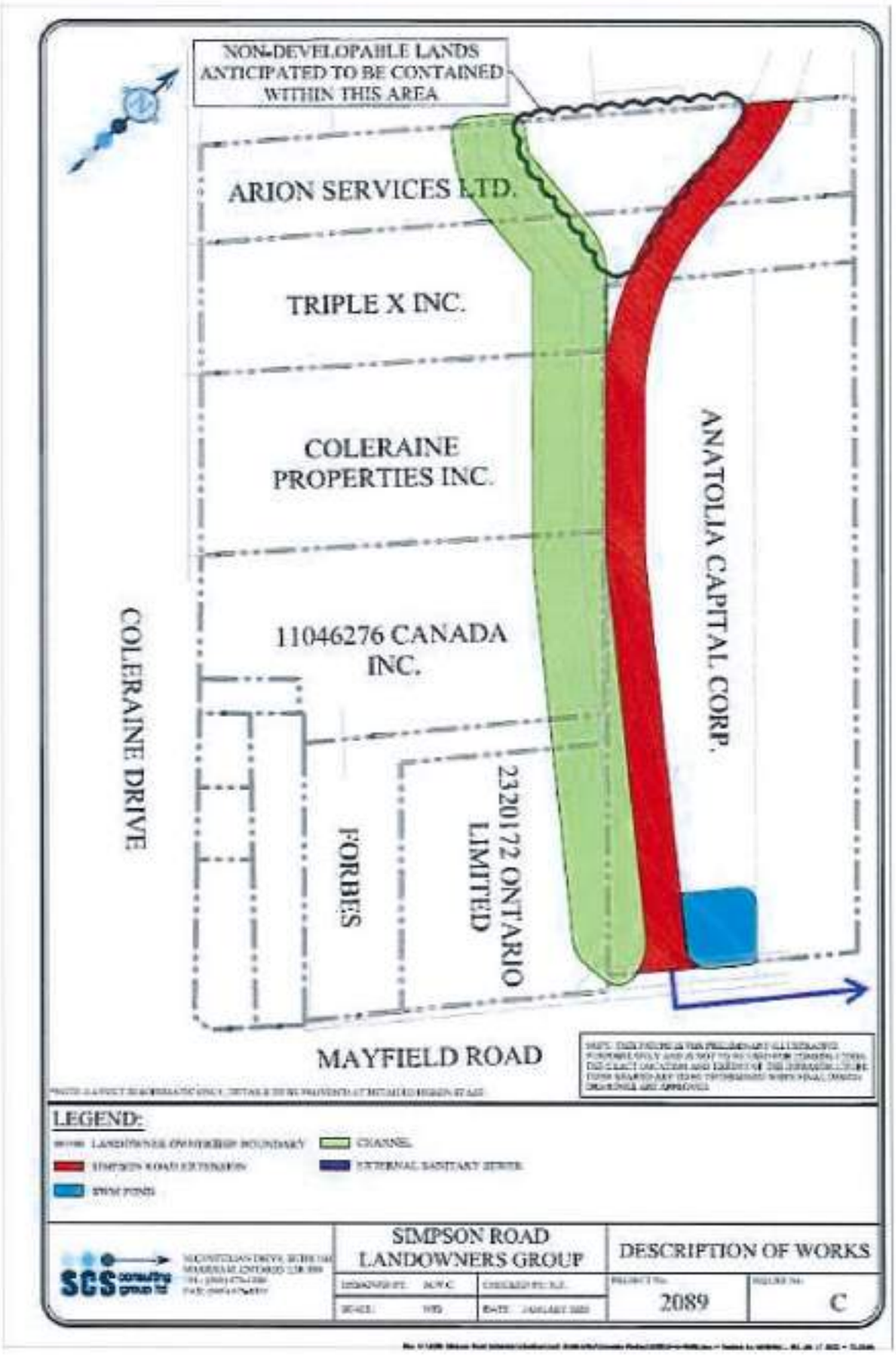
SCHEDULE "B"

LEGAL DESCRIPTIONS OF OWNERS' LANDS

LANDOWNER	LEGAL DESCRIPTION
ANATOLIA CAPITAL CORP.	P.I.N.: 14350-0706 (LT) Part of Lot 1, Concession 6 Albion designated as Parts 1, 2, 5, 6, 9 and 10 on Plan 43R-34749, Town of Caledon, Regional Municipality of Peel.
ARION SERVICES LTD.	P.I.N.: 14350-0542 (LT) Part of Lot 1, Concession 6 Albion as in RO1058982, Except Part 1 on Expropriation Plan PR1156810, Town of Caledon, Regional Municipality of Peel.

SCHEDULE "C"

DESCRIPTION OF WORKS AND NON-DEVELOPABLE LANDS DUE TO ALIGNMENT OF SIMPSON ROAD



SCHEDULE "D"

COST SHARING CONSULTANT'S SCHEDULES

[TO BE PROVIDED BY COST SHARING CONSULTANT AFTER THE EXECUTION OF THIS AGREEMENT]

SCHEDULE "E"

ADDITIONAL PARTY ACKNOWLEDGEMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby covenants and agrees with all persons who are parties to the Simpson Road (Caledon) Shared Works (Simpson Road Extension and Stormwater Channel) Cost Sharing Agreement (hereinafter referred to as the "Cost Sharing Agreement") dated March 6, 2020 (as amended from time to time), as follows:

1. The undersigned is the registered owner of the lands legally described as _____ _____and the undersigned has full power and authority to bind such lands and to enter into these presents.

2. The undersigned, hereby covenants and agrees to comply with all provisions of the Lot Distribution Agreement as fully as if the undersigned had originally been named a party thereto.

3. The undersigned hereby acknowledges and accepts all decisions made to date by the Owners, Trustee, and Cost Sharing Consultant.

4. This Agreement shall enure to the benefit of all parties to the Cost Sharing Agreement and be binding upon the undersigned, its administrators, successors and assigns and shall run with and be binding upon the lands described in paragraph 1 of this Schedule.

IN WITNESS WHEREOF, the undersigned has duly executed and delivered this Agreement this day of ,20 .

Per: _____

A.S.O.

Per: _____

A.S.O.

I/We have the authority to bind the corporation.

SCHEDULE "F"

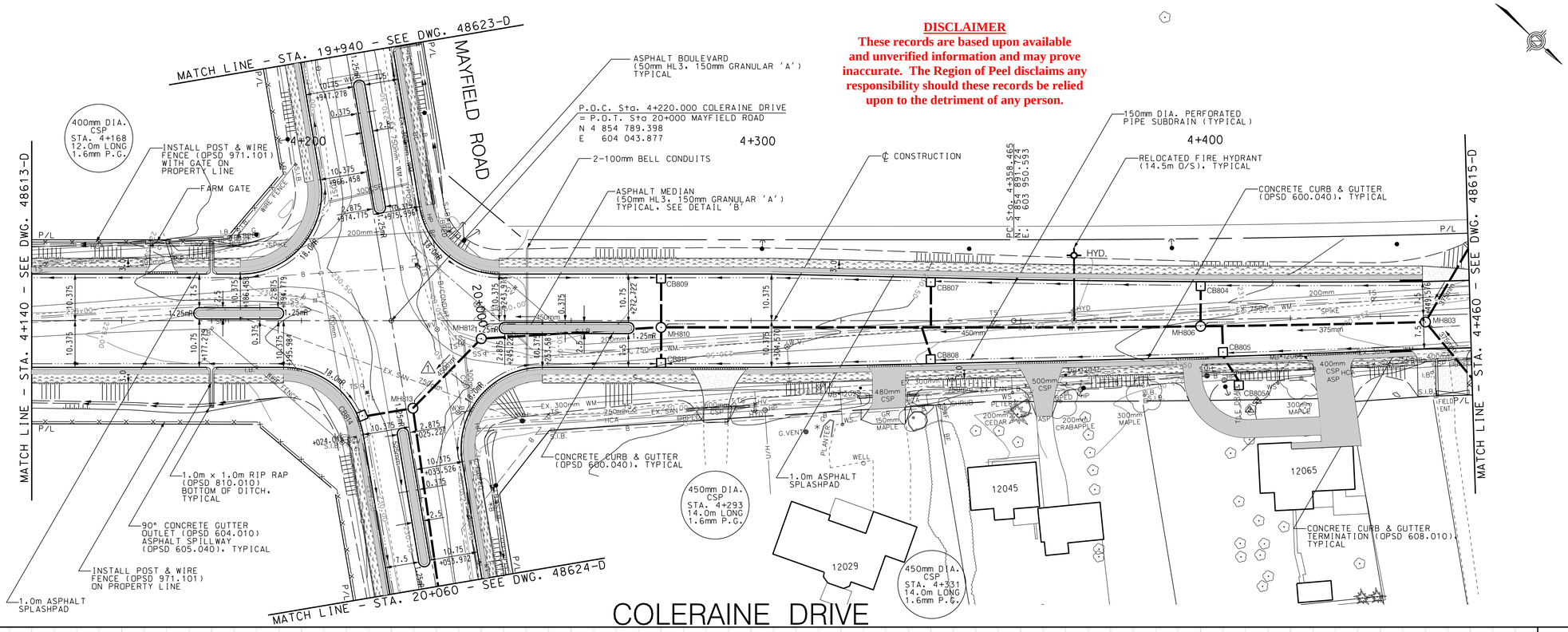
NOTICES AND COMMUNICATIONS

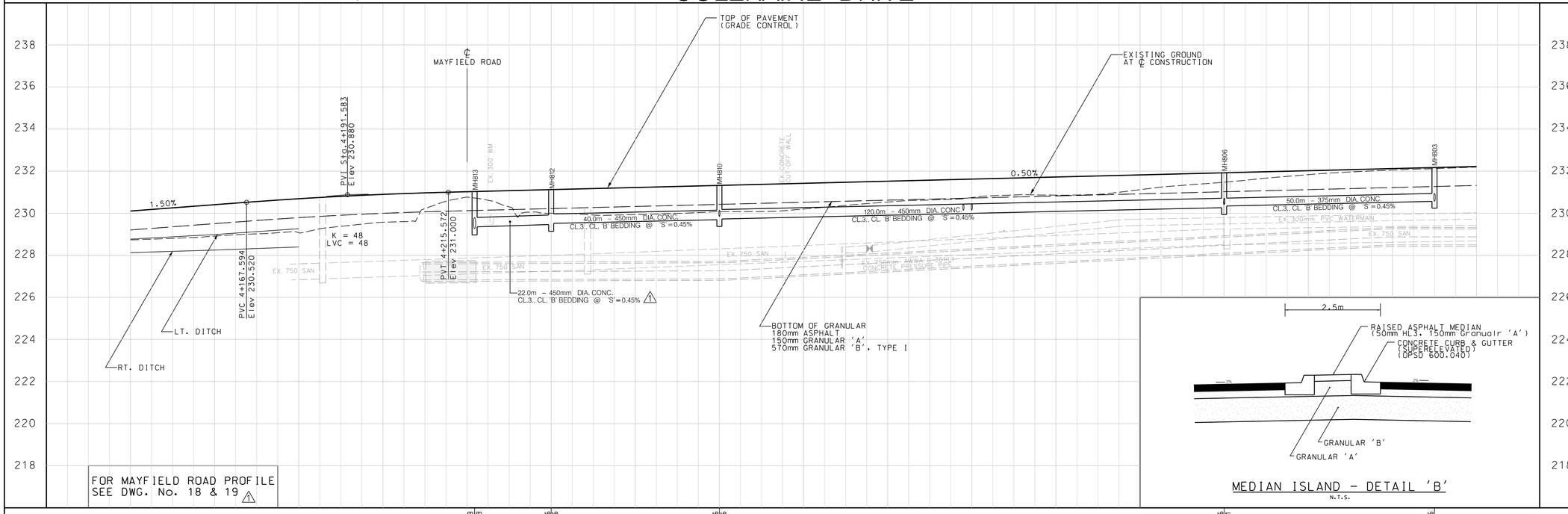
LANDOWNER	CONTACT INFORMATION
ANATOLIA CAPITAL CORP.	Anatolia Capital Corp. 8300 Huntington Road Vaughan, ON L4L 1A5 Attention: Baran Yilmaz Phone: (905) 771-3800 ext. 740 Email: baran.yilmaz@anatoliacapitalcorp.com
ARION SERVICES LTD.	c/o Arion Services Ltd. 63 Progress Court, Unit 3 Brampton, ON L6S 5X2 Attention: Paul Ricciuto Phone: (905) 789-5769 Email: paul@parcor.ca

COST SHARING CONSULTANT AND TRUSTEE	CONTACT INFORMATION
SCS CONSULTING GROUP LTD.	30 Centurian Drive, Suite 100 Markham, ON L3R 8B8 Attention: Nick Zeibots Phone: 905-475-1900 Email: nzeibots@scsconsultinggroup.com
SIMPSON ROAD LANDOWNERS GROUP INC.	c/o 7501 Keele Street, Suite 200 Vaughan, ON L4K 1Y2 Attention: Helen Mihailidi Phone: 905-760-2700 ext. 277 Email: hmihailidi@bratty.com

DISCLAIMER

These records are based upon available and unverified information and may prove inaccurate. The Region of Peel disclaims any responsibility should these records be relied upon to the detriment of any person.





FOR MAYFIELD ROAD PROFILE SEE DWG. No. 18 & 19 ⚠1

MEDIAN ISLAND - DETAIL 'B'
N.T.S.

| | | |

SCHEDULE "G"

MASTER FINANCIAL AGREEMENT

[TO BE ADDED AFTER THE EXECUTION OF THIS AGREEMENT]

TOWN OF CALEDON

SIMPSON ROAD EXTENSION
PHASE 3

FROM 282m SOUTH OF PARR BOULEVARD TO MAYFIELD ROAD
CONTRACT- 14-093

REGION OF PEEL

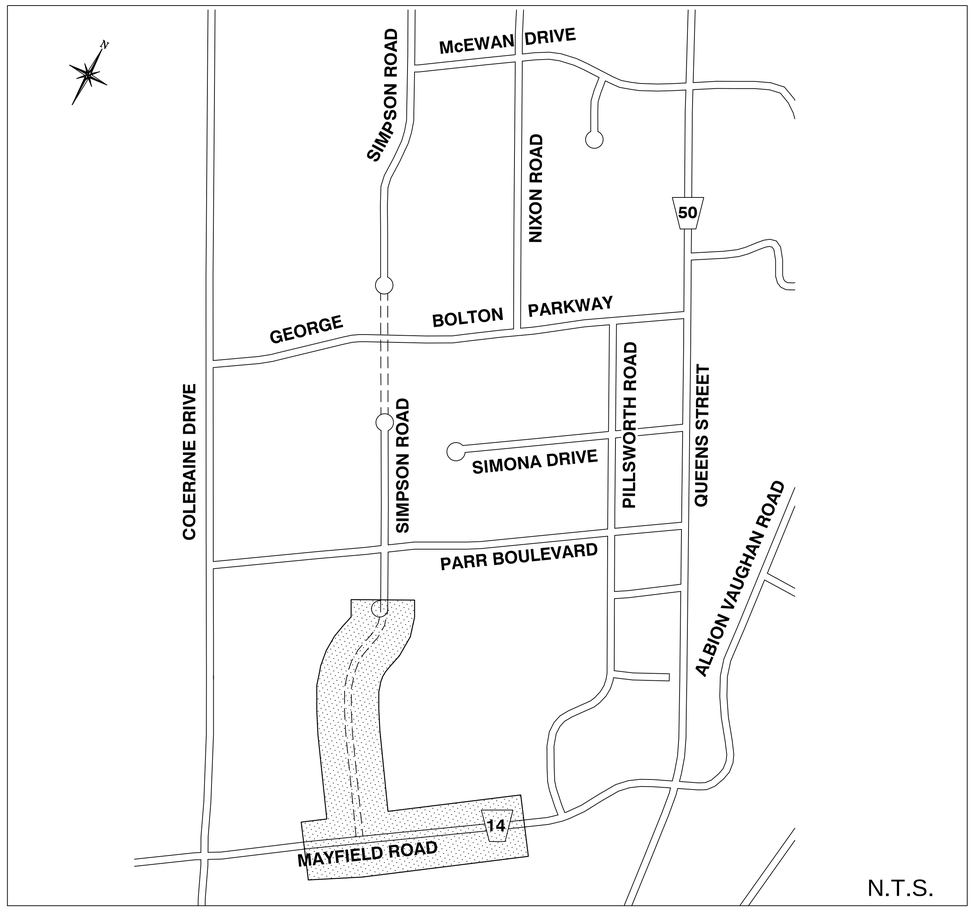
COMMISSIONER OF PUBLIC WORKS

wood.

3450 HARVESTER ROAD
BURLINGTON, ON
L7N 3W5

INFRASTRUCTURE

561m OF ROAD
459m OF STORM SEWER
833m OF SANITARY SEWER
583m OF WATERMAIN
17 MANHOLES
14 CATCHBASINS
16 STREETLIGHTS



DRAWING INDEX

1	LEGEND
2	GENERAL NOTES
3	EROSION & SEDIMENT CONTROL PLAN
4	GENERAL PLAN ABOVE GROUND
5	GENERAL PLAN BELOW GROUND
6	ALIGNMENT
7-8	REMOVALS
9-12	NEW CONSTRUCTION
13-14	PAVEMENT MARKINGS AND SIGNS
15	TYPICAL SECTIONS AND DETAILS
16	WATER DISTRIBUTION
17	SANITARY AREA DRAINAGE PLAN
18	STORM AREA DRAINAGE PLAN
C1-C7	CHANNEL LAYOUT
E01-E05	ELECTRICAL
L1-L4	LANDSCAPING

Issued for Client Review – 100% Detailed Design

LEGEND

1. EXISTING

GENERAL:

- BOUNDARY LINE
- BRIDGES
- CENTERLINE AND (OR) BASELINE
- CNR RAILWAY
- EASEMENT LINE
- DIRECTION OF GRADING
- LOT — LOT LINE
- MISCELLANEOUS
- PARKING
- LINE PAINTING REMOVAL
- ROAD
- RIGHT OF WAY
- LAKE SHORELINE
- TOP OR BOTTOM SLOPE, BERM
- STREAMS
- WATERSHED SUB-BOUNDARY
- SWAMP AREA, MARSH
- TRANS CANADA GAS PIPELINE
- LANE & PAVEMENT MARKINGS
- WATERSHED AREA

SITE & ROAD:

- BUILDINGS
- EX. BASE
- EX. CENTERLINE AND (OR) BASELINE
- EX. CURB
- EX. DITCH, SWALE
- X — EX. FENCE
- EX. GABION BASKETS
- EX. GUIDERAIL OR POST & WIRE
- EX. LINE PAINTING
- EX. EDGE OF PAVEMENT
- EX. EDGE OF SHOULDER
- EX. SIDEWALK

SEWER:

- EX. CULVERT
- EX. SANITARY MAIN
- SAN — EX. SANITARY SERVICE
- EX. STORM MAIN / SUBDRAIN
- EX. STORM SERVICE

UTILITIES:

- U/B — EX. BELL
- EX. CONDUIT (TRAFFIC LIGHTS ETC.)
- CTV — EX. CABLE TV
- G — EX. GAS MAIN
- U/H — EX. HYDRO
- EX. SPRINKLER SYSTEM
- W — EX. WATER MAIN
- WS — EX. WATER SERVICE

2. PROPOSED

SITE & ROAD:

- BASE PLAN
- CURB
- DITCH LINE
- FENCE
- GABION BASKETS
- GUIDERAIL OR POST & WIRE
- LINE PAINTING
- PAVEMENT EDGE
- SHOULDER EDGE
- SIDEWALK

SEWER:

- CULVERTS
- SANITARY DRAINAGE AREA
- SANITARY MAIN
- SANITARY SERVICE
- STORM DRAINAGE AREA
- STORM MAIN / SUBDRAIN
- STORM SERVICE

UTILITIES:

- BELL
- CONDUIT (TRAFFIC LIGHTS ETC.)
- CABLE TV
- GAS MAIN
- HYDRO
- SPRINKLER SYSTEM
- WATER MAIN
- WS — WATER SERVICE

3. DRAINAGE PLANS

SANITARY:

- SANITARY DRAINAGE DIVIDE
- SUBCATCHMENT BOUNDARY
- LOCAL BOUNDARY
- ZONING BOUNDARY

STORM:

- EX. WATERSHED BOUNDARY - 5 YEAR STORM
- EX. WATERSHED BOUNDARY - 100 YEAR STORM
- FUTURE WATERSHED BOUNDARY - 5 YR STORM
- FUTURE WATERSHED BOUNDARY - 100 YR STORM
- EXISTING SUBCATCHMENT - 5 YEAR
- EXISTING SUBCATCHMENT - 100 YEAR
- FUTURE SUBCATCHMENT - 5 YEAR
- FUTURE SUBCATCHMENT - 100 YEAR
- LOCAL BOUNDARY

SYMBOLS	DESCRIPTION
C.M. , S.I.B. , S.S.I.B.	CONCRETE MONUMENT, STANDARD IRON BAR, SHORT STANDARD IRON BAR
I.B. , STK , P.K.	IRON BAR, STAKE, NAIL
R.I.B. , I.P.	ROUND IRON BAR, IRON PIPE
C.C.	CUT CROSS
B.M., G.B.M.	BENCH MARK, GEODETIC BENCH MARK
G.S.M. #	GEODETIC SURVEY MONUMENT (2nd Order)
P.I.	POINT OF INTERSECTION
B.H.#	BORE HOLE
R.C.S.	RAILWAY CROSSING SIGN
S.B.	SIGNAL BOX
	RAILWAY TRACKS
H.P. , B.P.	HYDRO POLE, BELL POLE
G.W.	GUY WIRE
G.S. , B.S. , M.S.	GAS SIGN, BELL SIGN, MONUMENT SIGN
B.B. , H.B. , CTV.B.	BELL BOX, HYDRO BOX, CABLE TV BOX
POLE (DESCRIPTION)	MISC. POLE (ie. Clothline)
SIGN	SIGN POST (SPECIFY)
U.MH.	UTILITY MANHOLE (OTHER)
S.S. , T.S.	STOP SIGN, TRAFFIC SIGN
POST	POSTS
P.M.	SINGLE PARKING METER
P.M.	DOUBLE PARKING METER
L.P. , T.L.	LIGHT POLE, TRAFFIC LIGHT
H.MH.	HYDRO MANHOLE
E.MH.	ELECTRICAL MANHOLE (TRAFFIC LIGHTS)
B.MH.	BELL MANHOLE
	TELEPHONE BOOTH
HYD.	FIRE HYDRANT
V #	WATER VALVE
	CURB STOP
	WATERMAIN CROSS, TEE
	WATERMAIN CAP, REDUCER
	FIRE HYDRANT (IN PROFILE)
G.V.	GAS VALVE
	EXISTING GROUND POINT
	VAULT
	GABION BASKET, STONE
	RIP RAP
	ROCK
WELL	WELL
SAN.MH.	SANITARY MANHOLE
STM.MH.	STORM MANHOLE
C.B.MH.	CATCH BASIN MANHOLE
C.B.	SINGLE CATCH BASIN
D.C.B., D.C.B.MH.	DOUBLE CATCH BASIN, DOUBLE CATCH BASIN MANHOLE
D.I.C.B.	DITCH INLET CATCH BASIN
	CULVERT
	SWAMP, MARSH
	TREE LINE, HEDGE
	DECIDUOUS, CONIFEROUS TREE ; STUMP (TREE SIZES WILL BE IN 100mm INCREMENTS)
	DECIDUOUS AND CONIFEROUS SHRUBS
	HATCHING FOR OBJECTS TO BE REMOVED (SCALE OF HATCHING TO BE IN PROPORTION TO THE ITEM TO BE REMOVED)

BLOCK SYMBOLS

BLOCK	BLOCK NAME	
C.M.	CM	
S.I.B.	SIB	
S.S.I.B.	SSIB	
I.B.	IB	
STK	STK	
P.K.	PK	
C.C.	CC	
R.I.B.	RIB	
I.P.	IP	
B.M.	BM	
G.B.M.	GBM	
P.I.	PI	
R.C.S.	RCS	
S.B.	SB	
S.S.	SS	
T.S.	TS	
SIGN	SIGN	
POST	POST	
P.M.	PM1	
P.M.	PM2	
	EG	
N	N	
H.P.	HP	
G.W.	GW	
L.P.	LP	
T.L.	TL	
POLE	POLE	
B.P.	BP	
B.S.	BS	
G.S.	GS	
M.S.	MS	
EX.SAN.MH.	SANMH	
EX.STM. MH.	STMMH	
EX. C.B.MH.	CBMH	
EX. D.C.B.MH.	DCBMH	
EX. C.B.	CB	
EX. D.C.B.	DCB	
EX. D.I.C.B.	DICB	
CULV	CULV	
TREELINE	TREELINE	
HEDGE	HEDGE	
B.MH.	BMH	
B.B.	BB	
PHONE	PHONE	
H.MH.	HMH	
E.MH.	EMH	
H.B.	HB	
U.MH.	UMH	
CTV.B.	CTVB	
DSHRUB	DSHRUB	
CSHRUB	CSHRUB	
HYD	HYD	
WV	WV	
CS	CS	
PHYD	PHYD	
PWV	PWV	
PCS	PCS	
CAP	CAP	
CROSS	CROSS	
TEE	TEE	
REDUCER	REDUCER	
PROP. FIRE HYDRANT STA. 0+035.4 FLANGE ELEV. 227.52	HYD-PROF	
G.V.	GV	
	VAULT	
	RIPRAP	
	SWAMP	
	ROCK	
WELL	WELL	

BLOCKS WITH ATTRIBUTES

BLOCK	BLOCK NAME	
PROP.STM. MH.#	PSTMMH	
PROP.C.B.#	PCBMH	
PROP.D.C.B. MH.#	PDCBMH	
PROP.C.B.#	PCB	
PROP.D.C.B.#	PDCB	
PROP. D.I.C.B.#	PDICB	
PROP.SAN. MH.#	PSANMH	
QUANTITY .1	D1	
QUANTITY .2	D2	
QUANTITY .3	D3	
QUANTITY .4	D4	
QUANTITY .5	D5	
QUANTITY .6	D6	
QUANTITY .7	D7	
QUANTITY .8	D8	
QUANTITY .9	D9	
QUANTITY 1.0	D10	
QUANTITY 1.1	D11	
QUANTITY 1.2	D12	
QUANTITY 1.3	D13	
QUANTITY 1.4	D14	
QUANTITY SIZE	D15	
QUANTITY 1	C1	
QUANTITY 2	C2	
QUANTITY 3	C3	
QUANTITY 4	C4	
QUANTITY 5	C5	
QUANTITY 6	C6	
QUANTITY 7	C7	
QUANTITY 8	C8	
QUANTITY 9	C9	
QUANTITY 1.0	C10	
QUANTITY 1.1	C11	
QUANTITY 1.2	C12	
QUANTITY 1.3	C13	
QUANTITY 1.4	C14	
QUANTITY SIZE	C15	
QUANTITY .1	STUMP1	
QUANTITY .2	STUMP2	
QUANTITY .3	STUMP3	
QUANTITY .4	STUMP4	
QUANTITY .5	STUMP5	
QUANTITY .6	STUMP6	
QUANTITY .7	STUMP7	
QUANTITY .8	STUMP8	
QUANTITY .9	STUMP9	
QUANTITY .1	STUMP10	
QUANTITY .2	STUMP11	
QUANTITY .3	STUMP12	
QUANTITY .4	STUMP13	
QUANTITY .5	STUMP14	
QUANTITY SIZE	STUMP15	
G.S.M. # #	GSM	
B.H.#	BH	

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

LEGEND

SCALE: **N.T.S.**		PROJECT No. **TP113126**
DESIGNED BY: **F.W.**	DRAWN BY: **N.H.**	
CHECKED BY: **D.S.**	DATE: **NOV. 2020**	DRAWNING No. **1**

REGION OF PEEL GENERAL NOTES

GENERAL:

1. THE APPLICANT, APPLICANTS REPRESENTATIVE, CONSULTANT, CONTRACTOR AND SUB CONTRACTORS ARE RESPONSIBLE TO ENSURE THAT THEIR DESIGN MATERIALS AND CONSTRUCTION PRACTICES CONFORM TO THE LATEST REGION OF PEEL STANDARDS, SPECIFICATIONS, MATERIALS AND DESIGN CRITERIA, POSTED ON REGION OF PEEL'S WEBSITE (www.peelregion.ca/pw/standards). IN THE ABSENCE OF REGION SPECIFICATIONS, THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) SHALL APPLY.
2. ALL WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED THE CONSTRUCTOR AS DEFINED IN THE ACT.
3. THE CONTRACTOR AT THEIR EXPENSE SHALL VERIFY THE LOCATION, DIMENSION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES IN THE FIELD.
4. PRIOR TO EXCAVATION OR BORING CONTRACTOR AT THEIR EXPENSE SHALL EXPOSE AND VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND SERVICES TO BE CROSSED AND MUST NOTIFY THE DESIGN ENGINEER AND THE AGENCY FIELD INSPECTOR AND/OR PROJECT MANAGER IMMEDIATELY, IN WRITING, OF ANY CONFLICTS OR DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING THE EXISTING UTILITIES FAR ENOUGH IN ADVANCE OF CONSTRUCTION TO MAKE NECESSARY DESIGN MODIFICATIONS FOR REVIEW AND APPROVAL, IF REQUIRED, WITHOUT DELAYING THE WORK.
5. THE CONTRACTOR, AT THEIR EXPENSE AND TO THE SATISFACTION OF THE REGION OF PEEL, SHALL BE RESPONSIBLE FOR THE RESTORATION AND THE REPAIR OF THE EXISTING UTILITIES AND ALL AREAS BEYOND THE PLAN OF SUBDIVISION DISTURBED DURING CONSTRUCTION.
6. THE SUPPORT OF ALL UTILITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
7. ALL BACKFILL FOR SEWERS, WATERMAINS AND UTILITIES ON THE ROAD ALLOWANCE MUST BE MECHANICALLY COMPACTED.
8. ALL BOREHOLES SHOWN ON DRAWING ARE FOR INFORMATION ONLY. REFER TO GEOTECHNICAL REPORT.
9. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.

WATERMAINS:

1. THE REGION OF PEEL SHALL CONDUCT THE OPERATION OF EXISTING VALVES AND HYDRANTS IF REQUIRED.
2. CONTRACTOR MUST USE BATTER BOARD OR ROD-AND-LEVEL METHOD FOR WATERMAIN INSTALLATION.
3. ALL WATERMAINS SHALL HAVE 1.70m MINIMUM COVER FOR URBAN ROAD DESIGN AND 2.1m MINIMUM COVER FOR RURAL ROAD DESIGN.
4. ALL WATERMAINS SHALL MAINTAIN A MINIMUM 1.5m CLEARANCE FROM ALL MANHOLES AND CATCH BASINS, WHERE APPLICABLE.
5. FOR WATERMAINS CROSSING OVER OR UNDER SEWERS A MINIMUM 0.5m VERTICAL CLEARANCE SHALL BE PROVIDED.
6. FOR WATERMAIN CROSSING A SANITARY SEWER, WATERMAIN JOINTS ARE TO BE OFFSET A MINIMUM OF 2.5m HORIZONTALLY FROM THE CENTERLINE OF THE SANITARY SEWER.
7. WATERMAIN BEDDING SHOULD BE PER DWG 1-5-1.
8. WATERMAINS TO BE INSTALLED TO GRADES AS SHOWN ON APPROVED PLANS, COPY OF GRADE SHEET MUST BE SUPPLIED TO THE REGION OF PEEL INSPECTOR PRIOR TO COMMENCEMENT OF WORK.
9. ANY JOINT DEFLECTION SHALL NOT EXCEED 50% OF MANUFACTURERS SPECIFICATIONS. PIPE BARREL DEFLECTION IS PROHIBITED.
10. FIRE HYDRANTS SHALL BE INSTALLED AS PER REGION STD. DWG. 1-6-1 OR 1-6-2 WITH FLANGE SET BETWEEN 50mm AND 150mm ABOVE FINISHED GRADE.
11. ALL HYDRANTS SHALL HAVE 1.2m MINIMUM HORIZONTAL CLEARANCE FROM ALL OTHER UTILITIES AND STRUCTURES MEASURED FROM THE NEAREST POINT OF THE STRUCTURE.
12. MECHANICAL RESTRAINERS ARE REQUIRED FOR ALL FITTINGS, VALVES, DEAD ENDS, CAPS AND HYDRANTS ON ALL PVC WATERMAINS; MINIMUM RESTRAINED PIPE LENGTH AS PER REGION'S STANDARD DRAWING 1-5-9.
13. STAINLESS STEEL NUTS AND BOLTS ARE TO BE USED ON ALL METALLIC FITTINGS AND JOINT RESTRAINTS.
14. ALL METALLIC VALVES, FITTINGS, THROUGH WALL METAL PIPING AND JOINT RESTRAINTS TO BE C/W DENSO PASTE, DENSO MASTIC & DENSO TAPE OR APPROVED EQUAL APPLIED TO MANUFACTURERS RECOMMENDATIONS.
15. WHERE PLASTIC PIPE IS USED, INSTALL A 12 GAUGE TWU STRANDED COPPER, LIGHT COLOURED, PLASTIC COATED TRACER WIRE ATTACHED TO THE PIPE WITH APPROVED WIRE SPLICE. THE WIRE SHOULD BE BROUGHT TO THE SURFACE AT EACH SERVICE & VALVE BOX AND HYDRANT VALVES.
16. 50mm DIAMETER WATERMAIN SHALL BE TYPE K SOFT COPPER. WATERMAIN INSTALLATION IN CULDE-SACS AS PER REGION STD. DWG. 1-7-4.
17. A PHYSICAL SEPARATION MUST BE MAINTAINED AT ALL CONNECTION POINTS OF NEW WATERMAIN TO THE EXISTING SYSTEM UNTIL BACTERIOLOGICAL TESTS HAVE PASSED, AS PER STD. DWG. 1-7-7 AND 1-7-8.
18. PROVISION FOR FLUSHING OF NEW WATERMAINS PRIOR TO TESTING MUST BE PROVIDED WITH AT LEAST 50mm OUTLET ON WATERMAINS SMALLER THAN 300mm IN DIAMETER, AND MINIMUM 100mm OUTLET ON WATERMAINS 300mm AND LARGER. COPPER WATERMAINS ARE TO HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE WATERMAIN, AS PER STD. DWG. 1-7-7 AND 1-7-8.
19. ALL SERVICE CONNECTIONS TO PVC PIPES ARE TO BE MADE USING APPROVED WIDE BAND SERVICE SADDLE, DIRECT TAPPING IS NOT ALLOWED.
20. ALL WATER SEVICES SHALL BE MINIMUM 25mm DIA NOMINAL COPPER PIPE SIZE OR 32mm DIA POLYETHYLENE PIPE. IN GENERAL, NON METALLIC SERVICES SHALL BE ONE SIZE LARGER THAN THE NOMINAL COPPER PIPE SIZE AS PER LATEST APPROVED REGIONAL PRODUCT LIST AND SIZES C/W TRACER WIRE.
21. THE MINIMUM LATERAL DISTANCE BETWEEN WATER SERVICES AND OTHER UTILITIES SHALL BE 1.2m.
22. ALL RESIDENTIAL WATER SERVICE BOXES/CURB STOPS SHALL BE INSTALLED WITHIN SODDED AREAS WITH MINIMUM DISTANCE OF 1.0 METRES FROM THE EDGE OF THE DRIVEWAY, BE FLUSH WITH GRADE AND ACCESSIBLE AT ALL TIME.
23. VALVE AND BOXES SHALL BE CAST IRON SLIDING TYPE, COMPLETED WITH VALVE GUIDE PLATES AND INSTALLED AS PER REGION STD. 1-3-8. MAINLINE VALVES TO BE RESTRAINED AS PER REGION STD. 1-3-3A. VALVES SHALL OPEN TO THE LEFT (COUNTER-CLOCKWISE).
24. ALL WATER SERVICES BOXES SHOULD BE "LEAD FREE" AS PER REGION'S MATERIAL SPECIFICATIONS.
25. THE REGION WILL COMPLETE THE NECESSARY WATER TESTING (PRESSURE TEST, FLUSHING, CHLORINATION AND SAMPLING). CONTRACTOR MAY PROCEED WITH HIS OWN PRESSURE TEST AND FLUSHING PRIOR TO REGION'S TESTING.
26. ALL METALLIC WATER PIPES INCLUDING 'K' COPPER WATER SERVICES, INSTALLED OE REPAIRED, SHALL HAVE ZINC ANODE AS PER REGION OF PEEL STANDARD 1-7-1, OPSS 422 AND OPSD 1109.011 AND TO CONFORM TO ASTM B-418 TYPE.
27. ALL WATERMAIN PIPE DELIVERED ON SITE SHALL HAVE MANUFACTURER'S PLUGS AND STORED SO THAT NO DEBRIS ENTERS THE PIPE.
    NO WATERMAIN IS TO BE INSTALLED UNTIL NIGHT PLUG IS ON SITE.
    NIGHT PLUG TO BE USED EVERY TIME WORK IS STOPPED.

WATERMAIN IN FILL AREA:

1. NO WATERMAIN TO BE LAID ON FILL UNTIL THE FIELD DENSITY TEST REPORTS HAVE BEEN SUBMITTED TO AND APPROVED BY THE REGION OF PEEL OR THE CONSULTING ENGINEER.
2. PIPE JOINTS DEFLECTIONS ARE NOT ALLOWED IN FILL AREA.
3. JOINTS SHALL BE MECHANICALLY RESTRAINED THE WHOLE LENGTH.
4. ALL HYDRANTS, TEE BRANCH VALVES AND HORIZONTAL BENDS ARE TO BE MECHANICALLY RESTRAINED WITH TIE RODS.
5. IN EXISTING MUNICIPAL RIGHT-OF-WAY OR EASEMENT, FILL TO BE PLACED TO 600mm MINIMUM ABOVE THE OBVERT OF THE WATERMAIN AND TO 300mm EITHER SIDE, COMPACTED TO MINIMUM 100% STANDARD PROCTOR DENSITY IN 300mm LIFTS; AND THEREAFTER, FOR EVERY 300mm LIFT ALONG THE CENTERLINE, AND 1.5m TO EITHER SIDE, OF WATERMAIN AT MAXIMUM INTERVAL OF 30.0m. TEST RESULTS MUST BE SUBMITTED TO AND APPROVED BY THE CONSULTANT OR AGENCY.

SANITARY SEWERS:

1. ALL SANITARY SEWER BEDDING AS PER STD. 2-3-1.
2. MAINLINE SANITARY SEWER PIPE SIZE SHALL BE MINIMUM 250mm IN DIAMETER INSTALLED AT THE APPROVED DESIGN GRADE. PIPE CLASS AND APPURTENANCES AS PER REGIONS SPECIFICATIONS.
3. ALL SEWERS CONSTRUCTED WITH GRADES 0.5% OR LESS SHALL BE APPROVED BY THE ENGINEER AND THE AGENCY PROJECT MANAGER OR DESIGNATE AND BE INSTALLED WITH LASER AND CHECKED PRIOR TO BACKFILL.
4. MINIMUM SANITARY SEWER PIPE SLOPE FOR LAST LEG SHALL BE 1% AND DESIRABLE SLOPE 2%.
5. ALL MANHOLES SHALL BE AS PER REGION STD. DWG. 2-5-2, 2-5-3, 2-5-4, 2-5-5 AND 2-5-6 AND BENCHING AS PER STD 2-5-20.
6. FRAME AND COVERS SHALL BE AS PER REGION STD. DWG. 2-5-13, 2-6-1 TO 2-6-8.
7. MANHOLE STEPS SHALL BE AS PER REGION STD. DWG. 2-6-9 TO 2-6-11.
8. MANHOLES DEEPER THAN 5.0m MUST BE EQUIPPED WITH SAFETY PLATFORMS, AS PER STD 2-6-13 AND 2-6-14.
9. MANHOLE DROP STRUCTURES SHALL BE AS PER REGION STD. DWG. 2-5-26 AND 2-5-27.
10. SANITARY SERVICE LATERALS SHALL BE MINIMUM 150mm DIAMETER.
    a. SANITARY SERVICE SHALL BE LOWER THAN AND TO THE RIGHT OF THE STORM SERVICE AT THE PROPERTY LINE WHEN FACING THE LOT FROM THE STREET.
    b. CONNECTIONS TO SEWERS SHALL BE MADE WITH MANUFACTURED TEES OR WYES WHERE APPLICABLE APPLICABLE AND SHALL BE COLOUR CODED AS NON-WHITE, AS PER STD. DWG. 2-4-1 TO 2-4-7.

REGIONAL ROAD: (NOT APPLICABLE)

1. CONSTRUCTION AND DETOUR SIGNAGE MUST CONFORM TO "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" AND LATEST REVISION OF THE ONTARIO MINISTRY OF TRANSPORTATION "TRAFFIC CONTROL MANUAL FOR ROADWAY WORK OPERATIONS"
2. ALL TEMPORARY SIGNAGE AND TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF ONTARIO TRAFFIC MANUAL, BOOK 7 "TEMPORARY CONDITIONS" AND OPS SPECIFICATIONS AND STANDARD DRAWINGS.
3. PAVEMENT MARKINGS MUST BE IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL, BOOK 11 "PAVEMENT HAZARD AND DELINEATION MARKINGS".
4. THE CONTRACTOR SHALL NOTIFY IN ADVANCE, AS REQUIRED, THE APPROPRIATE AUTHORITY HAVING JURISDICTION FOR THE ROAD PRIOR TO COMMENCING ANY WORK AND SHALL ACQUIRE AND SATISFY THE REQUIREMENTS OF APPROPRIATE PERMITS (FEES, INSPECTIONS, SIGNAGE, TRAFFIC, MAINTENANCE, DIVERSION, ETC...)
5. REGIONAL ROAD CLOSURE IS NOT PERMITTED AT ANY TIME UNLESS APPROVAL FROM REGIONAL COUNCIL WAS OBTAINED FOR THE WORKS, WHERE A MINIMUM TWO MONTH LEAD TIME IS REQUIRED, AS PER REGIONAL POLICY W30-12.
6. WORK OPERATIONS THAT REQUIRE DIVERTING TRAFFIC TO ONE LANE ARE SUBJECT TO TIME RESTRICTIONS AND ,OR NIGHT TIME OPERATIONS AS SPECIFIED IN ROAD OCCUPANCY PERMIT. THROUGH LANES MUST BE MINIMUM 3.5m, UNLESS OTHERWISE APPROVED.
7. FOR TEMPORARY DELINEATION OF TRAFFIC IN OPPOSITE DIRECTIONS A YELLOW CENTRE LINE ON PAVEMENT MUST PAINTED. TRAFFIC CONTROL BARRELS (CONES) ARE NOT PERMITTED FOR THIS USE ON REGIONAL ROADS.
8. NEW JERSEY BARRIERS (NJB) WITH CRASH ATTENUATION DEVICES MUST BE USED ON LONG TERM PROJECTS AS OPPOSED TO TRAFFIC CONTROL DELINEATORS (BARRELS).
9. ACCESS TO EXISTING ENTRANCES AND SIDE STREETS, INCLUDING PEDESTRIAN ACCESS, SHALL BE MAINTAINED. ACCESS REQUIREMENTS MUST COMPLY WITH REGION OF PEEL CONTROLLED ACCESS BY-LAW.
10. LOCATION OF EXISTING UTILITIES TO BE ESTABLISHED BY THE CONTRACTOR. ALL EXISTING UTILITY ELEVATIONS (SANITARY AND WATERMAIN) INCLUDING CENTRE LINE OF THE ROAD ELEVATIONS HAVE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCING ANY WORK ON SITE. ANY DISCREPANCIES SHALL BE REPORTED TO THE REGION IMMEDIATELY.
11. THE THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UNDERGROUND AND OVERHEAD UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF HIS WORK, WHETHER SHOWN ON THE PLANS OR NOT, AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
12. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE TO GIVE 72 HOURS WRITTEN NOTICE TO UTILITY AUTHORITY PRIOR TO CROSSING SUCH UTILITIES FOR THE PURPOSE OF INSPECTION. THIS INSPECTION WILL BE FOR THE DURATION OF CONSTRUCTION WITH THE CONTRACTOR RESPONSIBLE FOR ALL COSTS ARISING FROM SUCH INSPECTIONS.
13. ALL ROAD BASE SHALL BE AS PER REGION OF PEEL STD. DWG. 5-1-1 AND 5-1-2.
14. ASPHALT PRESERVATIVE SEALER SUCH AS RE-CLIMATE OR APPROVED EQUIVALENT SHALL BE APPLIED AFTER THE ONE-YEAR MAINTENANCE PERIOD FOR THE TOP COURSE ASPHALT.
15. ALL EXISTING PAVEMENTS, CURBS, SIDEWALKS AND BOULEVARDS, AND OTHER AREAS DISTURBED BY THE WORK, TO BE REINSTATED EQUAL TO EXISTING AND TO THE SATISFACTION OF APPLICABLE AUTHORITY HAVING JURISDICTION OVER THE ROAD ALLOWANCE. EXISTING PAVEMENT AND CURBS TO BE SAW-CUT TO PROVIDE A SMOOTH JOINT.
16. EROSION CONTROL MEASURES TO BE IMPLEMENTED AS REQUIRED.
17. FOR ROAD PROJECTS THAT WILL NOT BE COMPLETED PRIOR TO THE END OF THE CONSTRUCTION SEASON, THE FOLLOWING WILL NEED TO BE CONSIDERED IN ORDER TO WINTERIZE THE CONSTRUCTION PROJECT TO ENSURE SAFE CONDITIONS DURING WINTER:
    a. WHERE APPLICABLE, CURB AND GUTTER SECTIONS ARE TO BE COMPLETED, THE BASE COURSE ASPHALT SHALL BE IN PLACE
    b. CATCHBASINS AND MAINTENANCE HOLES SET TO EXISTING BASE GRADE
    c. STEEL PLATING NOT PERMITTED
    d. HOT MIX ASPHALT (HMA) ONLY
    e. LANE DELINEATION AND PAVEMENT MARKING COMPLETED
    f. WHERE JERSEY BARRIERS USED, OFFSET NO LESS THAN 4.25m FROM EDGE OF TRAVELLED LANE
    g. ROAD AND BOULEVARD MUST BE FREE OF OBSTRUCTIONS AND ACCOMODATE SAFE SNOW PLOW OPERATION CONSIDERING THAT A WING AND PLOW IS 6m WIDE AND 1.52m SNOW STORAGE MINIMUM REQUIRED
    h. ALL CATCHBASIN GRATES SHALL BE SIDE INLET, OPSD 400.081 (LATEST VERSION) UNLESS OTHERWISE NOTED
    i. WINTER SHUT-DOWN MEETINGS WITH THE REGION OF PEEL ROAD MAINTENANCE STAFF ARE REQUIRED PRIOR TO SEASONAL SHUT-DOWN AND SHALL BE ORGANIZED BY THE CONSULTANT OR PROJECT MANAGER OR DESIGNATE.

TRAFFIC SIGNS AND SIGNALS ON REGIONAL ROADS: (NOT APPLICABLE)

1. ALL REQUIRED TRAFFIC SIGN, WHETHER REGULATORY, WARNING, TEMPORARY OR GUIDE/DIRECTIONAL IN NATURE SHAL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS SPECIFICATIONS AND LEGISLATION CONTAINED IN THE OTM MANUALS, THE HTA AND REGION OF PEEL TRAFFIC BY-LAW.
2. ELECTRICAL WORKS SHALL CONFORM TO THE ONTARIO PROVINCIAL STANDARDS (OPS) DRAWINGS AND REGION OF PEEL STANDARD DRAWINGS AND SPECIFICATIONS.
3. TRAFFIC CONTROLLERS MUST BE INSTALLED AS PER APPROVED LOCATIONS. EQUIPMENT MUST NOT ENCROACH ON PRIVATE PROPERTY WITHOUT PERMISSION TO ENTER, EASEMENT, PERMANENT OR TEMPORARY UNDERTAKINGS.

GENERAL NOTES - ROADWORKS

ROADS

A. SINGLE - STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.040
B. TWO - STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.070
C. SIDEWALKS TO COMPLY WITH OPSD-310.010 AND ARE TO BE 1.5 METRES WIDE ON A 150mm COMPACTED GRANULAR "A" BASE. MINIMUM THICKNESS AS FOLLOWS :
   - NORMAL THICKNESS 125mm.
   - RESIDENTIAL DRIVEWAY 150mm
   - COMMERCIAL/INDUSTRIAL DRIVEWAY 200mm
   (REINFORCEMENT AS PER OPSS IF REQUIRED)
D. NATIVE SUBGRADE SHALL HAVE A CROSSFALL OF 3% AND THE MATERIAL SHALL BE APPROVED BY A SOILS CONSULTANT AND IS SUBJECT TO APPROVAL BY THE GENERAL MANAGER OF FINANCE & INFRASTRUCTURE SERVICES.
E. THE ROAD BASE SHALL INCORPORATE 100mm DIAMETER SUBDRAIN WITH FACTORY INSTALLED FILTER FABRIC AS PER TOWN OF CALEDON STANDARD No. 240.
F. ALL CURB RADII TO BE MINIMUM OF 10.0 METRES RESIDENTIAL AND 15.0 METRES INDUSTRIAL AT THE EDGE OF ASPHALT.
G. NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR MAXIMUM DRY DENSITY AND SHALL BE PROOF ROLLED.
H. GRADE AND CROSS FALL ADJUSTMENT OF MAINTENANCE HOLE AND CATCH BASIN FRAMES WILL BE MADE USING PRODUCTS SPECIFICALLY MANUFACTURED FOR THAT PURPOSE AS PER OPSD 704.010.
I. NON-COMPRESSIBLE BACK FILL WILL BE USED DURING REBUILDING, ADJUSTING, OR ANY OTHER APPLICABLE CATCH BASIN OR MAINTENANCE HOLE WORKS.
J. CURB AND SIDEWALK CONCRETE SHALL BE 30MPa AT 28 DAYS WITH 7% +/- 1.5% ENTRAINED AIR AND NOT LESS THAN 355 kg/m3 OF CEMENT.(PER OPSS 315 AND 353)

TOWN OF CALEDON						
GENERAL NOTES ROADWORKS					APR'D: C.C.	DATE: DEC 1999
	3	TEXT REVISION		MAY 19	DRAWN: BJM	SCALE: NTS
	2	STANDARD No. 125 NOW 102		JUNE 08		
	1	NOTES EDIT		MAR. 08		
	NO.	REVISION	APR'D	DATE	STANDARD No. 102	

GENERAL NOTES - STORM SEWERS

A. STORM SEWER TO BE PROVIDED ON ALL ROADS WITH CURB AND GUTTER.
B. PLACE ALL CATCH BASIN LATERALS AT 2% GRADE UNLESS OTHERWISE NOTED. PIPE SIZE MINIMUM 250mm DIA. SINGLE, 300mm DIA. DOUBLE.
C. STORM SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.030 FOR RIGID PIPE OR OPSD 802.010 WITH GRANULAR 'A' FOR FLEXIBLE PIPE UNLESS APPROVED OTHERWISE BY THE GENERAL MANAGER OF FINANCE & INFRASTRUCTURE SERVICES.
D. MAINTENANCE HOLE TOPS (FRAMES) AND CATCHBASIN (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED.
E. STORM SEWER TO BE LOCATED OFFSET 1.5m SOUTH OR WEST OF CENTRELINE UNLESS OTHERWISE SPECIFIED.
F. ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD 708.01 OR 708.03.
G. PIPE MATERIAL TO BE REINFORCED CONCRETE WITH A STRENGTH OF 50 N/m/mm CERTIFIED TO C.S.A. STANDARD A247.2-1982, CLASS 50-D (PREVIOUSLY C.S.A. STANDARD A257.2-1974 CLASS II) OR PVC CERTIFIED TO C.S.A. STANDARDS 182.2 AND 182.4 MAX. PVC PIPE DIA. IS 600mm BIG O BOSS 2000 POLYETHYLENE PIPE WITH GASKETED BELL AND SPIGOT JOINTS CERTIFIED C.S.A. B182.6 FOR STORM SEWERS UP TO 900mm DIA. WHERE ONLY CONNECTION STD CATCHBASINS ARE CONSIDERED.
H. STORM SEWER TO BE MINIMUM 300mm DIA. WITH JOINTS CONFORMING TO C.S.A. STANDARD A 257.3
I. ALL PIPE BEDDING MUST CONFORM TO OPSD MAXIMUM COVER TABLE. NO FLEXIBLE PIPE SEWERS WILL BE INSTALLED WITH A DEPTH COVER GREATER THAN 6m UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING.
J. ALL PIPE HANDLING INSTRUCTIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES AND THE OCPA OR UNIBELL GUIDELINES.

TOWN OF CALEDON						
GENERAL NOTES STORM SEWERS					APR'D: C.C.	DATE: MAR 01
	3	TEXT REVISION		MAY 19	DRAWN: BJM	SCALE: NTS
	2	STANDARD No. 120 NOW 101		JUNE 08		
	1	NOTES EDIT		MAR. 08		
	NO.	REVISION	APR'D	DATE	STANDARD No. 101	

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE MANAGER, ENGINEERING SERVICES — DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

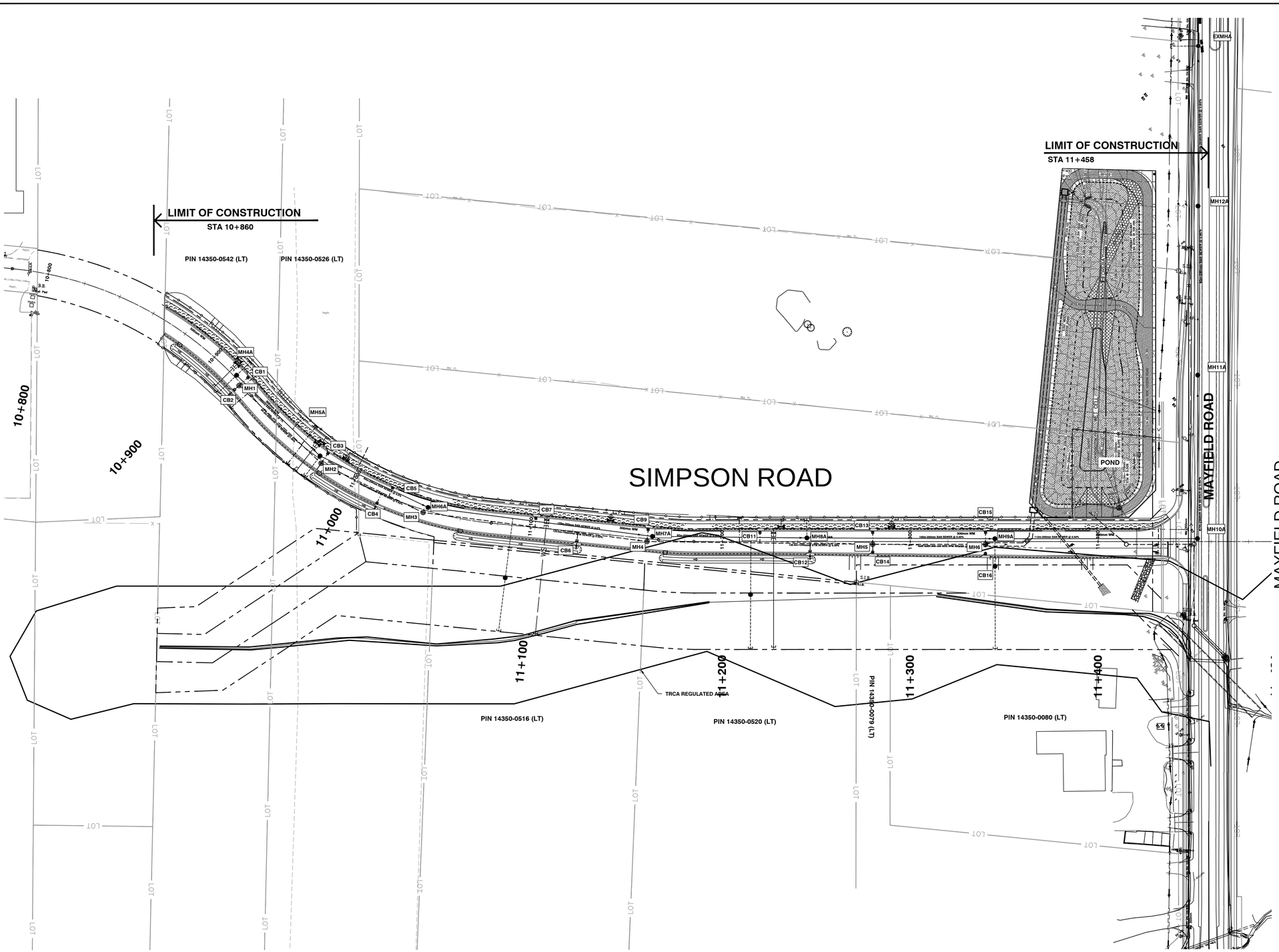
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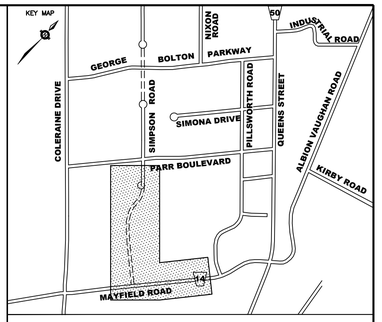
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

GENERAL NOTES

SCALE: N.T.S.		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	
CHECKED BY: D.S.	DATE: NOV. 2020	DRAWNING No. 2





LEGEND

- PROPOSED VALVE
- PROPOSED HYDRANT
- A1 — ADJUST CATCHBASIN/MANHOLE
- CB1 — PROPOSED CATCHBASIN/MANHOLE
- MH1A — PROPOSED SANITARY MANHOLE
- PROPOSED SILT FENCING

NOTE:
REFER TO DWG. C1 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
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3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
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1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

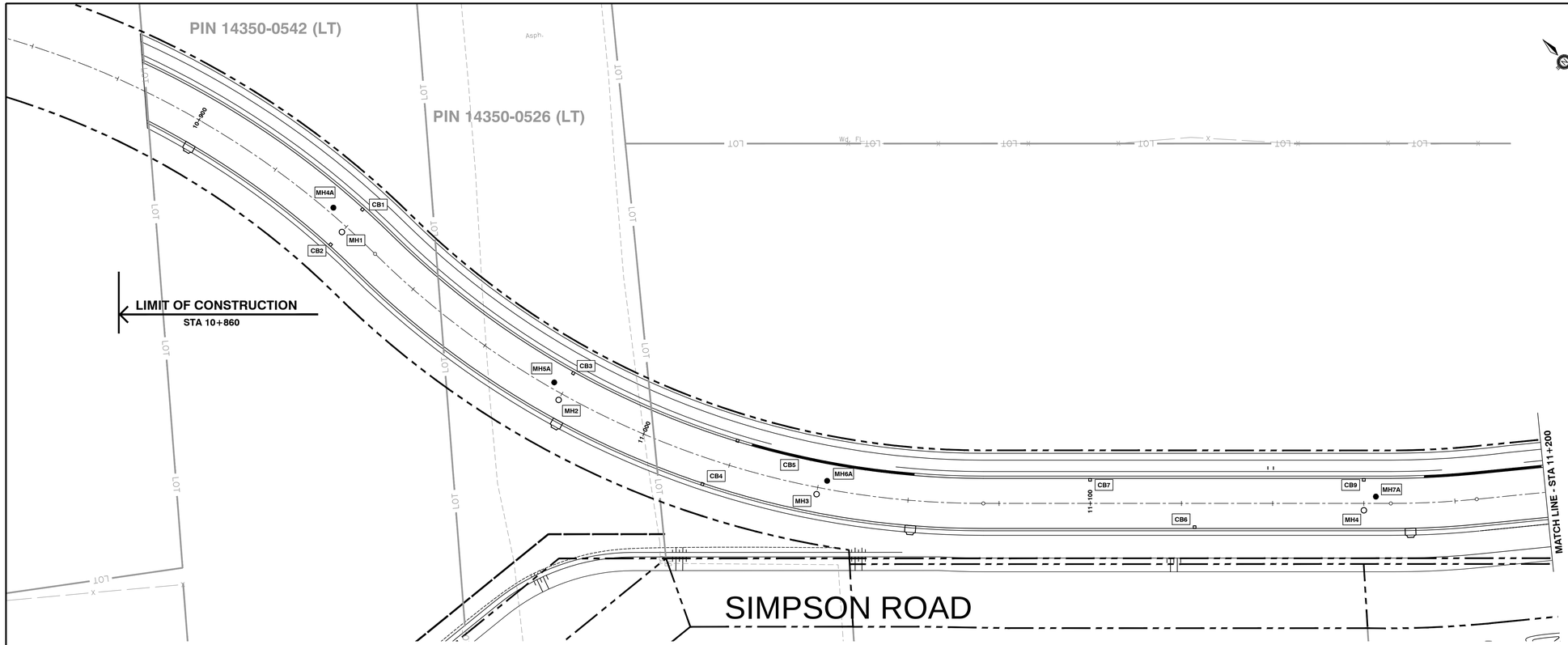
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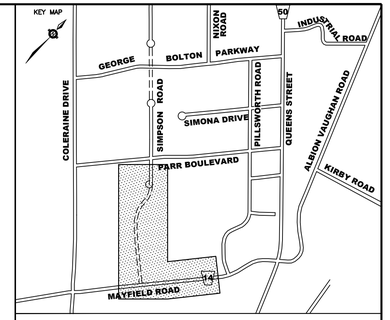
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
EROSION AND
SEDIMENT CONTROL
STA. 10+860 TO STA. 11+458

SCALE: 1:1000		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	
CHECKED BY: D.S.	DATE: NOV. 2020	DRAWNING No. 3





LEGEND

- PROPOSED HYDRANT
- A1 — ADJUST CATCHBASIN/MANHOLE
- CB1 — PROPOSED CATCHBASIN/MANHOLE
- MH1A — PROPOSED SANITARY MANHOLE

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1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES
DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

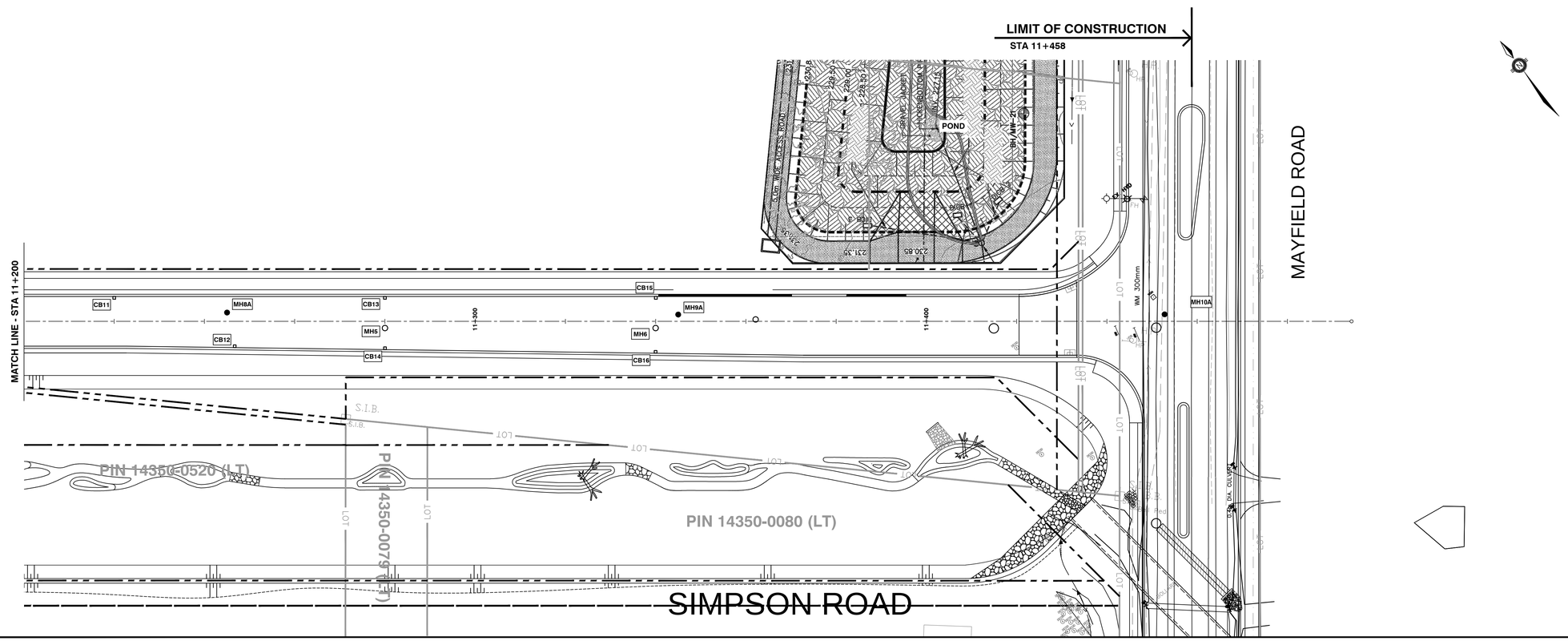
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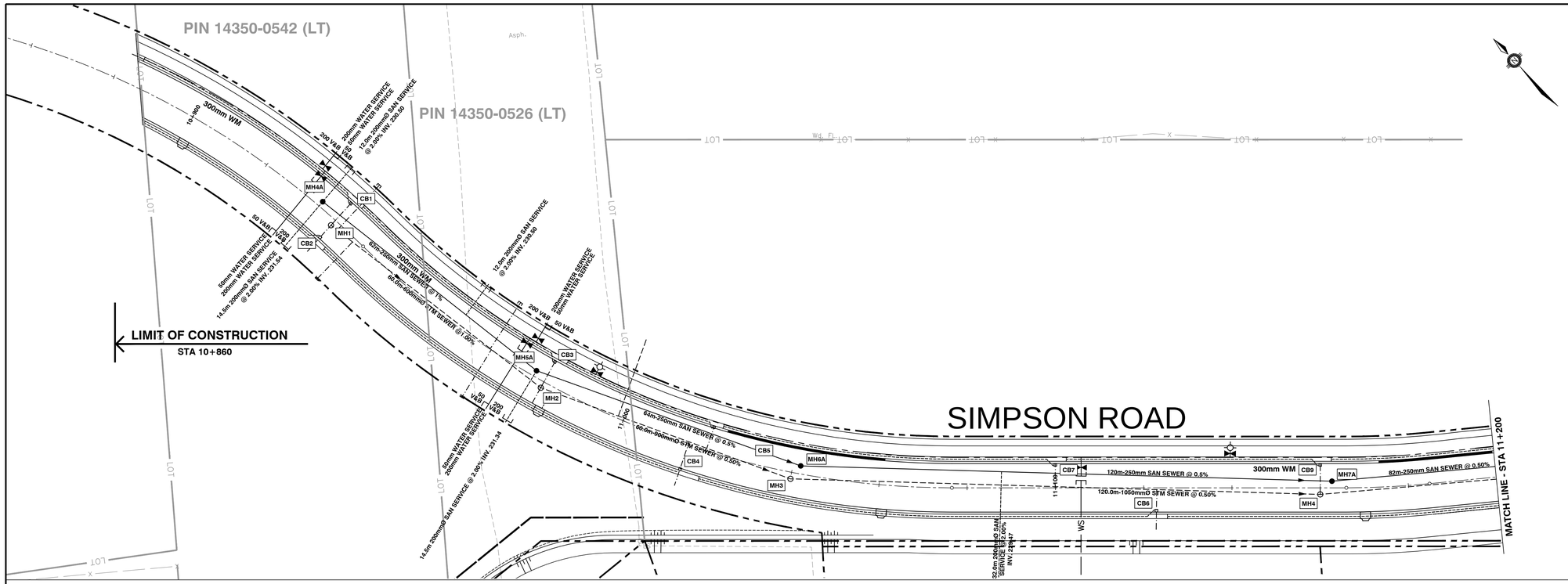
REGION OF PEEL
C02.312

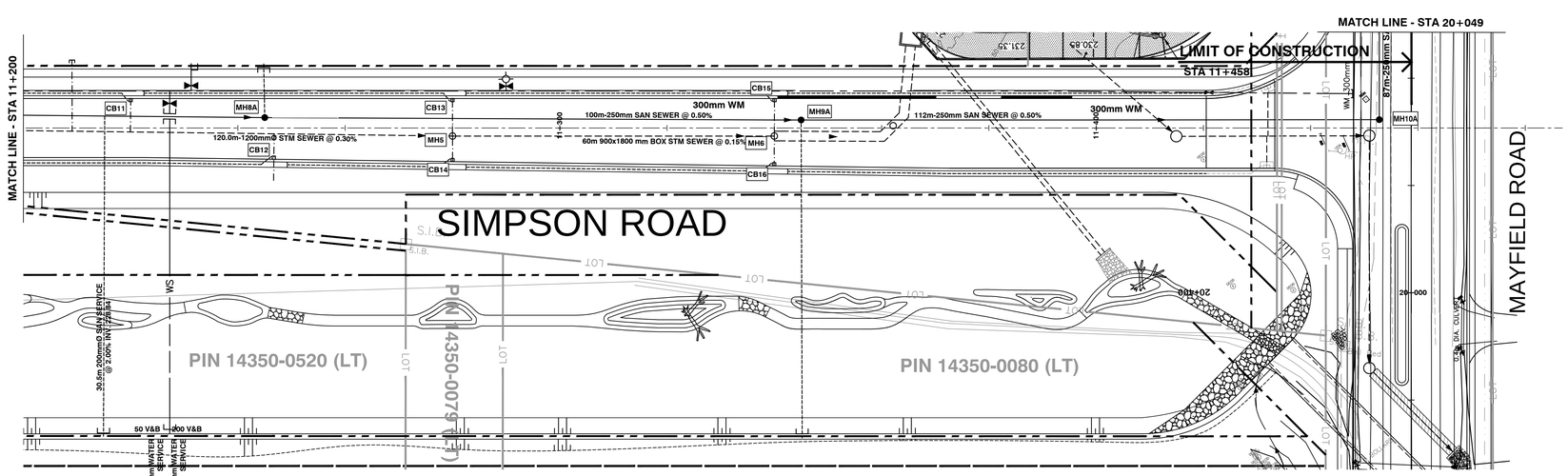
THE CORPORATION OF THE
TOWN OF CALEDON

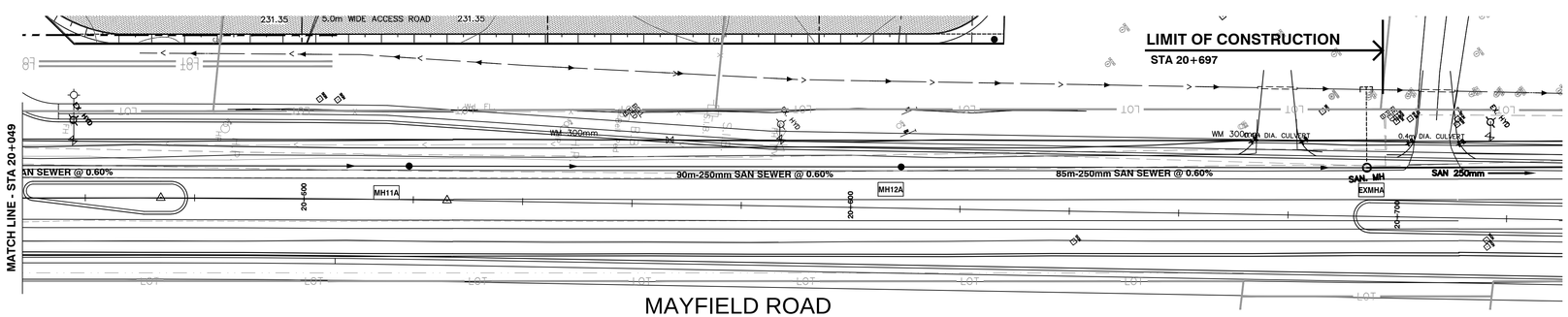
SIMPSON ROAD
GENERAL PLAN
ABOVE GROUND
STA. 10+860 TO STA. 11+458

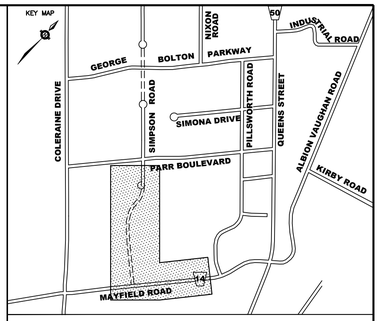
SCALE: 1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWING No. 4
CHECKED BY: D.S.	DATE: NOV. 2020	











LEGEND

- PROPOSED VALVE
- PROPOSED HYDRANT
- A1 — ADJUST CATCHBASIN/MANHOLE
- CB1 — PROPOSED CATCHBASIN/MANHOLE
- MH1A — PROPOSED SANITARY MANHOLE

PROJECT STATISTICS	
1. WATERMAIN LENGTH	= 583 m
2. NUMBER OF WATER SERVICES	= 8
3. NUMBER OF HYDRANTS	= 3
4. SANITARY SEWER LENGTH	= 833 m
5. NUMBER OF SANITARY SERVICES	= 8
6. NUMBER OF SANITARY MANHOLES	= 10
7. STORM SEWER LENGTH	= 459 m
8. NUMBER OF STORM MANHOLES	= 7

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5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

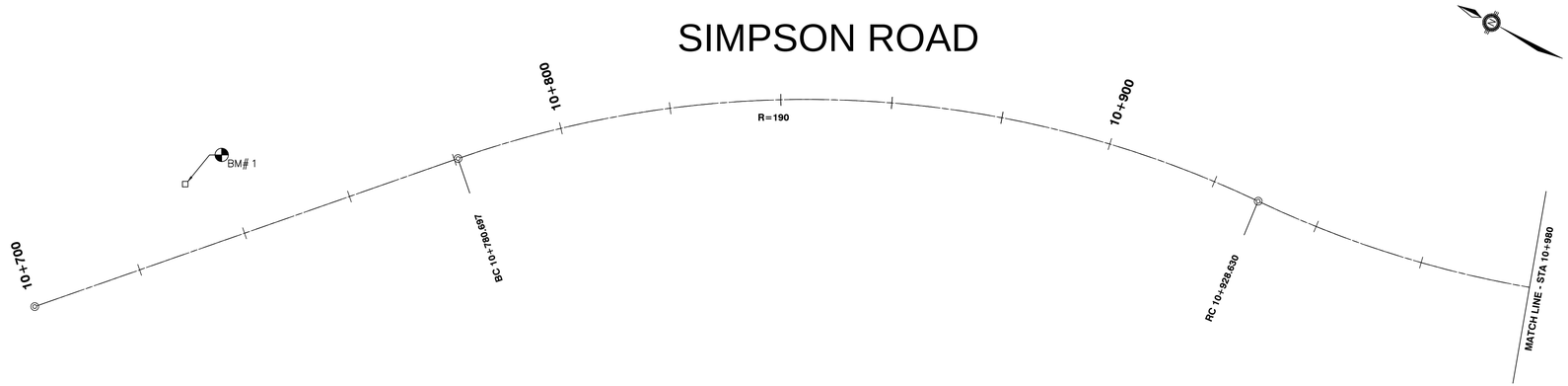
REGION OF PEEL
C02.312

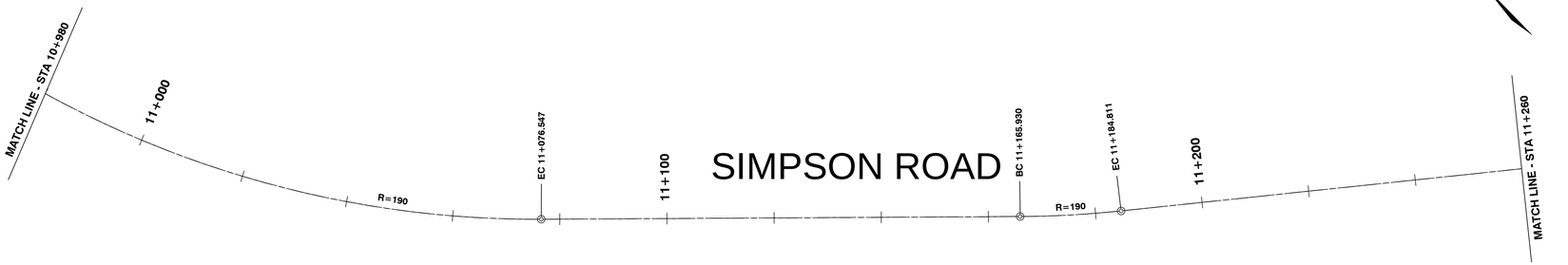
THE CORPORATION OF THE
TOWN OF CALEDON

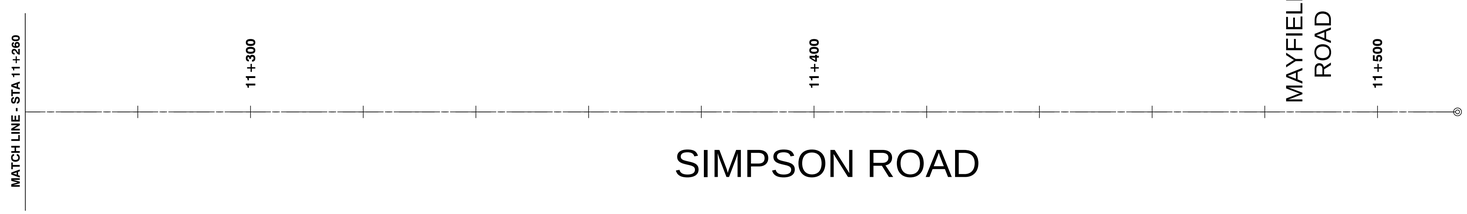
SIMPSON ROAD
GENERAL PLAN
BELOW GROUND
STA. 10+860 TO STA. 11+458

SCALE: 1:1000		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWING No. 5
CHECKED BY: D.S.	DATE: NOV. 2020	

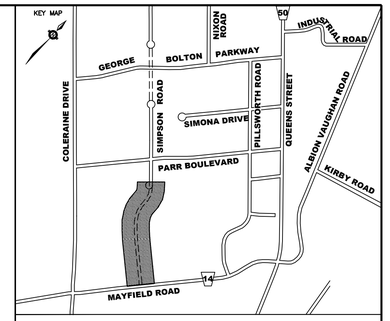
SIMPSON ROAD







SIMPSON ROAD			
	Station	Offset Northing	Easting
Element: Linear			
Start	10+700.000	4855690.992	603840.5596
BC	10+780.697	4855635.118	603898.7843
Tangential Direction:		S 46°10'50.0754" E	
Tangential Length:		80.697	
Element: Circular			
BC	10+780.697	4855635.118	603898.7843
PI	10+858.641	4855581.15	603955.0232
CC		4855498.028	603767.2306
RC	10+928.630	4855503.235	603957.1593
Radius:	190		
Delta:	44°36'36.6313"	Right	
Degree of Curvature (Arc):		30°09'20.4242"	
Length:	147.933		
Tangent:	77.944		
Chord:	144.225		
Middle Ordinate:	14.217		
External:	15.366		
Tangent Direction:		S 46°10'50.0754" E	
Radial Direction:		S 43°49'09.9244" W	
Chord Direction:		S 23°52'31.7598" E	
Radial Direction:		S 88°25'46.5559" W	
Tangent Direction:		S 1°34'13.4441" E	
Element: Circular			
RC	10+928.630	4855503.235	603957.1593
PI	11+006.565	4855425.329	603959.2951
CC		4855508.442	604147.0879
EC	11+076.547	4855371.363	604015.5231
Radius:	190		
Delta:	44°36'19.8917"	Left	
Degree of Curvature (Arc):		30°09'20.4242"	
Length:	147.918		
Tangent:	77.935		
Chord:	144.21		
Middle Ordinate:	14.214		
External:	15.363		
Tangent Direction:		S 1°34'13.4441" E	
Radial Direction:		S 88°25'46.5559" W	
Chord Direction:		S 23°52'23.3900" E	
Radial Direction:		S 43°49'26.6642" W	
Tangent Direction:		S 46°10'33.3358" E	
Element: Linear			
EC	11+076.547	4855371.363	604015.5231
BC	11+165.930	4855309.47	604080.0102
Tangential Direction:		S 46°10'33.3358" E	
Tangential Length:		89.383	
Element: Circular			
BC	11+165.930	4855309.47	604080.0102
PI	11+175.378	4855302.928	604086.8269
CC		4855446.549	604211.575
EC	11+184.811	4855297.094	604094.259
Radius:	190		
Delta:	5°41'37.4647"	Left	
Degree of Curvature (Arc):		30°09'20.4242"	
Length:	18.881		
Tangent:	9.448		
Chord:	18.873		
Middle Ordinate:	0.234		
External:	0.235		
Tangent Direction:		S 46°10'33.3358" E	
Radial Direction:		S 43°49'26.6642" W	
Chord Direction:		S 49°01'22.0680" E	
Radial Direction:		S 38°07'49.1996" W	
Tangent Direction:		S 51°52'10.8005" E	
Element: Linear			
EC	11+184.811	4855297.094	604094.259
PI	11+494.214	4855106.052	604337.6376
Tangential Direction:		S 51°52'10.8005" E	
Tangential Length:		309.403	



NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

BM#1
HYDROBOX
N=4855676.820
E=603872.469
ELEVATION=233.448

BM#2
I.B.
N=4855107.787
E=604272.211
ELEVATION=233.448

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

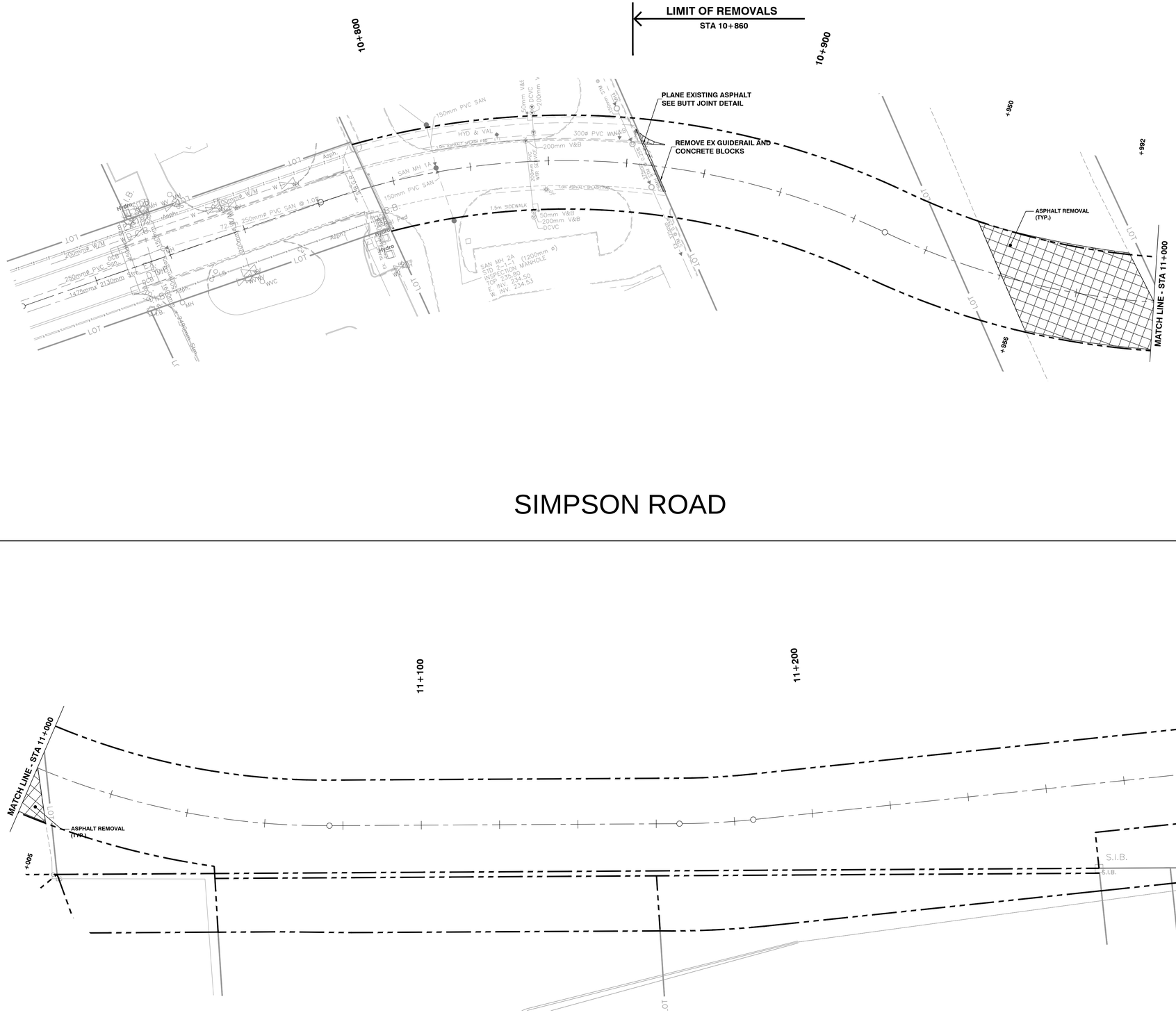
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

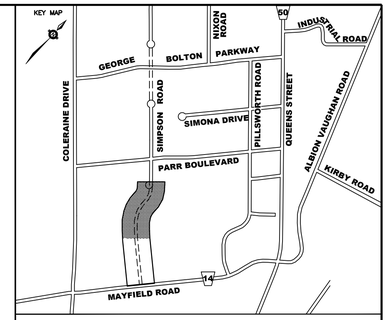
SIMPSON ROAD ALIGNMENT

STA. 10+700 TO STA. 11+455

SCALE: 1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWNING No. 6
CHECKED BY: D.S.	DATE: NOV. 2020	



SIMPSON ROAD



LEGEND

- REMOVAL SYMBOL
- REMOVAL HATCHING
- TREE REMOVAL

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
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1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

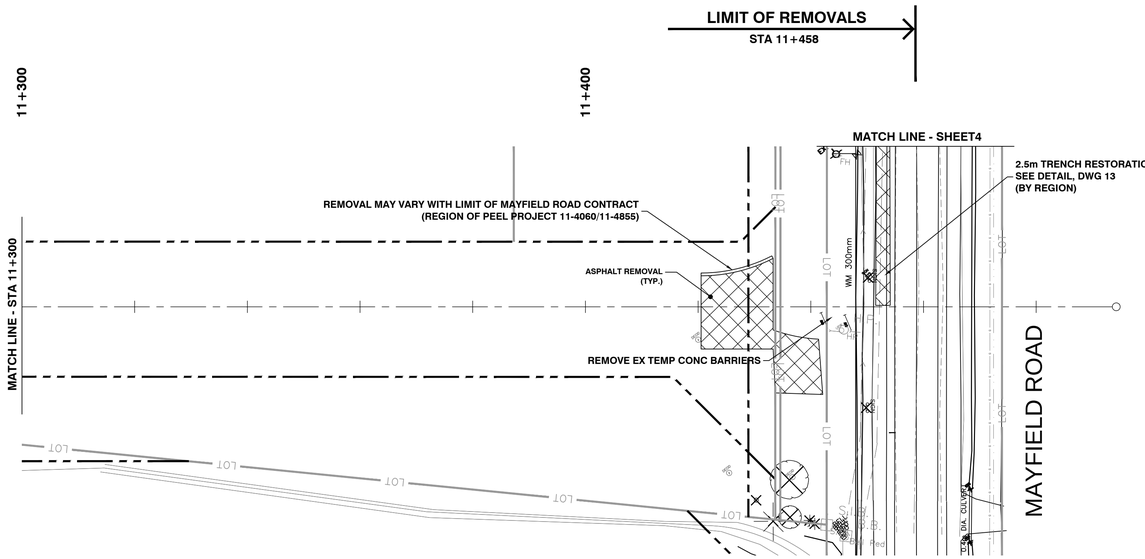
THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
REMOVALS

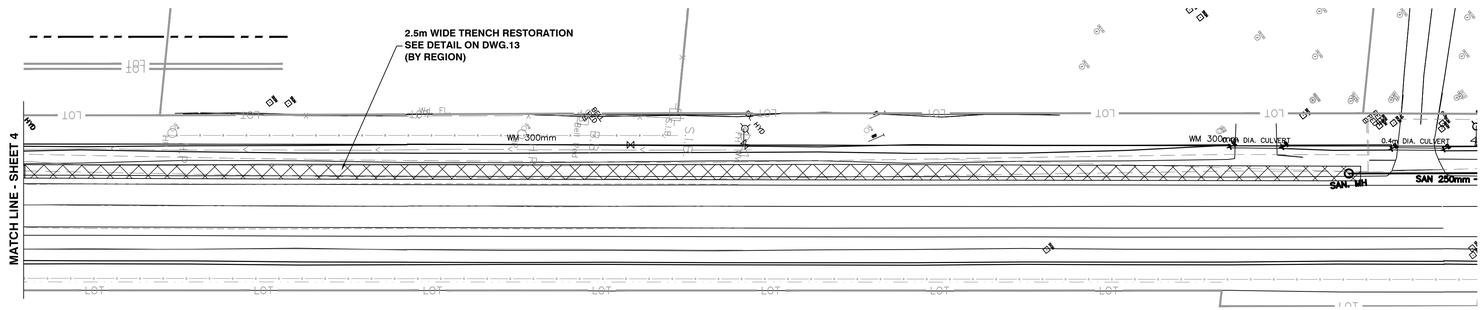
STA. 10+700 TO STA. 11+300

SCALE: 1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWNING No. 7
CHECKED BY: D.S.	DATE: NOV. 2020	

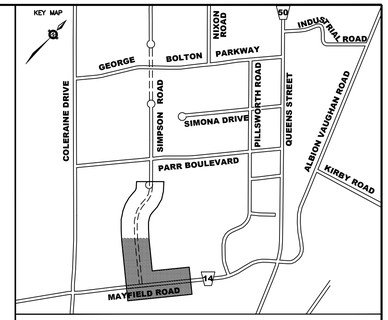
SIMPSON ROAD



SIMPSON ROAD



MAYFIELD ROAD



LEGEND

- REMOVAL SYMBOL
- REMOVAL HATCHING
- TREE REMOVAL

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

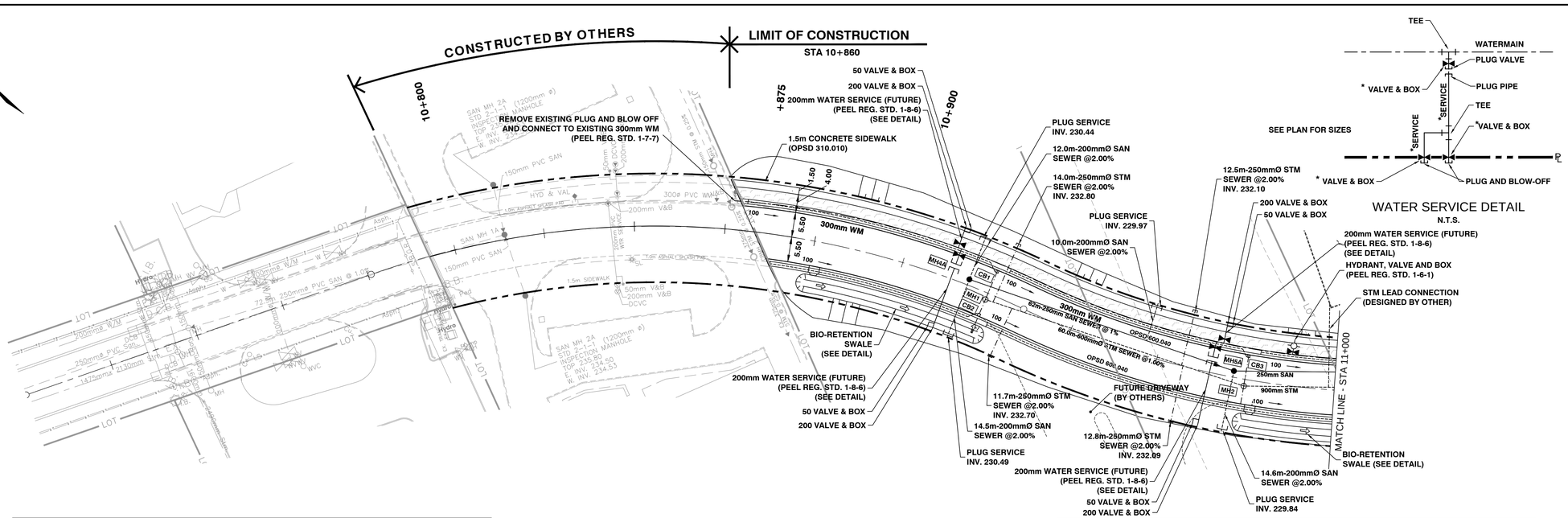
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
REMOVALS

STA. 11+300 TO STA. 11+455

SCALE: 1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	
CHECKED BY: D.S.	DATE: NOV. 2020	DRAWING No. 8



SANITARY SEWER DATA

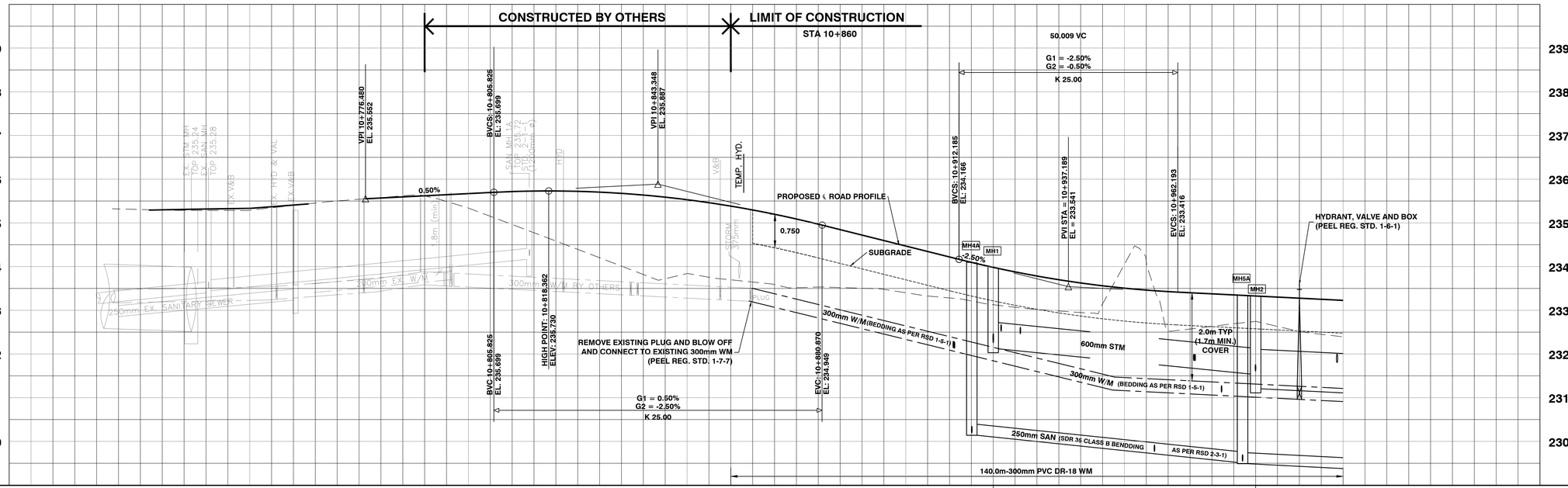
STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT PEEL STD.	INVERTS		FRAME & COVER PEEL STD.	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
MH4A	10+915	1.5 LT	2-5-3		230.14	2-6-1	234.07	
MH5A	10+977	1.4 LT	2-5-3	229.52	229.49	2-6-1	233.30	

NOTE: ALL SERVICE PLUGS SHALL BE WATER TIGHT.

STORM SEWER DATA

STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT OPSD	INVERTS		FRAME & COVER OPSD	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
CB1	10+920	5.5 LT	705.010		232.42	400.010	233.87	
CB2	10+920	5.5 RT	705.010		232.42	400.010	233.87	
MH1	10+920	1.5 RT	701.011		232.13	401.010	233.94	
CB3	10+980	5.5 LT	705.010		231.77	400.010	233.22	
MH2	10+980	1.5 RT	701.012	231.53	231.21	401.010	233.27	

SIMPSON ROAD



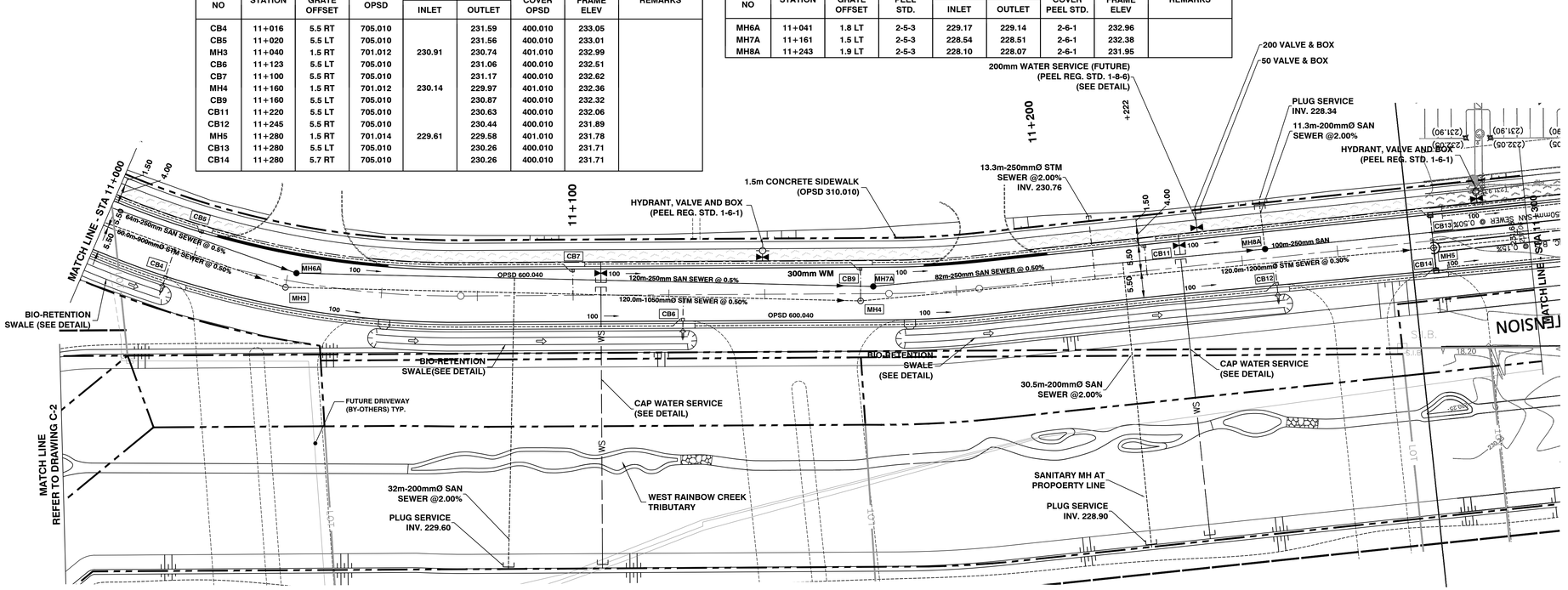
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STORM SEWER DATA

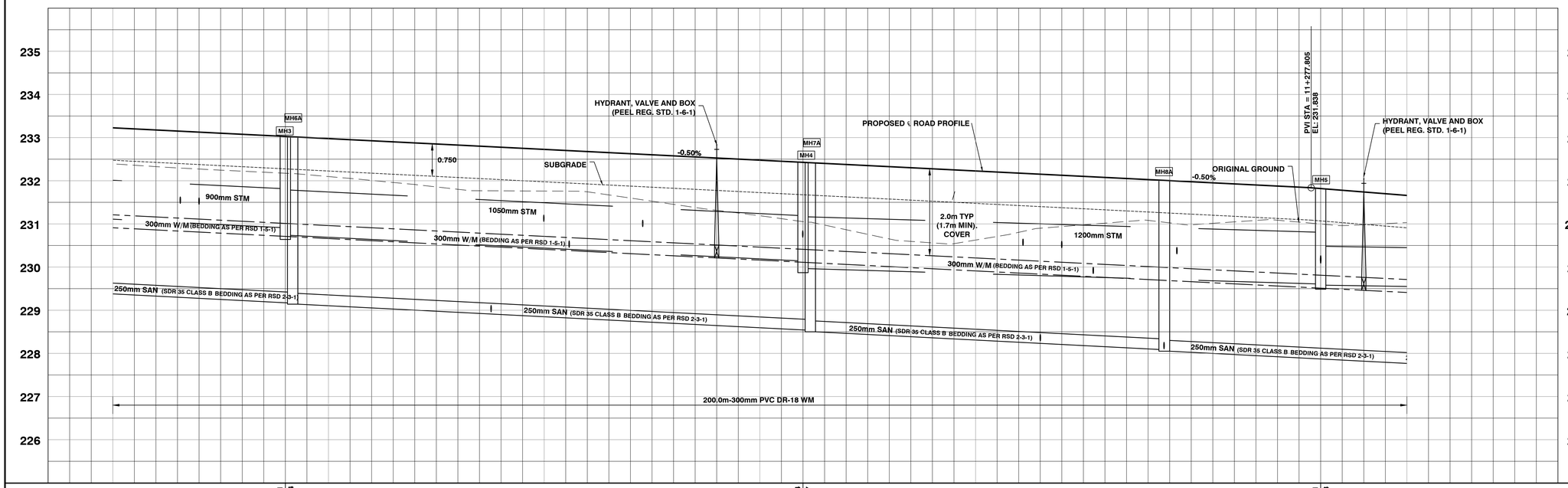
STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT OPSD	INVERTS		FRAME & COVER OPSD	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
CB4	11+016	5.5 RT	705.010		231.59	400.010	233.05	
CB5	11+020	5.5 LT	705.010		231.56	400.010	233.01	
MH3	11+040	1.5 RT	701.012	230.91	230.74	401.010	232.99	
CB6	11+123	5.5 LT	705.010		231.06	400.010	232.51	
CB7	11+100	5.5 RT	705.010		231.17	400.010	232.62	
MH4	11+160	1.5 RT	701.012	230.14	229.97	401.010	232.36	
CB9	11+160	5.5 LT	705.010		230.87	400.010	232.32	
CB11	11+220	5.5 LT	705.010		230.63	400.010	232.06	
CB12	11+245	5.5 RT	705.010		230.44	400.010	231.89	
MH5	11+280	1.5 RT	701.014	229.61	229.58	401.010	231.78	
CB13	11+280	5.5 LT	705.010		230.26	400.010	231.71	
CB14	11+280	5.7 RT	705.010		230.26	400.010	231.71	

SANITARY SEWER DATA

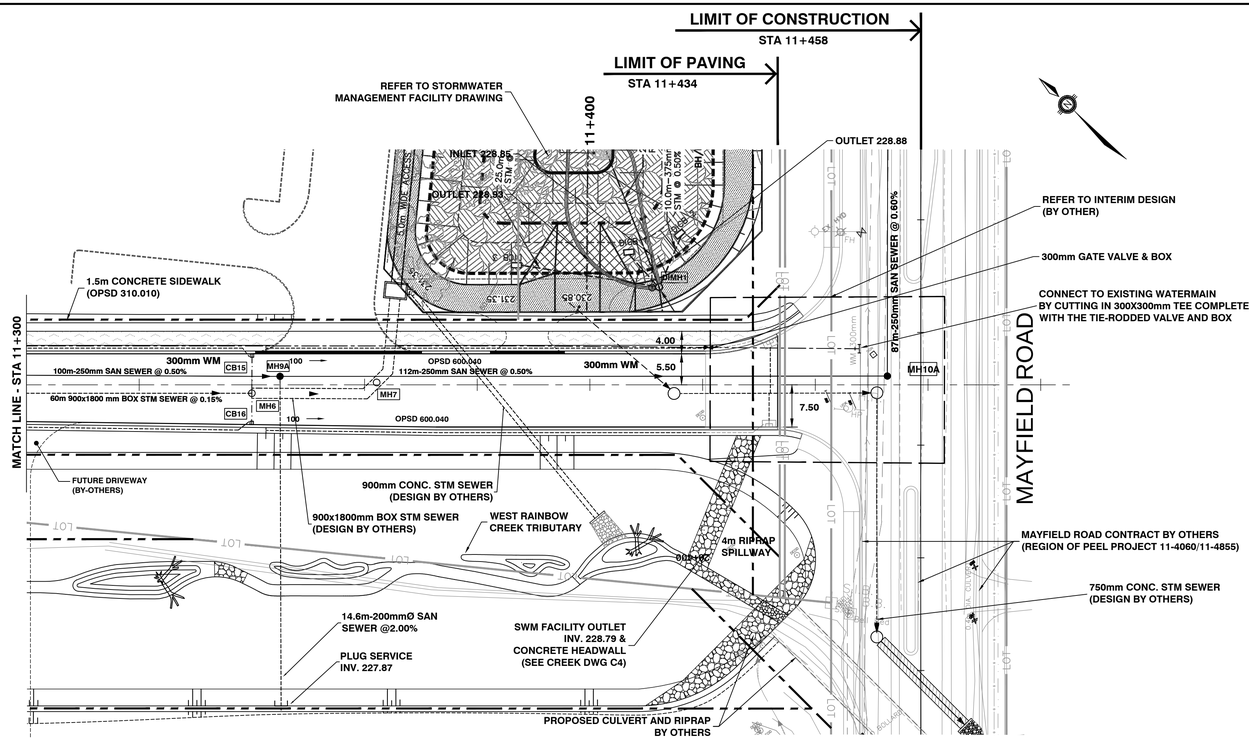
STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT PEEL STD.	INVERTS		FRAME & COVER PEEL STD.	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
MH6A	11+041	1.8 LT	2-5-3	229.17	229.14	2-6-1	232.96	
MH7A	11+161	1.5 LT	2-5-3	228.54	228.51	2-6-1	232.38	
MH8A	11+243	1.9 LT	2-5-3	228.10	228.07	2-6-1	231.95	



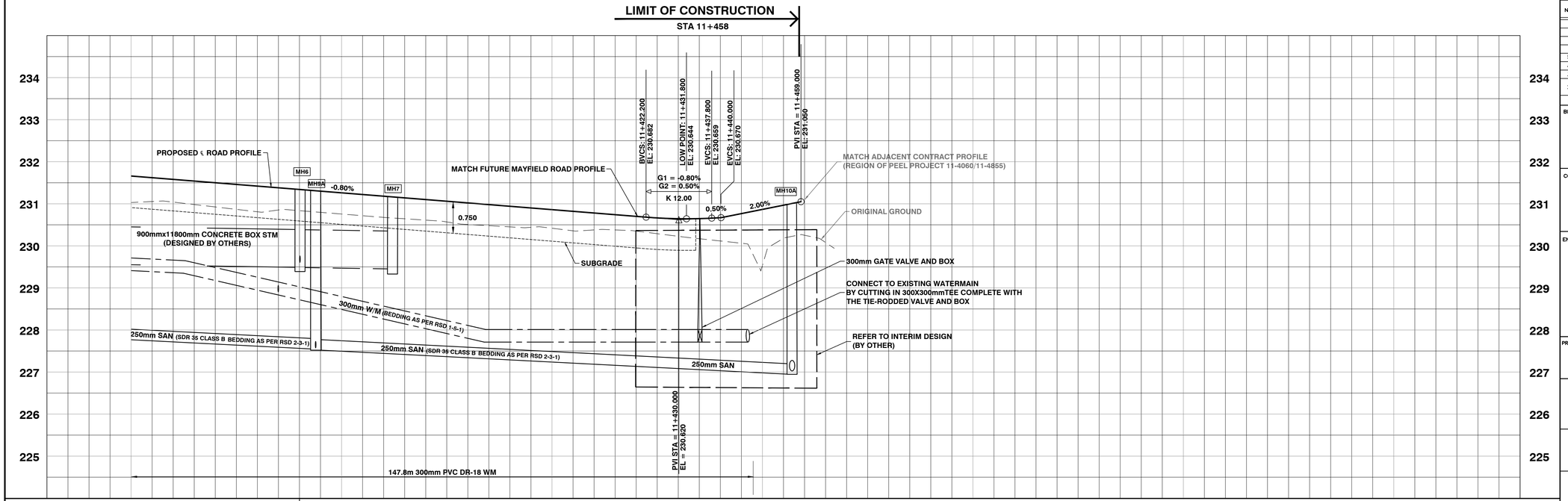
SIMPSON ROAD



| | | | |



SIMPSON ROAD



STORM INVERT	60m - 1800X900 CONCRETE BOX @ 0.15% (DESIGNED BY OTHERS)	N229.49 S229.49	22m - 1800X900 CONCRETE BOX@ 0.15% (DESIGNED BY OTHERS)
SANITARY INVERT	100m - 250mm SDR 35 SAN. @ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1)	N227.57 S227.54	112m - 250mm SDR 35 SAN.@ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1) N226.95
PROPOSED ℄ RD GRADES	231.66	231.26	230.86 230.86
℄ CHAINAGE	11+300	11+350	11+400 11+450

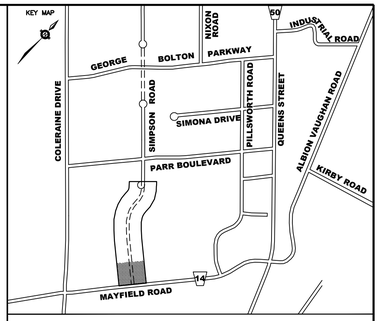
STORM SEWER DATA

STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT OPSD	INVERTS		FRAME & COVER OPSD	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
CB15	11+340	5.5 LT	705.010		229.77	400.010	231.22	
CB16	11+340	7.0 RT	705.010		229.74	400.010	231.19	
TEE MH6	11+340	1.5 RT		229.49	229.49	401.010	231.30	
TEE MH7	11+362	0.5LT		229.45	229.45	401.010	231.15	

SANITARY SEWER DATA

STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT PEEL STD.	INVERTS		FRAME & COVER PEEL STD.	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
MH9A	11+343	1.5 LT	2-5-3	227.57	227.54	2-6-1	231.28	
MH10A	11+455	1.5 LT	2-5-3	226.95	226.86	2-6-1	230.98 *	

* MATCH ROAD PROFILE FROM MAYFIELD ROAD CONTRACT (REGION OF PEEL PROJECT 11-4060/11-4855)



LEGEND

- PROPOSED PROPERTY LINE
- 100 → PROPOSED SUBDRAIN, DIRECTION AND SIZE (CALEDON STD. NO. 218)
- 825mm STM → PROPOSED STORM SEWER, DIRECTION AND SIZE
- 250mm SAN → PROPOSED SANITARY SEWER, DIRECTION AND SIZE
- 300mm WM — PROPOSED WATERMAIN AND SIZE
- PROPOSED VALVE
- PROPOSED HYDRANT
- A1 ADJUST CATCHBASIN/MANHOLE
- CB1 PROPOSED CATCHBASIN/MANHOLE
- MH1A PROPOSED SANITARY MANHOLE
- FUTURE ENTRANCE
- CONCRETE GUTTER OUTLET OPSD 604.010
- FLOW ARROW

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE, MANAGER, ENGINEERING SERVICES — DATE

PROJECT NAME

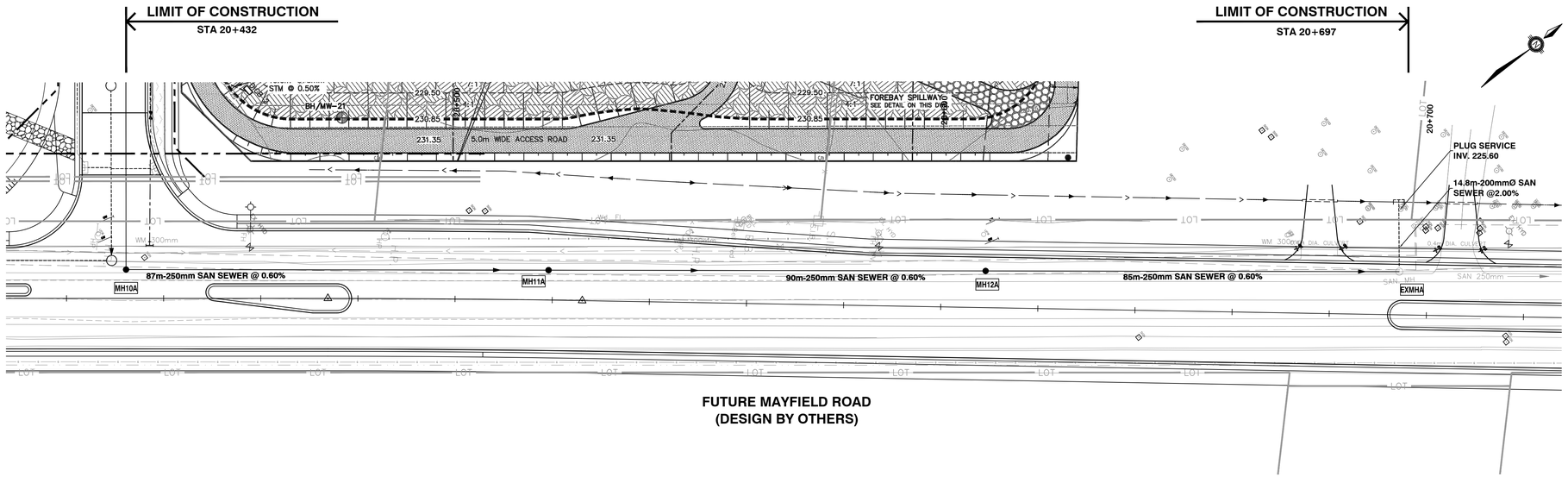
CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

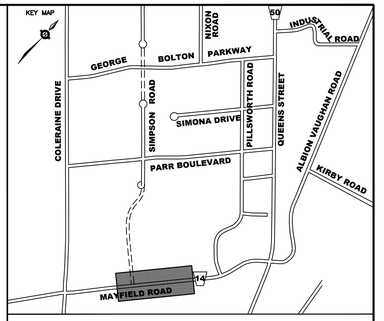
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
NEW CONSTRUCTION
PLAN AND PROFILE
STA. 11+300 TO STA. 11+458

SCALE: HORIZ. 1:500	VERT. 1:50	PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: B.L.	DRAWING No. 11
CHECKED BY: D.S.	DATE: AUG. 2020	





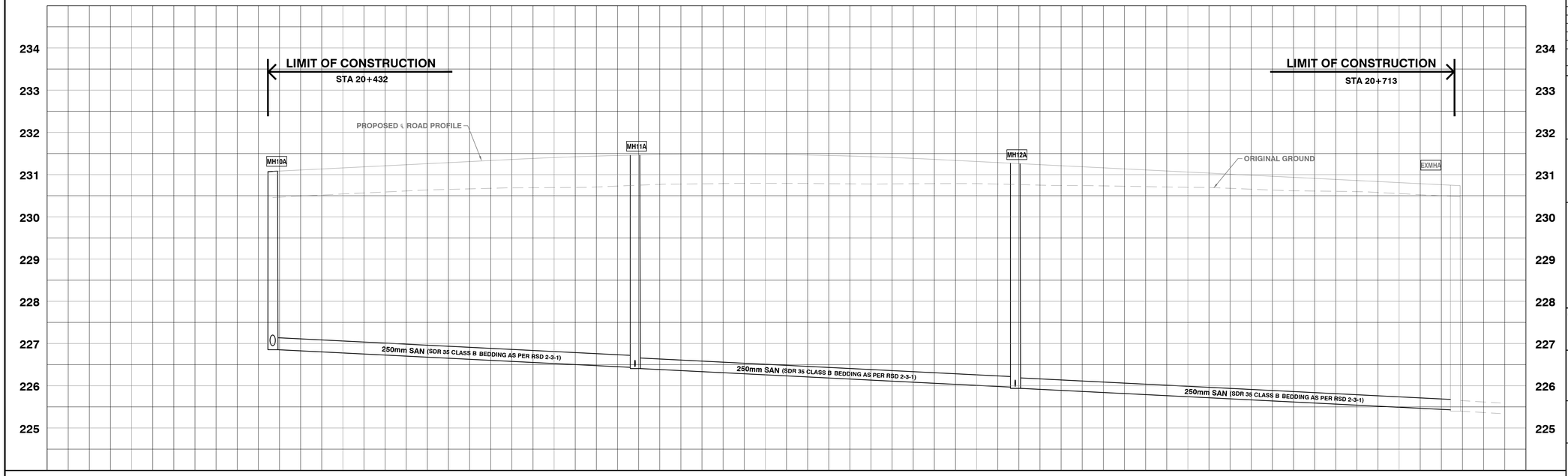
LEGEND

- PROPOSED PROPERTY LINE
- 100 — PROPOSED SUBDRAIN, DIRECTION AND SIZE (CALEDON STD. NO. 218)
- 825mm STM — PROPOSED STORM SEWER, DIRECTION AND SIZE
- 250mm SAN — PROPOSED SANITARY SEWER, DIRECTION AND SIZE
- 300mm WM — PROPOSED WATERMAIN AND SIZE
- PROPOSED VALVE
- PROPOSED HYDRANT
- A1 — ADJUST CATCHBASIN/MANHOLE
- CB1 — PROPOSED CATCHBASIN/MANHOLE
- MH1A — PROPOSED SANITARY MANHOLE
- FUTURE ENTRANCE
- CONCRETE GUTTER OUTLET OPSD 604.010
- FLOW ARROW

SANITARY SEWER DATA

STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT PEEL STD.	INVERTS		FRAME & COVER PEEL STD.	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
MH11A	20+519	6.1 LT	2-5-3	226.44	226.41	2-6-1	231.43	
MH12A	20+609	7.5 LT	2-5-3	225.97	225.94	2-6-1	231.23	
EX.MH	20+713	EX.	EX.	225.43	225.40 (EX.)	EX.	230.64	

MAYFIELD ROAD



STORM INVERT			
SANITARY INVERT	87m - 250mm SDR 35 SAN. @ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1)	90m - 250mm SDR 35 SAN. @ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1)	101m - 250mm SDR 35 SAN. @ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1)
	W226.44 E226.41	W225.97 E225.94	W225.43 E225.40
PROPOSED ℄ RD GRADES			
℄ CHAINAGE	20+400 20+450 20+500 20+550 20+600 20+650 20+700		

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE, MANAGER, ENGINEERING SERVICES — DATE

PROJECT NAME

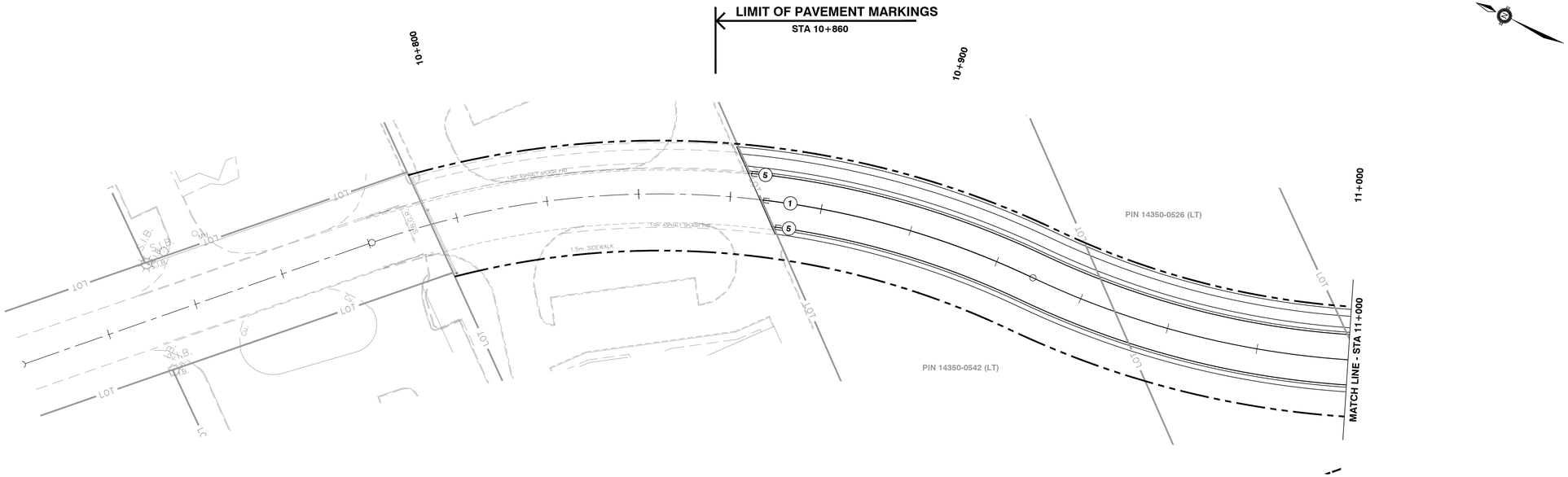
CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

REGION OF PEEL
C02.312

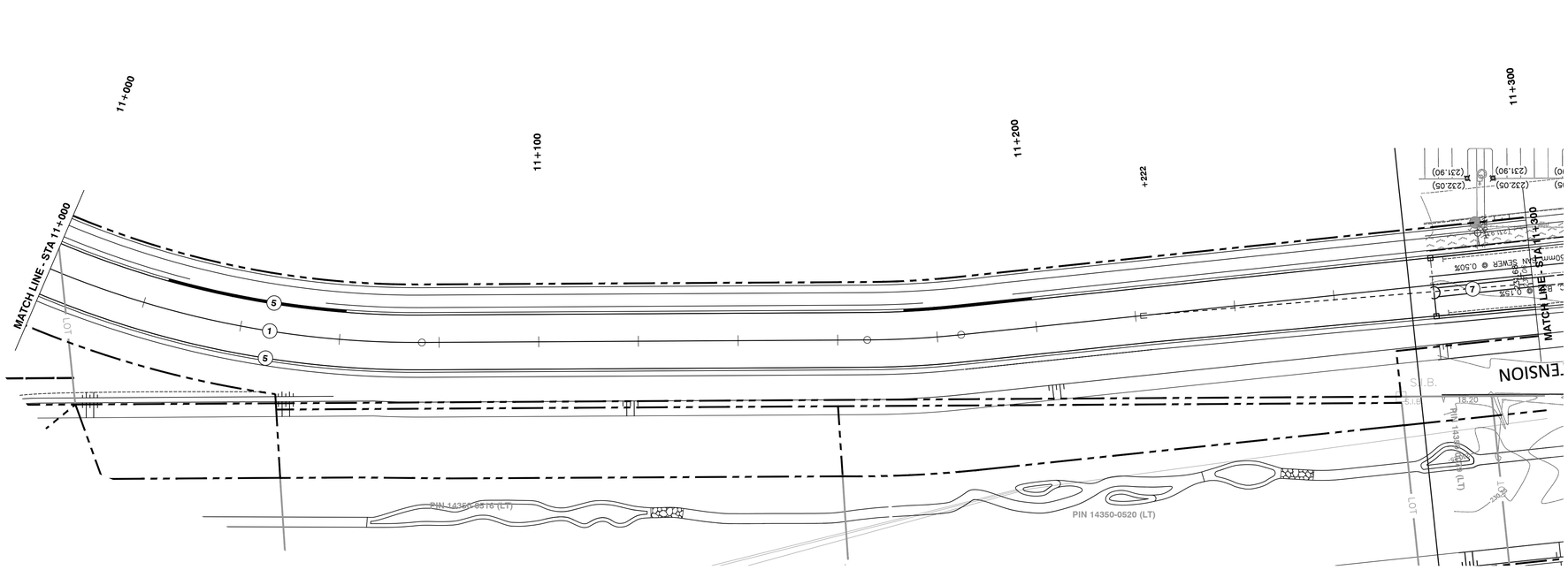
THE CORPORATION OF THE
TOWN OF CALEDON

MAYFIELD ROAD
NEW CONSTRUCTION
PLAN AND PROFILE
STA. 10+000 TO STA. 10+264

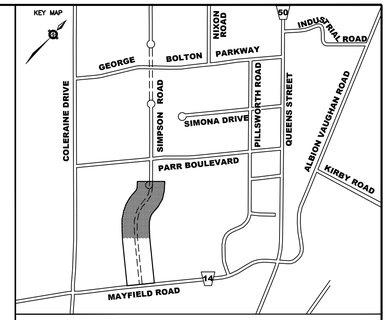
SCALE: HORIZ. 1:500	VERT. 1:50	PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: B.L.	DRAWNING No. 12
CHECKED BY: D.S.	DATE: AUG. 2020	



SIMPSON ROAD



SIMPSON ROAD



LEGEND

- (1) 10cm SOLID YELLOW
- (5) 10cm SOLID WHITE
- (6) 60cm SOLID WHITE
- (7) 10cm BROKEN WHITE, 3m LINE, 3m GAP, 3m LINE
- END OF PAVEMENT MARKING
- (X) PAVEMENT MARKING
- (X) PAVEMENT MARKING, DURABLE
- TURNING ARROWS, DURABLE

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

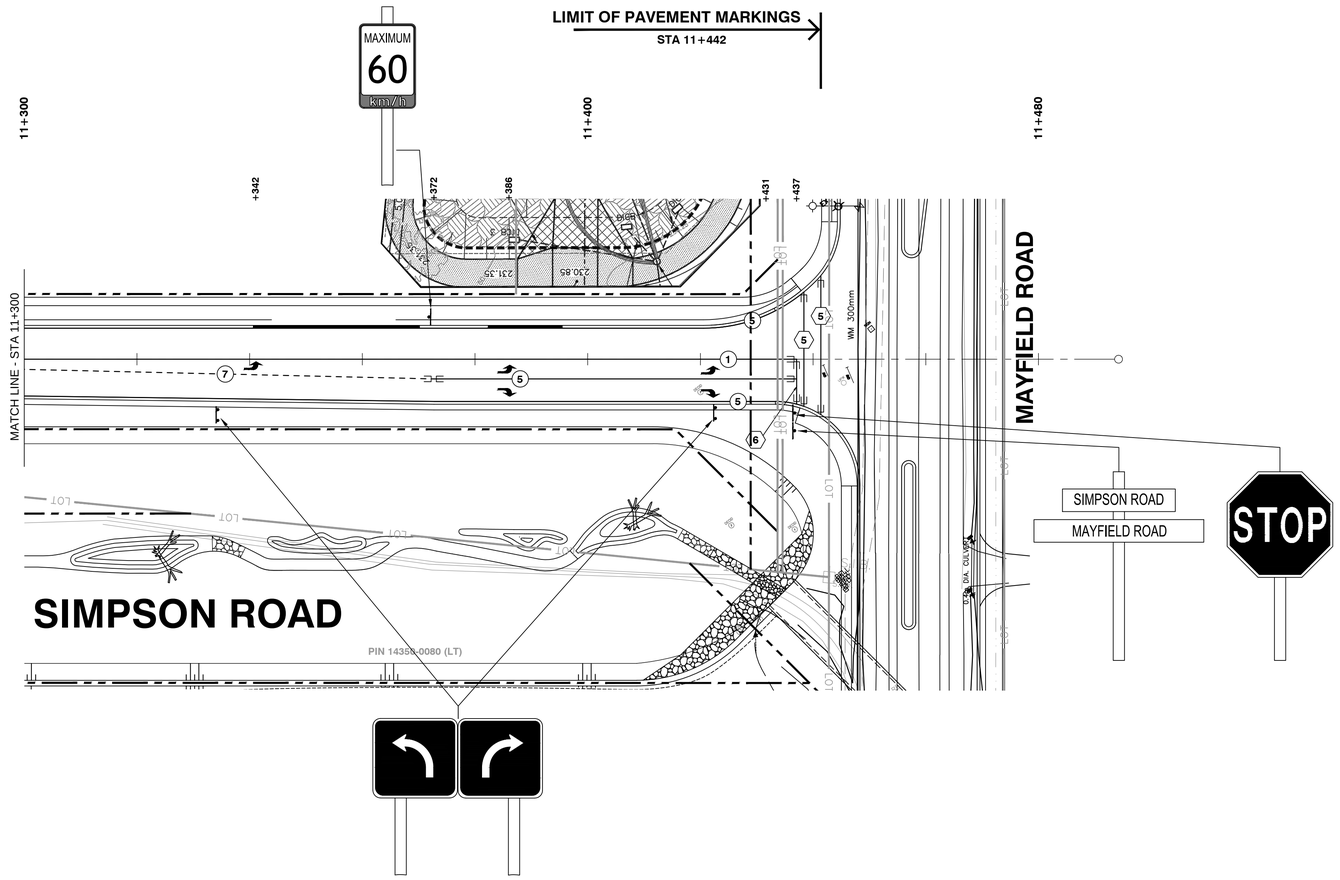
FINANCE AND INFRASTRUCTURE SERVICES

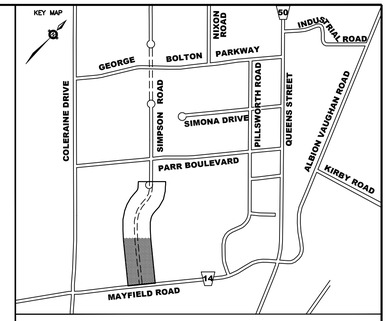
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
PAVEMENT
MARKINGS AND SIGNS
STA. 10+700 TO STA. 11+300

SCALE: 1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWNING No. 13
CHECKED BY: D.S.	DATE: NOV. 2020	





LEGEND

- (1) 10cm SOLID YELLOW
- (5) 10cm SOLID WHITE
- (6) 60cm SOLID WHITE
- (7) 10cm BROKEN WHITE, 3m LINE, 3m GAP, 3m LINE
- END OF PAVEMENT MARKING
- (x) PAVEMENT MARKING
- (x) PAVEMENT MARKING, DURABLE
- TURNING ARROWS, DURABLE

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

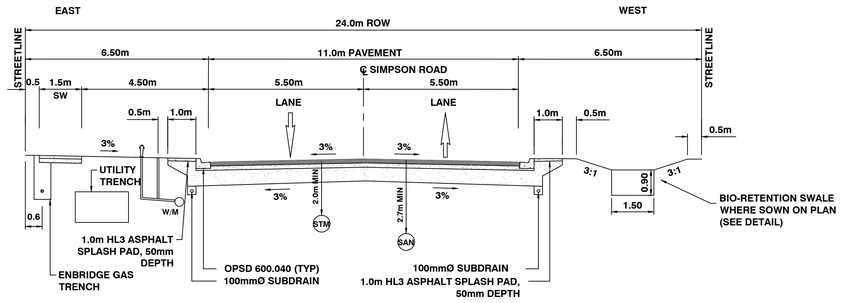
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

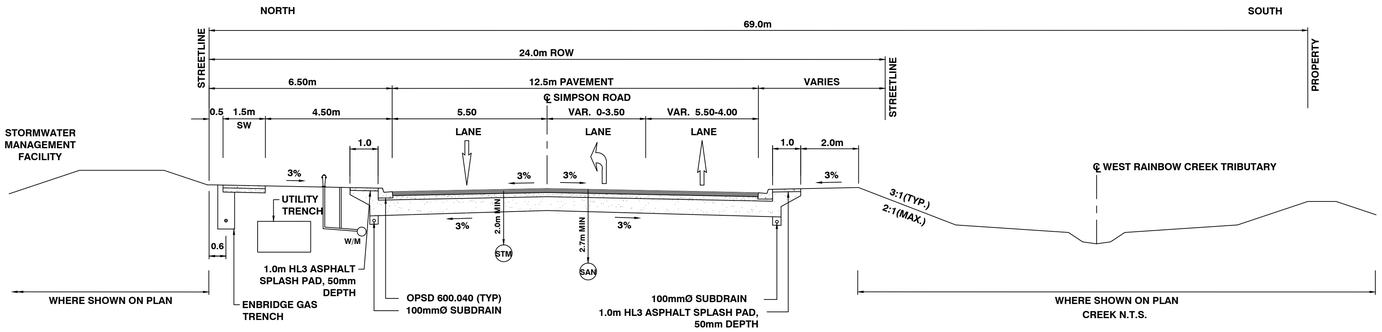
SIMPSON ROAD PAVEMENT MARKINGS AND SIGNS

STA. 11+300 TO STA. 11+455

SCALE: 1:500		PROJECT No.	TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWNING No.	14
CHECKED BY: D.S.	DATE: NOV. 2020		

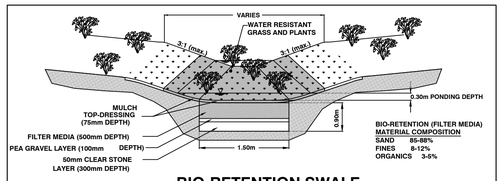


SIMPSON ROAD - EXTENSION
STA 10+860 TO STA 11+223
SCALE 1:100



SIMPSON ROAD - EXTENSION
STA 11+223 TO STA 11+434
SCALE 1:100

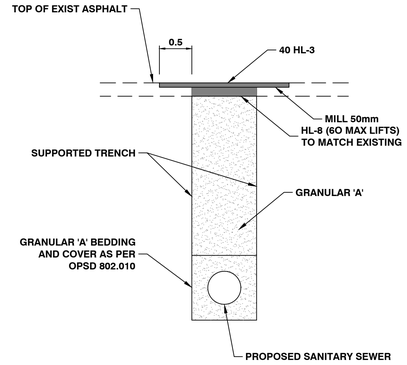
PAVEMENT AND GRANULAR SUMMARY					
	SURFACE	BINDER	GRANULAR 'A'	GRANULAR 'B'	PAVEMENT REMOVAL
	HL3	HDBC			
SIMPSON ROAD SOUTH STA 10+860 TO STA 11+434	40	50 60	150	450	FULL DEPTH
SPLASH PAD	50				



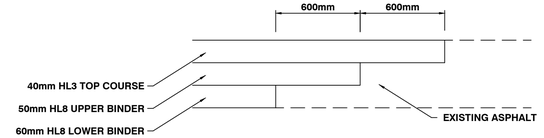
BIO-RETENTION SWALE
N.T.S.

BIO-RETENTION SWALE

1. EROSION AND SEDIMENT CONTROL TO BE CONSTRUCTED AND IN PLACE PRIOR TO ANY GRADING WORKS.
2. STOCK PILING OF MATERIALS TO BE SET BACK A MINIMUM 15m FROM SWALES AND WATERCOURSES. PERIMETER SILT FENCING TO BE PROVIDED AND INSTALLED ACCORDING TO OPSD 219.130.
3. ALL SWALE WORKS TO BE COMPLETED DURING DRY WEATHER.
4. PERIMETER SILT FENCE TO BE INSTALLED AND MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION AND REMOVED ONCE SITE HAS STABILIZED. CONSERVATION AUTHORITY TO BE CONSULTED IN THE DETERMINATION OF SITE STABILIZATION.

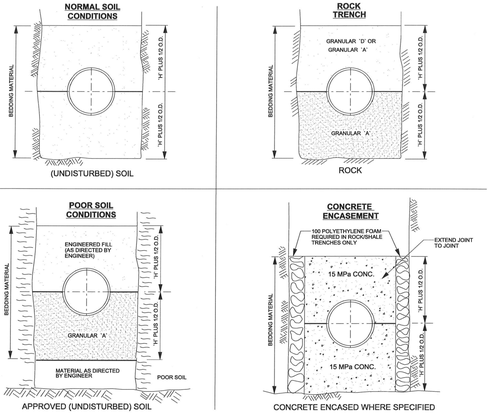


TRENCH RESTORATION DETAIL
ROAD/DRIVEWAY
N.T.S.



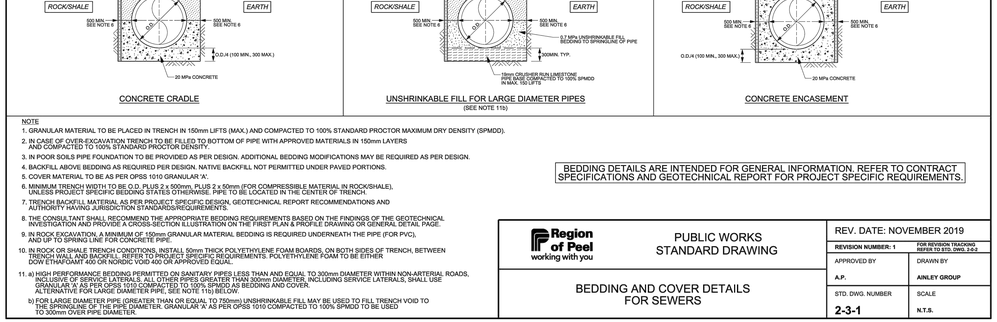
BUTT JOINT DETAIL
N.T.S.

BEDDING DETAILS ARE INTENDED FOR GENERAL INFORMATION. REFER TO CONTRACT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR PROJECT SPECIFIC REQUIREMENTS.



NOTE
1. FOR P.V.C. AND DUCTILE IRON PIPE, BEDDING MATERIAL TO BE GRANULAR D (LIMESTONE SCREENING COLOUR TO BE BETWEEN LIGHT GREY TO WHITE) 150mm ABOVE THE TOP OF PIPE.
2. MATERIAL TO BE PLACED IN TRENCH IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR DENSITY.
3. IN CASE OF OVER-EXCAVATION TRENCH TO BE FILLED TO BOTTOM OF PIPE WITH APPROVED MATERIALS IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR DENSITY.
4. IN POOR SOILS ENGINEER MAY VARY PIPE FOUNDATION TO SUIT.
5. BACKFILL ABOVE BEDDING AS APPROVED BY PROJECT MANAGER.
6. GRANULAR MATERIAL AS PER OPS SPECIFICATIONS AND REGION OF PEEL CAPITAL WORKS VOLUME 2 SPECIFICATIONS.
7. "H"=150 OR DIA./4 OF WATERMAIN WHICH EVER IS GREATER.
8. MIN. TRENCH WIDTH TO BE O.D. PLUS 600mm MAX. TRENCH WIDTH TO BE O.D. PLUS 750mm, UNLESS PROJECT SPECIFIC BEDDING STATES OTHERWISE.
9. COVER MATERIAL, NO STONES GREATER THAN 25mm WILL BE PERMITTED.
10. APPROVED SOIL AS PER GEOTECHNICAL REPORT RECOMMENDATIONS.
11. TO ADDRESS TIME DEPENDANT DEFORMATION IN ROCK OR SHALE TRENCH CONDITIONS, INSTALL 100mm THICK POLYETHYLENE FOAM FOR ALL CONCRETE ENCASED WATERMAIN INSTALLATIONS. REFER TO PROJECT SPECIFIC REQUIREMENTS. POLYETHYLENE FOAM TO BE EITHER DOW ETHAFOAM 400 OR NORDIC VOID 400 OR APPROVED EQUAL.

Region of Peel Working for you	PUBLIC WORKS STANDARD DRAWING	REV. DATE: APRIL 2014
		APPROVED BY: A.P. / DRAWN BY: AINLEY GROUP
WATERMAIN BEDDING		STD. DWG. NUMBER: 1-5-1 / SCALE: N.T.S.



NOTE
1. GRANULAR MATERIAL TO BE PLACED IN TRENCH IN 150mm LIFTS (MAX.) AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
2. IN CASE OF OVER-EXCAVATION TRENCH TO BE FILLED TO BOTTOM OF PIPE WITH APPROVED MATERIALS IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR DENSITY.
3. IN POOR SOILS PIPE FOUNDATION TO BE PROVIDED AS PER DESIGN. ADDITIONAL BEDDING MODIFICATIONS MAY BE REQUIRED AS PER DESIGN.
4. BACKFILL ABOVE BEDDING AS REQUIRED PER DESIGN. NATIVE BACKFILL NOT PERMITTED UNDER PAVED PORTIONS.
5. COVER MATERIAL TO BE AS PER OPSS 1010 GRANULAR 'A'.
6. MINIMUM TRENCH WIDTH TO BE O.D. PLUS 2 x 500mm. PLUS 2 x 50mm (FOR COMPRESSIBLE MATERIAL IN ROCK/SHALE), UNLESS PROJECT SPECIFIC BEDDING STATES OTHERWISE. PIPE TO BE LOCATED IN THE CENTER OF TRENCH.
7. TRENCH BACKFILL MATERIAL AS PER PROJECT SPECIFIC DESIGN, GEOTECHNICAL REPORT RECOMMENDATIONS AND AUTHORITY HAVING JURISDICTION STANDARDS/REQUIREMENTS.
8. THE CONSULTANT SHALL RECOMMEND THE APPROPRIATE BEDDING REQUIREMENTS BASED ON THE FINDINGS OF THE GEOTECHNICAL INVESTIGATION AND PROVIDE A CROSS-SECTION ILLUSTRATION ON THE FIRST PLAN & PROFILE DRAWING OR GENERAL DETAIL PAGE.
9. IN ROCK EXCAVATION, A MINIMUM OF 150mm GRANULAR MATERIAL BEDDING IS REQUIRED UNDERNEATH THE PIPE (FOR PVC), AND UP TO SPRING LINE FOR CONCRETE PIPE.
10. IN ROCK OR SHALE TRENCH CONDITIONS, INSTALL 50mm THICK POLYETHYLENE FOAM BOARDS, ON BOTH SIDES OF TRENCH, BETWEEN TRENCH WALL AND BACKFILL. REFER TO PROJECT SPECIFIC REQUIREMENTS. POLYETHYLENE FOAM TO BE EITHER DOW ETHAFOAM® 400 OR NORDIC VOID 400 OR APPROVED EQUAL.
11. a) HIGH PERFORMANCE BEDDING PERMITTED ON SANITARY PIPES LESS THAN AND EQUAL TO 300mm DIAMETER WITHIN NON-ARTERIAL ROADS, INCLUSIVE OF SERVICE LATERALS. ALL OTHER PIPES GREATER THAN 300mm DIAMETER, INCLUDING SERVICE LATERALS, SHALL USE GRANULAR 'A' AS PER OPSS 1010 COMPACTED TO 100% SPMDD AS BEDDING AND COVER. ALTERNATIVE FOR LARGE DIAMETER PIPE, SEE NOTE 11b) BELOW.
    b) FOR LARGE DIAMETER PIPE (GREATER THAN OR EQUAL TO 750mm) UNSHRINKABLE FILL MAY BE USED TO FILL TRENCH VOID TO THE SPRINGLINE OF THE PIPE DIAMETER. GRANULAR 'A' AS PER OPSS 1010 COMPACTED TO 100% SPMDD TO BE USED TO 300mm OVER PIPE DIAMETER.

BEDDING DETAILS ARE INTENDED FOR GENERAL INFORMATION. REFER TO CONTRACT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR PROJECT SPECIFIC REQUIREMENTS.

Region of Peel working with you	PUBLIC WORKS STANDARD DRAWING	REV. DATE: NOVEMBER 2019
		REVISION NUMBER: 1 / FOR REVISION TRACKING REFER TO STD. DWG. 2-2-1
		APPROVED BY: A.P. / DRAWN BY: AINLEY GROUP
BEDDING AND COVER DETAILS FOR SEWERS		STD. DWG. NUMBER: 2-3-1 / SCALE: N.T.S.

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
2	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		
1	M.B.K.	19/09/30	REVISED – TRCA SUBMISSION #4		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

LICENSED PROFESSIONAL ENGINEER F. K. Y. WONG 100076535 PROVINCE OF ONTARIO

APPROVED FOR CONSTRUCTION

ISSUED FOR TRCA PERMIT — 19/09/30
D. LOVERIDGE, PEng — DATE
DIRECTOR OF PUBLIC WORKS

PROJECT NAME

SIMPSON ROAD EXTENSION PHASE 3

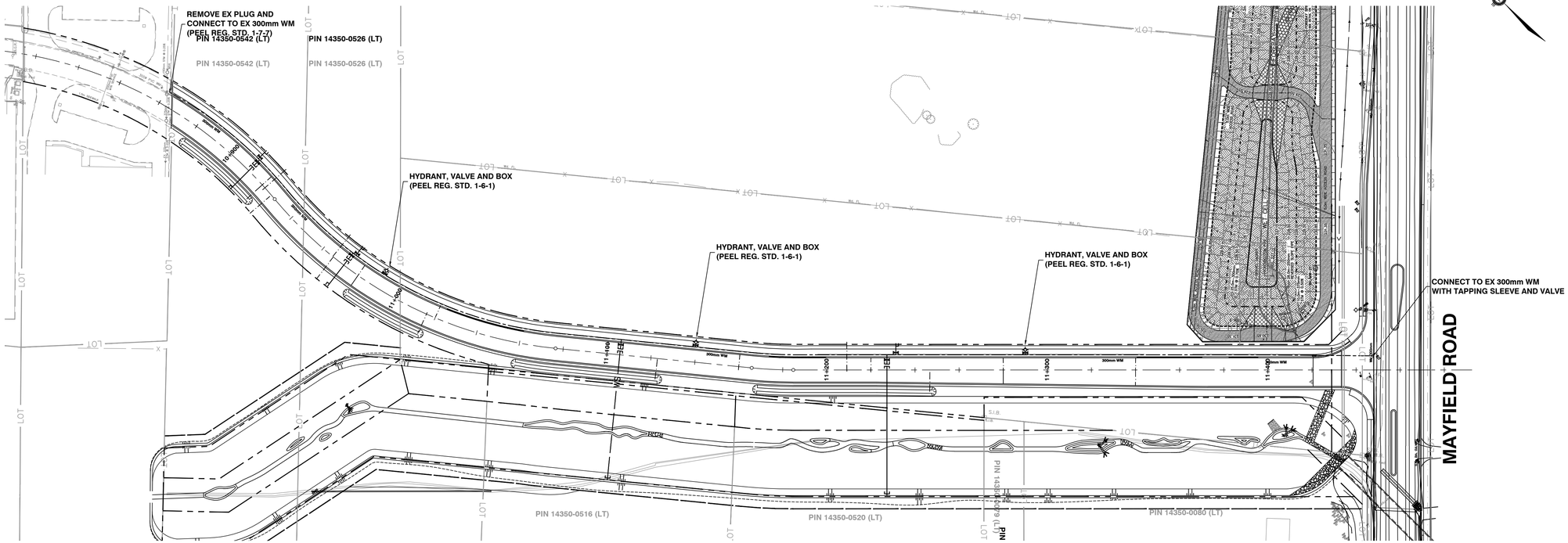
FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL

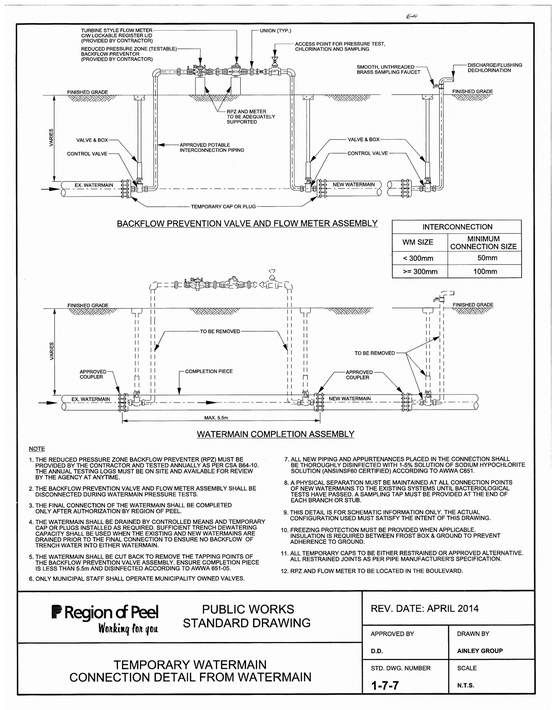
THE CORPORATION OF THE TOWN OF CALEDON

DETAILS

SCALE: AS NOTED	PROJECT No. TP113126
DESIGNED BY: F.W. / DRAWN BY: B.L.	
CHECKED BY: D.S. / DATE: SEPT. 2019	DRAWING No. 15



SIMPSON ROAD



BACKFLOW PREVENTION VALVE AND FLOW METER ASSEMBLY

INTERCONNECTION	
WM SIZE	MINIMUM CONNECTION SIZE
< 300mm	50mm
>= 300mm	100mm

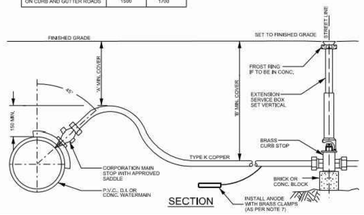
WATERMAIN COMPLETION ASSEMBLY

NOTE

1. THE REDUCED PRESSURE ZONE BACKFLOW PREVENTER (RPZ) MUST BE PROVIDED BY THE CONTRACTOR AND TESTED ANNUALLY AS PER CSA B64-10. THE ANNUAL TESTING LOGS MUST BE ON SITE AND AVAILABLE FOR REVIEW BY THE AGENCY AT ANYTIME.
2. THE BACKFLOW PREVENTION VALVE AND FLOW METER ASSEMBLY SHALL BE DISCONNECTED DURING WATERMAIN PRESSURE TESTS.
3. THE FINAL CONNECTION OF THE WATERMAIN SHALL BE COMPLETED ONLY AFTER AUTHORIZATION BY REGION OF PEEL.
4. THE WATERMAIN SHALL BE DRAINED BY CONTROLLED MEANS AND TEMPORARY CAP OR PLUGS INSTALLED AS REQUIRED. SUFFICIENT TRENCH DEWATERING CAPACITY SHALL BE USED WHEN THE EXISTING AND NEW WATERMAINS ARE DRAINED PRIOR TO THE FINAL CONNECTION TO ENSURE NO BACKFLOW OF TRENCH WATER INTO EITHER WATERMAIN.
5. THE WATERMAIN SHALL BE CUT BACK TO REMOVE THE TAPPING POINTS OF THE BACKFLOW PREVENTION VALVE ASSEMBLY. ENSURE COMPLETION PIECE IS LESS THAN 5.5m AND DISINFECTED ACCORDING TO AWWA 651-05.
6. ONLY MUNICIPAL STAFF SHALL OPERATE MUNICIPALITY OWNED VALVES.
7. ALL NEW PIPING AND APPURTENANCES PLACED IN THE CONNECTION SHALL BE THOROUGHLY DISINFECTED WITH 1-5% SOLUTION OF SODIUM HYPOCHLORITE SOLUTION (ANSI/NSF60 CERTIFIED) ACCORDING TO AWWA C651.
8. A PHYSICAL SEPARATION MUST BE MAINTAINED AT ALL CONNECTION POINTS OF NEW WATERMAINS TO THE EXISTING SYSTEMS UNTIL BACTERIOLOGICAL TESTS HAVE PASSED. A SAMPLING TAP MUST BE PROVIDED AT THE END OF EACH BRANCH OR STUB.
9. THIS DETAIL IS FOR SCHEMATIC INFORMATION ONLY. THE ACTUAL CONFIGURATION USED MUST SATISFY THE INTENT OF THIS DRAWING.
10. FREEZING PROTECTION MUST BE PROVIDED WHEN APPLICABLE. INSULATION IS REQUIRED BETWEEN FROST BOX & GROUND TO PREVENT ADHERENCE TO GROUND.
11. ALL TEMPORARY CAPS TO BE EITHER RESTRAINED OR APPROVED ALTERNATIVE. ALL RESTRAINED JOINTS AS PER PIPE MANUFACTURER'S SPECIFICATION.
12. RPZ AND FLOW METER TO BE LOCATED IN THE BOULEVARD.

Region of Peel Working for you	PUBLIC WORKS STANDARD DRAWING	REV. DATE: APRIL 2014	
TEMPORARY WATERMAIN CONNECTION DETAIL FROM WATERMAIN		APPROVED BY: D.D.	DRAWN BY: AINLEY GROUP
		STD. DWG. NUMBER: 1-7-7	SCALE: N.T.S.

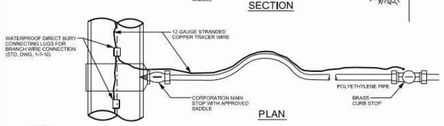
	'A'	'B'
ON UNIMPROVED ROADS	1950	2100
ON CURB AND GUTTER ROADS	1590	1700



SECTION



SECTION



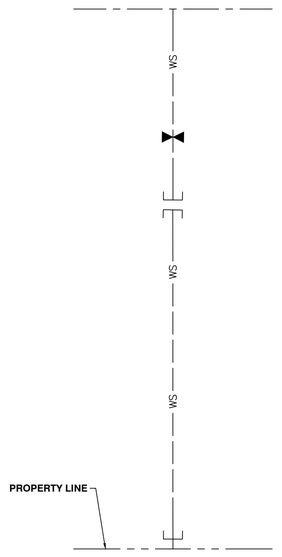
PLAN

NOTE

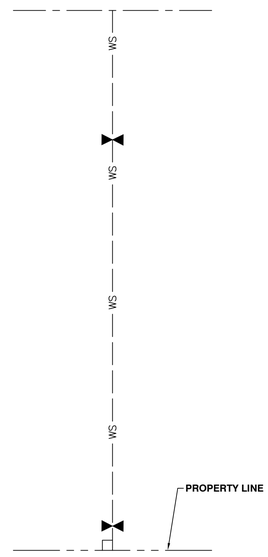
1. ALL SERVICES TO BE AT 90° TO THE WATERMAIN UNLESS OTHERWISE SPECIFIED.
2. WATER SERVICE TO BE A MIN. OF 1100mm UNDER THE BOTTOM OF DITCH.
3. SERVICE BOX TO BE SET TO FINISH GRADE.
4. NO DIRECT TAPPING OF PVC WATERMAINS. ALL CONNECTIONS TO PVC PIPE TO BE MADE USING AN APPROVED WIDE-BAND SERVICE SADDLE.
5. TRACER WIRE TO BE INSTALLED AS PER REGION STANDARDS.
6. ALL WATER SERVICE MATERIALS SHALL BE STORED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. ZINC ANODE (Z-12-24) TO BE INSTALLED 1000mm FROM CURB STOP AS PER OPSS 442.

Region of Peel working with you	PUBLIC WORKS STANDARD DRAWING	REV. DATE: MAR. 2018	
WATER SERVICE CONNECTION		APPROVED BY: E.O.	DRAWN BY: AINLEY GROUP
		STD. DWG. NUMBER: 1-7-1	SCALE: N.T.S.

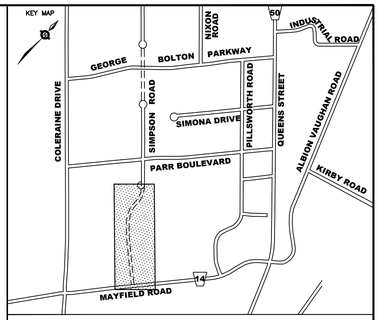
NOTE: MINIMUM CLEARANCE AS PER PEEL REGION 1-7-1 SHALL BE MAINTAINED BELOW PROPOSED CHANNEL.



OPTION A: WATER SERVICE WITHOUT SITE PLAN APPROVED



OPTION B: WATER SERVICE WITH SITE PLAN APPROVED



NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

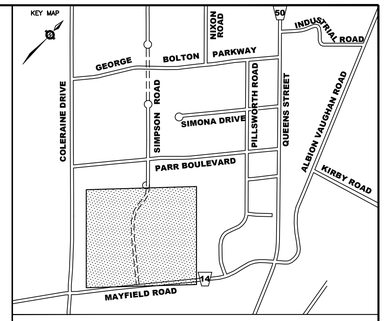
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
WATER DISTRIBUTION AND COMMISSIONING PLAN

SCALE: 1:750		PROJECT No. TP113126
DESIGNED BY: L.V.	DRAWN BY: N.H.	DRAWING No. 16
CHECKED BY: D.S.	DATE: NOV. 2020	





LEGEND

- MH1A — PROPOSED SANITARY MANHOLE
- 140 / 2.00 — EQUIVALENT POPULATION (70ppha) / AREA (ha)
- SANITARY BOUNDARY DRAINAGE AREA

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

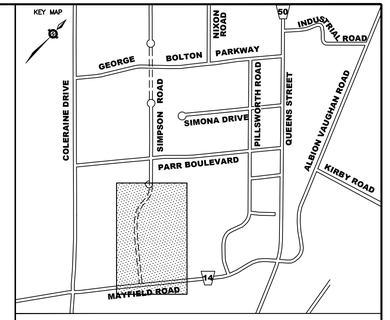
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SANITARY DRAINAGE AREA PLAN

SCALE: 1:1250		PROJECT No. TP113126
DESIGNED BY: L.V.	DRAWN BY: N.H.	DRAWNING No. 17
CHECKED BY: D.S.	DATE: NOV. 2020	





LEGEND

- CB1 — PROPOSED CATCHBASIN/MANHOLE
- 0.9 / 7.57 — RUNOFF COEFFICIENT / AREA (ha)
- STORM BOUNDARY DRAINAGE AREA

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
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1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

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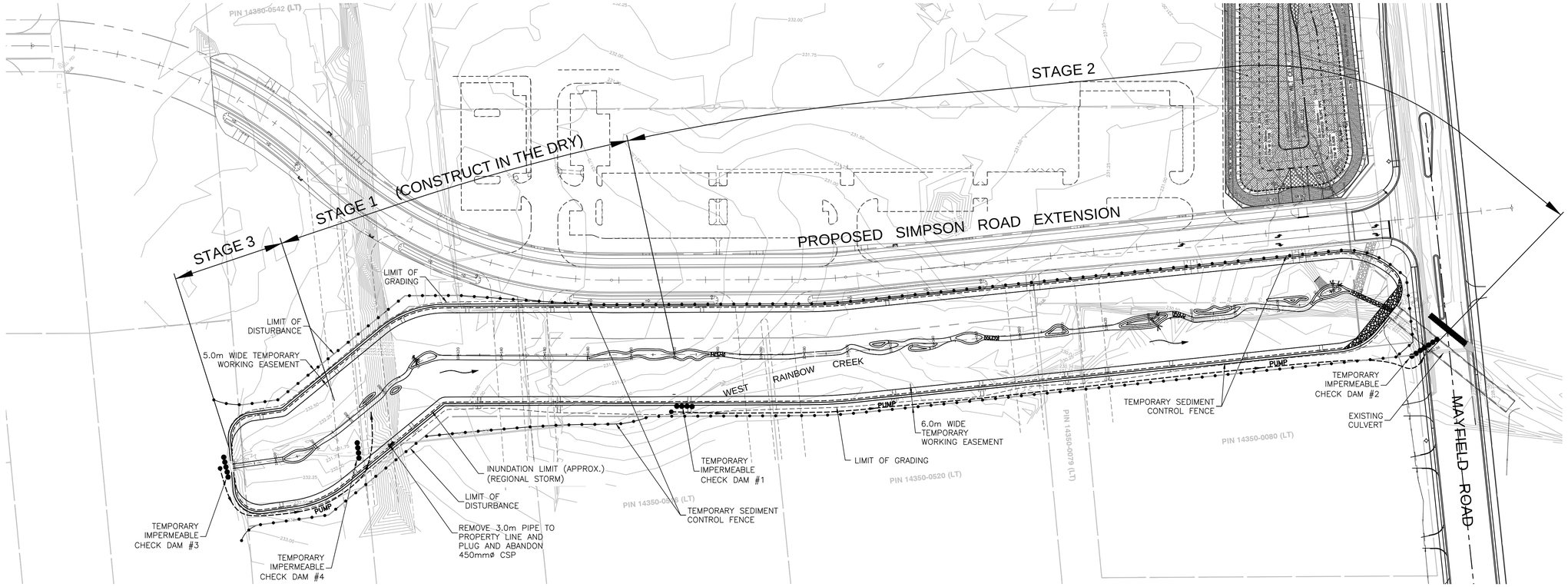
REGION OF PEEL
C02.312

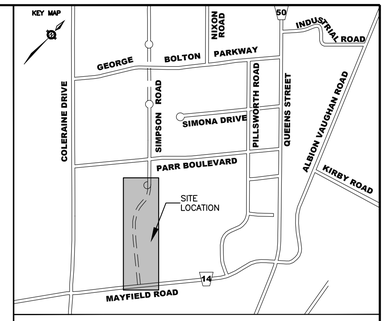
THE CORPORATION OF THE
TOWN OF CALEDON

STORM DRAINAGE AREA PLAN

STA. 10+860 TO STA. 11+458

SCALE: 1:1250		PROJECT No. TP113126
DESIGNED BY: L.V.	DRAWN BY: N.H.	
CHECKED BY: D.S.	DATE: NOV. 2020	DRAWNING No. 18





LEGEND

- SEDIMENT CONTROL FENCE
- TEMPORARY IMPERMEABLE CHECK DAM / COFFER DAM
- RIPRAP
- WOODY DEBRIS
- FLOW DIRECTION
- INUNDATION LIMIT (REGIONAL STORM)
- PROPERTY LINE

GENERAL NOTES:

1. AN ON-SITE PRE-CONSTRUCTION MEETING MUST TAKE PLACE PRIOR TO THE COMMENCEMENT OF ANY WORK. REPRESENTATIVES FROM THE TORONTO REGION CONSERVATION AUTHORITY, THE REGION OF PEEL, THE DESIGN TEAM, AND THE SUCCESSFUL CONTRACTOR MUST BE PRESENT.
2. PRIOR TO COMMENCEMENT OF ALL PHASES OF WORK, INCLUDING STRIPPING AND FILLING, ALL EROSION AND SEDIMENT CONTROLS SHALL BE IN PLACE TO THE SATISFACTION OF THE SITE SUPERVISOR.
3. ALL EROSION AND SEDIMENT CONTROLS MUST BE MAINTAINED DURING CONSTRUCTION AND FULLY REMOVED ONCE ALL DISTURBED AREAS HAVE BEEN STABILIZED.
4. THE CONTRACTOR MUST ABIDE BY THE REGULATIONS SET OUT IN THE ONTARIO GOVERNMENT PUBLICATION "GUIDELINES ON EROSION AND SEDIMENTATION CONTROLS FOR URBAN CONSTRUCTION SITES", AND "EROSION & SEDIMENT CONTROL GUIDELINES FOR URBAN CONSTRUCTION" PREPARED BY THE GREATER GOLDEN HORSESHOE AREA CONSERVATION AUTHORITIES (DECEMBER 2006).
5. REFER TO LANDSCAPING PLANS FOR REVEGETATION STAGING AND SEED MIXES.
6. THE ENTIRE CONSTRUCTION SITE TO BE MONITORED DAILY FOR SEDIMENT AND EROSION CONTROL FOR THE DURATION OF THE CONTRACT. DEFICIENCIES AND/OR BREACHES OF THE EROSION AND SEDIMENT CONTROL MEASURES MUST BE BROUGHT TO THE ATTENTION OF THE SITE ENGINEER AND THE TORONTO REGION CONSERVATION AUTHORITY AND RECTIFIED IMMEDIATELY.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REGULATIONS AND PERMITTING PROVISION OF TRCA, THE REGION OF PEEL, MNR AND MOECC. THESE ARE TO BE POSTED OR AVAILABLE AT THE CONSTRUCTION SITE.
8. TEMPORARY IMPERMEABLE CHECK DAMS SHALL BE USED AS A COMPONENT OF THE DAM AND PUMP OPERATIONS FOR DEWATERING. IN THE EVENT THAT A TEMPORARY IMPERMEABLE CHECK DAM HAS BEEN PUT IN PLACE, IT SHALL BE REMOVED AS WELL AS ANY TRAPPED SEDIMENT UPON CONSTRUCTION COMPLETION OR AT THE DISCRETION OF THE SITE ENGINEER. UPON COMPLETION OF THE CHANNEL WORKS, THE ENGINEER AND CONTRACTOR ARE TO ENSURE THAT ALL STRUCTURES CONSTRUCTED WITHIN THE STREAM HAVE BEEN COMPLETELY REMOVED.
9. UNDER NO CIRCUMSTANCES SHALL RUNOFF FROM UNVEGETATED SOIL OR EXCAVATED PITS BE DISCHARGED OFF SITE OR DIRECTLY INTO ACTIVE OR TEMPORARILY INACTIVE WATERCOURSES.
10. ALL SEDIMENT CONTROL FENCING MUST BE MAINTAINED UNTIL SUCH TIME THE SITE SUPERVISOR DEEMS THE MEASURE IS NO LONGER NECESSARY.
11. ALL ACCUMULATED SEDIMENT MUST BE REMOVED DURING PERIODS OF LOW-FLOW OR DRY CONDITIONS, PRIOR TO THE REMOVAL OF THE DEWATERING CONTROLS, AND DISPOSED OF IN AN APPROVED ON-SITE LOCATION (TO BE DETERMINED IN THE FIELD).
12. ALL EXCAVATION/GRADING IS TO BE DONE IN THE DRY.
13. ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS WEATHER PERMITS FOLLOWING COMPLETION OF CONSTRUCTION WITH THE EXCEPTION OF SLOPES GREATER THAN 3:1 OR IN SENSITIVE AREAS. THESE AREAS SHALL BE STABILIZED IMMEDIATELY WITH TOPSOIL, SEED AND CURLEX II CL EROSION CONTROL BLANKET OR APPROVED EQUIVALENT.
14. ANY DISTURBANCE TO EXISTING VEGETATION AS PART OF CONSTRUCTION TEMPORARY WORK IS TO BE RESTORED AT THE DIRECTION OF THE LANDSCAPE ARCHITECT AND/OR THE SITE SUPERVISOR.
15. ALL STOCKPILES AND STORAGE AREAS ARE TO BE SURROUNDED BY SEDIMENT CONTROL FENCING OR EQUIVALENT.
16. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT EXCEEDING A 150mm (6 in.) THICKNESS OF LOOSE LIFTS . EACH LAYER SHALL BE COMPACTED BEFORE PLACING SUCCEEDING LAYER.
17. COMPACTION SHALL BE DONE IN ACCORDANCE WITH REGION OF PEEL STANDARDS. RECOMMENDED MINIMUM PERCENTAGE OF STANDARD PROCTOR MAXIMUM DRY DENSITY:
    (a) IN SITU SUBGRADE SOIL - A MINIMUM OF 98%
    (b) GENERAL FILL MATERIAL - A MINIMUM OF 98%
    (c) GRANULAR MATERIAL - A MINIMUM OF 98%
18. EXCAVATED MATERIAL FROM THE CREEK IS TO BE REMOVED OFF-SITE TO A LOCATION SOURCED BY THE CONTRACTOR.
19. LIVE STAKES ARE TO BE INSTALLED WITHIN 48 HRS. OF HARVEST. OTHERWISE THEY SHOULD BE SOAKED FOR 7-10 DAYS TO PROLONG THE WINDOW OF ROOTING OPPORTUNITY.
20. ALL MATERIALS AND EQUIPMENT USED FOR THE PURPOSE OF SITE PREPARATION AND PROJECT COMPLETION SHALL BE OPERATED AND STORED IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE (i.e. PETROLEUM PRODUCTS, DEBRIS) FROM ENTERING THE WATERCOURSE.
21. ALL VEHICLE AND EQUIPMENT REFUELING AND MAINTENANCE, STORAGE AND STOCKPILE AREAS AND ANY OTHER TEMPORARY CONSTRUCTION AREAS, SHALL BE CONDUCTED AND/OR LOCATED A MINIMUM OF 30m AWAY FROM THE WATERCOURSE ON FLAT GROUND SO THAT ANY RUNOFF FLOWS AWAY FROM THE CREEK.
22. ONLY CLEAN MATERIAL FREE OF FINE PARTICULATE MATTER SHALL BE PLACED IN THE CREEK.
23. DUE TO LOCAL FISH SPAWNING AND NURSERY PERIODS, NO IN-WATER WORK OR ACTIVITY SHALL TAKE PLACE BETWEEN MARCH 31st TO JULY 1st.
24. DUE TO MITIGATING IMPACTS OF TREE CLEARING ON BREEDING BIRDS, ANY VEGETATION REMOVAL WITH THE CORE BIRD BREEDING SEASON OF MAY 1st TO JULY 31st, MUST BE DONE IN ADHERENCE TO THE MIGRATORY BIRDS CONVENTION ACT. VEGETATION REMOVAL WITHIN THIS TIME MUST BE DONE IN CONSULTATION WITH ENVIRONMENT CANADA, CANADIAN WILDLIFE SERVICES.
25. CONSTRUCTION OF THE LOW-FLOW CHANNEL MUST BE SUPERVISED BY A QUALIFIED FLUVIAL GEOMORPHOLOGIST (OR APPROVED EQUIVALENT).

CONSTRUCTION STAGING NOTES:

1. THE GEOMORPHOLOGIST AND/OR THE ENGINEERS RESPONSIBLE FOR THE DESIGN OF THE CREEK REALIGNMENT DESIGN MUST BE PRESENT DURING CONSTRUCTION AND APPROVE THE COMPLETION OF EACH STAGE.
2. NO FLOWS ARE TO BE REINSTATED INTO NEWLY CONSTRUCTED CHANNEL WORKS UNTIL THE WORK HAS BEEN APPROVED BY TORONTO REGION CONSERVATION AUTHORITY STAFF BASED ON A SITE INSPECTION OR SUBMISSION OF A DETAILED PHOTOGRAPHIC INVENTORY OF THE CHANNEL.
3. DAM AND PUMP FLOW LENGTHS AS STATED WITHIN EACH STAGE OF WORK ARE TO INFORM THE CONTRACTOR OF THE MAXIMUM LENGTH REQUIRED TO DEWATER . THE CONTRACTOR SHALL KEEP CLOSE ATTENTION TO WEATHER PATTERNS DURING CONSTRUCTION AND DAM AND PUMP IN LENGTHS SO THAT CONSTRUCTION CAN BE COMPLETED DURING DRY WEATHER. THE CONTRACTOR SHALL ENSURE THAT ALL TEMPORARY IMPERMEABLE CHECK DAMS ARE REMOVED (AS WELL AS ANY ACCUMULATED SEDIMENT) DURING ALL RAIN EVENTS THAT MAY CAUSE THE CREEK TO OVERTOP THE DAMS.
4. DURING ALL DAM AND PUMP DEWATERING OPERATIONS, FISH RESCUE MUST TAKE PLACE BY A QUALIFIED FISHERIES BIOLOGIST. RESCUE TRAPPED FISH FROM THE EXISTING CREEK BED BETWEEN THE 2 TEMPORARY DEWATERING CONTROLS (TEMPORARY IMPERMEABLE CHECK DAMS) AND RELOCATE FISH BACK INTO THE CREEK AT A POINT DOWNSTREAM OF THE LIMIT OF CONSTRUCTION.
5. DURING THE DEWATERING OPERATIONS, IF PUMPING, ENSURE THAT THE DISCHARGE HOSE (OR FLUME) OUTLETS TO AN APPROPRIATE DISSIPATION AREA SUCH AS A PATIO STONE OR PEA GRAVEL BAG AS OPPOSED TO EXPOSED SOIL, USE FILTER BAGS OR ANY OTHER FILTRATION TECHNIQUE/PRACTISE ED TO TREAT DEWATERING DISCHARGE BEFORE RETURNING IT TO CREEK DOWNSTREAM.
6. PRIOR TO COMMENCEMENT OF CONSTRUCTION, INSTALL ALL EROSION AND SEDIMENTATION CONTROLS.
7. CLEAR AND GRUB ALL WORK AREAS PRIOR TO CONSTRUCTION AS PER OPSS 201.
8. STRIP TOPSOIL FROM WORK AREA AND STOCKPILE IN AN AREA ON SITE TO BE DETERMINED IN THE FIELD IF APPLICABLE.

Stage 1 - Channel Realignment (Constructed In The Dry)

1. INSTALL SEDIMENT FENCING AS SHOWN ALONG THE NORTH BANK OF THE EXISTING CREEK.
2. CONSTRUCT NEW CHANNEL REALIGNMENT FROM STA. 10+060± TO STA. 10+220±.
3. STABILIZE AND REVEGETATE THE NEWLY CONSTRUCTED CHANNEL.
4. COMPLETE BALANCE OF FILL AND GRADING WORK REQUIRED. ALL RESTORATION, STABILIZATION AND LANDSCAPING WORK TO BE CARRIED OUT IMMEDIATELY FOLLOWING GRADING COMPLETION.
5. INSTALL TEMPORARY SEDIMENT CONTROL FENCING ALONG THE NORTH SIDE OF THE NEWLY CONSTRUCTED CHANNEL.

Stage 2 & 3 - Channel Realignment (Dam And Pump)

1. SEQUENCE THE CONSTRUCTION METHOD IN THE SAME MANNER FOR STAGES 2 & 3, STARTING AT THE DOWNSTREAM LIMIT (STAGE 2) AND MOVING THE TEMPORARY IMPERMEABLE CHECK DAMS UPSTREAM TO THE LOCATION FOR STAGE 3 AS SHOWN ON THE ABOVE PLAN.
2. CONSTRUCT A TEMPORARY IMPERMEABLE CHECK DAM AT THE UPSTREAM LIMIT OF THE STAGE TO BE COMPLETED.
3. GUIDE FISH FROM THE WORK AREA BEING DEWATERED AND MAKE SURE THEY HAVE BEEN DISPLACED TO THE CREEK DOWNSTREAM OF THE WORK BELOW THE AREA WHERE THE DOWNSTREAM TEMPORARY IMPERMEABLE CHECK DAM IS TO BE CONSTRUCTED.
4. CONSTRUCT A TEMPORARY IMPERMEABLE CHECK DAM AT THE DOWNSTREAM LIMIT OF THE STAGE TO BE COMPLETED.
5. WORK AREA TO BE KEPT DRY BY APPROPRIATE DEWATERING OPERATION (EG. DAM AND PUMP).
6. PUMP FLOW INTO THE EXISTING CULVERT FOR STAGE 2 AND INTO THE NEWLY CONSTRUCTED CHANNEL FOR STAGE 3 ENSURING THAT THAT THE DISCHARGE HOSE (OR FLUME) OUTLETS TO AN APPROPRIATE DISSIPATION AREA SUCH AS A PATIO STONE OR PEA GRAVEL BAG.
7. CONSTRUCT THE NEW CHANNEL CONNECTING WITH THE NEWLY CONSTRUCTED CHANNEL THAT WAS COMPLETED IN THE DRY (STAGE 1).
8. COMPLETE BALANCE OF FILL AND GRADING WORK REQUIRED. ALL RESTORATION, STABILIZATION AND LANDSCAPING WORK TO BE CARRIED OUT IMMEDIATELY FOLLOWING GRADING COMPLETION.
9. ALL CONSTRUCTION AND RESTORATION WORK MUST BE INSPECTED AND APPROVED BY TORONTO REGION CONSERVATION AUTHORITY STAFF PRIOR TO THE REINSTATEMENT OF CREEK FLOW TO ENSURE STABILIZATION AND REVEGETATION OF THE WORKS AFTER THE COMPLETION OF EACH STAGE.
10. INSTALL TEMPORARY SEDIMENT CONTROL FENCE ALONG THE NORTH AND SOUTH SIDES OF THE NEWLY CONSTRUCTED CHANNEL AFTER THE COMPLETION OF EACH STAGE
11. REMOVE AND DISPOSE OF ALL ACCUMULATED SEDIMENT (OFF-SITE) PRIOR TO THE REMOVAL OF THE TEMPORARY IMPERMEABLE CHECK DAMS.
12. REMOVE THE TEMPORARY IMPERMEABLE CHECK DAMS AND REINSTATE THE CREEK FLOW.

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
7	M.B.K.	20/11/19	ISSUED FOR 100% CLIENT REVIEW		
6	M.B.K.	20/01/20	ISSUED FOR 100% REVIEW		
5	M.B.K.	19/09/30	REVISED – TRCA SUBMISSION #4		
4	M.B.K.	19/02/19	REVISED – TRCA SUBMISSION #3		
3	J.P.E.	18/11/05	REVISED – TRCA SUBMISSION #2		
2	B.S.	18/05/14	REVISED – TRCA SUBMISSION		
1	B.S.	17/09/05	ISSUED FOR TRCA PERMIT		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

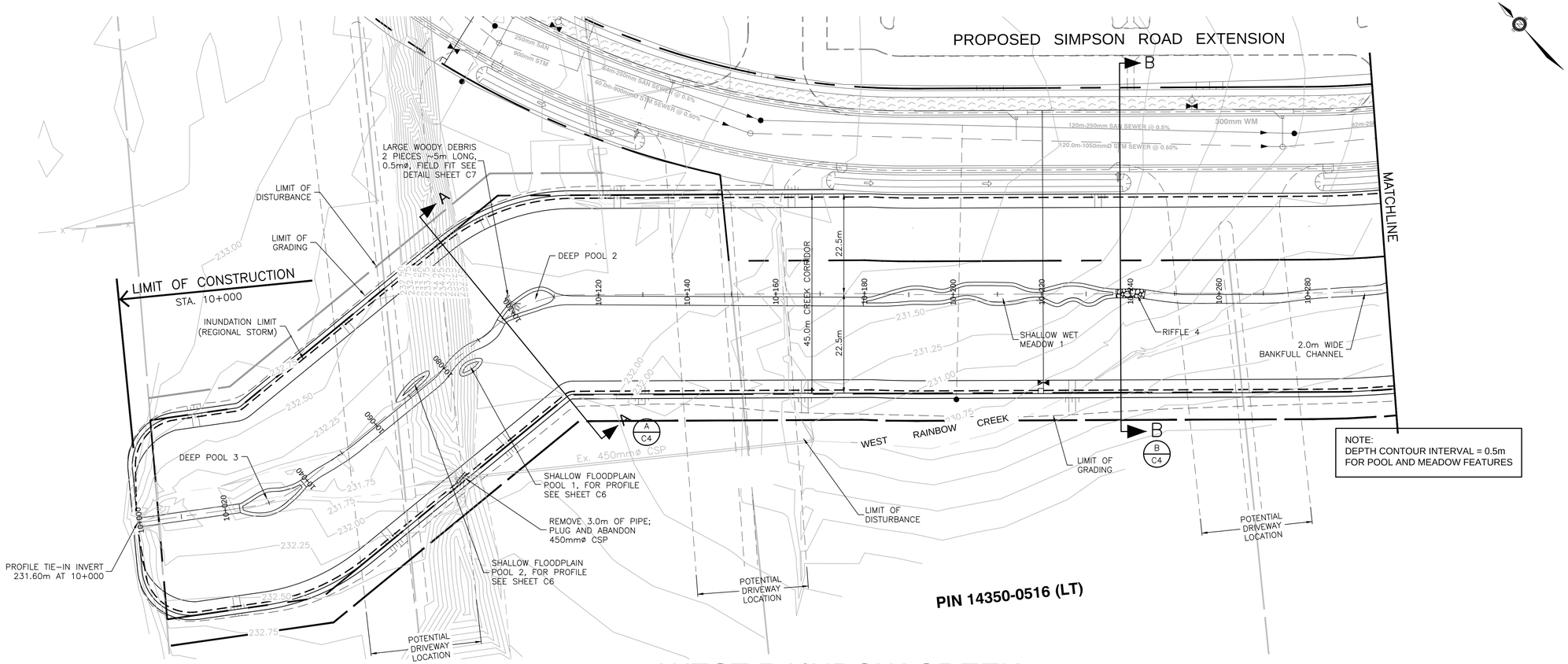
FINANCE AND INFRASTRUCTURE SERVICES

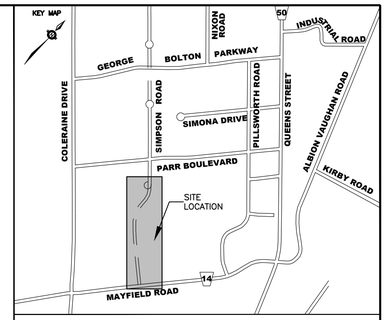
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY EROSION & SEDIMENT CONTROL & STAGING PLAN

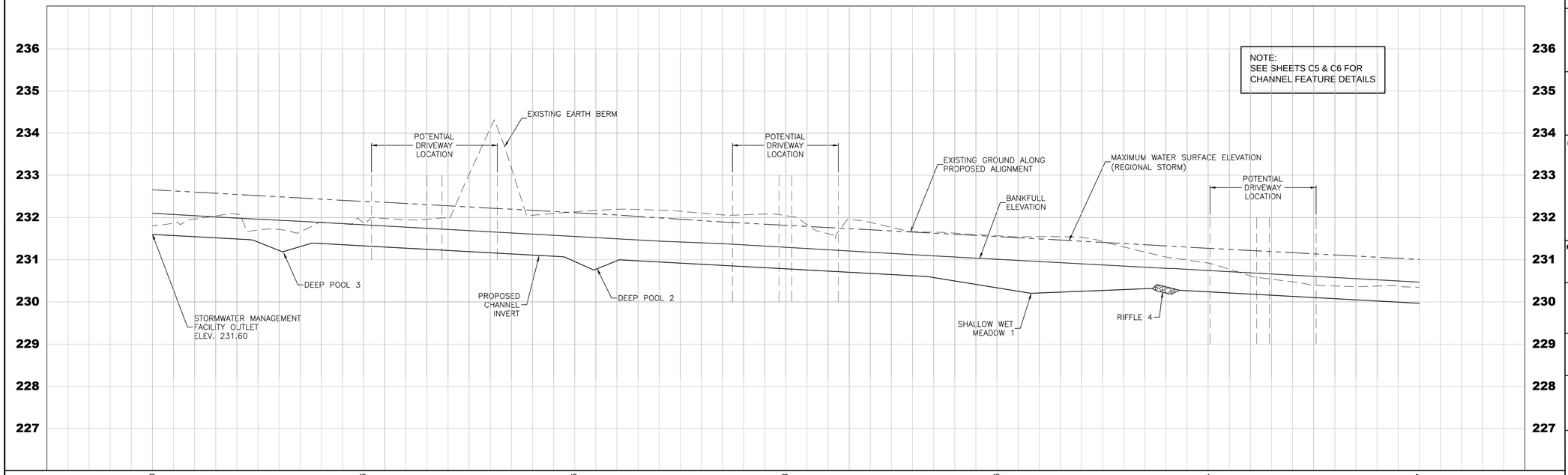
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DESIGNED BY: M.K./B.D.	DRAWN BY: M.K.	DRAWING No. C1
CHECKED BY: B.B.	DATE: NOV. 2020	





INUNDATION LIMIT (REGIONAL STORM)

WEST RAINBOW CREEK



PROPOSED ℄ GRADES	231.60	231.33	230.96	230.78	230.33	230.24	229.97
℄ CHAINAGE	10+000	10+050	10+100	0+150	0+200	0+250	0+300

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BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

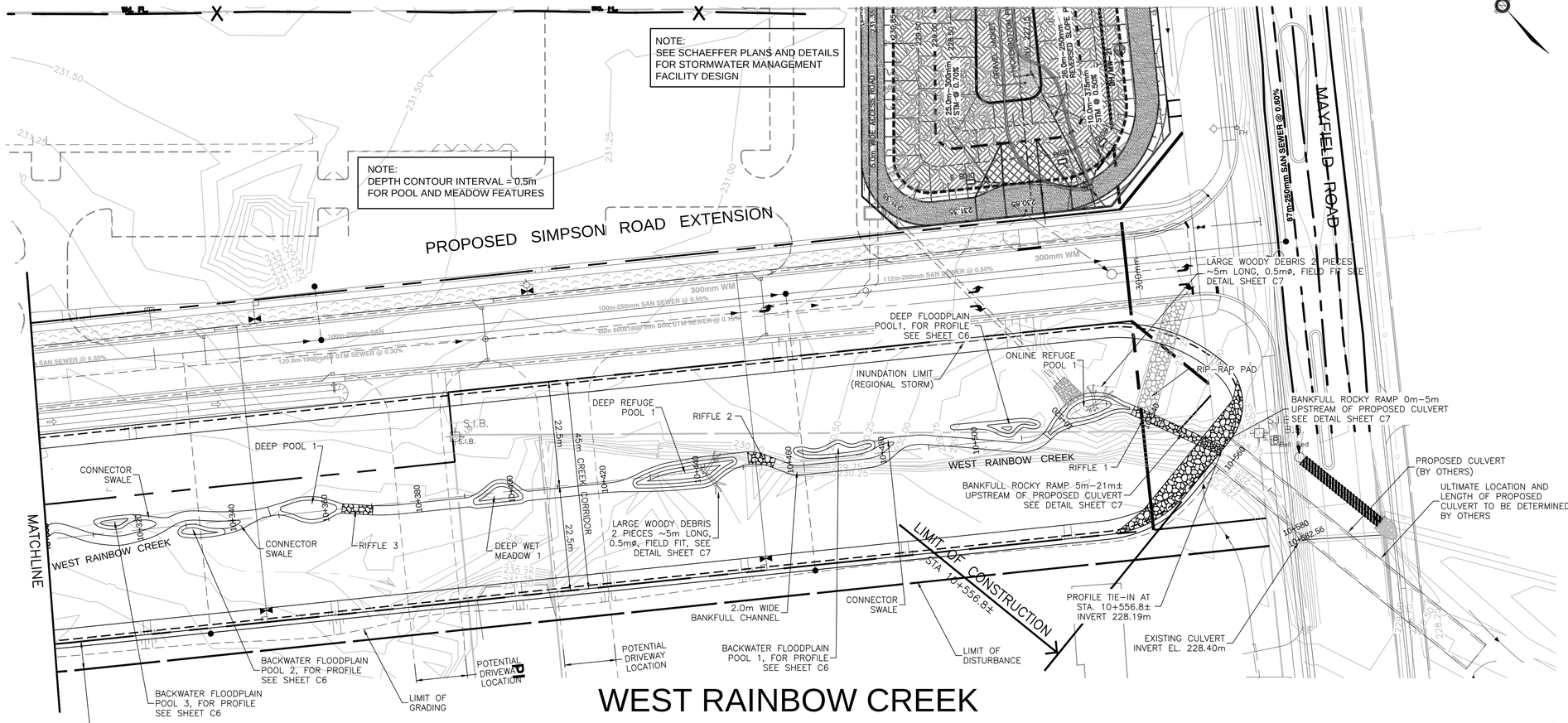
FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

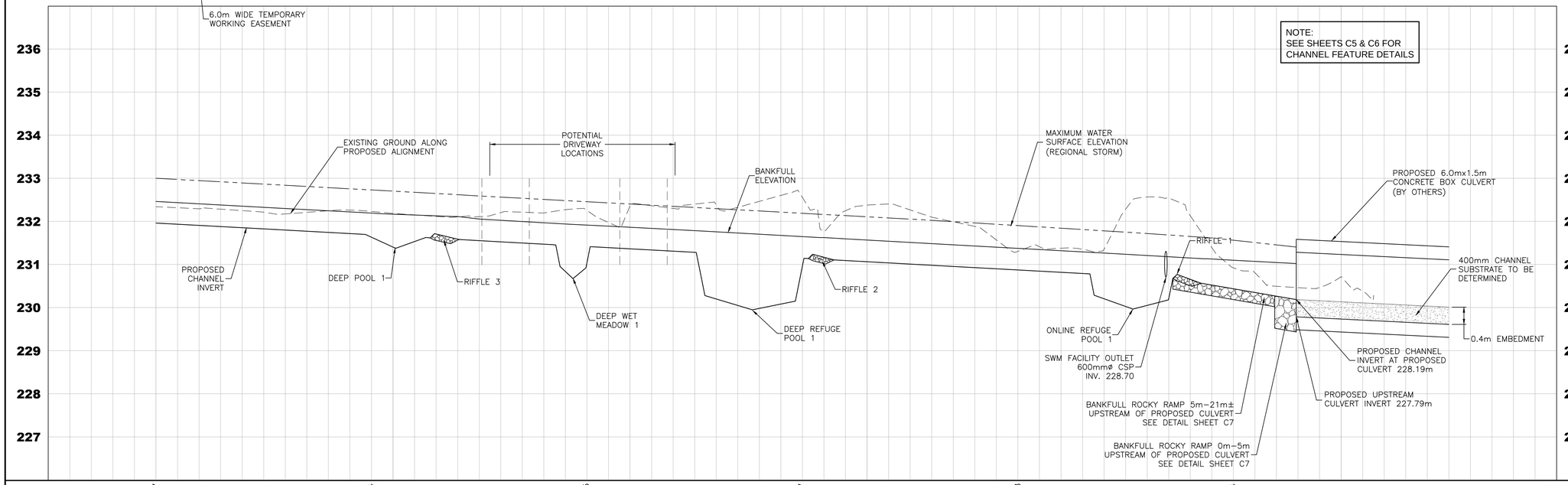
THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY
PLAN AND PROFILE
STA. 10+000 TO STA. 10+300

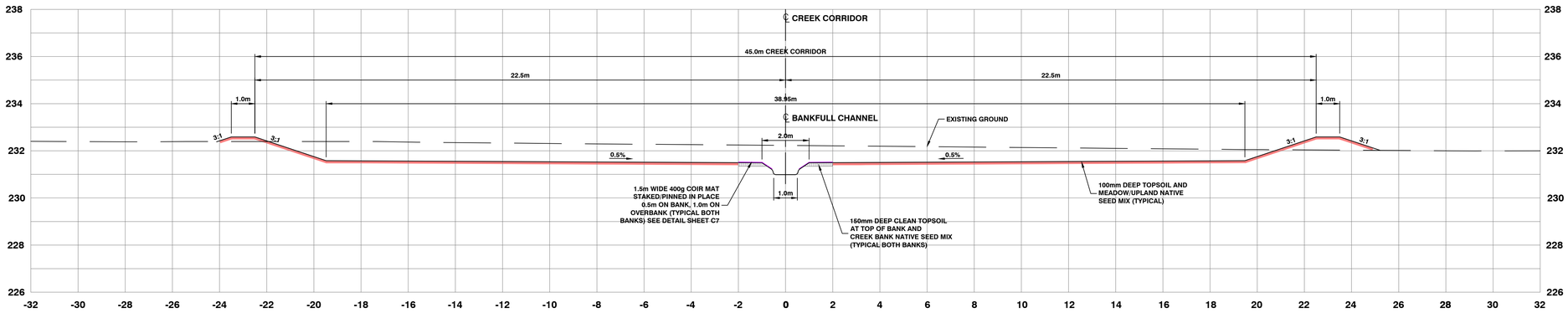
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DESIGNED BY: M.K./D.B.	DRAWN BY: M.K.	DRAWING No. C2
CHECKED BY: B.B.	DATE: NOV. 2020	



WEST RAINBOW CREEK

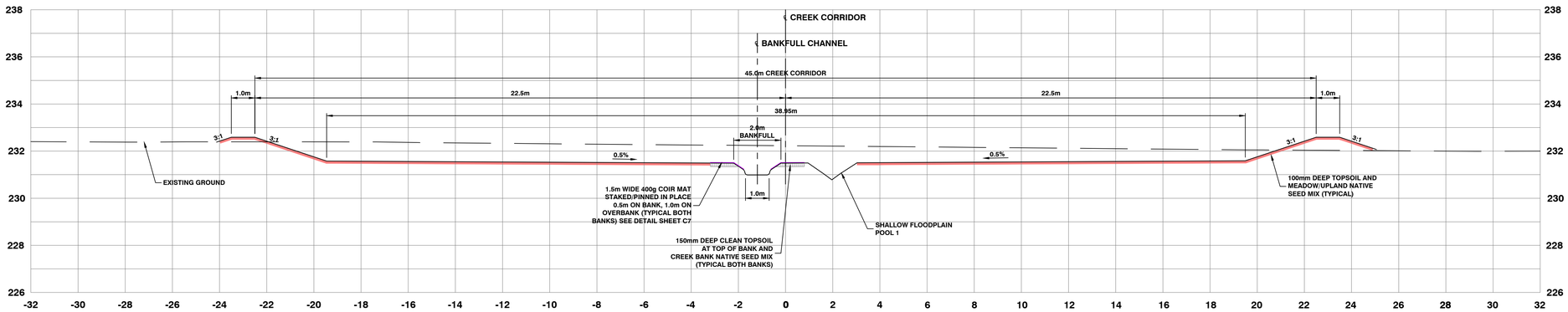


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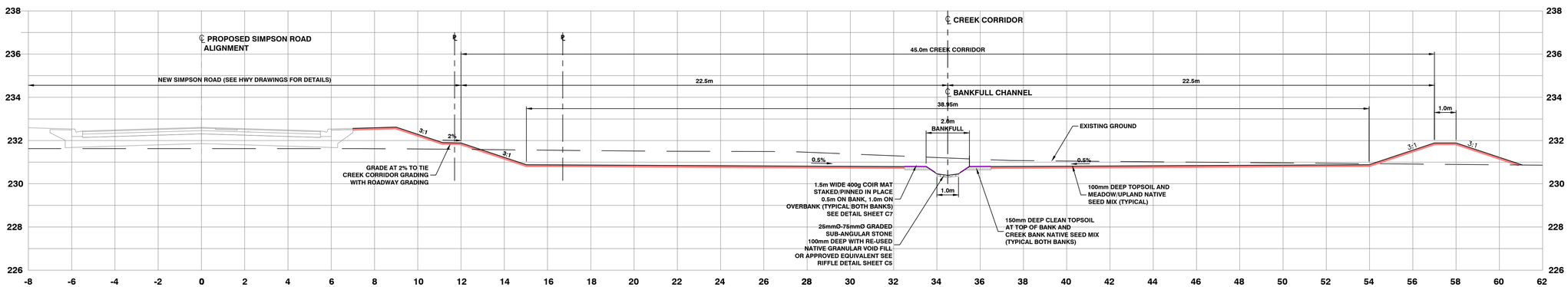
TYPICAL CREEK CORRIDOR CROSS SECTION

SCALE 1:100



SECTION A-A

SCALE 1:100



SECTION B-B

SCALE 1:100

NOT FOR CONSTRUCTION

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wood.

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R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

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SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

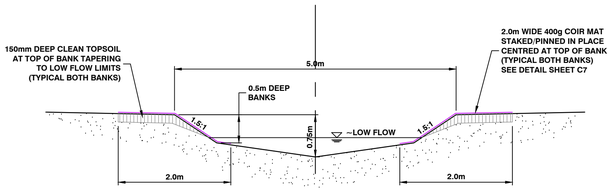
THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY

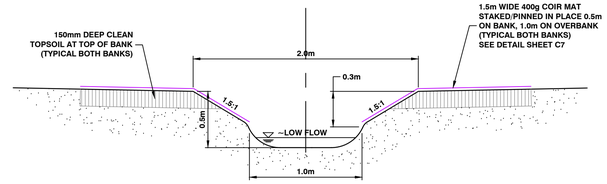
CROSS SECTIONS

SCALE: **AS NOTED**		PROJECT No. **TP113126**
DESIGNED BY: **M.K./B.D.**	DRAWN BY: **M.K.**	
CHECKED BY: **B.B.**	DATE: **NOV. 2020**	DRAWING No. **C4**

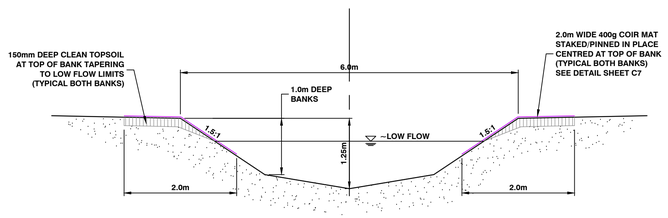
NOTE:
SEED MIX APPLIED UNDER COIR MAT TO BE ONTARIO SEED COMPANY #8215 "BANK SEED MIX", WITH A NURSE CROP OF ANNUAL OATS



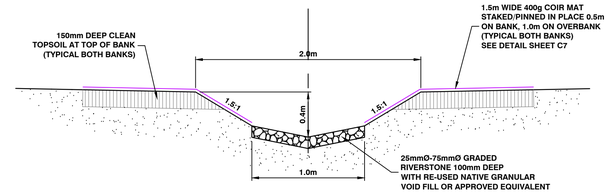
DEEP POOL DETAIL
SHALLOW WET MEADOW DETAIL
SCALE 1:50



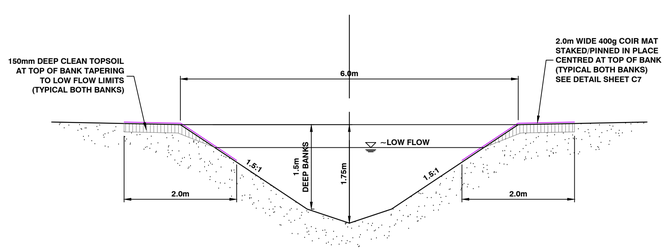
BANKFULL RUN DETAIL
SCALE 1:25



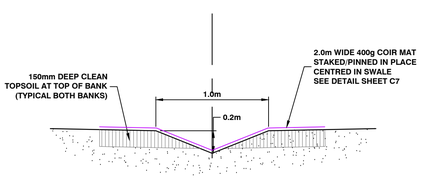
ONLINE REFUGE POOL DETAIL
DEEP WET MEADOW DETAIL
SCALE 1:50



BANKFULL RIFFLE (AT CREST) DETAIL
SCALE 1:25



DEEP REFUGE POOL DETAIL
SCALE 1:50



CONNECTOR SWALE DETAIL
SCALE 1:25

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
7	M.B.K.	20/11/19	ISSUED FOR 100% CLIENT REVIEW		
6	M.B.K.	20/01/20	ISSUED FOR 100% REVIEW		
5	M.B.K.	19/09/30	REVISED – TRCA SUBMISSION #4		
4	M.B.K.	19/02/19	REVISED – TRCA SUBMISSION #3		
3	J.P.E.	18/11/05	REVISED – TRCA SUBMISSION #2		
2	B.S.	18/05/14	REVISED – TRCA SUBMISSION		
1	B.S.	17/09/05	ISSUED FOR TRCA PERMIT		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

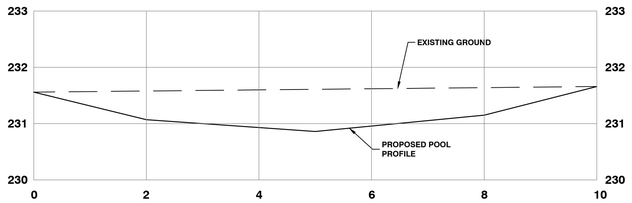
FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

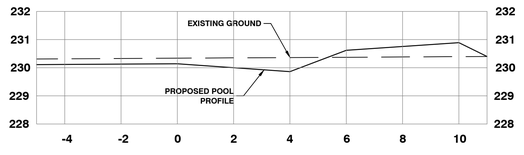
WEST RAINBOW CREEK TRIBUTARY
CREEK BANKFULL SECTIONS

SCALE: **AS NOTED**		PROJECT No. **TP113126**
DESIGNED BY: **M.K./B.D.**	DRAWN BY: **M.K.**	DRAWING No. **C5**
CHECKED BY: **B.B.**	DATE: **NOV. 2020**	

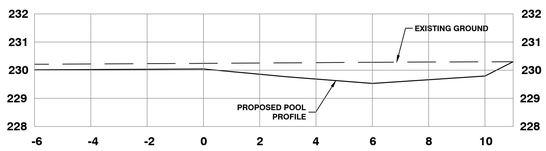


SHALLOW FLOODPLAIN
POOL 2 - PROFILE
SCALE 1:50

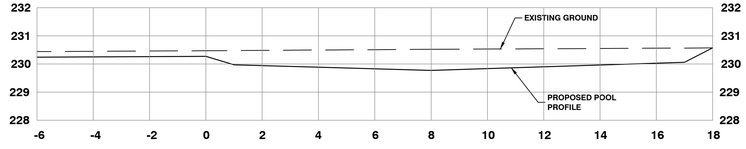
SHALLOW FLOODPLAIN
POOL 1 - PROFILE
SCALE 1:50



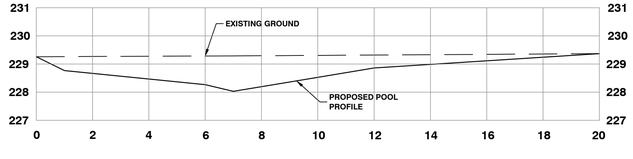
BACKWATER FLOODPLAIN
POOL 3 - PROFILE
SCALE 1:100



BACKWATER FLOODPLAIN
POOL 2 - PROFILE
SCALE 1:100



BACKWATER FLOODPLAIN
POOL 1 - PROFILE
SCALE 1:100



DEEP FLOODPLAIN
POOL 1 - PROFILE
SCALE 1:100

NOT FOR CONSTRUCTION

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BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

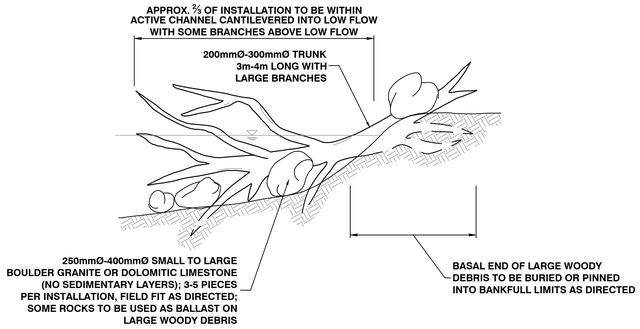
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY

POOL PROFILES

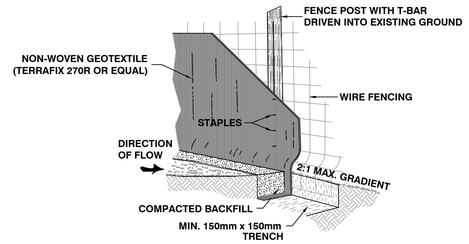
SCALE: **AS NOTED**		PROJECT No. **TP113126**
DESIGNED BY: **M.K./B.D.**	DRAWN BY: **M.K.**	DRAWING No. **C6**
CHECKED BY: **B.B.**	DATE: **NOV. 2020**	



NOTES:
1. RE-USED FOUND ON SITE MATERIALS PREFERRED EXCEPT SHALE
2. DISTURBED AREAS TO BE SEEDED AND RESTORED PER APPROVED LANDSCAPE PLANS

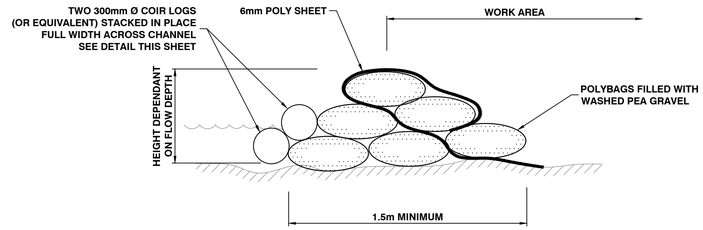
LARGE WOODY DEBRIS AND BOULDER INSTALLATION SECTION VIEW

N.T.S.



TEMPORARY SEDIMENT CONTROL FENCE

N.T.S.



TEMPORARY SANDBAG COFFERDAM

N.T.S.

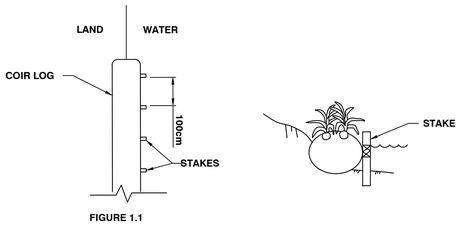


FIGURE 1.1

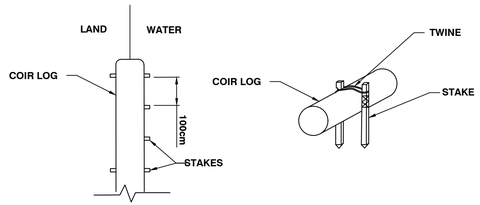


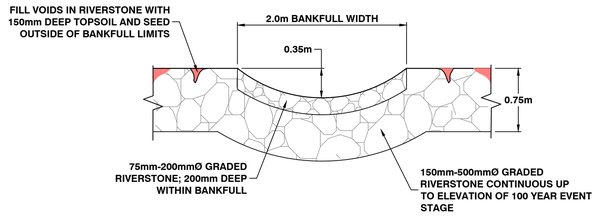
FIGURE 1.2

NOTES:

1. THE WOOD STAKES SHOULD BE PLACED ALONG THE WATER SIDE OF THE COIR LOG AND THE STAKE SHOULD BE PLACED THROUGH THE NETTING, FIGURE 1.1
2. WHERE WATER FLOW IS SLOW MOVING, AS FEW AS 4 STAKES PER 2.28 METRE LOG CAN BE USED. ON MEDIUM WATER FLOW SITES, 6 STAKES SHOULD BE USED AS FIGURE 1.2
3. FOR EROSION CONTROL, TYPICAL CHANNEL TO USE COIR MAT AS PER TERRAFIX GEOSYNTHETICS INC. INSTALLATION GUIDE.

COIR LOG INSTALLATION

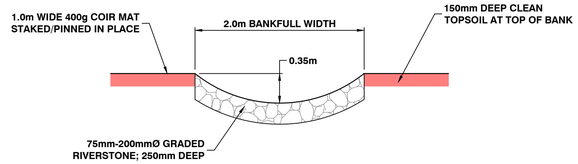
N.T.S.



BANKFULL ROCKY RAMP DETAIL 0m-5m UPSTREAM OF CULVERT

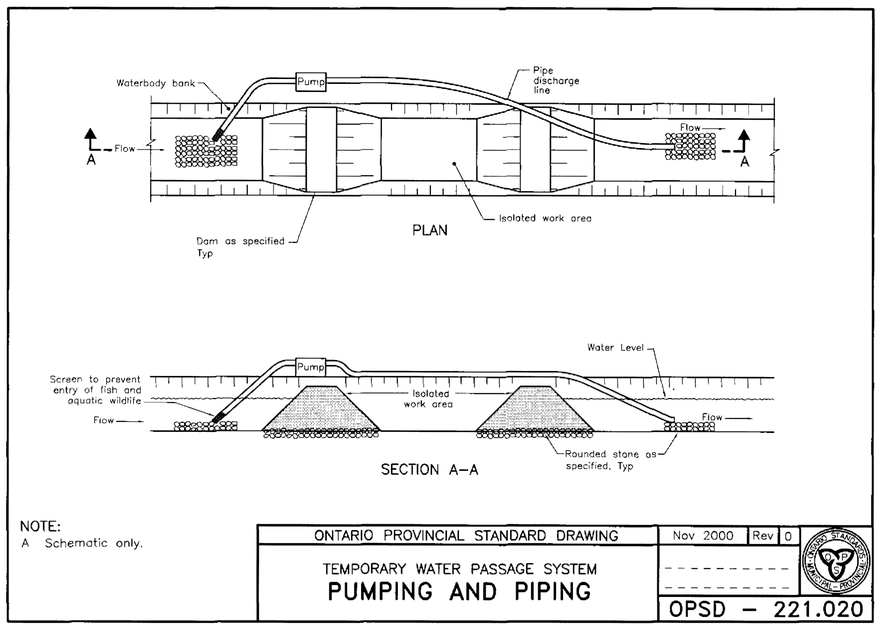
N.T.S.

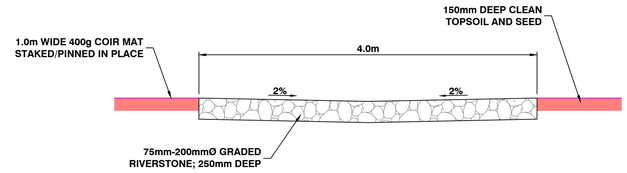
NOTE:
SEED MIX ADDED TO VOID TOPSOIL FILL AND APPLIED UNDER COIR MAT TO BE ONTARIO SEED COMPANY #8215 BANK SEED MIX, WITH A NURSE CROP OF ANNUAL OATS



BANKFULL ROCKY RAMP DETAIL 5m-21m± UPSTREAM OF CULVERT

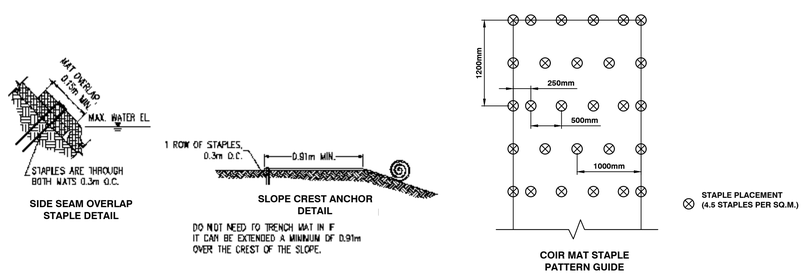
N.T.S.





RIP RAP SPILLWAY AND PAD

N.T.S.



1. FOR COHESIVE SOIL USE A 0.152m WIRE STAPLE AND FOR NON-COHESIVE SOIL USE A 0.203m WIRE STAPLE.
2. FOR BEST RESULTS INSERT STAPLES SO HEADS ARE PARALLEL TO THE FLOW OF WATER.
3. NOT TO SCALE DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

COIR MAT INSTALLATION

N.T.S.

NOT FOR CONSTRUCTION

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BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

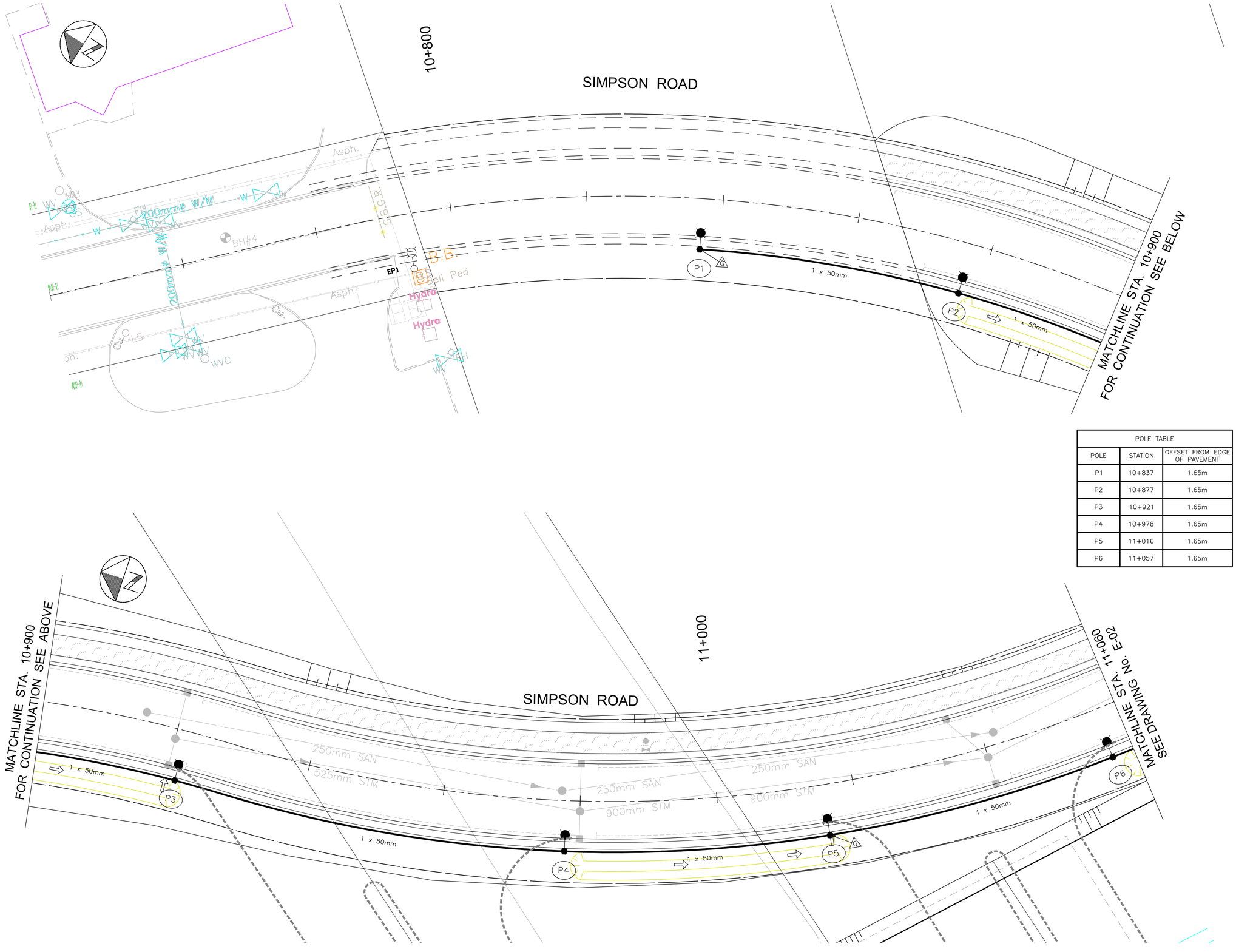
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY

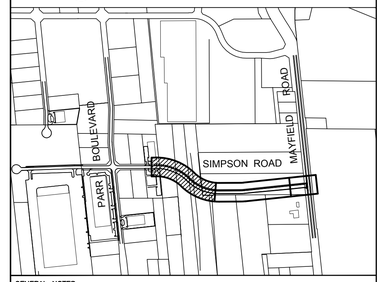
TYPICAL DETAILS

SCALE: AS NOTED		PROJECT No. TP113126
DESIGNED BY: M.K./B.D.	DRAWN BY: M.K.	DRAWING No. C7
CHECKED BY: B.B.	DATE: NOV. 2020	



POLE TABLE		
POLE	STATION	OFFSET FROM EDGE OF PAVEMENT
P1	10+837	1.65m
P2	10+877	1.65m
P3	10+921	1.65m
P4	10+978	1.65m
P5	11+016	1.65m
P6	11+057	1.65m

KEY MAP



GENERAL NOTES

LEGEND:

- PROPOSED 9.9m (32'–5.76") OCTAGONAL SHAPE CONCRETE POLE, c/w 73 W LED LUMINAIRE WITH 2.4m (7'–10.5") BRACKET
- EP — EXISTING POLE, LUMINAIRE, BRACKET & ASSOCIATED WIRING TO BE REMOVED
- EHP — EXISTING LUMINAIRE, BRACKET & ASSOCIATED WIRING TO REMAIN
- PROPOSED SERVICE, MOUNTED ON CONCRETE PAD
- 50mm DIA. DIRECT BURIED RIGID PVC CONDUIT, 610mm MINIMUM BELOW FINISHED GRADE AS PER OPSD–2101.01
- G (2) — PROPOSED 20mm x 3m COPPER CLAD GROUND ROD WITH THERMIT, (2) INDICATES TWO GROUND RODS
- P1 — POLE IDENTIFICATION CODE FOR PROPOSED ILLUMINATION POLE
- R1 — IDENTIFICATION CODE FOR REMOVALS

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
3	U.P.	2020-01-31	ISSUED FOR TENDER		
2	U.P.	2017-07-31	90% SUBMISSION		
1	U.P.	2014-05-31	60% SUBMISSION		

BENCH MARK:

CONSULTANT

U TECH ENGINEERS INC.
60 LEGENDARY CIRCLE,
BRAMPTON, ON L6Y 0S1
TEL: 905-564-8413
WEB: www.utecheng.ca

ENGINEER'S STAMP

LICENSED PROFESSIONAL ENGINEER
U. PADMANATH
100120747
Jan. 31/2020
PROVINCE OF ONTARIO

APPROVED FOR CONSTRUCTION

RYAN GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

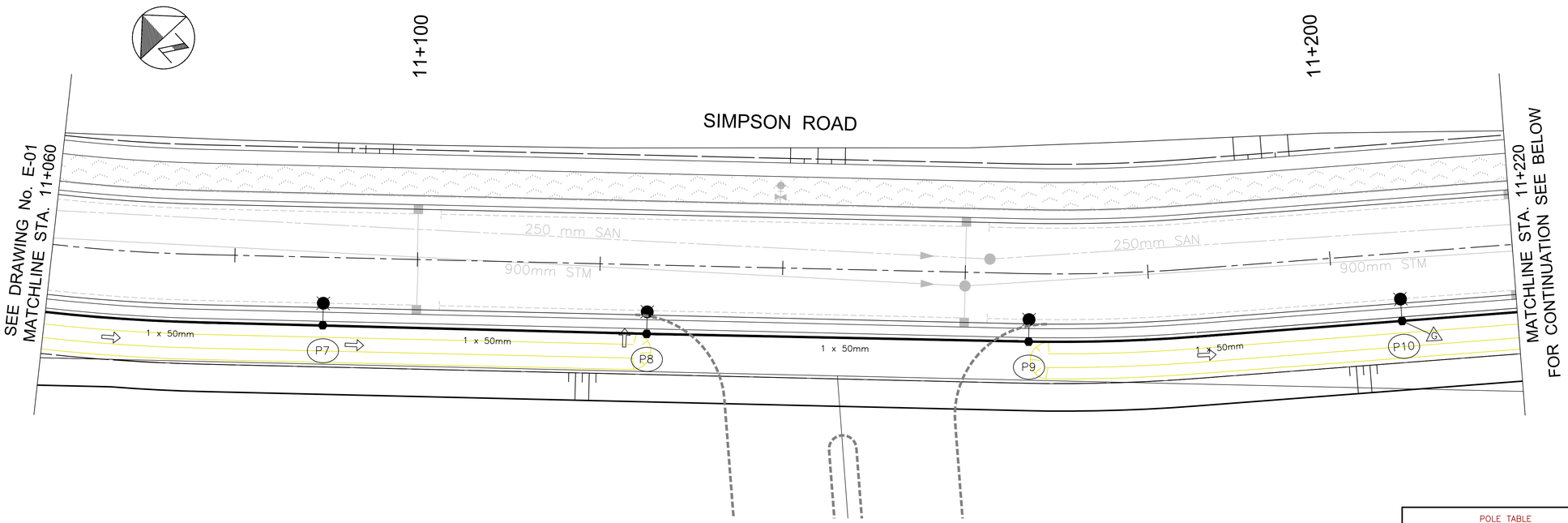
PUBLIC WORKS DEPARTMENT

REGION OF PEEL

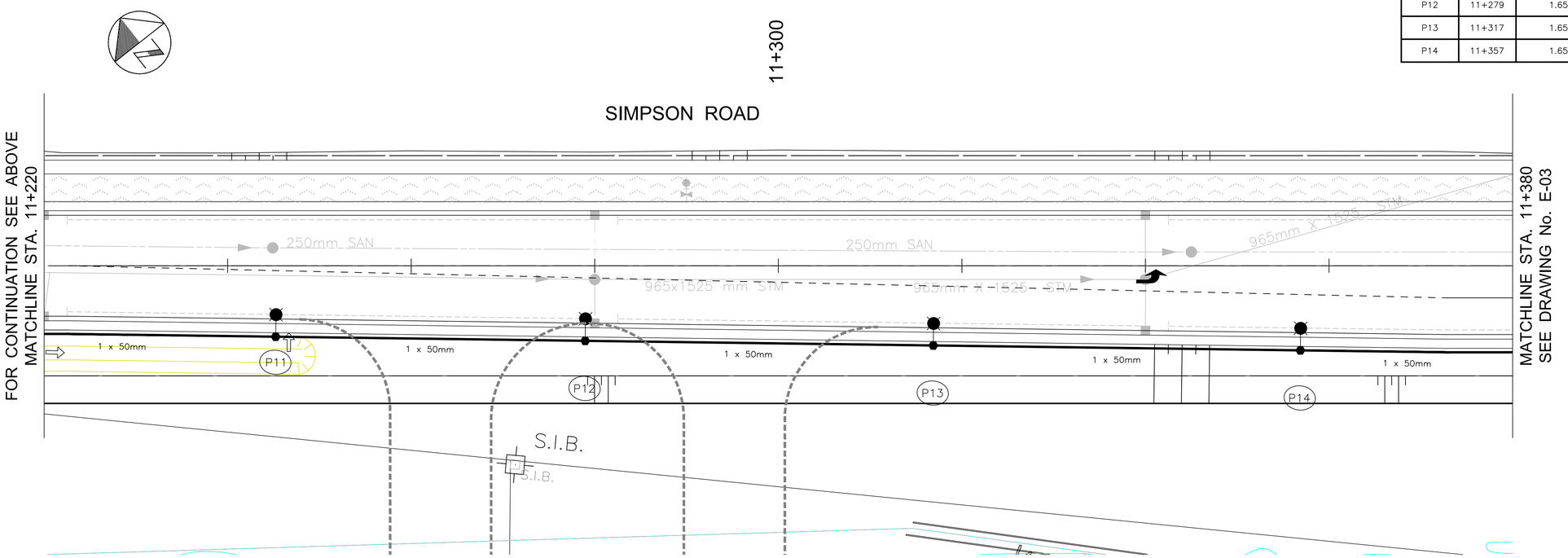
TOWN OF CALEDON

SIMPSON ROAD - SOUTH
ELECTRICAL LAYOUT
STA. 10+760 TO STA. 11+060

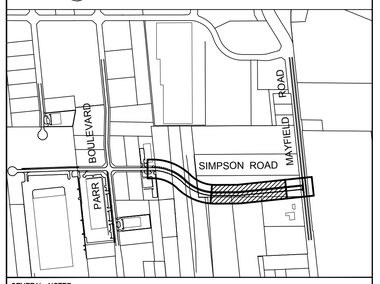
SCALE: 1:250		PROJECT No.
DESIGNED BY: U.P.	DRAWN BY: S.S.	DRAWING No. E-01
CHECKED BY: U.P.	DATE: 2014-05-12	



POLE TABLE		
POLE	STATION	OFFSET FROM EDGE OF PAVEMENT
P7	11+092	1.65m
P8	11+126	1.65m
P9	11+167	1.65m
P10	11+207	1.65m
P11	11+245	1.65m
P12	11+279	1.65m
P13	11+317	1.65m
P14	11+357	1.65m



KEY MAP



GENERAL NOTES

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WEB: www.utecheng.ca

ENGINEER'S STAMP

LICENSED PROFESSIONAL ENGINEER
U. PADMANATH
100120747
Dec. 31/2020
PROVINCE OF ONTARIO

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DATE

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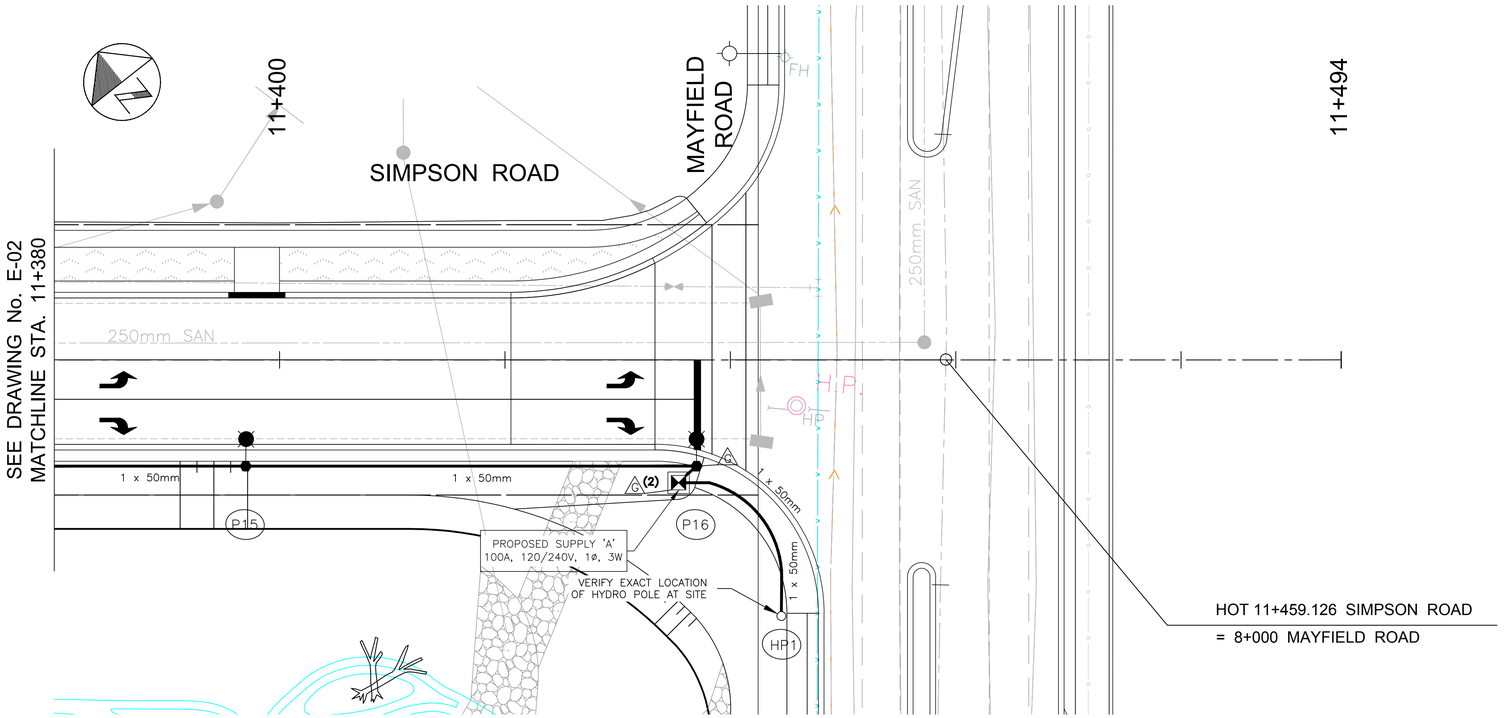
PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

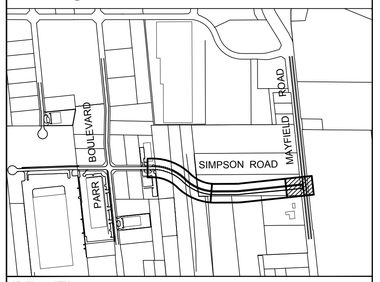
SIMPSON ROAD - SOUTH
ELECTRICAL LAYOUT
STA. 11+060 TO STA. 11+380

SCALE: 1:250		PROJECT No.
DESIGNED BY: U.P.	DRAWN BY: S.S.	DRAWING No. E-02
CHECKED BY: U.P.	DATE: 2014-05-12	



POLE TABLE		
POLE	STATION	OFFSET FROM EDGE OF PAVEMENT
P15	11+397	1.65m
P16	11+437	1.65m

KEY MAP



GENERAL NOTES

LEGEND:

- PROPOSED 9.9m (32'-5.76") OCTAGONAL SHAPE CONCRETE POLE, c/w 73 W LED LUMINAIRE WITH 2.4m (7'-10.5") BRACKET
- EP — EXISTING POLE, LUMINAIRE, BRACKET & ASSOCIATED WIRING TO BE REMOVED
- EHP — EXISTING LUMINAIRE, BRACKET & ASSOCIATED WIRING TO REMAIN
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- 50mm DIA. DIRECT BURIED RIGID PVC CONDUIT, 610mm MINIMUM BELOW FINISHED GRADE AS PER OPSD-2101.01
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- P1 — POLE IDENTIFICATION CODE FOR PROPOSED ILLUMINATION POLE
- R1 — IDENTIFICATION CODE FOR REMOVALS

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RYAN GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

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REGION OF PEEL

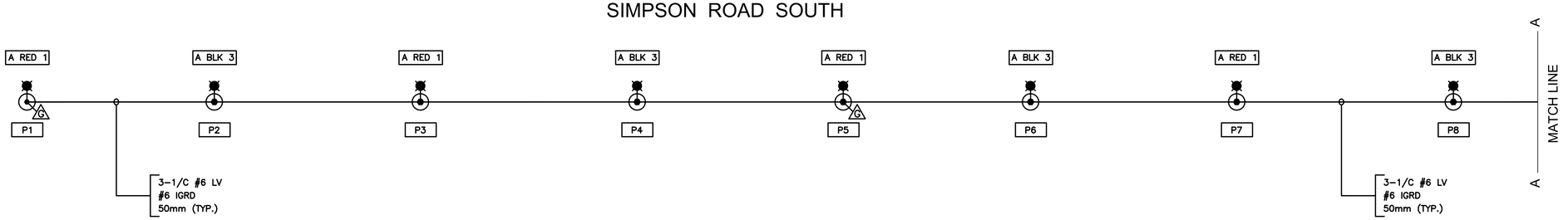
TOWN OF CALEDON

SIMPSON ROAD - SOUTH
ELECTRICAL LAYOUT
STA. 11+380 TO STA. 11+494

SCALE: 1:250		PROJECT No.
DESIGNED BY: U.P.	DRAWN BY: S.S.	DRAWING No. E-03
CHECKED BY: U.P.	DATE: 2014-05-12	

GEORGE BOLTON PARKWAY

SIMPSON ROAD SOUTH



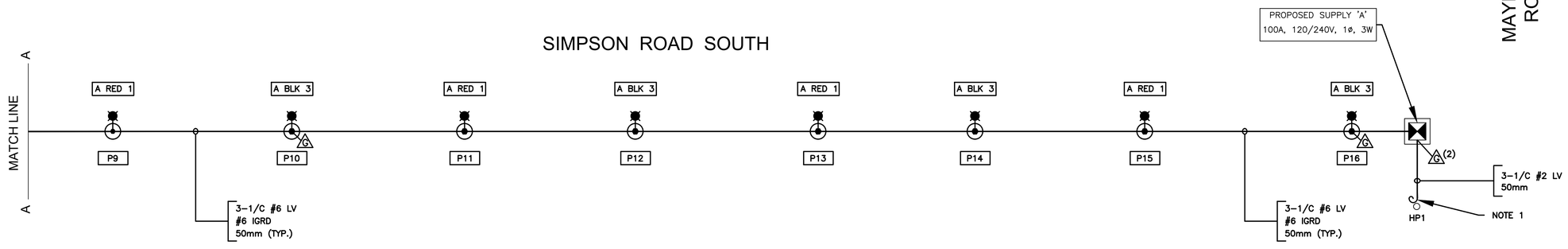
METERED POWER SUPPLY 'A' 100A, 120 /240V, 1ø PH, 3W LOAD SUMMARY									
TOTAL LOAD (W)	LOAD (W)	DESCRIPTION	BREAKER	CIRCUIT No.	CIRCUIT No.	BREAKER	DESCRIPTION	LOAD (W)	TOTAL LOAD (W)
584	8 X 73	P1, P3, P5, P7, P9, P11, P13, P15	30A	RED 1	RED 2	30A	SPARE		
584	8 X 73	P2, P4, P6, P8, P10, P12, P14, P16	30A	BLK 3	BLK 4	30A	SPARE		
				RED 5	RED 6				
				BLK 7	BLK 8				
TOTAL CONNECTED LOAD = 1,168W									

WIRING DIAGRAM NOTES:

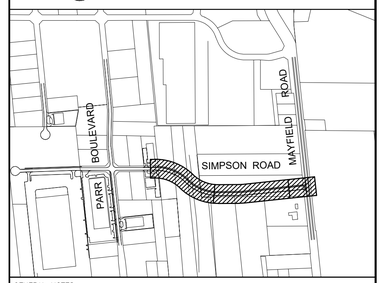
1. COIL UP SUFFICIENT LENGTH OF CABLES TO CONNECT HYDRO BY HYDRO AUTHORITY. CO-ORDINATE ALL WORKS ON HYDRO POLE WITH HYDRO AUTHORITY.
2. PROVIDE 10 AMP IN-LINE FUSE/FUSES IN HANDHOLE OF ALL LIGHTING POLES.

MAYFIELD ROAD

SIMPSON ROAD SOUTH



KEY MAP



GENERAL NOTES

LEGEND:

- PROPOSED 9.9m (32'-5.76") OCTAGONAL SHAPE CONCRETE POLE, c/w 73 W LED LUMINAIRE WITH 2.4m (7'-10.5") BRACKET
- EP — EXISTING POLE, LUMINAIRE, BRACKET & ASSOCIATED WIRING TO BE REMOVED
- EHPO — EXISTING LUMINAIRE, BRACKET & ASSOCIATED WIRING TO REMAIN
- PROPOSED SERVICE, MOUNTED ON CONCRETE PAD
- 50mm DIA. DIRECT BURIED RIGID PVC CONDUIT, 610mm MINIMUM BELOW FINISHED GRADE AS PER OPSD-2101.01
- G(2) — PROPOSED 20mm x 3m COPPER CLAD GROUND ROD WITH THERMIT, (2) INDICATES TWO GROUND RODS
- P1 — POLE IDENTIFICATION CODE FOR PROPOSED ILLUMINATION POLE
- R1 — IDENTIFICATION CODE FOR REMOVALS

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
3	U.P.	2020-01-31	ISSUED FOR TENDER		
2	U.P.	2017-07-31	90% SUBMISSION		
1	U.P.	2014-05-31	60% SUBMISSION		

BENCH MARK:

CONSULTANT

U TECH ENGINEERS INC.
60 LEGENDARY CIRCLE, BRAMPTON, ON L6Y 0S1
TEL: 905-564-8413
WEB: www.utecheng.ca

ENGINEER'S STAMP

LICENSED PROFESSIONAL ENGINEER
U. PADMANATH
100120747
Jan. 31/2020
PROVINCE OF ONTARIO

APPROVED FOR CONSTRUCTION

RYAN GRODEKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

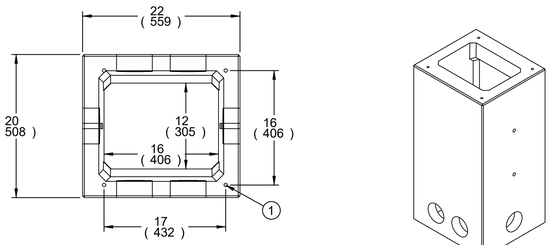
PUBLIC WORKS DEPARTMENT

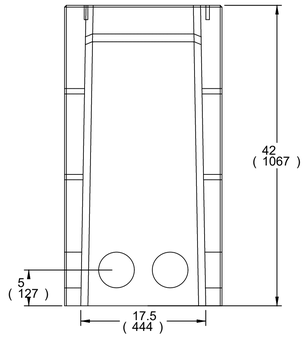
REGION OF PEEL

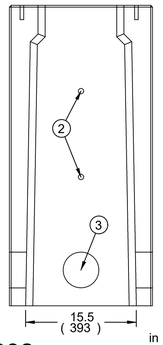
TOWN OF CALEDON

SIMPSON ROAD - SOUTH
WIRING DIAGRAM

SCALE: 1:250		PROJECT No.
DESIGNED BY: U.P.	DRAWN BY: S.S.	DRAWING No. E-04
CHECKED BY: U.P.	DATE: 2014-05-12	







in
(mm)

Call Toll Free: 1-877-269-1332

UTILICON
engineered precast structures

UP2022

PRECAST PEDESTAL FOUNDATION
FOR METERING OR STREETLIGHTING
TYPICAL USE:
Pedestal solutions inc. Model SLM

CONSTRUCTION SPECIFICATIONS

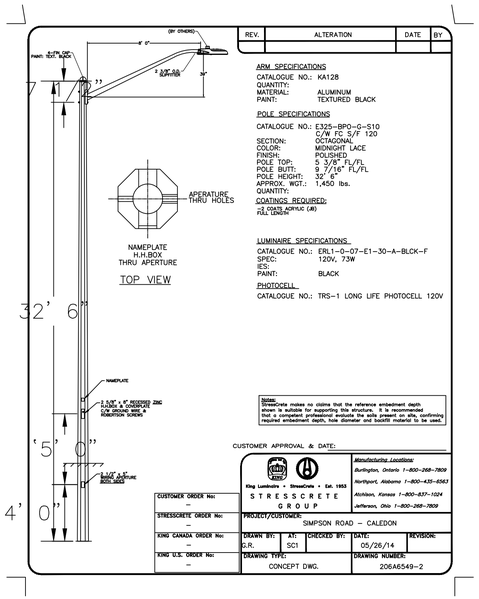
Concrete Properties: 4500 PSI (32 MPa) Min Strength
6-8% Air Entrainment

Weight - 540 lbs / 220kg (Approximate)

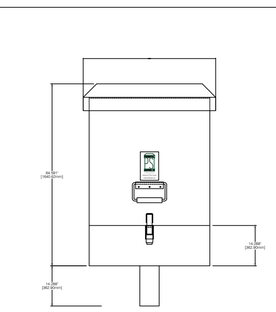
Notes:
1 - Four (4) 1/2" N.C. Nylon threaded inserts
2 - Four (4) 3/4" through holes
3 - Six (6) Cable entry PVC seals

Delivery is made by crane-equipped trucks, excavation must be ready, safe and accessible for unloading from the rear of the truck.
Min overhead clearance of 18ft is required.
ALL UNITS MUST BE HANDLED WITH PROPER LIFTING EQUIPMENT .
(I.E. SPREADER BAR)

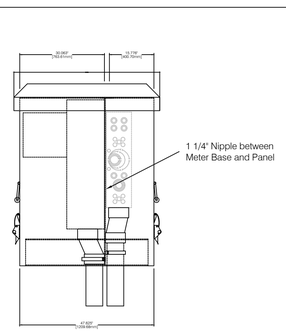
DRAWN BY: RM | July 2010



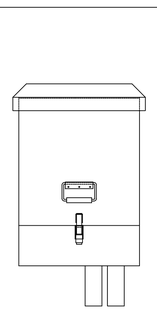
32'–6" POLE WITH LUMINAIRE & BRACKET



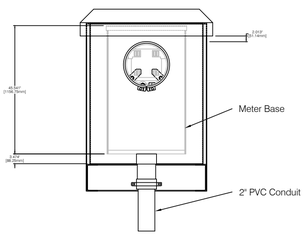
Meterbase Compartment
Outside View
with Panel in place



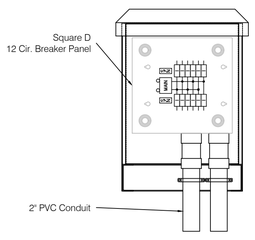
Side View



Distribution Panel Compartment
Outside View
with Panel in place



Meterbase Compartment
Outside View
with Front Panels
Removed



Distribution Panel Compartment
Outside View
with Front Panels Removed

SLM27 Enclosure with Meter

Enclosure Material:
- 14 Gauge (.083") thick zinc coated (galvanized) sheet metal

Paint Colour:
- Byers - Bush Jet Kote BB510GR Electrostatic powder coat finish

Panel:
- Square D cat. # CQO112M100C100 12 cct. 2p 3w Combination service entrance panel

Main Breaker:
- Square D cat. # QOM1-100, 100 amp 2 pole
- Wire range # 12-2 / 0 Al / Cu 22 KA rating

Load Breakers:
- Square D cat. # QO120, 30 amp 1 pole
- Wire range # 14 - # 2 / 0 Al / Cu 10 K A rating

Main Neutral Lug:
- Wire range # 4 - 2 / 0 Al / Cu

Load Neutral Lugs:
- Wire range 1 lug # 4 - 2 / 0 Al / Cu
- 3 lugs # 14 - 1 /0 Al / Cu
- 8 lugs # 14 - #6 Al / Cu

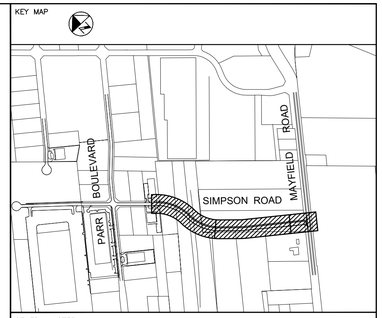
Fasteners:
- 4 - Plated hex head bolts 1 / 2 x 13 x 2" Grade 2 or better
- 4 - Plated 1 / 2" Flat washers
- 4 - Plated 1 / 2" Lock washers for mounting into concrete mounting base

PEDESTAL SOLUTIONS INC.
40 CANAL ROAD
KESWICK, ONT. L4P 1K5
TEL: 905-476-7433
FAX: 905-476-2545

TITLE: PEDESTAL SOLUTIONS INC.
27" STREET LIGHTING METERED
PEDESTAL VIEWS

DRAWN BY: RAD	PART NO.: SLM27
CHECKED BY: CB	DWG NO.: SLM27VIEWS
SCALE: NONE	
	REVISION: B
DATE: MAY 4, 2009	PAGE: 1 OF 1

KEY MAP



GENERAL NOTES

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
3	U.P.	2020-01-31	ISSUED FOR TENDER		
2	U.P.	2017-07-31	90% SUBMISSION		
1	U.P.	2014-05-31	60% SUBMISSION		

BENCH MARK:

CONSULTANT

U TECH ENGINEERS INC.
60 LEGENDARY CIRCLE,
BRAMPTON, ON L6Y 0S1
TEL: 905-564-8413
WEB: www.utecheng.ca

ENGINEER'S STAMP

LICENSED PROFESSIONAL ENGINEER
U. PADMANATH
100120747
Jan. 31/2020
PROVINCE OF ONTARIO

APPROVED FOR CONSTRUCTION

RYAN GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

PUBLIC WORKS DEPARTMENT

REGION OF PEEL

TOWN OF CALEDON

SIMPSON ROAD - SOUTH
ELECTRICAL DETAILS

SCALE: 1:250		PROJECT No.
DESIGNED BY: U.P.	DRAWN BY: S.S.	DRAWING No. E-05
CHECKED BY: U.P.	DATE: 2014-05-12	

Simpson Road South - Street Trees - Item List

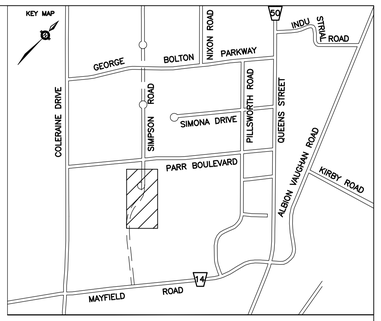
W.B = Wire Basket

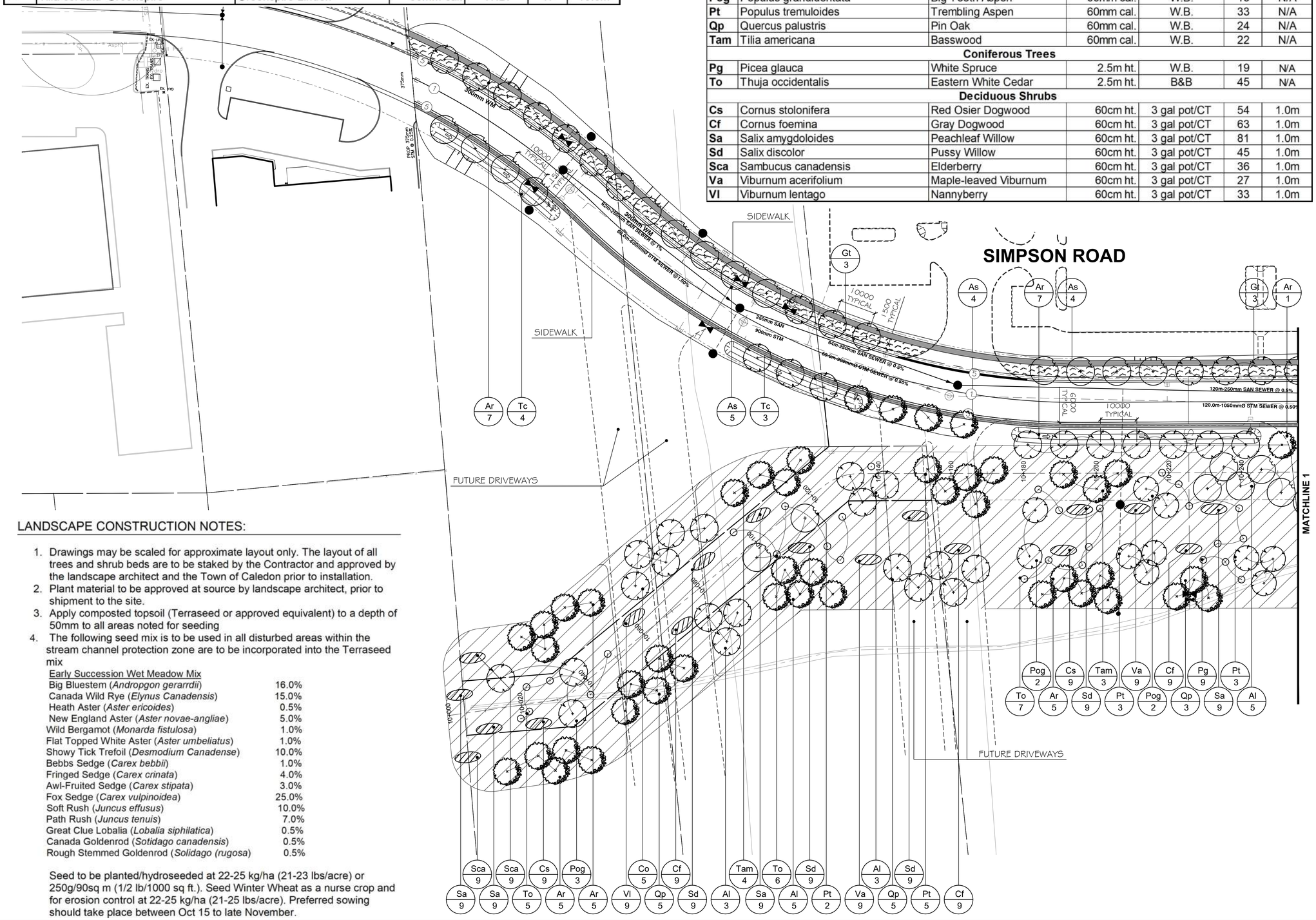
Key	Botanical Name	Common Name	Size	Root Condition	Qty	Typ. Spacing
	Deciduous Trees					
Ar	Acer rubrum 'Karpick'	Karpick Red Maple	60mm cal.	W.B.	21	10.0m
As	Acer saccharum 'Green Mountain'	Green Mountain Maple	60mm cal.	W.B.	27	10.0m
Gt	Gleditsia triacanthos 'Shademaster'	Shademaster Honeylocust	60mm cal.	W.B.	18	10.0m
Tc	Tilia cordata 'Greenspire'	Greenspire Linden	60mm cal.	W.B.	17	10.0m

Simpson Road South - Riparian Zone Planting - Item List

W.B = Wire Basket, B&B =Balled and Burlapped, CT = Container Grown

Key	Botanical Name	Common Name	Size	Root Condition	Qty	Typ. Spacing
	Deciduous Trees					
Ar	Acer rubrum	Red Maple	60mm cal.	W.B.	26	N/A
Al	Amelanchier laevis	Allegheny Serviceberry	60mm cal.	W.B.	25	N/A
Co	Celtis occidentalis	Common Hackberry	60mm cal.	W.B.	13	N/A
Pog	Populus grandidentata	Big Tooth Aspen	60mm cal.	W.B.	13	N/A
Pt	Populus tremuloides	Trembling Aspen	60mm cal.	W.B.	33	N/A
Qp	Quercus palustris	Pin Oak	60mm cal.	W.B.	24	N/A
Tam	Tilia americana	Basswood	60mm cal.	W.B.	22	N/A
	Coniferous Trees					
Pg	Picea glauca	White Spruce	2.5m ht.	W.B.	19	N/A
To	Thuja occidentalis	Eastern White Cedar	2.5m ht.	B&B	45	N/A
	Deciduous Shrubs					
Cs	Cornus stolonifera	Red Osier Dogwood	60cm ht.	3 gal pot/CT	54	1.0m
Cf	Cornus foemina	Gray Dogwood	60cm ht.	3 gal pot/CT	63	1.0m
Sa	Salix amygdoloides	Peachleaf Willow	60cm ht.	3 gal pot/CT	81	1.0m
Sd	Salix discolor	Pussy Willow	60cm ht.	3 gal pot/CT	45	1.0m
Sca	Sambucus canadensis	Elderberry	60cm ht.	3 gal pot/CT	36	1.0m
Va	Viburnum acerifolium	Maple-leaved Viburnum	60cm ht.	3 gal pot/CT	27	1.0m
Vl	Viburnum lentago	Nannyberry	60cm ht.	3 gal pot/CT	33	1.0m





LANDSCAPE CONSTRUCTION NOTES:

1. Drawings may be scaled for approximate layout only. The layout of all trees and shrub beds are to be staked by the Contractor and approved by the landscape architect and the Town of Caledon prior to installation.
2. Plant material to be approved at source by landscape architect, prior to shipment to the site.
3. Apply composted topsoil (Terraseed or approved equivalent) to a depth of 50mm to all areas noted for seeding
4. The following seed mix is to be used in all disturbed areas within the stream channel protection zone are to be incorporated into the Terraseed mix

Early Succession Wet Meadow Mix	
Big Bluestem (*Andropgon gerarrdii*)	16.0%
Canada Wild Rye (*Elynus Canadensis*)	15.0%
Heath Aster (*Aster ericoides*)	0.5%
New England Aster (*Aster novae-angliae*)	5.0%
Wild Bergamot (*Monarda fistulosa*)	1.0%
Flat Topped White Aster (*Aster umbeliatus*)	1.0%
Showy Tick Trefoil (*Desmodium Canadense*)	10.0%
Bebbs Sedge (*Carex bebbii*)	1.0%
Fringed Sedge (*Carex crinata*)	4.0%
Awl-Fruited Sedge (*Carex stipata*)	3.0%
Fox Sedge (*Carex vulpinoidea*)	25.0%
Soft Rush (*Juncus effusus*)	10.0%
Path Rush (*Juncus tenuis*)	7.0%
Great Clue Lobalia (*Lobalia siphilatica*)	0.5%
Canada Goldenrod (*Sotidago canadensis*)	0.5%
Rough Stemmed Goldenrod (*Solidago (rugosa*)	0.5%

Seed to be planted/hydroseeded at 22-25 kg/ha (21-23 lbs/acre) or 250g/90sq m (1/2 lb/1000 sq ft.). Seed Winter Wheat as a nurse crop and for erosion control at 22-25 kg/ha (21-25 lbs/acre). Preferred sowing should take place between Oct 15 to late November.

LEGEND

- MASS PLANTING SHRUB BEDS (CONTINUOUS MULCH)
- NATIVE SEED MIX (SEE CONSTRUCTION NOTES)
- RIGHT OF WAY
- PROPERTY LINE
- SOD

NO.	DESCRIPTION	DATE
3	REVISED AS PER NEW DRIVEWAY LOCATIONS	DEC. 07/20
2	REVISED AS PER TOWN OF CALEDON COMMENTS	JAN. 11/20
1	REVISED AS PER TOWN OF CALEDON COMMENTS	NOV. 22/19

JAMES McWILLIAM LANDSCAPE ARCHITECT

PROJECT

SIMPSON ROAD EXTENSION PHASE 3
BOLTON, TOWN OF CALEDON

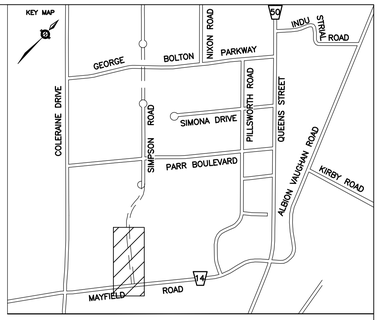
DRAWING

LANDSCAPE PLAN

NORTH

ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS JAMES S. McWILLIAM OALA MEMBER

SCALE:	1:500
DATE:	JULY 2019
DESIGN BY:	J.S.M.
DRAWN BY:	T.F.G.
SHEET:	L1



SIMPSON ROAD

MAYFIELD ROAD

NOTE:
FOR SWM POND PLANTING
SEE TOWN SPA-2019-0013

MATCHLINE 1

Ar 3 | Gt 4 | Tc 6 | Ar 6 | As 7 | Gt 4 | Tc 4 | Ar 4 | As 7 | Gt 4

SIDEWALK

10000 TYPICAL | 1500 TYPICAL

300mm WM
82m-250mm SAN SEWER @ 0.50%
100m-250mm SAN
30.0m-1200mmØ STM SEWER @ 0.30%
100m-250mm SAN SEWER @ 0.50%
60m 900x1800 mm BOX STM SEWER @ 0.15%
112m-250mm SAN SEWER @ 0.50%
87m-250mm SAN SEWER @ 0.60%

10+280 | 10+300 | 10+320 | 10+340 | 10+360 | 10+380 | 10+400 | 10+420 | 10+440 | 10+460 | 10+480 | 10+500 | 10+520 | 10+540 | 10+560 | 10+580 | 10+590.42

Sd 9	Qp 3	Cs 9	Sa 9	Tam 3	Pt 6	Co 5	To 6	Sd 9	Sca 9	Ar 4	Pog 3	Pg 7	Caf 9	To 6	Sca 9	Tam 4	Pt 6	Vl 9	Co 3	Vl 15	Qp 3	Al 3	Pt 5	Cs 9	To 7	Caf 9	Al 3	Cs 9	Ar 3	Pt 5	Sa 9	Qp 5	Va 9	Tam 5	Pg 5	Caf 9	Ar 4	Pg 3	Al 5	Sa 9	Cs 9	To 8	Cf 9	Tam 3	Pog 3	Sa 9	Sa 9

FUTURE DRIVEWAYS

FUTURE DRIVEWAYS

LEGEND

- MASS PLANTING SHRUB BEDS (CONTINUOUS MULCH)
- NATIVE SEED MIX (SEE CONSTRUCTION NOTES)
- RIGHT OF WAY
- PROPERTY LINE
- SOD

NO.	DESCRIPTION	DATE
3	REVISED AS PER NEW DRIVEWAY LOCATIONS	DEC. 07/20
2	REVISED AS PER TOWN OF CALEDON COMMENTS	JAN. 11/20
1	REVISED AS PER TOWN OF CALEDON COMMENTS	NOV. 22/19

JAMES McWILLIAM
LANDSCAPE ARCHITECT

PROJECT

SIMPSON ROAD EXTENSION
PHASE 3
BOLTON, TOWN OF CALEDON

DRAWING

LANDSCAPE PLAN

NORTH

ASSOCIATION OF LANDSCAPE ARCHITECTS ONTARIO
JAMES S. McWILLIAM
OALA
MEMBER

SCALE:	1:500
DATE:	JULY 2019
DESIGN BY:	J.S.M.
DRAWN BY:	T.F.G.
SHEET:	L2

GENERAL NOTES - LANDSCAPING

NOTE 1
DEPICTED ON THIS PLAN ARE THE SPECIES AND THE APPROXIMATE LOCATION OF STREET TREE. ONCE DRIVEWAYS, UTILITIES AND LIGHT STANDARDS HAVE BEEN INSTALLED, THE EXACT LOCATION OF STREET TREES WILL BE DETERMINED ON SITE BY THE LANDSCAPE CONSULTANT AND APPROVED BY THE MUNICIPALITY PRIOR TO PLANTING.

NOTE 2
MINIMUM CLEARANCES FOR STREET TREES (WHEN TREES ARE PLANTED 1.5M FROM THE CURB):

2M	FROM WATER HYDRANTS
2M	FROM DRIVEWAYS
2M	FROM NEIGHBOURHOOD MAILBOXES
3M	FROM HYDRO TRANSFORMERS
5M	FROM STREETLIGHTS
15M	MINIMUM FROM STREET LINE (STREET INTERSECTION AS MEASURED FROM BACK OF CURB) AND BEHIND THE DAYLIGHT TRIANGLE AS PER THE GEOMETRIC DESIGN STANDARDS FOR ONTARIO HIGHWAYS
18M	FROM FACE OF ALL WARNING AND REGULATORY SIGNS

NOTE 3
THE TREE PITS AND PLANTING BEDS FOR ALL TREES AND SHRUBS LOCATED WITHIN 1 METRE OF UNDERGROUND UTILITIES ARE TO BE HAND DUG.

TOWN OF CALEDON					APR'D: C.C.	DATE: APRIL 2000
GENERAL LANDSCAPING NOTES	2	TEXT REVISION, STD103 NOW 700		JAN 18	DRAWN: BJM	SCALE: NTS
	1	STANDARD No. 130 NOW 103		JUNE 08	STANDARD No. 700	
	NO.	REVISION	APR'D	DATE		

SPECIFICATIONS continued from previous panel

ii) Replacement plant material and repaired work shall be guaranteed for a minimum **TWO** (2) years from the date of replacement, and will not be granted final acceptance until the guarantee has expired or as otherwise determined by Town Staff.

G. MAINTENANCE

i) The maintenance of all landscape installations throughout the guarantee period shall include but not limited to the following:

1) proper irrigation to ensure optimum growth of trees and shrubs,
2) cultivation and weeding of tree pits and planting beds,
3) insect and disease control, and
4) pruning and fertilizing, as required or as directed by the Municipality or Consulting Landscape Architect.
5) replace all dead plant materials as identified by the Municipality.

H. CERTIFICATE OF ASSUMPTION

i) At the end of the guarantee period, the Contractor shall remove all tree stakes, and bark wrap, and shall add extra mulch where necessary. And/Or additional items as directed by the Municipality.

ii) When these final tasks have been completed, the Consulting Landscape Architect will provide the Town with all items as outlined in the Development Standards. All landscape work will then be inspected by the Municipality and, if satisfied that all work has been completed in accordance with the approved landscape plans, will issue a Certificate of Assumption and release any outstanding funds.

end of specifications

I. Additional Notes:

Refer to the most recent version of the Development standards for any additional requirements and submission items.

TOWN OF CALEDON					APR'D: C.C.	DATE: JUNE 08
STREETSCAPE SPECIFICATIONS STANDARD NOTES PART 3	2	STANDARD No. 714 NOW 703		JAN 18	DRAWN: abal	SCALE: NTS
	1	STANDARD No. 1170.03 NOW 714		JUNE 08	STANDARD No. 703	
	NO.	REVISION	APR'D	DATE		

SPECIFICATIONS continued from previous panel

G. INTERIM ACCEPTANCE

i) One year after Preliminary Acceptance is granted by the Town, the Consulting Landscape Architect shall submit a Certificate of Completion for Interim Acceptance to the Town of Caledon certifying that all maintenance requirements as outlined in Section G and in accordance with the approved plans have been completed.

ii) Upon the receipt of the Certification of Completion, Town Staff will conduct an interim inspection of the site and, provided the works are in satisfactory condition, will grant Interim Acceptance of the landscaping.

H. GUARANTEE

i) All naturalized landscaping shall carry a guarantee/maintenance of **THREE** (3) years, commencing from the date that preliminary acceptance is granted by the Municipality. The Owner shall provide the Municipality with a copy of the maintenance agreement between the Owner and the Contractor. In each of the next three summers, the consulting Landscape Architect shall conduct an inspection and prepare a report, recommending the replacements and/or works needed to achieve the intent of the approved landscape plan. The Landscape Architect shall file a copy of the report with the Municipality. Replacement plant material shall be guaranteed for a period of time determined by the Municipality.

I. MAINTENANCE

i) The maintenance of all landscape installations throughout the guarantee period shall include but not be limited to the following:

1) applying appropriate fertilizer to promote growth,
2) pruning dead or diseased tissue,
3) removing dead plant material,
4) replacing dead coniferous naturalization species to maintain a minimum live-stocking standard of 90%,
5) replacing dead deciduous and shrub naturalization species to maintain a minimum live-stocking standard of 90%, and
6) suppressing weed growth around newly planted trees and shrubs by adding more mulch and/or removing weeds by hand, *not* by cutting the weeds down with power trimmers.

J. CERTIFICATE OF ASSUMPTION

i) At the end of the guarantee period, the Contractor shall remove all tree stakes, rodent guards, and bark wrap, and shall add extra mulch where necessary. Additional items my be included as directed by the municipality.

ii) When these final tasks have been completed, and all items as outlined in the Development Standards have been submitted, all landscape work will be inspected by the Municipality. If satisfied that all work has been completed in accordance with the approved landscape plans, the Municipality will issue a Certificate of Assumption and release any outstanding funds.

end of specifications

K. ADDITIONAL NOTES

Refer to the most recent version of the Development Standards for any additional requirement and submission items.

TOWN OF CALEDON					APR'D: C.C.	DATE: JUNE 08
NATURALIZATION SPECIFICATIONS STANDARD NOTES PART 3	2	STANDARD No. 717 NOW 706		JAN 18	DRAWN: abal	SCALE: NTS
	1	STANDARD No. 1175.03 NOW 717		JUNE 08	STANDARD No. 706	
	NO.	REVISION	APR'D	DATE		

SPECIFICATIONS

A. GENERAL

i) These Specifications are to be read in conjunction with the General Conditions of the contract, as prepared by and available at the offices of McWILLIAM & ASSOCIATES .

ii) Prior to commencing work, the Contractor shall:
1. Become familiar with the plans, details, and specifications of this project,
2. Visit the site to ascertain and take account of existing conditions and any deviations from the plans in work by others, and
3. Finalize all design alternatives in consultation with the Landscape Architect.

iii) Prior to excavating, the Contractor shall verify the location of all underground utilities. In the event of a conflict between a proposed tree location and an underground service, the exact location of the tree shall be determined on site by the landscape architect and/or the Town's representative.

iv) The Contractor shall, at his or her own expense, repair any damage to existing utilities, structures, facilities, etc. done in the performance of his work.

v) All site work shall conform to the *Canadian National Master Construction Specifications*, a copy of which can be obtained from Construction Specifications Canada, 100 Lombard St., Suite 200, Toronto, Ontario M5C 1M3; Tel. (416) 777-2198; Fax (416) 777-2197. It is the responsibility of the Contractor to be thoroughly familiar with these specifications and their implications for this project.

B. PLANT MATERIAL

i) All plants shall be installed true to specified names, sizes, grades, etc., and shall conform to the standards of the Canadian Nursery Landscapes Association.

ii) All plants shall be nursery grown in a hardiness zone appropriate to site conditions, as published by Agriculture Canada, titled 'Map of Plant Hardiness Zones in Canada' .

iii) In the event of a discrepancy in plant quantity between the Planting Plan and the Plant List, the Planting Plan shall govern.

iv) The Contractor shall make plants available for inspection by the Landscape Architect and/or the Town's representative prior to shipping to the site. This does not limit the right of the Landscape Architect and/or the Town's representative to later reject plant material that is of poor quality, damaged during shipping or installation, performing poorly while the guarantee period is still in effect, or otherwise does not conform to the specifications.

v) Plant substitutions must be approved in writing by the Town and the Landscape Architect prior to delivery of the material to the site. All substitutions shall be recorded on the as-recorded drawings and planting chart.

vi) The Contractor shall use standard industry methods for planting trees and shrubs. Trees shall be turned to give the best appearance; they shall also be guyed or staked immediately after planting and as detailed on the drawings.

specifications continued on next panel . . .

TOWN OF CALEDON					APR'D: C.C.	DATE: JUNE 08
STREETSCAPE SPECIFICATIONS STANDARD NOTES PART 1	3	STANDARD No. 712 NOW 701		JUNE 08	DRAWN: abal	SCALE: NTS
	2	STANDARD No. 1170.01 NOW 712		JUNE 08	STANDARD No. 701	
	1	CHANGES TO NOTES VI & VII.		MARCH 08		
	NO.	REVISION	APR'D	DATE		

SPECIFICATIONS

A. GENERAL

i) These Specifications are to be read in conjunction with the General Conditions of the contract, as prepared by and available at the offices of McWILLIAM & ASSOCIATES .

ii) Prior to commencing work, the Contractor shall:
1. Become familiar with the plans, details, and specifications of this project,
2. Visit the site to ascertain and take account of existing conditions and any deviations from the plans in work by others, and
3. Finalize all design alternatives in consultation with the Consulting Landscape Architect.

iii) Prior to excavating, the Contractor shall verify the location of all underground utilities. In the event of a conflict between a proposed tree location and an underground service, the exact location of the tree shall be determined on site by the Consulting Landscape Architect and/or the Town's representative.

iv) The Contractor shall, at his or her own expense, repair any damage to existing utilities, structures, facilities, etc. done in the performance of his work.

v) All site work shall conform to the *Canadian National Master Construction Specifications*, a copy of which can be obtained from Construction Specifications Canada, 31 Adelaide Street East P.O Box 36, Toronto M5C 2H8; Tel: 1-844-427-2867; Email: admin@csctoronto.ca. It is the responsibility of the Contractor to be thoroughly familiar with these specifications and their implications for this project.

B. PLANT MATERIAL

i) All plants shall be installed true to specified names, sizes, grades, etc., and shall conform to the standards of the Canadian Nursery Landscapes Association.

ii) All plants shall be nursery grown and sourced from a hardiness zone appropriate to site conditions, as published by Agriculture Canada, titled 'Map of Plant Hardiness Zones in Canada'.

iii) In the event of a discrepancy in plant quantity between the Planting Plan and the Plant List, the Planting Plan shall govern.

iv) The Contractor shall make plants available for inspection by the Consulting Landscape Architect and/or the Town's representative prior to shipping to the site. This does not limit the right of the Consulting Landscape Architect and/or the Town's representative to later reject plant material that is of poor quality, damaged during shipping or installation, performing poorly while the guarantee period is still in effect, or otherwise does not conform to the specifications.

v) Plant substitutions must be approved in writing by the Town and the Consulting Landscape Architect prior to delivery of the material to the site. All substitutions shall be recorded on the as-recorded drawings and planting chart.

vi) The Contractor shall use standard industry methods for planting trees and shrubs. Trees shall be turned to give the best appearance if adjacent to streets or pathways. They shall also be guyed or staked immediately after planting and as detailed on the drawings.

specifications continued on next panel . . .

TOWN OF CALEDON					APR'D: C.C.	DATE: JUNE 08
NATURALIZATION SPECIFICATIONS STANDARD NOTES PART 1	2	STANDARD No. 715 NOW 704		JUNE 18	DRAWN: abal	SCALE: NTS
	1	NOTES EDIT., STANDARD No. 1175.01 NOW 715		JUNE 08	STANDARD No. 704	
	NO.	REVISION	APR'D	DATE		

SPECIFICATIONS continued from previous panel

C. BED PREPARATION

i) The Contractor shall scarify the sides and bottom of excavated tree pits and shrub beds prior to backfilling, in areas with heavy clay soils, tree and planting beds shall be backfilled to the specified depths with:

2 Parts "triple mix," delivered to the site, to be well-mixed with . . .
1 Part local topsoil (viz., subdivision topsoil that has been removed and stockpiled.) If topsoil is unavailable, topsoil with clay content shall be imported and mixed with triple mix.

ii) Tree pits shall be constructed with saucers and mulch as detailed.

D. PRELIMINARY ACCEPTANCE

i) When landscaping is completed, the Consulting Landscape Architect shall submit a Certificate of Completion for preliminary acceptance to the Town of Caledon certifying that all landscape works have been 100% completed in accordance with the approved plans.

ii) The Consulting Landscape Architect shall prepare a Summary Chart, indicating the plant species, quantity, location, planting date(s), and any other relevant information, as requested by the Municipality.

iii) Upon receipt of the Certificate of Completion,Town Staff will conduct a preliminary inspection of the site and, provided that the works are in satisfactory condition, will grant preliminary acceptance of the landscaping.

E. INTERIM ACCEPTANCE

i) One year after Preliminary Acceptance is granted by the Town, the Consulting Landscape Architect shall submit a Certificate of Completion for Interim Acceptance to the Town of Caledon certifying that all maintenance requirements as outlined in Section I and in accordance with the approved plans have been completed.

ii) The Consulting Landscape Architect shall update the Summary Chart, indicating any modifications to approved substitutions, maintenance information, and any other relevant information as requested by the Municipality.

iii) Upon the receipt of the Certification of Completion, Town Staff will conduct an interim inspection of the site and, provided the works are in satisfactory condition, will grant Interim Acceptance of the landscaping.

F. GUARANTEE

i) All streetscape landscaping shall carry a guarantee/maintenance of **TWO** (2) years, commencing from the date that written preliminary acceptance is granted by the Town of Caledon. In each of the next two years, the Consulting Landscape Architect shall conduct an inspection and prepare a report, recommending the replacements and/or works needed to achieve the intent of the approved landscape plan. All replacements shall be recorded in the inspection Summary Chart. The Consulting Landscape Architect shall file a copy of the report and/or Summary Chart with the Municipality.

specifications continue on next panel . . .

TOWN OF CALEDON					APR'D: C.C.	DATE: JUNE 08
STREETSCAPE SPECIFICATIONS STANDARD NOTES PART 2	2	STANDARD No. 713 NOW 702		JAN 18	DRAWN: abal	SCALE: NTS
	1	STANDARD No. 1170.02 NOW 713		JUNE 08	STANDARD No. 702	
	NO.	REVISION	APR'D	DATE		

SPECIFICATIONS continued from previous panel

C. BED PREPARATION

i) The Contractor shall scarify the sides and bottom of excavated tree pits and shrub beds prior to backfilling. Due to the heavy clay soil in the Bolton area, tree and planting beds shall be backfilled to the specified depths with:

2 Parts "triple mix," delivered to the site, to be well-mixed with . . .
1 Part local topsoil (viz., subdivision topsoil that has been removed and stockpiled.) If topsoil is unavailable, topsoil with clay content shall be imported and mixed with triple mix.

ii) Tree pits shall be constructed with saucers and mulch as detailed.

D. TOPSOIL AND FINE GRADING

i) The Contractor shall place 100mm of rich topsoil on approved subgrades. Topsoil shall be imported when insufficient amounts are available on site.

ii) Minor grade deficiencies and irregularities shall be eliminated prior to seeding.

E. HYDROSEEDING

i) The Contractor shall apply 2280 kg/ha fibre mulch over the newly seeded area to form a uniform, blotter-like ground cover that allows the absorption and percolation of water.

ii) The area seeded in a single day shall not exceed the area that can be mulched that same day.

iii) The Contractor shall apply the specified seed mixture using accepted industry methods for hydroseeding and at rates recommended by the seed supplier. The type and rate of fertilizer application shall be as recommended in the topsoil test report for the particular area being seeded.

F. PRELIMINARY ACCEPTANCE

i) When landscaping is completed, the Consulting Landscape Architect shall submit a Certificate of Completion for Preliminary Acceptance to the Town of Caledon certifying that all landscape works have been completed in accordance with the approved plans.

ii) Upon receipt of the Certificate of Completion, the Town Staff will conduct a preliminary inspection of the site and, provided that the works are in satisfactory condition, will grant preliminary acceptance of the landscaping.

specifications continued on next panel . . .

TOWN OF CALEDON					APR'D: C.C.	DATE: JUNE 08
NATURALIZATION SPECIFICATIONS STANDARD NOTES PART 2	2	STANDARD No. 716 NOW 705		APR 19	DRAWN: abal	SCALE: NTS
	1	STANDARD No. 1175.02 NOW 716		JUNE 08	STANDARD No. 705	
	NO.	REVISION	APR'D	DATE		

NO.	DESCRIPTION	DATE
3	REVISED AS PER NEW DRIVEWAY LOCATIONS	DEC. 07/20
2	REVISED AS PER TOWN OF CALEDON COMMENTS	JAN. 11/20
1	REVISED AS PER TOWN OF CALEDON COMMENTS	NOV. 22/19

JAMES McWILLIAM
LANDSCAPE ARCHITECT

PROJECT

SIMPSON ROAD EXTENSION
PHASE 3
BOLTON, TOWN OF CALEDON

DRAWING

LANDSCAPE DETAILS

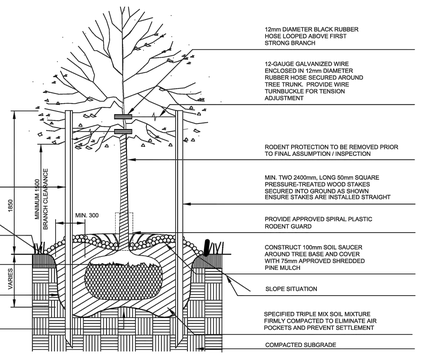
NORTH

ASSOCIATION OF LANDSCAPE ARCHITECTS ONTARIO — JAMES S. McWILLIAM — OALA MEMBER

SCALE:	AS NOTED
DATE:	JULY 2019
DESIGN BY:	J.S.M.
DRAWN BY:	T.F.G.
SHEET:	L3

NOTES:

1. WILTPROOF IN NURSERY PRIOR TO DELIVERY.
2. PRUNING SHALL BE LIMITED TO DEAD, DISEASED OR BROKEN BRANCHES AFTER PLANTING. MAINTAIN ORIGINAL SHAPE OF THE TREE. DO NOT TRIM LEADER BRANCH.
3. SET TOP OF ROOT BALL 75-100mm HIGHER THAN ADJACENT FINISHED GRADE TO ALLOW FOR SETTLEMENT.



12mm DIAMETER BLACK RUBBER HOSE LOOPED ABOVE FIRST STRONG BRANCH

12-GAUGE GALVANIZED WIRE ENCLOSED IN 12mm DIAMETER RUBBER HOSE SECURED AROUND TREE TRUNK. PROVIDE WIRE TURNBUCKLE FOR TENSION ADJUSTMENT

RODENT PROTECTION TO BE REMOVED PRIOR TO FINAL ASSUMPTION / INSPECTION

SET TREE STAKES JUST INSIDE TREE PIT AS SHOWN

MIN. TWO 2400mm, LONG 50mm SQUARE PRESSURE-TREATED WOOD STAKES SECURED INTO GROUND AS SHOWN ENSURE STAKES ARE INSTALLED STRAIGHT

SLOPE SITUATION

PROVIDE APPROVED SPIRAL PLASTIC RODENT GUARD

FINISHED GRADE

CUT AND REMOVE TOP 1/3 OF BURLAP FROM ROOTBALL, INCLUDING ALL TIE ROPE AND WIRE

CONSTRUCT 100mm SOIL SAUCER AROUND TREE BASE AND COVER WITH 75mm APPROVED SHREDDED PINE MULCH

SCARIFY, LOOSEN, AND IRRIGATE THE INSIDE OF THE TREE PIT PRIOR TO PLANTING

SLOPE SITUATION

PROVIDE 75mm SOIL MOUND AT BASE OF PIT AS SHOWN

SPECIFIED TRIPLE MIX SOIL MIXTURE FIRMLY COMPACTED TO ELIMINATE AIR POCKETS AND PREVENT SETTLEMENT

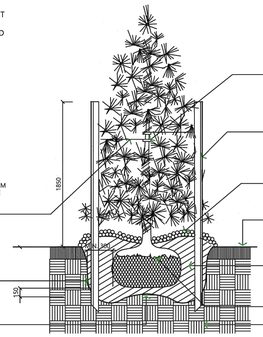
COMPACTED SUBGRADE

NTS

TOWN OF CALEDON						APR'D: B.B.	DATE: JUNE 08
DECIDUOUS TREE PLANTING	2	STANDARD No. 700 NOW 800		JAN 18		DRAWN: abal	SCALE: NTS
	1	STANDARD No. 1100 NOW 700		JUNE 08		STANDARD No. 800	
	NO.	REVISION	APR'D	DATE			

NOTES:

1. TREE SHALL BE MEASURED TO HEIGHT OF LAST YEAR'S GROWTH.
2. PRUNING SHALL BE LIMITED TO DEAD OR BROKEN BRANCHES AFTER PLANTING. MAINTAIN ORIGINAL SHAPE OF TREE. DO NOT TRIM LEADER BRANCH.
3. SET TREE 75-100mm HIGHER THAN ADJACENT FINISHED GRADE TO ALLOW FOR SETTLEMENT.



12MM DIAMETER BLACK RUBBER HOSE

TWO 2400MM LONG 50MM SQUARE PRESSURE-TREATED WOOD STAKES SECURED INTO GROUND AS SHOWN

CONSTRUCT 100mm SOIL SAUCER AROUND TREE BASE AND COVER WITH 75mm APPROVED SHREDDED WOOD MULCH

12-GAUGE GALVANIZED WIRE ENCLOSED IN 12MM DIAMETER RUBBER HOSE SECURED AROUND THE TREE TRUNK. PROVIDE WIRE TURNBUCKLE FOR TENSION ADJUSTMENT

FINISHED GRADE

SCARIFY, LOOSEN, IRRIGATE AND FERTILIZE THE INSIDE OF THE TREE PIT PRIOR TO PLANTING

SPECIFIED SOIL MIXTURE FIRMLY COMPACTED TO ELIMINATE AIR POCKETS AND PREVENT SETTLEMENT

CUT AND REMOVE TOP 1/3 OF BURLAP FROM ROOTBALL, INCLUDING ALL TIE ROPE AND WIRE

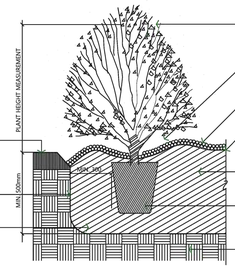
PROVIDE 75mm SOIL MOUND AT BASE OF PIT AS SHOWN

COMPACTED SUBGRADE

TOWN OF CALEDON						APR'D: C.C.	DATE: JUNE 08
CONIFEROUS TREE PLANTING	2	STANDARD No. 701 NOW 801		APR 19		DRAWN: ABAL	SCALE: NTS
	1	STANDARD No. 1105 NOW 701		JUNE 08		STANDARD No. 801	
	NO.	REVISION	APR'D	DATE			

NOTES:

1. SHRUB HEIGHT SHALL BE MEASURED FROM FINISHED GRADE TO UPPER MAIN MASS OF SHRUB BRANCHES.
2. SHRUBS PLANTED IN GROUPS SHALL BE SET IN CONTINUOUS BEDS AS SHOWN ON PLAN.
3. SET SHRUBS 50mm HIGHER THAN ADJACENT FINISHED GRADE TO ALLOW FOR SETTLEMENT.
4. PLANTING METHOD ILLUSTRATED APPLIES EQUALLY TO BARE ROOT, POTTED, OR B&B NURSERY STOCK.



PRUNING SHALL BE LIMITED TO DEAD OR BROKEN BRANCHES AFTER PLANTING. MAINTAIN ORIGINAL SHAPE OF SHRUB. DO NOT TRIM LEADER BRANCH.

DO NOT PLACE MULCH WITHIN 50MM FROM SHRUB BASE

CONSTRUCT 100mm SOIL SAUCER AROUND TREE BASE AND COVER WITH 75mm APPROVED SHREDDED WOOD MULCH OVER ENTIRE BED AREA

FINISHED GRADE

BIODEGRADABLE WEED BARRIER TO BE APPROVED BY TOWN STAFF PRIOR TO INSTALLATION

SCARIFY, LOOSEN, IRRIGATE AND FERTILIZE THE INSIDE OF THE SHRUB BED PRIOR TO PLANTING

SPECIFIED SOIL MIXTURE FIRMLY COMPACTED TO ELIMINATE AIR POCKETS AND PREVENT SETTLEMENT

EXCAVATE AND PREPARE PLANTING BED TO MINIMUM 500mm DEPTH AS SPECIFIED

REMOVE NURSERY POTS OR WRAP PRIOR TO PLANTING

COMPACTED SUBGRADE

TOWN OF CALEDON						APR'D: C.C.	DATE: JUNE 08
SHRUB PLANTING	3	STANDARD No. 702 NOW 802		APR 19		DRAWN: abal	SCALE: NTS
	2	STANDARD No. 1110 NOW 702		JUNE 08		STANDARD No. 802	
	1	WEED BARRIER ADDED		MARCH 08			
	NO.	REVISION	APR'D	DATE			

NO.	DESCRIPTION	DATE
3	REVISED AS PER NEW DRIVEWAY LOCATIONS	DEC. 07/20
2	REVISED AS PER TOWN OF CALEDON COMMENTS	JAN. 11/20
1	REVISED AS PER TOWN OF CALEDON COMMENTS	NOV. 22/19

JAMES McWILLIAM
LANDSCAPE ARCHITECT

PROJECT

SIMPSON ROAD EXTENSION
PHASE 3
BOLTON, TOWN OF CALEDON

DRAWING

LANDSCAPE DETAILS

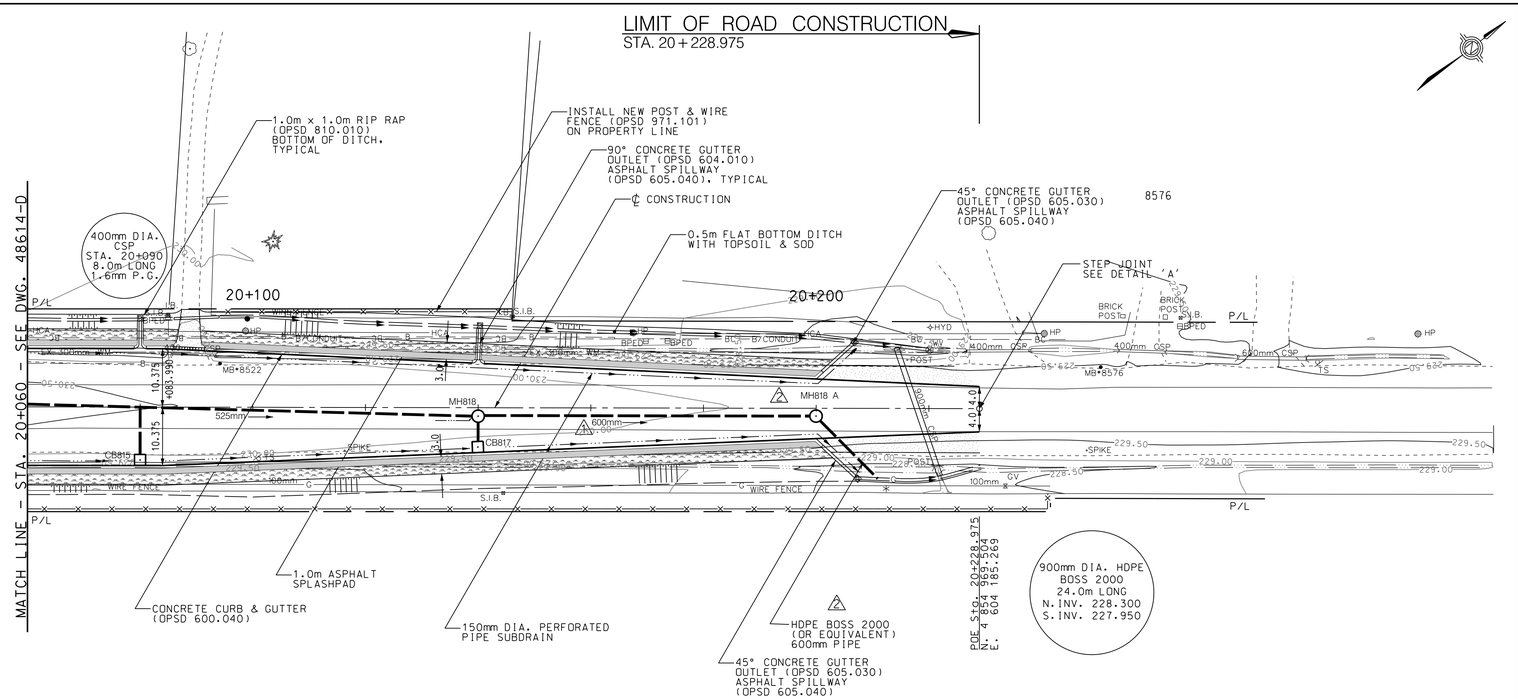
NORTH

ASSOCIATION OF LANDSCAPE ARCHITECTS ONTARIO
JAMES S. McWILLIAM
OALA
MEMBER

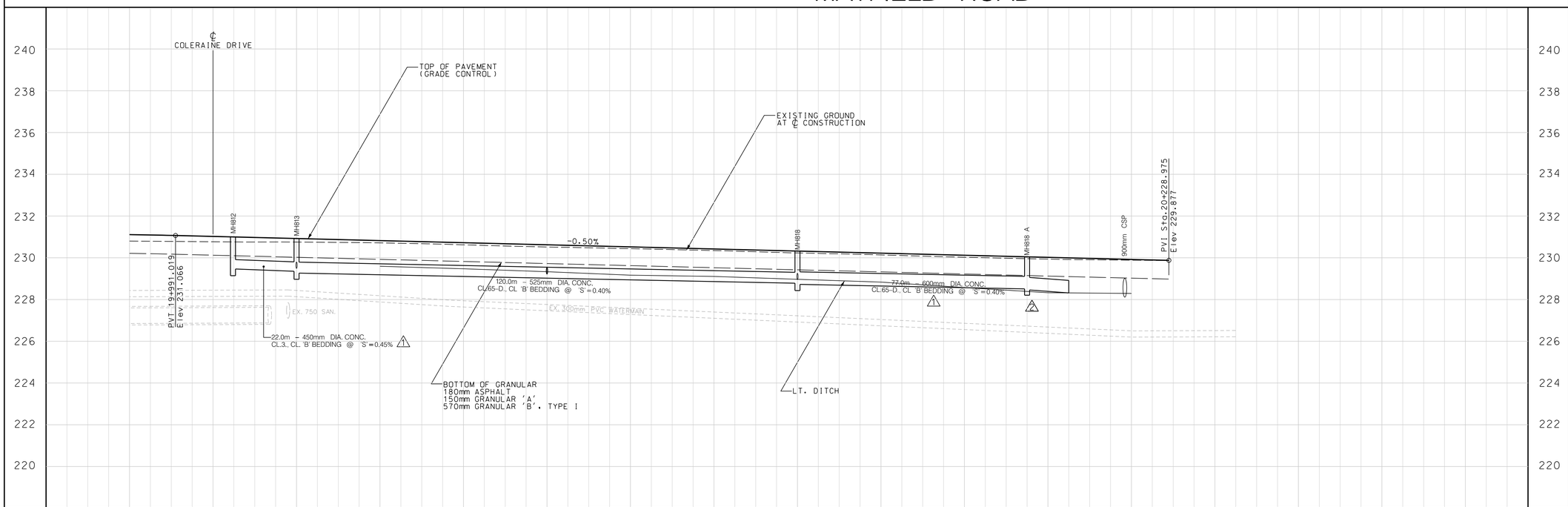
SCALE:	AS NOTED
DATE:	JULY 2019
DESIGN BY:	J.S.M.
DRAWN BY:	T.F.G.
SHEET:	L4

DISCLAIMER

These records are based upon available and unverified information and may prove inaccurate. The Region of Peel disclaims any responsibility should these records be relied upon to the detriment of any person.



MAYFIELD ROAD

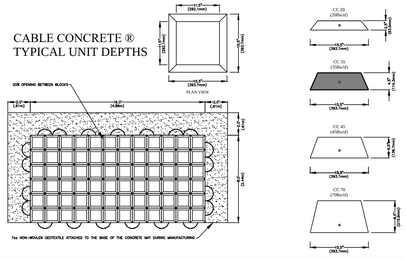


| | | |

TOTAL POND BLOCK AREA	1.12ha

DESCRIPTION	PROVIDED STORAGE	REQUIRED STORAGE
PERMANENT POOL EL.227.15–229.00	3,680m^3	3,550m^3
EROSION CONTROL EL.229.00–229.75	3,800m^3	3,582m^3
2YR. W.L. EL.229.00–229.95	4,850m^3	4,850m^3
5YR. W.L. EL.229.00–230.15	5,850m^3	5,638m^3
10YR. W.L. EL.229.00–230.25	6,350m^3	6,198m^3
25YR. W.L. EL.229.00–230.40	7,150m^3	7,105m^3
50YR. W.L. EL.229.00–230.55	7,900m^3	7,739m^3
100YR. W.L. EL.229.00–230.85	10,550m^3	8,628m^3

CABLE CONCRETE ® TYPICAL UNIT DEPTHS



IECS — INTERNATIONAL EROSION CONTROL SYSTEMS
22253 Haskins Line, Bradney, ON, N0L 1C0 — Phone: 800-821-7462, Fax:866-496-1990 — www.iecs.com

CABLE CONCRETE ® TYPICAL UNIT DEPTHS

DRAWN BY: D. J — CHECKED BY: L.A — SCALE: N.T.S — DATE: 10/21/13 — SHEET 1 OF 1

STORM MANHOLES, DICBs, HEADWALLS

NAME	ELEVATION	SIZE	SPECIFICATION
CTL.MH–9	T/G = 231.35 SW INV IN = 229.43 NE INV OUT = 229.40 SE INV OUT = 228.65	3600x2400mm	
10	T/G = 231.35 SW INV IN = 229.15 NW INV IN = 229.04 SE INV OUT = 229.02	3000x3000mm	
CTL.MH–11	T/G = 231.35 N INV IN = 227.02 N INV IN = 229.00 N INV IN = 229.27 NE INV IN = 229.30 NW INV IN = 229.31 S INV OUT = 228.76	1800mm	OPSD 701.012
12	T/G = 230.70 N INV IN = 228.68 SE INV OUT = 228.60	1500mm	OPSD 701.011
13 (TO BE MODIFIED AND COORDINATED AT THE TIME OF MAYFIELD ROAD WIDENING WORKS)	T/G = 231.02 NW INV IN = 228.52 SW INV OUT = 228.47	1800mm	OPSD 701.012
14 (TO BE MODIFIED AND COORDINATED AT THE TIME OF MAYFIELD ROAD WIDENING WORKS)	T/G = 230.85 NE INV IN = 228.37 S INV OUT = 228.32	1800mm	OPSD 701.012
15 (TO BE CONSTRUCTED AND COORDINATED AT THE TIME OF MAYFIELD ROAD WIDENING WORKS)	T/G = 230.70 N INV = 228.24 NE INV = 228.30 S INV = 228.16	1800mm	OPSD 701.012
16	T/G = 229.60 NE INV = 227.28 S INV = 227.23	1200mm	OPSD 701.010

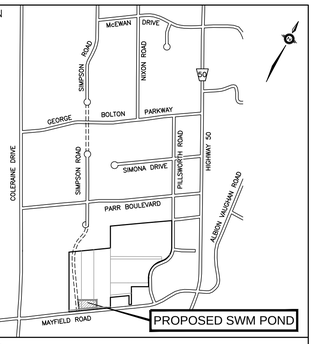
STORM MANHOLES, DICBs, HEADWALLS

NAME	ELEVATION	SIZE	SPECIFICATION
HW–1	T/G = 230.80 NW INV IN = 229.00		OPSD 804.020 OPSD 804.050 (MODIFIED GRATING)
HW–2	T/G = 229.60 N INV IN = 228.35		OPSD 804.040 GRATING AS PER OPSD 804.050
TEMP. HW–3	T/G = 229.58 N INV IN = 228.27		OPSD 804.030 GRATING AS PER OPSD 804.050
HW–4 (TO BE CONSTRUCTED AND COORDINATED AT THE TIME OF MAYFIELD ROAD WIDENING WORKS)	T/G = 229.51 N INV IN = 228.12		OPSD 804.030 GRATING AS PER OPSD 804.050
DICB 1	T/G = 229.85 S INV OUT = 229.40	1200x600mm	OPSD 705.040
DICB 2	T/G = 230.00 S INV OUT = 229.40	1200x600mm	OPSD 705.040
DICB 3	T/G = 230.30 S INV OUT = 229.40	1200x600mm	OPSD 705.040
OGS–DCB–1	T/G = 230.49 NE INV OUT = 228.76		
OGS–DCB–2	T/G = 230.48 SW INV OUT = 228.80		

LIST OF DRAWINGS

SWM–1A SIMPSON ROAD SWM POND (INTERIM)
SWM–1B SIMPSON ROAD SWM POND (ULTIMATE)
SWM–2A SWM POND SECTIONS (SEC–1A TO SEC–3A)
SWM–2B SWM POND SECTIONS (SEC–1B TO SEC–6B)
SWM–3 CONTROL FLOW STRUCTURE DETAIL
SWM–4 MANHOLES 9, 10 AND 16 DETAILS
SWM–5 STORM OUTFALL DETAIL

KEY PLAN N.T.S.



NOTES

1. THE LOCATION OF ALL UNDERGROUND AND ABOVE GROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON CONTRACT DRAWINGS, AND WHERE SHOWN THE ACCURACY OF THE LOCATION AND ELEVATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY EXACT LOCATION AND ELEVATION OF SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITIES OF DAMAGE.
2. ALL AREAS DISTURBED DURING CONSTRUCTION OF SEWERS AND WATERMAINS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER, TO THE SATISFACTION OF THE TOWN OF CALEDON .

LEGEND

- 230.07 (231.05) — DENOTES PROPOSED ELEVATION / DENOTES EXISTING ELEVATION
- 231.0 — DENOTES EXISTING CONTOUR ELEVATION
- DENOTES 100 YR. WATER LEVEL
- DENOTES PERMANENT POOL LEVEL
- DENOTES PROPOSED POND CONTOUR LINE
- DENOTES 300mm OF ON–SITE CLAYEY/SILT MATERIAL, FREE OF ORGANICS, COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD) ON TOP OF BENTOFIX GEOSYNTHETIC CLAY LINER (BY TERRAFIX)
- DENOTES 300mm OF 50mm CRUSHER RUN LIMESTONE
- DENOTES TIED CONCRETE BLOCK MAT BY TERRAFIX (FLEXAMAT) SEE DETAIL ON THIS DWG.
- DENOTES CABLE CONCRETE MATTING SEE DETAIL ON THIS DWG.
- DENOTES ASPHALT ACCESS ROAD SEE DETAIL ON THIS DWG.
- DENOTES DEWATERING SUMP SEE DETAIL ON THIS DWG.
- DENOTES STORM POND SIGNAGE AS PER TOWN STD. 1101; SEE DETAIL ON THIS DWG.

NO.	BY	DATE	REVISION	CONCL CHECKED	TOWN APPRVD
1.		21/06/25	WEEPER SYSTEM REMOVED		

NO.	DATE	ISSUED FOR
1.	20/07/06	ISSUED FOR SPA
2.	20/08/18	ISSUED FOR SPA
3.	20/10/07	ISSUED FOR SPA
4.	20/12/21	ISSUED FOR SPA
5.	21/04/06	ISSUED FOR SPA
6.	21/05/05	ISSUED FOR FINAL SUBMISSION

BENCH MARK:

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO CITY OF BRAMPTON CONTROL MONUNENT No. 010840151 HAVING A POSTED ELEVATION OF 229.82 METRES.

PROFESSIONAL ENGINEER — F. TCHOURKINE — APR. 25, 2022 — PROVINCE OF ONTARIO

Town of Caledon APPROVED AS NOTED

This approval constitutes a general review and does not certify dimensional accuracy.

This approval is subject to further certification of the "as recorded" works by a Professional Engineer of the Province of Ontario.

Date: _____
Approved By: _____
Print Name: _____

ANATOLIA CAPITAL CORPORATION

SCHAEFFERS CONSULTING ENGINEERS
SCHAEFFER & ASSOCIATES LTD.
6 Ronrose Drive, Concord, Ontario L4K 4B3
Tel: (905) 738-6100
Fax: (905) 738-6875
E-mail: design@schaeffers.com

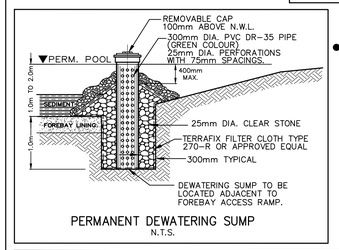
Region of Peel — Working for you.

TOWN OF CALEDON

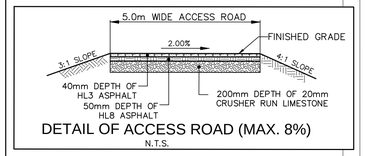
SIMPSON ROAD SWM POND (ULTIMATE)

CITY FILE: XXX

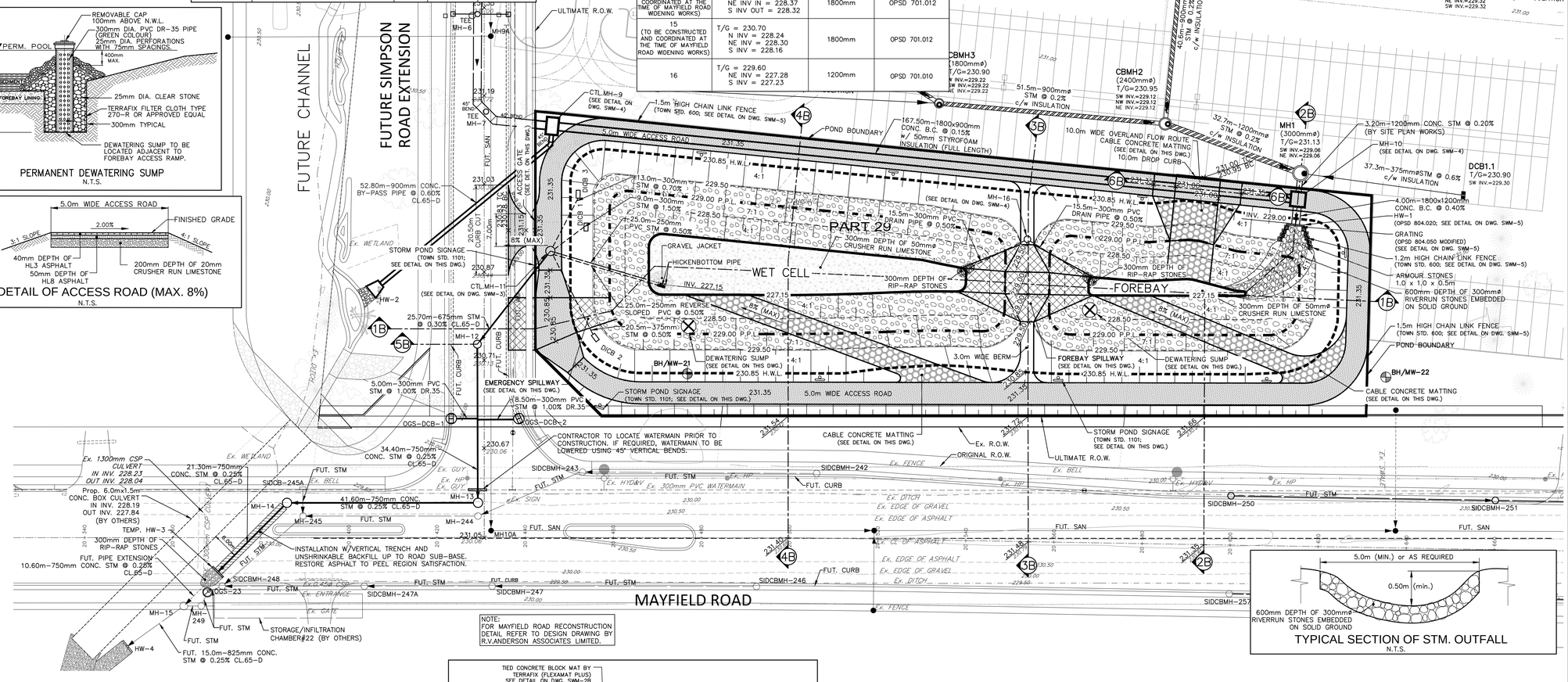
SCALE:	1:500	PROJECT No.	2019-4841
DESIGNED BY:	F.T.	DRAWN BY:	AM
CHECKED BY:	P.S.	DATE:	OCT. 2019
		DRAWING No.	SWM-1B



PERMANENT DEWATERING SUMP
N.T.S.



DETAIL OF ACCESS ROAD (MAX. 8%)
N.T.S.

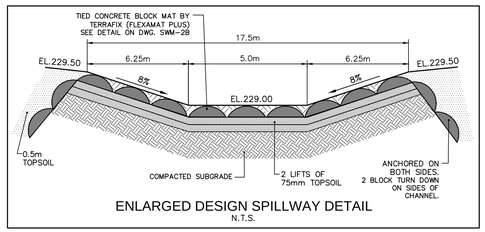


GENERAL NOTES – STORM SEWERS

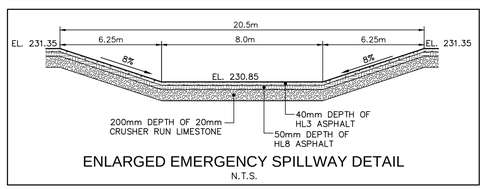
A. STORM SEWER TO BE PROVIDED ON ALL ROADS WITH CURB AND GUTTER.
B. PLACE ALL CATCH BASIN LATERALS AT 2% GRADE UNLESS OTHERWISE NOTED. PIPE SIZE MINIMUM 250mm DIA. SINGLE, 300mm DIA. DOUBLE.
C. STORM SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.030 FOR RIGID PIPE OR OPSD 802.010 WITH GRANULAR 'A' FOR FLEXIBLE PIPE UNLESS APPROVED OTHERWISE BY THE GENERAL MANAGER OF FINANCE & INFRASTRUCTURE SERVICES.
D. MAINTENANCE HOLE TOPS (FRAMES) AND CATCHBASIN (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED.
E. STORM SEWER TO BE LOCATED OFFSET 1.5m SOUTH OR WEST OF CENTERLINE UNLESS OTHERWISE SPECIFIED.
F. ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD 708.01 OR 708.03.
G. PIPE MATERIAL TO BE REINFORCED CONCRETE WITH A STRENGTH OF 50 N/m/mm CERTIFIED TO C.S.A. STANDARD A247.2–1982, CLASS 50–D (PREVIOUSLY C.S.A. STANDARD A257.2–1974 CLASS II) OR PVC CERTIFIED TO C.S.A. STANDARDS 182.2 AND 182.4 MAX. PVC PIPE DIA. IS 600mm BIG O BOSS 2000 POLYETHYLENE PIPE WITH GASKETED BELL AND SPIGOT JOINTS CERTIFIED C.S.A. B182.6 FOR STORM SEWERS UP TO 900mm DIA. WHERE ONLY CONNECTION STD CATCHBASINS ARE CONSIDERED.
H. STORM SEWER TO BE MINIMUM 300mm DIA. WITH JOINTS CONFORMING TO C.S.A. STANDARD A 257.3
I. ALL PIPE BEDDING MUST CONFORM TO OPSD MAXIMUM COVER TABLE. NO FLEXIBLE PIPE SEWERS WILL BE INSTALLED WITH A DEPTH COVER GREATER THAN 6m UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING.
J. ALL PIPE HANDLING INSTRUCTIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES AND THE OCPA OR UNIBELL GUIDELINES.

GENERAL NOTES – ROADWORKS

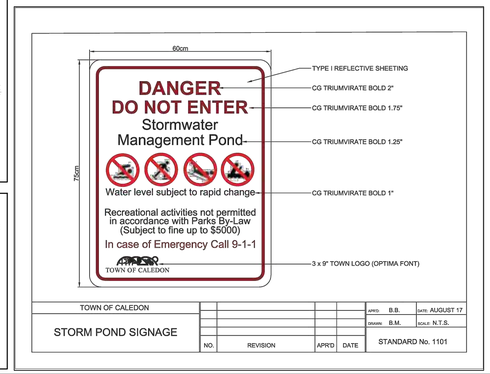
A. SINGLE – STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.040
B. TWO – STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.070
C. SIDEWALKS TO COMPLY WITH OPSD–310.010 AND ARE TO BE 1.5 METRES WIDE ON A 150mm COMPACTED GRANULAR "A" BASE. MINIMUM THICKNESS AS FOLLOWS: – NORMAL THICKNESS 125mm. – RESIDENTIAL DRIVEWAY 150mm – COMMERCIAL/INDUSTRIAL DRIVEWAY 200mm (REINFORCEMENT AS PER OPSS IF REQUIRED)
D. NATIVE SUBGRADE SHALL HAVE A CROSSFALL OF 3% AND THE MATERIAL SHALL BE APPROVED BY A SOILS CONSULTANT AND IS SUBJECT TO APPROVAL BY THE GENERAL MANAGER OF FINANCE & INFRASTRUCTURE SERVICES.
E. THE ROAD BASE SHALL INCORPORATE 100mm DIAMETER SUBDRAIN WITH FACTORY INSTALLED FILTER FABRIC AS PER TOWN OF CALEDON STANDARD No. 218.
F. ALL CURB RADII TO BE MINIMUM OF 10.0 METRES RESIDENTIAL AND 15.0 METRES INDUSTRIAL AT THE EDGE OF ASPHALT.
G. NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 95 % STANDARD PROCTOR MAXIMUM DRY DENSITY AND SHALL BE PROOF ROLLED.
H. GRADE AND CROSS FALL ADJUSTMENT OF MAINTENANCE HOLE AND CATCH BASIN FRAMES WILL BE MADE USING PRODUCTS SPECIFICALLY MANUFACTURED FOR THAT PURPOSE AS PER OPSD 704.010.
I. NON–COMPRESSIBLE BACK FILL WILL BE USED DURING REBUILDING, ADJUSTING, OR ANY OTHER APPLICABLE CATCH BASIN OR MAINTENANCE HOLE WORKS.
J. CURB AND SIDEWALK CONCRETE SHALL BE 32MPa AT 28 DAYS WITH 7% +/– 1.5% ENTRAINED AIR AND NOT LESS THAN 355 kg/m3 OF CEMENT.(PER OPSS 315 AND 353)



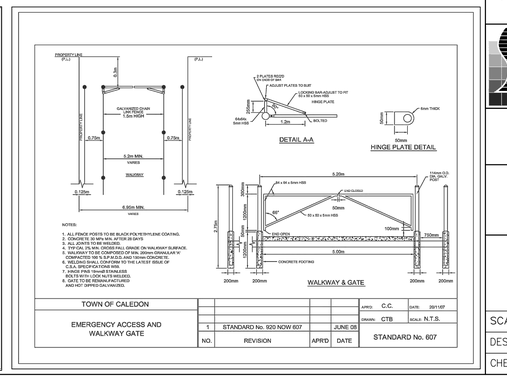
ENLARGED DESIGN SPILLWAY DETAIL
N.T.S.



ENLARGED EMERGENCY SPILLWAY DETAIL
N.T.S.



TOWN OF CALEDON						
STORM POND SIGNAGE				APR'D	B.B.	DATE: AUGUST 17
				DRAWN	B.M.	SCALE: N.T.S.
	NO.	REVISION	APR'D	DATE	STANDARD No. 1101	



TOWN OF CALEDON						
EMERGENCY ACCESS AND WALKWAY GATE				APR'D	C.C.	DATE: 29/1/07
				DRAWN	CTB	SCALE: N.T.S.
	1	STANDARD No. 920 NOW 607		JUNE 08		
	NO.	REVISION	APR'D	DATE	STANDARD No. 607	

42471-200-C2.9
MTE FILE No:
SITE SERVICING PLAN (SOUTH)
P:\P\42471\200\42471-200-C2

LEGEND OF EXISTING FEATURES

- SITE BOUNDARY
- EXISTING SANITARY SEWER
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING OVERHEAD DOOR
- EXISTING MAN DOOR

LEGEND OF PROPOSED FEATURES

- MH 14.6m–200mmø SAN @ 1.5% — SANITARY SEWER
- MH 21.3m–300mmø STM @ 1.1% — STORM SEWER
- PERFORATED BIG 'O' SUBDRAIN (SEE DETAIL ON C2.10)
- PROPOSED BUILDING
- OVERHEAD DOOR
- MAN DOOR
- FENCE
- CONCRETE CURB (DROP CURB)
- RETAINING WALL
- HANDICAPPED SYMBOL
- SHALLOW PIPE INSULATION (SEE DETAIL ON C2.10)
- TACTILE (SEE DETAIL ON C2.10)
- PROPOSED CONCRETE
- FCRD — FLOW CONTROL ROOF DRAIN ZURN MODEL 2105* SINGLE NOTCH (7.44 lpm/cm OF HEAD) *OR APPROVED EQUAL
- LAP JOINT (SEE DETAIL ON DRAWING C2.10)
- REMOVALS
- RIP RAP (SIZE & TYPE AS NOTED)
- 100-YEAR PONDING (REFER TO FSR FOR VOLUMES)

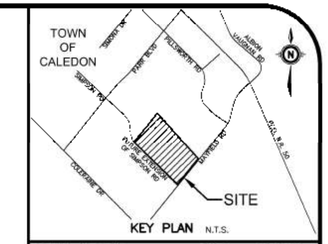
NOTE:
PLEASE REFER TO DRAWING C2.10 FOR REGION OF PEEL SERVING NOTES.

SEE DWG C2.8 FOR CONTINUATION

FUTURE SIMPSON ROAD EXTENSION

PROPOSED INDUSTRIAL BUILDING
FFE: 232.30

CBMH5 TO BE EQUIPPED WITH 75mmø HORIZONTAL CASTING ORIFICE SEE DETAIL ON C2.10 (TYP.)
CBMH5 (1800mmø) T/G=231.50 NW INV.=229.47 SE INV.=229.47
47.0m–900mmø STM @ 0.2% c/w INSULATION
51.0m–900mmø STM @ 0.2% c/w INSULATION
LANDSCAPE
CSW
5.0m SUBDRAIN (SEE DETAIL ON C2.10)(TYP.)
CBMH4 TO BE EQUIPPED WITH 75mmø HORIZONTAL CASTING ORIFICE SEE DETAIL ON C2.10 (TYP.)
CBMH4 (1800mmø) T/G=231.10 NW INV.=229.36 E INV.=229.36
ASPHALT
ASPHALT PARKING LOT
77.5m–900mmø STM @ 0.2% c/w INSULATION
CB3.1 TO BE EQUIPPED WITH 75mmø HORIZONTAL CASTING ORIFICE SEE DETAIL ON C2.10 (TYP.)
CB3.1 T/G=231.10 NE INV.=229.54
ASPHALT
64.0m–250mmø STM @ 0.5% c/w INSULATION
CBMH3 TO BE EQUIPPED WITH 75mmø HORIZONTAL CASTING ORIFICE SEE DETAIL ON C2.10 (TYP.)
CBMH3 (1800mmø) T/G=230.90 W INV.=229.22 SW INV.=229.22 NE INV.=229.22
CONCRETE DOLLY PADS
ASPHALT PARKING LOT
CBMH2 (2400mmø) T/G=230.95 SW INV.=229.12 NW INV.=229.12 NE INV.=229.12
51.5m–900mmø STM @ 0.2% c/w INSULATION
40.6m–900mmø STM @ 0.2% c/w INSULATION
NOTE: ALL STORM SEWERS MEET MINIMUM VELOCITY REQUIREMENTS
CB15.1 T/G=230.90 NE INV.=229.47
54.4m–300mmø STM @ 0.5% c/w INSULATION
CBMH15 (1800mmø) T/G=230.90 SW INV.=229.21 NE INV.=229.21 NW INV.=229.20 SE INV.=229.20
17.4m–525mmø STM @ 1.5% c/w INSULATION
57.7m–450mmø STM @ 0.2% c/w INSULATION
STM STUB INV.=229.46
6R
CONCRETE LOADING DOCKS
NOTE: WATER (DOMESTIC & FIRE) TO BE SERVICED INTERNAL TO THE BUILDING (SEE MECHANICAL PLANS)
PROPOSED BUILDING TO BE EQUIPPED WITH SEVENTY NINE (79) ZURN Z-105 FLOW CONTROL ROOF DRAINS (FCRD) WITH ONE NOTCH EACH (OR APPROVED EQUIVALENT). MAXIMUM PONDING OF 0.15M AT EACH DRAIN. MAXIMUM CONTROLLED RELEASE RATE=0.133m³/s
FCRD
5.0m SUBDRAIN (SEE DETAIL ON C2.10)(TYP.)
CBMH16 T/G=230.90 NE INV.=229.32 SW INV.=229.32
57.1m–250mmø STM @ 0.5% c/w INSULATION
MH LID TO BE WATER TIGHT PER OPSD 401.030
MH1A T/G=231.22 NW INV.=227.90 SE INV.=227.87
CB16.1 T/G=230.90 SW INV.=229.62
SAN STUB INV.=228.40
CAUTION: CROSSING MAINTAIN MIN 0.3m VERTICAL CLEARANCE BETWEEN STM. & SAN. STM.INV=229.46 SAN.OBV=228.26
25.0m–200mmø SAN @ 2.0%
11.2m–200mmø SAN @ 2.0%
NORTH PIPE TO BE REMOVED. EX. OPENING IN MANHOLE TO BE BRICKED AND PARGED. EX. MH TO BE REBENCHED TO SUIT FLOW CONDITIONS.
EX. STM TO BE REMOVED.
EXISTING ASPHALT (TO REMAIN)
EXISTING 3 RESIDENTIAL LOTS
CONCRETE DOLLY PADS
ASPHALT PARKING LOT
STORM SERVICE TO BE CAPPED UNTIL ECAS ARE RECEIVED AND POND'S OUTLET IS FULLY CONSTRUCTED.
CONCRETE DOLLY PADS
MH1 (3000mmø) T/G=231.13 SW INV.=229.05 NE INV.=229.05
32.7m–1200mmø STM @ 0.2% c/w INSULATION
37.3m–375mmø STM @ 0.6% c/w INSULATION
DCB1.1 T/G=230.90 SW INV.=229.30
DCB1.1 TO BE EQUIPPED WITH 75mmø HORIZONTAL CASTING ORIFICE SEE DETAIL ON C2.10 (TYP.)
ASPHALT
LANDSCAPE
CONCRETE DOLLY PADS
MH2A T/G=231.88 NW INV.=226.25 E INV.=226.19
MH2A TO BE PER REGION OF PEEL STANDARD 2-5-3 C/W SAFETY PLATFORM PER REGION OF PEEL STANDARD 2-6-15
44.8m–200mmø SAN @ 2.00%
CORE HOLE INTO EX. MH AND CONNECT AT INV=225.31. EX. E INV=225.22±. BRICK AND PARGE AND SEAL ANY UNUSED OPENINGS AND RE-BENCH PER REGION OF PEEL STANDARD 2-5-20 TO SUIT NEW FLOW CONDITIONS.
EX. MH T/G=229.970 E. INV=225.217
EXISTING SANITARY MANHOLE TO BE FIELD VARIFIED BY CONTRACTOR PRIOR TO CNSTRUCTION AND RESULTS REPORTED TO ENGINEER IN THE FORM OF AN UPDATED SURVEY.
5.0m WIDE ACCESS ROAD
10.0m DROP CURB
POND BOUNDARY
REFER TO SWM POND DESIGN BY SCHAEFFERS
FOREBAY
EMERGENCY SPILLWAY
229.50 P.P.L.
230.85 H.W.L.
231.35
CONTRACTOR TO LOCATE WATERMAIN PRIOR TO CONSTRUCTION IF REQUIRED, WATERMAIN TO BE LOWERED USING 45° VERTICAL BENDS (REFER TO SWM POND DESIGN BY SCHAEFFERS)
ROAD WIDENING
CONTRACTOR TO LOCATE EXISTING WATER SERVICE TO SITE OFF MAYFIELD ROAD. EXISTING WATER SERVICE TO BE DISCONNECTED AS PER REGION OF PEEL STANDARDS.
EX. 300mm PVC WTM
MAYFIELD ROAD
MAYFIELD ROAD



GEODETIC BM ELEV. = 229.82m
BENCHMARK NO. 010540151
CITY OF BRAMPTON CONTROL MONUMENT 010840151
SOUTH-EAST SIDE OF SITE LOCATED IN THE C-L OF DITCH ON SOUTH SIDE OF MAYFIELD ROAD

SITE BENCHMARK ELEV. = m

NOTE TO CONTRACTOR :

DO NOT SCALE DRAWINGS.

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

ALL DRAWINGS REMAIN THE PROPERTY OF THE ENGINEER AND SHALL NOT BE REPRODUCED OR REUSED WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

THE OWNER/ARCHITECT/CONTRACTOR IS ADVISED THAT M.T.E. CONSULTANTS INC. CANNOT CERTIFY ANY COMPONENT OF THE SITE WORKS NOT INSPECTED DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY M.T.E. CONSULTANTS INC. PRIOR TO COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR INSPECTION.

No.	REVISION	BY	DATE
12.	REVISED DRIVEWAY ENTRANCES	KRR	MAR.16/21
11.	REVISED PER REGION COMMENTS	KRR	FEB.18/21
10.	RE-ISSUED FOR SPA	KRR	JAN.07/21
9.	ISSUED FOR PRE-SERVICING	KRR	OCT.28/20
8.	RE-ISSUED FOR SPA	KRR	OCT.09/20
7.	RE-ISSUED FOR PRE-SERVICING	KRR	OCT.02/20
6.	REISSUED FOR CONSTRUCTION	KRR	AUG.21/20
5.	ISSUED FOR PRE-SERVICING	KRR	AUG.20/20
4.	ISSUED FOR CONSTRUCTION	KRR	AUG.06/20
3.	ISSUED FOR CONDITIONAL PERMIT	KRR	APR.23/20
2.	RE-ISSUED FOR SPA	KRR	FEB.28/20
1.	ISSUED FOR SPA	KRR	FEB.26/19

MTE
Engineers | Scientists | Surveyors
(905) 639-2552 www.mte85.com

LICENSED PROFESSIONAL ENGINEER
K.R.RAMSEWAK
100100928
2021-03-16
PROVINCE OF ONTARIO

OWNER
ANATOLIA CAPITAL CORP
8300 HUNTINGTON ROAD VAUGHAN

PROJECT LOT 1 CONCESSION 6 PARTS 1, 5, & 9
ANATOLIA TILE & STONE (PHASE 3)
100 PILLSWORTH ROAD CALEDON

DRAWING
SITE SERVICING PLAN (SOUTH)
CITY FILE # SPA 19-13

Project Manager K.RAMSEWAK	Project No. 42471-200
Design By ALP	Checked By KRR
Drawn By SDU	Checked By KRR
Surveyed By OTHERS	Drawing No. C2.9
Date JUN. 4/18	
Scale 1:500	Sheet 9 of 11

January 7, 2021 – 2:00 p.m. – Plotted By: sdu

a.m. candaras associates inc.
consulting engineers

TOWN OF CALEDON
SITE PLAN APPROVED
DATE: Feb 20, 2024
FILE NO: SPA 20-53
LEAD PLANNER:

FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT REPORT FOR PROPOSED 1 STOREY INDUSTRAIL BUILDING 8522 MAYFIELD RD. TOWN OF CALEDON: BOLTON SPA-2020-0053 ROP No.-C-601017

June 23, 2023

a.m. candaras associates inc.
8551 WestonRoad, Suite 203
Woodbridge, Ontario L4L 9R4

Project No. 2018

1.0 INTRODUCTION

The site will be developed with a single industrial building. Stormwater management will consist of roof top controls and roof ponding, plus ponding in the paved areas. The site outlets to the existing ditch on Mayfield Road which then discharges to an existing watercourse.

2.0 DESIGN CRITERIA

(a) The allowable stormwater discharge for all storms up to the 100-year storm to be limited to the 2-year storm existing rate at C=.25.

(b) The 2 to 100-year storm events must be contained on site and released at the allowable discharge rate as defined above.

(c) On site detention must be provided for the 100-year storm. Storm events based on the 100yr, 24-hour Chicago storm at 10min distribution. (See Appendix)

(d) Stormwater quality controls to provide Enhanced protection (80% TSS removal).

(e) Provide onsite retention through the means of infiltration, evapotranspiration and/or irrigation/reuse for the first 28mm of all storm events.

3.0 SITE DESCRIPTION

Roof:	=	5,194.51 m^2
Paved	=	4,041.31 m^2
Landscaped	=	1,821.52 m^2
Total	=	11,057.34 m^2

4.0 ROOF TOP CONTROLS

The roof area will be equipped with Zurn Z-105-5-ERC control flow roof drains as follows:

Area	No. of Notches	Notch Area	Flow (1) Per Notch	Total Flow
5,194.51	9	577.2	93 l/m	14.0 l/s
			Q_R =	14.0 l/s

(1) Based on manufacturer's design tables at a 102 mm depth.

The resulting total roof top volume ponding is:

311.1 m^3

, as indicated in Table 1. The available roof top storage is 346.3 m^3, based on a maximum ponding depth of 100 mm, as indicated in the attached calculations.

5.0 UNCONTROLLED RUNOFF

The following post development areas will discharge uncontrolled see SD-1 for uncontrolled locations:

Paved area = 85.5 m^2

Landscaped area = 1,052.6 m^2

The 100 year storm uncontrolled runoff is:

$$Q_U = \frac{[(85.5)(.95) + (1{,}052.6)(.31)](196.5)(2.778)}{10000}$$

$$= 22.2 \text{ l/s}$$

$$I_{100year} = \frac{4688}{(Tc+17)^{0.9624}}$$

T_c = 10 minutes

$I_{100year}$ = 196.5 mm/hr

6.0 DETENTION VOLUME CALCULATIONS

Allowable site runoff is to be limited to the 2-year pre-development:

Q_S = CAIN

= (.25) (1.1057) (85.7) (2.778)

= 65.8 l/s

$I_{2year} = \frac{1070}{(Tc+7.85)^{0.8759}}$

T_c = 10 minutes

I_{2year} = 85.7 mm/hr

Allowable Site Runoff:

Q_S = 65.8 l/s

Uncontrolled Flow:

Q_U = 22.2 l/s

Allowable discharge from the paved and landscaped areas:

Q_{PL} = Q_S - (Q_R + Q_U)

Q_{PL} = 65.8 l/s - (22.2 l/s + 14.0 l/s)

= 29.6 l/s

Storage required = 184.0 m^3

Note: see Table 2 for volume calculations.

7.0 AVAILABLE DETENTION VOLUME

Based on a high-water level of 231.35 the available surface detention is:

CB #1	=	2.7 m^3
CBMH #4	=	2.9 m^3
CB #2	=	2.6 m^3
CB #3	=	4.7 m^3
CB #8	=	203.7 m^3
CB #4	=	3.9 m^3
CB #5	=	4.3 m^3
CB #6	=	3.9 m^3
CB #7	=	4.4 m^3
		233.1 m^3

Note: Surface storage calculations on DWG G-1

8.0 OUTLET CONTROLS

The total site discharge is to be limited to:

$Q = Q_S - Q_U$

$Q = 65.8\ l/s - 22.2\ l/s$

$= 43.6\ l/s$

Sizing of the orifice is as follows:

$$Q = CA\sqrt{2gh}$$

where:

h = HWL - Inv of orifice

$h = 231.35\ m - 229.21\ m$

$h = 2.14\ m$

$$A = \frac{Q}{C\sqrt{2gh}}$$

$$A = \frac{0.0436}{.82\sqrt{2X9.81X2.14}}$$

$A = 0.0082\ m^2$

$$d = \sqrt{\frac{4X0.0082m^2}{\pi}}$$

$d = 0.102\ m$

therefore, use 100mm orifice tube on the downstream face of Manhole #3 as detailed on DWG G-1.

9.0 STORMWATER QUALITY CONTROLS

Quality controls for the proposed development are provided by a treatment train approach. An oil grit separator to provide enhanced protection level 1 (80% TSS Removal) based on a total site area of 1.11ha with a total imperviousness of 90%. A Stormceptor EF08 will be located downstream of the orifice control. Refer to the Appendix for the Stormceptor EF08 design brief and Stormceptor EF Manual in the for specific operations and maintenance information. An infiltration trench is sized for the 28mm storm event equipped with goss traps, for further protection, on the inlets will be provided downstream of the Stormceptor which will provide additional quality treatment as part of the treatment train approach.

10.0 WATER BALANCE

The Region of Peel requires that the 28mm storm be retained onsite. The resulting volume is:

$$\left(\frac{28mm}{1000}\right) \text{ x } 11{,}057.34 \text{ m}^2$$

$$= 310.0 \text{ m}^3$$

A single 30m x 9m x 3.0m stone trench will provide a total storage volume of 324.0m^3. Sizing calculations for the infiltration trenches are shown on drawing S-1. A goss trap will be provided at CBMH#8 & CBMH#9 on the perforated pipes to trap any floatables in the runoff. A manhole will be provided (CBMH#8) for the inspection and servicing of the trenches.

<u>Infiltration & Goss Trap Maintenance Schedule</u>

Semi-annual inspection

- Check observation (CBMH7) manhole following 3 days of dry weather. Failure to percolate within this time period indicates clogging.
- Check goss trap for obstructions

- Observe sediment accumulation within perforate pipes
- Power flush perforated pipes separately by temporarily plugging adjacent perforated pipe and flush in direction of observation manhole. Vacuum any accumulated sediment from observation manhole (CBMH7).

11.0 STORM SERVICE CONNECTION

The controlled flow from the site will be:

$Q_S - Q_U$ = 65.8 l/s – 22.2 l/s = 43.6 l/s

A 250mm @ 2.0% (Capacity = 84.1l/s) storm connection from CBMH 1 to HW1 on Mayfield Road will be provided at the southeast corner of the site.

12.0 SANITARY SERVICE CONNECTION

A proposed 150mm sanitary service connection and manhole are provided at the southwest limit of the site along Mayfield Road. The 150mm service connection at 1.0% has a capacity of 15.23l/s. The Region of Peel Connection Single Use Demand Table has been completed and is provided in the Appendix. The wastewater flows are summarized as follows:

Total Population = 70 ppha x 1.11ha = 78 people

Domestic Sewage Flow = 78people x 302.8l/cap/day

= 23,618l/day = 0.27 l/s

Peaking Factor = $PF = 1 + \left(\frac{14}{4+\left(\frac{78}{1000}\right)^{\frac{1}{2}}} \right) = 4.27$

Peak Domestic Sanitary flow = 0.27l/s x 4.27 = 1.15l/s

Infiltration = 1.11 ha x 0.2l/s/ha = 0.22l/s

Total wastewater flow = 1.15l/s + 0.22l/s = 1.37l/s

Therefore, the proposed 150mm sanitary sewer extension at 1.0% will provide 15.23l/s of capacity which is greater than the calculated 1.37l/s.

13.0 SANITARY SEWER EXTENSION

To service the development a sanitary sewer extension is required form the Coleraine Drive & Mayfield Road intersection, continuing east along Mayfield Road to the development's west property limit. The sanitary sewer extension is required to be sized for the subject development at 1.11ha as well as the property to the east at 2.26ha. The proposed 250mm sanitary sewer connection, which is the minimum size for industrial developments, will terminate at a manhole (MH2A) at the west limit of 8522 Mayfield Road. The total wastewater flows are summarized as follows:

Total Population = 70 ppha x (1.11ha + 2.26ha) = 236 people

Domestic Sewage Flow = 236people x 302.8l/cap/day

= 71,461l/day = 0.83 l/s

Peaking Factor = $PF = 1 + \left(\frac{14}{4+\left(\frac{236}{1000}\right)^{\frac{1}{2}}} \right) = 4.12$

Peak Domestic Sanitary flow = 0.83l/s x 4.12 = 3.41l/s

Infiltration = 3.37 ha x 0.2l/s/ha = 0.67l/s

Total wastewater flow = 3.41l/s + 0.67l/s = 4.08l/s

Therefore, a 250mm sanitary sewer is proposed. A 250mm sanitary sewer at 0.5% slope will provide 42.05l/s of capacity which is greater than the calculated 4.07l/s.

14.0 WATER SERVICING

An existing 250mm Fireline and 100mm domestic connection are provided at the property line and will be extended to the building to provide the water service connections. Refer to drawing S-1 for details.

The anticipated water demand has been calculated below, based on the Region of Peel design criteria for an industrial development.

Consumption	=	300l/employee/day
Max Day Factor	=	1.4
Peak Hour Factor	=	3.0
Equivalent Population	=	78 people
1 liter per second (l/s)	=	15.85USgpm

Water Demands

a) Average Daily Demand

= 300l/employees/day · 78employees

= 23,400l/day

= 0.27l/s (4.28USgpm)

b) Maximum Daily Demand

= 300l/employees/day · 78employees · 1.4 (Max day factor)

= 32,760l/day

= 0.38l/s (6.02USgpm)

c) Peak Hour Demand

= 300l/employees/day

= 300l/employees/day · 78employees · 3.0 (Peak Hour factor)

= 70,200l/day

= 0.81l/s (12.84USgpm)

d) Fire Flow Calculation (Based on Fire Underwriters Survey 1999):

1. An estimate of the fire flow required for a given area is determined by the formula:

$F = 220C\sqrt{A}$

Where,

F = the required fire flow in litres per minute (l/m)

C = Construction type coefficient= 0.8 (non-combustible construction)

A = Total area (based on construction type and protected openings)

$F = 220(0.8)\sqrt{5{,}194.51 m^2}$

$F = 12{,}685 l/m$

Therefore, use: $F = 13{,}000\ l/m$

2. Occupancy Reduction

N/A

$F_2 = 13{,}000 l/m$

3. Sprinkler Reduction

30% Reduction for NFPA 13 System

4. Separation Charge

East Side (> 45m) = 0%

West Side (3.1 - 10m) = 20%

North Side (> 45m) = 0%

South Side (> 45m) = 0%

Total Separation Charge = 20%

Ffinal = F2 – (F2 × 30%) + (F2 × 20%)

Ffinal = 13,000l/m – (13,000l/min x 0.30) + (13,000l/min x 0.20)

Ffinal = 11,700l/m

Therefore, use: Ffinal = 12,000l/min

Ffinal = 3,170USgpm

The water supply system will be designed to convey the fire flow plus maximum day demand. The flow results from the fire flow plus max day, as calculated below:

Max day + Fire Flow = 6.02USgpm + 3,170.06USgpm

= 3,176.08USgpm (200.4l/s)

15.0 EXTERNAL DRAINAGE

There is an external drainage area to the north of the subject development. The Town of Caledon in discussions with the TRCA have notified the owner that the regulated area for the watercourse in the on the neighbouring property and therefore, it is not the responsibility of the property owner to accommodate for the external drainage to the north. The neighbour has illegally filled the watercourse and the Town of Caledon is following up on the matter. There is a small amount of external drainage to the west of the development which the rear of the residential lots sheet flow to the subject property. The Town of Caledon has requested we accommodate for this uncontrolled drainage by providing a swale along the entire west side discharging to the municipal ditch system.

16.0 STORMWATER SUMMARY TABLE

DESCRIPTION	VALUE	UNIT
Allowable Site Release Rate (2yr Pre)	**65.8**	l/s
Uncontrolled Release Rate	22.2	l/s
Roof Release Rate	14.0	l/s
Paved & Landscape	29.6	l/s
Required Site Storage	184.0	m^3
Provided Site Storage	233.1	m^3
Required Roof Storage	311.1	m^3
Provided Roof Storage	346.3	m^3
Orifice Tube Size	100	mm
Water Balance Volume Required	310	m^3
Water Balance Volume Provided	324	m^3
OGS	Stormceptor EF08	80% TSS REMOVAL. 90% ALLUAL RUNOFF TREATED

Prepared by,
a.m. candaras associates inc.





A.M. Candaras, P. Eng.
Consulting Engineer

June 23, 2023

Table 1: 100 YR Storm Runoff Computations for Roof Area

Time Period (min)	Intensity (mm/hr)	Runoff (l/s)	Storage (m^3)
400-410	2.9	4.0	-
410-420	3.7	5.1	-
420-430	4.9	6.7	-
430-440	7.0	9.6	-
440-450	11.0	15.1	0.7
450-460	21.1	28.9	9.0
460-470	62.2	85.3	42.8
470-480	196.5	269.4	153.3
480-490	83.1	113.9	60.0
490-500	41.2	56.5	25.5
500-510	25.1	34.4	12.3
510-520	17.1	23.4	5.7
520-530	12.5	17.1	1.9
530-540	9.6	13.2	-
540-550	7.7	10.6	-
550-560	6.3	8.6	-
560-570	5.3	7.3	-
570-580	4.5	6.2	-
580-590	3.9	5.3	-
590-600	3.4	4.7	-
			311.1

Roof Area = 5,194.51 m^2 @ C = 0.95

CAN = $\frac{(5{,}194.51m^2)(.95)(2.778)}{10{,}000}$

= 1.371

Roof Outflow = 14.0 l/s

Storage (m^3) = $\frac{\text{(Runoff - Roof Outflow) x 10 min x 60 sec}}{1000}$

Table 2: 100 YR Storm Runoff Computations for Paved and Landscaped Areas

Time Period (min)	Intensity (mm/hr.)	Runoff (l/s)	Storage (m^3)
400-410	2.9	3.2	-
410-420	3.7	4.1	-
420-430	4.9	5.4	-
430-440	7.0	7.8	-
440-450	11.0	12.2	-
450-460	21.1	23.4	-
460-470	62.2	69.1	23.7
470-480	196.5	218.2	113.1
480-490	83.1	92.3	37.6
490-500	41.2	45.7	9.7
500-510	25.1	27.9	-
510-520	17.1	19.0	-
520-530	12.5	13.9	-
530-540	9.6	10.7	-
540-550	7.7	8.5	-
550-560	6.3	7.0	-
560-570	5.3	5.9	-
570-580	4.5	5.0	-
580-590	3.9	4.3	-
590-600	3.4	3.8	-
			184.0

Net Paved: 3,955.78 m^2 @ C = 0.95

Net Landscaped: 768.95 m^2 @ C = 0.31

$$\text{CAN:} = \frac{[(3{,}955.78 \times 0.95)+(768.95 \times 0.31)] \times 2.778}{10{,}000}$$

$$= 1.11$$

$$\text{Storage } (m^3): = \frac{\text{(Runoff - Roof Outflow) x 10 min x 60 sec}}{1000}$$

Outflow: = 29.6 l/s

ROOF PONDING DETAILS

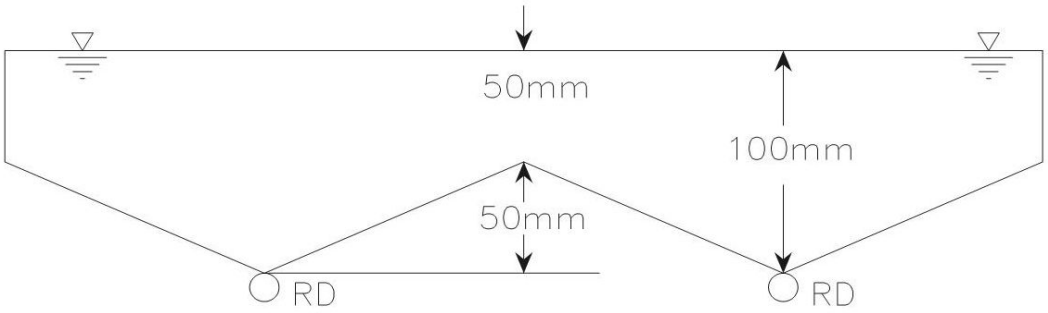
Criteria:

Roof Area = 5,194.51 m^2

Total No. of Drains = 9

100 mm Ponding Depth

50 mm Rise between Drains



Average Area per Drain: $= \frac{5{,}194.51\ m^2}{9}$

$= 577.2\ m^2$

Available Ponding Volume Per Drain: $= \frac{577.2\ m^2 \times 0.050\ m}{3} + (577.2\ m^2 \times 0.050\ m)$

$= 38.5\ m^3/\text{Drain}$

Total Volume = $38.5\ m^3 \times 9$

$= 346.3\ m^3$

Required Volume = $311.1\ m^3$

8551 weston road, suite 203, woodbridge, ontario L4L 9R4 • Tel: (905) 850-8020 Fax: (905) 850-8099 • Email: civil@amcal.com

ROOF DRAIN MANUFACTURERS DESIGN TABLE

LOCATION	SQUARE METRE (SQUARE FOOT) NOTCH AREA RATING	ROOF LOAD FACTOR KGS (LBS.)	TOTAL ROOF SLOPE											
			DEAD-LEVEL			51mm (2") RISE			102mm (4") RISE			152mm (6") RISE		
			L.P.M. (G.P.M.) Discharge	Draindown Time Hrs.	mm (In.) Water Depth	L.P.M. (G.P.M.) Discharge	Draindown Time Hrs.	mm (In.) Water Depth	L.P.M. (G.P.M.) Discharge	Draindown Time Hrs.	mm (In.) Water Depth	L.P.M. (G.P.M.) Discharge	Draindown Time Hrs.	mm (In.) Water Depth
St. Thomas, Ontario	232 (2,500)	5.7 (12.5)	54.5 (12)	8	61 (2.4)	68 (15)	7	76 (3.0)	86.5 (19)	5	96.5 (3.8)	104.5 (23)	4	117 (4.6)
	465 (5,000)	6.6 (14.6)	63.5 (14)	19	71 (2.8)	77.5 (17)	16	86.5 (3.4)	97.5 (21.5)	11	109 (4.3)	118 (26)	9	132 (5.2)
	697 (7,500)	7.1 (15.6)	68 (15)	29	76 (3.0)	82 (18)	26	91.5 (3.6)	102.5 (22.5)	18	114.5 (4.5)	125 (27.5)	15	139.5 (5.5)
	929 (10,000)	7.5 (16.6)	72.5 (16)	40	81.5 (3.2)	86.5 (19)	34	96.5 (3.8)	107 (23.5)	24	119.5 (4.7)	132 (29)	20	147.5 (5.8)
Timmins, Ontario	232 (2,500)	4.3 (9.4)	41 (9)	7	45.5 (1.8)	57 (12.5)	6	63.5 (2.5)	72.5 (16)	4	81.5 (3.2)	86.5 (19)	3.3	96.5 (3.8)
	465 (5,000)	5.7 (12.5)	54.5 (12)	16	61 (2.4)	63.5 (14)	14	71 (2.8)	82 (18)	9	91.5 (3.6)	97.5 (21.5)	7.5	109 (4.3)
	697 (7,500)	6.4 (14)	61.5 (13.5)	27	68.5 (2.7)	70.5 (15.5)	22	78.5 (3.1)	86.5 (19)	15	96.5 (3.8)	104.5 (23)	12	117 (4.6)
	929 (10,000)	6.6 (14.6)	63.5 (14)	36	71 (2.8)	72.5 (16)	30	81.5 (3.2)	91 (20)	21	101.5 (4.0)	109 (24)	17	122 (4.8)
Toronto, Ontario	232 (2,500)	5.7 (12.5)	54.5 (12)	8	61 (2.4)	66 (14.5)	7	73.5 (2.9)	82 (18)	4.5	91.5 (3.6)	97.5 (21.5)	3.5	109 (4.3)
	465 (5,000)	6.8 (15.1)	66 (14.5)	19	73.5 (2.9)	77.5 (17)	16	86.5 (3.4)	93 (20.5)	11	104 (4.1)	111.5 (24.5)	9	124.5 (4.9)
	697 (7,500)	8.0 (17.7)	77.5 (17)	30	86.5 (3.4)	84 (18.5)	26	94 (3.7)	100 (22)	18	112 (4.4)	120.5 (26.5)	14	134.5 (5.3)
	929 (10,000)	8.7 (19.2)	82 (18)	42	91.5 (3.6)	86.5 (19)	34	96.5 (3.8)	104.5 (23)	24	117 (4.6)	127.5 (28)	20	142 (5.6)
Windsor, Ontario	232 (2,500)	6.1 (13.5)	59 (13)	8.5	66 (2.6)	70.5 (15.5)	7.5	78.5 (3.1)	84 (18.5)	4.5	94 (3.7)	107 (23.5)	4	119.5 (4.7)
	465 (5,000)	7.1 (15.6)	68 (15)	20	76 (3.0)	79.5 (17.5)	16	89 (3.5)	97.5 (21.5)	11	109 (4.3)	118 (26)	9	132 (5.2)
	697 (7,500)	8.0 (17.7)	77.5 (17)	30	86.5 (3.4)	86.5 (19)	26	96.5 (3.8)	107 (23.5)	18	119.5 (4.7)	125 (27.5)	15	139.5 (5.5)
	929 (10,000)	8.7 (19.2)	82 (18)	42	91.5 (3.6)	91 (20)	36	101.5 (4.0)	113.5 (25)	26	127 (5.0)	129.5 (28.5)	20	145 (5.7)
Charlottetown, P.E.I.	232 (2,500)	4.9 (10.9)	47.5 (10.5)	7.5	53.5 (2.1)	57 (12.5)	6	63.5 (2.5)	68 (15)	3.8	76 (3.0)	79.5 (17.5)	3	89 (3.5)
	465 (5,000)	6.6 (14.6)	63.5 (14)	19	71 (2.8)	75 (16.5)	15.5	84 (3.3)	88.5 (19.5)	10	99 (3.9)	100 (22)	7.5	112 (4.4)
	697 (7,500)	7.8 (17.2)	75 (16.5)	31	84 (3.3)	86.5 (19)	26	96.5 (3.8)	102.5 (22.5)	18	114.5 (4.5)	113.5 (25)	13	127 (5.0)
	929 (10,000)	8.7 (19.2)	84 (18.5)	42	94 (3.7)	97.5 (21.5)	37	106.5 (4.2)	111.5 (24.5)	26	124.5 (4.9)	125 (27.5)	20	139.5 (5.5)
Montreal, Quebec	232 (2,500)	5.2 (11.4)	50 (11)	7.5	56 (2.2)	61.5 (13.5)	7	68.5 (2.7)	79.5 (17.5)	4.5	89 (3.5)	97.5 (21.5)	3.5	109 (4.3)
	465 (5,000)	5.9 (13)	57 (12.5)	17	63.5 (2.5)	70.5 (15.5)	15	78.5 (3.1)	88.5 (19.5)	10	99 (3.9)	109 (24)	8	122 (4.8)
	697 (7,500)	6.1 (13.5)	59 (13)	27	66 (2.6)	72.5 (16)	23	81.5 (3.2)	93 (20.5)	16	104 (4.1)	113.5 (25)	13	127 (5.0)
	929 (10,000)	6.4 (14)	61.5 (13.5)	36	68.5 (2.7)	77.5 (17)	31	86.5 (3.4)	95.5 (21)	22	106.5 (4.2)	120.5 (26.5)	19	134.5 (5.3)
Quebec City, Quebec	232 (2,500)	5.4 (12)	52.5 (11.5)	8	58.5 (2.3)	63.5 (14)	7	71 (2.8)	79.5 (17.5)	4.5	89 (3.5)	97.5 (21.5)	3.5	109 (4.3)
	465 (5,000)	6.4 (14)	61.5 (13.5)	18	68.5 (2.7)	70.5 (15.5)	15	78.5 (3.1)	84 (18.5)	10	94 (3.7)	104.5 (23)	8	117 (4.6)
	697 (7,500)	6.6 (14.6)	63.5 (14)	28	71 (2.8)	72.5 (16)	23	81.5 (3.2)	86.5 (19)	15	96.5 (3.8)	107 (23.5)	12	119.5 (4.7)
	929 (10,000)	7.1 (15.6)	68 (15)	37	76 (3.0)	77.5 (17)	31	86.5 (3.4)	88.5 (19.5)	20	99 (3.9)	109 (24)	17	122 (4.8)
Regina, Saskatchewan	232 (2,500)	4.5 (9.9)	43 (9.5)	7	48.5 (1.9)	54.5 (12)	6	61 (2.4)	72.5 (16)	4	81.5 (3.2)	79.5 (17.5)	3	89 (3.5)
	465 (5,000)	6.4 (14)	61.5 (13.5)	18	68.5 (2.7)	68 (15)	14	76 (3.0)	86.5 (19)	10	96.5 (3.8)	97.5 (21.5)	7.5	109 (4.3)
	697 (7,500)	7.3 (16.1)	70.5 (15.5)	29	78.5 (3.1)	77.5 (17)	24	86.5 (3.4)	100 (22)	17	112 (4.4)	109 (24)	12	122 (4.8)
	929 (10,000)	8.3 (18.2)	79.5 (17.5)	40	89 (3.5)	82 (18)	32	91.5 (3.6)	104.5 (23)	24	117 (4.6)	118 (26)	18	132 (5.2)
Saskatoon, Saskatchewan	232 (2,500)	4.0 (8.8)	38.5 (8.5)	6	43 (1.7)	57 (12.5)	6	63.5 (2.5)	66 (14.5)	3.8	73.5 (2.9)	77.5 (17)	2.8	86.5 (3.4)
	465 (5,000)	5.7 (12.5)	54.5 (12)	16	61 (2.4)	68 (15)	14.5	76 (3.0)	82 (18)	9	91.5 (3.6)	95.5 (21)	7	106.5 (4.2)
	697 (7,500)	6.6 (14.6)	63.5 (14)	28	71 (2.8)	75 (16.5)	24	84 (3.3)	91 (20)	16	101.5 (4.0)	104.5 (23)	12	117 (4.6)
	929 (10,000)	7.1 (15.6)	68 (15)	38	76 (3.0)	82 (18)	32	91.5 (3.6)	97.5 (21.5)	22	109 (4.3)	113.5 (25)	18	127 (5.0)

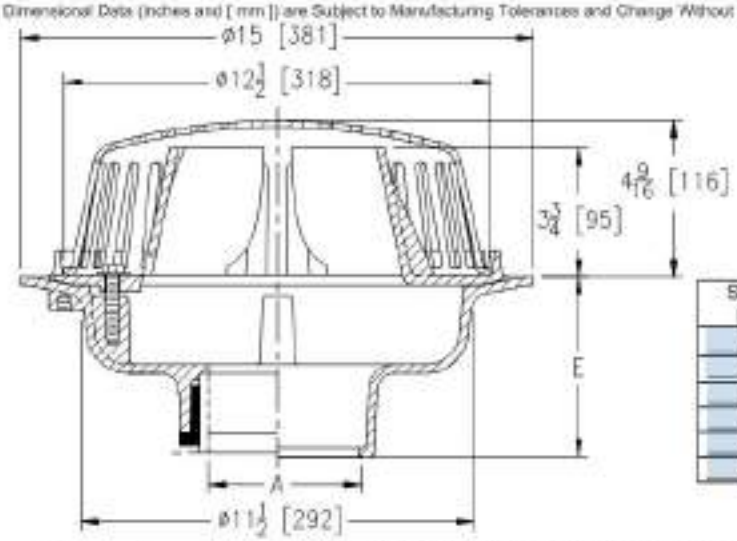
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Z105
CONTROL-FLO ROOF DRAIN
W/ PARABOLIC WEIR

SPECIFICATION SHEET

TAG _____

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Specify Number of Notches in Weir	
___ -N1	One Notch
___ -N2	Two Notches
___ -N3	Three Notches
___ -N4	Four Notches
___ -N5	Five Notches
___ -N6	Six Notches

A- Pipe Size In.[mm]	Approx. Wt. Lbs. [kg]	Dome Open Area Sq. In. [cm^2]
2,3,4 [51,76,102]	34 [15]	103 [665]

ENGINEERING SPECIFICATION: ZURN Z105
15" [381mm] Diameter Control-Flo roof drain for dead-level roof construction, Dura-Coated cast iron body, Control-Flo weir shall be linear functioning with integral membrane flashing clamp/gravel guard and Poly-Dome. All data shall be verified proportional to flow rates. Each notch will allow 10 GPM [LPM] of flow per 1" [25mm] of rain water build up above the drain.

OPTIONS (Check/specify appropriate options)

PIPE SIZE
3, 4 [76, 102]
2 , 3, 4 [51, 76, 102]
2 , 3, 4 [51, 76, 102]

(Specify size/type) **OUTLET**
___ IC Inside Caulk
___ NH No-Hub
___ NL Neo-Loc

E BODY HT. DIM.
5-1/4 [133]
5-1/4 [133]
4-9/16 [116]

PREFIXES
___ Z D.C.C.I. Body with Poly-Dome*
___ ZA D.C.C.I. Body with Aluminum Dome
___ ZC D.C.C.I. Body with Cast Iron Dome

SUFFIXES
___ -C Underdeck Clamp
___ -DP Top-Set® Deck Plate (Replaces both -C & -R)
___ -E Static Extension 1 [25] thru 4 [102] (Specify Ht.)
___ -EA Adjustable Extension Assembly 2-1/8 [54] thru 3-1/2 [89]
___ -G Galvanized Cast Iron
___ -R Roof Sump Receiver
___ -TC Neo-Loc Test Cap Gasket (2,3,4 [51,76,102] NL Bottom Outlet Only)
___ -VP Vandal Proof Secured Top
___ -10 6 [152] High Parabolic Weir for Sloped Roof (ZC or ZA)

* Regularly furnished unless otherwise specified

Zurn Industries, LLC | **Specification Drainage Operation**
1801 Pittsburgh Avenue, Erie, PA U.S.A. 16502 · Ph: 855-663-9876, Fax 814-454-7929
In Canada | **Zurn Industries Limited**
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www.zurn.com

Rev. K
Date: 09/25/17
C.N. No. 137793
Prod. | Dwg. No. Z105

APPENDIX



Legend

- Borehole Location
- Monitoring Well

DS CONSULTANTS LTD.
6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Client: Wheelwright Group

Project: Geotechnical Investigation - Mayfield & Coleraine, Bolton, ON

Title: **Borehole Location Plan**

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	SG	MM	June, 2020
Rev:	Scale:	Project No.:	Figure No.:
0	As Shown	20-125-100	1

Image/Map Source: Google Satellite Image

DS CONSULTANTS LTD.

LOG OF BOREHOLE BH20-8

PROJECT: Geotechnical Investigation-Proposed Industrial Building
CLIENT: Wheelwright Group Inc.
PROJECT LOCATION: 8522 Mayfield Road, Bolton, ON
DATUM: Geodetic
BOREHOLE LOCATION: See Drawing 1 N 4854899.39 E 604055.63

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jun/10/2020

REF. NO.: 20-125-100
ENCL NO.: 9

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
230.4							
230.0 0.0	**TOPSOIL:** 150mm						
0.2	**FILL:** clayey silt, trace topsoil/rootlets, brown, moist, firm		1	SS	5		230
229.6							
0.8	**SILTY CLAY TILL:** sandy, trace gravel, occasional sand seams & cobble/boulder, brown, moist, stiff to hard		2	SS	17		Bentonite
			3	SS	21		229
			4	SS	27		228
			5	SS	32		227
	grey, very moist at 4.5m						Filter Pack 226
			6	SS	14		Slotted Pipe
							225
							W. L. 225.0 m Jun 29, 2020
			7	SS	18		Bentonite: Bottom of hole
223.7 6.7	**END OF BOREHOLE:**						

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water level Reading:

Date:	Water Level (mbgl):
Jun 29, 2020	5.4

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

METHANE AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

DS SOIL LOG 20-125-100 MAYFIELD & COLERAINE, BOLTON_WHEELWRIGHT GROUP.GPJ DS.GDT 7/6/20

DS CONSULTANTS LTD.

LOG OF BOREHOLE BH20-10

PROJECT: Geotechnical Investigation-Proposed Industrial Building
CLIENT: Wheelwright Group Inc.
PROJECT LOCATION: 8522 Mayfield Road, Bolton, ON
DATUM: Geodetic
BOREHOLE LOCATION: See Drawing 1 N 4854909.63 E 604086.82

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jun/10/2020

REF. NO.: 20-125-100
ENCL NO.: 11

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS / 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
230.0												
~~229.9~~ 0.0	**TOPSOIL:** 100mm											
0.1	**FILL:** clayey silt, trace organics/rootlets, brown, moist, firm		1	SS	7							
229.2												
0.8	**SILTY CLAY TILL:** sandy, trace gravel, occasional sand seams & cobble/boulder, brown, moist, very stiff to hard		2	SS	25		229					
			3	SS	27		228					
			4	SS	33							
227.1												
2.9	**END OF BOREHOLE:**											

Notes:
1) Borehole open and dry upon completion.

DS SOIL LOG 20-125-100 MAYFIELD & COLERAINE, BOLTON_WHEELWRIGHT GROUP.GPJ DS.GDT 7/6/20

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

#2018
2020-10-30

Connection Single Use Demand Table

WATER CONNECTION

Connection point [3]				
Existing 300mm watemain on North side of Mayfield Road				
Pressure zone of connection point			-	
Total equivalent population to be serviced [1]			78	
Total lands to be serviced			1.11 ha	
Hydrant flow test				
	Hydrant flow test location			
		Pressure (kPa)	Flow (in l/s)	Time
	Minimum water pressure			
	Maximum water pressure			

No.	Water demands		
	Demand type	**Demand**	**Units**
1	Average day flow	0.27	l/s
2	Maximum day flow	0.38	l/s
3	Peak hour flow	0.81	l/s
4	Fire flow [2]	199.9	l/s
Analysis			
5	Maximum day plus fire flow	200.4	l/s

WASTEWATER CONNECTION

Connection point [4]		MH 2A
Total equivalent population to be serviced [1]		78
Total lands to be serviced		1.11 ha
6	Wastewater sewer effluent (in l/s)	1.37l/s

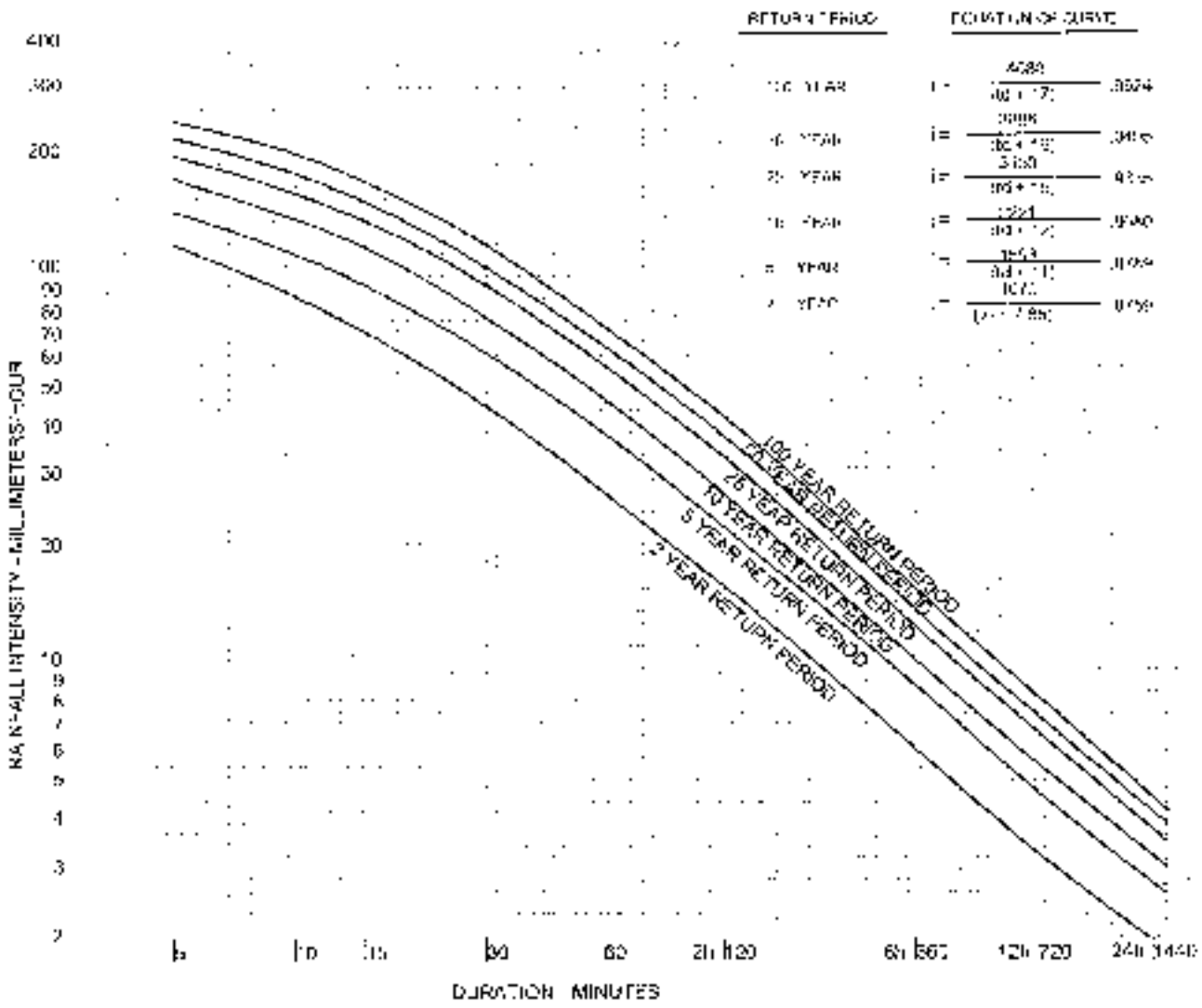
[1] The calculations should be based on the development estimated population (employment or residential).

[2] Please reference the Fire Underwriters Survey Document

[3] Please specify the connection point ID

[4] Please specify the connection point (wastewater line or manhole ID)
Also, the "total equivalent popopulation to be serviced" and the "total lands to be serviced" should reference the connection point. (The FSR should contain one copy of Site Servicing Plan)

Please include the graphs associated with the hydrant flow test information table
Please provide Professional Engineer's signature and stamp on the demand table
All required calculations must be submitted with the demand table submission.



INLET TIME

RUNOFF COEFFICIENT

COMMERCIAL	
INDUSTRIAL	
RESIDENTIAL	
SCHOOLS, CHURCHES, HOSPITALS	
PARKS, CEMETERIES AND YARDS	

TOWN OF CALEDON			
RAINFALL INTENSITY CURVES	1	STANDARD 112.01 NOW 104	JUNE 08
	NO.	REVISION	APR'D DATE

DES'D	C.C	DATE	FEB 2000
DRAWN	B.M	SCALE	N.T.S.

STANDARD No. 104

001:0007----------

****
*100yr STORM, 24HR HYETOGRAPH
****

| CHICAGO STORM |
| Ptotal=101.55 mm |

IDF curve parameters: A=4688.000
B= 17.000
C= .962
used in: INTENSITY = A / (t + B)^C

Duration of storm = 24.00 hrs
Storm time step = 5.00 min
Time to peak ratio = .33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.08	.210	6.08	1.353	12.08	1.217	18.08	.362
.17	.212	6.17	1.443	12.17	1.182	18.17	.358
.25	.215	6.25	1.544	12.25	1.149	18.25	.355
.33	.218	6.33	1.659	12.33	1.118	18.33	.351
.42	.221	6.42	1.790	12.42	1.089	18.42	.347
.50	.224	6.50	1.939	12.50	1.060	18.50	.344
.58	.227	6.58	2.112	12.58	1.033	18.58	.341
.67	.230	6.67	2.313	12.67	1.008	18.67	.337
.75	.233	6.75	2.549	12.75	.983	18.75	.334
.83	.236	6.83	2.830	12.83	.959	18.83	.331
.92	.239	6.92	3.168	12.92	.937	18.92	.328
1.00	.243	7.00	3.581	13.00	.915	19.00	.325
1.08	.246	7.08	4.093	13.08	.894	19.08	.322
1.17	.250	7.17	4.740	13.17	.875	19.17	.319
1.25	.254	7.25	5.577	13.25	.855	19.25	.316
1.33	.257	7.33	6.691	13.33	.837	19.33	.313
1.42	.261	7.42	8.222	13.42	.819	19.42	.310
1.50	.266	7.50	10.419	13.50	.802	19.50	.307
1.58	.270	7.58	13.753	13.58	.786	19.58	.305
1.67	.274	7.67	19.203	13.67	.770	19.67	.302
1.75	.279	7.75	29.130	13.75	.755	19.75	.299
1.83	.283	7.83	50.549	13.83	.741	19.83	.297
1.92	.288	7.92	113.719	13.92	.726	19.92	.294
2.00	.293	8.00	239.354	14.00	.713	20.00	.292
2.08	.298	8.08	141.232	14.08	.700	20.08	.289
2.17	.303	8.17	86.206	14.17	.687	20.17	.287
2.25	.309	8.25	58.523	14.25	.674	20.25	.284
2.33	.314	8.33	42.574	14.33	.663	20.33	.282
2.42	.320	8.42	32.515	14.42	.651	20.42	.280
2.50	.326	8.50	25.745	14.50	.640	20.50	.277
2.58	.332	8.58	20.960	14.58	.629	20.58	.275
2.67	.339	8.67	17.446	14.67	.619	20.67	.273
2.75	.346	8.75	14.786	14.75	.608	20.75	.271
2.83	.353	8.83	12.720	14.83	.599	20.83	.269
2.92	.360	8.92	11.081	14.92	.589	20.92	.267
3.00	.368	9.00	9.758	15.00	.580	21.00	.264
3.08	.376	9.08	8.673	15.08	.571	21.08	.262
3.17	.384	9.17	7.771	15.17	.562	21.17	.260
3.25	.392	9.25	7.013	15.25	.553	21.25	.258

3.33	.401	9.33	6.368	15.33	.545	21.33	.257
3.42	.411	9.42	5.816	15.42	.537	21.42	.255
3.50	.420	9.50	5.338	15.50	.529	21.50	.253
3.58	.431	9.58	4.922	15.58	.522	21.58	.251
3.67	.441	9.67	4.557	15.67	.514	21.67	.249
3.75	.453	9.75	4.235	15.75	.507	21.75	.247
3.83	.464	9.83	3.950	15.83	.500	21.83	.245
3.92	.477	9.92	3.695	15.92	.493	21.92	.244
4.00	.490	10.00	3.467	16.00	.486	22.00	.242
4.08	.504	10.08	3.261	16.08	.480	22.08	.240
4.17	.518	10.17	3.075	16.17	.474	22.17	.238
4.25	.533	10.25	2.907	16.25	.467	22.25	.237
4.33	.549	10.33	2.753	16.33	.461	22.33	.235
4.42	.566	10.42	2.613	16.42	.455	22.42	.234
4.50	.584	10.50	2.485	16.50	.450	22.50	.232
4.58	.603	10.58	2.367	16.58	.444	22.58	.230
4.67	.624	10.67	2.258	16.67	.439	22.67	.229
4.75	.645	10.75	2.158	16.75	.433	22.75	.227
4.83	.669	10.83	2.065	16.83	.428	22.83	.226
4.92	.693	10.92	1.979	16.92	.423	22.92	.224
5.00	.720	11.00	1.899	17.00	.418	23.00	.223
5.08	.748	11.08	1.824	17.08	.413	23.08	.221
5.17	.778	11.17	1.755	17.17	.408	23.17	.220
5.25	.811	11.25	1.690	17.25	.404	23.25	.218
5.33	.846	11.33	1.629	17.33	.399	23.33	.217
5.42	.885	11.42	1.571	17.42	.395	23.42	.216
5.50	.926	11.50	1.517	17.50	.390	23.50	.214
5.58	.971	11.58	1.467	17.58	.386	23.58	.213
5.67	1.020	11.67	1.419	17.67	.382	23.67	.212
5.75	1.074	11.75	1.374	17.75	.378	23.75	.210
5.83	1.134	11.83	1.331	17.83	.373	23.83	.209
5.92	1.199	11.92	1.291	17.92	.370	23.92	.208
6.00	1.272	12.00	1.253	18.00	.366	24.00	.206

001:0008---
*10 minute Time Steps
****
*2yr STORM, 24HR HYETOGRAPH
****

CHICAGO STORM
Ptotal= 43.76 mm

IDF curve parameters: A=1070.000
B= 7.850
C= .876
used in: INTENSITY = A / (t + B)^C

Duration of storm = 24.00 hrs
Storm time step = 10.00 min
Time to peak ratio = .33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.17	.240	6.17	.957	12.17	.825	18.17	.355
.33	.245	6.33	1.055	12.33	.794	18.33	.350
.50	.250	6.50	1.176	12.50	.766	18.50	.345
.67	.255	6.67	1.330	12.67	.739	18.67	.340
.83	.261	6.83	1.532	12.83	.715	18.83	.335

Stormceptor®

FORTERRA

Stormceptor® EF Sizing Report

STORMCEPTOR®
ESTIMATED NET ANNUAL SEDIMENT (TSS) LOAD REDUCTION

09/02/2020

Province:	Ontario
City:	Caledon
Nearest Rainfall Station:	TORONTO LESTER B. PEARSON INT'L AP
NCDC Rainfall Station Id:	8733
Years of Rainfall Data:	44

Site Name:	8522 Mayfield Road

Drainage Area (ha):	1.11
% Imperviousness:	90.00

Runoff Coefficient 'c': 0.84

Particle Size Distribution:	Fine
Target TSS Removal (%):	80.0

Required Water Quality Runoff Volume Capture (%):	90.00
Estimated Water Quality Flow Rate (L/s):	34.69
Oil / Fuel Spill Risk Site?	Yes
Upstream Flow Control?	No
Peak Conveyance (maximum) Flow Rate (L/s):	73.60
Site Sediment Transport Rate (kg/ha/yr):	

Project Name:	8522 Mayfiled Road
Project Number:	2018
Designer Name:	Ryan Adams
Designer Company:	A.M.Candaras Inc.
Designer Email:	ryan@amcai.com
Designer Phone:	905-850-8020
EOR Name:	
EOR Company:	
EOR Email:	
EOR Phone:	

Net Annual Sediment (TSS) Load Reduction Sizing Summary

Stormceptor Model	TSS Removal Provided (%)
EFO4	67
EFO6	77
EFO8	83
EFO10	86
EFO12	88

Recommended Stormceptor EFO Model: EFO8

Estimated Net Annual Sediment (TSS) Load Reduction (%): 83

Water Quality Runoff Volume Capture (%): > 90

imbrium

THIRD-PARTY TESTING AND VERIFICATION

►**Stormceptor® EF and Stormceptor® EFO** are the latest evolutions in the Stormceptor® oil-grit separator (OGS) technology series, and are designed to remove a wide variety of pollutants from stormwater and snowmelt runoff. These technologies have been third-party tested in accordance with the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators** and performance has been third-party verified in accordance with the **ISO 14034 Environmental Technology Verification (ETV)** protocol.

PERFORMANCE

►**Stormceptor® EF and EFO** remove stormwater pollutants through gravity separation and floatation, and feature a patent-pending design that generates positive removal of total suspended solids (TSS) throughout each storm event, including high-intensity storms. Captured pollutants include sediment, free oils, and sediment-bound pollutants such as nutrients, heavy metals, and petroleum hydrocarbons. Stormceptor is sized to remove a high level of TSS from the frequent rainfall events that contribute the vast majority of annual runoff volume and pollutant load. The technology incorporates an internal bypass to convey excessive stormwater flows from high-intensity storms through the device without resuspension and washout (scour) of previously captured pollutants. Proper routine maintenance ensures high pollutant removal performance and protection of downstream waterwavs.

PARTICLE SIZE DISTRIBUTION (PSD)

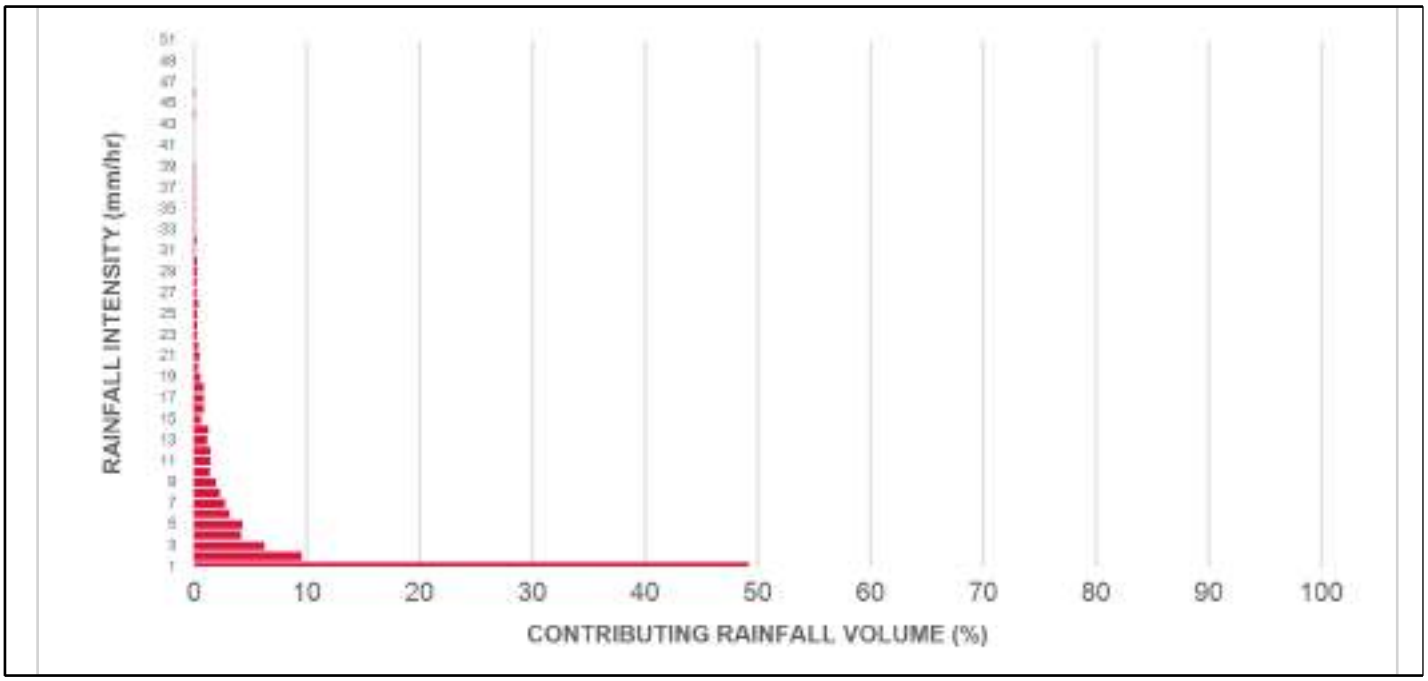
►The **Canadian ETV PSD** shown in the table below was used, or in part, for this sizing. This is the identical PSD that is referenced in the Canadian ETV ***Procedure for Laboratory Testing of Oil-Grit Separators*** for both sediment removal testing and scour testing. The Canadian ETV PSD contains a wide range of particle sizes in the sand and silt fractions, and is considered reasonably representative of the particle size fractions found in typical urban stormwater runoff.

Particle Size (µm)	Percent Less Than	Particle Size Fraction (µm)	Percent
1000	100	500-1000	5
500	95	250-500	5
250	90	150-250	15
150	75	100-150	15
100	60	75-100	10
75	50	50-75	5
50	45	20-50	10
20	35	8-20	15
8	20	5-8	10
5	10	2-5	5
2	5	<2	5

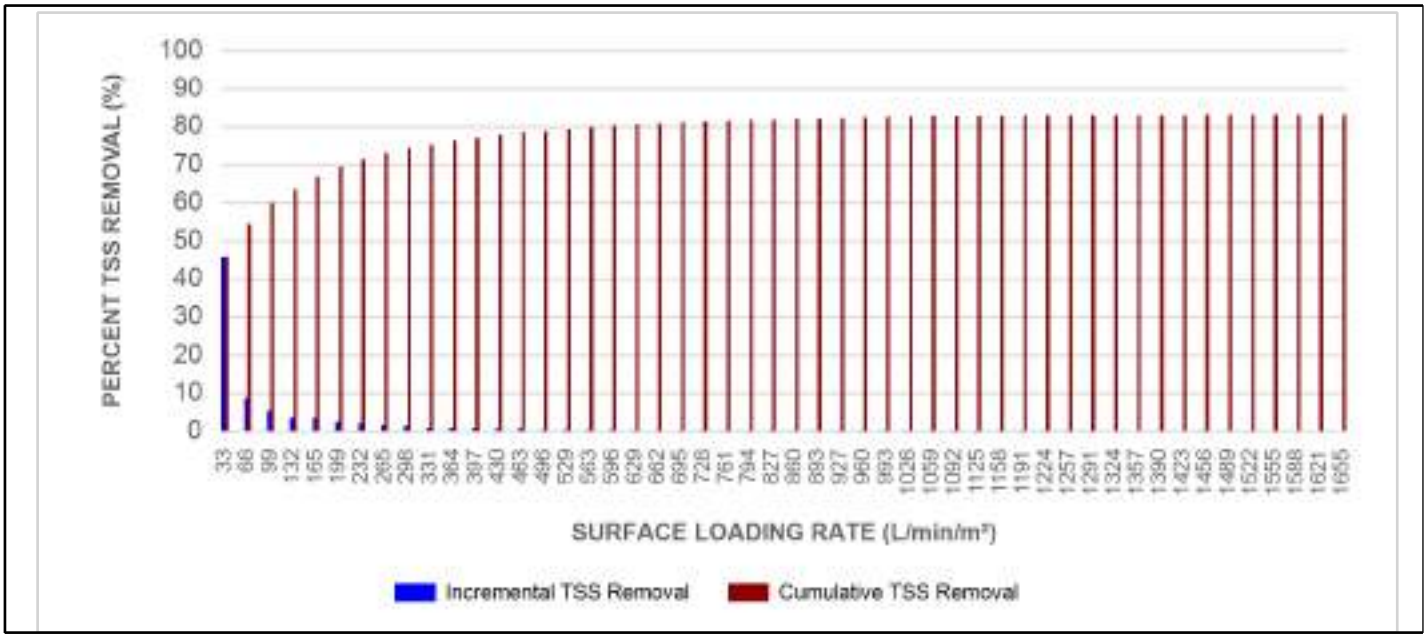
Rainfall Intensity (mm / hr)	Percent Rainfall Volume (%)	Cumulative Rainfall Volume (%)	Flow Rate (L/s)	Flow Rate (L/min)	Surface Loading Rate (L/min/m²)	Removal Efficiency (%)	Incremental Removal (%)	Cumulative Removal (%)
1	49.2	49.2	2.59	156.0	33.0	93	45.8	45.8
2	9.6	58.8	5.18	311.0	66.0	91	8.7	54.5
3	6.3	65.1	7.78	467.0	99.0	87	5.5	60.0
4	4.2	69.3	10.37	622.0	132.0	84	3.5	63.5
5	4.3	73.6	12.96	778.0	165.0	80	3.5	66.9
6	3.2	76.8	15.55	933.0	199.0	77	2.5	69.4
7	2.8	79.6	18.14	1089.0	232.0	73	2.1	71.4
8	2.3	81.9	20.74	1244.0	265.0	71	1.6	73.1
9	2.0	83.9	23.33	1400.0	298.0	68	1.4	74.4
10	1.4	85.3	25.92	1555.0	331.0	64	0.9	75.3
11	1.5	86.8	28.51	1711.0	364.0	62	0.9	76.3
12	1.5	88.3	31.10	1866.0	397.0	59	0.9	77.1
13	1.2	89.5	33.70	2022.0	430.0	57	0.7	77.8
14	1.3	90.8	36.29	2177.0	463.0	56	0.7	78.6
15	0.7	91.5	38.88	2333.0	496.0	55	0.4	78.9
16	0.9	92.4	41.47	2488.0	529.0	54	0.5	79.4
17	0.9	93.3	44.07	2644.0	563.0	53	0.5	79.9
18	0.9	94.2	46.66	2799.0	596.0	52	0.5	80.4
19	0.6	94.8	49.25	2955.0	629.0	52	0.3	80.7
20	0.4	95.2	51.84	3110.0	662.0	52	0.2	80.9
21	0.5	95.7	54.43	3266.0	695.0	52	0.3	81.2
22	0.4	96.1	57.03	3422.0	728.0	51	0.2	81.4
23	0.3	96.4	59.62	3577.0	761.0	51	0.2	81.5
24	0.3	96.7	62.21	3733.0	794.0	51	0.2	81.7
25	0.3	97.0	64.80	3888.0	827.0	51	0.2	81.8

Rainfall Intensity (mm / hr)	Percent Rainfall Volume (%)	Cumulative Rainfall Volume (%)	Flow Rate (L/s)	Flow Rate (L/min)	Surface Loading Rate (L/min/m²)	Removal Efficiency (%)	Incremental Removal (%)	Cumulative Removal (%)
26	0.4	97.4	67.39	4044.0	860.0	51	0.2	82.0
27	0.2	97.6	69.99	4199.0	893.0	51	0.1	82.1
28	0.2	97.8	72.58	4355.0	927.0	50	0.1	82.2
29	0.3	98.1	75.17	4510.0	960.0	50	0.2	82.4
30	0.3	98.4	77.76	4666.0	993.0	50	0.2	82.5
31	0.1	98.5	80.35	4821.0	1026.0	50	0.1	82.6
32	0.2	98.7	82.95	4977.0	1059.0	50	0.1	82.7
33	0.1	98.8	85.54	5132.0	1092.0	49	0.0	82.7
34	0.1	98.9	88.13	5288.0	1125.0	49	0.0	82.8
35	0.1	99.0	90.72	5443.0	1158.0	49	0.0	82.8
36	0.1	99.1	93.31	5599.0	1191.0	48	0.0	82.9
37	0.1	99.2	95.91	5754.0	1224.0	48	0.0	82.9
38	0.1	99.3	98.50	5910.0	1257.0	48	0.0	83.0
39	0.1	99.4	101.09	6065.0	1291.0	47	0.0	83.0
40	0.0	99.4	103.68	6221.0	1324.0	47	0.0	83.0
41	0.0	99.4	106.27	6376.0	1357.0	47	0.0	83.0
42	0.0	99.4	108.87	6532.0	1390.0	46	0.0	83.0
43	0.0	99.4	111.46	6688.0	1423.0	45	0.0	83.0
44	0.1	99.5	114.05	6843.0	1456.0	44	0.0	83.1
45	0.0	99.5	116.64	6999.0	1489.0	43	0.0	83.1
46	0.1	99.6	119.24	7154.0	1522.0	42	0.0	83.1
47	0.0	99.6	121.83	7310.0	1555.0	42	0.0	83.1
48	0.0	99.6	124.42	7465.0	1588.0	41	0.0	83.1
49	0.0	99.6	127.01	7621.0	1621.0	40	0.0	83.1
50	0.0	99.6	129.60	7776.0	1655.0	39	0.0	83.1
							Estimated Net Annual Sediment (TSS) Load Reduction =	**83 %**

RAINFALL DATA FROM TORONTO LESTER B. PEARSON INT'L AP RAINFALL STATION



INCREMENTAL AND CUMULATIVE TSS REMOVAL FOR THE RECOMMENDED STORMCEPTOR® MODEL



Maximum Pipe Diameter / Peak Conveyance

Stormceptor EF / EFO	Model Diameter		Min Angle Inlet / Outlet Pipes	Max Inlet Pipe Diameter		Max Outlet Pipe Diameter		Peak Conveyance Flow Rate	
	(m)	(ft)		(mm)	(in)	(mm)	(in)	(L/s)	(cfs)
EF4 / EFO4	1.2	4	90	609	24	609	24	425	15
EF6 / EFO6	1.8	6	90	914	36	914	36	990	35
EF8 / EFO8	2.4	8	90	1219	48	1219	48	1700	60
EF10 / EFO10	3.0	10	90	1828	72	1828	72	2830	100
EF12 / EFO12	3.6	12	90	1828	72	1828	72	2830	100

SCOUR PREVENTION AND ONLINE CONFIGURATION

►**Stormceptor® EF and EFO** feature an internal bypass and superior scour prevention technology that have been demonstrated in third-party testing according to the scour testing provisions of the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators**, and the exceptional scour test performance has been third-party verified in accordance with the ISO 14034 ETV protocol. As a result, Stormceptor EF and EFO are approved for online installation, eliminating the need for costly additional bypass structures, piping, and installation expense.

DESIGN FLEXIBILITY

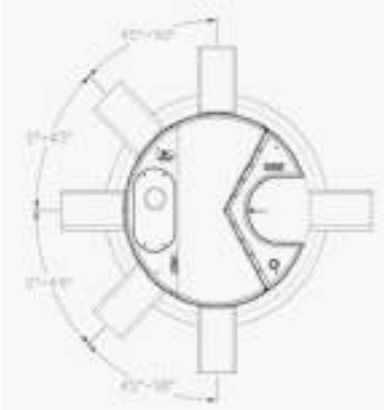
►**Stormceptor® EF** and **EFO** offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe or multiple inlet pipes, and/or surface runoff through an inlet grate. The device can also serve as a junction structure, accommodate a 90-degree inlet-to-outlet bend angle, and can be modified to ensure performance in submerged conditions.

OIL CAPTURE AND RETENTION

►While Stormceptor® EF will capture and retain oil from dry weather spills and low intensity runoff, **Stormceptor® EFO** has demonstrated superior oil capture and greater than 99% oil retention in third-party testing according to the light liquid re-entrainment testing provisions of the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators**. Stormceptor EFO is recommended for sites where oil capture and retention is a requirement.







INLET-TO-OUTLET DROP

Elevation differential between inlet and outlet pipe inverts is dictated by the angle at which the inlet pipe(s) enters the unit.
0° - 45° : The inlet pipe is 1-inch (25mm) higher than the outlet pipe.
45° - 90° : The inlet pipe is 2-inches (50mm) higher than the outlet pipe.

HEAD LOSS

The head loss through Stormceptor EF is similar to that of a 60-degree bend structure. The applicable K value for calculating minor losses through the unit is 1.1. For submerged conditions the applicable K value is 3.0.

Pollutant Capacity

Stormceptor EF / EFO	Model Diameter		Depth (Outlet Pipe Invert to Sump Floor)		Oil Volume		Recommended Sediment Maintenance Depth *		Maximum Sediment Volume *		Maximum Sediment Mass **	
	(m)	(ft)	(m)	(ft)	(L)	(Gal)	(mm)	(in)	(L)	(ft^3)	(kg)	(lb)
EF4 / EFO4	1.2	4	1.52	5.0	265	70	203	8	1190	42	1904	5250
EF6 / EFO6	1.8	6	1.93	6.3	610	160	305	12	3470	123	5552	15375
EF8 / EFO8	2.4	8	2.59	8.5	1070	280	610	24	8780	310	14048	38750
EF10 / EFO10	3.0	10	3.25	10.7	1670	440	610	24	17790	628	28464	78500
EF12 / EFO12	3.6	12	3.89	12.8	2475	655	610	24	31220	1103	49952	137875

*Increased sump depth may be added to increase sediment storage capacity
** Average density of wet packed sediment in sump = 1.6 kg/L (100 lb/ft^3)

Feature	Benefit	Feature Appeals To
Patent-pending enhanced flow treatment and scour prevention technology	Superior, verified third-party performance	Regulator, Specifying & Design Engineer
Third-party verified light liquid capture and retention for EFO version	Proven performance for fuel/oil hotspot locations	Regulator, Specifying & Design Engineer, Site Owner
Functions as bend, junction or inlet structure	Design flexibility	Specifying & Design Engineer
Minimal drop between inlet and outlet	Site installation ease	Contractor
Large diameter outlet riser for inspection and maintenance	Easy maintenance access from grade	Maintenance Contractor & Site Owner

STANDARD STORMCEPTOR EF/EFO DRAWINGS

For standard details, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

STANDARD STORMCEPTOR EF/EFO SPECIFICATION

For specifications, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

STANDARD PERFORMANCE SPECIFICATION FOR "OIL GRIT SEPARATOR" (OGS) STORMWATER QUALITY TREATMENT DEVICE

PART 1 – GENERAL

1.1 WORK INCLUDED

This section specifies requirements for selecting, sizing, and designing an underground Oil Grit Separator (OGS) device for stormwater quality treatment, with third-party testing results and a Statement of Verification in accordance with ISO 14034 Environmental Management – Environmental Technology Verification (ETV).

1.2 REFERENCE STANDARDS & PROCEDURES

ISO 14034:2016 Environmental management – Environmental technology verification (ETV)

Canadian Environmental Technology Verification (ETV) Program's **Procedure for Laboratory Testing of Oil-Grit Separators**

1.3 SUBMITTALS

1.3.1 All submittals, including sizing reports & shop drawings, shall be submitted upon request with each order to the contractor then forwarded to the Engineer of Record for review and acceptance. Shop drawings shall detail all OGS components, elevations, and sequence of construction.

1.3.2 Alternative devices shall have features identical to or greater than the specified device, including: treatment chamber diameter, treatment chamber wet volume, sediment storage volume, and oil storage volume.

1.3.3 Unless directed otherwise by the Engineer of Record, OGS stormwater quality treatment product substitutions or alternatives submitted within ten days prior to project bid shall not be accepted. All alternatives or substitutions submitted shall be signed and sealed by a local registered Professional Engineer, based on the exact same criteria detailed in Section 3, in entirety, subject to review and approval by the Engineer of Record.

PART 2 – PRODUCTS

2.1 OGS POLLUTANT STORAGE

The OGS device shall include a sump for sediment storage, and a protected volume for the capture and storage of petroleum hydrocarbons and buoyant gross pollutants. The minimum sediment & petroleum hydrocarbon storage capacity shall be as follows:

2.1.1	4 ft (1219 mm) Diameter OGS Units:	1.19 m^3 sediment / 265 L oil
	6 ft (1829 mm) Diameter OGS Units:	3.48 m^3 sediment / 609 L oil
	8 ft (2438 mm) Diameter OGS Units:	8.78 m^3 sediment / 1,071 L oil
	10 ft (3048 mm) Diameter OGS Units:	17.78 m^3 sediment / 1,673 L oil
	12 ft (3657 mm) Diameter OGS Units:	31.23 m^3 sediment / 2,476 L oil

PART 3 – PERFORMANCE & DESIGN

3.1 GENERAL

The OGS stormwater quality treatment device shall be verified in accordance with ISO 14034:2016 Environmental management – Environmental technology verification (ETV). The OGS stormwater quality treatment device shall

remove oil, sediment and gross pollutants from stormwater runoff during frequent wet weather events, and retain these pollutants during less frequent high flow wet weather events below the insert within the OGS for later removal during maintenance. The Manufacturer shall have at least ten (10) years of local experience, history and success in engineering design, manufacturing and production and supply of OGS stormwater quality treatment device systems, acceptable to the Engineer of Record.

3.2 SIZING METHODOLOGY

The OGS device shall be engineered, designed and sized to provide stormwater quality treatment based on treating a minimum of 90 percent of the average annual runoff volume and a minimum removal of an annual average 60% of the sediment (TSS) load based on the Particle Size Distribution (PSD) specified in the sizing report for the specified device. Sizing shall be determined using historical rainfall data and a sediment removal performance curve derived from the actual third-party verified laboratory testing data. The OGS device shall also have sufficient annual sediment storage capacity as specified and calculated in Section 2.1.

3.3 CANADIAN ETV or ISO 14034 ETV VERIFICATION OF SCOUR TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of third-party scour testing conducted in accordance with the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.**

3.3.1 To be acceptable for on-line installation, the OGS device must demonstrate an average scour test effluent concentration less than 10 mg/L at each surface loading rate tested, up to and including 2600 L/min/m^2.

3.4 LIGHT LIQUID RE-ENTRAINMENT SIMULATION TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of completed third-party Light Liquid Re-entrainment Simulation Testing in accordance with the Canadian ETV **Program's Procedure for Laboratory Testing of Oil-Grit Separators,** with results reported within the Canadian ETV or ISO 14034 ETV verification. This re-entrainment testing is conducted with the device pre-loaded with low density polyethylene (LDPE) plastic beads as a surrogate for light liquids such as oil and fuel. Testing is conducted on the same OGS unit tested for sediment removal to assess whether light liquids captured after a spill are effectively retained at high flow rates.

3.4.1 For an OGS device to be an acceptable stormwater treatment device on a site where vehicular traffic occurs and the potential for an oil or fuel spill exists, the OGS device must have reported verified performance results of greater than 99% cumulative retention of LDPE plastic beads for the five specified surface loading rates (ranging 200 L/min/m2 to 2600 L/min/m2) in accordance with the Light Liquid Re-entrainment Simulation Testing within the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.**However, an OGS device shall not be allowed if the Light Liquid Re-entrainment Simulation Testing was performed with screening components within the OGS device that are effective at retaining the LDPE plastic beads, but would not be expected to retain light liquids such as oil and fuel.

Appendix B

Natural Heritage

Table 1: Field Studies and Natural Inventories (2023)

SURVEY TYPE		DATE
• Headwater Drainage Feature Assessment	• HDFA Round 1	April 19. 2023
	• HDFA Round 2	May 29, 2023
• Amphibian Calling Surveys	• AMC Round 1	April 20, 2023
	• AMC Round 2	May 12, 2023
	• AMC Round 3	June 22, 2023
• Aquatic Assessment & Fish Community Sampling		June 14, 2023
• Breeding Bird Surveys	• BBS Round 1	June 11, 2023
	• BBS Round 2	June 29, 2023
• Summer Botanical Inventory and ELC		July 12, 2023
• Fall Botanical Inventory & ELC Refinements		September 13, 2023

Table 2: Ecological Landscape Characterization (ELC) Community Descriptions

ELC TYPE	COMMUNITY DESCRIPTION	S-RANK (NHIC 2022)
CULTURAL		
Cultural Meadow		
CUM1-1 (a) Mineral Cultural Meadow	• This community lacks a well-defined canopy layer, but did rarely include woody species such as Manitoba Maple (*Acer negundo)* and Staghorn Sumac (*Rhus typhina)* • The dense ground layer included a large diversity of species. Abundant species included Stinking Chamomile (*Anthemis cotula)*, Tufted Vetch (*Vicia cracca)*, Garden Bird's Foot Trefoil (*Lotus corniculata)*, and Common Plantain (*Plantago major).*	N/A
CUM1-1 (b) Mineral Cultural Meadow	• Although also a mineral cultural meadow, this community can be distinguished from the community due to its high level of disturbance. This included a mound of aggregate/crushed asphalt fill covered in invasive Canada Thistle (*Cirsium arvense)*. • Abundant ground layer included Canada Thistle, White Sweet Clover (*Melilotus albus),* Field Sow-Thistle (*Sonchus arvensis* ssp. *arvensis)*, Reed-Canary Grass (*Phalaris arundinacea)*, Stinking Chamomile, Wild Carrot (*Daucus carota)* and Curled Dock (*Rumex crispus)*. • A channelized drainage ditch through this feature is dominated by European Reed (*Phragmites australis* ssp. *australis)* and Blue Cattail (*Typha* x *glauca*).	N/A
Cultural Thicket		
CUT1 Mineral Cultural Thicket	• A sparse canopy consisting primarily of Trembling Aspen (*Populus tremuloides)* and Eastern Cottonwood (*Populus dentata)*. • The shrub layer is the dominant form within this community, and consists of Cottony Willow (*Salix eriocephala)*, Meadow Willow (*Salix petiolaris)*, Bebb's Willow (*Salix bebbiana)* and Nannyberry (*Viburnum lentago)*. • Ground layer had a moderate cover and included Tall Goldenrod (*Solidago altissima* ssp. *altissima)*, Big Bluestem (*Andropodon gerardii)*, Common Milkweed (*Asclepias syriaca)*, Canada Thistle, Tufted Vetch, Fox Sedge (*Carex vulpinoidea)* and Purple Loosestrife (*Lythrum salicaria)*	N/A

ELC TYPE	COMMUNITY DESCRIPTION	S-RANK (NHIC 2022)
MARSH		
Meadow Marsh		
MAM2 Mineral Meadow Marsh	• This community lacked a canopy layer, and consisted of a mixture of wetland graminoids and forbs as the dominant vegetation form. • Dense ground layer vegetation included Reed-Canary Grass, Canada Thistle, Panicled Aster (*Symphyotrichum lanceolatum),* Curled Dock, Redtop (*Agrostis gigantea),* Meadow Fescue (*Lolium pratense)*, Blunt Spikerush (*Eleocharis obtusa)* and Northern Water Plantain (*Alisma triviale)*.	N/A
Shallow Marsh		
MAS2/MAM2 Mineral Shallow Marsh/Mineral Meadow Marsh	• This community lacked a well-defined canopy layer and included only one individual Bebb's Willow specimen. • Abundant ground layer vegetation included European Reed, Broad-Leaved Cattail (*Typha latifolia)*, Reed-Canary Grass, Panicled Aster, Small Duckweed (*Lemna minor)*, Purple Loosestrife, Northern Willowherb (*Epilobium ciliatum* ssp. *ciliatum),* and Common Shephard's Purse (*Capsella bursa-pastoris)*. • Standing water (reaching a maximum depth of 1m+) within the interior of this community along the drainage feature.	N/A

													LOCAL / REGIONAL STATUS				
1	x																
2	x	ORDER	FAMILY	LATIN NAME	COMMON NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	OWES WETLAND SPECIES	WEEDINESS INDEX	INVASIVE EXOTIC RANK (Urban Forest Associates 2002)	PROVINCIAL STATUS (S-RANK)	GLOBAL STATUS (G-RANK)	COSSARO (MNRF)	COSEWIC STATUS	PEEL (Varga 2005)	TRCA (TRCA April 2016)	CVC/PEEL (CVC 2002)	PEEL	AUTHORITY
13	x	DICOTYLEDONS	Adoxaceae	Viburnum lentago	Nannyberry	4	0	T			S5	G5			X	L5	X	X	L.
29	x	DICOTYLEDONS	Amaranthaceae	Amaranthus retroflexus	Redroot Amaranth		3		-1		SNA	G5			X	L+	X	I	L.
50	x	DICOTYLEDONS	Amaranthaceae	Chenopodium album	Common Lamb's-Quarters		3		-1		SNA	G5			X	L+	X	I	L.
87	x	DICOTYLEDONS	Anacardiaceae	Rhus typhina	Staghorn Sumac	1	3				S5	G5			X	L5	X	X	L.
113	x	DICOTYLEDONS	Apiaceae	Daucus carota	Wild Carrot		5		-2		SNA	GNR			X	L+	X	I	L.
154	x	DICOTYLEDONS	Apocynaceae	Asclepias incarnata ssp. incarnata	Swamp Milkweed	6	-5	I			S5	G5T5			X	L4	X	X	L.
159	x	DICOTYLEDONS	Apocynaceae	Asclepias syriaca	Common Milkweed	0	5				S5	G5			X	L5	X	X	L.
192	x	DICOTYLEDONS	Asteraceae	Ambrosia artemisiifolia	Common Ragweed	0	3				S5	G5			X	L5	X	X	L.
212	x	DICOTYLEDONS	Asteraceae	Anthemis cotula	Stinking Chamomile		3		-1		SNA	G5			X	L+	X	I	L.
215	x	DICOTYLEDONS	Asteraceae	Arctium minus	Common Burdock		3		-2		SNA	GNR			X	L+	X	I	(Hill) Bernh.
236	x	DICOTYLEDONS	Asteraceae	Artemisia vulgaris	Common Wormwood		5		-1	P	SNA	GU			X	L+	X	I	L.
245	x	DICOTYLEDONS	Asteraceae	Bidens frondosa	Devil's Beggarticks	3	-3	I			S5	G5			X	L5	X	X	L.
276	x	DICOTYLEDONS	Asteraceae	Cichorium intybus	Wild Chicory		5		-1		SNA	GNR			X	L+	X	I	L.
277	x	DICOTYLEDONS	Asteraceae	Cirsium arvense	Canada Thistle		3		-1	1	SNA	G5			X	L+	X	I	(L.) Scop.
285	x	DICOTYLEDONS	Asteraceae	Cirsium vulgare	Bull Thistle		3		-1		SNA	GNR			X	L+	X	I	(Savi) Tenore
308	x	DICOTYLEDONS	Asteraceae	Erigeron annuus	Annual Fleabane	0	3				S5	G5			X	L5	X		(L.) Pers.
309	x	DICOTYLEDONS	Asteraceae	Erigeron canadensis	Canada Horseweed	0	3				S5	G5			X	L5	X	X	(L.)
328	x	DICOTYLEDONS	Asteraceae	Euthamia graminifolia	Grass-Leaved Goldenrod	2	0				S5	G5			X	L5	X	X	(L.) Nutt.
386	x	DICOTYLEDONS	Asteraceae	Lactuca canadensis	Canada Lettuce	3	3				S5	G5			U	L4	X	X	L.
392	x	DICOTYLEDONS	Asteraceae	Lactuca serriola	Prickly Lettuce		3		-1		SNA	GNR			X	L+	I	I	L.
462	x	DICOTYLEDONS	Asteraceae	Solidago altissima var. altissima	Tall Goldenrod	1	3				S5	G5			X	L5	X	X	L.
468	x	DICOTYLEDONS	Asteraceae	Solidago canadensis	Canada Goldenrod	1	3				S5	G5			X		X	X	L.
505	x	DICOTYLEDONS	Asteraceae	Sonchus arvensis ssp. arvensis	Field Sow-Thistle		3				SNA	GNRTNR			X	L+	I	I	L.
508	x	DICOTYLEDONS	Asteraceae	Sonchus oleraceus	Common Sow-Thistle		3		-1		SNA	GNR			X	L+	I	I	L.
521	x	DICOTYLEDONS	Asteraceae	Symphyotrichum lanceolatum	Panicled Aster	3	-3	I			S5	G5			X	L5	X	X	(Willd.) G.L. Nesom
531	x	DICOTYLEDONS	Asteraceae	Symphyotrichum novae-angliae	New England Aster	2	-3				S5	G5			X	L5	X	X	(L.) G.L. Nesom
552	x	DICOTYLEDONS	Asteraceae	Taraxacum officinale	Common Dandelion		3		-2		SNA	G5			X	L+	I	I	F.H. Wiggers
566	x	DICOTYLEDONS	Asteraceae	Tussilago farfara	Coltsfoot		3	T	-2	4	SNA	GNR			X	L+	I	I	L.
684	x	DICOTYLEDONS	Brassicaceae	Brassica nigra	Black Mustard		5		-1		SNA	GNR			X	L+	X	I	(L.) Koch
686	x	DICOTYLEDONS	Brassicaceae	Brassica rapa	Field Mustard		5		-1		SNA	GNR			X	L+	X	I	L.
691	x	DICOTYLEDONS	Brassicaceae	Capsella bursa-pastoris	Common Shepherd's Purse		3		-1		SNA	GNR			X	L+	X	I	(L.) Medikus
725	x	DICOTYLEDONS	Brassicaceae	Erucastrum gallicum	Common Dog Mustard		5		-1		SNA	G5			X	L+	X	I	(Willd.) O. Schulz
734	x	DICOTYLEDONS	Brassicaceae	Lepidium campestre	Field Peppergrass		5		-1		SNA	GNR			X	L+	I	I	(L.) W.T. Aiton
823	x	DICOTYLEDONS	Caprifoliaceae	Lonicera tatarica	Tartarian Honeysuckle		3		-3	1	SNA	GNR			X	L+	I	I	L.
956	x	DICOTYLEDONS	Convolvulaceae	Convolvulus arvensis	Field Bindweed		5		-1	3	SNA	GNR			X	L+	X	I	L.
977	x	DICOTYLEDONS	Cornaceae	Cornus sericea	Red-Osier Dogwood	2	-3	I*			S5	G5			X	L5	X	X	L.
1158	x	DICOTYLEDONS	Fabaceae	Lotus corniculatus	Garden Bird's-Foot Trefoil		3		-2	2	SNA	GNR			X	L+	I	I	L.
1165	x	DICOTYLEDONS	Fabaceae	Medicago lupulina	Black Medick		3		-1	4	SNA	GNR			X	L+	I	I	L.
1169	x	DICOTYLEDONS	Fabaceae	Melilotus albus	White Sweet-Clover		3		-3	2	SNA	G5			X	L+	I	I	Medik.
1171	x	DICOTYLEDONS	Fabaceae	Melilotus officinalis	Yellow Sweet-Clover		3		-1	2	SNA	GNR			X	L+	I	I	(L.) Pallas
1185	x	DICOTYLEDONS	Fabaceae	Securigera varia	Purple Crown-Vetch		5		-2	1	SNA	GNR			X	L+	X	I	(L.) Lassen
1197	x	DICOTYLEDONS	Fabaceae	Trifolium hybridum	Alsike Clover		3		-1		SNA	GNR			X	L+	I	I	L.
1200	x	DICOTYLEDONS	Fabaceae	Trifolium pratense	Red Clover		3		-2	4	SNA	GNR			X	L+	I	I	L.
1202	x	DICOTYLEDONS	Fabaceae	Trifolium repens	White Clover		3		-1	4	SNA	GNR			X	L+	I	I	L.
1206	x	DICOTYLEDONS	Fabaceae	Vicia cracca	Tufted Vetch		5		-1	2	SNA	GNR			X	L+	I	I	L.
1220	x	DICOTYLEDONS	Fagaceae	Quercus macrocarpa	Bur Oak	5	3	T			S5	G5			X	L4	X	X	Michaux
1353	x	DICOTYLEDONS	Lamiaceae	Leonurus cardiaca ssp. cardiaca	Common Motherwort		5		-2		SNA	GNRTNR			X	L+	I	I	L.
1447	x	DICOTYLEDONS	Lythraceae	Lythrum salicaria	Purple Loosestrife		-5	I	-3	1	SNA	G5			X	L+	I	I	L.
1524	x	DICOTYLEDONS	Onagraceae	Epilobium ciliatum ssp. ciliatum	Northern Willowherb	3	-3	I*			S5	G5T5			X	L5	X	X	Raf.
1537	x	DICOTYLEDONS	Onagraceae	Oenothera biennis	Common Evening Primrose	0	3				S5	G5			U	L5	X	X	L.
1647	x	DICOTYLEDONS	Plantaginaceae	Linaria vulgaris	Butter-And-Eggs		5		-1	4	SNA	GNR			X	L+	I	I	Miller
1660	x	DICOTYLEDONS	Plantaginaceae	Plantago lanceolata	English Plantain		3		-1		SNA	G5			X	L+	I	I	L.
1661	x	DICOTYLEDONS	Plantaginaceae	Plantago major	Common Plantain		3		-1		SNA	G5			X	L+	I	I	L.
1713	x	DICOTYLEDONS	Polygonaceae	Fallopia convolvulus	Eurasian Black Bindweed		3		-1		SNA	GNR			X	L+	I	I	(L.) Á. Löve
1727	x	DICOTYLEDONS	Polygonaceae	Persicaria maculosa	Spotted Lady's-Thumb		-3	T	-1		SNA	G3G5			X	L+	I	I	Gray
1748	x	DICOTYLEDONS	Polygonaceae	Reynoutria japonica var. japonica	Japanese Knotweed		3		-1	2	SNA	GNRTNR			X	L+	I	I	Houttuyn
1754	x	DICOTYLEDONS	Polygonaceae	Rumex crispus	Curled Dock		0	T	-2		SNA	GNR			X	L+	I	I	L.
1868	x	DICOTYLEDONS	Ranunculaceae	Ranunculus sceleratus	Cursed Buttercup	2	-5	I			S5	G5			X	L5			L.
1999	x	DICOTYLEDONS	Rosaceae	Geum urbanum	Wood Avens		5		-1		SNA	G5			X	L+	I	I	L.
2009	x	DICOTYLEDONS	Rosaceae	Malus pumila	Common Apple		5		-1		SNA	G5			X	L+	I	I	Miller
2012	x	DICOTYLEDONS	Rosaceae	Physocarpus opulifolius	Eastern Ninebark	5	-3	T			S5	G5			R1	L3	RL	RL	(L.) Maximowicz
2059	x	DICOTYLEDONS	Rosaceae	Prunus virginiana var. virginiana	Chokecherry	2	3				S5	G5T5			X	L5	X	X	L.
2160	x	DICOTYLEDONS	Salicaceae	Populus deltoides ssp. deltoides	Eastern Cottonwood	4	0	T			S5	G5T5			X	L5	X	X	Bartram ex Marshall
2165	x	DICOTYLEDONS	Salicaceae	Populus tremuloides	Trembling Aspen	2	0	T			S5	G5			X	L5	X	X	Michaux
2180	x	DICOTYLEDONS	Salicaceae	Salix bebbiana	Bebb's Willow	4	-3	I			S5	G5			X	L4	X	X	Sargent
2190	x	DICOTYLEDONS	Salicaceae	Salix eriocephala	Cottony Willow	4	-3	T			S5	G5			X	L5	X	X	Michaux
2207	x	DICOTYLEDONS	Salicaceae	Salix petiolaris	Meadow Willow	3	-3	I			S5	G5			X	L4	X	X	J.E. Smith
2228	x	DICOTYLEDONS	Sapindaceae	Acer negundo	Manitoba Maple	0	0	T		1	S5	G5			X	L+?	X	X	L.
2305	x	DICOTYLEDONS	Ulmaceae	Ulmus americana	White Elm	3	-3	T			S5	G4			X	L5	X	X	L.
2397	x	GYMNOSPERMS	Pinaceae	Pinus strobus	Eastern White Pine	4	3	T			S5	G5			X	L4	X	X	L.
2406	x	MONOCOTYLEDONS	Alismataceae	Alisma triviale	Northern Water-Plantain	1	-5	I			S5	G5			X	L5			L.
2429	x	MONOCOTYLEDONS	Araceae	Lemna minor	Small Duckweed	5	-5	I			S5	G5			X	L5	X	X	L.
2708	x	MONOCOTYLEDONS	Cyperaceae	Carex vulpinoidea	Fox Sedge	3	-5	I			S5	G5			X	L5	X	X	Michaux
2764	x	MONOCOTYLEDONS	Cyperaceae	Eleocharis obtusa	Blunt Spikerush	5	-5	I			S5	G5			U	L3	X	X	(Willd.) Schultes
2802	x	MONOCOTYLEDONS	Cyperaceae	Schoenoplectus tabernaemontani	Soft-Stemmed Bulrush	5	-5	I			S5	G5			X	L4	X	X	(C.C. Gmelin) Palla
2871	x	MONOCOTYLEDONS	Juncaceae	Juncus dudleyi	Dudley's Rush	1	-3	T			S5	G5			X	L5	X	X	Wiegand
3008	x	MONOCOTYLEDONS	Poaceae	Agrostis gigantea	Redtop		-3		-2		SNA	G4G5			X	L+	I	I	Roth
3012	x	MONOCOTYLEDONS	Poaceae	Agrostis scabra	Rough Bentgrass	6	0	T			S5	G5			U	L3	R	R	Willdenow
3019	x	MONOCOTYLEDONS	Poaceae	Andropogon gerardii	Big Bluestem	7	3				S4	G5			R5	L3	RL	RL	Vitman
3069	x	MONOCOTYLEDONS	Poaceae	Bromus tectorum	Downy Brome		5		-2		SNA	GNR			X	L+	I	I	L.
3119	x	MONOCOTYLEDONS	Poaceae	Echinochloa crus-galli	Large Barnyard Grass		-3	T	-1		SNA	GNR			X	L+	I	I	(L.) Palisot de Beauvois
3133	x	MONOCOTYLEDONS	Poaceae	Elymus repens	Quackgrass		3		-3	3	SNA	GNR			X	L+	I	I	(L.) Gould
3172	x	MONOCOTYLEDONS	Poaceae	Glyceria grandis var. grandis	Tall Mannagrass	5	-5	I			S5	G5			X	L5	X	X	S. Watson
3183	x	MONOCOTYLEDONS	Poaceae	Hordeum jubatum ssp. jubatum	Foxtail Barley	0	0	T			S5?	G5T5			X	L+	I	I	L.
3197	x	MONOCOTYLEDONS	Poaceae	Lolium pratense	Meadow Fescue		3		-1		SNA	G5			X	L+	I	I	(Hudson) Darbyshire
3234	x	MONOCOTYLEDONS	Poaceae	Phalaris arundinacea var. arundinacea	Reed Canary Grass	0	-3	T		P	S5	GNR			X	L+?	X	X	L.
3238	x	MONOCOTYLEDONS	Poaceae	Phleum pratense ssp. pratense	Common Timothy		3		-1		SNA	GNR			X	L+	I	I	L.
3240	x	MONOCOTYLEDONS	Poaceae	Phragmites australis ssp. australis	European Reed		-3	T		1	SNA	G5T5			X	L+			(Cav.) Trinius ex Steudel
3252	x	MONOCOTYLEDONS	Poaceae	Poa compressa	Canada Bluegrass		3				SNA	GNR			X	L+	X	X	L.
3256	x	MONOCOTYLEDONS	Poaceae	Poa palustris	Fowl Bluegrass	5	-3	I			S5	G5			X	L5	X	X	L.
3287	x	MONOCOTYLEDONS	Poaceae	Sorghastrum nutans	Yellow Indiangrass	8	3				S4	G5			R2	L2	RL	RL	(L.) Nash
3384	x	MONOCOTYLEDONS	Typhaceae	Typha latifolia	Broad-Leaved Cattail	1	-5	I			S5	G5			X	L4	X	X	L.
3385	x	MONOCOTYLEDONS	Typhaceae	Typha x glauca	Blue Cattail		-5	I		P	SNA	GNA			X	L+	X	X	Godron
3544	x																		
3545	x																		

3546	x	STATISTICS		
3547	x	**Species Diversity**		
3548	x	Total Number of Species:	93	
3549	x	Native Species:	43	46%
3550	x	Exotic Species:	50	54%
3551	x	S1-S3 Species:	0	0%
3552	x	S4 Species:	2	5%
3553	x	S5 Species:	41	95%
3555	x	**Floristic Quality Assessment (FQA)**		
3556	x	Mean Co-efficient of Conservatism (CC)	2.8	
3557	x	CC 0 - 3 = lowest sensitivity	27	63%
3558	x	CC 4 - 6 = moderate sensitivity	14	33%
3559	x	CC 7 - 8 = high sensitivity	2	5%
3560	x	CC 9 - 10 = highest sensitivity	0	0%

2	x	ORDER	FAMILY	LATIN NAME	COMMON NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	OWES WETLAND SPECIES	WEEDINESS INDEX	INVASIVE EXOTIC RANK (Urban Forest Associates 2002)	PROVINCIAL STATUS (S-RANK)	GLOBAL STATUS (G-RANK)	COSSARO (MNRF)	COSEWIC STATUS		PEEL (Varga 2005)	TRCA (TRCA April 2016)	CVC/PEEL (CVC 2002)	PEEL	AUTHORITY
3561	x		Floristic Quality Index (FQI)	18																
3563	x		**Weedy & Invasive Species**																	
3564	x		Mean Weediness Index (Oldham et al):	-1.4																
3565	x		-1 = low potential invasiveness	31	62%															
3566	x		-2 = moderate potential invasiveness	11	22%															
3567	x		-3 = high potential invasivenss	4	8%															
3568	x		Mean Exotic Rank (Urban Forest Associates):	2																
3569	x		Category 1	6	12%															
3570	x		Category 2	5	10%															
3571	x		Category 3	2	4%															
3572	x		Category 4	5	10%															
3573	x		Potentially Invasive (P)	3	6%															
3575	x		**Wetland Species**																	
3576	x		Mean Wetness Index	1.0																
3577	x		Upland	16	17%															
3578	x		Facultative upland	41	44%															
3579	x		Facultative	8	9%															
3580	x		Facultative wetland	17	18%															
3581	x		Obligate wetland	11	12%															

Table 4: Bird Species List

No.	X	Common Name	Species Code	Scientific Name	Provincial Status (S Rank)	Global Status (G Rank)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
	X									
	X									
	X	**Anseriformes**								
	X	***Anatidae***								
		Mallard	MALL	*Anas platyrhynchos*	S5	G5			X	PR-T
	X									
	X	**Columbiformes**								
	X	***Columbidae***								
		Mourning Dove	MODO	*Zenaida macroura*	S5	G5				PO-H
	X									
	X	**Charadriiformes**								
	X	***Charadriidae***								
		Killdeer	KILL	*Charadrius vociferus*	S4B	G5				PR-T
	X									
	X	***Scolopacidae***								
		Spotted Sandpiper	SPSA	*Actitis macularius*	S5B	G5			X	PR-T
	X									
	X	**Passeriformes**								
	X	***Tyrannidae***								
		Willow Flycatcher	WIFL	*Empidonax traillii*	S4B	G5			X	PO-S
	X									
	X	***Hirundinidae***								
		Northern Rough-winged Swallow	NRWS	*Stelgidopteryx serripennis*	S4B	G5			X	PR-P
	X									
	X	***Turdidae***								
		American Robin	AMRO	*Turdus migratorius*	S5	G5				PR-T
	X									
	X	***Sturnidae***								
		European Starling	EUST	*Sturnus vulgaris*	SNA	G5				PR-T
	X									
	X	***Passeridae***								
		House Sparrow	HOSP	*Passer domesticus*	SNA	G5				PO-H
	X									
	X	***Fringillidae***								
		American Goldfinch	AMGO	*Spinus tristis*	S5	G5				PR-P
	X									
	X	***Passerellidae***								
		Chipping Sparrow	CHSP	*Spizella passerina*	S5B, S3N	G5				PO-S
		Savannah Sparrow	SAVS	*Passerculus sandwichensis*	S5B, S3N	G5			X	PR-T
		Song Sparrow	SOSP	*Melospiza melodia*	S5	G5				PR-T
	X									
	X	***Icteridae***								
		Red-winged Blackbird	RWBL	*Agelaius phoeniceus*	S5	G5				PR-T
		Brown-headed Cowbird	BHCO	*Molothrus ater*	S5	G5				PO-H
		Common Grackle	COGR	*Quiscalus quiscula*	S5	G5				PO-H
	X									
	X	***Parulidae***								
		Common Yellowthroat	COYE	*Geothlypis trichas*	S5B, S3N	G5				PR-T
		Yellow Warbler	YWAR	*Setophaga petechia*	S5B	G5				PO-S
	X									
	X	***Cardinalidae***								
		Northern Cardinal	NOCA	*Cardinalis cardinalis*	S5	G5				PO-S
	X									

Species Common Name and Scientific Name: Chesser, R. T., K. J. Burns, C. Cicero, J. L. Dunn, A. W. Kratter, I. J. Lovette, P. C. Rasmussen, J. V. Remsen, Jr., D. F. Stotz, B. M. Winger, and K. Winker. 2018. Check-list of North American Birds (online). American Ornithological Society. Available online: http://checklist.aou.org/taxa

Species Code: Consistent with the American Ornithologists' Union. 2018. Species 4-Letter-Codes. Available online: http://www.birdsontario.org/atlas/codes.jsp?lang=en&pg=species

Highest Breeding Evidence: Codes assigned for breeding evidence are consistent with the Ontario Breeding Bird Atlas (OBBA). 2018. Breeding Evidence Codes. Available online: http://www.birdsontario.org/atlas/codes.jsp?lang=en&pg=breeding&sortorder=aou

S ranks: Provincial ranks are from the Natural Heritage Information Centre; S1 (critically imperiled), S2 (imperlied), S3 (vulnerable), S4 (apparently secure), S5 (secure); ranks were updated using NHIC species list 2021. Available to download from: https://www.ontario.ca/page/get-natural-heritage-information

G ranks: Global ranks are from the Natural Heritage Information Centre; G1 (extremely rare), G2 (very rare), G3 (rare to uncommon), G4 (common), G5 (very common); ranks were updated using NHIC species list 2021. Available to download from: https://www.ontario.ca/page/get-natural-heritage-information

SARO (MECP): Ontario Species at Risk as listed by the Committee on the Status of Species at Risk in Ontario (from Ontario Regulation 230/08 Species at Risk in Ontario website: https://www.ontario.ca/laws/regulation/080230/); END - Endangered; THR - Threatened; SC - Special Concern; NAR - Not at Risk

Table 4: Bird Species List

No.	X	Common Name	Species Code	Scientific Name	Provincial Status (S Rank)	Global Status (G Rank)	SARO (MECP)	COSEWIC (Federal)	SWH Indicator Species	Highest Breeding Evidence
	X									
	X									

COSEWIC: Assessed Species at Risk at the national level as listed by the Committee on the Status of Endangered Wildlife in Canada (from COSEWIC: https://wildlife-species.canada.ca/species-risk-registry/sar/index/default_e.cfm); END - Endangered, THR - Threatened, SC - Special Concern, NAR - Not at Risk

SWH Indicator Species: SWH refers to Significant Wildlife Habitat as defined by the MNRF (2015) Significant Wildlife Habitat Criteria Schedules for Ecoregions 7E and 6E (as appropriate for the Subject Lands). SWH indicator species are identified in this table and any potential SWH is discussed in the text of this report. Available online: http://www.townofnemi.on.ca/wp-content/uploads/2016/02/NEMI-OP-App-C-schedule-6e-jan-2015-access-ver-final-s.pdf

Table 5: Amphibian Call Count Survey Station Results

SURVEY ROUND	STATION NUMBER	SPECIES CODE												WATER	
		NOAM	AMTO	FOTO	GRTR	SPPE	CHFR	WOFR	NLFR	PIFR	GRFR	BULL	MIFR	Present (Y/N)	Depth (CM)
1	AMC 1	X												Y	
1	AMC 2	X												N/A	
1	AMC 3	X												Y	
1	AMC 4	X												Y	
1	AMC 5	X												N/A	
2	AMC 1	X												Y	
2	AMC 2	X												N/A	
2	AMC 3		1 (2)			1 (1)								Y	
2	AMC 4	X												Y	
2	AMC 5	X												N/A	
3	AMC 1	X												Y	
3	AMC 2	X												N/A	
3	AMC 3	X												N/A	
3	AMC 4	X												Y	
3	AMC 5	X												N/A	

LEGEND:

SPECIES CODE	COMMON NAME	SCIENTIFIC NAME
NOAM	No Amphibians	No amphibians despite survey effort
AMTO	American Toad	*Anaxyrus americanus*
FOTO	Fowler's Toad	*Anaxyrus fowleri*
GRTR	Gray Treefrog	*Hyla versicolor*
SPPE	Spring Peeper	*Pseudacris crucifer*
CHFR	Western Chorus Frog	*Pseudacris triseriata*

CALL CODES	
X	No amphibians heard
1	Calls can be counted without error
2	Calls overlap but can be reliably estimated
3	Calls overlap too much to estimate number

Table 5: Amphibian Call Count Survey Station Results

WOFR	Wood Frog	*Lithobates sylvaticus*	
NLRF	Northern Leopard Frog	*Lithobates pipiens*	
PIFR	Pickerel Frog	*Lithobates palustris*	
GRFR	Green Frog	*Lithobates clamitans*	
BULL	American Bullfrog	*Lithobates catesbeianus*	
MIFR	Mink Frog	*Lithobates septentrionalis*	

Note: For each species, the first number is the call code and the second number, which is in brackets, is the number of individuals of that species heard calling.

Table 6: Fish Community Sampling Results (May 31, 2023)

Location	Common Name	Scientific Name	No. Captured	Thermal Regime
EF1	Creek Chub	*Semotilus atromaculatus*	1	Coolwater
EF2	Fathead Minnow	*Pimephales promelas*	1	Warmwater
EF2	Brook Stickleback	*Culaea inconstans*	6	Coolwater
EF3	Fathead Minnow	*Pimephales promelas*	15	Warmwater
EF3	Pumpkinseed	*Lepomis gibbosus*	2	Warmwater

Table 7: Headwater Drainage Feature Classification and Management Recommendations

DRAINAGE FEATURE SEGMENT	STEP 1. HYDROLOGY		STEP 2. RIPARIAN	STEP 3. FISH HABITAT	STEP 4. TERRESTRIAL HABITAT	MANAGEMENT RECOMMENDATION
	FUNCTION	MODIFIERS				
H1S1	FT – 7 FC – 2 (Round 1) FC – 1 (Round 2) **Contributing –** Feature was flowing during early spring but was completely dry during the late spring assessment.		**Limited** – Feature is bordered by disturbed industrial lands.	**Contributing** – No suitable fish habitat is present. Feature may provide contributing functions to support downstream direct fish habitat.	**Limited** – Feature is bordered by disturbed industrial lands.	**Mitigation**
H2S1	FT – 7 FC – 4 (Round 1) FC – 1 (Round 2) **Contributing –** Feature was flowing during early spring but was completely dry during the late spring assessment.		**Limited** – Feature is bordered by disturbed industrial lands.	**Contributing** – No suitable fish habitat is present. Feature may provide contributing functions to support downstream direct fish habitat.	**Limited** – Feature is bordered by disturbed industrial lands.	**Mitigation**

LEGEND:

FT	Feature Types (1-defined natural channel, 2-channelized, 3-multi-thread, 4-no defined feature, 5-tiled drainage, 6-wetland, 7-swale, 8-roadside ditch, 9-online pond outlet)
FC	Flow Conditions (1-no surface water, 2-standing water, 3-interstitial flow, 4-surface flow minimal, 5-surface flow substantial)

Note: Codes correspond with Ontario Stream Assessment Protocol (OSAP) guidelines

871 Equestrian Court, Unit 1, Oakville ON L6L 6L7
Tel: 647-795-8153 | www.pecg.ca

Memorandum

Date: May 24, 2024

Project #: 2006601

To: Simpson Road Landowners Group
C/O: Helen Mihailidi

From: Tatiana Hrytsak, M.Sc., Joel Davey, M.ES. and Robin McKillop, M.Sc., P.Geo., CAN-CISEC

Re: Simpson Road Extension and Tributary to West Rainbow Creek – Scoped Fluvial Geomorphology Assessment, Aquatic Habitat Review and Evaluation of Alternative Flow Conveyance Options

1. Introduction

Palmer is pleased to provide the Simpson Road Landowners Group Inc. ("the Landowners Group") with our technical memorandum characterizing historical and existing conditions along a tributary to West Rainbow Creek, adjacent to the proposed Simpson Road extension, in Bolton, Ontario. Previously, a natural channel design was proposed for the tributary as part of the Municipal Class Environmental Assessment (AMEC, 2012). Building on the results of a scoped fluvial geomorphological assessment and a review of existing aquatic habitat, this memorandum identifies and evaluates three main design alternatives for conveyance of flows from an existing stormwater pond to Mayfield Road, adjacent to the proposed Simpson Road extension. Palmer has reviewed the previous natural channel design and evaluated three potential design alternatives in collaboration with Greck and Associates Ltd. (Greck), which is completing the water resources engineering for the tributary, GEI Consultants (GEI), which is completing the Simpson Road Master Environmental Servicing Plan (MESP) update, and Weston Consulting, which is the planner for the project.

2. Background

The Town of Caledon completed a Schedule "C" Municipal Class Environmental Assessment (EA) Study for the planned completion of Simpson Road in 2012 to expedite development of vacant land parcels south of Parr Boulevard, in Bolton. In 2008, the Town of Caledon enacted a By-law preventing new accesses to future developments on existing properties with frontage on Coleraine Drive from being approved. The extension of Simpson Road is needed to address the imposed access restrictions to facilitate development of the existing vacant parcels (**Figure 1**) (AMEC, 2012). The Simpson Road Completion EA referenced baseline environmental characterization data from the previously completed Master Environmental Servicing Plan (MESP) for the Bolton South Industrial Lands (Burnside, 2000).



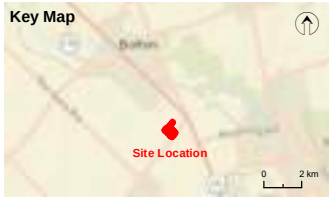
LEGEND

Channel Alignment (2022)

Proposed Road Alignment

Study Area

Key Map



0 25 50 100 150 200 250

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:5,000
Page Size: Letter (8.5 x 11 inches)

Drawn: SM
Checked: TH
Date: Jun 2, 2023

NORTH

Source Notes:
Imagery (2021) provided by Google Satellite map service. Contains information licensed under the Open Government Licence – Ontario.

CLIENT

Simpson Road LO Group

PROJECT

Simpson Road Channel Design Review

TITLE

Study Area

Palmer

REF. NO. 2006601-1-1

Figure 1

Document Path: G:\Shared drives\Projects 2020\20066 - Simpson Road LO Group\2006601 - Simpson Road Channel Design Review\Mapping\GIS\1_Workspace\Task 1 - Hydrotech Figures\2006601-1-1-Study Area.mxd

The Bolton South Industrial Lands MESP was completed to establish preferred management options for the protection and/or enhancement of environmental features and their functions within the study area, including development of a preferred stormwater management plan (Burnside, 2000). The study included existing conditions characterization of the West Rainbow Creek tributary (known as "Tributary D") adjacent to the proposed Simpson Road extension. At the time of the study, Tributary D drained approximately 91 ha through agricultural swales and drainage ditches that were straightened through past agricultural activities and were generally ill-defined. Tributary D is considered a "small riverine warmwater system". Small riverine warmwater systems, as described in the Humber River Fisheries Management Plan (MNRF and TRCA, 2005), are first- and second-order tributaries draining from the Peel Plain. Due to the dominance of clay soils and high runoff potential, these tributaries experience significant fluctuations in temperature and stream flow, drying up or attaining high temperatures during summer months. In the Bolton South Industrial Lands (that encompass the study area), the 2000 MESP identifies Tributary D as being highly intermittent and not supporting direct fish habitat, only contributing to downstream habitat. Water quality degradation is apparent due to land clearing for agriculture and increased runoff of agricultural inputs such as fertilizers, pesticides, and manure.

The Simpson Road Completion EA (2012) identified that realignment and channelization of the West Rainbow Creek tributary adjacent to the Simpson Road extension is necessary to improve fluvial geomorphic function and fisheries habitat. The need for crossings to access the undeveloped properties was noted, but not evaluated for potential impacts to the realigned tributary:

"Ultimately, watercourse crossings will be required from Simpson Road to the individual properties fronting on Coleraine. The exact number, location and configuration of these crossings is unknown at this time."

An alternative alignment of Simpson Road that would allow direct access to the undeveloped properties by realigning the tributary to the east side of road (requiring only a single crossing of the tributary beneath Simpson Road) was not evaluated.

The preferred alignment of Simpson Road to Mayfield Road was advanced to detailed design through the Region of Peel and Town of Caledon by Wood (2020). A detailed natural channel design for the tributary was included in the road design (Aqualogic, 2014, revised 2015 & 2019). The goal of the proposed channel design is to restore channel function to pre-agricultural disturbance conditions, replicating headwater run-pool morphology mixed with linear wetlands and wet meadows. To accommodate flood storage requirements, the proposed top width of the corridor was 45 m and the bottom width was 39 m. Within the corridor, a 2 m wide, 0.5 m deep bankfull channel would convey a bankfull flow of approximately 0.58 m^3/s. The narrow cross-section would mimic natural headwater conditions of a low gradient channel controlled by vegetation. The design, issued for review in 2020, showed five potential crossing locations over the 560 m design length (**Appendix A**). Spacing between the crossings varied from 20 to 100 m.

3. West Rainbow Creek Tributary

3.1 Fluvial Geomorphic Characterization

To update and refine the understanding of existing and historical conditions of the West Rainbow Creek tributary, Palmer completed a scoped historical analysis and field reconnaissance. Orthophotography from 1999, 2009, and 2018-2022 was accessed through the Peel Region online webserver (https://gisprd.peelregion.ca/arcgis/rest/services/AerialImagery). The tributary centreline was delineated to document channel alterations during the time period. Field reconnaissance was completed on May 9, 2023 by Palmer's fluvial processes specialist, to document existing conditions following the initial characterizations by Aqualogic (2014) and Burnside (2000). Minimal antecedent rainfall resulted in near-baseflow conditions during the field reconnaissance.

Prior to 2000, as documented by Burnside, the tributary drained approximately 91 ha through agricultural fields and two on-line ponds supporting irrigation for a tree nursery along Mayfield Road. The MESP recommended two stormwater management (SWM) ponds along the tributary to manage runoff from the development of the Bolton South Industrial Lands. The northern SWM pond (which is currently the upstream end of the tributary) was constructed prior to 2005, enlarged prior to 2009, and captures the upper 55 ha of the tributary's drainage (Aqualogic, 2014). Between 2009 and 2022, the properties surrounding the tributary have transitioned from agricultural to industrial uses, primarily truck parking. As these uses have expanded, particularly between 2018 and 2022 (**Figure 2**), the tributary has been straightened and realigned in association with current uses of the property. The current alignment of the tributary is coincident with the property line between the western properties and the Home Depot Innovation Centre to the east.

The existing condition in the tributary reflects the ongoing industrial land use activities and recent channel alterations. At the upstream end, the tributary outlets from the existing SWM pond to an undeveloped property flowing through a 20-25 m wide riparian corridor. It is unclear how flow is conveyed beneath the subsequent property as water and evidence of flow was found in a number of areas (**Figure 1**). Through the remainder of the study area, the tributary flows in a north-south direction along the eastern property boundaries. There is limited to no riparian vegetation, frequent garbage/debris, and asphalt and fill frequently abut the western bank (**Photos 1-3**). The bankfull cross-section is approximately 1.9 to 3.5 m wide and 0.40 to 0.60 m deep.

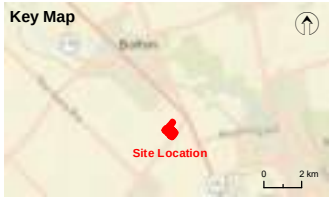


LEGEND

Channel Planform Year

- 1999
- 2009
- 2020
- 2022
- Proposed Road Alignment
- Study Area

Key Map



0 25 50 100 150 200 250

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:6,500
Page Size: Letter (8.5 x 11 inches)

Drawn: SM
Checked: TH
Date: Jun 2, 2023

NORTH

Source Notes:
Historic Imagery (1999, 2009, 2020) provided by Peel Region GIS services, 2022 imagery provided by Google Satellite map service. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Simpson Road LO Group

PROJECT
Simpson Road Channel Design Review

TITLE
Historic Imagery Comparison

Palmer

REF. NO. 2006601-2-1

Figure 2

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Photo 1. Concrete, fill and truck parking along the top of the west bank (photo taken facing upstream, north).



Photo 2. Fill and garbage along west bank, dense vegetation in the channel along east bank (photo taken facing upstream, north).



Photo 3. Typical channel cross-section with instream vegetation and evidence of channel maintenance.

3.2 Aquatic Habitat Characterization

The historical significance and sensitivity of the aquatic habitat in Tributary D was established within the 2000 MESP, indicating that the subject watercourse, along with many other watercourses in the area, were highly intermittent and did not support direct fish habitat (Burnside, 2000).

As depicted in Photos 2 and 3 above, the current aquatic habitat along the Rainbow Creek tributary appears limited, and no direct fish habitat has been identified through more recent studies (Aqualogic, 2019). Conversely, fish community sampling completed by GEI Consultants in June 2023 found that limited numbers of several fish species were utilizing portions of the Tributary D channel including Creek Chub (*Semotilus atromaculatus*), Fathead Minnow (*Pimephales promelas*), Brook Stickleback (*Culaea inconstans*), and Pumpkinseed (*Lepomis gibbosus*) (**Figure 3**). These species are all considered intermediately tolerant to tolerant of environmental perturbations including changes to temperature and pollution levels (Ontario Fishes, 2023).

In its current state, the majority of the channel area is straight and lacks defined habitat features such as pools or riffle areas that would help to support a diverse warmwater fish community. Additionally, potential fish habitat barriers also exist in the form of dense in-stream vegetation (i.e., *Phragmites*) (see **Photo 3**), intermittent debris jams, and legacy culvert structures that are undersized or improperly installed. These fish barriers likely minimize the ability for fish to utilize the entirety of the channel area, which is consistent with GEI's documentation of fish in only two segments of the tributary.

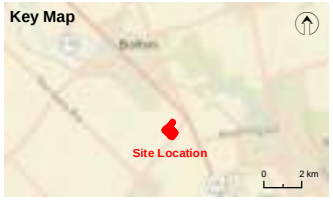


LEGEND

Electrofishing Site [1]

- SWMP Outlet Channel - *Creek Chub (1)*
- Downstream Channel - *Fathead Minnow (1); Brook Stickleback (6)*
- Downstream Road Allowance - *Fathead Minnow (15); Pumpkinseed (2)*
- Channel Alignment (2022)
- Proposed Road Alignment
- Study Area

1 - GEI (June 14, 2023)



0 25 50 100 150 200 250

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:5,000
Page Size: Letter (8.5 x 11 inches)

Drawn: SM
Checked: TH
Date: Oct 25, 2023

NORTH

Source Notes:
Imagery (2021) provided by Google Satellite map service. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Simpson Road LO Group

PROJECT
Simpson Road Channel Design Review

TITLE
Fisheries Sampling Data (Sampled by GEI June 14, 2023)

Palmer

REF. NO. 2006601-3-1

Figure 3

Document Path: G:\Shared drives\Projects 2020\20066 - Simpson Road LO Group\2006601 - Simpson Road Channel Design Review\Mapping\GIS\1_Workspace\Task 1 - Hydrotech Figures\2006601-3-1-Electrofishing Locations.mxd



Photo 4. In-channel debris jam

In terms of water quality, the 2000 MESP highlighted that water quality degradation was already apparent throughout the general area, including the subject watercourse (Burnside, 2000). This historical decline in water quality was primarily due to land clearing and other agricultural activities resulting in increased overland runoff and diminished base flows, exposed to agricultural inputs such as fertilizers, pesticides, and manure (AMEC, 2012).

Today, due to current adjacent lands uses (i.e., industrial), allochthonous material supply to downstream reaches of Rainbow Creek is likely negated by poor water quality and potential contamination inputs from vehicle parking, maintenance, erosion around obstructions, and parking lot runoff. As previously referenced in Section 2 of this report, the watercourse catchment is underlain predominantly by clay-rich soils, which lead to high runoff and significant fluctuations in temperature and stream flow, resulting in prolonged dry conditions and high temperatures during summer months (**Photo 5** and **6**).



Photo 5. Dense in-channel vegetation during late spring (photo from GEI)



Photo 6. Dense in-channel vegetation and limited water depth (photo from GEI)

Overall, historical reporting and onsite review indicate the Tributary D feature offers limited fish habitat along its length. Through a combination of deteriorated habitat quality and poor water quality, Tributary D is unable to support a diverse fish community. Despite this, recent fish sampling (June 2023) indicates that disturbance-tolerant fish species at least opportunistically use certain segments, particularly those segments immediately downstream of the existing storm pond, and adjacent to Mayfield Road.

4. Evaluation of Alternative Flow Conveyance Options

The Simpson Road LO group has explored three alternative approaches to convey flow and benefit ecology in association with construction of the Simpson Road extension and development of the adjacent land parcels. Two open channel options (fully open/partially piped) were reviewed that include an updated corridor modelled by Greck (2021). Finally, a fully piped alternative is discussed. An options evaluation matrix was completed based on consideration of several overarching objectives: natural environment, technical criteria, financial criteria, constructability, public safety, and land use planning (**Table 1**). The evaluation of each alternative consists of an overall ranking that considers the combination of expected impact or effect of each objective and associated criteria. For consistency and transparency, overall ranks were determined by summing numeric scores corresponding to rank values (**Table 1**). The three alternatives are depicted in figures in **Appendix A**.

4.1 Option 1 – Fully Open

As previously outlined in the MESP (AMEC, 2012), the intended goal for the tributary was to both preserve an open channel and to restore channel function to pre-agricultural disturbance conditions. The previously proposed design (Aqualogic, 2019) included a bankfull cross-section 2 m wide and 0.5 m deep, situated in a 45 m-wide corridor to accommodate flood storage. Greck (2021) completed an updated modelling analysis that determined a 33 m-wide corridor would be sufficient to convey the regulatory events for the proposed channel design. The proposed channel includes a low flow (bankfull) channel width of 4.0 m and bankfull depth of 0.41 m, based on conveyance of the 1.5-year flow event. These dimensions are considered suitable from a geomorphic perspective based on the 2023 field visit.

A key challenge of advancing the fully open alternative is the need to accommodate several tributary driveway crossings to facilitate industrial property access. The previously proposed channel design (Aqualogic, 2019) was detailed without documentation of any evaluation of the implications of numerous, closely spaced channel crossings required to access the properties to the west of Simpson Road.

Greck (2024) estimated that the industrial driveways (to meet OPSD) would encompass 39 m of channel length per crossing (including the driveway, grading and required property setbacks). With four potential crossings, approximately 156 m of channel length would be *directly* impacted by crossing structures – that is 27% of the design channel length (560 m). The spacing between these crossings in the proposed design (2020) varied from 20 to 100 m. Flows could be safely conveyed through 1.5 m high by 2.4 m wide box culverts, for example, without overtopping Simpson Road (Greck, 2024). *Indirect* impacts, as described below, would be more extensive.

Morphologically, stone lining is generally required through crossings, and at inlet and outlet areas, to mitigate the risk of lateral and vertical erosion. Shading from crossing structures inhibit growth of riparian vegetation that would otherwise stabilize the channel banks. It is typical for a channel to be wider through a crossing structure and for some distance downstream before it will regain ‘natural’ form and function. The number of crossings and reduced spacing between crossings along Simpson Road is anticipated to result in a segmented, disjointed channel with limited opportunity to restore functional morphological processes.

Runoff from the adjacent industrial land use may reduce water quality in the channel and increase risk of formation and failure of urban debris jams, further limiting potential for fulsome habitat restoration.

From a planning perspective, if the tributary remains fully open, parcels of land on the two northernmost properties (properties 1 and 2 in **Appendix A**) become isolated and undevelopable between the tributary and the Simpson Road extension.

Option 1 scored 32 through the alternative evaluation and is the least preferable option (**Table 1**). While preservation of an open channel preserves existing habitat, there is limited opportunity for enhancement and recovery based on the required crossings and surrounding land use. There is likely to be greater benefits elsewhere in the local watershed that may be achieved through appropriate compensation. The Town of Caledon has also expressed concern about maintenance requirements, given potential for debris blockages and erosion, associated with numerous crossings.

4.2 Option 2 – Partially Piped

The partially piped alternative avoids isolating a land parcel on the northernmost properties, by piping approximately 140 m of the tributary (**Appendix A**). The majority of the tributary would remain open, employing the same open channel design corridor outlined in Option 1. It is anticipated that the partial piping of the tributary would require local/off-site habitat compensation and enhancement to offset the loss of channel length and associated environmental benefits it provides. The compensation may allow for realization of greater overall benefit to the Rainbow Creek watershed.

Option 2 scored 37, preferred to Option 1, as it reduces the overall number of crossings needed and allows for development of otherwise isolated parcels on the northernmost properties (**Table 1**).

4.3 Option 3 – Fully Piped

As described above, the multiple, closely spaced (20-100 m apart) driveway crossings over the tributary that would be required to access the five properties from the planned extension of Simpson Road would result in a variety of unavoidable impacts to channel form and function. They would also severely limit the extent and quality of aquatic/riparian habitat that could possibly be restored between the crossings and their associated erosion protection. The numerous crossings would also predispose the channel to debris jams and the flood, erosion and habitat risks they pose. As such, an alternative approach that involves piping of the channel from its existing origin at the upstream SWM pond downstream to a natural, vegetated bend in the channel just upstream of Mayfield Road is proposed (Greck, 2024). Conveyance of upstream and local stormwater through a pipe would allow for on-site water quality controls to be used to deliver clean, treated water to the downstream end of the site, where channel form, function and habitat values become better defined. It is understood that such an approach is not standard and that a comprehensive evaluation of alternatives that ensures ultimate habitat benefits outweigh impacts will need to be undertaken in consultation with TRCA and reviewed by Fisheries and Oceans Canada (DFO). A discussion of the feasibility of piping the channel and demonstrating appropriate flood conveyance is presented in Greck (2024).

Option 3 scored 47 and provides the greatest potential overall benefit when the opportunity for off-site compensatory habitat improvements is considered against the limitations of on-site attempts at restoration between closely spaced driveway crossings.

Table 1. Flow Conveyance Options Evaluation Matrix

Note: For each option, the criteria are evaluated such that higher scores are related to varying degrees of positive effect that an option, for the defined criteria, would have on the outcome. In general, the following scoring was used – 1 = unfavourable, 3 = acceptable and 5 = favourable – such that the sum of criteria can be scored for each option, with the highest score deemed to be preferred.

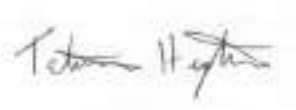
Objective	Criteria	Comment	**Option 1** Open Channel (approximately 5 vehicular access crossings required)	**Option 2** Partly Piped (N end only; approximately 3 vehicular access crossings required) (with corresponding local/off-site habitat compensation works)	**Option 3** Fully Piped (no crossings required; with corresponding local/off-site habitat compensation works)	Notes
Physical and Natural Environment	Flooding	Impact on surface drainage, flooding; meet legislated criteria for flooding and water	3	3	3	All engineered options offer an acceptable solution to address flood hazard and local drainage with minimal impacts to others and an overall improvement to existing drainage conditions.
	Erosion	Impacts on soils, geology, rate of erosion	2	3	4	Option 3 fully eliminates erosion risk alongside Simpson Road associated with open channel flow, and Option 2 partly eliminates erosion risk at necessary vehicular crossings. Options 1 and 2 will likely require localized stabilization works at crossings, necessitating long-term maintenance.
	Terrestrial Habitat	Impact on connectivity, diversity and sustainability	3	4	5	Options 2 and 3 provide an opportunity to implement local/off-site habitat compensation works where benefits are greater. Options 1 and 2 maintain and/or enhance existing riparian buffer (where open).
	Aquatic Habitat	Impact on connectivity, spawning and sustainability	3	3	3	The reach currently provides limited to no fish habitat. GEI Consultants sampled target areas of the tributary in June 2023 and found Creek Chub (1), Fathead Minnow (1), Brook Stickleback (6). In the downstream road allowance GEI (2023) documented Fathead Minnow (15) and Pumpkinseed (2). Option 1 maintains and affords an opportunity for some restoration of the existing ditch-like fish habitat, but Options 2 and 3 provide an opportunity for the creation, restoration and/or enhancement of fish habitat where of much greater ecological benefit.
Technical Criteria	Regulatory Agency Acceptance	Satisfy CLOCA, DFO, MNRF and MECP mandates	5	3	1	Regulatory agencies will likely prefer to maintain and restore the existing open channel. A Request for Review will need to be submitted to DFO, which will in turn determine if a Fisheries Act Authorization is required for either piped approach (unlikely, assuming compensation is proposed elsewhere).
	Impact on Infrastructure	Protection or potential exposure of infrastructure (sanitary sewer, maintenance hole)	2	3	5	Option 3 will avoid risks associated with flooding (e.g. debris build-up) and erosion (e.g. inlet/outlet scour) at the vehicular crossings necessary to access each portion of the subject property. Option 2 will have an intermediate exposure to flooding and erosion risk at crossings. Option 1 will have maximum exposure to flooding and erosion risk at crossings.
	Maintenance Requirements	Requirement for regular, irregular or no maintenance activities, such as structural maintenance or vegetation maintenance	1	3	5	Option 3 reduces municipal maintenance requirements through the avoidance of vehicular crossings and opportunities for localized flooding (e.g. debris build-up) or erosion (e.g. inlet/outlet scour). Options 1 and 2 require several crossing structures and associated erosion protection to be inspected and maintained over the long-term.
Financial Criteria	Capital Costs	Rough Order of Magnitude (ROM) capital costs for the detailed design, permitting and installation of proposed concept	5	3	3	Construction costs are generally the same. A fully piped solution will not require multiple culvert channel crossings which tend to be more expensive per linear meter.
	Maintenance Costs	Rough Order of Magnitude (ROM) costs to maintain the proposed structure	3	3	3	Maintenance is generally the same. Maintenance is typically required when there is a major inlet device (clogging) and structural integrity of hard solutions. This is present in options 2 and 3. For option 1, crossing structures need to be maintained and inspected for erosion and structural integrity.
Constructability	Complexity of Treatment	Requirement for specialized services to design or install unique or proprietary specifications that must be completed by a certified contractor/consultant	3	3	5	Piping the reach offers a simple design approach that does not require construction firm experienced in natural channel design.
Public Safety	Potential Risks public users	Impact on safety and requirement for safety features (e.g. safety fences)	1	3	5	The removal of an open channel (e.g., road side ditch) reduces the potential for vehicle and/or commercial truck driving accidents

Objective	Criteria	Comment	**Option 1** Open Channel (approximately 5 vehicular access crossings required)	**Option 2** Partly Piped (N end only; approximately 3 vehicular access crossings required) (with corresponding local/off-site habitat compensation works)	**Option 3** Fully Piped (no crossings required; with corresponding local/off-site habitat compensation works)	Notes
Land Use Planning	Complexity of development	Feasibility of parcel development	1	3	5	Preserving the channel in its current alignment results in an isolated parcel of land on the two northern properties that is undevelopable. The partial piping option allows for a continuous block of developable land. The full piping option removes the need for several crossings and simplifies driveway access to the properties.
Total Score:			**32**	**37**	**47**	
Combined Rank:			**3**	**2**	**1**	

5. Certification

This memorandum was prepared, reviewed and approved by the undersigned.

Prepared By:



Tatiana Hrytsak, M.Sc.
Senior Fluvial Processes Specialist

Prepared & Reviewed By:



Joel Davey, B.BRM., M.ES., CAN-CISEC
Senior Aquatic Ecologist

Reviewed & Approved By:



Robin McKillop, M.Sc., P.Geo., CAN-CISEC
Vice President, Principal Geomorphologist

References

AMEC (2012). *Municipal Class Environmental Assessment Completion of Simpson Road in the Town of Caledon – Environmental Study Report Final*. Town of Caledon. Submitted: December 2012.

Aqualogic (2019). *Natural Channel Design West Rainbow Creek Simpson Road Extension, Bolton Industrial Park Town of Caledon*. Town of Caledon. Submitted: February 2019.

Burnside Development Services (2000). *Bolton South Industrial Lands Master Environmental Servicing Plan*. Town of Caledon. Submitted: December 2000.

Greck and Associates Ltd. (2021). *West Rainbow Creek and Simpson Road Channel Re-Alignment, City of Caledon, Preliminary Floor Hazard Assessment and Natural Channel Design*. Anatolia Capital Corp. Submitted: April 2021.

Greck and Associates Ltd. (2024). *Simpson Road Extension and Rainbow Creek Culvert Feasibility Study*. Simpson Road Landowners Group. Submitted: May 2024.

Ministry of Natural Resources and Forestry and Toronto and Region Conservation Authority (MNRF and TRCA). 2005. Humber River Fisheries Management Plan. Cited online: http://trca.on.ca/dotAsset/25855.pdf. Accessed December 2016.

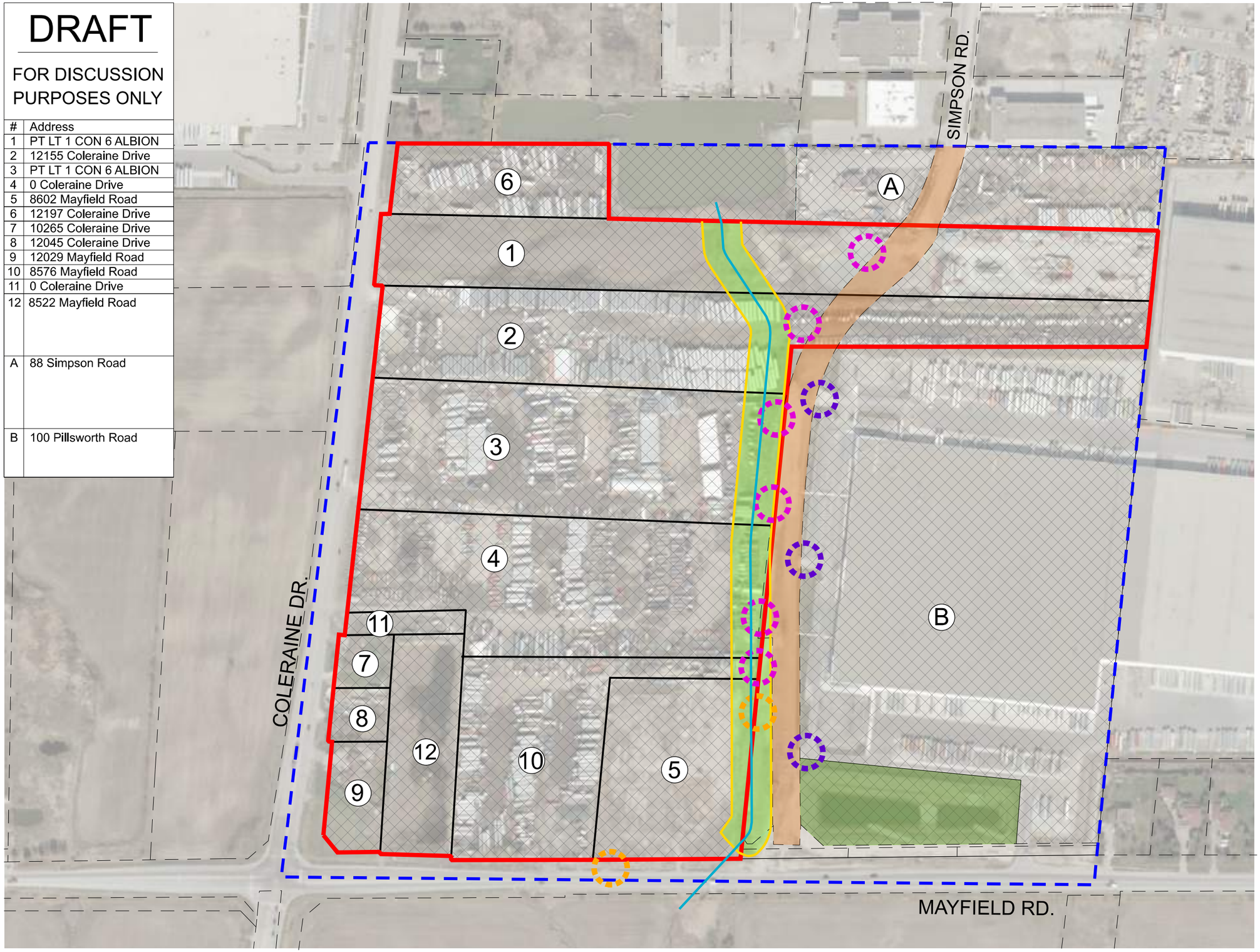
Appendix A

Flow Conveyance Option Figures (provided by Weston Consulting)

DRAFT

FOR DISCUSSION PURPOSES ONLY

#	Address
1	PT LT 1 CON 6 ALBION
2	12155 Coleraine Drive
3	PT LT 1 CON 6 ALBION
4	0 Coleraine Drive
5	8602 Mayfield Road
6	12197 Coleraine Drive
7	10265 Coleraine Drive
8	12045 Coleraine Drive
9	12029 Mayfield Road
10	8576 Mayfield Road
11	0 Coleraine Drive
12	8522 Mayfield Road
A	88 Simpson Road
B	100 Pillsworth Road



LEGEND

- Surroudning Parcel Fabric
- Block Plan Area
- Lot Subdivision
- Phase 2 Secondary Plan Area
- Employment Designated Areas Whithin Block Plan
- Top of Channel
- Centreline of Channel
- Vegetated Valley Corridor
- Proposed Access Points
- Potential Access Points
- Existing Approved Access Points at 100 Pillsworth Road
- Potential Road Extension
- Stormwater Management Pond

Notes:

- Parcel fabric, Block plan Area and lot subdivision are approximate and subject to confirmation by a survey.
- Areas are approximate and subject to confirmation by a survey.
- Phase 2 Secondary Plan Area is sourced from Schedule C-5 from the South Simpson Industrial Secondary Plan (Town of Caledon OP).
- The potential extension of Simpson Road and Channel alignment are drawn based on the Rainbow Greek Channel Re-alignment Plan prepared by Greck, April 2022.
- The approved access points from Simpson Road at 100 Pillsworth Road is based on the Site Plan prepared by Ware Malcomb.
- Air Photo is from First Base Solutions, dated 2022.

DRAWN / REVISED

30 APR 2024	Fourth Draft
30 JAN 2024	Third Draft (CAD File Export)
24 JAN 2024	Second Draft
21 DEC 2023	First Draft

BLOCK PLAN
OPEN CHANNEL ALIGNMENT
NORTHEAST CORNER OF
COLERAINE DR. AND MAYFIELD RD.
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

SCALE
0 20 50 100m

WESTON CONSULTING

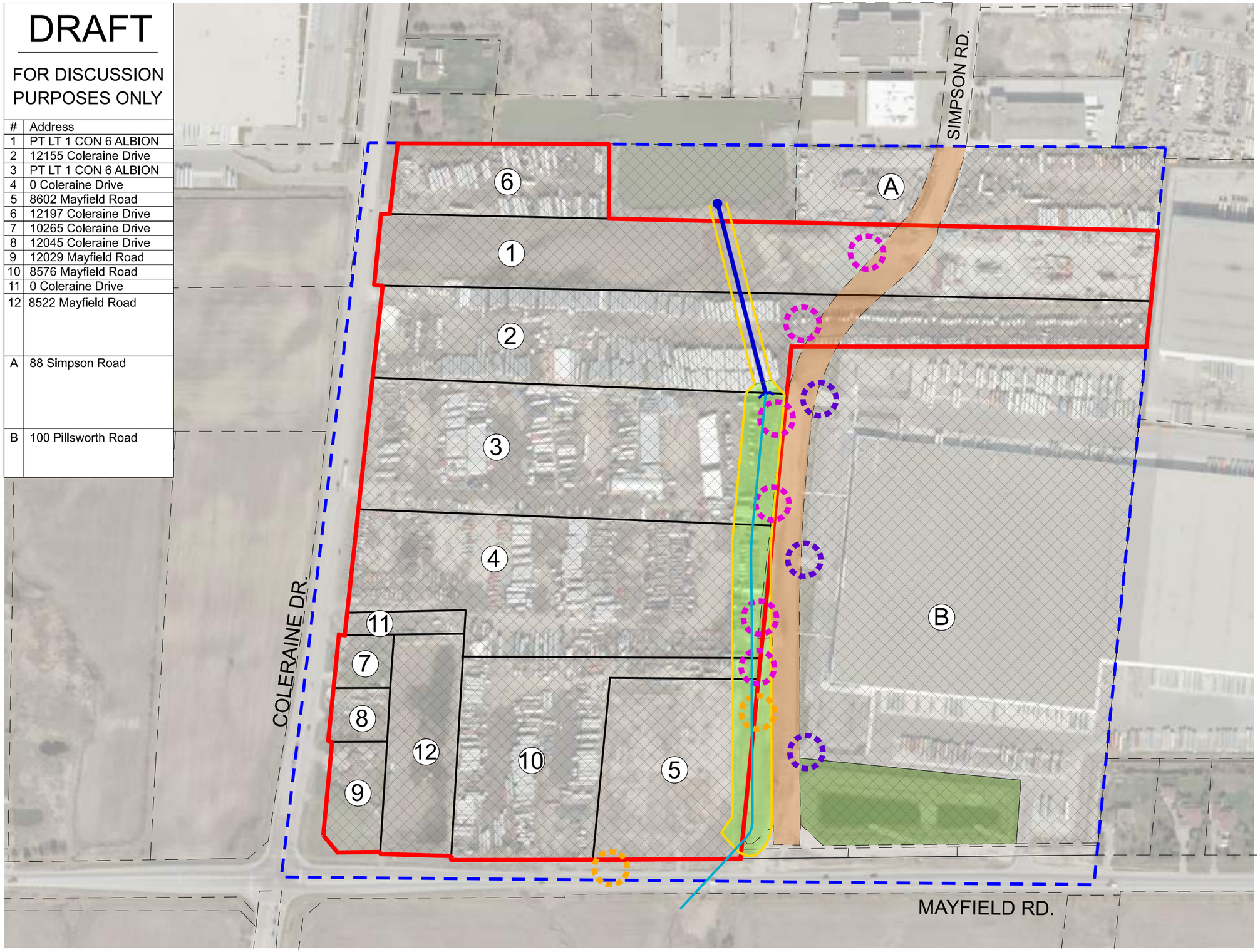
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Planner: PT
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Drawing
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DRAFT

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- Proposed Concrete Pipe
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30 APR 2024	Fourth Draft
30 JAN 2024	Third Draft (CAD File Export)
24 JAN 2024	Second Draft
21 DEC 2023	First Draft

BLOCK PLAN
PARTIALLY-PIPED ALIGNMENT

NORTHEAST CORNER OF
COLERAINE DR. AND MAYFIELD RD.
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

SCALE
0 20 50 100m

WESTON CONSULTING

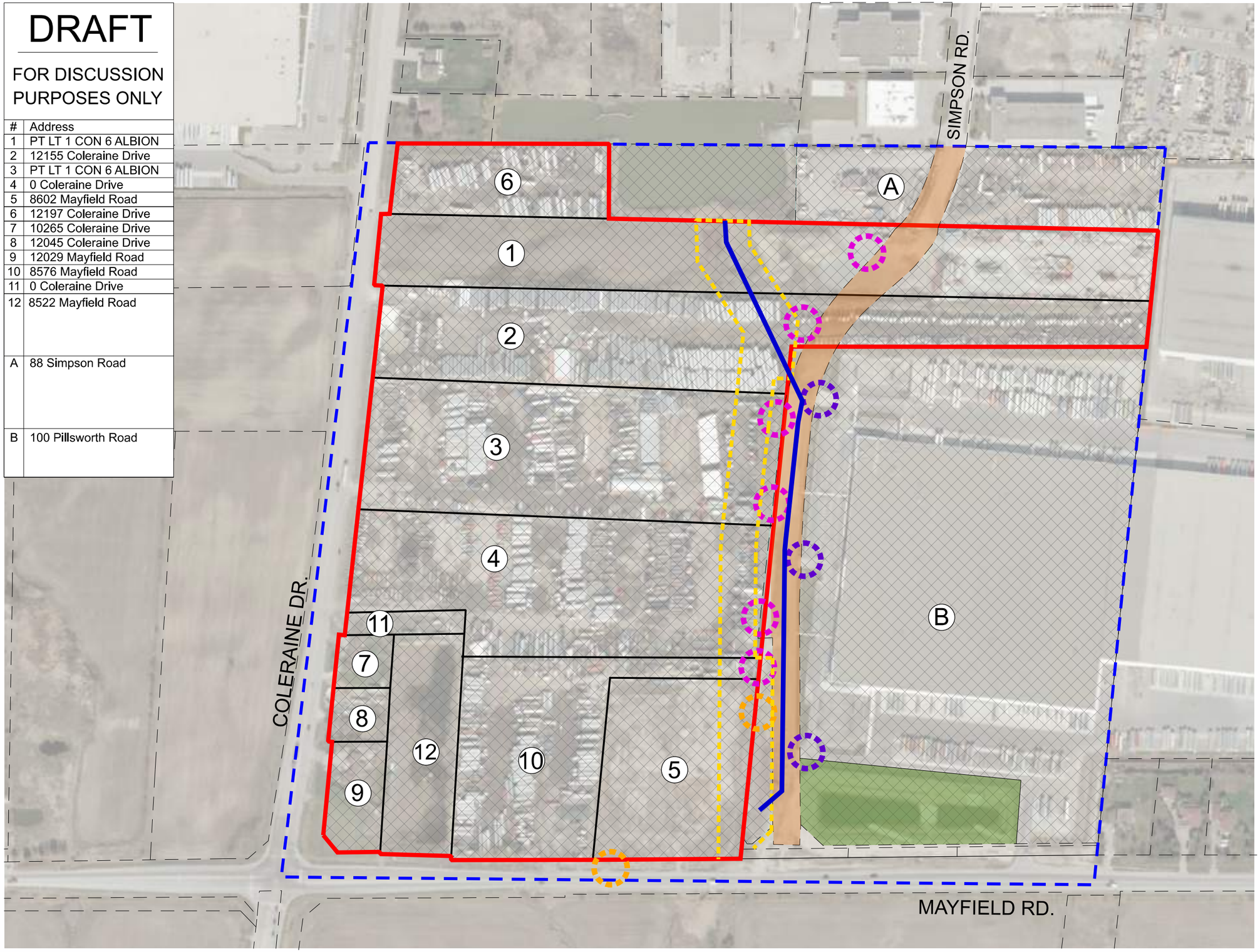
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9	12029 Mayfield Road
10	8576 Mayfield Road
11	0 Coleraine Drive
12	8522 Mayfield Road
A	88 Simpson Road
B	100 Pillsworth Road



LEGEND

- Surroudning Parcel Fabric
- Block Plan Area
- Lot Subdivision
- Phase 2 Secondary Plan Area
- Employment Designated Areas Whithin Block Plan
- Existing Natural Channel Easement *Per Secondary Plan*
- Proposed Storm Sewer
- Proposed Access Points
- Potential Access Points
- Existing Approved Access Points at 100 Pillsworth Road
- Potential Road Extension
- Stormwater Management Pond

Notes:

- Parcel fabric, Block plan Area and lot subdivision are approximate and subject to confirmation by a survey.
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BLOCK PLAN
FULLY-PIPED ALIGNMENT
NORTHEAST CORNER OF COLERAINE DR. AND MAYFIELD RD.
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

SCALE
0 20 50 100m

WESTON CONSULTING

File Number: 10846
Date: 2024-04-30
Drawn By: GA
Planner: PT
CAD: 10846_Block Plan_2024-04-30.dgn

Drawing
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Appendix C

Geotechnical Engineering

GEI Consultants

Consulting Engineers and Scientists

Geotechnical Investigation

South Simpson Block Plan (Headwaters of West Rainbow Creek) and Master Environmental Servicing Plan Update

Coleraine Drive and Mayfield Road, Caledon, Ontario

Submitted to:
Simpson Road Landowners Group Inc.
c/o Ms. Helen Mihailidi
7501 Keele Street, Suite 200
Vaughan, ON L4K 1Y2

Submitted by:
GEI Consultants Canada Ltd.
647 Welham Road, Unit 14
Barrie, Ontario, L4N 0B7
www.geiconsultants.ca

July 25, 2025
Project No. 2301130
Revision 1

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1. Introduction

GEI Consultants Canada Limited (GEI) was retained by Simpson Road Landowners Group Inc. (the Client) to complete a geotechnical report in reference to the required Block Plan and Master Environmental Servicing Plan update at South Simpson (Headwaters of West Rainbow Creek). These works are required as part of the submission for a proposed extension of Simpson Road and provide an update to the Master Environmental Servicing Plan 2000 (MESP) and incorporate the revisions made through the Municipal Class EA for Simpson Road (2013). The location of the proposed extension is in the northeastern quadrant of the intersection of Coleraine Drive and Mayfield Road in Caledon, Ontario. A summarized site location plan is enclosed as Figure 1 and below.

The subject lands are designated Prestige Industrial and General Industrial in the Official Plan. The subject lands are a part of the Town of Caledon's South Simpson Secondary Plan Area and are subdivided into eleven (11) distinct properties, separated by different landowners. The Landowner Group consists of landowners of parcels 2, 3, 4, 5 and 11 as shown on the map below. As requested, non-participating landowners within the secondary plan area have not been included. This exclusion is to be confirmed by the Town of Caledon.



The subject lands have an approximate total area of 36.75 ha and are currently occupied by open lands, various truck and transportation uses, and a former garden supply store. The subject lands are bounded by Mayfield Road to the south, Coleraine Drive to the west, and mixed residential, commercial, and undeveloped lands to the east and north. Undeveloped lands exist within a southern parcel located on three sides by subject lands and Mayfield Road to the south.

Local elevations in the northeastern portion of the subject lands are near Elev. 236.0, sloping to the south-southeast with elevations near 230.5 with resulting maximum difference in elevation across the site is approximately 5.5 m based on topographic information provided. An aerial image of the site from 2022 is provided on Figure 2.

It is noted that the site and surrounding streets are not oriented in true north/south or east west directions and for purposes of this report Mayfield Road is considered to be oriented east/west and Coleraine Drive is considered to be oriented north/south.

GEI was provided the following information in preparation of this report:

- "*Block Planning for the South Simpson Secondary Plan, North-East Corner of Coleraine Drive and Mayfield Road, Ward 5."* Staff-Report 2022-0374, dated July 12, 2022, prepared by Planning Department, Town of Caledon
- *"South Simpson Secondary Plan Area Ownership"* Map, from Schedule "C" to Staff Report 2022-0374 dated May 25, 2022.
- *"Terms of Reference: South Simpson (Headwaters of West Rainbow Creek) Master Environmental Servicing Plan Update".* Town of Caledon
- *"Hydrogeological Appraisal Simpson Road Completion from North of George Bolton Parkway to Mayfield Road Town of Caledon, Ontario"* prepared by AMEC Earth & Environmental Limited dated March 8, 2011.
- *"Simpson Road Extension Phase 3, from 282m South of Parr Boulevard to Mayfield Road, Contract 14-09"* prepared by Wood and commissioned by Region of Peel, dated November 2020.
- *"Rainbow Creek Channel Realignment"* prepared by Greck, Dated July 21, 2025.

The proposed development involves the construction of the extension of Simpson Road southerly approximately 600 m to Mayfield Road. A road concept plan is shown in Figure 3A. The proposed road is to be constructed about 1 to 2 m above existing grade along the alignment and includes associated site servicing, as deep as 4.0 m below existing grade corresponding to about 5 to 6 m below the proposed road grade. The existing open channel will also be re-aligned slightly to the west to allow for the road extension. A concept plan for the channel is shown in Figure 3B. It is understood that the latest concept for the channel will comprise an

extended SWM pond outlet about 130 m from the SWM pond at the north end of the site, then transition to back to a newly designed open channel. Driveways will be created to provide access to the lots on the west side of the open channel and to allow for lot servicing. Culverts will be utilized to carry the channel under the driveways. The design configuration regarding buildings has not been established at this time but are mainly assumed to comprise large slab-on-grade structures. It is also assumed that some earthworks will be required to establish the proposed grades when the design concept has been confirmed, as the road will be established through raised grades.

The purpose of the geotechnical investigation was to assess the subsurface soil conditions at the site, and based on this information, provide geotechnical engineering recommendations in support of the proposed development. This report summarizes the borehole findings, provides design geotechnical engineering recommendations regarding available bearing capacities for foundations, slabs-on-grade and drainage, site servicing installation, channel implementation and pavement design. Considerations for constructability such as soil excavation, compaction, on-site backfill suitability and temporary groundwater control are also provided.

It is noted that the recommendations provided in this report must be considered preliminary in nature for building foundations and specific lot earthworks due to the current uncertainty of the design for the project. As the design progresses further geotechnical review and input may be required which might necessitate the need for additional investigation and/or analysis.

A hydrogeological report and monthly groundwater measurements were also a part of the scope and are provided under separate cover.

2. Procedures and Methodology

It is noted that all elevations in this report are metric/geodetic and expressed in metres (m). All measurements are also in metric and expressed in millimetres (mm), metres (m) or kilometres (km).

Prior to the commencement of drilling activities, the borehole locations were staked in the field by GEI based on a plan provided by the Client. Ground surface elevations of the boreholes and horizontal co-ordinates (referencing NAD 83 geodetic datum) were surveyed by GEI with a Topcon FC – 5000 GPS Survey unit.

Underground utilities including natural gas, electrical, telephone, water, etc. were marked out by public and private utility locating companies prior to drilling, co-ordinated by GEI.

The fieldwork for the drilling program was carried out on between May 17 and 19, 2023. Boreholes 1 to 8 were drilled to 6.6 m depth (Elev. 223.8 to 227.3). In addition, shallow Boreholes 4S and 6S were drilled adjacent to Boreholes 4 and 6, respectively to 2.3 m depth (Elev. 228.1 and 229.1) to install secondary wells. Borehole logs are provided in Appendix A and the borehole locations are shown on Figure 2.

The boreholes were advanced by a drilling subcontractor retained by the Client and supervised by GEI using a track-mounted drill rig, solid stem augers, and standard soil sampling equipment. Sampling was conducted using a 51 mm O.D. Split Spoon (SS) sampler. Standard Penetration Test (SPT) “N” Values (N values) were recorded for the sampled intervals as the number of blows required to drive an SS sampler 305 mm into the soil using a 63.5 kg drop hammer falling 750 mm, in accordance with ASTM D1586. In each borehole soil sampling was conducted at 0.75 m intervals for the upper 3.0 m and at 1.5 m intervals thereafter.

Monitoring wells were installed in all boreholes except Borehole 7 by GEI to facilitate long-term groundwater monitoring, each consisting of 50 mm diameter PVC pipe with a 1.5 m long screen and protective casing. As noted above shallow secondary wells installed in Boreholes 4S and 6S. Monitoring well construction is shown on the borehole logs in Appendix A. Boreholes without wells were backfilled in accordance with O.Reg. 903.

The GEI field staff examined, and classified characteristics of the soils encountered in the boreholes, including the presence of fill materials, groundwater observations during and upon completion of the drilling, recorded observations of borehole construction, and processed the recovered samples. All recovered soil samples were logged in the field, carefully packaged, and transported to GEI’s laboratory for more detailed examination and classification.

In GEI's laboratory, the samples were classified as to their visual and textural characteristics. Six (6) representative samples of the major soil units were selected and submitted to our laboratory for grain size analysis. Grain size results are provided in Appendix B.

3. Subsurface Conditions

3.1 General Overview

The detailed soil profiles encountered in the boreholes are indicated on the attached borehole logs in Appendix A, and the geotechnical laboratory results are included in Appendix B. The borehole locations are shown in Figure 2.

It should be noted that the conditions indicated on the borehole logs are for specific locations only and can vary between and beyond the locations. It should be noted that the soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations during drilling. These boundaries are intended to reflect approximate transition zones and should not be interpreted as exact planes of geological change.

In addition, the descriptions provided in the borehole logs are inferred from a variety of factors, including visual observations of the soil samples retrieved, measurements prior to and after drilling, the drilling process itself (speed of drilling, shaking/grinding of the augers, etc.) and laboratory testing. The passage of time also may result in changes in conditions interpreted to exist at locations where sampling was conducted.

3.2 Stratigraphy

It is noted that Boreholes 4S and 6S have the same stratigraphy as Boreholes 4D and 6D, respectively, and are not referenced below. In the descriptions below, Boreholes 4 and 6 refer to Boreholes 4D and 6D, respectively.

3.2.1 Pavement

Boreholes 1, 2, 6 and 7 encountered asphalt at the ground surface. The asphalt/recycled asphalt was 25 to 760 mm thick. No underlying granular material was distinguishable.

Granular material was present at the surface of Borehole 8 and was 720 mm thick.

3.2.2 Topsoil

A surficial topsoil layer was at the ground surface at Boreholes 3, 4, 5 and was 25 to 180 mm thick. Topsoil thicken may vary across the site considering the various uses and status of the various yards.

3.2.3 Fill

Fill was beneath the surficial soil in Boreholes 1 to 6 and extended to 0.6 to 1.5 m depth (Elev. 229.6 to 233.3). The fill was variable and typically comprised clayey silt, locally sandy silt or sand. The soil was described as moist and moisture contents were 2 to 23%. The N values, where taken, ranged from 6 to 20, indicating firm to very stiff / loose to compact conditions.

3.2.4 Clayey Silt

Underlying the fill and/or topsoil/pavement, an upper clayey silt unit was present to 1.5 to 2.3 m depth (Elev. 228.9 to 232.3) in all boreholes, except Borehole 2. The consistency was stiff to very stiff with N values of 9 to 29, locally firm in Borehole 6 with N values of 4 to 6. The soil was moist with moisture contents of 13 to 24%.

A lower clayey silt layer was present in Boreholes 1 to 3 and 6, beneath the glacial till deposit described below, and extending to the 6.6 m depth of exploration (Elev. 224.9 to 227.3). In Boreholes 4, 5 and 7 the clayey silt unit was penetrated at 6.1 m depth (Elev. 224.3 to 226.5). Two (2) samples of the material from the lower layer were submitted for grain size analysis and the results are provided on Figure B1 in Appendix B. The unit was very stiff with N values of 19 to 20, locally stiff with an N value of 14. The soil was moisture with moisture contents of 10 to 16%.

3.2.5 Glacial Till

A major glacial till deposit was present in all boreholes below the upper clayey silt, locally the fill in Borehole 2, and extended to 4.6 to 6.1 m depth (Elev. 225.3 to 229.) Three (3) samples of the material from the deposit were submitted for grain size analysis and the results are provided on Figure B2 in Appendix B. The deposit varied from clayey silt, some sand to sandy clayey silt with trace gravel. Cobbles and boulder were inferred due to augers grinding. The deposit was very stiff to hard with N values of 15 to 54. The till was moist with moisture contents of 10 to 18%.

A second lower layer of glacial till was revealed in Boreholes 4, 5 and 7 below the lower clayey silt unit at 6.1 m depth (Elev. 224.3 to 226.1) to the 6.6 m depth of exploration (Elev. 223.8 to 226.0). The second till layer was also variable, being sandy silt to sandy clayey silt to clayey silt, with trace gravel. The N values in the lower till layer ranged from 7 to greater than 50 (firm to very stiff, or very dense). The till was moist with moisture contents of 9 to 15%.

3.2.6 Sand and Silt

A discontinuous layer of sand and silt was noted below the till in Borehole 8, from 6.1 m depth to the 6.6 m depth of exploration (Elev. 225.2 to 225.6). A sample of the material from the

deposit was submitted for grain size analysis and the results are provided on Figure B3 in Appendix B. The material was wet, with a moisture content of 13%. The soil was compact with an N value of 24.

3.3 Groundwater

Unstabilized groundwater level measurements and cave measurements were taken upon the completion of drilling of each borehole as shown on the borehole logs in Appendix A. These measurements were taken to provide a rough estimate of the possible excavation and temporary groundwater control constructability considerations that may arise. All boreholes, except Borehole 7 and was outfitted with a monitoring well with 50 mm diameter PVC well and 1.5 m long screen. Secondary wells we also installed in Boreholes 4S and 6S adjacent to Boreholes 4D and 6D with 1.5 m long screens. Monitoring well configuration and groundwater observations are noted on the borehole logs in Appendix A, and a summary is below.

Borehole	Depth of Cave (m) / Elev.	Unstabilized Groundwater Level Depth (m) / Elev.	Depth (m) / Elev. of Groundwater Table, June 7, 2023
1	Open (6.6 / 227.3)	No Water	4.7 / 229.2
2	Open (6.6 / 226.6)	No Water	N/A (well covered)
3	Open (6.6 / 232.1)	No Water	1.3 / 232.1
4D	Open (6.6 / 223.8)	No Water	1.7 / 228.7
4S	Open (2.3 / 228.1)	No Water	1.2 / 229.2
5	Open (6.6 / 224.6)	No Water	1.3 / 229.9
6D	5.4 / 226.0	No Water	1.3 / 230.1
6S	Open (2.3 / 229.1)	2.3 / 229.1	0.5 / 230.9
7	Open (6.6 / 226.0)	5.4 / 227.2	N/A
8	Open (6.6 / 225.2)	5.4 / 226.3	2.0 / 229.7

The stabilized groundwater levels in the monitoring wells were measured at 0.5 to 4.7 m depth in June 2023, typically corresponding to Elev. 229 to 230.

The clayey silt fill, clayey silt and till are typically impermeable. The sand fill and sand and silt are semi-permeable when wet.

GEI is currently conducting monthly groundwater level measurements for a full year and the results will be provided in a summery letter upon completion of the monitoring period.

Groundwater levels are expected to show seasonal fluctuations and vary in response to prevailing climate conditions.

4. Engineering Design Parameters & Analysis

The proposed development involves the construction of the extension of Simpson Road southerly approximately 600 m to Mayfield Road. A road concept plan is shown in Figure 3A. The proposed road is to be constructed about 1 to 2 m above existing grade along the alignment and includes associated site servicing, as deep as 4.0 m below existing grade corresponding to about 5 to 6 m below the proposed road grade. The existing open channel will also be re-aligned slightly to the west to allow for the road extension. A concept plan for the channel is shown in Figure 3B. It is understood that the latest concept for the channel will comprise an extended SWM pond outlet about 130 m from the SWM pond at the north end of the site, then transition to back to a newly designed open channel. Driveways will be created to provide access to the lots on the west side of the open channel and to allow for lot servicing. Culverts will be utilized to carry the channel under the driveways. The design configuration regarding buildings has not been established at this time but are mainly assumed to comprise large slab-on-grade structures. It is also assumed that some earthworks will be required to establish the proposed grades when the design concept has been confirmed, as the road will be established through raised grades.

It is noted that the recommendations provided in this report must be considered preliminary in nature for building foundations and specific lot earthworks due to the current uncertainty of the design for the project. As the design progresses further geotechnical review and input may be required which might necessitate the need for additional investigation and/or analysis.

4.1 Site Grading

The site grading was not fully established at the time of this preliminary report. It is assumed that some grading will be required during the development of the site, as the road grade will be raised about 1 to 2 m above existing grade.

In general, it is recommended to remove existing topsoil/organics, fill or other deleterious material and raise grades to the desired level with engineered fill to support buildings, services and pavements.

4.1.1 Engineered Fill

GEI defines “engineered fill” as material that will support foundations, and which is placed and compacted in a specified and controlled manner under full-time supervision of geotechnical engineering staff.

In any location where engineered fill will be placed to raise grades or replace poor/weak soil, the topsoil, vegetation, peat and unsuitable native soil must be fully removed down to competent native soil. The exposed subgrade soil must be proof-rolled and inspected by the geotechnical engineer to ensure all unsuitable material (e.g., organics, weak or soft soil, weathered / disturbed soil, deleterious materials, existing fill) is removed from the engineered fill footprint. Any unsuitable areas must be further sub-excavated and replaced with fill compacted to targeted 100% Standard Proctor Maximum Dry Density (SPmdd) in building areas and 95% SPmdd in road and servicing areas.

Once the subgrade is approved, engineered fill can be placed. Engineered fill must be placed under the full-time supervision of a geotechnical engineer as required in the Ontario Building Code. The engineered fill may consist of excavated on-site inorganic cohesionless soils provided they have been moisture conditioned to a moisture content within 2% of optimum moisture content and do not contain organics, topsoil/peat or deleterious material. It is recommended that any imported soil consist of Granular B (OPSS.MUNI 1010) and be first used in building areas, with suitable on-site soil used in landscaped or road areas. Engineered fill must be placed in loose lifts of 200 mm or less and compacted as noted above.

In wet subgrade areas, the first lift of engineered fill shall consist of 400 mm of Granular B Type II (OPSS.MUNI 1010). This will help to bridge the weaker subgrade and improve the ability to achieve the compaction specifications for subsequent engineered fill lifts.

The engineered fill must extend a minimum of 1 m out from all sides of the foundations and extend at a 1 horizontal to 1 vertical slope (1H:1V) down to the exposed subgrade. A typical detail for engineered fill pad dimensioning is included in Appendix C.

4.2 Foundation Design

4.2.1 Foundations on Native Soil

The individual lot grading or configuration is to be determined at a later date, and therefore footing levels were not known at the time of this report.

In general, foundations at this site may be constructed as conventional shallow spread and strip footing foundations that bear on the native, undisturbed soil. Existing fill is unsuitable for support of building foundations. For general planning and design purposes, it is recommended that a geotechnical reaction at Serviceability Limit State (SLS) of 150 kPa (for 25 mm or less of total settlement), and a factored geotechnical resistance at Ultimate Limit State (ULS) of 225 kPa be adopted for design. Locally at Boreholes 6 and 7, the upper soil was not suitable to support the bearing resistance values noted above and excavation 1.0 to 1.5 m into the native soil will be required to achieve the bearing resistance noted above.

It is noted that higher bearing resistance are available at depth and can be provided if required.

Final footing elevations must be reviewed by geotechnical personnel from GEI to confirm bearing capacity values. The final site configuration must also be reviewed by GEI to assess the potential for footings to be founded on different soil subgrades, and to assess the potential for differential settlement. It is recommended that all foundations for each individual building / structure be set on the same soil subgrade wherever possible, to reduce the potential for differential settlement.

4.2.2 Foundations on Engineered Fill

If the foundations are supported on an engineered fill pad, constructed as discussed in Section 4.1.1, the spread or strip footings can be designed using the underlying native soil bearing capacity shown above, up to a maximum of 150 kPa at SLS and 225 kPa at ULS.

It is recommended that nominal reinforcing steel for stiffening of the foundation walls made on engineered fill be provided to help mitigate minor cracking due to minor differential settlement. The reinforcing steel in the poured concrete foundation walls may consist of 2-15M bars continuous at the top of the foundation wall, and 2-15M bars continuous at the bottom of the foundation walls. Typically, these bars are placed 100 to 200 mm from the top or bottom of the foundation wall, respectively. The reinforcing steel should extend a minimum of 3 m past any transition zones between engineered fill and native soil. A typical reinforcing steel detail for foundation walls placed on engineered fill is provided within Appendix C. The recommended nominal reinforcing steel should not be considered a structural design. The need for different or additional reinforcement should be reviewed by a structural engineer to ensure the original structural design intent of the structure is maintained.

4.2.3 General Foundation Considerations

All footings exposed to ambient air temperature throughout the year must be provided with a minimum of 1.2 m of earth cover or equivalent insulation for frost protection (25 mm of polystyrene insulation is equivalent to 300 mm of soil cover). The minimum strip and spread footing widths to be used shall be dictated as per the Ontario Building Code, regardless of loading considerations. Footings stepped from one level to another must be at a slope not exceeding 7V:10H.

The foundation design parameters provided above are predicated on the assumption that the foundation subgrade surface is undisturbed, and that all peat, earth fill, deleterious, softened, disturbed, organic, and caved material is removed. The foundation excavation must be done in such a way that groundwater is controlled to prevent any disturbance to the foundation base. The groundwater table must be lowered at least 1 m below the founding elevation prior to excavation to prevent disturbance to the foundation subgrade from groundwater seepage.

The foundation subgrade must be reviewed prior to concrete placement to ensure the foundation design parameters provided are applicable, and to provide remedial recommendations if necessary. If the foundation excavation will be open for a prolonged period of time, the foundation subgrade should be protected with a skim coat of lean mix concrete (applied immediately after inspection by the geotechnical engineer), to ensure that no deterioration will occur due to weather effects.

4.3 Floor Slabs

Based on the discussion in Section 4.1, it is envisioned that the floor slabs will be supported by engineered fill, locally native soils.

The exposed subgrade must be proof-rolled and inspected by the geotechnical engineer. If any soft or weak subgrade areas are identified, or if there are areas containing excessive amounts of deleterious/organic material, they must be locally sub-excavated and backfilled with approved clean earth fill or imported granular material and compacted to a minimum of 98% SPmdd within 2% optimum moisture content.

All building floor slabs must be provided with a capillary moisture barrier and drainage layer. This is made by placing the concrete slab on a minimum 200 mm layer of 19 mm clear stone (OPSS.MUNI 1004) compacted by vibration to a dense state. The upper 50 mm of clear stone can be replaced with 19 mm crusher run limestone for a working surface. The clear stone and the subgrade soil must be separated by a geotextile such as Terrafix 270R (or approved equivalent) to prevent the migration of fines into the clear stone layer which could result in loss of support for the slab. Alternatively, Granular A (OPSS.MUNI 1010) compacted to 100% SPmdd can be utilized without filter cloth.

4.4 Drainage

At this preliminary stage, for the proposed commercial and industrial planned buildings, it assumed that all structures will be slab-on-grade. For new structures that will be slab-on-grade with no basement levels, perimeter and under-slab drainage at the foundation level is not required, provided that the underside of the concrete slab is at least 200 mm above the prevailing grade of the site and the surrounding surfaces slope away from the building at a gradient of at least 2% to promote surface water run-off and to reduce groundwater infiltration adjacent to foundations. To minimize infiltration of surface water, the upper 150 mm of backfill should comprise relatively impervious/cohesive compacted soil material.

4.5 Site Servicing

The drawings provided show the sanitary service as deep as 4 m below existing grades corresponding to 5 to 6 m below the proposed grades. The watermain and storm were typically only about 2.0 to 2.5 m below existing grade.

The proposed extended SWM pond outlet will comprise a 4.2 m wide by 1.5 m high closed bottom pre-cast concrete box culvert with invert about 3.0 to 4.0 m below existing grade.

Servicing for some lots on the west side of the open channel will be carried out within the driveways below the local culverts that will convey the creek under the driveways.

4.5.1 Bedding

The type of material and depth of granular bedding below the pipe will, to some extent, depend on the method of construction used by the contractor. Pipe bedding for flexible pipes should follow the requirements in Ontario Provincial Standard Drawing (OPSD) 802.010 or applicable municipal standards. Pipe bedding for rigid pipes should follow the requirements in OPSD 802.030 to 802.032 or applicable municipal standards.

A subgrade consisting of the inorganic native soil or engineering fill will provide adequate support for pipes with the bedding requirements as laid out in the above referenced OPS drawings. Where disturbance of the trench base has occurred from groundwater seepage, construction traffic, etc., or if loose native soil is present at the invert level, the material should be sub-excavated and replaced with suitably compacted granular fill. If weak zones are encountered, additional bedding materials and differing construction practices may be required and should be determined during construction. Any zones of peat or organic soil should be sub-excavated and replaced with approved earth fill or imported granular material compacted to 95% SPmdd. Details on temporary groundwater control are provided in section 5.2.

Regardless of whether flexible or rigid pipes are implemented, granular bedding and cover material should consist of a well graded, free draining material, such as Granular “A” (OPSS.MUNI 1010). All granular bedding must be compacted to a minimum of 95% SPmdd.

4.5.2 Backfill

Excavated native inorganic cohesionless soil may be re-used as backfill in trenches, provided it is moisture conditioned so that the moisture content is within 2% of optimum. Additional soil compaction details are provided in Section 5.3. The backfill should be compacted to a minimum of 95% SPmdd. In confined areas the layer thickness will have to be reduced to utilize smaller compaction equipment efficiently or by using granular material instead of locally sourced fill. Any backfill that is frozen, contains a high percentage of organic material (topsoil, peat, etc.) or moisture, or has otherwise unsuitable deleterious inclusion should not be

used as backfill. The maximum cobble or boulder size should not exceed half of the loose lift thickness (i.e., all particles with a diameter greater than 100 mm should be removed). Cohesive site soil can be used as backfill but likely will require "drying" prior to use to achieve prior to compaction. The "drying" methods will require time and may not be practical.

Locally, where services cross under driveway culverts, U-fill can be utilized for ease as backfill above the services.

Where trenches are within the traveled portions of a roadway, backfill within the frost penetration depth of 1.2 m should consist of native, non-organic, excavated material consistent with the soils surrounding the trench. If this technique is not undertaken, then frequently problems arise with yearly differential frost heave movements between the trench backfill and the adjacent native soil. This would occur, for example, if imported granular material is used to backfill trenches which is less susceptible to frost effects compared to the native soils on site. Alternatively, if different soil is used as the backfill due to issues with achieving compaction, a frost taper of 10H:1V can be implemented to help mitigate the potential for differential settlement and frost heave.

Where frost cover cannot be achieve with earth cover for service pipes, insulation will be required.

4.6 Pavement Design

4.6.1 Subgrade Preparation

Simpson Road north of the proposed extension, supports an industrial and commercial and a heavy-duty design is warranted. The design drawings provided, noted a pavement design comprising 150 mm of asphalt (3 lifts) overt 150 mm of granular base over 450 mm of granular subbase.

Based on the boreholes and preliminary road profiles provided, the pavement subgrade will typically comprise the engineered fill material used to rase the road grade to design level. If site soils are utilized the material will consist of moderate to highly frost susceptible soil, which will not promote good drainage and require a thicker pavement structure. If a "pit run" material or Granular B Type I (OPSS.MUNI 1010) is utilized to raise grades, then the pavement structure can likely be reduced.

The subgrade must be inspected and approved by the geotechnical engineer at the time of construction. If the subgrade does not comprise engineered fill, the exposed pavement subgrade should be compacted to a minimum 95% SPmdd. If any soft or weak subgrade areas are identified, or if there are areas containing excessive amounts of moisture or

deleterious/organic material, they must be locally sub-excavated and backfilled with approved clean earth fill or imported granular material and compacted to a minimum of 95% SPmdd.

The long-term performance of the pavement structure is highly dependent upon the subgrade support conditions. Stringent construction control procedures must be maintained to ensure that uniform subgrade moisture and density conditions are achieved as much as possible when fill is placed, and the natural subgrade is not disturbed or weakened after it is exposed.

4.6.2 Drainage

Control of surface water is an important factor in achieving a good pavement life. The need for adequate subgrade drainage cannot be over-emphasized. The subgrade must be free of depressions and sloped (at a minimum grade of 2 percent) to provide effective drainage toward subdrains. Grading adjacent to pavement areas should be designed to ensure that water is not allowed to pond adjacent to the outside edges of the pavement.

Continuous pavement subdrains should be provided along both sides of the roadway and drained into respective catchbasins to facilitate drainage of the subgrade and the granular materials. The subdrain invert should be maintained at least 0.3 m below subgrade level. To minimize the problems of differential movement between the pavement and catchbasins/manholes due to frost action, the backfill around the structures should consist of free-draining OPSS Granular B. Typical pavement drainage details are provided in Appendix C.

4.6.3 Pavement Structure

The industry pavement design methods are based on a design life of 15 to 20 years for typical weather conditions depending on actual traffic volumes. The following pavement thickness designs are provided on the above noted considerations with heavy duty traffic assumed, and subgrade comprising of the native moderate to highly frost susceptible soil used to raise the grades:

Pavement Layer	Compaction Requirements	Minimum Component Thickness
Surface Course Asphaltic Concrete: HL3 (OPSS 1150) with PG 58-28 Asphalt Cement (OPSS.MUNI 1101)	92% MRD (OPSS.MUNI 310)	40 mm
Binder Course Asphaltic Concrete: HDBC (OPSS 1150) with PG 58-28 Asphalt Cement (OPSS.MUNI 1101)		50 mm over 60 mm

Pavement Layer	Compaction Requirements	Minimum Component Thickness
Base Course: Granular A (OPSS.MUNI 1010)	100% SPmdd (OPSS.MUNI 501)	150 mm
Subbase Course: Granular B Type I (OPSS.MUNI 1010)		450 mm

The granular materials should be placed in lifts 200 mm thick or less and be compacted to a minimum of 100% SPmdd for both granular base and subbase. The granular and asphalt pavement materials and their placement should conform to OPSS 310, 501, 1010 and 1150.

If the pavement construction occurs in wet, winter or inclement weather, it may be necessary to provide additional subgrade support for heavy construction traffic by increasing the thickness of the granular subbase, base or both. Further, traffic areas for construction equipment may experience unstable subgrade conditions. These areas may be stabilized utilizing additional thickness of granular materials and/or geogrid.

It should be noted that in addition to adherence of the above pavement design recommendations, a close control on the pavement construction process will also be required in order to obtain the desired pavement life. Therefore, it is recommended that regular inspection and testing should be conducted during the pavement construction to confirm material quality, thickness, and to ensure adequate compaction.

Frost tapers of 10H:1V should be implemented between areas of differing pavement thickness and tie-in areas to existing pavement.

Smooth transitions are required in all areas where the new pavement meets the existing asphalt surface. Asphalt joints shall follow OPSS.MUNI 310. Longitudinal asphalt joints should be milled into the existing asphalt a minimum of 0.5 m for each lift. Transverse joint shall be milled into the existing asphalt a minimum 0.5 m for each lift. Successive joints should be staggered.

4.7 Channel Realignment

The proposed development will require realignment of the existing channel. The following geotechnical input/commentary is provided:

- It is understood that the channel will be constructed through cut for the most part, as deep as about 4 m, typically about 1 to 3 m. Beyond the initial cut slopes there will be

a relatively level base area (flood plain) with a deeper channel (about 0.5 m deep) meanders with cascading pools in the central part of the flood plain .

- In general bank slopes inclined at 3H:1V or flatter in native soil are acceptable. Some form of vegetative protection is recommended. Slopes steeper than 3H:1V will require some other form of protection in addition to vegetation;
- Any channel banks that are not constructed in cut and require a bank to be constructed, shall be constructed with engineered fill as described in Section 4.1.1, compacted to minimum 95% SPmdd.

5. Constructability Considerations

5.1 Excavations

Excavations for the project site are anticipated to extend about 4.5 m below existing grade to account for the services and bedding. Below the surficial topsoil or asphalt, excavations are anticipated to encounter fill over a cohesive clayey silt unit over a glacial till deposit. Harder digging and cobbles and boulders can be expected in the till deposit.

Excavations must be carried out in accordance with the Occupational Health and Safety Act, Ontario Regulation 213/91 (as amended), Construction Projects, Part III - Excavations, Section 222 through 242. Where workers must enter a trench or excavation the soil must be suitably sloped and/or braced in accordance with the OHSA. These regulations designate four (4) broad classifications of soils to stipulate appropriate measures for excavation safety. If more than one soil type is encountered in an excavation, the most conservative soil type must be followed for sloping the sidewalls of the excavation. Excavations for the site should be completed considering a Type 3 soil geometry, 1H:1V from the base of the excavation, assuming that groundwater control as discussed in the next section is implemented.

Excavation sidewalls will need to be continuously reviewed for evidence of instability and groundwater seepage, particularly following periods of heavy rain or thawing. When required, remedial action must be taken to ensure the continued stability of excavation slopes and the safety of the workers.

Minimum support system requirements for steeper excavations are stipulated in Sections 235 through 238 and 241 of the OHSA and include provisions for timbering, shoring and moveable trench boxes. To reduce the potential for instability of the trench excavations, materials excavated from the service trenches and/or other fill materials or heavy equipment should not be placed near the crest of the trench excavations.

It is important to note that soil encountered in the construction excavations may vary significantly across the site. Our preliminary soil classifications are based solely on the materials encountered in the boreholes advanced on site. The contractor should verify that similar conditions exist throughout the proposed area of excavation. If different subsurface conditions are encountered at the time of construction, we recommend that GEI be contacted immediately to evaluate the conditions encountered.

5.2 Temporary Construction Groundwater Control

As noted above, excavation is envisioned to extend to about 4.5 m below existing grade.

The stabilized groundwater levels in the monitoring wells were measured at 0.5 to 4.7 m depth in June 2023, corresponding to typically Elev. 229 to 230.

Based on the above, excavation for the watermain and storm sewer will typically extend to or just above/below the ground water levels noted. The sanitary sewer excavation and channel excavation will extend about 2.0 to 2.5 m below the measured groundwater table.

It is important to control the groundwater adequately. If the groundwater table is not controlled during construction, the base of the excavation foundation pipe bed may become unstable. For trench excavation as described above the excavations will extend through the typically cohesive soil at the site.

No major groundwater problems are anticipated for the installation of watermain or storm sewer. Any water seepage should be controllable by the use of conventional sump pumping.

Deeper excavation for sanitary sewer and channel will be below the groundwater levels noted in some areas, however will still be within cohesive soil and seepage volumes are not expected to be great. In addition to conventional sump pumping, pumping from keg wells or the likes may be required in sandy areas where greater seepage may occur.

As noted above, it is recommended to carry out the work during the dry time of the year when the groundwater table is lowest, to mitigate groundwater control measures. Also reducing the size of the excavation that is open at any one time will aid in reducing groundwater control requirements.

The exact scenario where certain groundwater control techniques will work are directly correlated to how coarse/fine the native soils are in an excavation, and both the lateral and vertical extent of the wet cohesionless deposits encountered as noted above. If the groundwater table is not controlled during construction, the base of the excavations will be unstable, leading to difficulties in excavating and placement of pipes, footings, and providing safety for the workers.

Based on the above, a Permit-to-Take-Water (PTTW) is likely not required. Registry on the Environmental Activity and Sector Registry (EASR) may be prudent, so a work stoppage is not required.

Further recommendations are provided in our hydrogeological report.

5.3 Compaction Specifications

SPmdd is the specification to indicate the degree to which soil or aggregate is compacted. To achieve the specified SPmdd as indicated in this report, all soils or aggregates must be placed in lift thicknesses no greater than 200 mm. If this is not the case, only the upper portion of the lift will be adequately compacted, and the lower portion of the lift has a high probability of not meeting compaction specifications. In addition, industry standard equipment used to determine the degree of compaction consists of nuclear densometers. These devices have an inherent limitation in that they cannot test beyond 300 mm in depth, and so the degree of compaction beyond this depth cannot be quantitatively determined.

Along with lift thickness, ensuring that the soil or aggregate is within 2% of its optimum moisture content ensures that the specified compaction can be reached. If the soil or aggregate is too dry/wet, it is either very difficult or impossible to reach the specified compaction. This is especially true for when higher compaction specifications such as 98% and 100% SPmdd are required.

Moisture can be increased by adding water and mixing the soil prior to re-use, blending the soil with wetter material, or by importing soil to the site that is at optimum and can be readily compacted.

Moisture can be reduced by tilling or spreading out the soil to dry or blending it with drier material. In-situ moisture contents can change based on the season and local groundwater levels and can also change for stockpiled material due to precipitation.

Site soils are mainly cohesive and may require longer drying times which may be impractical.

In addition to the above compaction specifications, in any areas where compacted fill will be placed over the exposed native soil subgrade, any loose, soft, wet, organic or unstable areas should be sub-excavated, and backfilled with clean earth fill or Granular ‘B’ (OPSS.MUNI 1010) compacted to a minimum of 95% SPmdd. This recommendation applies to site servicing and pavement subgrades. Where structures/buildings require upfilling beneath the structure the fill should be compacted to 100% SPmdd.

5.4 Quality Verification Services

On-site quality verification services are an integral part of the geotechnical design function, and for foundations, engineered fill and retaining walls, are required under the Ontario Building Code. Quality verification services are used to confirm that construction is being conducted in general conformance with the requirements as outlined in the drawings, reports and specifications prepared for the proposed development.

GEI can provide all the on-site quality verification services outlined below:

- The subgrade for shallow foundations for commercial buildings must be field reviewed by the geotechnical engineer as required by the municipal regulating authority.
- Installation of retaining structures over 1.0 m high and related backfilling operations must be field reviewed on a continuous basis by the geotechnical engineer as required in the OBC.
- Full-time monitoring, testing and inspection of engineered fill placement is required by the geotechnical engineer per the OBC.
- Part-time monitoring of the subgrade support capabilities, material quality, lift thickness, moisture content, degree of compaction, etc. is recommended for the following areas to ensure the recommendations within this report are followed and they perform adequately in the long-term;
    - Slab-on-grades;
    - Pavement structure (granular and asphalt); and
    - Bedding/backfilling of site servicing.
- Testing of the concrete (compressive strength, slump, air content, etc.) and testing of the asphalt (asphalt content and gradation) are recommended to ensure that the quality of the materials being brought to site meet the requirements of the project.

5.5 Site Work

The soils found at this site may become weakened when subjected to traffic, particularly when wet. If there is site work carried out during periods of wet weather, then it can be expected that the subgrade will be disturbed unless an adequate granular working surface is provided to protect the integrity of the subgrade soils from construction traffic. Subgrade preparation works cannot be adequately accomplished during wet weather and the project must be scheduled accordingly. The disturbance caused by the traffic can result in the removal of disturbed soil and use of granular fill material for site restoration or underfloor fill that is not intrinsic to the project requirements.

The most severe loading conditions on the subgrade may occur during construction. Consequently, special provisions such as end dumping and forward spreading of earth and aggregate fills, restricted construction lanes, and half-loads during paving and other work may be required, especially if construction is carried out during unfavourable weather.

If construction proceeds during freezing weather conditions, adequate temporary frost protection for the founding subgrade and concrete must be provided. The soil at this site is susceptible to frost damage. Consideration must be given to frost effects, such as heave or softening, on exposed soil surfaces in the context of this particular project development.

6. Limitations and Conclusions

6.1 Limitations

The recommendations and comments provided are necessarily on-going as new information of underground conditions becomes available. More specific information with respect to the conditions between samples, or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during excavation operations. Consequently, conditions not observed during this investigation may become apparent. Should this occur, GEI should be contacted to assess the situation and additional testing and reporting may be required.

GEI should be retained for a general review of the final design drawings and specifications to verify that this report has been properly interpreted and implemented. If not accorded the privilege of making this review, GEI will assume no responsibility for interpretation of the recommendations in the report.

The comments given in this report are intended only for the guidance of the design engineers. The number of boreholes required to determine the localized underground conditions between boreholes affecting construction costs, techniques, sequencing, equipment, scheduling, etc. could be greater than has been carried out for design purposes. Contractors bidding on or undertaking the works should, in this light, decide on their own investigations, as well as their own interpretations of the factual borehole results, so that they may draw their own conclusions as to how the subsurface conditions may affect them.

This report was authorized by, and prepared by GEI for, the account of the Simpson Road Landowners Group Inc. (as provided in the signed agreement). Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. GEI accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this project.

6.2 Conclusion

It is recognized that municipal/regional governing bodies, in their capacity as the planning and building authority under Provincial statues, will make use of and rely upon this report, cognizant of the limitations thereof, both as are expressed and implied.

We trust this report is complete within our terms of reference, and the information presented is sufficient for your present purposes. If you have any questions, or when we may be of further assistance, please do not hesitate to contact our office.

Yours Truly,

GEI Consultants Canada Ltd.



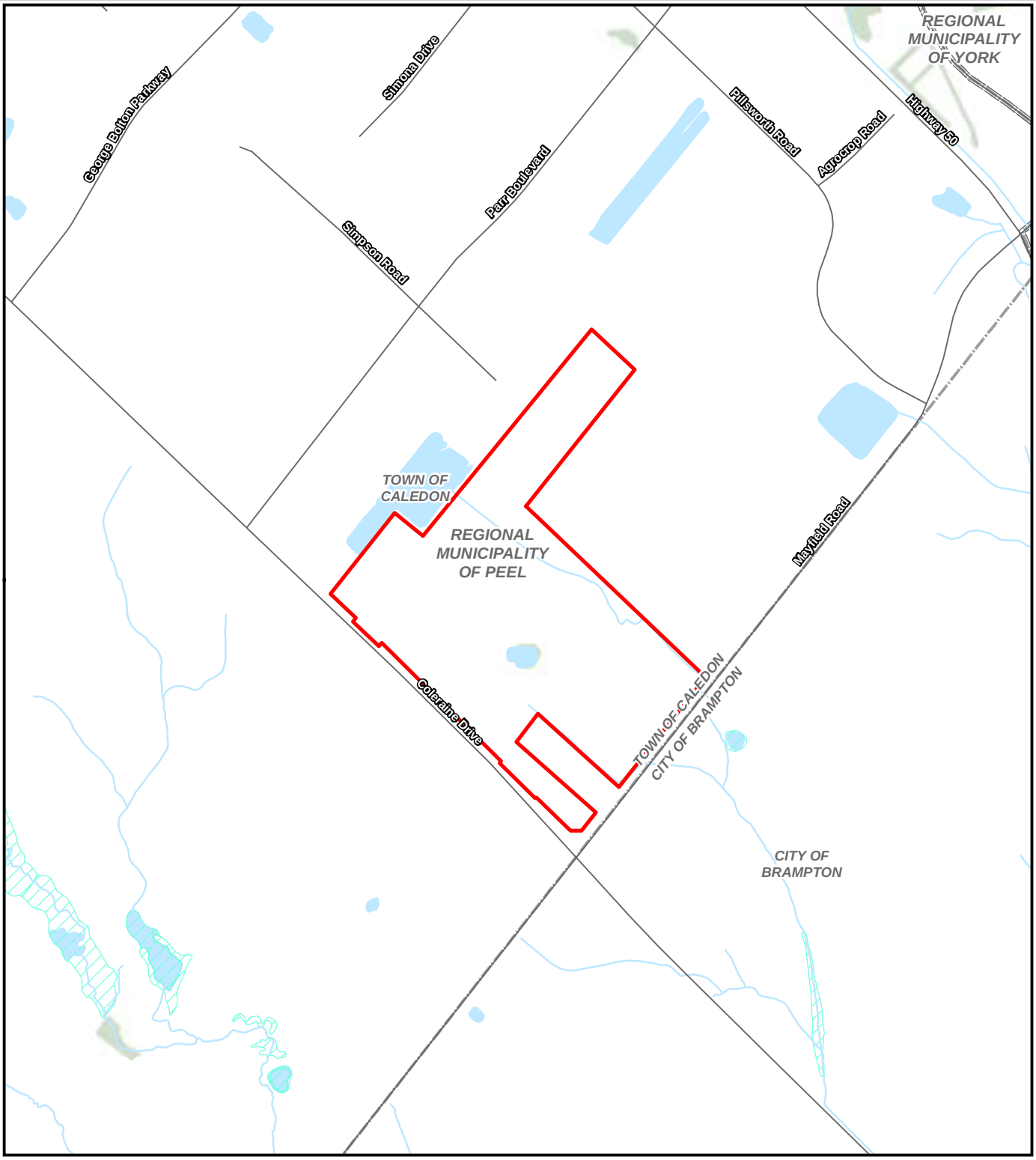
Geoffrey R. White, P.Eng.
Barrie Office Branch Manager and
Senior Geotechnical Engineer

Figures

Site Location Plan

Borehole Location Plans

Concepts



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.

Legend

- Subject Area
- Road
- Watercourse
- Waterbody
- Wooded Area
- Wetland - Not evaluated per OWES

N

0 100 200 m

1:10,000

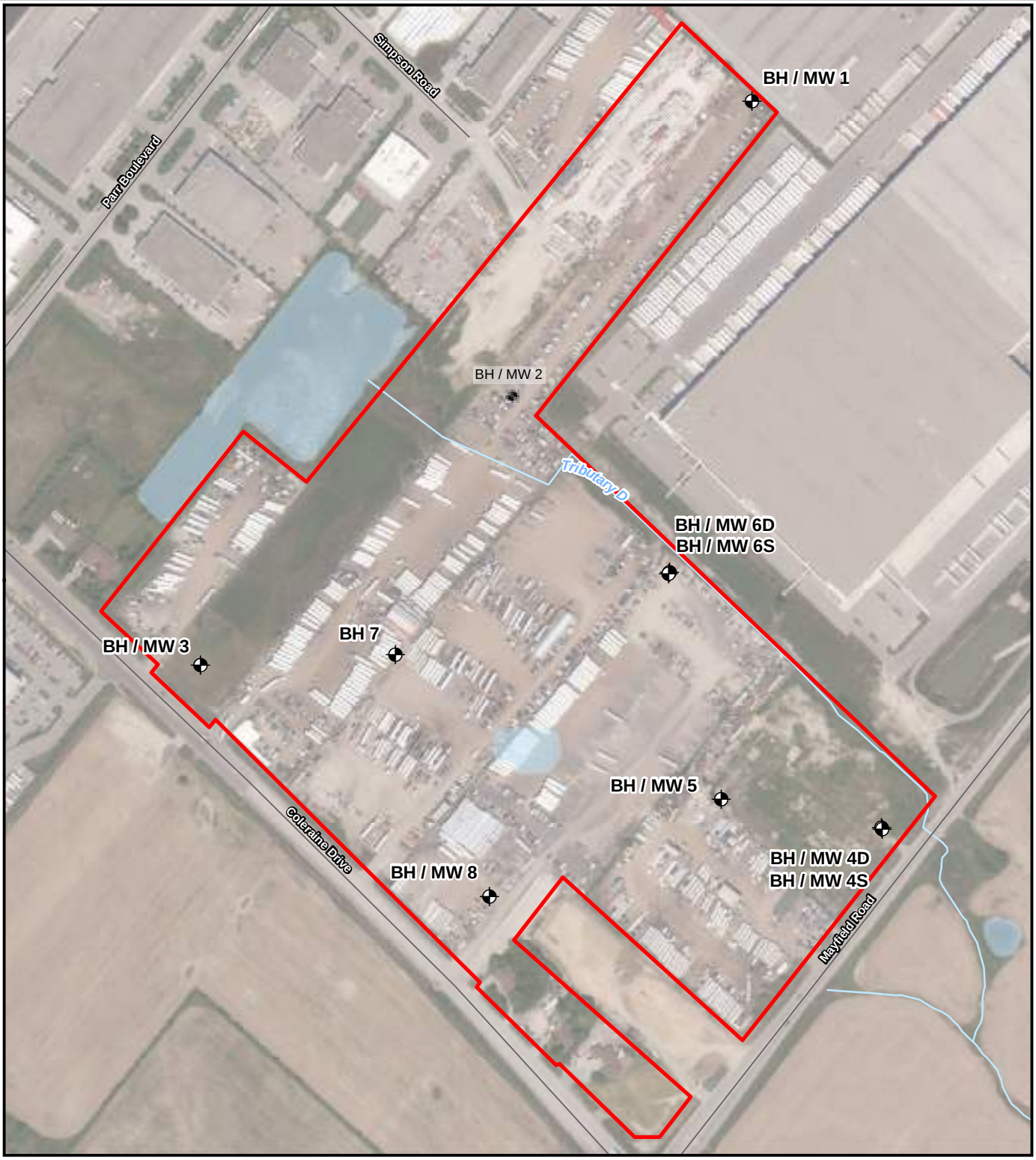
Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

Simpson Road Landowners Group Inc.

GEI Consultants

SITE LOCATION PLAN

Project 2301130 | July 2025 | Fig. 1



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2025, © Caledon Open Data, 2025.
3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2024.

Legend

- Subject Area
- Road
- Watercourse
- Waterbody
- Borehole/Monitoring Well Location

N

0 50 100 m

1:4,500

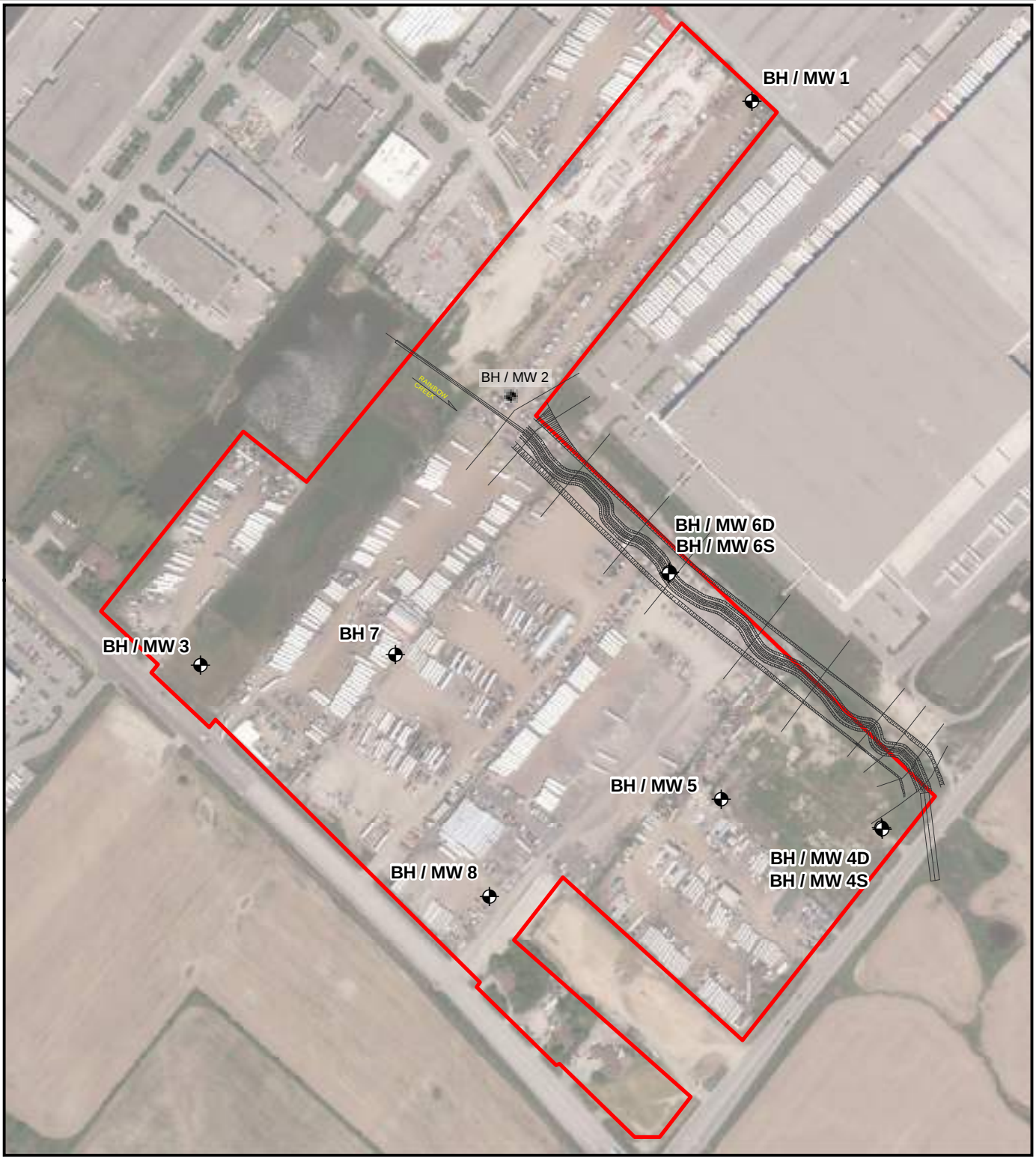
Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

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BOREHOLE LOCATION PLAN (AERIAL)

Project 2301130 | July 2025 | Fig. 2a



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2025, © Caledon Open Data, 2025.
3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2024.

Legend

- Subject Area
- Borehole/Monitoring Well Location

N

0 50 100 m

1:4,500

Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

Simpson Road Landowners Group Inc.

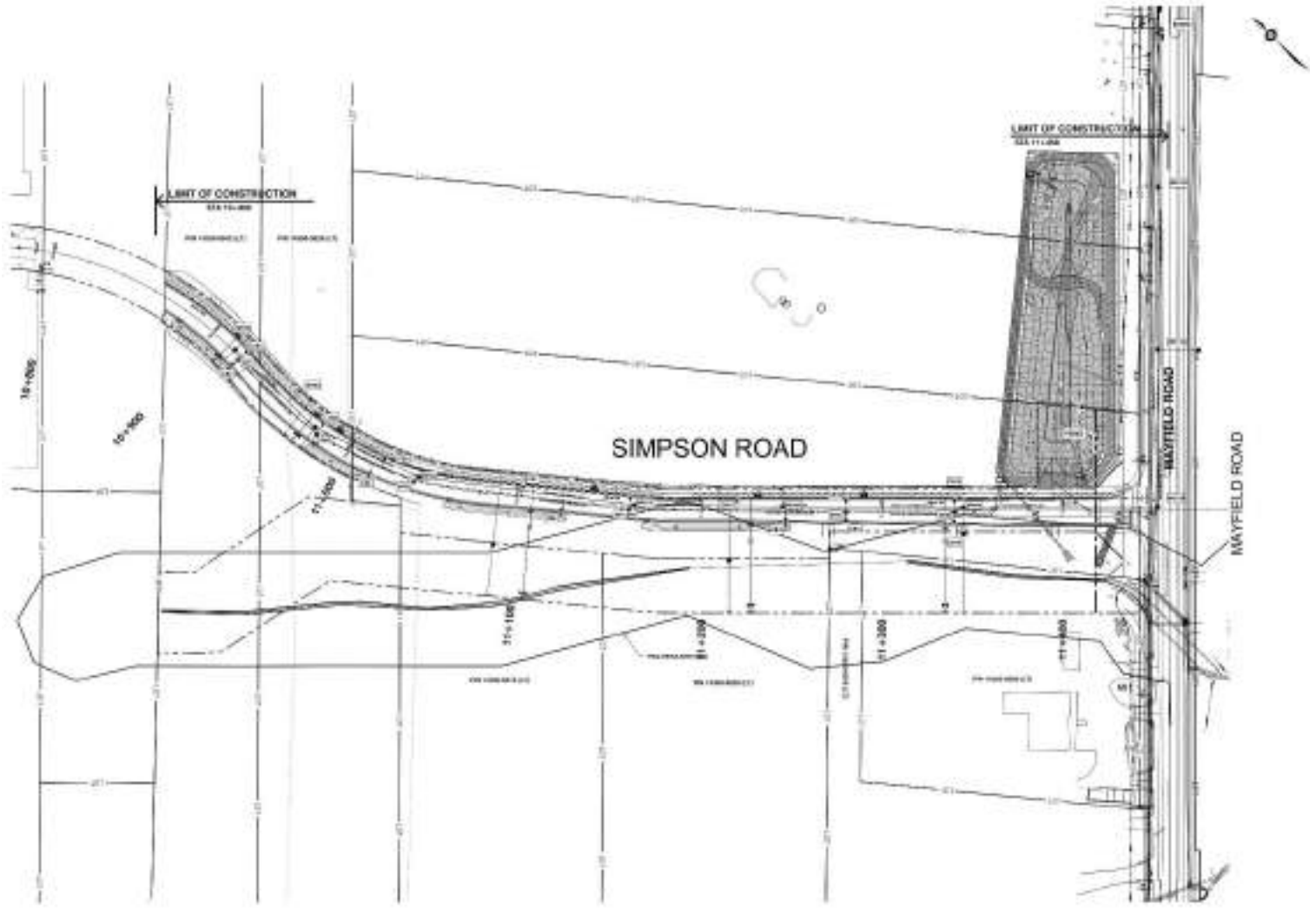
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Project 2301130

BOREHOLE LOCATION PLAN (CONCEPT PLAN)

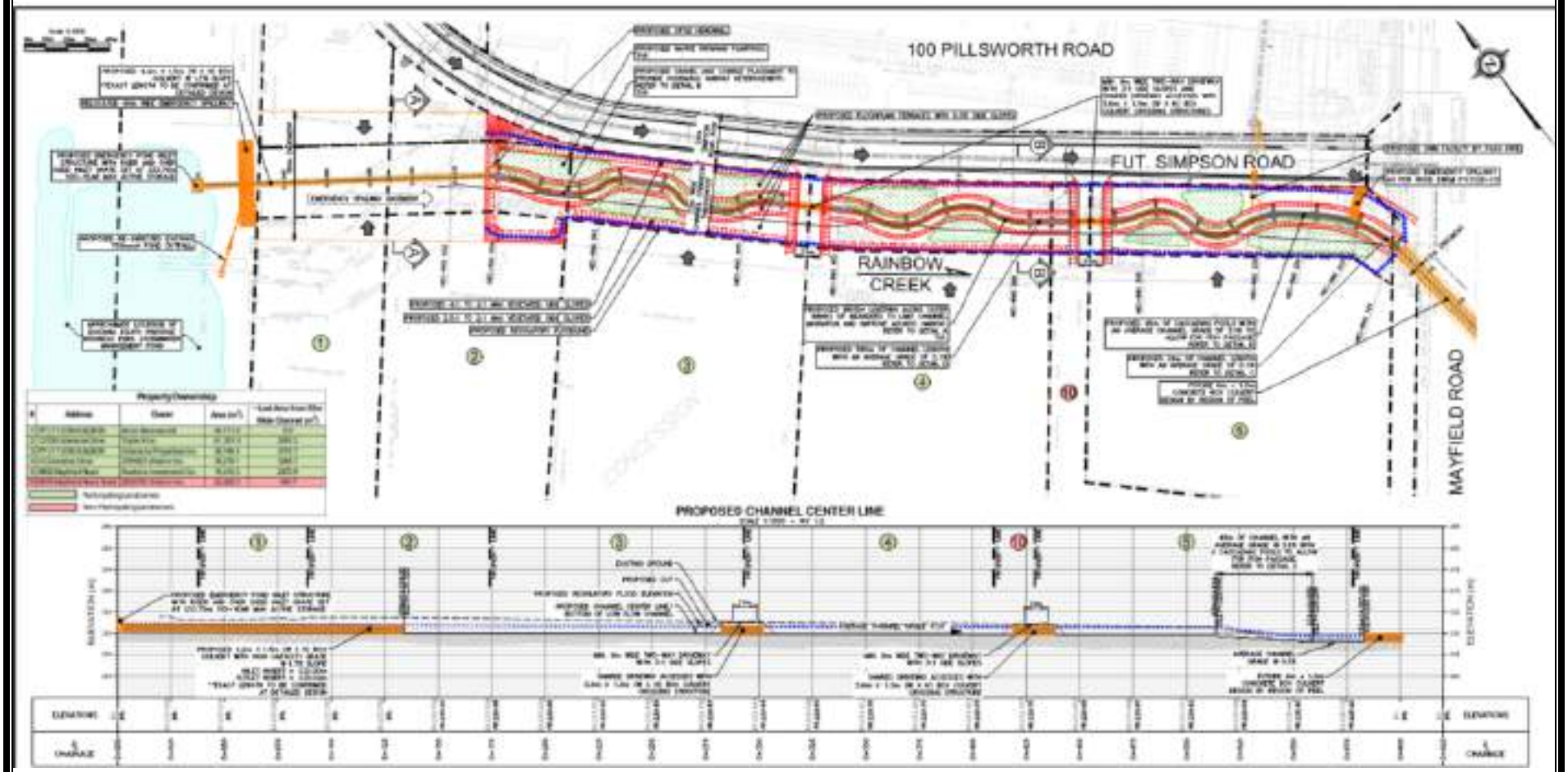
July 2025

Fig. 2b



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P: (705) 719-7994

Client: Simpson Road Landowners Group Inc.	Scale: N.T.S.
	Date: July 2025
Project: South Simpson Road Extension Block Plan	Drawn By: M.H
	Project No: 2301130
Title: Road Concept	Figure 3A



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P: (705) 719-7994

Client: Simpson Road Landowners Group Inc.	Scale: N.T.S.
	Date: July 2025
Project: Simpson Road LOG	Drawn By: M.H
	Project No: 2301130
Title: Creek Concept	Figure 3B

Appendix A

Borehole Logs

RECORD OF BOREHOLE No. 1

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855660.1** Date Started: **May 17/23**
Reviewed By: **GW** Easting: **604127.8** Date Completed: **May 17/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 / 233.9					0	
	0.2 RECYCLED ASPHALT: 250 mm / 233.6						
	FILL: Sandy silt, trace gravel, compact, brown, moist 0.6 / 233.3	AS	1				
	CLAYEY SILT: Some sand, very stiff, brown, moist	SS	2	95	16		
	1.5 / 232.3					1.5	232.5
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, brown, moist	SS	3	90	26		
		SS	4	100	34		
						3	231
		SS	5	100	54		
	4.6 / 229.3					4.5	229.5
	CLAYEY SILT: Trace sand, very stiff, grey, moist	SS	6	100	21		
	6.6 / 227.3	SS	7	100	22	6	228
	Borehole Terminated at 6.6 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL ○ Water Content (%) LL
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL

First Water Strike SS5

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: Jun 7/23 at depth of: 4.7 m.
Groundwater Elevation: 229.2 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 2

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: Date Started: **May 18/23**
Reviewed By: **GW** Easting: Date Completed: **May 18/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL/LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 233.2													
	RECYCLED ASPHALT: 700 mm	SS	1	40	19	0		19	13					
	0.7 232.5						232.5							
	FILL: Clayey silt, trace gravel, very stiff, brown, moist	SS	2	80	20			20						
	1.5 231.7					1.5			14					
	SANDY CLAYEY SILT GLACIAL TILL: Trace gravel, inferred cobbles and boulders, hard, grey, moist	SS	3	45	43			43						
							231		14					
		SS	4	100	47			47			5	21	42	32
						3			13					
		SS	5	100	44			44						
							229.5							
	4.6 228.6					4.5								
	CLAYEY SILT: Trace sand, very stiff, grey, very moist	SS	6	100	21			21	13		First Water Strike SS6			
							228							
	6.6 226.6					6								
		SS	7	100	19			19	14					
	Borehole Terminated at 6.6 m													

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on: Well covered at depth of: -
Cave depth after auger removal: Open
Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 3

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855211.7** Date Started: **May 17/23**
Reviewed By: **GW** Easting: **603689.4** Date Completed: **May 17/23**

Depth (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)	GR	SA	SI	CL
0.0 / 0.1	TOPSOIL: 75 mm					233.4 / 233.3				
0.8	FILL: Clayey silt, trace sand, firm, brown, moist	SS	1	20	6	232.6				
1.5	CLAYEY SILT: Some sand, very stiff, grey, moist	SS	2	65	20	231.8				
	CLAYEY SILT GLACIAL TILL: Some sand, trace gravel, inferred cobbles and boulders, hard, grey to brown, moist	SS	3	100	31					
		SS	4	100	47		8	18	42	32
		SS	5	80	38					
4.6						228.8				
	SANDY CLAYEY SILT: Trace gravel, very stiff, grey, moist	SS	6	100	29		4	20	45	31
6.6		SS	7	100	21	226.8				
	Borehole Terminated at 6.6 m									

Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded)
Penetration Testing: ○ SPT ● DCPT
△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm)
Atterberg Limits: PL — LL; ○ Water Content (%)

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on: Jun 7/23 at depth of: 1.3 m.
Cave depth after auger removal: Open
Groundwater Elevation: 232.1 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 4-D

Project Number:	**2301130**				
Project Client:	**Simpson Road Landowners Group Inc.**				
Project Name:	**South Simpson -Headwaters W Rainbow Ck**	Drilling Method: **Track Mount**		Drilling Machine: **Solid Stem Augers**	
Project Location:	**Caledon, ON**	Logged By: **TA**	Northing: **4855082.3**	Date Started:	**May 18/23**
Drilling Location:	**See Borehole Location Plan**	Reviewed By: **GW**	Easting: **604231.5**	Date Completed:	**May 18/23**
Local Benchmark:					

LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)				
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa); Penetration Testing (SPT, DCPT)	Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits; Water Content (%)	Instrumentation Installation		GR	SA	SI	CL
	0.0 230.4					0 / 230.4								
	TOPSOIL: 25 mm													
	FILL: Clayey silt, trace sand, stiff, brown, moist	SS	1	75	11		11, 12	23, 24						
	0.8 229.6					0.5 / 229.5								
	CLAYEY SILT: Some sand, stiff, brown with grey spotting, moist	SS	2	100	12									
	1.5 228.9					1.5 / 229								
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, brown, moist	SS	3	90	26		26	13						
						2 / 228.5								
		SS	4	90	26		26	10						
						2.5 / 228								
		SS	5	90	41		41	13						
	4.6 225.8					4.5 / 226.5								
	CLAYEY SILT: Some sand, very stiff, grey, moist	SS	6	100	24		24	12		First Water Strike SS6				
	6.1 224.3					6 / 225								
	SANDY SILT GLACIAL TILL: Trace clay, trace gravel, inferred cobbles and boulders, very dense, grey, moist	SS	7	95	50+		50+	9						
	6.6 223.8 Borehole Terminated at 6.6 m													

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Groundwater depth encountered on completion of drilling: Dry

Cave depth after auger removal: Open

Groundwater depth observed on: Jun 7/23 at depth of: 1.7 m.

Groundwater Elevation: 228.7 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 4-S

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855081.4** Date Started: **May 18/23**
Reviewed By: **GW** Easting: **604231.5** Date Completed: **May 18/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 230.4							Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40 80 120 160. Penetration Testing: ○ SPT ● DCPT; 10 20 30 40	△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits: PL — LL. ○ Water Content (%); 10 20 30 40		GR SA SI CL
	TOPSOIL: 25 mm					0					Descriptions copied from BH 4-D
	FILL: Clayey silt, trace sand, stiff, brown, moist										
	0.8 229.6						229.5				
	CLAYEY SILT: Some sand, stiff, brown with grey spotting, moist										
	1.5 228.8					1.5					
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, brown, moist										
	2.3 228.1										
	Borehole Terminated at 2.3 m										

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: Jun 7/23 at depth of: 1.2 m.
Groundwater Elevation: 229.2 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 5

Project Number:	**2301130**				
Project Client:	**Simpson Road Landowners Group Inc.**				
Project Name:	**South Simpson -Headwaters W Rainbow Ck**	Drilling Method: **Track Mount**		Drilling Machine: **Solid Stem Augers**	
Project Location:	**Caledon, ON**	Logged By: **TA**	Northing: **4855105.3**	Date Started: **May 18/23**	
Drilling Location:	**See Borehole Location Plan**	Reviewed By: **GW**	Easting: **604103.3**	Date Completed: **May 18/23**	
Local Benchmark:					

LITHOLOGY PROFILE			SOIL SAMPLING						FIELD TESTING		LAB TESTING			COMMENTS & GRAIN SIZE DISTRIBUTION (%)				
Lithology Plot	DESCRIPTION		Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT		Combustible Organic Vapour (ppm), Combustible Organic Vapour (%LEL), Total Organic Vapour (ppm); Atterberg Limits: PL, LL; Water Content (%)		Instrumentation Installation		GR	SA	SI	CL
	0.0	231.2																
	TOPSOIL: 180 mm	0.2 231.0																
	FILL: 25 mm Gravel over clayey silt, trace gravel, firm, brown, moist	0.8 230.4	SS	1	85	6	0	231	6		22							
	CLAYEY SILT: Some sand, very stiff, brown to grey, moist		SS	2	100	19			19		14							
			SS	3	100	29	1.5	229.5	29		13							
		2.3	228.9															
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, grey, moist		SS	4	100	21			21		14							
			SS	5	100	43	3	228	43		13			First Water Strike SS5				
		4.6	226.6															
	CLAYEY SILT: Some sand, trace gravel, firm to very stiff, grey, moist		SS	6	100	21	4.5	226.5	21		13				2	17	48	33
		6.1	225.1															
	CLAYEY SILT GLACIAL TILL: Some sand, trace gravel, inferred cobbles and boulders, very stiff, grey, moist		SS	7	100	19	6	225	19		15							
	Borehole Terminated at 6.6 m	6.6 224.6																

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Groundwater depth encountered on completion of drilling: Dry

Cave depth after auger removal: Open

Groundwater depth observed on: Jun 7/23 at depth of: 1.3 m.

Groundwater Elevation: 229.9 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 6-D

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855285.3** Date Started: **May 19/23**
Reviewed By: **GW** Easting: **604062.3** Date Completed: **May 19/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						231.4
0.8	ASPHALT: 25 mm FILL: Sand, trace silt, loose, brown, moist	AS	1			230.7
2.3	CLAYEY SILT: Trace organics, firm, brown, wet - - - Some sand, brown to grey - - -	SS	2	55	4	229.1
		SS	3	100	6	
6.1	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, grey, wet to moist	SS	4	100	24	225.3
		SS	5	100	44	
		SS	6	100	36	
6.6	CLAYEY SILT: Some sand, very stiff, grey, wet	SS	7	100	30	224.9
	Borehole Terminated at 6.6 m					

FIELD TESTING: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160. Penetration Testing: SPT, DCPT; 10 20 30 40.

LAB TESTING: Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits: PL, LL. Water Content (%); 10 20 30 40.

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%): First Water Strike SS2

GR | SA | SI | CL

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Groundwater depth encountered on completion of drilling: 5.4 m. Cave depth after auger removal: Open

Groundwater depth observed on: Jun 7/23 at depth of: 1.3 m. Groundwater Elevation: 230.1 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**

RECORD OF BOREHOLE No. 6-S

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855284.8** Date Started: **May 19/23**
Reviewed By: **GW** Easting: **604061.4** Date Completed: **May 19/23**

LITHOLOGY PROFILE		SOIL SAMPLING						FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)				
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); 40 80 120 160; Penetration Testing: SPT, DCPT; 10 20 30 40	Combustible Organic Vapour (ppm), Combustible Organic Vapour (%LEL), Total Organic Vapour (ppm); 100 200 300 400; Atterberg Limits: PL, LL; Water Content (%); 10 20 30 40	Instrumentation Installation		GR	SA	SI	CL
	0.0 231.4					0	231								
	ASPHALT: 25 mm														
	FILL: Sand, trace silt, loose, brown, moist														
	0.8 230.7														
	CLAYEY SILT: Trace organics, firm, brown, wet														
	- - - Some sand, brown to grey - - -					1.5	229.5								
	2.3 229.1														
	Borehole Terminated at 2.3 m										Descriptions copied from BH 6-D First Water Strike SS2				

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Groundwater depth encountered on completion of drilling: 2.3 m. Cave depth after auger removal: Open

Groundwater depth observed on: Jun 7.23 at depth of: 0.5 m. Groundwater Elevation: 230.9 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 7

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855220.4** Date Started: **May 19/23**
Reviewed By: **GW** Easting: **603844.3** Date Completed: **May 19/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing: SPT ○ DCPT ●)	LAB TESTING (Combustible Organic Vapour (ppm) △; Combustible Organic Vapour (%LEL) ▲; Total Organic Vapour (ppm) ◇; Atterberg Limits PL–LL; Water Content (%) ○)	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 232.6 RECYCLED ASPHALT: 760 mm	SS	1	80	37	0	232.5	37	5					
	0.8 231.8 CLAYEY SILT: Some sand, stiff to very stiff, brown and grey, moist	SS	2	100	9			9	15					
		SS	3	90	21	1.5	231	21	15					
	2.3 230.3 SANDY CLAYEY SILT GLACIAL TILL: Some gravel, inferred cobbles and boulders, very stiff, grey, moist	SS	4	100	25			25	14		First Water Strike SS4			
		SS	5	100	25	3	229.5	25	14					
	4.6 228.0 CLAYEY SILT: Trace sand, stiff, grey, moist	SS	6	100	14	4.5	228	14	15					
	6.1 226.5 SANDY CLAYEY SILT GLACIAL TILL: Trace gravel, inferred cobbles and boulders, firm, grey, moist	SS	7	85	7	6	226.5	7	15		5	22	45	28
	6.6 226.0 Borehole Terminated at 6.6 m													

Groundwater depth encountered on completion of drilling: 5.4 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

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RECORD OF BOREHOLE No. 8

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855027.8** Date Started: **May 17/23**
Reviewed By: **GW** Easting: **603918.9** Date Completed: **May 17/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 231.7						
	GRANULAR: 720 mm	AS	1			0	
	0.7 231.0						231
	CLAYEY SILT: Some sand, stiff, brown, moist	SS	2	80	10		
	1.5 230.2					1.5	
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, brown, moist	SS	3	100	28		229.5
		SS	4	100	35	3	
		SS	5	100	20		228
	- - - Grey - - -	SS	6	45	15	4.5	
	6.1 225.6						226.5
	SAND AND SILT: Trace clay, compact, grey, wet	SS	7	100	24	6	
	6.6 225.2						
	Borehole Terminated at 6.6 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

SPT: 10, 28, 35, 20, 15, 24

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL LL
○ Water Content (%)
10 20 30 40

Water Content: 10, 15, 15, 13, 13, 16, 13

Instrumentation Installation: First Water Strike SS5

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
0	43	53	4

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Groundwater depth encountered on completion of drilling: 5.4 m. Cave depth after auger removal: Open
Groundwater depth observed on: Jun 7/23 at depth of: 2.0 m. Groundwater Elevation: 229.7 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

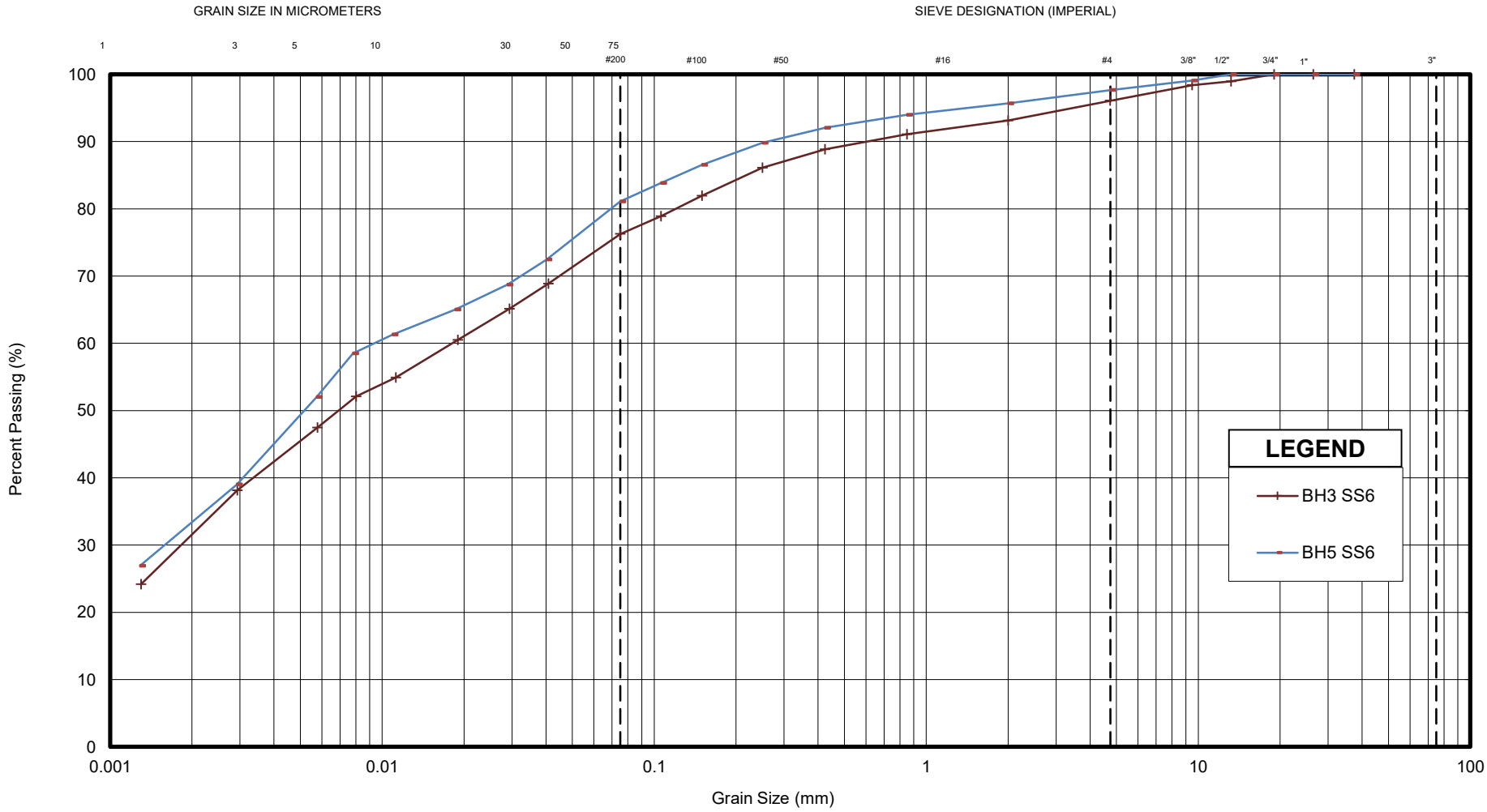
Scale: **1 :75**

Appendix B

Geotechnical Laboratory Testing

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH3 SS6	SANDY CLAYEY SILT, Trace Gravel	4	20	45	31	-	0.002	0.018	-	-
BH5 SS6	CLAYEY SILT, Some Sand, Trace Gravel	2	17	48	33	-	0.002	0.009	-	-

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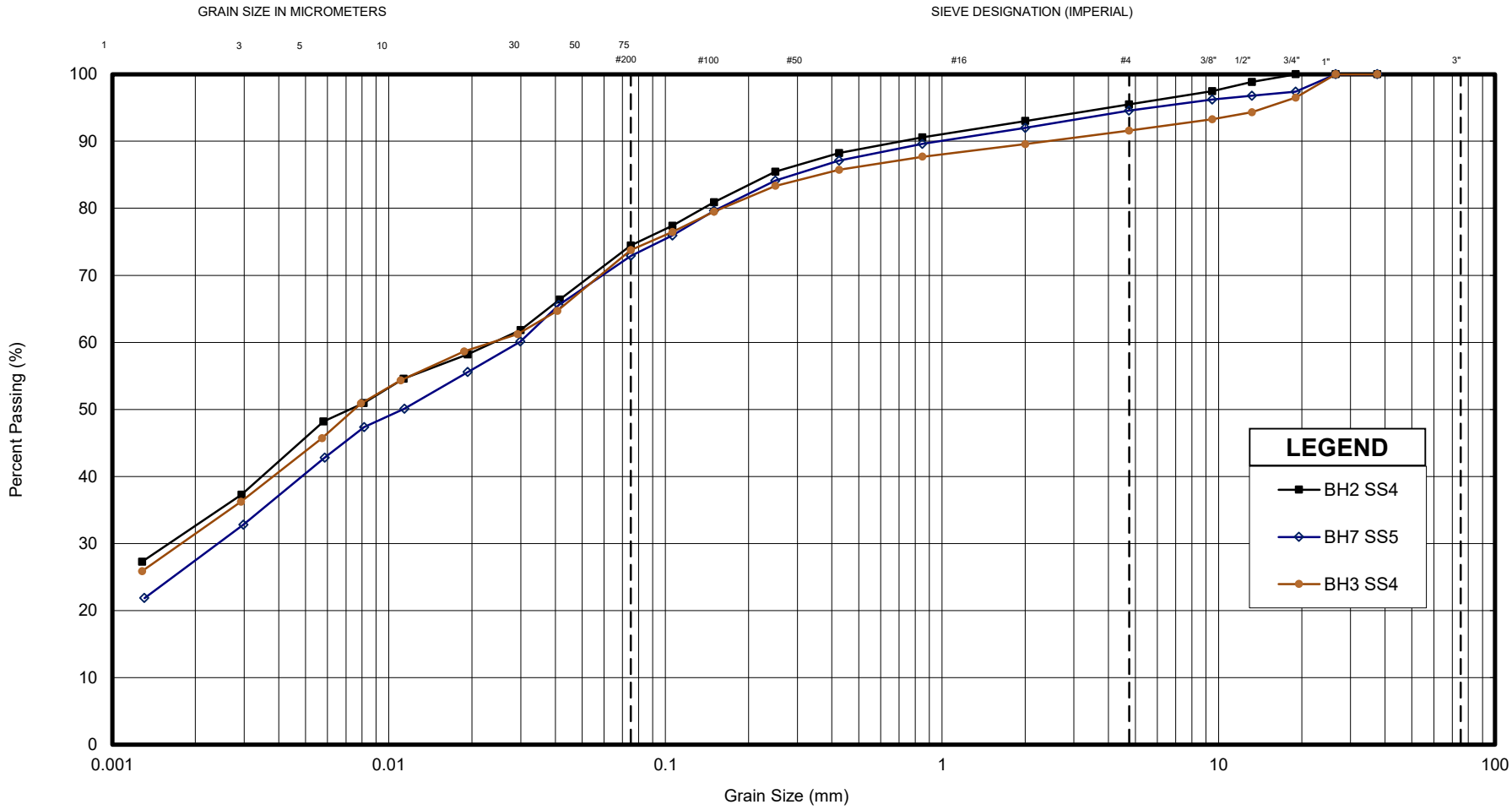
GRAIN SIZE DISTRIBUTION - South Simpson (Headwaters of West Rainbow Creek)

CLAYEY SILT

FIGURE No.	B1
REF. No.	2301130
DATE	July 2025

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH2 SS4	SANDY CLAYEY SILT, Trace Gravel	5	21	42	32	-	0.002	0.024	-	-
BH7 SS7	SANDY CLAYEY SILT, Trace Gravel	5	22	45	28	-	0.002	0.030	-	-
BH3 SS4	CLAYEY SILT, Some Sand, Trace Gravel	8	18	42	32	-	0.002	0.024	-	-

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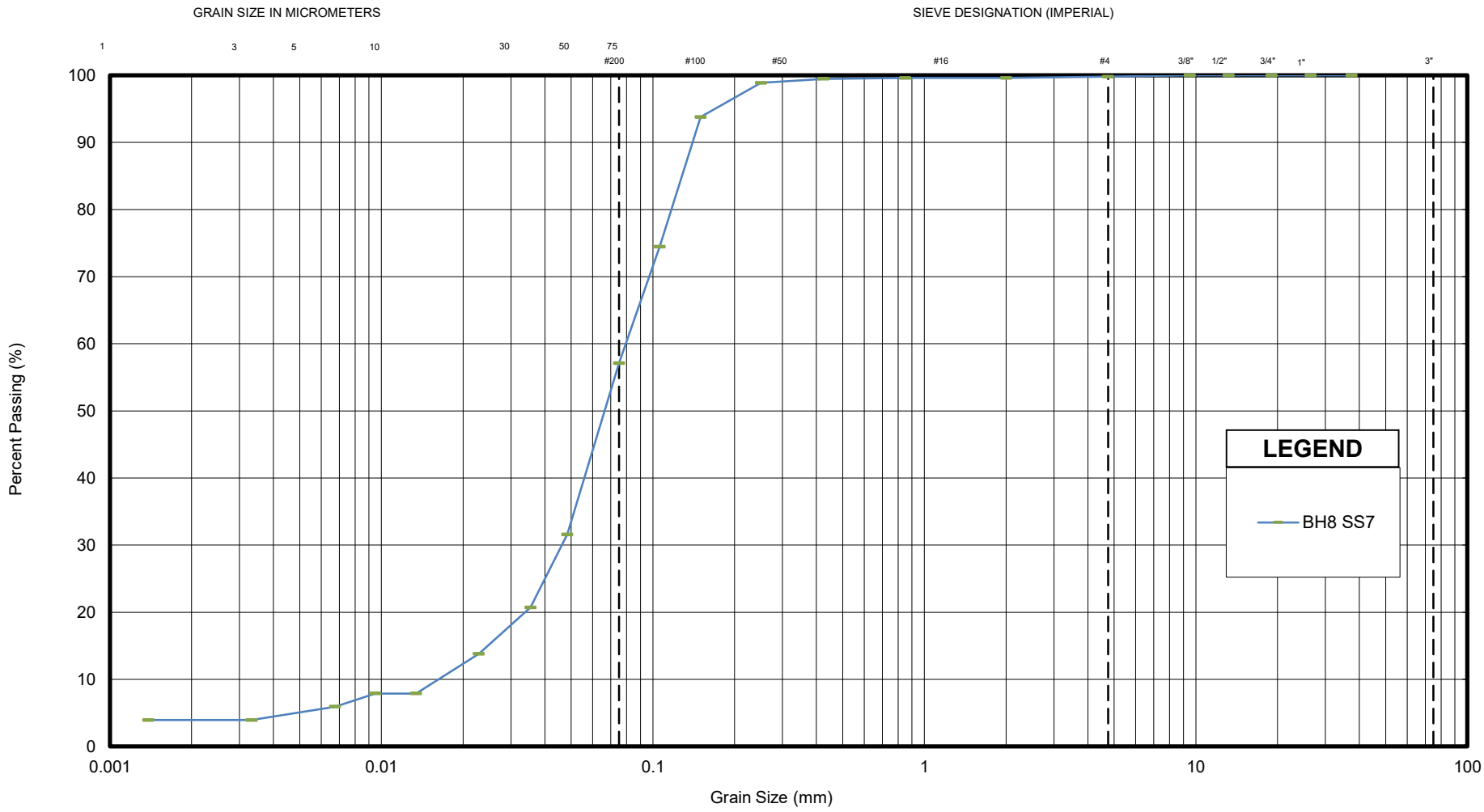
GRAIN SIZE DISTRIBUTION - South Simpson (Headwaters of West Rainbow Creek)

GLACIAL TILL

FIGURE No.	B2
REF. No.	2301130
DATE	July 2025

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH8 SS7	SAND AND SILT, Trace Clay	-	43	53	4	0.016	0.046	0.079	4.9	1.7

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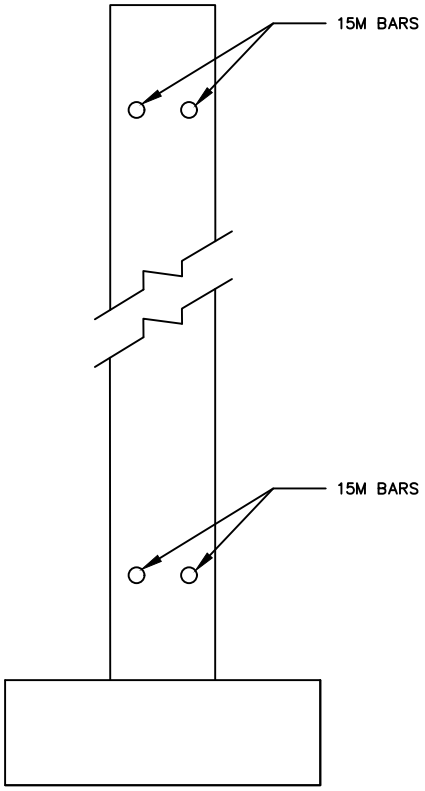
GRAIN SIZE DISTRIBUTION - South Simpson (Headwaters of West Rainbow Creek)

SAND AND SILT

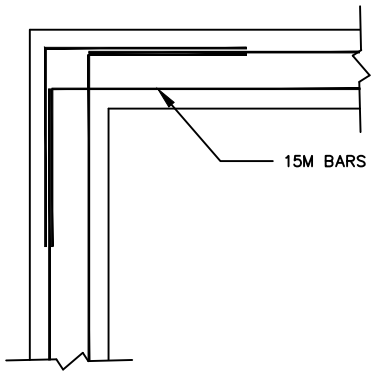
FIGURE No.	B3
REF. No.	2301130
DATE	July 2025

Appendix C

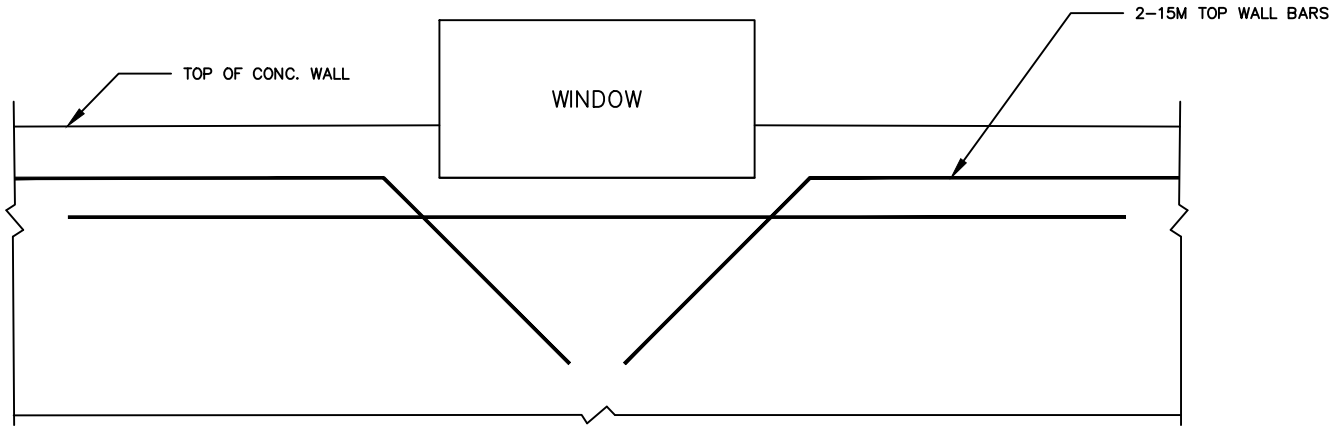
Typical Details



TYPICAL REINFORCED WALL



TYPICAL SPLICING AT CORNERS



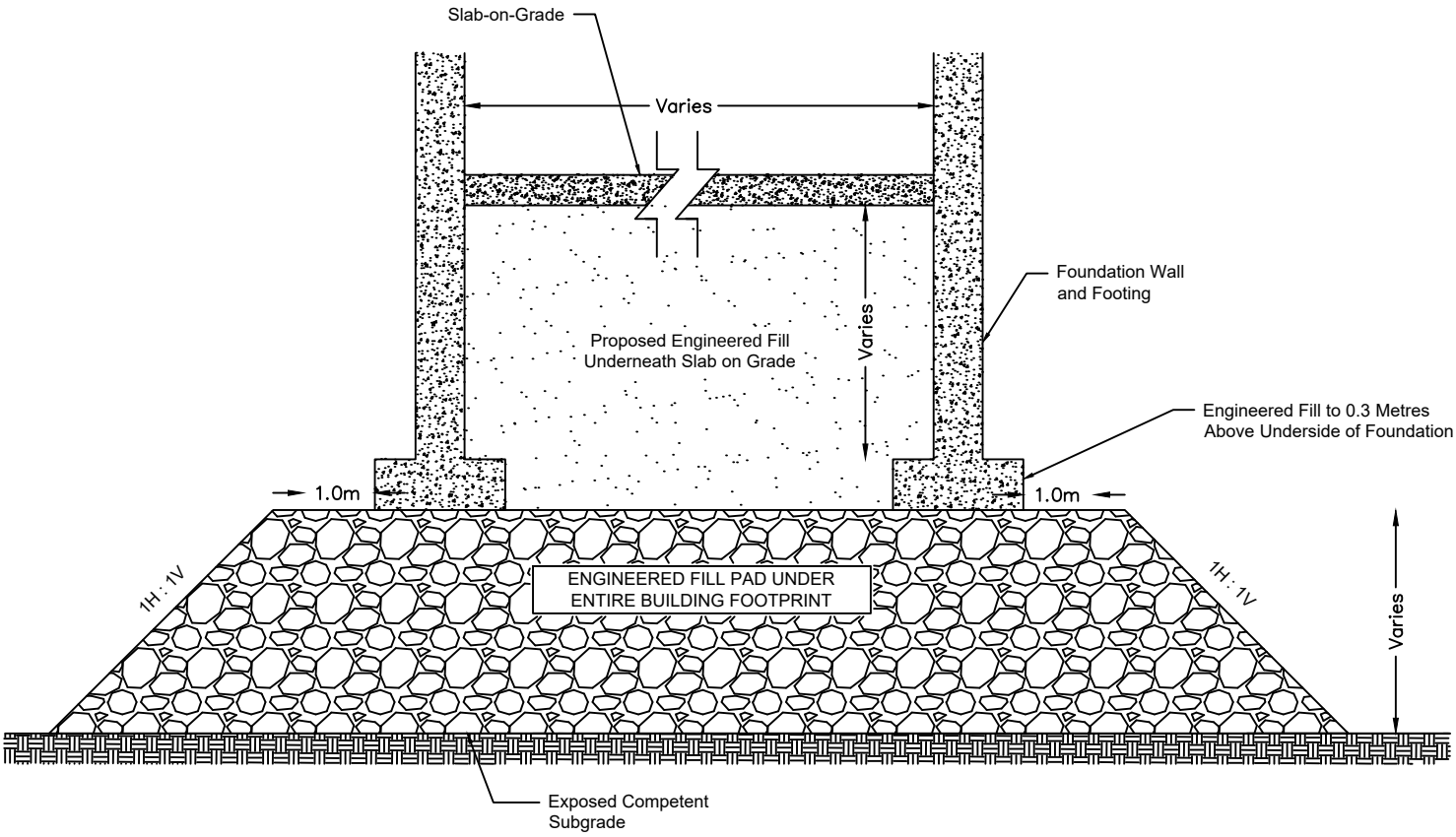
TYPICAL WINDOW REINFORCING

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FOUNDATION WALL REINFORCING ON ENGINEERED FILL TYPICAL DETAIL

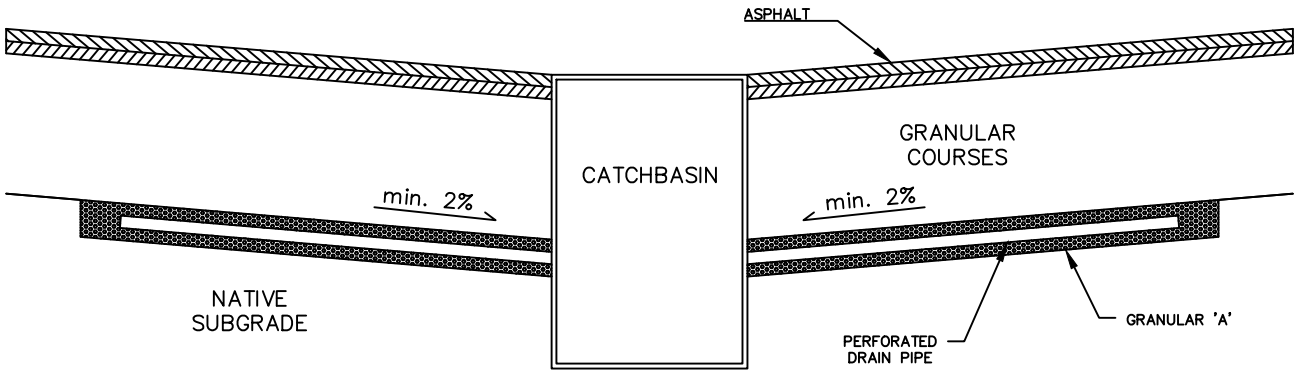
Notes:

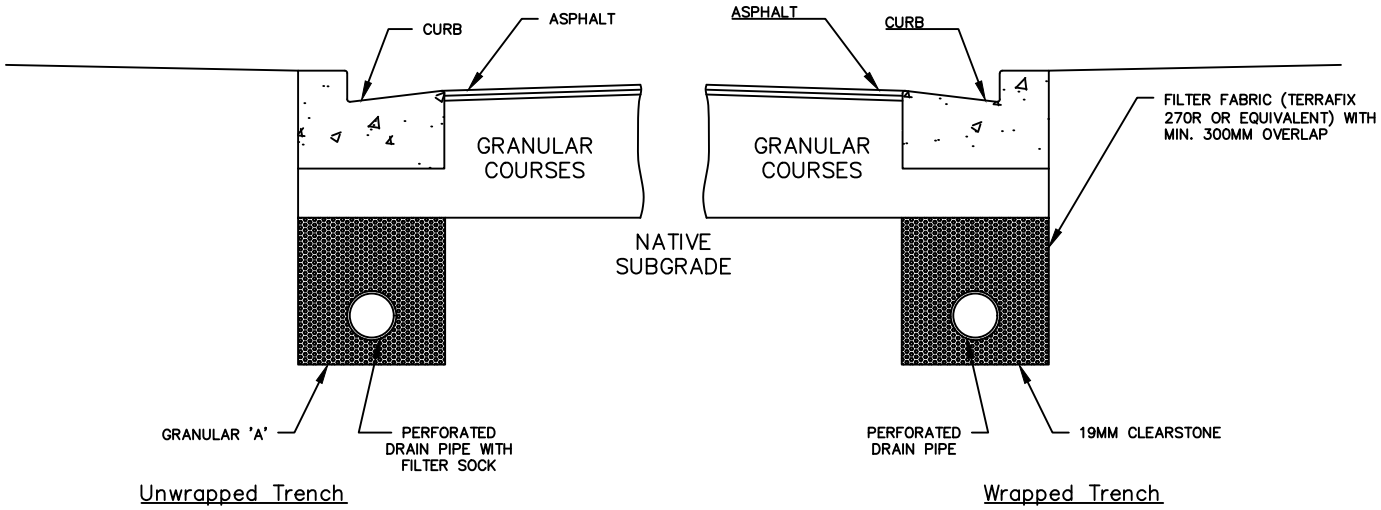
1. Engineered Fill compacted to 100% Standard Proctor Maximum Dry Density (SPMDD) and inspected under the full time supervision of GEI.
2. Engineered fill must be placed in loose lifts of 200 mm or less and then compacted as noted above.
3. Engineered fill under slab compacted to 98% SPMDD.



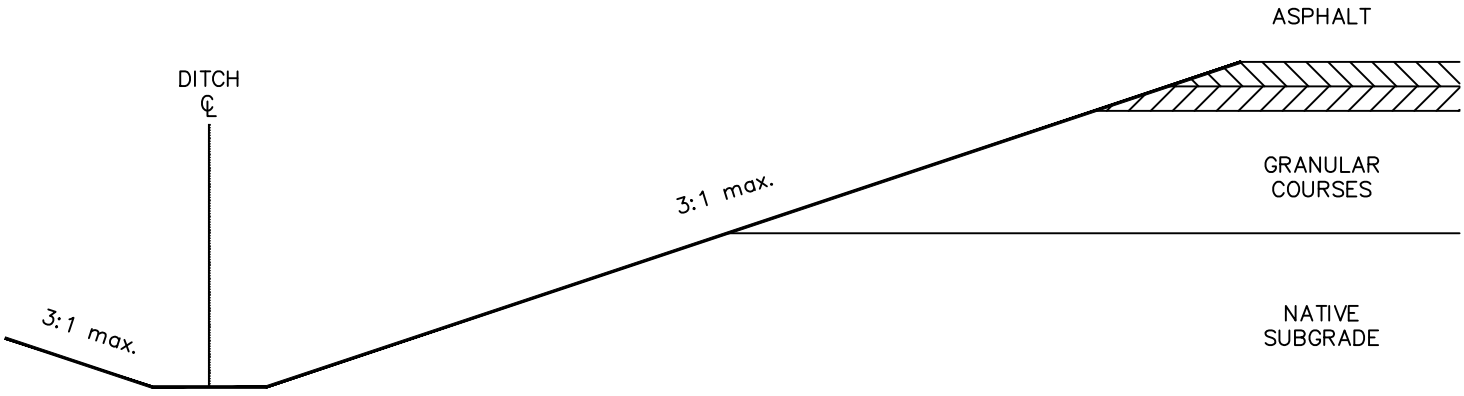
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ENGINEERED FILL PAD DIMENSIONING TYPICAL DETAIL





Urban Cross Sections



Rural Cross Section

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PAVEMENT DRAINAGE ALTERNATIVES TYPICAL DETAILS

GEI Consultants

Consulting Engineers and Scientists

Hydrogeological Investigation

South Simpson (Headwaters of West Rainbow Creek), Block Plan and Master Environmental Servicing Plan Update

Northern corner of Coleraine Drive and Mayfield Road, Caledon, Ontario

Submitted to:
Simpson Road Landowners Group Inc.
c/o Helen Mihailidi
7501 Keele Street, Suite 200
Vaughan, ON L4K 1Y2

Submitted by:
GEI Consultants Canada Ltd.
647 Welham Road, Unit 14
Barrie, Ontario, L4N 0B7
www.geiconsultants.ca

July 25, 2025
Project No. 2301130
Revision 1

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1. Introduction

GEI Consultants Canada Ltd. (GEI) was retained by Simpson Road Landowners Group Inc. (the Client) to complete a hydrogeological investigation to support a Block Plan and Master Environmental Servicing Plan update at South Simpson (Headwaters of West Rainbow Creek). These works are required as part of the submission for a proposed extension of Simpson Road and provide an update to the Master Environmental Servicing Plan 2000 (MESP) and incorporate the revisions made through the Municipal Class EA for Simpson Road (2013). All are intended to support future development of the study area identified in Schedule "C" of the Terms of Reference (TOR). Simpson Road is generally located north of the intersection of Coleraine Drive and Mayfield Road in Caledon, Ontario. A summarized site location plan as described by Schedule "C" is enclosed as Figure 1.

The subject lands are designated Prestige Industrial and General Industrial in the Official Plan. The subject lands are a part of the Town of Caledon's South Simpson Secondary Plan Area and are subdivided into eleven (11) distinct properties, separated by different landowners. The Landowner Group consists of landowners of parcels 2, 3, 4, 5 and 11 on the map by Weston Consulting (Weston). As requested, non-participating landowners within the secondary plan area have not been included in this study. This exclusion is to be confirmed by the Town of Caledon.

The subject lands have an approximate total area of 36.75 ha (90.70 acres) and are currently occupied by open lands, various truck and transportation uses, and a former garden supply store. The subject lands are bounded by Mayfield Road to the south, Coleraine Drive to the west, and mixed residential, commercial, and undeveloped lands to the east and north. Undeveloped lands exist within a southern parcel located on three sides by subject lands and Mayfield Road to the south.

Local elevations in the northeastern portion of the subject lands are near Elev. 236.0, sloping to the south-southeast with elevations near 230.5. An aerial image of the site from 2022 is provided on Figure 2.

Historical study and contemporary documents related to this development file were available for review. GEI was provided the following information in preparation of this report:

- "Rainbow Creek Channel Re-alignment" dated March 2025 prepared by Greck
- "*Block Planning for the South Simpson Secondary Plan, North-East Corner of Coleraine Drive and Mayfield Road, Ward 5*." Staff-Report 2022-0374, dated July 12, 2022, prepared by Planning Department, Town of Caledon
- *"South Simpson Secondary Plan Area Ownership"* Map, from Schedule "C" to Staff Report 2022-0374 dated May 25, 2022.
- *"Terms of Reference: South Simpson (Headwaters of West Rainbow Creek) Master Environmental Servicing Plan Update"*. Town of Caledon
- *"Hydrogeological Appraisal Simpson Road Completion from North of George Bolton Parkway to Mayfield Road Town of Caledon, Ontario"* prepared by AMEC Earth & Environmental Limited dated March 8, 2011.

- *"Simpson Road Extension Phase 3, from 282 m South of Parr Boulevard to Mayfield Road, Contract 14-09"* prepared by Wood and commissioned by Region of Peel, dated November 2020.

The proposed development involves the construction of the extension of Simpson Road southerly approximately 600 m to Mayfield Road. A road concept plan is shown in Figure 3A. The proposed road is to be constructed about 1 to 2 m above existing grade along the alignment and includes associated site servicing, as deep as 4.0 m below existing grade corresponding to about 5 to 6 m below the proposed road grade. The existing open channel will also be re-aligned slightly to the west to allow for the road extension. A concept plan for the channel is shown in Figure 3B. It is understood that the latest concept for the channel will comprise an extended SWM pond outlet about 130 m from the SWM pond at the north end of the site, then transition to back to a newly designed open channel. Driveways will be created to provide access to the lots on the west side of the open channel and to allow for lot servicing. Culverts will be utilized to carry the channel under the driveways. The design configuration regarding buildings has not been established at this time but are mainly assumed to comprise large slab-on-grade structures. It is also assumed that some earthworks will be required to establish the proposed grades when the design concept has been confirmed, as the road will be established through raised grades.

The hydrogeological investigation consisted of 1) borehole drilling and monitoring well installations to characterize existing soils and groundwater subsurface and 2) staff gauge installations at surface to monitor baseflow conditions in the Rainbow Creek Tributary that run approximately parallel to the proposed road extension.

This report includes monthly groundwater and surface water monitoring, and infiltration testing. GEI is completing a geotechnical report concurrently under separate cover.

1.1 Purpose and Scope of Work

The main objectives of the Hydrogeological Investigation were to:

a) Establish the local hydrogeological settings of the Site;
b) Provide an assessment of anticipated construction dewatering flow rates based on the site servicing plan provided from the Client;
c) Assess use of Low Impact Development (LID) measures;
d) Assess groundwater quality and compare the results to the applicable Provincial Water Quality Objective (PWQO), Ontario Drinking Water Objective (ODWO), and O.Reg.153/04, as amended, Site Condition Standards (SCSs);
e) Qualitatively assess the potential impact to the nearby structures, water bodies and water users, if any, and comment on future regulatory agency involvement;
f) Assess private servicing feasibility; and
g) Prepare a hydrogeological investigation report.

To achieve the investigation objectives, GEI carried out the following scope of work:

a) Conduct a background desktop review of pertinent geological and hydrogeological resources, Ministry of Environment, Conservation and Parks (MECP) Water Well Records, previous reports, and proposed Site plan drawings.
b) Visit the site and note existing site conditions, site setting, topography, drainage, water features, and potential water wells within 500 m of the site, if any.
c) Utilization of eight (8) advanced boreholes with six (6) monitoring wells installed during the field investigation and two (2) nested piezometers, each including one (1) shallow well and one (1) deep piezometer.
d) Install and utilize two (2) staff gauges and two (2) level loggers to monitor surface water elevations, to be included in a later subsequent letter report.
e) Revisit the site and measure groundwater levels, perform hydraulic conductivity testing at three (3) monitoring wells, and retrieve representative groundwater samples.
f) Submit one (1) representative unfiltered groundwater sample for laboratory testing to compare against the chemical parameters as defined in the Peel Storm and Sanitary Sewer Use Bylaw; one (1) representative unfiltered groundwater samples compared to PWQO standards for metals; O.Reg. 153/04, as amended, for PHCs and VOCs; and for general Total Suspended Solids (TSS).
g) Submit one (1) representative filtered groundwater sample for laboratory testing to compare against the PWQO standards for metals and TSS.
h) Evaluate the background information, and field and laboratory data to assess construction dewatering requirements.
i) Prepare a hydrogeological investigation report.

1.2 Regulatory Requirements for Water Taking

1.2.1 Water Taking – Temporary

The volume of water entering the excavation during construction will be based on both groundwater infiltration and precipitation events. Based on O.Reg. 63/16, the following dewatering limits and requirements are as follows:

- Construction Dewatering less than 50,000 L/day: The takings of both groundwater and stormwater does not require a hydrogeological report, does not require registration on the Environmental Activity and Sector Registry (EASR), and does not require a Permit to Take Water (PTTW) from the MECP.
- Construction Dewatering greater than 50,000 L/day: The taking of groundwater and/or stormwater requires a hydrogeological report and registration on the EASR but does not require a PTTW from the MECP.

1.2.2 Source Water Protection

The site is in the Toronto Source Protection Area, the CTC Source Protection Region, and is in the jurisdiction of the Toronto and Region Conservation Authority (TRCA). The following documents should be used in determination of the regulatory requirements when it comes to maintaining hydrogeological function at this site:

- "*Approved CTC Source Protection Plan*", dated February 23, 2022, by the CTC Source Protection Committee.
- *"Approved Assessment Report: Toronto and Region Source Protection Area,"* dated February 23, 2022, by the CTC Source Protection Committee.

Based on Source Water Protection online mapping, the following is noted:

- Wellhead Protection Area (WHPA): The site is not located within a WHPA Zone, Q1 or Q2 (Figure 3).
- Intake Protection Zone (IPZ): The study area is not located within IPZ (Figure 4).
- Highly Vulnerable Aquifer (HVA): The site is not located within an HVA (Figure 5).
- Significant Groundwater Recharge Area (SGRA): The site is not located within an SGRA (Figure 6).
- The site is not located within the Oak Ridges Moraine or Niagara Escarpment planning areas.

2. Background Review

The subject lands are irregular in shape and have an approximate total area of 36.75 ha (90.70 acres). They are currently occupied by open lands, various truck and transportation uses, and a former garden supply store. The subject lands are bounded by Mayfield Road to the south, Coleraine Drive to the west, and mixed residential, commercial, and undeveloped lands to the east and north. Undeveloped lands exist within a southern parcel located on three sides by subject lands and Mayfield Road to the south.

The site does not lie within any Well Head Protection Area (WHPA) as shown on Figure 3. The site is not within an Intake Protection Zone (IPZ) as shown on Figure 4. A Highly Vulnerable Aquifer (HVA) does not underly the site as shown on Figure 5. The site is not within a Significant Groundwater Recharge Area (SGRA), as shown on Figure 6. The site is not located within the designated areas of the Oak Ridges Moraine Conservation Act or Niagara Escarpment Planning and Development Act.

2.1 Topography and Drainage

Local elevations in the northeastern portion of the subject lands are near Elev. 236.0, sloping to the south-east with elevations near 230.5.

The level of water use is classified as “Low” under the summer low flow and “Low” under the average annual flow conditions for purposes of Ontario Regulation 387/04 (Water Taking and Transfer) under the Ontario Water Resources Act. Storm water management ponds appear to capture surficial runoff from the adjacent commercial / industrial lands. An unevaluated wetland exists south of Mayfield Road and was observed to be hydraulically connected at the surface to West Rainbow Creek Tributary through a culvert running under Mayfield Road. The Rainbow Creek tributary runs approximately parallel to the prevailing direction of surface water flow in the primary watershed and the proposed Simpson Road extension. This tributary was instrumented with two (2) staff gauges and two (2) water level loggers to evaluate surface water elevations. Based on field observations, it appears this tributary is hydraulically connected to surface water features southeast of Mayfield Road through a culvert that runs under Mayfield Road.

2.2 Site Physiographic, Geologic and Hydrogeological Settings

The site is in the physiographic region denoted as bevelled till plains of the Peel Plain Physiographic Region per Chapman and Putnam, 1984. Quaternary geology mapping from the Ontario Geological Society indicates cohesive clay to silt textured glacial till deposits across the site.

Historic aerial imagery shows earthworks and industrial development across large portions of the site to accommodate the current industrial land use which suggests that some surficial zones of earth fill should be expected. Water well records from the site and surrounding area indicate that clays, clay gravels and hard tills extend deeper than 15 m below grade.

The bedrock in the general area corresponds to the Georgian Bay Formation, consisting of shale and limestone lithology. Based on the MECP Water Well Records in the area bedrock was anticipated at a depth of approximately 20 to 52 m below existing grade. Drift thickness mapping (C. Gao, et al., 2006. Bedrock topography and overburden thickness mapping, southern Ontario; Ontario Geological Survey, Miscellaneous Release – Data 207.) shows approximately 35 m of drift material overlying bedrock.

2.3 MECP Water Well Records and Existing Water Wells

MECP water well records were obtained within 500 m of the site area to assess the general nature of the groundwater resource in near vicinity of the site, and historical/current uses of wells in the area. Forty-nine (49) well records were found. The approximate MECP well locations are shown on Figure 7 and a well records summary table is included in Appendix A.

The wells were installed for the following uses:

- Sixteen (16) of the records indicate domestic use.
- Seventeen (17) of the records indicate monitoring use/test hole.
- One (1) of the records indicate not used.
- Fourteen (14) of the records did not specify the use and are of unknown use.

The stratigraphic descriptions within the MECP water well records may show discrepancies due to the methodology in which they are determined (observations of cuttings and lacking consistency of soil descriptions between different drillers). Though this is the case, an overall sense of the deep stratigraphy can be determined by looking at commonalities between most stratigraphic descriptions and where the wells were terminated in an aquifer.

As much as approximately 30 mbgs, the well records typically indicate brown clays and loams near surface (< 4 mbgs) underlain by grey clays and clay silts to gravel (potentially glacial till in some locations (5 – 30 mbgs). Shale bedrock was encountered in multiple wells at depths ranging from 36 to 48 mbgs. The domestic supply well records do not show screen installation depths, though fresh water was noted at 12 to 44 mbgs.

2.4 Site Condition Standards

The MECP has developed a set of Soil, Ground water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (April 15, 2011) and O. Reg. 153/04, as amended. The standards consist of nine tables (Table 1 through Table 9) that provide criteria for maximum concentrations of various contaminants. In general, the applicable O. Reg. 153/04, as amended, SCSs depend on the site location, land use, soil texture, bedrock depth and the applicable potable or non-potable ground water condition at the investigation site.

In order to determine the Site Sensitivity, Sections 41 and 43.1 of O. Reg. 153/04, as amended, were evaluated by GEI as shown in the following table:

CRITERIA	RESULT
Current Property Use	Vacant/Undeveloped
Potable vs. Non-Potable Ground Water	Potable
Proximity of Areas of Natural Significance	>30 m
Proximity to a Water Body	<30 m
Shallow Soil Condition	No
Land Use	Residential/Parkland/Institutional (RPI)
Applicable Site Condition Standard	Table 8: Generic Site Condition Standards For Use within 30 m of a Water Body in a Potable Ground Water Condition for RPI / Industrial/Commercial/Community (ICC) land use (Table 8 RPI/ICC)

2.5 Visual Inspection of the Site

The site is irregular in shape and has an approximate total area of 36.75 ha (90.70 acres). The subject lands are bounded by Mayfield Road to the south, Coleraine Drive to the west, and mixed residential, commercial, and undeveloped lands to the east and north. Undeveloped lands exist in a southern parcel located on three sides by subject lands and Mayfield Road to the south. Agricultural lands exist primarily to the south and west of Coleraine Drive and Mayfield Rd. The site currently contains a mix of various truck and transportation uses, open and residential lands, and a former garden supply store which is consistent with other land uses in the area.

The topography within the study region (within 500 m of the site) is consistent with surficial geological mapping and the developmental history of the site as evidenced in the aerial photo record. Local to the site, the northwestern portion of the site is near Elev. 236.0, sloping to the southeast at an elevation near 230.5, with a maximum difference in elevation across the site of about 5.5 m.

3. Procedures and Methodology

All elevations in this report are geodetic/metric and expressed in metres (m). All measurements are also in metric and expressed in millimetres (mm), metres (m) or kilometers (km). Boreholes appear in short form as BH and those in which wells were installed are presented as BH/MW.

The borehole locations were laid out in the field by GEI staff prior to commencement of drilling operations. The locations of underground utilities were coordinated with private and public locating companies.

Borehole ground surface elevations and coordinates (referencing NAD 83 geodetic datum) were surveyed by GEI with a Topcon HiPer SR GPS Survey unit. The elevations are provided on the borehole logs in Appendix B. Borehole locations are shown on Figure 2.

The fieldwork for the drilling program was carried out between May 17 and May 19, 2023. A total of eight (8) boreholes were drilled to a maximum depth of 6 m (Elev. 223.8). At select borehole locations a deep well and a shallow well were installed to allow for nested wells to be installed as described below. Borehole logs are provided in Appendix B.

The boreholes were advanced by a drilling subcontractor retained and supervised by GEI using a track-mounted drill rig, solid and hollow stem augers, and standard soil sampling equipment. Sampling was conducted using a 51 mm O.D. Split Spoon (SS) sampler. Standard Penetration Test (SPT) “N” Values (N values) were recorded for the sampled intervals as the number of blows required to drive an SS sampler 305 mm into the soil using a 63.5 kg drop hammer falling 750 mm, in accordance with ASTM D1586. In each borehole soil sampling was conducted at 0.75 m intervals for the upper 3.0 m and at 1.5 m intervals thereafter.

Six (6) monitoring wells were installed within select boreholes on site. Though included in the Borehole Log, one monitoring well became inaccessible during re-grading, and thus only four (4) wells are operational. Nested monitoring wells / piezometers were installed in two (2) boreholes. The “D” signifies the deep well and the “S” signifies the shallow piezometer such that both deep and shallow conditions can be monitored. The wells/piezometers were installed on site to facilitate long-term groundwater monitoring, sampling, and in-situ testing. Monitoring well construction is shown on the borehole logs in Appendix B.

GEI field staff examined and classified characteristics of the soils encountered in the boreholes, including the presence of fill materials, groundwater observations during and upon completion of the drilling, recorded observations of borehole construction, and processed the recovered samples. All recovered soil samples were logged in the field, carefully packaged, and transported to GEI’s laboratory for more detailed examination and classification.

In GEI’s laboratory, the samples were classified as to their visual and textural characteristics. Six (6) representative samples of the major soil units were selected and submitted to our laboratory for grain size analysis. Grain size results are provided in Appendix C. Four of the samples were submitted for Atterberg Limits tests and the results area also provided in Appendix C.

3.1 Groundwater Monitoring

Groundwater levels will be measured in four (4) monitoring wells and two (2) nested monitoring wells / piezometers each month for one (1) year to determine the seasonally high groundwater levels.

Groundwater level measurements were conducted for a period of 12 months to capture the seasonal high groundwater levels and are included in the Water Level Monitoring Letter technical memo in Appendix G.

3.2 Surface Water Monitoring

A baseflow monitoring program is being carried out. Nested piezometers (at Boreholes 4 and 6), staff gauges and level loggers. Staff gauges and level loggers were installed in West Rainbow Creek at locations near Borehole 4 and Borehole 6 (SG4 and SG6, respectively) to evaluate groundwater elevations and baseflow conditions. Seepage meter testing was carried out in selected locations to provide additional quantitative data on potential baseflow. This helped to determine the groundwater base flow conditions to tributaries/wetlands, the impact that development may have on these features, and to complete a feature-based water balance. The Water Level Monitoring Letter technical memo is appended in Appendix G.

3.3 Hydraulic Conductivity Testing

Rising head tests were completed in the BH/MW 3 and BH/MW 8 on June 8th, and in BH/MW 6S on July 3, 2023. Water was manually purged from monitoring wells using LDPE piping and a foot valve. The static water level was measured prior to the start of testing, and the change in water level was monitored using an electronic level logger. The level loggers were left in the monitoring wells for several hours to allow for adequate recovery of the groundwater. The test data were used to estimate the horizontal hydraulic conductivity (K) of the soils at the well screen depths.

The semi-log plot for drawdown versus time for the tests are provided in Appendix D and results are discussed in Section 4.3.

3.4 Groundwater Chemical Sampling

To establish baseline conditions and assess the suitability for discharge of pumped groundwater to surface during potential dewatering activities, the following groundwater samples were collected from nested BH/MW 4D on June 8, 2023 and tested relative to the Peel Region storm and sanitary sewer use by-laws PWQO, and/or O.Reg.153/04, as amended, Table 1 SCSs (the most stringent SCSs):

- One (1) unfiltered groundwater sample was collected from Nested BH/MW 4d analyzed against Peel Region storm and sanitary sewer use by-laws; PWQO metals; O.Reg.153/04, as amended, PHCs and VOCs; and general Total Suspended Solids (TSS).
- One (1) filtered groundwater samples were collected from Nested BH/MW 4d and analyzed against PWQO metals and TSS only.

Prior to collection of the samples, approximately three (3) standing well volumes of groundwater were purged from the well. The samples were collected and placed into pre-cleaned laboratory-supplied vials and/or bottles provided with analytical test group specific preservatives, as required. Dedicated nitrile gloves were used during sample handling. The field filtered samples were run through a 75 µm filter. The samples were submitted to CALA- accredited Eurofins Environmental Laboratory for analysis. The results of the groundwater chemistry are presented in the Laboratory Certificates of Analysis provided in Appendix E.

4. Subsurface Conditions

The borehole locations are shown on Figure 2 and detailed subsurface conditions are presented on the borehole logs in Appendix B. The soil conditions encountered at the borehole locations are summarized below. A stratigraphic cross-section across the property as aligned on Figure 2 is included as Figure 8. The stratigraphy discussed in Sections 4.1.1 and 4.1.2 below pertain only to Boreholes 1 to 8 advanced by GEI in 2023.

It should be noted that the conditions indicated on the borehole logs are for specific locations only and can vary between and beyond the locations. It should be noted that the soil boundaries indicated on the borehole logs and subsurface profile are inferred from non-continuous sampling and observations during drilling. These boundaries are intended to reflect approximate transition zones and should not be interpreted as exact planes of geological change.

In addition, the descriptions provided in the borehole logs are inferred from a variety of factors that include visual observations of the soil samples retrieved, laboratory testing, measurements prior to and after drilling, and the drilling process itself (speed of drilling, shaking/grinding of the augers, etc.). The passage of time also may result in changes in conditions interpreted to exist at locations where sampling was conducted.

4.1 Stratigraphy and Hydrostratigraphy

The site is predominantly underlain by deposits of clayey silt and silt glacial till with coarse grained lenses at depth. Surface materials are mainly comprised of an asphalt / granular driving surface and are underlain by a variable fill layer associated with grading/leveling of the properties to approximately 1 mbgs. Topsoil was encountered locally at the surface. These near-surface materials capped layers of clayey silt and variably textured silt glacial tills which interbed with sands at depth. Materials are described below and visualized in Borehole Logs (Appendix B) and the Site Cross Section (Figure 8) in greater vertical dimension. Textural qualities of key materials are shown in Geotechnical Laboratory Results (Appendix C).

Moisture contents across the site vary uniformly through the soil column, ranging between 9 and 18% vertically, with median and average values of 14%. Slightly elevated moisture contents (22 to 24%) occur in near surface materials where less compaction (lower SPT-N values) can increase localized infiltration.

4.1.1 Surface Structure and Earth Fill

Non-native surface materials include 700 mm of asphalt (BH2), 250 mm of recycled asphalt (BH1), 25 to 760 mm of combination asphalt granular (BH6, BH7), and 720 mm granular (BH8).

A surficial topsoil layer was at the ground surface in BH3, NP’s 4S and 4D and BH5 ranging in thickness from 25 to 180 mm.

Earth fill was encountered in all BH's / NP's with the exception of BH 7 where Asphalt/Granular combination materials extended to native materials. Earth fill of brown clayey silt to sand with trace gravel was stiff and encountered in remaining boreholes, 40 to 80 mm in thickness, as deep as 1.5 mbgs.

Previous reporting has indicated that this layer may participate in water perching. Evidence of this was not observed during the current field investigation. NP's 4 and 6, located near to West Rainbow Creek tributary exhibited elevated moisture contents (near surface) relative to subsurface layer moisture contents.

4.1.2 Clayey Silt

Upper cohesive clayey silt deposits were encountered beneath non-native materials in Boreholes 1, 3, 4, 5, 6, 7, and 8, and were found at approximately 0.8 mbgs to approximately 2.3 mbgs. The deposits were 0.78 to 1.5 m in thickness. Materials were variable in consistency (firm to very stiff), moisture content (moist to wet), and colour (brown to grey). Some sand was observed across Boreholes 1, 3, 4, 5, 7, 8 with minor incidence of trace organics, and trace gravel. N-values measured in these deposits ranged from 4 to 29.

These materials are suspected to actively participate as an actively diffusive recharging layer when compaction permits infiltration from overlying fill and granular materials. These materials are also found at depth below silt glacial till materials (described in Section 4.1.3), occurring with some sand, grey, moist to wet (nearer to West Rainbow Creek tributary) and being very stiff. It is suspected they act similarly as when found shallower. Most wells were installed in these materials.

4.1.3 Silt Glacial Till

Silt Glacial Till deposits were 0.8 to 4.6 m thick and encountered in all boreholes 1.5 to 2.3 mbgs. These deposits were typically encountered below and between clayey silt layers, and exhibited similar textural properties, albeit with an increased presence of gravel. Trace to some sand and inferred cobbles and boulders were also observed. In BH 8 this layer is underlain by sand and silt at 6.1 mbgs. N values ranged from 15 to 54. These soils were more consistently grey than overlying clayey silts and were moist to wet.

These materials are suspected to actively participate as a slow diffusing recharging layer, acting in functional concert with clayey silt materials above which share much of the same textural quality (as shown in Appendix C) and presumable bedding characteristics. Materials closer to West Rainbow Creek tributary and farther downstream exhibit greater wetness than farther upstream.

4.2 Groundwater Level Monitoring

Unstabilized groundwater level measurements and cave measurements were taken upon completion of drilling of each borehole as shown on the borehole logs in Appendix B. These measurements provide a rough estimate of the possible excavation and temporary groundwater control constructability considerations that may arise.

Monitoring wells were operational in four (4) GEI boreholes and two (2) nested piezometers/ monitoring wells to facilitate the measurements of stabilized groundwater levels. A 50 mm diameter PVC monitoring well was installed in all monitoring wells and 25 mm diameter PVC monitoring well was installed in all nested piezometers with a 1.5 m long screen. Monitoring well and nested piezometer construction and groundwater measurements are shown on the borehole logs in Appendix B. Please note, the well in Borehole 2 was covered during grading activities, becoming inaccessible following installation. The number of wells remaining is sufficient to carry out the required analysis.

The stabilized groundwater levels in the installed monitoring wells were measured to range between approximately Elev. 228.7 and Elev. 232.1 or between 0.5 and 4.7 mbgs. Groundwater levels are expected to show seasonal fluctuations and vary in response to prevailing climate conditions.

A groundwater contour plan is provided as Figure 9, based on the late spring groundwater level measurements from June 2023. Based on this plan, local groundwater flow trends approximately south-east towards the West Humber River.

The results of the water level monitoring are provided in Appendix G.

4.3 Hydraulic Conductivity Testing

Hydraulic conductivity values were calculated from the rising head test data using Hvorslev's solution (1951). The semi-log plots for the results are provided in Appendix D and are summarized in the table below.

Borehole / Monitoring Well	Well Screen Location (From - To)				Unit Screened	Hydraulic Conductivity (K) (m/s)
	Depth (m bgs)		Elev. (m)			
BH/MW 3	4.6	6.1	228.8	227.3	Sandy Clayey Silt	1.3×10^{-8}
BH/MW 6S	0.8	2.3	230.6	229.1	Clayey Silt	1.9×10^{-5}
BH/MW 8	4.6	6.1	227.1	225.6	Clayey Silt Glacial Till	5.8×10^{-6}

Commonly reported ranges of hydraulic conductivity for material textures observed in BH/MW's are as follows from Freeze and Cherry (1979):

- Clay: 10^{-9} m/s to 10^{-12} m/s
- Silt: 10^{-5} m/s to 10^{-9} m/s

The reported textural properties and in-situ hydraulic conductivities fall within the reported ranges common for deposits consisting of clay and silt to clayey silt.

The site is predominantly underlain by lower-permeability deposits of clayey silt to silt and clay, or cohesive glacial till. A conservative hydraulic conductivity reflective of more permeable materials is considered applicable given the potential for hydrostratigraphic variability between

boreholes. Based on the above observations and the stratigraphy that is expected to be encountered predominantly during excavation, the recommended hydraulic conductivity to use for dewatering calculations is 1.9 x 10^{-5} m/s.

4.4 Groundwater Quality

To assess the suitability for discharge of pumped groundwater to the surface or the existing storm/sanitary sewer system during dewatering activities, one (1) unfiltered and one (1) filtered groundwater sample was collected from Nested BH/MW 4D on June 8, 2023.

For the assessment purposes, the analytical results were compared to Peel Region Storm and Sanitary Sewer Use Bylaw 53-2010; PWQO; and/or the applicable O.Reg. 153/04, as amended, Table 1 SCSs. The groundwater chemistry results are presented in the laboratory Certificates of Analysis provided in Appendix E and are summarized below.

Exceedances						
Monitoring Well Sample Location	**Parameters Tested**	**O.Reg. 153/04, as amended, Table 1 All Types of Property Uses SCSs**	**Peel Region Sewer Use By-Law Criteria**		**PWQO**	
			Storm	**Sanitary**	**Interim**	
BH4D (Unfiltered)	Metals, TSS, PHCs, VOCs	No Exceedances	TSS, Manganese	TSS	Uranium, Cobalt, Aluminum	Iron
BH4D (Filtered)	Metals, TSS	--	Manganese	--	Uranium, Cobalt	No Exceedances

The unfiltered groundwater sample collected from BH/MWs 4D met Peel Region Storm and Sanitary Sewer Use Bylaw, PWQO and O.Reg. 153/04, as amended, Table 1 SCSs for all parameters tested except for:

- BH/MW 4D
  - Peel Region Storm Sewer Use Bylaw - TSS, Manganese
  - Peel Region Sanitary Sewer Use Bylaw - TSS
  - Interim PWQO – Uranium, Cobalt, Aluminum
  - PWQO – Iron

The filtered groundwater samples met PWQO for all parameters tested except for:

- BH/MW 4D
  - Interim PWQO – Uranium, Cobalt

If pumped groundwater will be discharged to surface, it must be suitably treated to remove the parameter exceedances prior to discharge (treatment methods to be determined by the dewatering contractor or civil engineer).

The above chemical results suggest treatment of the dewatering discharge water by filtration may reduce the concentration of metals sufficiently to meet the applicable Peel Region Storm and Sanitary Sewer Use By Law and PWQO for most parameters. However, some dissolved metals may naturally occur within the groundwater; concentrations of Manganese, Uranium, and Cobalt were not reduced to acceptable concentrations by field filtering in 4D. Treatment of the dewatering discharge water by filtration or sedimentation to reduce the concentration of suspended solids, and thus reduce the concentrations of non-dissolved metals, is necessary and may be effective in achieving compliance with the Peel Region Storm and Sanitary Sewer Use By Law and PWQO. Other treatment methods may be necessary to reduce the concentration of dissolved analytes.

It is expected that during construction dewatering, the pumped water is to be first discharged to a silt bag or sedimentation tank at a minimum before being discharged to surface.

4.5 Preliminary Infiltration Rates

Determination of percolation rates are based on the "*Ministry of Municipal Affairs and Housing (MMAH) Supplementary Guidelines SB-6, Percolation Time and Soil Descriptions, September 14, 2012*". The boreholes indicate that the site is predominantly underlain by clayey silt to silt and clay, or cohesive glacial till (C.L.). Cohesionless deposits of sand, silt to silty sand were encountered near grade locally in the northeastern part of the site (generally S.M.). The Unified Soil Classification System classifications for the predominant soils encountered on-site are summarized below with the interpreted unfactored percolation rates (T-Time) and unfactored infiltration rates:

Unified Soil Classification System Classification	Unfactored Percolation Rate (T-Time) (mins/cm)	Unfactored Infiltration Rate (mm/hr)
S.M. Silty sand, sand-silt mixtures	8 to 20	30 to 75
C.L. Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	Over 50	Lower than 12

The infiltration rate is not applicable below the groundwater table, and infiltration into earth fill or weathered / disturbed soil is not recommended. Appendix C of *"Low Impact Development Stormwater Management and Planning Design Guide"* (Version 1.0, 2010, by CVC and TRCA) suggests safety factors to be applied to infiltration rates. The safety factor applicable to the site is expected to be 2.5 but could be higher due to the underlying cohesive deposits and must be confirmed once the final location and elevation of LID measures are known.

It should be noted that these rates are based on published values and not on site-specific data. Once designs for LID features are further along or potential locations and types of LID features are decided, in-situ infiltration testing (typically Guelph Permeameter testing) should be conducted at the specific locations and elevations of the LID features being considered to ensure that the designed features are appropriate for the site.

5. Discussion and Analysis

5.1 Construction Dewatering Calculations

5.1.1 Excavations and Temporary Groundwater Control

New construction plan and profile drawings for the Simpson Road extension were available for review in exaction and dewatering estimates. The limits of construction for Simpson Road extend between Station 10+860 and Station 11+458 at Mayfield Rd, or approximately 600 m. It includes site servicing and associated bedding as much as 4.5 mbgs along Simpson Road.

The stabilized groundwater levels in the installed monitoring wells were measured to range between approximately Elev. 228.7 and Elev. 232.0, or 0.5 and 4.7 mbgs. Groundwater levels are expected to show seasonal fluctuations and vary in response to prevailing climate conditions.

For conservative estimates, the construction dewatering calculation is based on an open cut excavation at the present time. To excavate under dry conditions, the water level is anticipated to be lowered at least to a minimum of approximately 1.0 m below the proposed excavation depth. Based on the soil encountered during the borehole drilling program (predominantly clayey silt to silt and clay, or cohesive glacial till) a hydraulic conductivity of 1.9×10^{-5} m/s has been applied to the site.

Additional dewatering capacity may be required to maintain dry conditions within the excavation during and following significant precipitation events. It should be noted that the dewatering estimates provided in this report are based on the assumed site servicing depths. GEI must be provided with final site servicing and grading plans to verify the design assumptions or update the water taking estimates as needed. The exact scenario where these groundwater control techniques will work are estimates only and are directly correlated to how coarse/fine the native soils are in an excavation, and both the lateral and vertical extent of the cohesionless deposits encountered. If the groundwater table is not controlled during construction, the base of the excavations will probably be unstable, leading to difficulties in excavating and placement of pipes or footings. A dewatering contractor must review and assess the subsurface conditions to verify which dewatering techniques will work for the site and proposed utility installations, based on their experience and interpretation of the data. A test dig could be carried out to assist prospective contractors determine the most appropriate dewatering methods based on their own means and methods.

5.1.2 Construction Dewatering Calculation Assumptions

The assumptions used for the calculation of the dewatering rates for the proposed development are presented below:

- Existing grades are at an elevation of 230.4 to 233.8 based on the survey of the boreholes on site.
- The lowest ground surface elevation measured on-site is 230.4 at BH/MW 4.
- The highest water elevation measured on-site is 232.7 at BH/MW 3.

- A hydraulic conductivity of 1.9 x 10^{-5} m/s has been applied to the site and is based on the soils encountered during the borehole drilling program.
- The assumed storm and sanitary sewers and water main servicing will require open cut excavations as deep as 4.5 mbgs based on drawings along Simpson Road
- As the details of the building scenario are not available it has been assumed that the excavation for the building will be 3 m below ground surface.
- Groundwater levels should be lowered a minimum of 0.5 m below the excavation base for site servicing and 1 m below the excavation base for building construction.
- It has been assumed that surface water will be managed sufficiently such that all surface water is diverted around the proposed excavations and surface water entering the proposed excavation would be minimal.
- The dewatering contractor may use smaller dewatering zones for general site servicing construction, thus limiting the dewatering discharge rates.

5.1.3 Radius of Influence

The Radius of Influence (ROI) for the construction dewatering is based on the empirical Sichardt equation. This equation is used to predict the distance at which the drawdown resulting from pumping is negligible. This equation is empirical and was developed to provide representative flow rates using the steady state flow dewatering equations, as discussed below.

It is noted that in steady state conditions, the radius of influence of pumping will extend until boundary flow conditions are reached and provide sufficient water inputs to the aquifer, such as recharge and surface water bodies. As a result, the distance of influence calculated using Sichardt equation is used to provide a representative flow rate calculation, but it is not precise in determining the actual radius influenced by pumping.

The ROI of pumping (dewatering) for radial flow is calculated based on the Sichardt equation, which is described as follows:

$$R_0 = 3000\ (\mathrm{H} - \mathrm{h})\sqrt{\mathrm{K}}$$

Where:

K	= Hydraulic conductivity (m/s)
H	= Static Saturated Head (m)
h	= Dynamic Saturated Head (m)
R_0	= Radius of influence (m)

Based on the Sichardt equation, the ROI is approximately 101.5 m from the centre of the excavation for site servicing and 82.0 m for building construction. Calculation details are provided in Appendix F, and are summarized below:

Dewatering Scenario	ROI (m)
Site Servicing	101.5
Building Construction	82.0

The ROI calculation is a conservative methodology and is calculated based on the assumption of active pumping during the construction dewatering. It should be noted that most of the water will be pumped during the first stage of the construction period or when a rain event occurs.

5.1.4 Temporary Dewatering Flow Rate Equation

The Dupuit-Forcheimer and equivalent well method for radial and linear flow from an unconfined aquifer for a fully penetrating excavation was used to obtain a flow rate estimate for the proposed linear infrastructure on Parcel A, and is expressed as follows:

$$Q = \frac{\pi K(H^2 - h^2)}{In\,{}^{R_0}/_{r_s}} + 2\left[\frac{xK(H^2 - h^2)}{2L}\right]$$

Where:

Q	= Rate of pumping (m^3/s)
x	= Length of excavation (m)
L	= Length of Influence (m)
K	= Hydraulic conductivity (m/s)
H	= Head beyond the influence of pumping (static groundwater elevation) (m)
h	= Head above base of aquifer at the excavation (m)
R_0	= Radius of Influence (m)
r_s	= Equivalent well radius (m)

It is expected that the initial dewatering rate will be higher in order to remove groundwater from within the overburden formation. The dewatering rates are expected to decrease once the target water level is achieved in the excavation footprint as groundwater will have been removed locally from storage resulting in lower seepage rates into the excavation.

Based on the assumptions provided in this report, the results of the dewatering rate estimates are summarized below, and calculation details are provided in Appendix F:

Dewatering Scenario (per 50 m of Trench Length)	**Construction Dewatering Flow Rate Without Safety Factor**	**Construction Dewatering Flow Rate Including Safety Factor of 2.0**	**Construction Dewatering Flow Rate Including Safety Factor of 2.0 and a 25 mm Rainfall Event**
	L/day	**L/day**	**L/day**
Site Servicing	144,400	288,800	332,550
Building Construction	215,300	430,600	711,850

The total construction dewatering flow rate includes a factor of safety of 2.0 to account for seasonal fluctuations in the groundwater table and variation in hydrogeological properties beyond those encountered during the course of this study. This total dewatering flow rate also provides additional capacity for the dewatering contractors. A 25 mm rain event was also included. This rate should be considered contingency volume subject to the timing and season of the construction.

Given that the predicted construction dewatering volume is more than 50,000 L/day registry on the EASR system at the MECP is expected to be required at the time of construction.

The above dewatering rate estimates can be verified and updated should road servicing details or other development details change; at that point a recommendation with respect to the total volume of water takings to be requested for the site can be determined. Should the development of the proposed site extend further, additional boreholes and monitoring wells may be required to further investigate the extent of local permeable deposits that could yield higher flow rates than encountered during the current investigation. Given that a posting on the EASR from the MECP is already required, an update may be advisable depending on the future development scheme or future subsurface investigation results.

It is the responsibility of the contractor to ensure dry conditions are maintained in the excavation at all times. Additional pumping capacity may be required to maintain dry conditions within the excavation during and following significant precipitation events. Additionally, the presence of near-surface fill material could hold significant groundwater.

The contractor is responsible for selecting the dewatering method based on their preferred means and methods after reviewing the information provided in this report.

5.2 Impact Assessment

5.2.1 Impacts to Nearby Groundwater Users

Based on the MECP Water Well Record database, active private well use associated with farm and residential use may be present in the vicinity of the site. It is not anticipated that private water wells will be within the estimated dewatering zone of influence which will extend only an estimated 86 m from trench locations. Dewatering activities will be limited to the upper 5.0 m of soils, and private and domestic water wells in the area are reportedly screened between 12 to 41.5 m below grade.

A private well survey for the houses within a 500 m radius surrounding the site should be conducted prior to activity to confirm the current use and condition of these wells by talking to the landowner and by visual well inspection.

As a precautionary measure even if impacts to the wells are not anticipated, if private well owners issue complaints regarding shortages or other interference with their water well, the complaints will be investigated, and if the problem is deemed to be related to the construction dewatering, a temporary supply of water may be required to be provided to the well owner until construction dewatering has been completed.

5.2.2 Natural Environment

Within this analysis there are two distinct regions of importance: the larger subject area and the development zone / dewatering area. Within the larger subject area, there are two storm water facilities and a third centrally mapped feature which display as waterbodies in Figures 3 to 7. These are excluded from discussion of the natural environment, following from the definition of “waterbody” within O.Reg 153/04 governing Records of Site Condition, which is a river or similar watercourse or a pond or lake, but does not include a pond constructed on the property for the

purpose of controlling surface water drainage. Most relevant to the discussion of local impacts to the natural environment as a consequence of the South Simpson Road Extension are those that pertain to the development zone / dewatering area along South Simpson Road and an unevaluated wetland which exists south of Mayfield Road which was observed to be hydraulically connected at the surface to West Rainbow Creek Tributary through a culvert.

West Rainbow Creek tributary, which runs parallel to the proposed development area is located 15 to 25 m from the proposed road extension road. It is understood that this Tributary, as part of the development plan, will undergo a post development channel redesign which includes connections between existing storm water management ponds and ties into shallow floodplain pools to the northwest near Parr Boulevard and to the southeast, on north and south sides of Mayfield Road at the proposed Simpson Road and Mayfield Road intersection. The southeastern outlet of the West Rainbow Creek Tributary is currently designed to flow into two unevaluated wetlands south of Mayfield Road, one close to the region of include, and one further afield, within 500 m of the study area boundary.

GEI is completing an additional scope of work through 2023 that includes installing and monitoring staff gauges within West Rainbow Creek Tributary and monitoring the nested piezometers installed near these locations to quantify seepage into features on site. This future data will be used to determine the amount of potential baseflow into the surface water features and will help evaluate any potential impacts related to the local hydrologic regime.

While the amount of baseflow entering the tributaries (if any) is expected to be minimal due to the low-permeability soils encountered near surface across most of the site, the distance from south Simpson Road to the watercourse (15 to 25 m) is within the radius of influence (of approximately 127 m). West Rainbow Creek tributary may be temporarily impacted by dewatering depending on the duration of dewatering, but effects are not expected to be permanent as each excavation will require dewatering for short periods of duration. Saturated Hydraulic Conductivities in materials that underlie the tributary are low and would already restrict groundwater inputs into the headwater feature, notwithstanding surface water inputs (i.e. precipitation).

No other impacts to local surface water features are expected at this time. The dewatering will be of short duration and any pumped water can be discharged into the surface water features after treatment to offset drawdown effects.

5.2.3 Land Stability

When drawing down the water table by 4.5 m, settlement of the soil within the radius of influence must be calculated based on the increase in effective stress (10 kPa per m of drawdown) from reducing the pore water pressures. Settlement has the potential to damage buried utilities, building foundations, or cause subsidence in adjacent lands. The maximum amount of settlement will occur adjacent to the dewatering system where the maximum drawdown occurs, and the amount of settlement will decrease exponentially to zero towards the radius of influence limit.

The estimated total settlement of the soil is assessed to be as much as 5 to 10 mm at the dewatering location. Due to the cohesive nature of some of the soils on site, settlement may not occur immediately and could be time dependent.

A review of aerial mapping shows that there is only one building in near proximity to the site, about 60 m to the east. Due to the exponential decrease in drawdown with distance, the estimated settlement for the off-site buildings east of the site is 5 mm or less. It is assumed that the residential dwellings in the west will be removed before any dewatering activities begin, however should this not be the case, the estimated settlement for the on-site buildings may be as much as 5 to 10 mm or less.

Based on the above, settlement related impacts to nearby buildings are not expected.

Another cause of significant dewatering related settlement is due to pumping of fines through the system. It is imperative that any dewatering systems shall be designed and installed adequately to ensure no soil is conveyed through the system. Sufficient filtering techniques will need to be incorporated at the entry point to avoid migration of fines in the pumping/dewatering system.

6. Limitations and Closure

6.1 Limitations

The recommendations and comments provided are necessarily on-going as new information of underground conditions becomes available. More specific information with respect to the conditions between samples, or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during excavation operations. Consequently, conditions not observed during this investigation may become apparent. Should this occur, GEI should be contacted to assess the situation and additional testing and reporting may be required.

GEI should be retained for a general review of the final design drawings and specifications to verify that this report has been properly interpreted and implemented. If not accorded the privilege of making this review, GEI will assume no responsibility for interpretation of the recommendations in the report.

The comments given in this report are intended only for the guidance of the design engineers. The number of boreholes and monitoring wells required to determine the localized underground conditions between boreholes and wells affecting construction costs, techniques, sequencing, equipment, scheduling, etc. could be greater than has been carried out for design purposes. Contractors bidding on or undertaking the works should, in this light, decide on their own investigations, as well as their own interpretations of the factual borehole results, so that they may draw their own conclusions as to how the subsurface conditions may affect them.

This report was authorized by, and prepared by GEI for, the account of Simpson Road Landowners Group Inc. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. GEI accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this project.

6.2 Closure

We trust that this information is satisfactory for your purposes. Should you have any questions or comments, please do not hesitate to contact our office.

Yours truly,

GEI Consultants Canada Ltd.



Kim Pickett, M. Ed, C.E.T, LET
Project Geoscientist

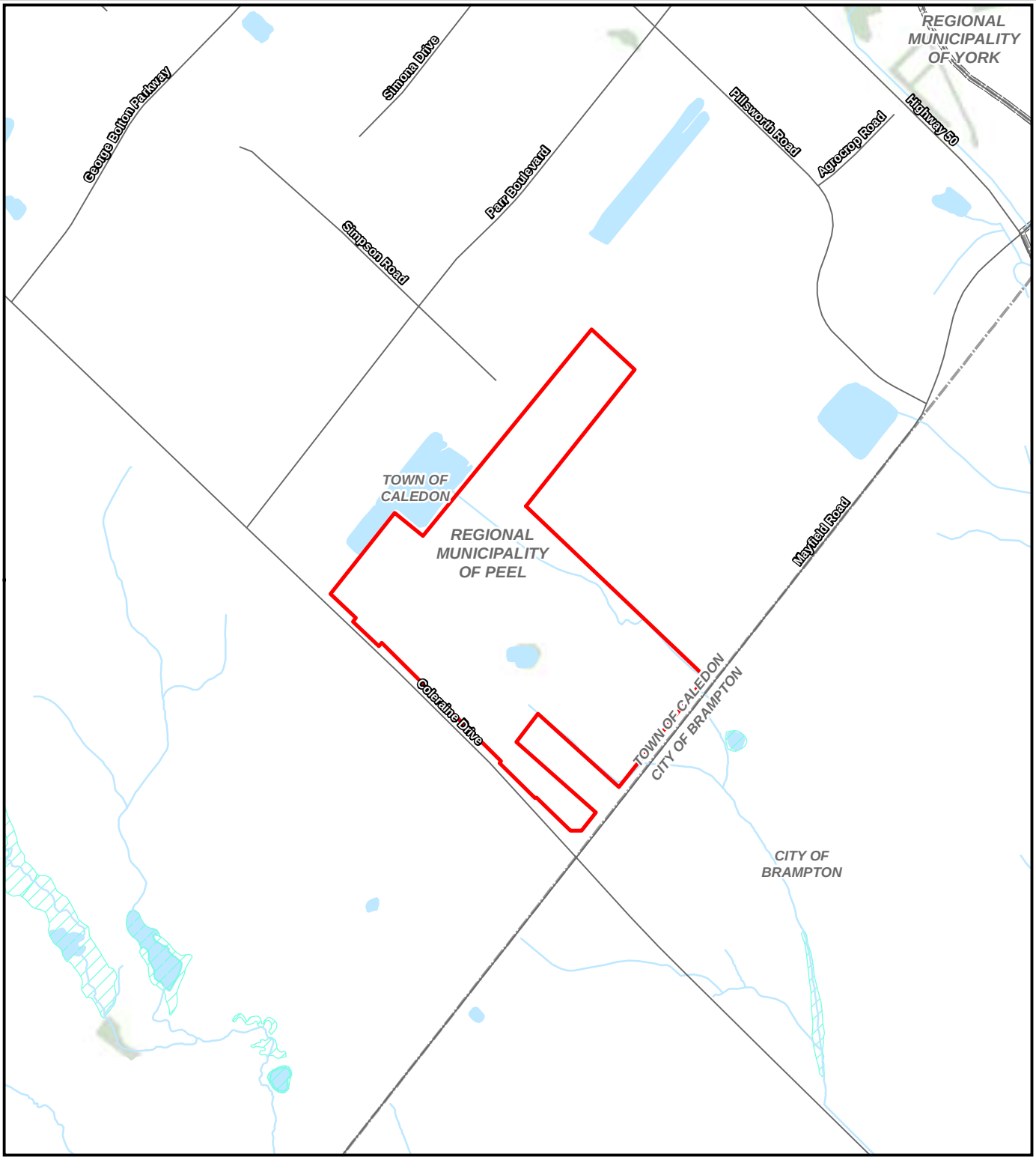
Reviewed By:





Geoffrey R. White, P.Eng.
Barrie Office Branch Manager and
Senior Geotechnical Engineer

Figures



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.

Legend

- Subject Area
- Road
- Watercourse
- Waterbody
- Wooded Area
- Wetland - Not evaluated per OWES

N

0 100 200 m

1:10,000

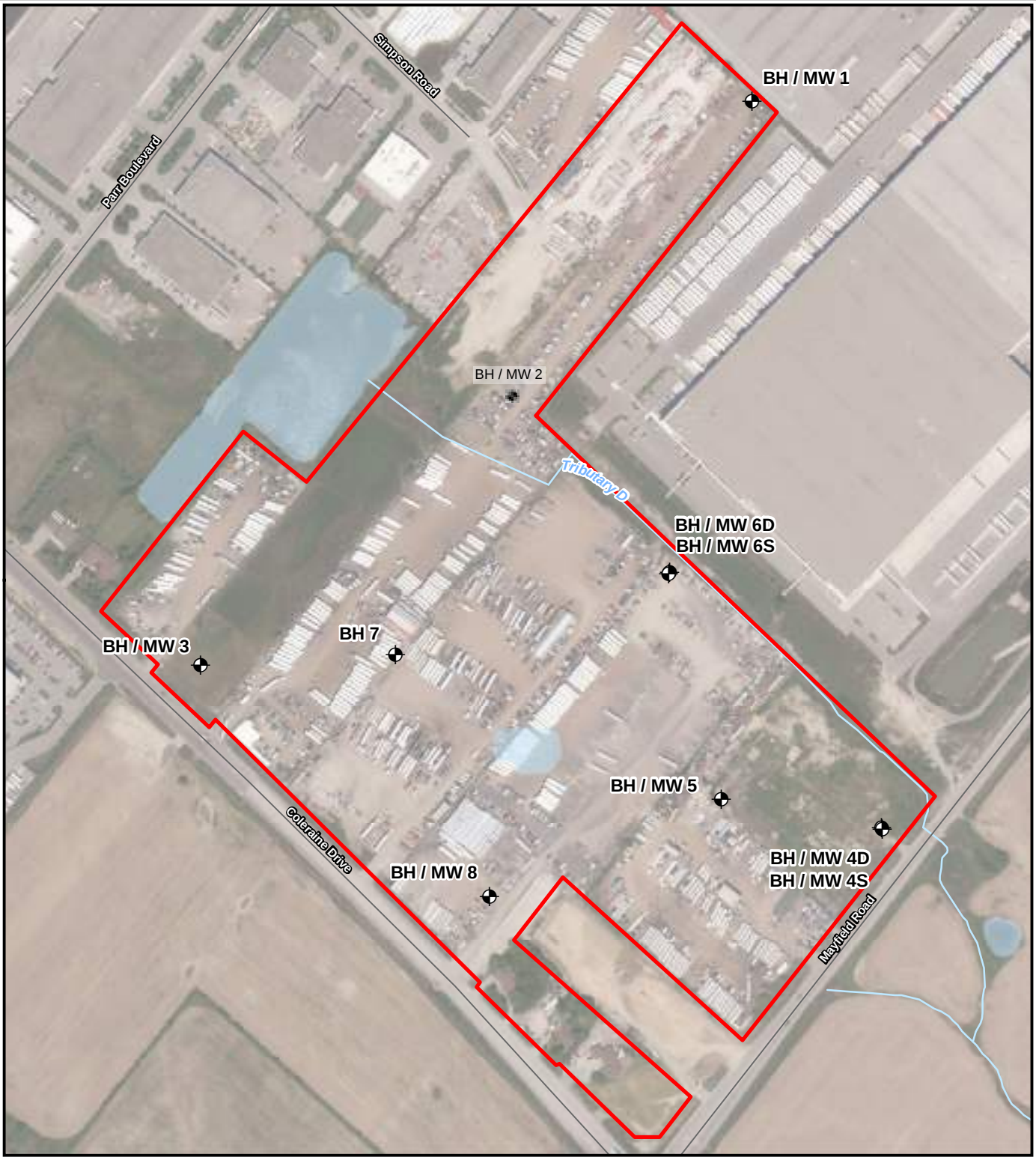
Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

Simpson Road Landowners Group Inc.

GEI Consultants

SITE LOCATION PLAN

Project 2301130 | July 2025 | Fig. 1



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
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3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2024.

Legend

- Subject Area
- Road
- Watercourse
- Waterbody
- Borehole/Monitoring Well Location

N

0 50 100 m

1:4,500

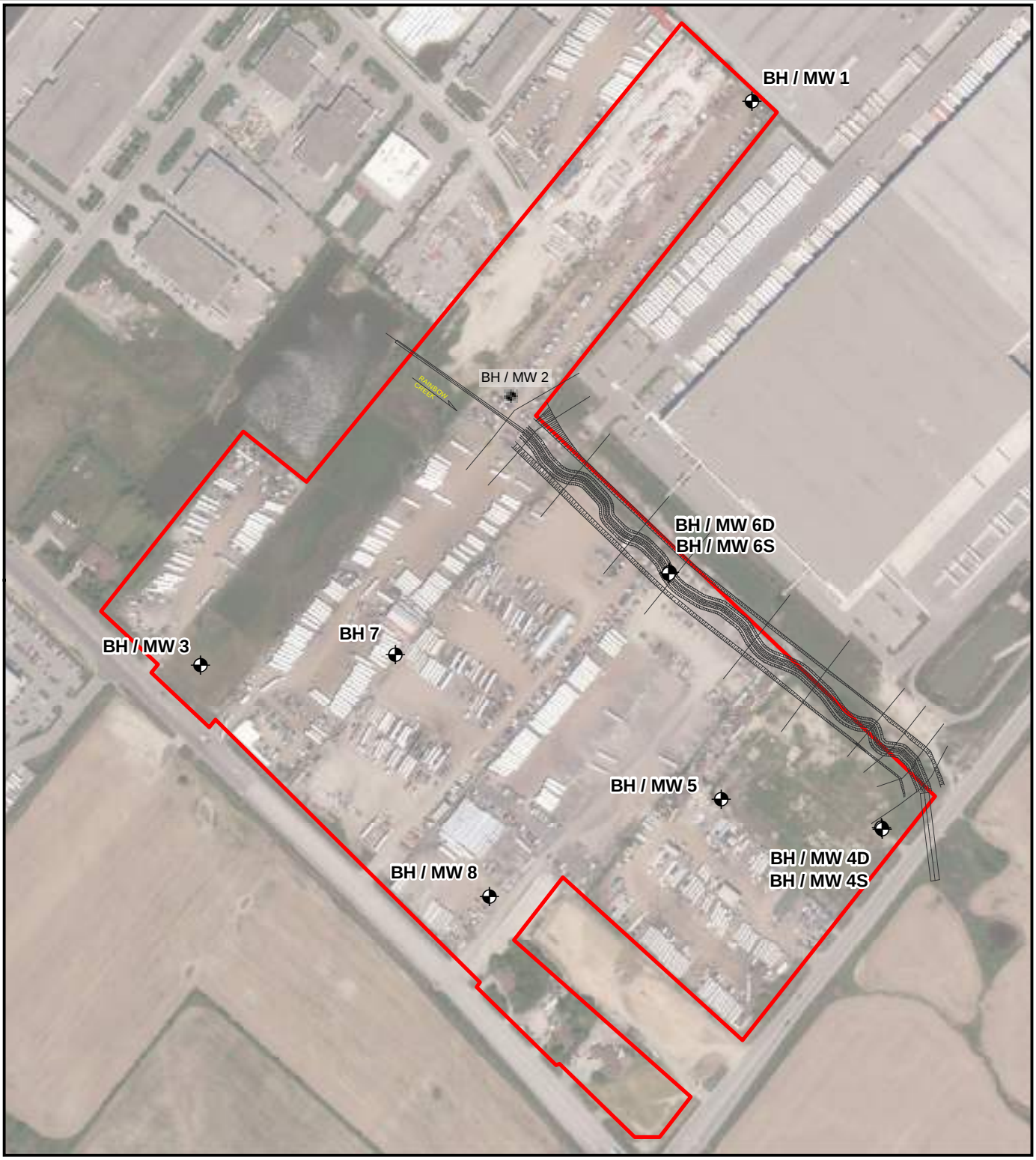
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BOREHOLE LOCATION PLAN (AERIAL)

Project 2301130 | July 2025 | Fig. 2a



NOTES:

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3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2024.

Legend

- Subject Area
- Borehole/Monitoring Well Location

N

0 50 100 m

1:4,500

Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

Simpson Road Landowners Group Inc.

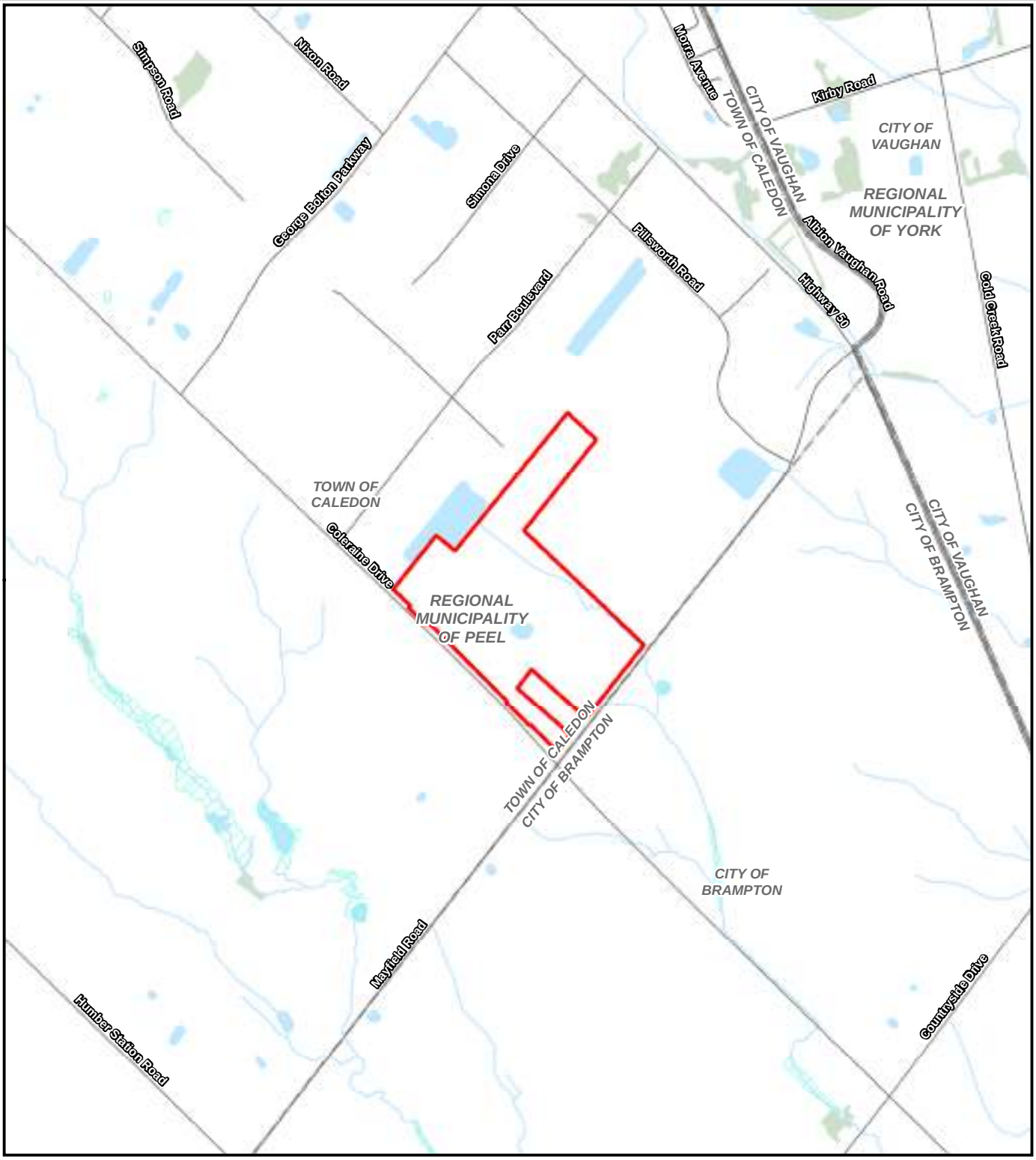
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BOREHOLE LOCATION PLAN (CONCEPT PLAN)

July 2025

Fig. 2b



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
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Legend

- Subject Area
- Road
- Watercourse
- Waterbody
- Wooded Area
- Wetland - Not evaluated per OWES

- Site in not within a Wellhead Protection Zone -

Wellhead Protection Area (MECP)

Zone

- A
- B
- C
- C1
- D
- Q1
- Q2

N

0 150 300 m

1:15,000

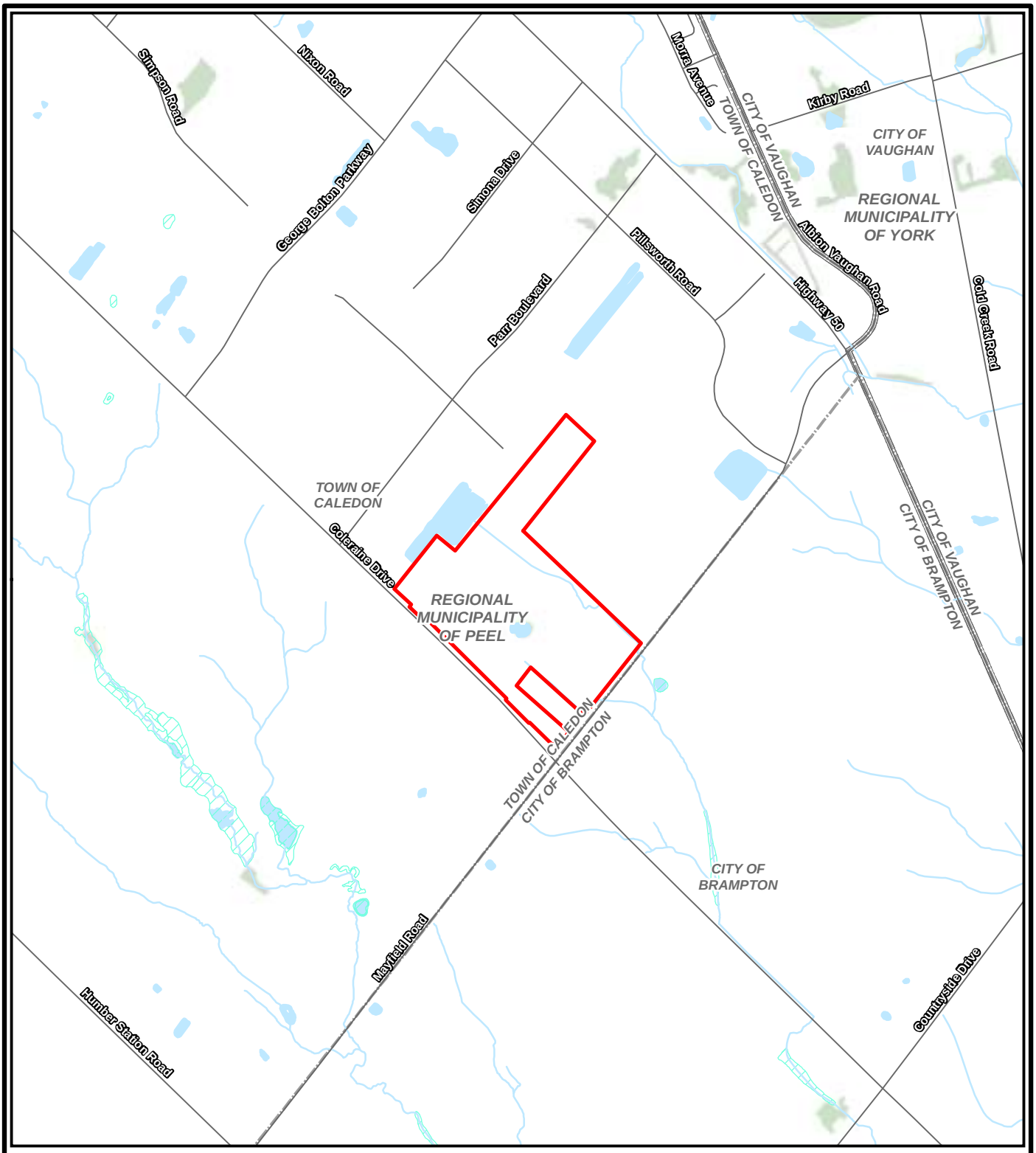
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WELLHEAD PROTECTION AREA

Project 2301130 | July 2025 | Fig. 3



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
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Legend

- Subject Area
- Road
- Watercourse
- Waterbody
- Wooded Area
- Wetland - Not evaluated per OWES

Intake Protection Zone (MECP)

- Intake Protection Zone 1
- Intake Protection Zone 2
- Intake Protection Zone 3

- Site in not within an Intake Protection Zone -

N

0 150 300 m

1:15,000

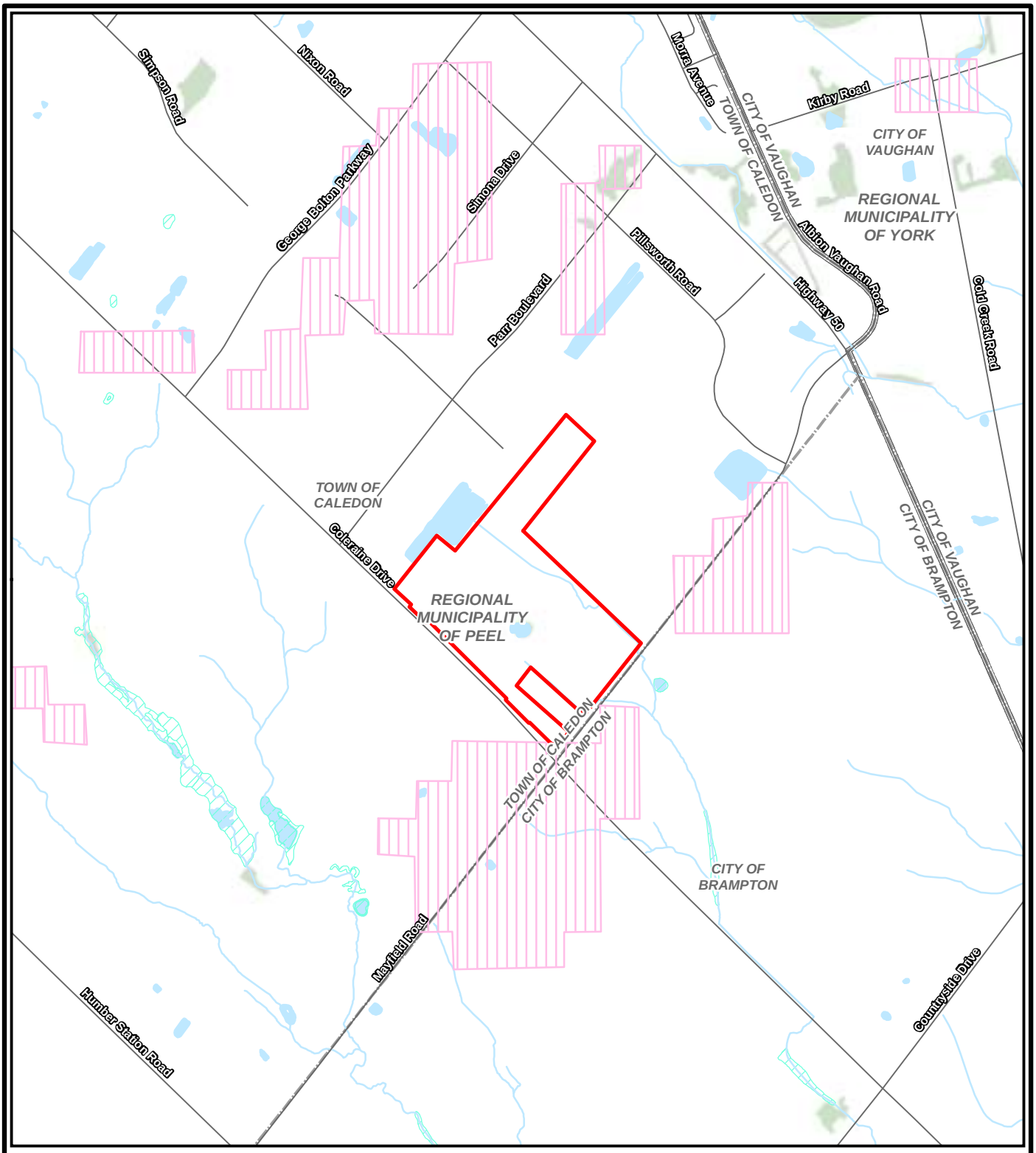
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INTAKE PROTECTION ZONE

Project 2301130 | July 2025 | Fig. 4



NOTES:

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Legend

- Subject Area
- Road
- Watercourse
- Waterbody
- Wooded Area
- Wetland - Not evaluated per OWES
- Highly Vulnerable Aquifer (MECP)

N

0 150 300 m

1:15,000

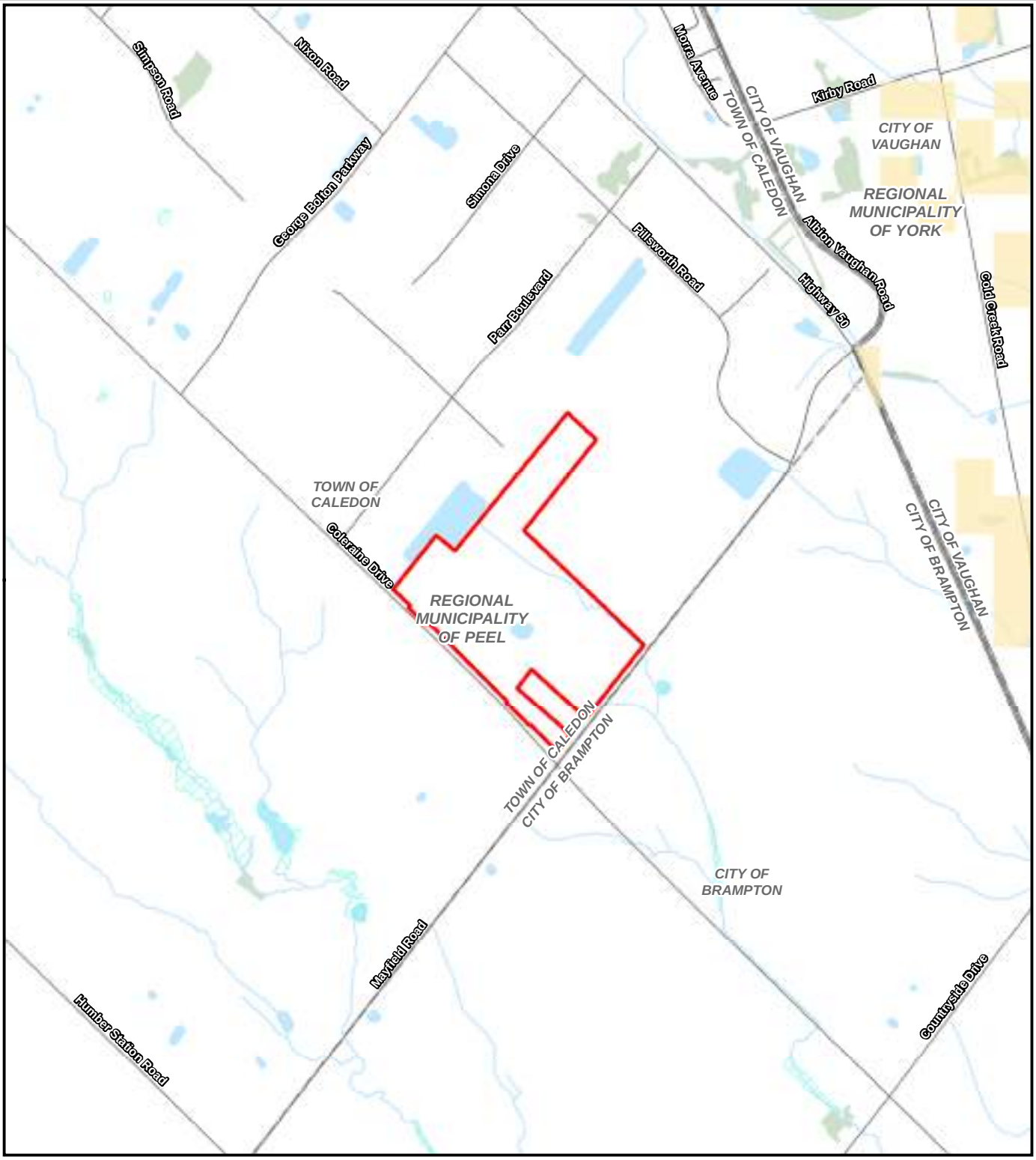
Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

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HIGHLY VULNERABLE AQUIFER

Project 2301130 | July 2025 | Fig. 5



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
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Legend

- Subject Area
- Road
- Watercourse
- Waterbody
- Wooded Area
- Wetland - Not evaluated per OWES
- Significant Groundwater Recharge Area (TRCA)
- Vulnerability Score
- N/A
- 0
- 2, 4
- 6

N

0 150 300 m

1:15,000

Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

Simpson Road Landowners Group Inc.

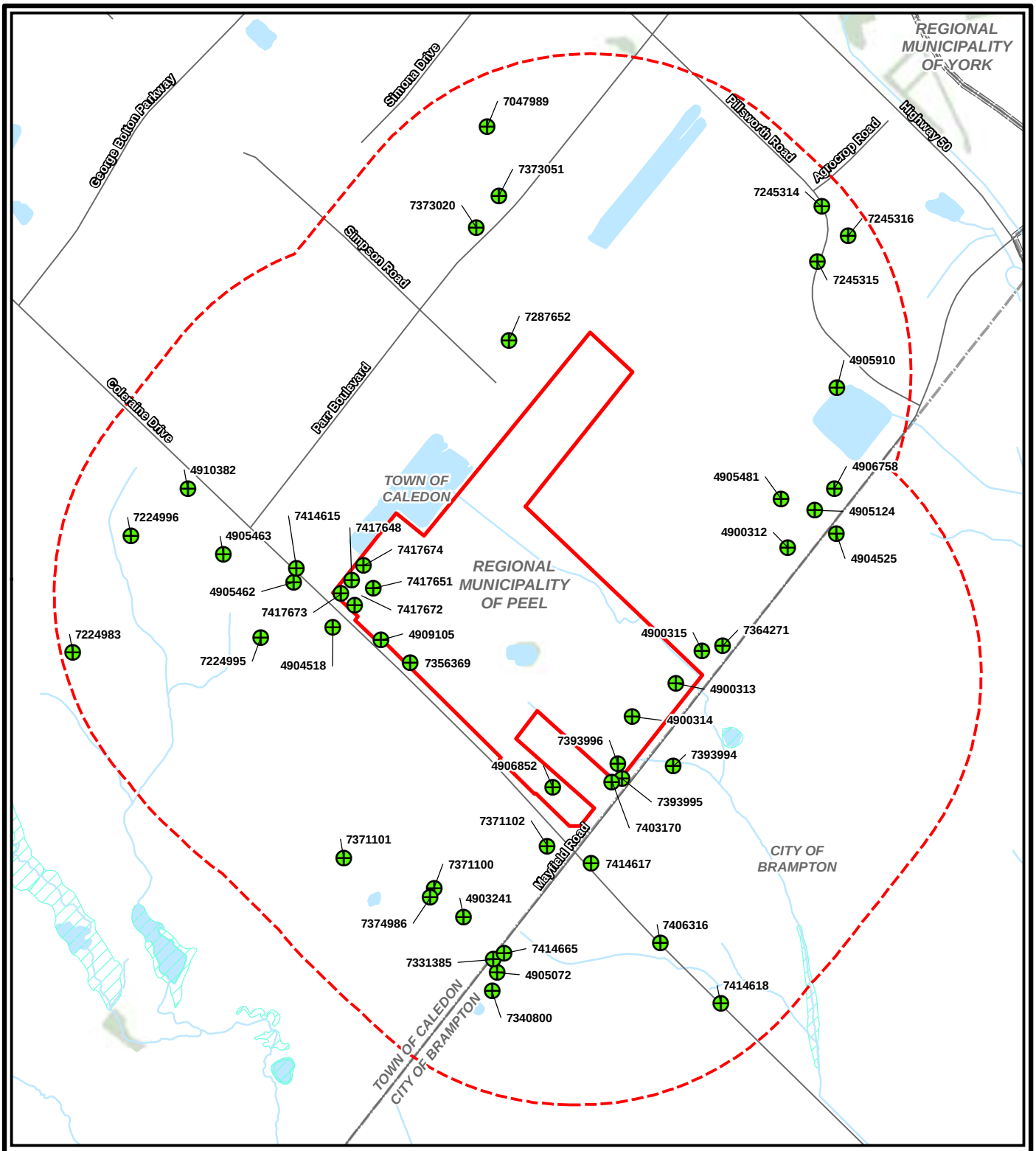
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SIGNIFICANT GROUNDWATER RECHARGE AREA

Project 2301130

July 2025

Fig. 6



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
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Legend

- Subject Area
- Subject Area +500m
- MECP Well Records within 500m of Subject Area
- Road
- Watercourse
- Waterbody
- Wooded Area
- Wetland - Not evaluated per OWES

N

0 150 300 m

1:10,000

Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

Simpson Road Landowners Group Inc.

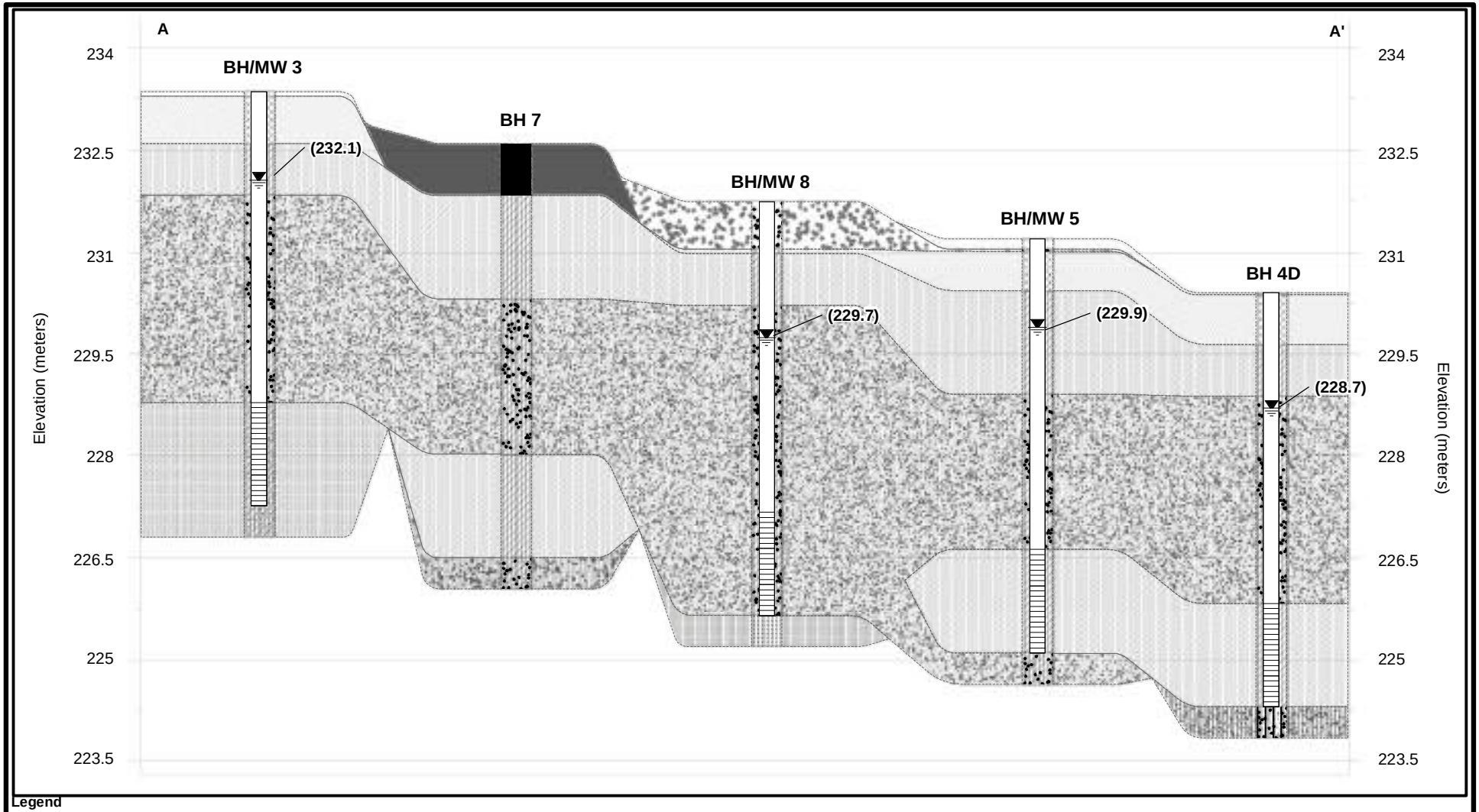
GEI Consultants

MECP WELL RECORD LOCATIONS

Project 2301130

July 2025

Fig. 7



Legend

Water Level In Monitoring Well

Strata

- Asphalt/Granular
- Granular
- Fill
- Topsoil
- Clayey Silt
- Clayey Silt Glacial Till
- Sandy Clayey Silt
- Sandy Clayey Silt Glacial Till
- Sand and Silt
- Sandy Silty Glacial Till

[xx.xx] Water Level (masl)

NOTES:

1. Subsurface conditions known only at borehole locations.
2. Horizontal distances are not to scale

Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

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Project 2301130

GEOLOGICAL CROSS SECTION A-A'

July 2025

Fig. 8



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
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3. Orthoimagery © First Base Solutions, 2023. Imagery taken in 2022.

Legend

- Subject Area
- Borehole/Monitoring Well Location
- Groundwater Contour (metres ASL)
- (xx.xx) Groundwater Level (metres ASL)
- Interpreted Direction of Groundwater Flow

N

0 100 200 m

1:10,000

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Simpson Road Landowners Group Inc.

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GROUNDWATER CONTOUR MAP

Project 2301130

July 2025

Fig. 9

Appendix A

MECP Water Well Records

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TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
CALEDON TOWN (ALBION CON 06 001	17 604427 4855336 W	1958/12 1325	30	FR 0058	48///:	DO		4900312 ()	BRWN CLAY 0015 HPAN 0058 PEAT 0068
CALEDON TOWN (ALBION CON 06 001	17 604226 4855092 W	1962/10 1325	30	FR 0062	50//1/ 1:0	DO		4900313 ()	BRWN CLAY 0012 BLUE CLAY 0062 BLUE FSND 0071
CALEDON TOWN (ALBION CON 06 001	17 604147 4855033 W	1963/07 4823	4 4	FR 0119	40/12 0/1/12 :0	DO		4900314 ()	LOAM 0001 YLLW CLAY 0005 YLLW CLAY MSND STNS 0012 BLUE CLAY STNS 0040 BLUE CLAY SILT 0107 GREY CLAY MSND GRVL 0116 SHLE 0120
CALEDON TOWN (ALBION CON 06 001	17 604273 4855150 W	1966/02 3108	4 4	FR 0145	84/13 5/3/2: 0	DO		4900315 ()	BLUE CLAY 0003 YLLW CLAY 0016 BLUE CLAY 0115 CSND 0123 BLUE SHLE 0147
CALEDON TOWN (ALBION CON 05 001	17 603845 4854673 W	1969/06 1307	30	FR 0057	20///:	DO		4903241 ()	BRWN LOAM 0010 GREY CLAY 0056 GREY MSND 0057
CALEDON TOWN (ALBION CON 06 002	17 603611 4855193 W	1974/08 1307	30	FR 0040	12/38/ 2/1:0	DO		4904518 ()	BRWN LOAM 0010 GREY CLAY 0038 CSND 0040
CALEDON TOWN (ALBION CON 06 001	17 604514 4855361 W	1974/11 1307	30	FR 0080	40/78/ 0/1:0	DO		4904525 ()	BRWN LOAM 0012 GREY CLAY 0078 GREY FSND 0080
BRAMPTON CITY (TORON CON 11 017	17 603905 4854573 W	1977/03 3814	30	FR 0065	53/63/ 1/1:0	DO		4905072 ()	BRWN LOAM 0012 GREY CLAY 0062 GREY SHLE WBRG 0065

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
CALEDON TOWN (ALBION CON 06 001	17 604475 4855403 W	1977/05 3108	6	UK 0136	84/13 8/4/4: 0	DO		4905124 ()	BLCK LOAM 0002 YLLW CLAY 0012 BLUE CLAY 0110 CSND SHLE DRTY 0133 BLUE SHLE 0139
CALEDON TOWN (ALBION CON 05 002	17 603540 4855273 W	1978/05 3814	30	FR 0070	45//3/ 1:0	DO		4905462 ()	UNKN 0070
CALEDON TOWN (ALBION CON 05 002	17 603414 4855323 W	1978/05 3814	30	FR 0052	35//2/ 1:0	DO		4905463 ()	UNKN 0052
CALEDON TOWN (ALBION CON 06 001	17 604415 4855423 W	1978/11 1663	5	FR	60/10 5/2/2: 0	DO		4905481 ()	BLCK LOAM 0001 BRWN CLAY GRVL 0014 BLUE CLAY GRVL 0048 BLUE CLAY 0101 GREY CSND GRVL 0106 BLUE CLAY GRVL 0112 BLUE CLAY 0120 GREY FSND 0127 BLUE CLAY 0130
CALEDON TOWN (ALBION CON 06 001	17 604515 4855623 W	1981/03 1663	5	FR 0101	//1/2: 0	DO	0103 3	4905910 ()	BRWN LOAM 0001 YLLW CLAY GRVL 0016 BLUE CLAY GRVL 0048 GREY CLAY SILT 0101 GREY SAND GRVL SILT 0107 BLUE CLAY GRVL SAND 0136 GREY SHLE 0170
CALEDON TOWN (ALBION CON 06 001	17 604510 4855442 W	1987/09 1663	6	FR 0122	90/12 5/2/2: 0	DO	0124 3	4906758 (09130)	BRWN CLAY SAND 0002 BRWN CLAY GRVL 0016 BLUE CLAY GRVL 0051 BLUE CLAY 0072 BLUE CLAY SILT 0102 GREY GRVL LOOS 0110 0115 0119 0122 0127 0140
CALEDON TOWN (ALBION CON 06 001	17 604005 4854905 W	1988/03 4919	30 30	FR 0065	10/70/ /1:0	DO		4906852 (25634)	BRWN LOAM HARD 0001 BRWN CLAY HARD 0020 GREY CLAY HARD 0075

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
CALEDON TOWN (ALBION CON 06 006	17 603697 4855170 W	2003/02 7088	6 6	SA 0133	30///:	DO		4909105 (252315)	GREY GRVL FILL 0001 BRWN CLAY SAND 0012 GREY CLAY SAND 0076 BLUE CLAY 0102 GREY GRVL SLTY 0112 GREN GRVL CLAY 0113 BLUE SHLE 0147
CALEDON TOWN (ALBION	17 603350 4855442 W	2006/11 6809	2				0015 5	4910382 (Z51263) A052542	BRWN LOAM 0001 BRWN SILT TILL 0010 GREY CLAY SILT 0020
CALEDON TOWN (ALBION	17 603144 4855147 W	2014/06 7472	2.04			MO	0015 10	7224983 (Z189603) A165999	BRWN CLAY SILT LOOS 0015 GREY SILT CLAY PCKD 0025
CALEDON TOWN (ALBION	17 603481 4855174 W	2014/06 7472	2.04			MO	0010 10	7224995 (Z189602) A165998	BRWN CLAY SILT LOOS 0015 GREY SILT CLAY PCKD 0020
CALEDON TOWN (ALBION	17 603248 4855357 W	2014/06 7472						7224996 (Z189601) A165997	
CALEDON TOWN (ALBION CON 06 001	17 604487 4855947 W	2015/07 7360	2	UT 0005		MO	0005 10	7245314 (Z208147) A182032	CLAY SILT 0005 SAND WBRG 0010 CLAY SILT 0015
CALEDON TOWN (ALBION CON 06 001	17 604480 4855849 W	2015/07 7360	2			MO	0020 10	7245315 (Z208148) A182063	CLAY SILT 0005 CLAY SILT 0020
CALEDON TOWN (ALBION CON 06 001	17 604535 4855896 W	2015/07 7360	2			MO	0010 10	7245316 (Z208149) A182090	CLAY SILT 0005 CLAY SILT 0020
CALEDON TOWN (ALBION	17 603926 4855708 W	2017/04 7215						7287652 (C37477) A218567 P	

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
BRAMPTON CITY (TORON CON 11 017	17 603898 4854597 W	2019/03 7360	2			MO	0010 10	7331385 (Z309301) A266676	GRVL SNDY 0004 SAND 0010 CLAY TILL 0020
BRAMPTON CITY (TORON CON 11 017	17 603896 4854540 W	2019/09 7147	35.4	UT 0003				7340800 (QRV7WFD9) _NO_TAG A	
CALEDON TOWN (ALBION	17 603749 4855129 W	2020/03 7523	6.21 6.21			NU		7356369 (Z333748) A207322 A	BLCK LOAM 0001 BRWN CLAY SAND 0015 GREY SILT 0035 GREY SAND GRVL 0135 RED SHLE 0164
CALEDON TOWN (ALBION	17 604310 4855160 W	6946						7364271 (Z340885) A301730 P	
CALEDON TOWN (ALBION CON 05 001	17 603792 4854725 W	2020/10 7732	1.97	UT 0013			0008 10	7371100 (JDHP8SJJ) _NO_TAG A	
CALEDON TOWN (ALBION CON 05 001	17 603630 4854779 W	2020/10 7732	1.97	UT 0017			0015 10	7371101 (U465GQJ2) _NO_TAG A	
CALEDON TOWN (ALBION CON 05 001	17 603995 4854800 W	2020/10 7732	1.97	UT 0004			0016 10	7371102 (AKYKFSA6) _NO_TAG A	
CALEDON TOWN (ALBION CON 06 002	17 603868 4855910 W	2020/11 6607	2.00			MO	0010 10	7373020 (9BUBW7QL) A293647	BRWN SILT CLAY HARD 0015 GREY SILT CLAY HARD 0020

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
CALEDON TOWN (ALBION CON 06 002	17 603908 4855966 W	2020/11 6607	2.00			MO	0010 10	7373051 (LJER9BFV) A293279	BRWN SILT CLAY HARD 0020
CALEDON TOWN (ALBION	17 603785 4854709 W	2020/11 7241						7374986 (Z351107) A308998 P	
BRAMPTON CITY (TORON	17 604221 4854943 W	2021/05 7215						7393994 (Z346498) A317280 P	
CALEDON TOWN (ALBION CON 06 001	17 604129 4854921 W	2021/05 7215						7393995 (Z346510) A317278 P	
CALEDON TOWN (ALBION CON 06 001	17 604122 4854947 W	2021/05 7215						7393996 (Z346497) A317281 P	
CALEDON TOWN (ALBION	17 604111 4854915 W	2021/07 6988						7403170 (Z356021) A314334 P	
BRAMPTON CITY (TORON CON 12 017	17 604198 4854626 W	2021/10 7360	2	UT 0035		MO	0050 10	7406316 (4AOHDINP) A319821	---- 0000 FILL GRVL 0007 TILL CLAY 0050 SHLE 0060
CALEDON TOWN (ALBION CON 06 002	17 603545 4855298 W	2022/02 7360	2			MO	0010 5	7414615 (LSZYI96U) A330866	BRWN TILL HARD 0005 GREY TILL HARD 0015
BRAMPTON CITY (TORON CON 12 017	17 604073 4854770 W	2022/02 7360	2			MO	0010 5	7414617 (X6GMGUJT) A344018	BRWN TILL HARD 0005 GREY TILL HARD 0015

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
BRAMPTON CITY (TORON CON 11 017	17 604306 4854517 W	2022/02 7360	2			MO	0010 5	7414618 (6FSF8AGS) A344030	BRWN TILL HARD 0005 GREY TILL HARD 0015
BRAMPTON CITY (TORON CON 11 017	17 603918 4854608 W	2022/03 7732	1.97	UT 0003			0010 10	7414665 (5CJ4VKQ9) _NO_TAG A	
CALEDON TOWN (ALBION CON 06 001	17 603644 4855277 W	2022/03 7360	2			MO	0010 10	7417648 (CMBUCOM Y) A306595	BRWN CLAY 0010 GREY TILL 0020
CALEDON TOWN (ALBION CON 06 001	17 603683 4855263 W	2022/03 7360	2			MO	0010 10	7417651 (CAM3SEOK) A343289	BRWN CLAY 0010 GREY TILL 0020
CALEDON TOWN (ALBION CON 06 001	17 603649 4855232 W	2022/03 7360	2			MO	0010 10	7417672 (895IRXSP) A345738	BRWN CLAY 0010 GREY TILL 0020
CALEDON TOWN (ALBION CON 06 001	17 603625 4855253 W	2022/03 7360	2			MO	0010 10	7417673 (QCDOOCFD) A345745	BRWN CLAY 0010 GREY TILL 0020
CALEDON TOWN (ALBION CON 06 001	17 603665 4855303 W	2022/03 7360	2			MO	0010 10	7417674 (DOR88VVJ) A345746	BRWN CLAY 0010 GREY TILL 0020
MINTO CON 4 LOT 40	17 603887 4856091	2007	6	FR 0142	142/2 5/2	DO	0010 10	7047989 AO49962	GRAVEL & STONES 025 CLAY & STONES 0059 LIMESTONE 147

Appendix B

Borehole Logs

RECORD OF BOREHOLE No. 1

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855660.1** Date Started: **May 17/23**
Reviewed By: **GW** Easting: **604127.8** Date Completed: **May 17/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 / 233.9					0	
	0.2 RECYCLED ASPHALT: 250 mm / 233.6						
	FILL: Sandy silt, trace gravel, compact, brown, moist 0.6 / 233.3	AS	1				
	CLAYEY SILT: Some sand, very stiff, brown, moist	SS	2	95	16		
	1.5 / 232.3					1.5	232.5
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, brown, moist	SS	3	90	26		
		SS	4	100	34		
						3	231
		SS	5	100	54		
	4.6 / 229.3					4.5	229.5
	CLAYEY SILT: Trace sand, very stiff, grey, moist	SS	6	100	21		
	6.6 / 227.3	SS	7	100	22	6	228
	Borehole Terminated at 6.6 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL ○ Water Content (%) LL
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL

First Water Strike SS5

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: Jun 7/23 at depth of: 4.7 m.
Groundwater Elevation: 229.2 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 2

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: Date Started: **May 18/23**
Reviewed By: **GW** Easting: Date Completed: **May 18/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing SPT/DCPT)	LAB TESTING (Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits PL/LL; Water Content (%))	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 233.2													
	RECYCLED ASPHALT: 700 mm	SS	1	40	19	0		19	13					
	0.7 232.5						232.5							
	FILL: Clayey silt, trace gravel, very stiff, brown, moist	SS	2	80	20			20						
	1.5 231.7					1.5			14					
	SANDY CLAYEY SILT GLACIAL TILL: Trace gravel, inferred cobbles and boulders, hard, grey, moist	SS	3	45	43			43						
							231		14					
		SS	4	100	47			47			5	21	42	32
						3			13					
		SS	5	100	44			44						
							229.5							
	4.6 228.6					4.5								
	CLAYEY SILT: Trace sand, very stiff, grey, very moist	SS	6	100	21			21	13		First Water Strike SS6			
							228							
	6.6 226.6					6								
		SS	7	100	19			19	14					
	Borehole Terminated at 6.6 m													

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on: Well covered at depth of: -
Cave depth after auger removal: Open
Groundwater Elevation:

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 3

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855211.7** Date Started: **May 17/23**
Reviewed By: **GW** Easting: **603689.4** Date Completed: **May 17/23**

Depth (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)	GR	SA	SI	CL
0.0 / 0.1	TOPSOIL: 75 mm					233.4 / 233.3				
0.8	FILL: Clayey silt, trace sand, firm, brown, moist	SS	1	20	6	232.6				
1.5	CLAYEY SILT: Some sand, very stiff, grey, moist	SS	2	65	20	231.8				
	CLAYEY SILT GLACIAL TILL: Some sand, trace gravel, inferred cobbles and boulders, hard, grey to brown, moist	SS	3	100	31					
		SS	4	100	47		8	18	42	32
		SS	5	80	38					
4.6						228.8				
	SANDY CLAYEY SILT: Trace gravel, very stiff, grey, moist	SS	6	100	29		4	20	45	31
6.6		SS	7	100	21	226.8				
	Borehole Terminated at 6.6 m									

Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded)
Penetration Testing: ○ SPT ● DCPT
△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm)
Atterberg Limits: PL — LL; ○ Water Content (%)

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Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on: Jun 7/23 at depth of: 1.3 m.
Cave depth after auger removal: Open
Groundwater Elevation: 232.1 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 4-D

Project Number:	**2301130**				
Project Client:	**Simpson Road Landowners Group Inc.**				
Project Name:	**South Simpson -Headwaters W Rainbow Ck**	Drilling Method: **Track Mount**		Drilling Machine: **Solid Stem Augers**	
Project Location:	**Caledon, ON**	Logged By: **TA**	Northing: **4855082.3**	Date Started:	**May 18/23**
Drilling Location:	**See Borehole Location Plan**	Reviewed By: **GW**	Easting: **604231.5**	Date Completed:	**May 18/23**
Local Benchmark:					

LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)				
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa); Penetration Testing (SPT, DCPT)	Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); Atterberg Limits; Water Content (%)	Instrumentation Installation		GR	SA	SI	CL
	0.0 230.4					0 / 230.4								
	TOPSOIL: 25 mm													
	FILL: Clayey silt, trace sand, stiff, brown, moist	SS	1	75	11		11, 12	23, 24						
	0.8 229.6					0.5 / 229.5								
	CLAYEY SILT: Some sand, stiff, brown with grey spotting, moist	SS	2	100	12									
	1.5 228.9					1.5 / 229								
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, brown, moist	SS	3	90	26		26	13						
						2 / 228.5								
		SS	4	90	26		26	10						
						2.5 / 228								
		SS	5	90	41		41	13						
	4.6 225.8					4.5 / 226.5								
	CLAYEY SILT: Some sand, very stiff, grey, moist	SS	6	100	24		24	12		First Water Strike SS6				
	6.1 224.3					6 / 225								
	SANDY SILT GLACIAL TILL: Trace clay, trace gravel, inferred cobbles and boulders, very dense, grey, moist	SS	7	95	50+		50+	9						
	6.6 223.8 Borehole Terminated at 6.6 m													

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Groundwater depth encountered on completion of drilling: Dry

Cave depth after auger removal: Open

Groundwater depth observed on: Jun 7/23 at depth of: 1.7 m.

Groundwater Elevation: 228.7 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 4-S

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855081.4** Date Started: **May 18/23**
Reviewed By: **GW** Easting: **604231.5** Date Completed: **May 18/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 230.4							Shear Strength Testing (kPa): × Other Test; + Pocket Penetrometer; ▲ Field Vane (Intact); △ Field Vane (Remolded); 40 80 120 160. Penetration Testing: ○ SPT ● DCPT; 10 20 30 40	△ Combustible Organic Vapour (ppm); ▲ Combustible Organic Vapour (%LEL); ◇ Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits: PL — LL. ○ Water Content (%); 10 20 30 40		GR SA SI CL
	TOPSOIL: 25 mm					0					Descriptions copied from BH 4-D
	FILL: Clayey silt, trace sand, stiff, brown, moist										
	0.8 229.6						229.5				
	CLAYEY SILT: Some sand, stiff, brown with grey spotting, moist										
	1.5 228.8					1.5					
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, brown, moist										
	2.3 228.1										
	Borehole Terminated at 2.3 m										

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Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: Jun 7/23 at depth of: 1.2 m.
Groundwater Elevation: 229.2 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 5

Project Number:	**2301130**				
Project Client:	**Simpson Road Landowners Group Inc.**				
Project Name:	**South Simpson -Headwaters W Rainbow Ck**	Drilling Method: **Track Mount**		Drilling Machine: **Solid Stem Augers**	
Project Location:	**Caledon, ON**	Logged By: **TA**	Northing: **4855105.3**	Date Started: **May 18/23**	
Drilling Location:	**See Borehole Location Plan**	Reviewed By: **GW**	Easting: **604103.3**	Date Completed: **May 18/23**	
Local Benchmark:					

LITHOLOGY PROFILE			SOIL SAMPLING						FIELD TESTING		LAB TESTING			COMMENTS & GRAIN SIZE DISTRIBUTION (%)				
Lithology Plot	DESCRIPTION		Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT		Combustible Organic Vapour (ppm), Combustible Organic Vapour (%LEL), Total Organic Vapour (ppm); Atterberg Limits: PL, LL; Water Content (%)		Instrumentation Installation		GR	SA	SI	CL
	0.0	231.2																
	TOPSOIL: 180 mm	0.2 231.0																
	FILL: 25 mm Gravel over clayey silt, trace gravel, firm, brown, moist	0.8 230.4	SS	1	85	6	0	231	6		22							
	CLAYEY SILT: Some sand, very stiff, brown to grey, moist		SS	2	100	19			19		14							
			SS	3	100	29	1.5	229.5	29		13							
		2.3	228.9															
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, grey, moist		SS	4	100	21			21		14							
			SS	5	100	43	3	228	43		13			First Water Strike SS5				
		4.6	226.6															
	CLAYEY SILT: Some sand, trace gravel, firm to very stiff, grey, moist		SS	6	100	21	4.5	226.5	21		13				2	17	48	33
		6.1	225.1															
	CLAYEY SILT GLACIAL TILL: Some sand, trace gravel, inferred cobbles and boulders, very stiff, grey, moist		SS	7	100	19	6	225	19		15							
	Borehole Terminated at 6.6 m	6.6 224.6																

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Groundwater depth encountered on completion of drilling: Dry

Cave depth after auger removal: Open

Groundwater depth observed on: Jun 7/23 at depth of: 1.3 m.

Groundwater Elevation: 229.9 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 6-D

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855285.3** Date Started: **May 19/23**
Reviewed By: **GW** Easting: **604062.3** Date Completed: **May 19/23**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	Elevation (m)
0.0						231.4
0.8	ASPHALT: 25 mm FILL: Sand, trace silt, loose, brown, moist	AS	1			230.7
2.3	CLAYEY SILT: Trace organics, firm, brown, wet - - - Some sand, brown to grey - - -	SS	2	55	4	229.1
		SS	3	100	6	
6.1	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, grey, wet to moist	SS	4	100	24	225.3
		SS	5	100	44	
		SS	6	100	36	
6.6	CLAYEY SILT: Some sand, very stiff, grey, wet	SS	7	100	30	224.9
	Borehole Terminated at 6.6 m					

FIELD TESTING: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160. Penetration Testing: SPT, DCPT; 10 20 30 40.

LAB TESTING: Combustible Organic Vapour (ppm); Combustible Organic Vapour (%LEL); Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits: PL, LL. Water Content (%); 10 20 30 40.

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%): First Water Strike SS2

GR | SA | SI | CL

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Groundwater depth encountered on completion of drilling: 5.4 m. Cave depth after auger removal: Open

Groundwater depth observed on: Jun 7/23 at depth of: 1.3 m. Groundwater Elevation: 230.1 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**

RECORD OF BOREHOLE No. 6-S

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855284.8** Date Started: **May 19/23**
Reviewed By: **GW** Easting: **604061.4** Date Completed: **May 19/23**

LITHOLOGY PROFILE		SOIL SAMPLING						FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)				
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); 40 80 120 160; Penetration Testing: SPT, DCPT; 10 20 30 40	Combustible Organic Vapour (ppm), Combustible Organic Vapour (%LEL), Total Organic Vapour (ppm); 100 200 300 400; Atterberg Limits: PL, LL; Water Content (%); 10 20 30 40	Instrumentation Installation		GR	SA	SI	CL
	0.0 231.4					0	231								
	ASPHALT: 25 mm														
	FILL: Sand, trace silt, loose, brown, moist														
	0.8 230.7														
	CLAYEY SILT: Trace organics, firm, brown, wet														
	- - - Some sand, brown to grey - - -					1.5	229.5								
	2.3 229.1														
	Borehole Terminated at 2.3 m										Descriptions copied from BH 6-D First Water Strike SS2				

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Groundwater depth encountered on completion of drilling: 2.3 m. Cave depth after auger removal: Open

Groundwater depth observed on: Jun 7.23 at depth of: 0.5 m. Groundwater Elevation: 230.9 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 7

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855220.4** Date Started: **May 19/23**
Reviewed By: **GW** Easting: **603844.3** Date Completed: **May 19/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING (Shear Strength Testing (kPa); Penetration Testing: SPT ○ DCPT ●)	LAB TESTING (Combustible Organic Vapour (ppm) △; Combustible Organic Vapour (%LEL) ▲; Total Organic Vapour (ppm) ◇; Atterberg Limits PL–LL; Water Content (%) ○)	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 232.6 RECYCLED ASPHALT: 760 mm	SS	1	80	37	0	232.5	37	5					
	0.8 231.8 CLAYEY SILT: Some sand, stiff to very stiff, brown and grey, moist	SS	2	100	9			9	15					
		SS	3	90	21	1.5	231	21	15					
	2.3 230.3 SANDY CLAYEY SILT GLACIAL TILL: Some gravel, inferred cobbles and boulders, very stiff, grey, moist	SS	4	100	25			25	14		First Water Strike SS4			
		SS	5	100	25	3	229.5	25	14					
	4.6 228.0 CLAYEY SILT: Trace sand, stiff, grey, moist	SS	6	100	14	4.5	228	14	15					
	6.1 226.5 SANDY CLAYEY SILT GLACIAL TILL: Trace gravel, inferred cobbles and boulders, firm, grey, moist	SS	7	85	7	6	226.5	7	15		5	22	45	28
	6.6 226.0 Borehole Terminated at 6.6 m													

Groundwater depth encountered on completion of drilling: 5.4 m. Cave depth after auger removal: Open
Groundwater depth observed on: Groundwater Elevation:

GEI CONSULTANTS
647 Welham Road, Unit 14
Barrie, Ontario L4N 0B7
T : (705) 719-7994
www.geiconsultants.com

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

RECORD OF BOREHOLE No. 8

Project Number: **2301130**
Project Client: **Simpson Road Landowners Group Inc.**
Project Name: **South Simpson -Headwaters W Rainbow Ck**
Project Location: **Caledon, ON**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Track Mount** Drilling Machine: **Solid Stem Augers**
Logged By: **TA** Northing: **4855027.8** Date Started: **May 17/23**
Reviewed By: **GW** Easting: **603918.9** Date Completed: **May 17/23**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 231.7						
	GRANULAR: 720 mm	AS	1			0	
	0.7 231.0						231
	CLAYEY SILT: Some sand, stiff, brown, moist	SS	2	80	10		
	1.5 230.2					1.5	
	CLAYEY SILT GLACIAL TILL: Some sand, inferred cobbles and boulders, very stiff to hard, brown, moist	SS	3	100	28		229.5
		SS	4	100	35	3	
		SS	5	100	20		228
	- - - Grey - - -	SS	6	45	15	4.5	
	6.1 225.6						226.5
	SAND AND SILT: Trace clay, compact, grey, wet	SS	7	100	24	6	
	6.6 225.2						
	Borehole Terminated at 6.6 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

SPT: 10, 28, 35, 20, 15, 24

LAB TESTING
△ Combustible Organic Vapour (ppm)
▲ Combustible Organic Vapour (%LEL)
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL LL
○ Water Content (%)
10 20 30 40

Water Content: 10, 15, 15, 13, 13, 16, 13

Instrumentation Installation: First Water Strike SS5

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
0	43	53	4

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Groundwater depth encountered on completion of drilling: 5.4 m. Cave depth after auger removal: Open
Groundwater depth observed on: Jun 7/23 at depth of: 2.0 m. Groundwater Elevation: 229.7 m

Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

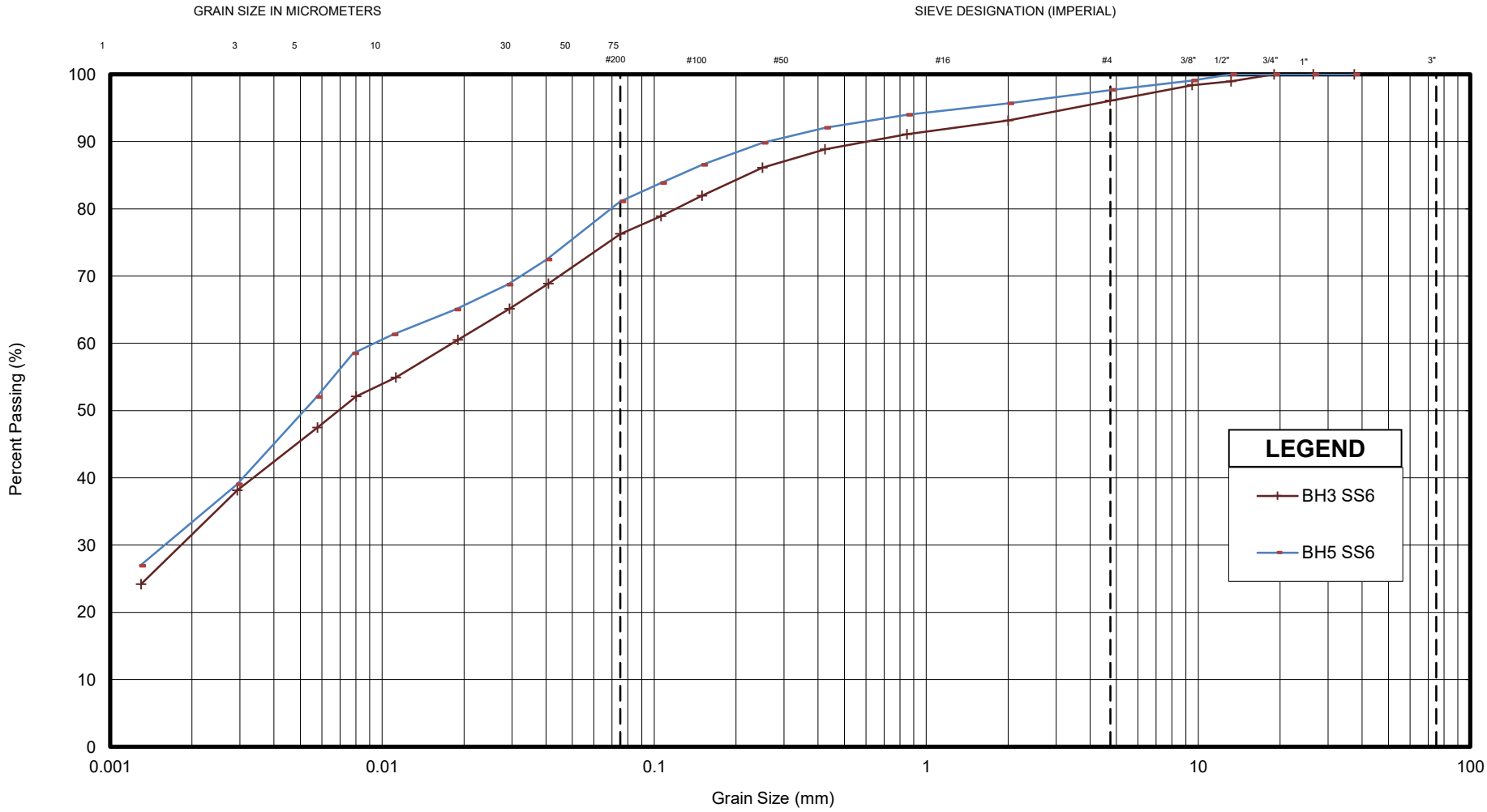
Scale: **1 :75**

Appendix C

Geotechnical Laboratory Testing

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH3 SS6	SANDY CLAYEY SILT, Trace Gravel	4	20	45	31	-	0.002	0.018	-	-
BH5 SS6	CLAYEY SILT, Some Sand, Trace Gravel	2	17	48	33	-	0.002	0.009	-	-

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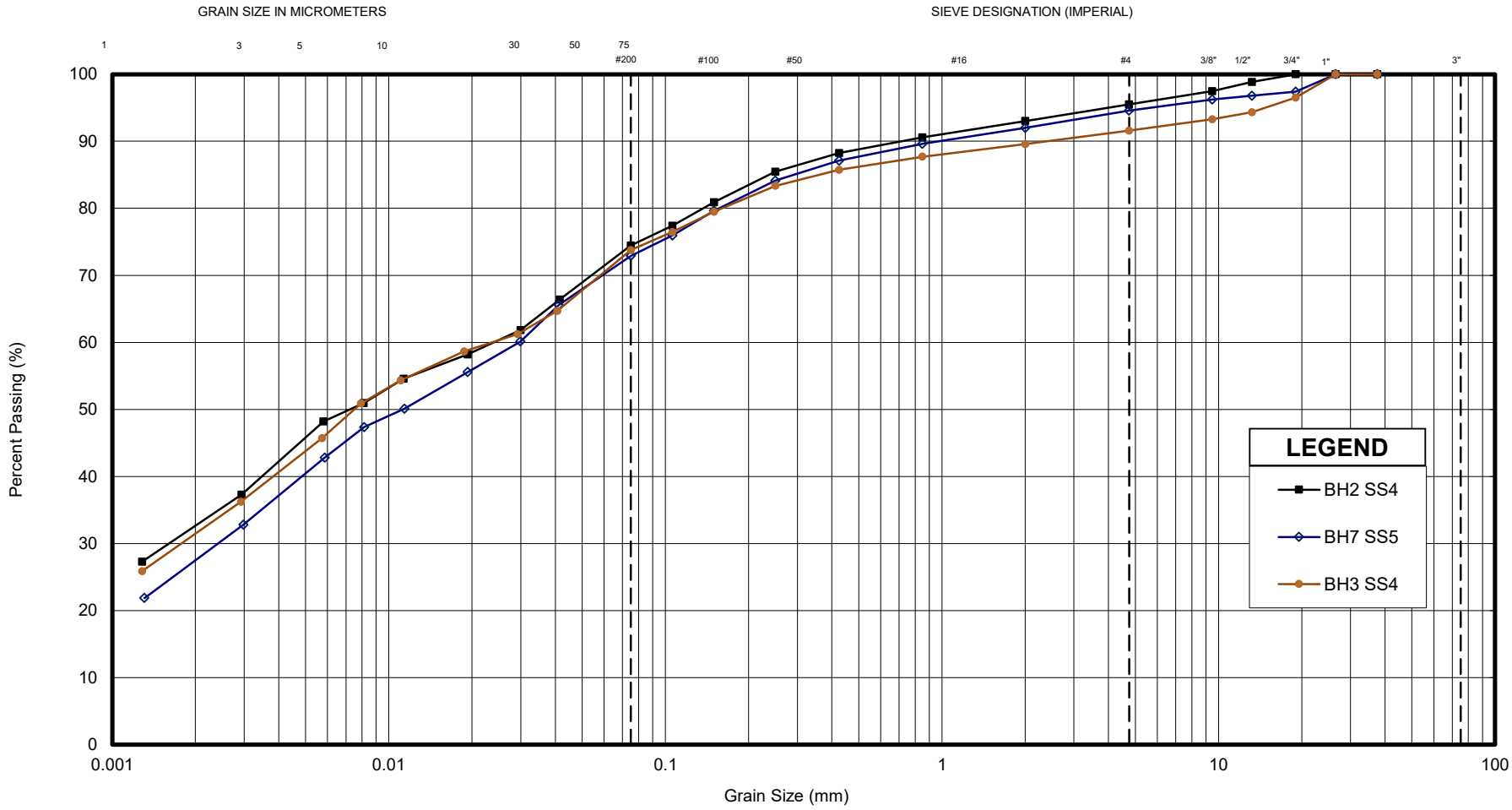
GRAIN SIZE DISTRIBUTION - South Simpson (Headwaters of West Rainbow Creek)

CLAYEY SILT

FIGURE No.	B1
REF. No.	2301130
DATE	July 2025

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH2 SS4	SANDY CLAYEY SILT, Trace Gravel	5	21	42	32	-	0.002	0.024	-	-
BH7 SS7	SANDY CLAYEY SILT, Trace Gravel	5	22	45	28	-	0.002	0.030	-	-
BH3 SS4	CLAYEY SILT, Some Sand, Trace Gravel	8	18	42	32	-	0.002	0.024	-	-

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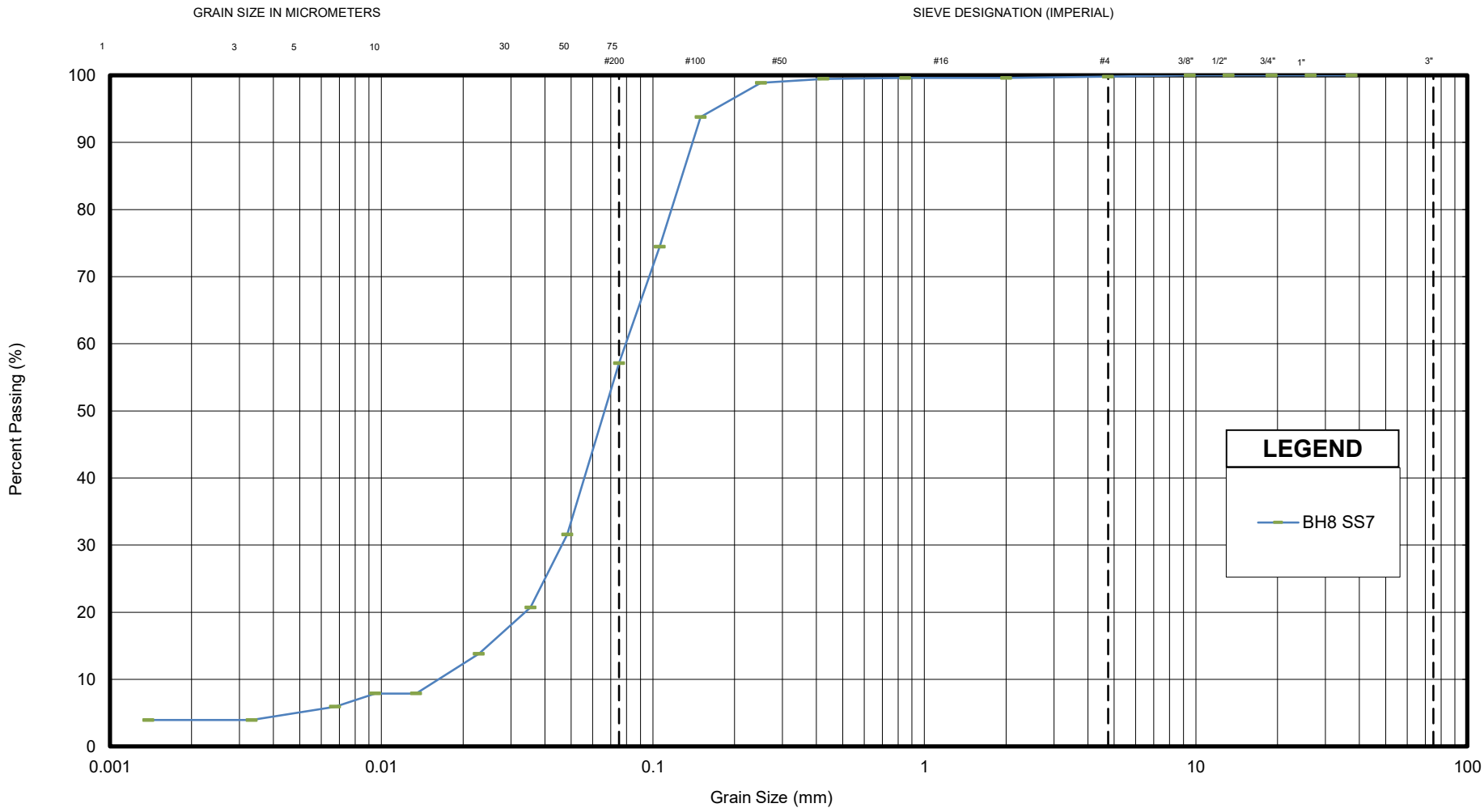
GRAIN SIZE DISTRIBUTION - South Simpson (Headwaters of West Rainbow Creek)

GLACIAL TILL

FIGURE No.	B2
REF. No.	2301130
DATE	July 2025

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH8 SS7	SAND AND SILT, Trace Clay	-	43	53	4	0.016	0.046	0.079	4.9	1.7

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GRAIN SIZE DISTRIBUTION - South Simpson (Headwaters of West Rainbow Creek)

SAND AND SILT

FIGURE No.	B3
REF. No.	2301130
DATE	July 2025

Appendix D

Rising Head Test Results

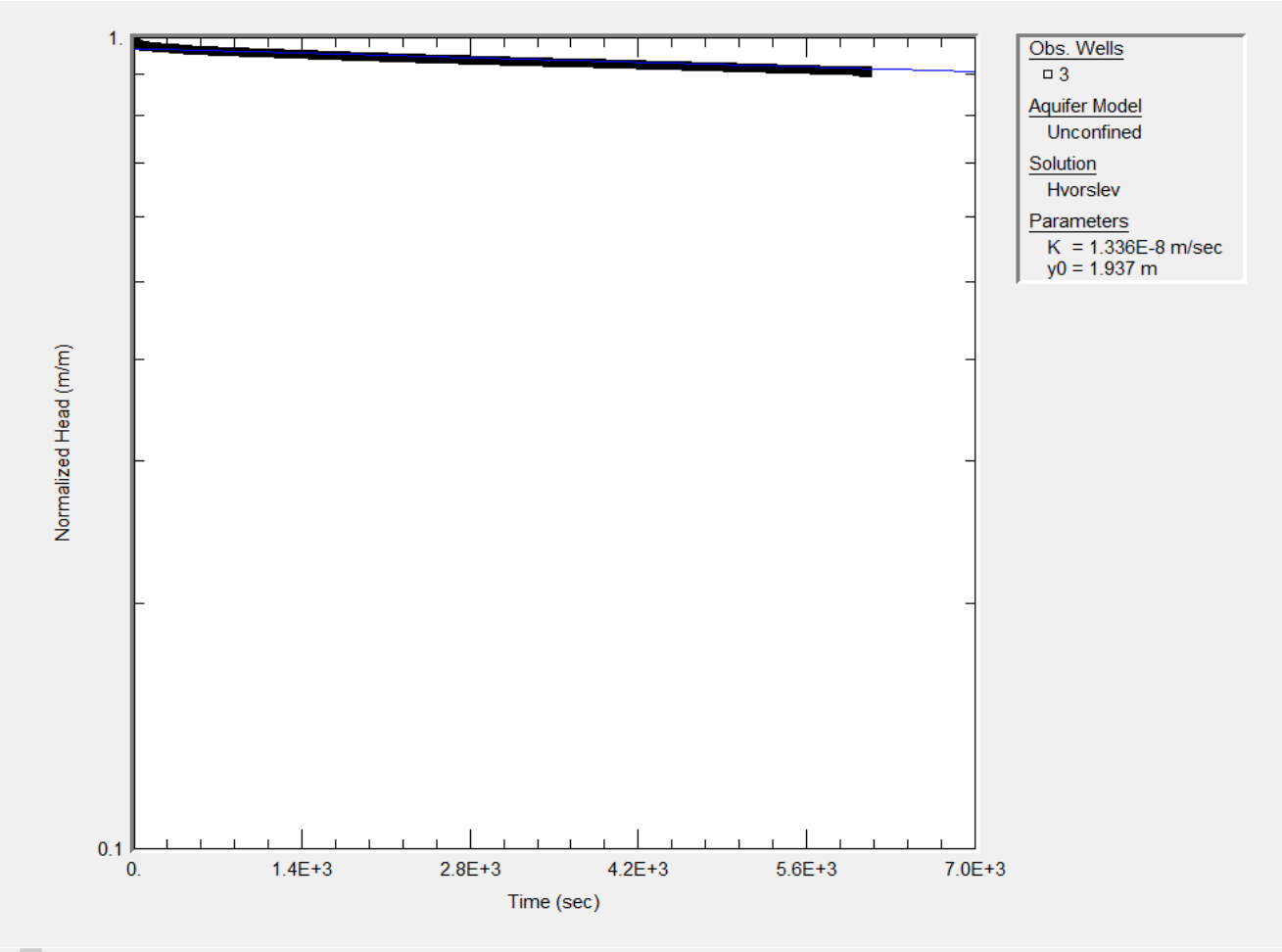
Hydrogeological Investigation
South Simpson (Headwaters of West Rainbow Creek),
Northeast corner of Coleraine Drive and Mayfield Road, Caledon, ON
Project No.: 2301130

Estimation of K by Slug Test, based on Horslev equation

Date:	July 3, 2023
Conducted by:	S. Patrick

Well Number:	MW3	
Well Screen Bottom:	6.10	mbgs
Top of Pipe:	0.88	mags
Well Casing Diameter:	5.08	cm
Well Elevation:	233.3	masl
Static Water Level:	2.33	mbgs
$K = r^2\ln(L/R)/(2LTo) =$	**$1.3x10^{-8}$**	m/s

** this is the ground elevation



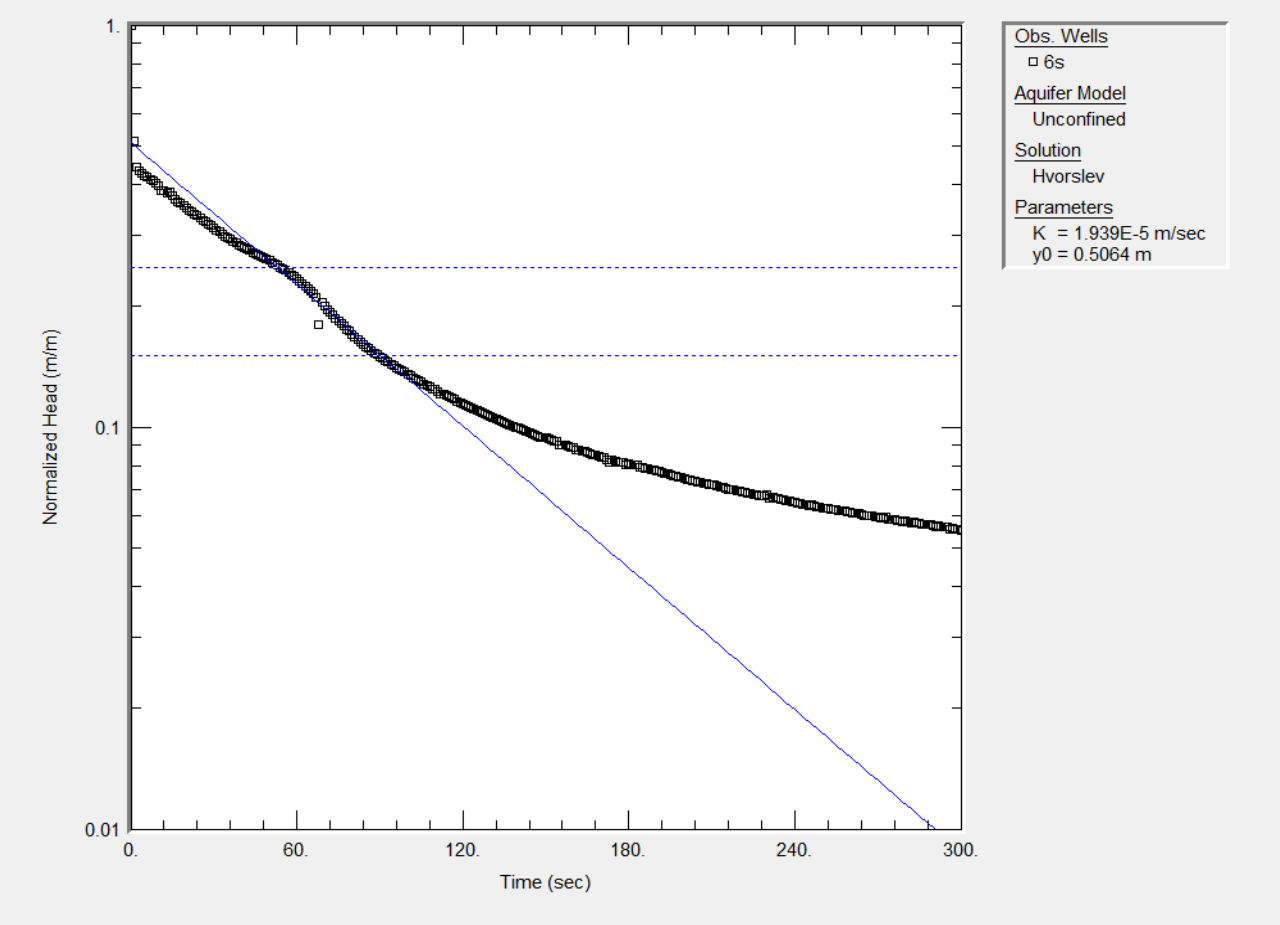
Hydrogeological Investigation
South Simpson (Headwaters of West Rainbow Creek),
Northeast corner of Coleraine Drive and Mayfield Road, Caledon, ON
Project No.: 2301130

Estimation of K by Slug Test, based on Dagan equation

Date:	June 8, 2023
Conducted by:	S. Patrick

Well Number:	MW6S	
Well Screen Bottom:	2.30	mbgs
Top of Pipe:	0.00	mags
Well Casing Diameter:	5.08	cm
Well Elevation:	231.4	masl
Static Water Level:	0.62	mbgs
$K = r^2\ln(L/R)/(2LTo) =$	**1.9×10^{-5}**	m/s

** this is the ground elevation



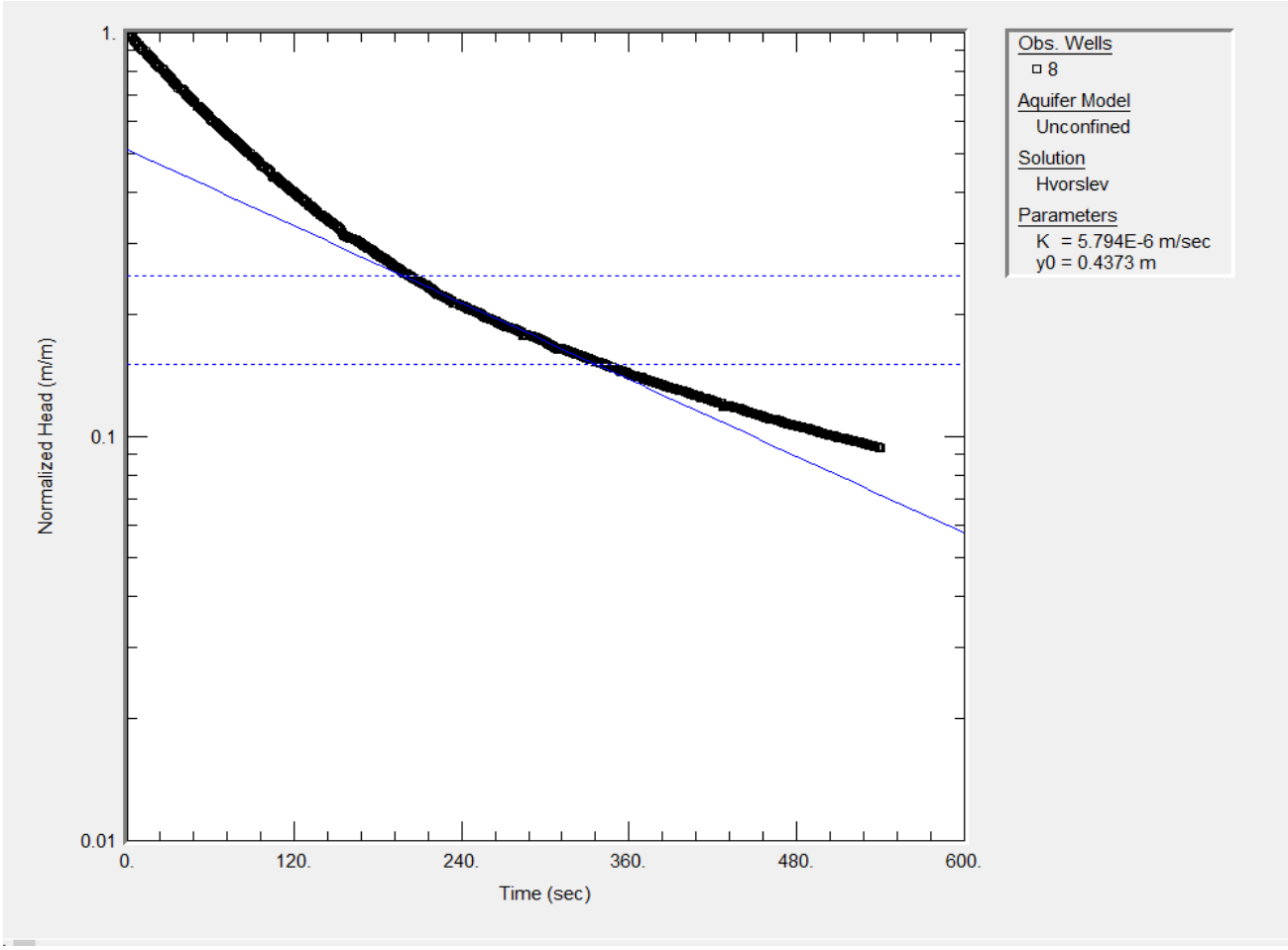
Hydrogeological Investigation
South Simpson (Headwaters of West Rainbow Creek),
Northeast corner of Coleraine Drive and Mayfield Road, Caledon, ON
Project No.: 2301130

Estimation of K by Slug Test, based on Horslev equation

Date:	June 8, 2023
Conducted by:	S. Patrick

Well Number:	MW8	
Well Screen Bottom:	6.10	mbgs
Top of Pipe:	0.00	mags
Well Casing Diameter:	5.08	cm
Well Elevation:	234.7	masl
Static Water Level:	1.99	mbgs
$K = r^2\ln(L/R)/(2LTo) =$	**$5.8x10^{-6}$**	m/s

** this is the ground elevation



Appendix E

Water Quality Laboratory Certificate Of Analysis And Chain Of Custody

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---

REPORT No. B23-03752 (i)

Report To:

GEI Consultants
647 Welham Rd, Unit 14,
Barrie ON L4N 0B7 Canada
Attention: Sarah Griffith

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:

P.O. NUMBER: 2301130
WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Cyanide	1	Kingston	kwe	13-Jun-23	A-CN-001 (k)	SM 4500CN
Anions	1	Holly Lane	pcu	14-Jun-23	A-IC-01 (o)	SM4110C
pH	1	Holly Lane	SYL	12-Jun-23	A-PH-01 (o)	SM 4500H
A - Wet Chem	1	Kingston	JWF	14-Jun-23	A-TPTKN-001 (N)(k)	E3516.2
A - Wet Chem	1	Kingston	JWF	14-Jun-23	A-TPTKN-001 (P)(k)	E3516.2
Total Suspended Solids	2	Kingston	mci	12-Jun-23	A-TSS-001 (k)	SM2540D
B - Bacteriological	1	Barrie	NME	09-Jun-23	B-EC-001 (b)	SM9222D
Comment	1	Default Site	CS	14-Jun-23	C-Arochlor Comment	-
BOD	1	Kingston	JWF	12-Jun-23	C-BOD-001 (k)	SM 5210B
SVOC	1	Kingston	esi	13-Jun-23	C-NAB-W-001 (k)	EPA 8270
Oil & Grease	1	Kingston	TMM	14-Jun-23	C-O&G-001 (k)	SM 5520
PCB's	1	Kingston	CS	14-Jun-23	C-PCB-03 K	EPA 8082
Phenolics (4-aap)	1	Kingston	kwe	14-Jun-23	C-PHEN-01 (k)	MOEE 3179
Chromium (VI)	2	Holly Lane	ST	15-Jun-23	D-CRVI-01 (o)	MOE E3056
Mercury	2	Holly Lane	APR	14-Jun-23	D-HG-02 (o)	SM 3112 B
Metals - ICP-OES	2	Holly Lane	aoz	16-Jun-23	D-ICP-01 (o)	SM 3120
Metals - ICP-MS	2	Holly Lane	TPR	14-Jun-23	D-ICPMS-01 (o)	EPA 200.8
Subcontracted	1	Default Site	CWp	29-Jun-23	S-Nonylphenols	Subcontract

Peel Sanitary/Storm - Peek Sanitary/Storm Sewer
Peel Sanitary Sewer - Peel Sanitary Sewer
Peel Storm Sewer - Peel Storm Sewer

Christine Burke
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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Barrie ON L4N 0B7 Canada
Attention: Sarah Griffith

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

	Client I.D.		MW4d	MW4d-F			Peel Sanitary/Storm	
	Sample I.D.		B23-03752-1	B23-03752-2			Peel Sanitary Sewer	Peel Storm Sewer
	Date Collected		08-Jun-23	08-Jun-23				
Parameter	**Units**	**R.L.**						
E coli	cfu/100mL	1	< 2					200
pH @25°C	pH Units		7.67				10.0	9.0
BOD(5 day)	mg/L	3	< 3				300	15
Cyanide (Total)	mg/L	0.005	< 0.005				2	0.02
Fluoride	mg/L	0.1	< 0.1				10	
Total Kjeldahl Nitrogen	mg/L	0.1	0.2				100	1
Oil and Grease-Anim/Veg. (Calculation)	mg/L	1.0	1.3				150	
Oil and Grease-Mineral	mg/L	1.0	< 1.0				15	
Oil & Grease-Total	mg/L	1.0	1.5					
Phenolics	mg/L	0.001	< 0.001				1.0	0.008
Phosphorus-Total	mg/L	0.01	0.04				10	0.4
Total Suspended Solids	mg/L	3	**380**	< 3			350	15
Aluminum	mg/L	0.01	0.48	0.07			50	
Hardness (as CaCO3)	mg/L	1	907	895				
Antimony	mg/L	0.0001	0.0002	0.0002			5	
Arsenic	mg/L	0.0001	0.0021	0.0013			1	0.02
Beryllium	mg/L	0.002	< 0.002	< 0.002				
Boron	mg/L	0.005	0.051	0.046				
Cadmium	mg/L	0.000015	0.000023	< 0.000015			0.7	0.008
Chromium	mg/L	0.001	0.001	< 0.001			5	0.08
Chromium (VI)	mg/L	0.001	< 0.001	< 0.001 [1]				
Cobalt	mg/L	0.0001	0.0016	0.0012			5	
Copper	mg/L	0.0001	0.0014	0.0002			3	0.05

Peel Sanitary/Storm - Peek Sanitary/Storm Sewer
Peel Sanitary Sewer - Peel Sanitary Sewer
Peel Storm Sewer - Peel Storm Sewer



Christine Burke
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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Attention: Sarah Griffith

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

	Client I.D.		MW4d	MW4d-F			Peel Sanitary/Storm	
	Sample I.D.		B23-03752-1	B23-03752-2			Peel Sanitary Sewer	Peel Storm Sewer
	Date Collected		08-Jun-23	08-Jun-23				
Parameter	**Units**	**R.L.**						
Iron (Total)	mg/L	0.005	1.82	0.123				
Lead	mg/L	0.00002	0.00039	0.00007			3	0.120
Manganese (Total)	mg/L	0.001	**0.203**	**0.175**			5	0.05
Mercury	mg/L	0.00002	< 0.00002	< 0.00002			0.01	0.0004
Molybdenum	mg/L	0.0001	0.0017	0.0017			5	
Nickel	mg/L	0.0002	0.0039	0.0029			3	0.08
Selenium	mg/L	0.001	0.001	0.002			1	0.02
Silver	mg/L	0.0001	< 0.0001	< 0.0001			5	0.12
Sulphate	mg/L	1	204				1500	
Thallium	mg/L	0.00005	< 0.00005	< 0.00005				
Tin	mg/L	0.05	< 0.05	< 0.05			5	
Titanium	mg/L	0.005	0.011	< 0.005			5	
Tungsten	mg/L	0.01	< 0.01	< 0.01				
Uranium	mg/L	0.00005	0.00661	0.00772				
Vanadium	mg/L	0.0001	0.0015	0.0007				
Zinc	mg/L	0.005	0.012	< 0.005			3	0.04
Zirconium	mg/L	0.003	< 0.003	< 0.003				
Poly-Chlorinated Biphenyls (PCB's)	mg/L	0.00005	< 0.00005				0.001	0.0004
Aroclor	-		-					
Nonylphenols	mg/L	0.001	< 0.001 [2]				0.02	
Nonylphenol Ethoxylates	mg/L	0.01	< 0.01 [2]				0.2	
Nonylphenol Monoethoxylate	µg/L	10	< 10 [2]					

Peel Sanitary/Storm - Peek Sanitary/Storm Sewer
Peel Sanitary Sewer - Peel Sanitary Sewer
Peel Storm Sewer - Peel Storm Sewer



Christine Burke
Lab Manager

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Fax: 705-252-5746

DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

	Client I.D.		MW4d	MW4d-F			Peel Sanitary/Storm	
	Sample I.D.		B23-03752-1	B23-03752-2			Peel Sanitary Sewer	Peel Storm Sewer
	Date Collected		08-Jun-23	08-Jun-23				
Parameter	**Units**	**R.L.**						
Nonylphenol Diethoxylate	µg/L	10	< 10 [2]					
Bis(2-ethylhexyl) Phthalate	mg/L	0.005	< 0.005				0.012	0.0088
Di-n-butyl Phthalate	mg/L	0.001	< 0.001				0.08	0.015

1. Chromium (VI) result is based on total Chromium
2. Subcontracted to SGS Lakefield

Peel Sanitary/Storm - Peek Sanitary/Storm Sewer
Peel Sanitary Sewer - Peel Sanitary Sewer
Peel Storm Sewer - Peel Storm Sewer



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Barrie ON L4N 8W8
Tel: 705-252-5743
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DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

Summary of Exceedances

Peel Sanitary Sewer

MW4d	Found Value	Limit
Total Suspended Solids (mg/L)	380	350

Peel Storm Sewer

MW4d	Found Value	Limit
Total Suspended Solids (mg/L)	380	15
Manganese (Total) (mg/L)	0.203	0.05
MW4d-F	Found Value	Limit
Manganese (Total) (mg/L)	0.175	0.05

Peel Sanitary/Storm - Peek Sanitary/Storm Sewer
Peel Sanitary Sewer - Peel Sanitary Sewer
Peel Storm Sewer - Peel Storm Sewer

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CERTIFICATE OF ANALYSIS

Final Report

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REPORT No. B23-03752 (i)

Rev. 1

Report To:

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647 Welham Rd, Unit 14,
Barrie ON L4N 0B7 Canada
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Barrie ON L4N 8W8
Tel: 705-252-5743
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DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:

P.O. NUMBER: 2301130
WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Chromium (VI)	2	Holly Lane	ST	15-Jun-23	D-CRVI-01 (o)	MOE E3056
Mercury	2	Holly Lane	APR	14-Jun-23	D-HG-02 (o)	SM 3112 B
Metals - ICP-OES	2	Holly Lane	aoz	16-Jun-23	D-ICP-01 (o)	SM 3120
Metals - ICP-MS	2	Holly Lane	TPR	14-Jun-23	D-ICPMS-01 (o)	EPA 200.8

PWQO - Provincial Water Quality Objectives
Interim PWQO - Interim PWQO
PWQO - Provincial Water Quality Objectives

Christine Burke
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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Final Report

C.O.C.: ---

REPORT No. B23-03752 (i)

Rev. 1

Report To:

GEI Consultants
647 Welham Rd, Unit 14,
Barrie ON L4N 0B7 Canada
Attention: Sarah Griffith

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

	Client I.D.		MW4d	MW4d-F			PWQO	
	Sample I.D.		B23-03752-1	B23-03752-2			Interim PWQO	PWQO
	Date Collected		08-Jun-23	08-Jun-23				
Parameter	**Units**	**R.L.**						
Hardness (as CaCO3)	mg/L	1	907	895				
Aluminum	µg/L	10	**480**	70			75	
Antimony	µg/L	0.1	0.2	0.2			20	
Arsenic	µg/L	0.1	2.1	1.3			5	5
Beryllium	µg/L	2	< 2	< 2				11
Boron	µg/L	5	51	46			200	
Cadmium	µg/L	0.015	0.023	< 0.015			0.1	0.2
Chromium	µg/L	1	1	< 1				
Chromium (VI)	µg/L	1	< 1	< 1 [1]				1
Cobalt	µg/L	0.1	**1.6**	**1.2**			0.9	
Copper	µg/L	0.1	1.4	0.2			5	
Iron (Total)	µg/L	5	**1820**	123				300
Lead	µg/L	0.02	0.39	0.07			1	5
Manganese (Total)	µg/L	1	203	175				
Mercury	µg/L	0.02	< 0.02	< 0.02				0.2
Molybdenum	µg/L	0.1	1.7	1.7			40	
Nickel	µg/L	0.2	3.9	2.9				25
Selenium	µg/L	1	1	2				100
Silver	µg/L	0.1	< 0.1	< 0.1				0.1
Thallium	µg/L	0.05	< 0.05	< 0.05			0.3	0.3
Tin	µg/L	50	< 50	< 50				
Titanium	µg/L	5	11	< 5				
Tungsten	µg/L	10	< 10	< 10			30	
Uranium	µg/L	0.05	**6.61**	**7.72**			5	

PWQO - Provincial Water Quality Objectives
Interim PWQO - Interim PWQO
PWQO - Provincial Water Quality Objectives

Christine Burke
Lab Manager

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Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

	Client I.D.		MW4d	MW4d-F			PWQO	
	Sample I.D.		B23-03752-1	B23-03752-2			Interim PWQO	PWQO
	Date Collected		08-Jun-23	08-Jun-23				
Parameter	**Units**	**R.L.**						
Vanadium	µg/L	0.1	1.5	0.7			6	
Zinc	µg/L	5	12	< 5			20	30
Zirconium	µg/L	3	< 3	< 3			4	

1 Chromium (VI) result is based on total Chromium

PWQO - Provincial Water Quality Objectives
Interim PWQO - Interim PWQO
PWQO - Provincial Water Quality Objectives

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Lab Manager

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DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

Summary of Exceedances

Interim PWQO

MW4d	Found Value	Limit
Uranium (µg/L)	6.61	5
Cobalt (µg/L)	1.6	0.9
Aluminum (µg/L)	480	75

MW4d-F	Found Value	Limit
Uranium (µg/L)	7.72	5
Cobalt (µg/L)	1.2	0.9

Provincial Water Quality Objectives

MW4d	Found Value	Limit
Iron (Total) (µg/L)	1820	300

PWQO - Provincial Water Quality Objectives
Interim PWQO - Interim PWQO
PWQO - Provincial Water Quality Objectives



Christine Burke
Lab Manager

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Attention: Sarah Griffith

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:

P.O. NUMBER: 2301130
WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
PHC(F2-F4)	1	Kingston	KPR	14-Jun-23	C-PHC-W-001 (k)	MOE E3421
VOC's	1	Richmond Hill	JE	12-Jun-23	C-VOC-02 (rh)	EPA 8260
PHC(F1)	1	Richmond Hill	JE	12-Jun-23	C-VPHW-01 (rh)	MOE E3421

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

Christine Burke
Lab Manager

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SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

	Client I.D. / Sample I.D. / Date Collected		MW4d B23-03752-1 08-Jun-23				O. Reg. 153 Tbl. 1 - GW (µg/L)	
Parameter	**Units**	**R.L.**						
Acetone	µg/L	30	< 30				2700	
Benzene	µg/L	0.5	< 0.5				0.5	
Bromodichloromethane	µg/L	2	< 2				2	
Bromoform	µg/L	5	< 5				5	
Bromomethane	µg/L	0.5	< 0.5				0.89	
Carbon Tetrachloride	µg/L	0.2	< 0.2				0.2	
Monochlorobenzene (Chlorobenzene)	µg/L	0.5	< 0.5				0.5	
Chloroform	µg/L	1	< 1				2	
Dibromochloromethane	µg/L	2	< 2				2	
Dichlorobenzene,1,2-	µg/L	0.5	< 0.5				0.5	
Dichlorobenzene,1,3-	µg/L	0.5	< 0.5				0.5	
Dichlorobenzene,1,4-	µg/L	0.5	< 0.5				0.5	
Dichlorodifluoromethane	µg/L	2	< 2				590	
Dichloroethane,1,1-	µg/L	0.5	< 0.5				0.5	
Dichloroethane,1,2-	µg/L	0.5	< 0.5				0.5	
Dichloroethylene,1,1-	µg/L	0.5	< 0.5				0.5	
Dichloroethene, cis-1,2-	µg/L	0.5	< 0.5				1.6	
Dichloroethene, trans-1,2-	µg/L	0.5	< 0.5				1.6	
Dichloropropane,1,2-	µg/L	0.5	< 0.5				0.5	
Dichloropropene, cis-1,3-	µg/L	0.5	< 0.5					
Dichloropropene, trans-1,3-	µg/L	0.5	< 0.5					

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

Christine Burke
Lab Manager

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Attention: Sarah Griffith

Caduceon Environmental Laboratories
112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 08-Jun-23
DATE REPORTED: 29-Jun-23
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

	Client I.D. / Sample I.D. / Date Collected		MW4d B23-03752-1 08-Jun-23				O. Reg. 153 Tbl. 1 - GW (µg/L)	
Parameter	**Units**	**R.L.**						
Dichloropropene 1,3-cis+trans	µg/L	0.5	< 0.5				0.5	
Ethylbenzene	µg/L	0.5	< 0.5				0.5	
Dibromoethane,1,2-(Ethylene Dibromide)	µg/L	0.2	< 0.2				0.2	
Hexane	µg/L	5	< 5				5	
Methyl Ethyl Ketone	µg/L	20	< 20				400	
Methyl Isobutyl Ketone	µg/L	20	< 20				640	
Methyl-t-butyl Ether	µg/L	2	< 2				15	
Dichloromethane (Methylene Chloride)	µg/L	5	< 5				5	
Styrene	µg/L	0.5	< 0.5				0.5	
Tetrachloroethane,1,1,1,2-	µg/L	0.5	< 0.5				1.1	
Tetrachloroethane,1,1,2,2-	µg/L	0.5	< 0.5				0.5	
Tetrachloroethylene	µg/L	0.5	< 0.5				0.5	
Toluene	µg/L	0.5	< 0.5				0.8	
Trichloroethane,1,1,1-	µg/L	0.5	< 0.5				0.5	
Trichloroethane,1,1,2-	µg/L	0.5	< 0.5				0.5	
Trichloroethylene	µg/L	0.5	< 0.5				0.5	
Trichlorofluoromethane	µg/L	5	< 5				150	
Vinyl Chloride	µg/L	0.2	< 0.2				0.5	
Xylene, m,p-	µg/L	1.0	< 1.0					
Xylene, o-	µg/L	0.5	< 0.5					
Xylene, m,p,o-	µg/L	1.1	< 1.1				72	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water



Christine Burke
Lab Manager

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SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

	Client I.D. / Sample I.D. / Date Collected		MW4d B23-03752-1 08-Jun-23				O. Reg. 153 Tbl. 1 - GW (µg/L)	
Parameter	**Units**	**R.L.**						
PHC F1 (C6-C10)	µg/L	25	< 25				420	
PHC F2 (>C10-C16)	µg/L	50	< 50				150	
PHC F3 (>C16-C34)	µg/L	400	< 400				500	
PHC F4 (>C34-C50)	µg/L	400	< 400				500	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

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Lab Manager

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SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: 2301130
WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

Christine Burke
Lab Manager

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GENERAL SAMPLE SUBMISSION FORM

CADUCEON ENVIRONMENTAL LABORATORIES

SAMPLES SUBMITTED TO: Kingston [ ] Ottawa [ ] Richmond Hill [ ] Barrie [X] Windsor [ ]

TESTING REQUIREMENTS: [ ] O'Reg 153/04 Table (1 - 9) [ ] O'Reg 406/19 Table (1 - 9.1) [ ] RPI [ ] Coarse [ ] MISA [X] Other: [ ] ICC [ ] Medium/Fine [ ] PWQO Region of Peel Combined Sewer [ ] Record of Site SPLP Table (1-9.1) [ ] Agricultural [ ] O'Reg 558 TCLP [ ] Landfill Monitoring

REPORT NUMBER (Lab Use): B23-03752

Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations? [ ] Yes [✓] No (If yes, submit all Drinking Water Samples on a Drinking Water Chain of Custody)

Organization: GEI Consultants Ltd	Address: 647 Welham Road, Unit 14, Barrie, ON, L4N 0B7	Invoicing Address (if different):
Contact: S Griffith		
Tel: 226-791-5382	Fax:	
Email: sgriffith@geiconsultants.com	Quote #:	Project Name or #: 2301130
Additional Info (email, cell, etc):	P.O. #:	Additional Info:

ANALYSES REQUESTED: Region of Peel Combined Sewer; E. Coli; Metals; TSS; PHCs; VOCs; Suspected Highly Contaminated

TURNAROUND SERVICE REQUESTED (see back page) *Must be arranged in advance

[ ]	Platinum*	200% Surcharge
[ ]	Gold*	100% Surcharge
[ ]	Silver	50% Surcharge
[ ]	Bronze	25% Surcharge
[X]	Standard	5-7 days
[ ]	Specific Date:	

* Sample Matrix Legend: WW=Waste Water, SW=Surface Water, GW=Groundwater, LS=Liquid Sludge, SS=Solid Sludge, S=Soil, Sed=Sediment, PC=Paint Chips, F=Filter, O=Oil

Lab No.	Sample Source and/or Sample Identification	S.P.L. (Reference)	Sample Matrix*	Date Collected (yy-mm-dd)	Time Collected	Indicate Test For Each Sample By Using A Check Mark In The Box Provided	X	Field: pH	Field: Temp.	# Bottles/ Sample	Field Filtered Y/N
1	MW 4d		GW	23-06-08	PM	X X XX XX				16	N
2	MW4d-F		" "	"	"	XX				4	Y
	Bacti → B (EC)										
	1x 1L amber (w NaHSO4) → SGS (NP/NPE)										
	vials → RH										
	K: 2x 1L amber unpres. + 1x O.I & Grease + CN + nut + phenols + 500ml (PHC) amber + 2x Genchem										(1x Filtered)
	O: 1x Genchem + metals +	CrVI +	Hg								

SAMPLE SUBMISSION INFORMATION

	Sampled by:	Submitted by:
Print:	SCOTT PATRICK	SCOTT PATRICK
Sign:		
	26-06-08 (Date (yy-mm-dd) / Time)	26-06-08 (Date (yy-mm-dd) / Time)

SHIPPING INFORMATION: Courier (Client account) [ ] Courier (Cadurcon account) [ ] Drop Off [X] Cadurcon (Pick-up) [ ] Invoice # of Pieces

REPORTING / INVOICING: Report by Fax [ ] Report by Email [X] Invoice by Email [X] Invoice by Mail [ ]

SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)

Received By (print):	N Thiel	Signature:	Nit
Date Received (yy-mm-dd):	23-06-08	Time Received:	16:25
Laboratory Prepared Bottles:	[✓] Yes [ ] No		
Sample Temperature °C:	9.0	Labeled by:	BA

Comments:

Page 1 of 1

G

CofC Oct 2021 Revision No. 24

Appendix F

Preliminary Dewatering Calculations

Construction Dewatering Rate Estimate

Temporary Construction Dewatering Rate Estimates

Description	Symbol	Values	Unit	Explanation
Input Data				
Lowest Ground Elevation		230.4	m asl	
Highest Groundwater Elevation		232.7	m asl	
Lowest Proposed Excavation		227.4	m asl	assumed 3 m below excavation
Aquifer Bottom		223.4	m asl	Assume 2.0 m below target water level
Hydraulic Conductivity	K	1.90E-05	m/s	Geometric mean K
Length of Excavation	x	45	m	Assumed based on typical scenario
Width of Excavation	a	25	m	Assumed based on typical scenario
Output				
Top of Aquifer		230.4	m asl	highest measured groundwater level
Target Water Level		226.4	m asl	Assume 1.0 m below lowest proposed excavation
Water Level above aquifer bottom before dewatering	H	9.3	m	
Target Water Level above above aquifer bottom	h	3.0	m	
Radius of Influence	L (R_0)	81.73	m	Sichardt Equation
Precipitation		281250	L/day	25 mm rain event
Construction Dewatering Flow Rate - Steady State	Q	215.3	m^3/day	Construction Dewatering Flow - Dupuit Equation
Maximum Construction Flow Rate (safety factor of 2)	2Q	430.6	m^3/day	

Construction Dewatering Flow Rate - Steady State	Q	**215,300**	L/day
Maximum Construction Flow Rate (safety factor of 2)	2Q	**430,600**	L/day
Maximum Construction Flow Rate (safety factor of 2) with 25 mm rainfall event	2Q	**711,850**	L/day

Construction Dewatering Rate Estimate

Temporary Construction Dewatering Rate Estimates

Description	Symbol	Values	Unit	Explanation
Input Data				
Lowest Ground Elevation		230.4	m asl	
Highest Groundwater Elevation		232.7	m asl	
Lowest Proposed Excavation		225.9	m asl	4.5 mbgs
Aquifer Bottom		223.4	m asl	Assume 2.0 m below target water level
Hydraulic Conductivity	K	1.90E-05	m/s	Geometric mean K
Length of Excavation	x	50	m	Assumed based on typical scenario
Width of Excavation	a	4	m	Assumed based on typical scenario
Output				
Top of Aquifer		230.4	m asl	Highest measured groundwater level
Target Water Level		224.9	m asl	Assume 1.0 m below lowest proposed excavation
Water Level above aquifer bottom before dewatering	H	9.3	m	
Target Water Level above above aquifer bottom	h	1.5	m	
Radius of Influence	L (R_0)	101.34	m	Sichardt Equation
Precipitation		43750	L/day	25 mm rain event
Construction Dewatering Flow Rate - Steady State	Q	144.4	m^3/day	Construction Dewatering Flow - Dupuit Equation
Maximum Construction Flow Rate (safety factor of 2)	2Q	288.8	m^3/day	

Construction Dewatering Flow Rate - Steady State	Q	**144,400**	L/day
Maximum Construction Flow Rate (safety factor of 2)	2Q	**288,800**	L/day
Maximum Construction Flow Rate (safety factor of 2) with 25 mm rainfall event	2Q	**332,550**	L/day

Appendix G

Water Level Monitoring Technical Memo

Technical Memorandum

647 Welham Road, Unit 14 ● Barrie, ON, L4N 1Y2 ● +1 800-810-3281

To: Simpson Road Landowners Group Inc. c/o Helen Mihailidi

From: Geoff White, P.Eng

Date: June 20, 2024

Re: Water Level Monitoring Letter
South Simpson (Headwater of West Rainbow Creek), Block Plan and Master Environmental Servicing Plan Update
Caledon, Ontario

Project No.: 2301130

It is becoming a common requirement by Municipalities and Conservation Authorities that potential site developments provide an assessment of seasonal variation in groundwater elevations throughout a typical year. This is commonly provided through site-specific measured groundwater level data, sometimes including corresponding surface water level data to examine groundwater-surface water connectivity with the shallow groundwater table.

Measurements also aid in determining the degree of fluctuation seasonally in the local groundwater table, which aids in providing representative calculations of construction dewatering requirements and provides confidence that basement levels and Low Impact Development (LID) features can be designed and placed to function above the groundwater table.

GEI Consultants Canada (GEI) was retained to conduct monthly groundwater levels within the monitoring wells previously installed on site to establish a seasonal high groundwater elevation for use in design. This memo summarizes groundwater measurements taken between June 2023 and June 2024 to capture groundwater fluctuations and the seasonal high groundwater table, most commonly observed during the spring months. The site boundary and monitoring locations are shown in Appendix A.

Further Hydrogeologic characterization and detail on the hydraulic conditions of the site, as prepared by GEI, is provided in the following report:

- *"Hydrogeological Investigation – South Simpson (Headwaters of West Rainbow Creek), Block Plan and Master Environmental Servicing Plan Update"*. Northern corner of Coleraine Drive and Mayfield Road, Caledon, Ontario" Project No.: 2301130, dated October 11, 2023.

This technical memorandum was prepared as a supplementary document to the original hydrogeological investigation noted above. This document summarizes the results of the long-term monitoring of groundwater levels at eight (8) monitoring wells, which included two (2) nested wells (4D/4S and 6D/6S).

The monitoring program also included monitoring surface water levels at two (2) staff gauges instrumented with data loggers to assess baseflow conditions. Low baseflow conditions are commonly evaluated during the seasonal low surface water period, in later summer months.

All can be used to confirm hydrogeological engineering recommendations for the proposed development and evaluate surface water depths needed to maintain (or improve) ecological functioning in the current watercourse and planned realignment. The construction details of each monitoring well and staff gauge are presented in Table 1.

Table 1: Monitoring Well + Staff Gauge Placement Details

Borehole / Monitoring Well	Ground Surface Elevation (m)	Well Screen Location (Top - Bottom)				Material Screened
		Depth (m bgs)		Elev. (m)		
BH/MW 1	233.8	4.6	6.1	229.2	227.7	Clayey Silt
BH/MW 2	233.3	4.6	6.1	--	--	Clayey Silt
BH/MW 3	233.4	4.6	6.1	228.8	227.3	Sandy Clayey Silt
BH/MW 4D	230.4	0.8	2.3	229.6	228.1	Clayey Silt
BH/MW 4S	230.4	4.6	6.1	225.8	224.3	Clayey Silt
BH/MW5	231.2	4.6	6.1	226.6	225.1	Clayey Silt
BH/MW 6D	231.4	0.8	2.3	230.6	229.1	Clayey Silt
BH/MW 6S	231.4	4.6	6.1	226.8	225.3	Clayey Silt Glacial Till
BH /MW 8	231.7	4.6	6.1	227.1	225.6	Clayey Silt Glacial Till
Staff Gauge						
SG 4	227.7	-1.0	0.0	228.7	227.7	at Ground Surface
SG 6	229.4	-1.0	0.0	230.4	229.4	at Ground Surface

***Note**: Ground surface elevations were surveyed by GEI with a Topcon FC – 5000 GPS Survey Unit (referencing NAD 83 geodetic datum).

Groundwater level measurements were taken directly using a manual water level reader in each of the eight (8) monitoring wells installed on site. One monitoring well (BH/MW 2) was rendered inaccessible before the start of monitoring. Nested Well (BH/MW 6D/6S) was also obscured during the monitoring period such that readings were only possible for a portion of the monitoring program. BH/MW 8 was inundated during the February 2024 site visit, and also rendered inaccessible at that time. Two manual measurement periods at SG 4 were obstructed due to seasonal overgrowth. These variable conditions indicate possible perched groundwater, lags in vadose zone infiltration processes due to fine grained / pavement structures, and / or the influence of snow removal and accumulation across the site. Data are presented as Water Depth and Elevation readings in Appendix B.

A minimum of four (4) months of groundwater monitoring was conducted within the expected spring freshet period (which is typically when the highest groundwater elevations occur) along with an additional eight (8) monthly readings for a total of twelve (12) direct groundwater level measurements. Data loggers were included as part of the installation of SG 4 and SG 6. Data were downloaded routinely as part of the manual monitoring program. Loggers were removed in November, prior to freezing temperatures in which data were downloaded a final time. Graphs of the measured groundwater elevations and staff gauges are presented in Appendix C.

The monitoring program also included monitoring surface water levels at two (2) staff gauges instrumented with data loggers to assess baseflow conditions. Low baseflow conditions are commonly evaluated during the seasonal low surface water period, in later summer months.

All can be used to confirm hydrogeological engineering recommendations for the proposed development and evaluate surface water depths needed to maintain (or improve) ecological functioning in the current watercourse and planned realignment. The construction details of each monitoring well and staff gauge are presented in Table 1.

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BH/MW 2	233.3	4.6	6.1	--	--	Clayey Silt
BH/MW 3	233.4	4.6	6.1	228.8	227.3	Sandy Clayey Silt
BH/MW 4D	230.4	0.8	2.3	229.6	228.1	Clayey Silt
BH/MW 4S	230.4	4.6	6.1	225.8	224.3	Clayey Silt
BH/MW5	231.2	4.6	6.1	226.6	225.1	Clayey Silt
BH/MW 6D	231.4	0.8	2.3	230.6	229.1	Clayey Silt
BH/MW 6S	231.4	4.6	6.1	226.8	225.3	Clayey Silt Glacial Till
BH /MW 8	231.7	4.6	6.1	227.1	225.6	Clayey Silt Glacial Till
Staff Gauge						
SG 4	227.7	-1.0	0.0	228.7	227.7	at Ground Surface
SG 6	229.4	-1.0	0.0	230.4	229.4	at Ground Surface

***Note**: Ground surface elevations were surveyed by GEI with a Topcon FC – 5000 GPS Survey Unit (referencing NAD 83 geodetic datum).

Groundwater level measurements were taken directly using a manual water level reader in each of the eight (8) monitoring wells installed on site. One monitoring well (BH/MW 2) was rendered inaccessible before the start of monitoring. Nested Well (BH/MW 6D/6S) was also obscured during the monitoring period such that readings were only possible for a portion of the monitoring program. BH/MW 8 was inundated during the February 2024 site visit, and also rendered inaccessible at that time. Two manual measurement periods at SG 4 were obstructed due to seasonal overgrowth. These variable conditions indicate possible perched groundwater, lags in vadose zone infiltration processes due to fine grained / pavement structures, and / or the influence of snow removal and accumulation across the site. Data are presented as Water Depth and Elevation readings in Appendix B.

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Tables 2 and 3 below show the highest groundwater elevation measured for each of the monitoring wells. These are based on the monthly groundwater level measurements recorded by GEI during this monitoring period and are to be considered as the maximum values to use during design.

Variance across the site and within the Nested Well measurements suggests the presence of local differences and/or seasonal lags due to potential variability in hydraulic and soil properties across the site or differences in snowpack accumulation. These may be highly localized or could reflect a more regional influence. Some water levels and locations are more dynamic than others due to the nature and role of the immediate substrate in the local hydrologic regime. While a more formal analysis of these processes is outside the scope of the current investigation, it is understood that proposed natural channel re-alignment efforts are intended to improve the level of interaction of West Rainbow Creek Tributary with the surrounding subsurface system.

Table 2: Highest Water Levels for Borehole / Monitoring Wells

Borehole / Monitoring Well	Ground Surface Elevation (m)	Highest Water Levels		Month Observed	Material Screened
		Depth (m bgs)	Elevation (m asl)		
BH/MW 1	233.8	2.68	231.12	April, 2024	Clayey Silt
BH/MW 2	233.3	-	-	-	Clayey Silt
BH/MW 3	233.4	0.66	232.74	April, 2024	Sandy Clayey Silt
BH/MW 4D	230.4	1.74	228.66	June, 2023	Clayey Silt
BH/MW 4S	230.4	0.06	230.34	June, 2024	Clayey Silt
BH/MW5	231.2	0.11	231.09	June, 2023	Clayey Silt
BH/MW 6D	231.4	1.25	230.15	December, 2023	Clayey Silt
BH/MW 6S	231.4	0.35	231.05	October, 2023	Clayey Silt Glacial Till
BH /MW 8	231.7	1.67	230.03	April, 2024	Clayey Silt Glacial Till

Table 3: Lowest Water Levels for West Rainbow Creek Tributary

Staff Gauge	Ground Surface Elevation (m)	Lowest Water Levels		Month Observed	Gauged Feature
		Depth (m bgs)	Elevation (m asl)		
SG 4	227.7	0.13	227.57	October, 2023	West Rainbow Creek Tributary
SG 6	229.4	0.16	229.24	August, 2023	West Rainbow Creek Tributary

Based on the collected measurements, the Seasonal High Groundwater Level was observed to occur during spring months (April to June) and show some variation across the site. The location map included in Appendix A shows highest groundwater elevations at each location with notes on seasonal variation.

Further, based on the collected measurements, the Seasonal Low Surface Water Level was observed to occur in late summer to early fall months (August to October).The location map included in Appendix A shows minimum groundwater elevations at each location with notes on seasonal variation.

We trust this report and the information presented is sufficient for your present purposes. If you have any questions, or when we may be of further assistance, please do not hesitate to contact our office.

Regards,

GEI Consultants Canada Ltd.

Prepared By:

Sarah Beatty, PhD
Hydrogeologic Project Manager

Reviewed By:



Kimberly Gilder, P.Geo.
Senior Hydrogeologist

SB/KG:sb
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Appendices

Appendix A	Water Level Monitoring Map
Appendix B	Monthly Water Level Measurements
Appendix C	Water Monitoring Graphs

Appendix A - Water Level Monitoring Map



NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2024, © Caledon Open Data, 2024.
3. Orthoimagery © First Base Solutions, 2024. Imagery taken in 2022.

Legend

- Subject Area
- Watercourse
- Road

Monitoring Type

- Borehole / Monitoring Well
- Nested Wells
- Staff Gauge

Maximum groundwater and Minimum surface water elevations shown in masl

N

0 50 100 m

1:5,000

Natural Heritage, Geotechnical, Hydrogeological and Civil Services - South Simpson (Headwaters of West Rainbow Creek), Caledon, Master Environmental Servicing Plan

Simpson Road Landowners Group Inc.

GEI Consultants

WATER LEVEL MONITORING (AERIAL)

Project 2301130 | June 2024 | Appendix A

Appendix B – Monthly Water Level Measurements

Monitoring Location	Groundwater and Surface Water Depth (mbgs)														
	7-Jun-23	10-Jul-23	22-Aug-23	20-Sep-23	31-Oct-23	22-Nov-24	20-Dec-23	31-Jan-24	20-Feb-24	12-Mar-24	22-Apr-24	3-Jun-24	Min Depth	Max Depth	Range
BH1	4.69	2.74	2.78	2.89	3.11	3.25	3.27	3.05	2.96	2.73	2.68	2.697	2.68	4.69	2.01
BH2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	1.28	1.59	1.35	1.64	2.18	2.47	2.83	1.64	1.11	0.83	0.66	0.836	0.66	2.83	2.17
BH-4D	1.74	2.32	2.46	2.75	3.04	2.97	2.88	2	2.2	1.97	1.9	1.998	1.74	3.04	1.3
BH-4S	1.12	0.9	1.03	1.37	1.53	1.07	0.97	0.06	0.48	0.1	0.18	0.6	0.06	1.53	1.47
BH5	1.31	0.32	0.48	0.87	1.21	0.98	0.59	0.16	0.58	0.26	0.22	0.108	0.108	1.31	1.202
BH-6D	1.25	2.24	1.82	1.51	1.465	-	1.47	-	-	-	-	-	1.25	2.24	0.99
BH-6S	0.54	0.38	0.44	0.66	0.42	-	0.35	-	-	-	-	-	0.35	0.66	0.31
BH8	2.04	1.98	1.96	1.95	2	2.05	2.27	1.67	*	2.19	2.29	2.038	1.67	2.29	0.62
SG4	0.185	0.19	-	0.17	0.125	0.17	0.18	0.19	0.198	0.23	0.215	-	0.125	0.23	0.11
SG6	0.17	0.185	0.16	0.17	0.265	0.325	0.32	0.348	0.32	0.325	0.315	0.315	0.16	0.348	0.19

* flushmount well submerged, reading not possible

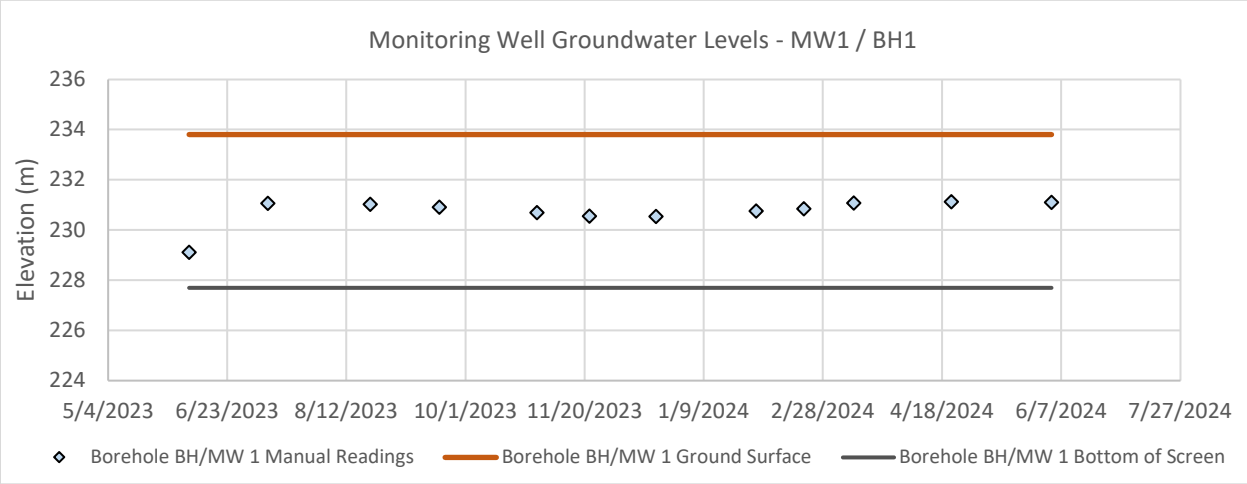
- obscured or inaccessible, readings not possible

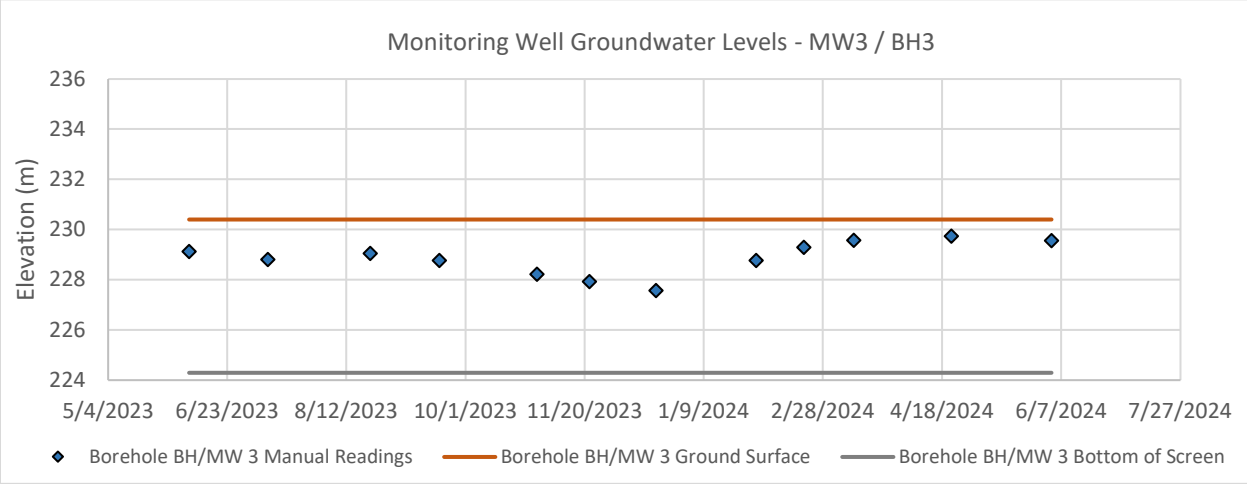
Staff Gauge readings are to be read as "Depth of Water, Above Ground Surface"

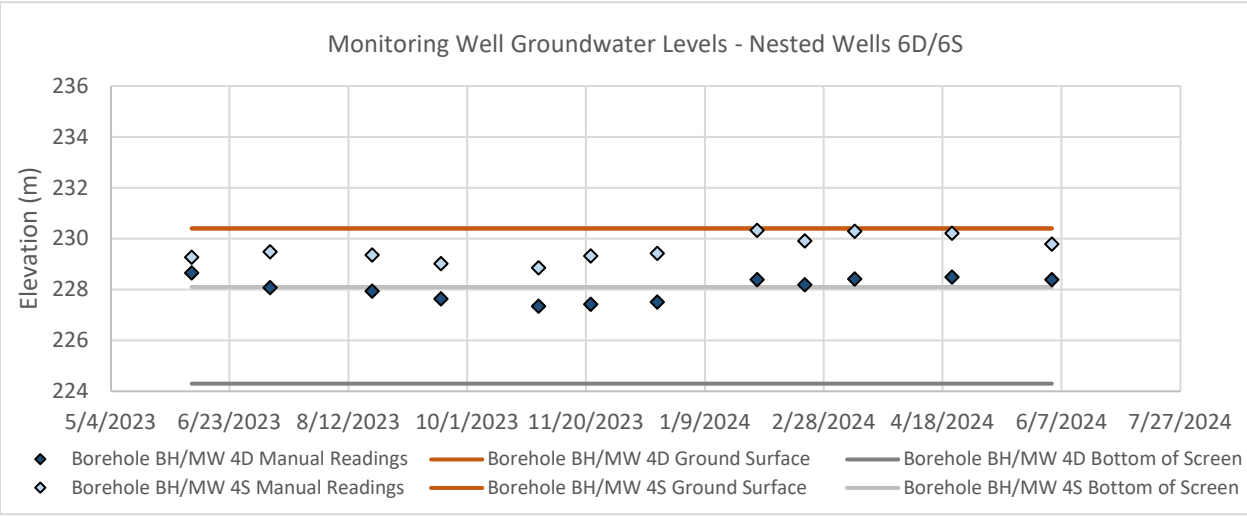
Monitoring Location	Groundwater and Surface Water Elevations (masl)														
	7-Jun-23	10-Jul-23	22-Aug-23	20-Sep-23	31-Oct-23	22-Nov-24	20-Dec-23	31-Jan-24	20-Feb-24	12-Mar-24	22-Apr-24	3-Jun-24	Max Elevation	Min Elevation	Range
BH1	229.10	231.05	231.01	230.90	230.68	230.54	230.52	230.74	230.83	231.06	231.11	231.09	231.11	229.10	2.01
BH2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	232.03	231.72	231.96	231.67	231.13	230.84	230.48	231.67	232.20	232.48	232.65	232.47	232.65	230.48	2.17
BH-4D	228.67	228.09	227.95	227.66	227.37	227.44	227.53	228.41	228.21	228.44	228.51	228.41	228.67	227.37	1.30
BH-4S	229.25	229.47	229.34	229.00	228.84	229.30	229.40	230.31	229.89	230.27	230.19	229.77	230.31	228.84	1.47
BH5	229.88	230.87	230.71	230.32	229.98	230.21	230.60	231.03	230.61	230.93	230.97	231.08	231.08	229.88	1.20
BH-6D	230.17	229.18	229.60	229.91	229.96	-	229.95	-	-	-	-	-	230.17	229.18	0.99
BH-6S	230.88	231.04	230.98	230.76	231.00	-	231.07	-	-	-	-	-	231.07	230.76	0.31
BH8	229.70	229.76	229.78	229.79	229.74	229.69	229.47	230.07	*	229.55	229.45	229.70	230.07	229.45	0.62
SG4	227.89	227.89	-	227.87	227.83	227.87	227.88	227.89	227.90	227.93	227.92	-	227.93	227.83	0.10
SG6	229.57	229.59	229.56	229.57	229.67	229.73	229.72	229.75	229.72	229.73	229.72	229.72	229.75	229.56	0.19

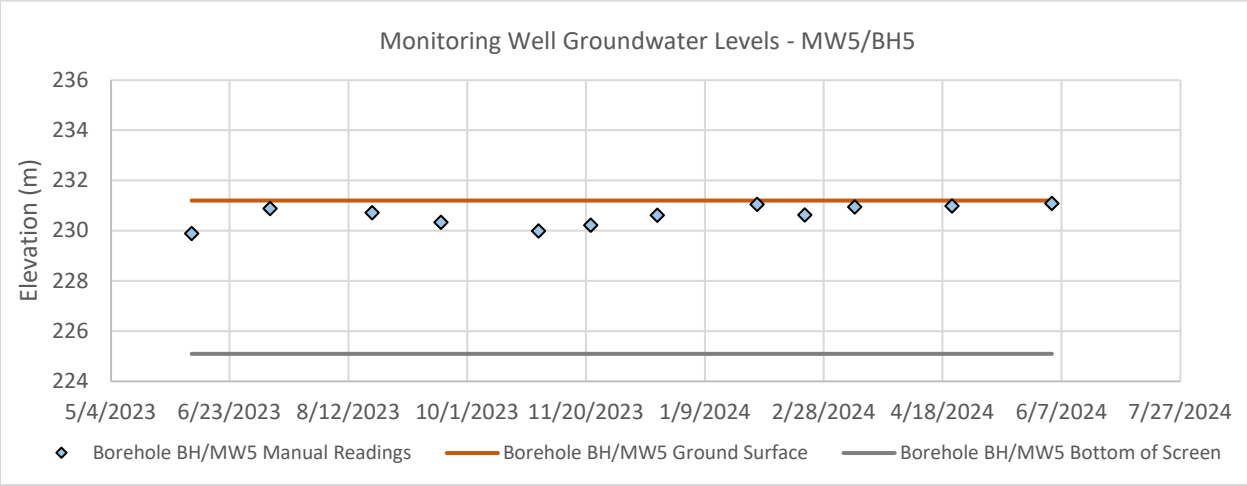
Appendix C – Water Monitoring Graphs

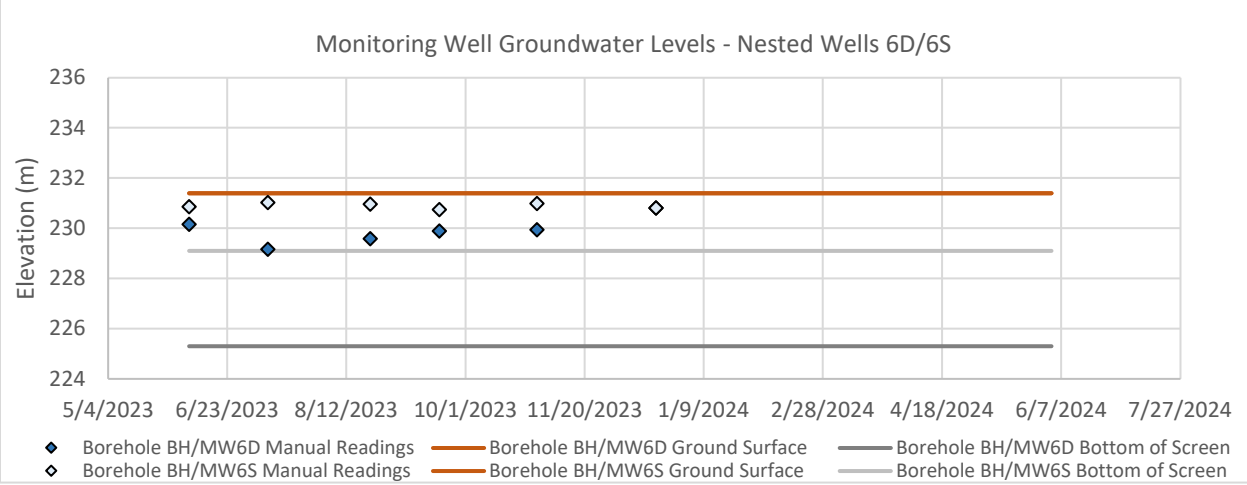
C.1 Groundwater Elevation Monitoring Graphs

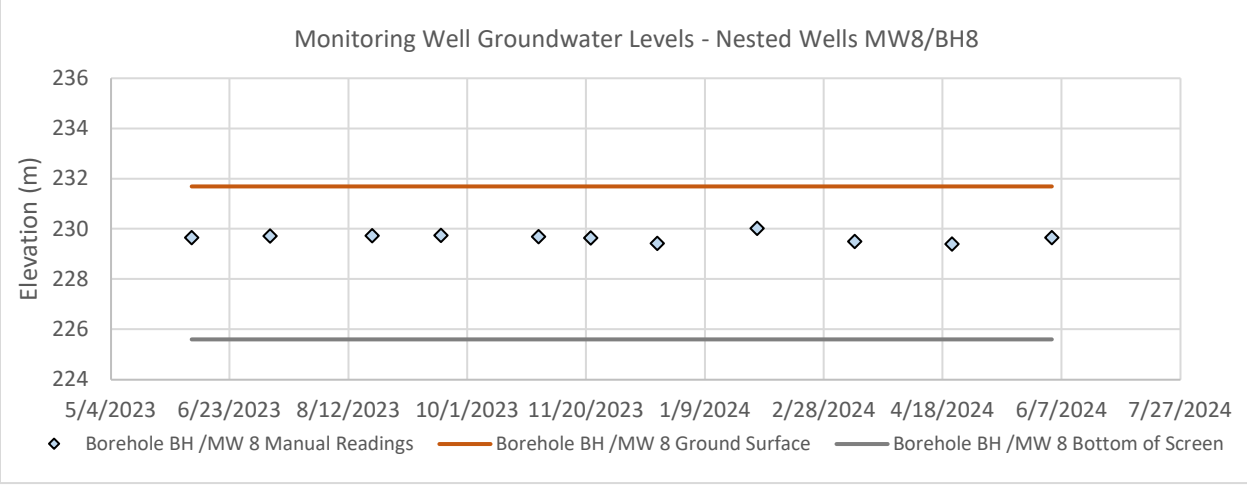




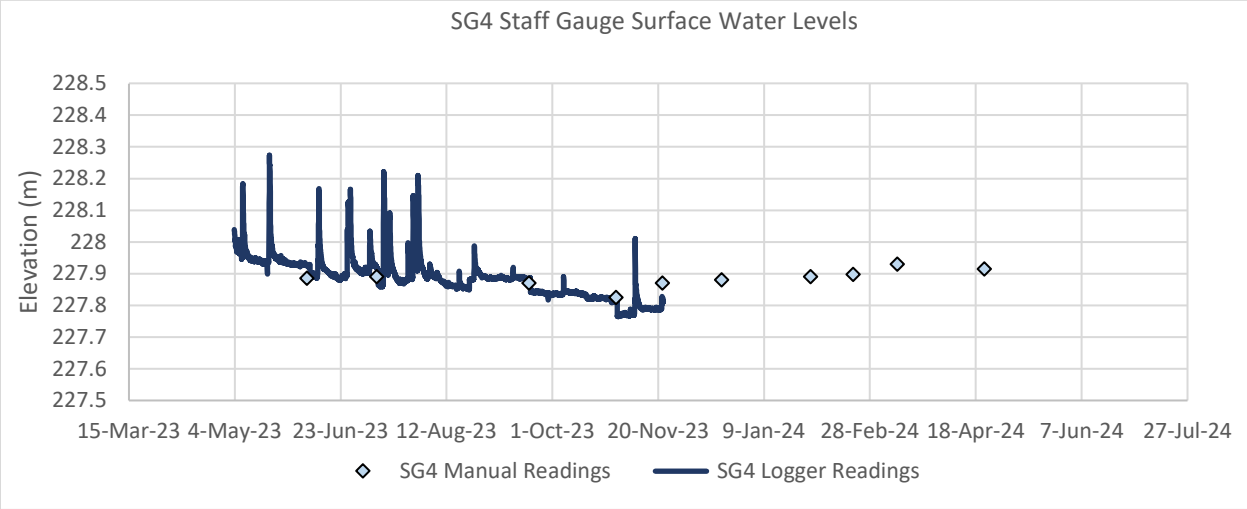


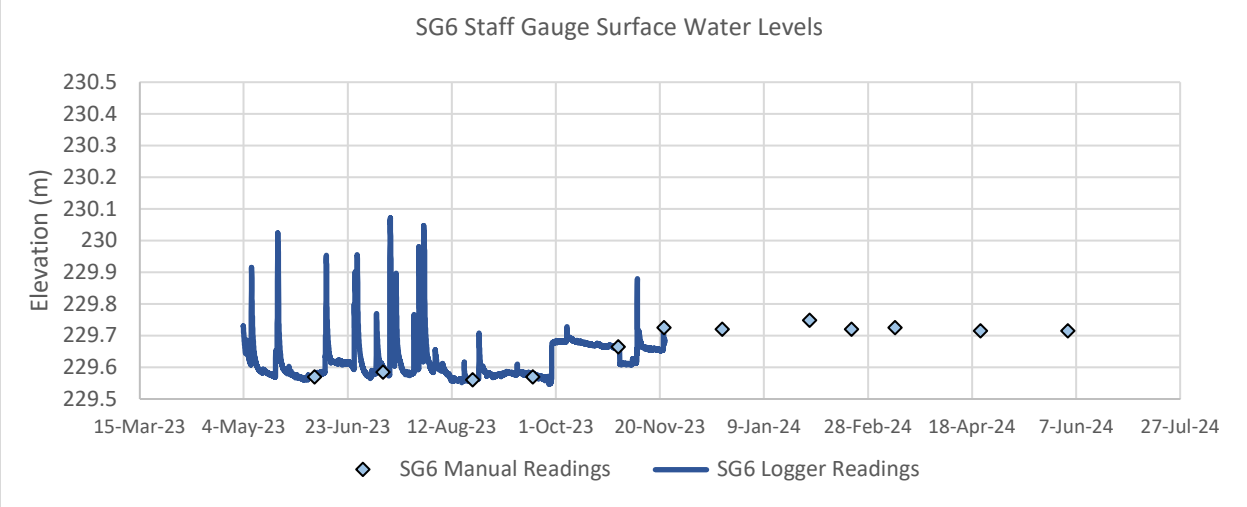

Monitoring Well Groundwater Levels - MW5/BH5
Elevation (m)
236
234
232
230
228
226
224
5/4/2023
6/23/2023
8/12/2023
10/1/2023
11/20/2023
1/9/2024
2/28/2024
4/18/2024
6/7/2024
7/27/2024
Borehole BH/MW5 Manual Readings
Borehole BH/MW5 Ground Surface
Borehole BH/MW5 Bottom of Screen


Monitoring Well Groundwater Levels - Nested Wells 6D/6S
Elevation (m)
236
234
232
230
228
226
224
5/4/2023
6/23/2023
8/12/2023
10/1/2023
11/20/2023
1/9/2024
2/28/2024
4/18/2024
6/7/2024
7/27/2024
Borehole BH/MW6D Manual Readings
Borehole BH/MW6D Ground Surface
Borehole BH/MW6D Bottom of Screen
Borehole BH/MW6S Manual Readings
Borehole BH/MW6S Ground Surface
Borehole BH/MW6S Bottom of Screen


Monitoring Well Groundwater Levels - Nested Wells MW8/BH8
Elevation (m)
236
234
232
230
228
226
224
5/4/2023
6/23/2023
8/12/2023
10/1/2023
11/20/2023
1/9/2024
2/28/2024
4/18/2024
6/7/2024
7/27/2024
Borehole BH /MW 8 Manual Readings
Borehole BH /MW 8 Ground Surface
Borehole BH /MW 8 Bottom of Screen

C.2 Surface Water Elevation Monitoring Graphs





Appendix D

Stormwater Management

D.1: Background Information

D.2: Existing Flows Calculations

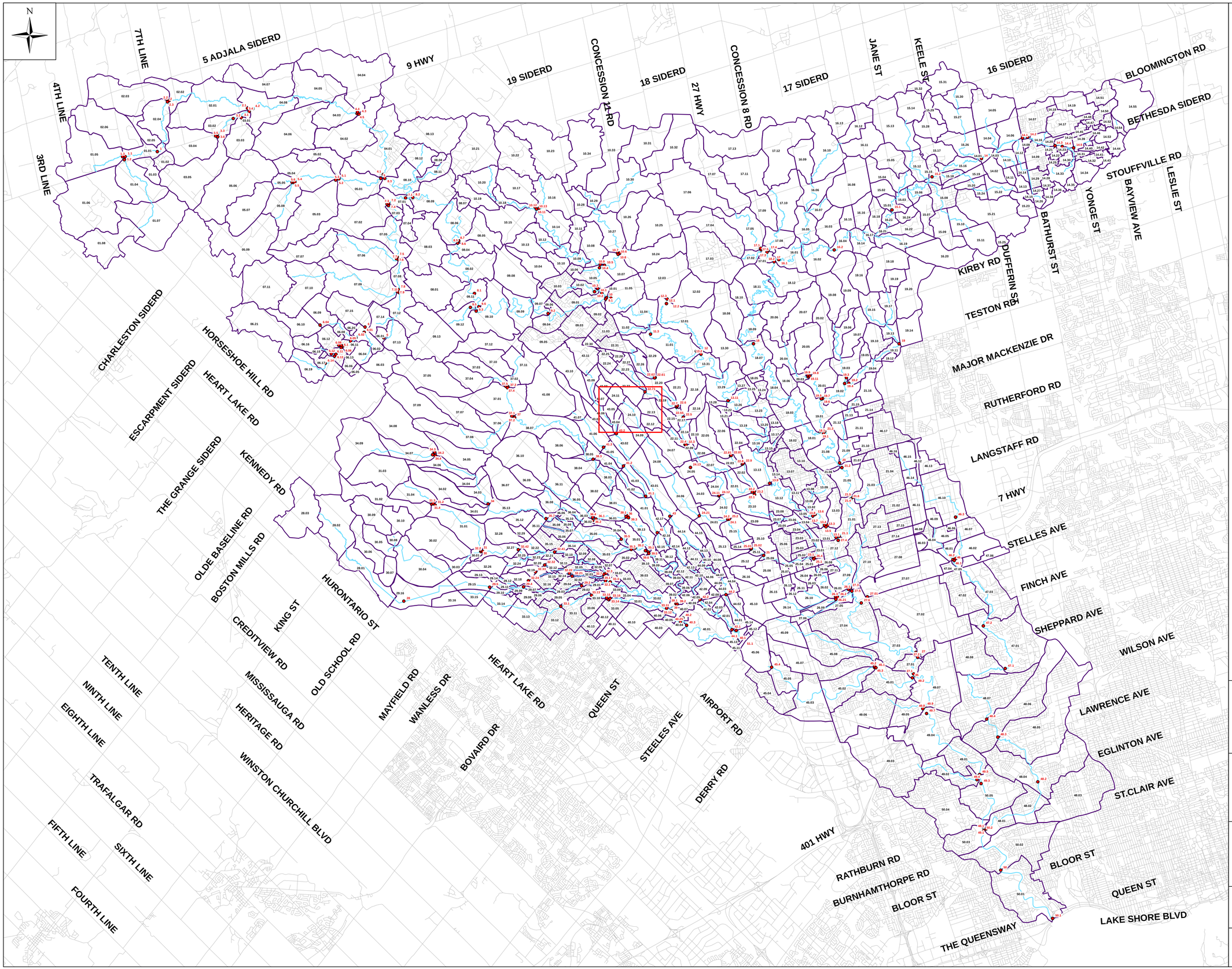
D.3: Draining to Extended SWMP Box Culvert Outlet and Channel

D.4: Draining to Existing Storm Sewers

D.5: Draining to Existing Pond

D.6: Water Balance Calculations

D.1. Background Information



Legend

- Flow Node
- General River
- Subcatchment

TORONTO AND REGION Conservation for The Living City

CIVICA

Humber River Hydrology

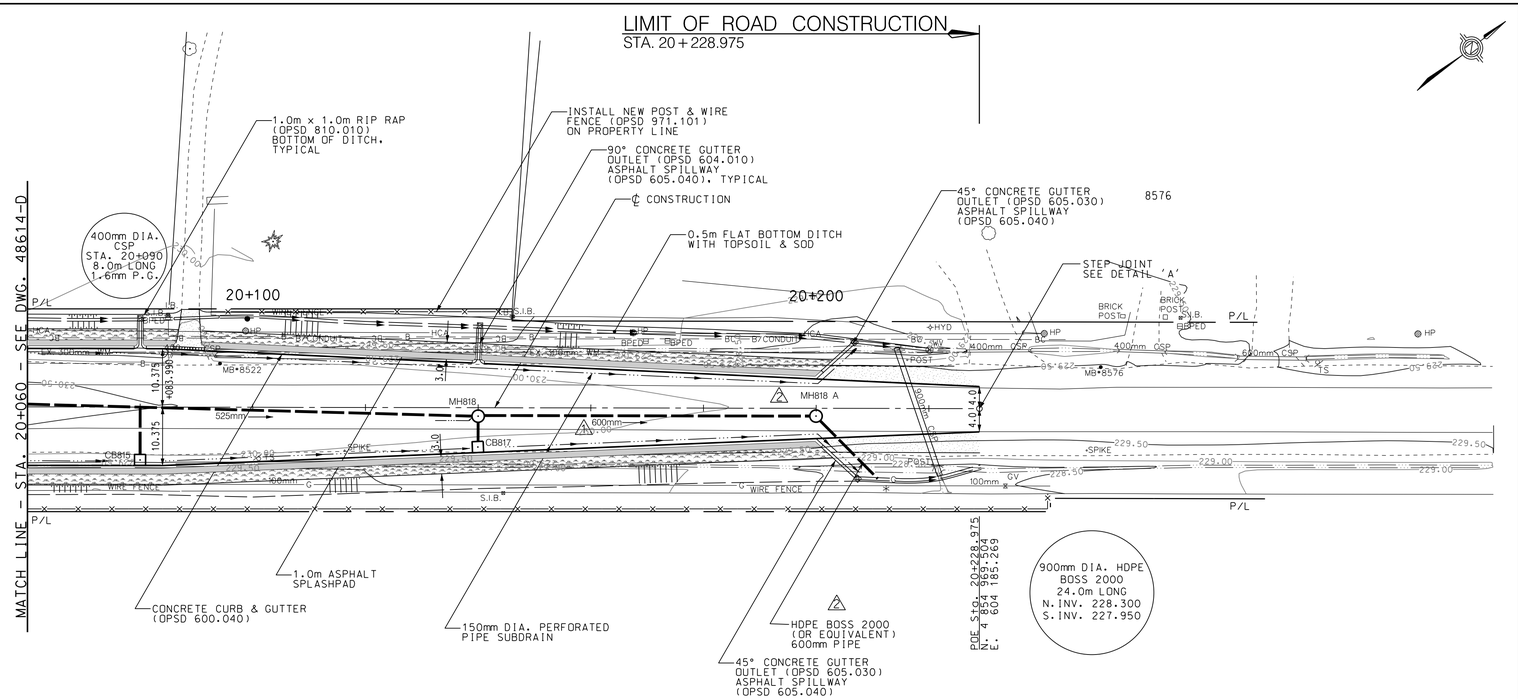
Figure 2.1 Catchments for Existing Scenario

Drawn By: M.Y. Date: Dec. 20, 2017

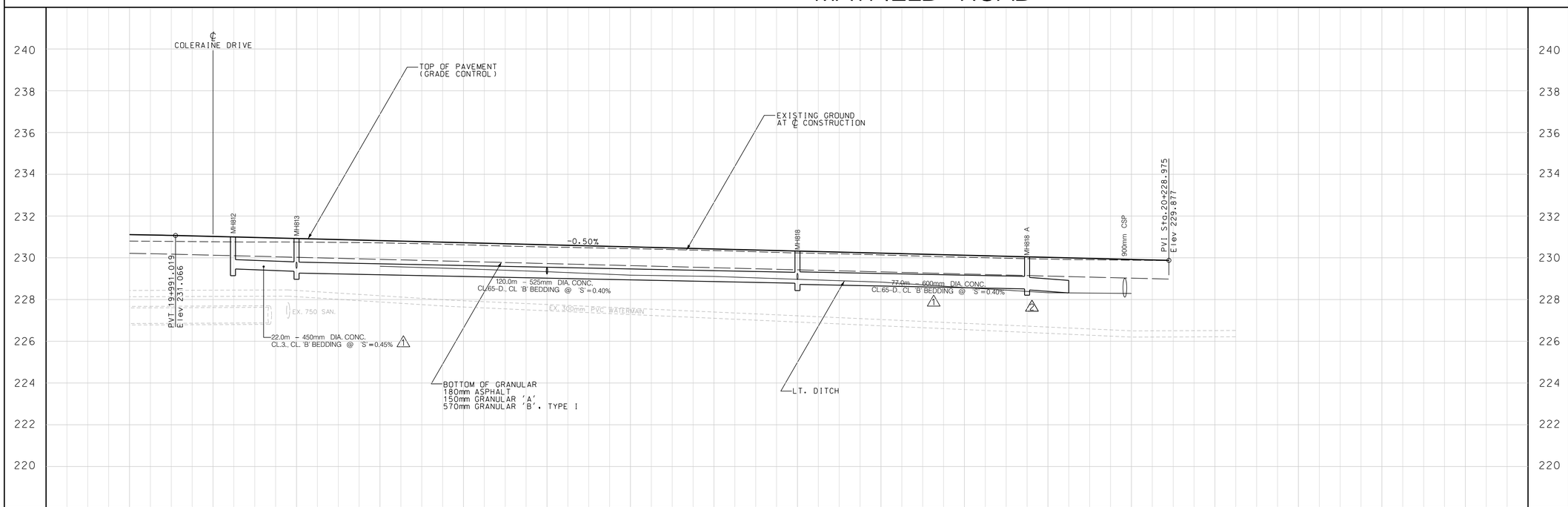
0 1.25 2.5 5 Kilometers

DISCLAIMER

These records are based upon available and unverified information and may prove inaccurate. The Region of Peel disclaims any responsibility should these records be relied upon to the detriment of any person.



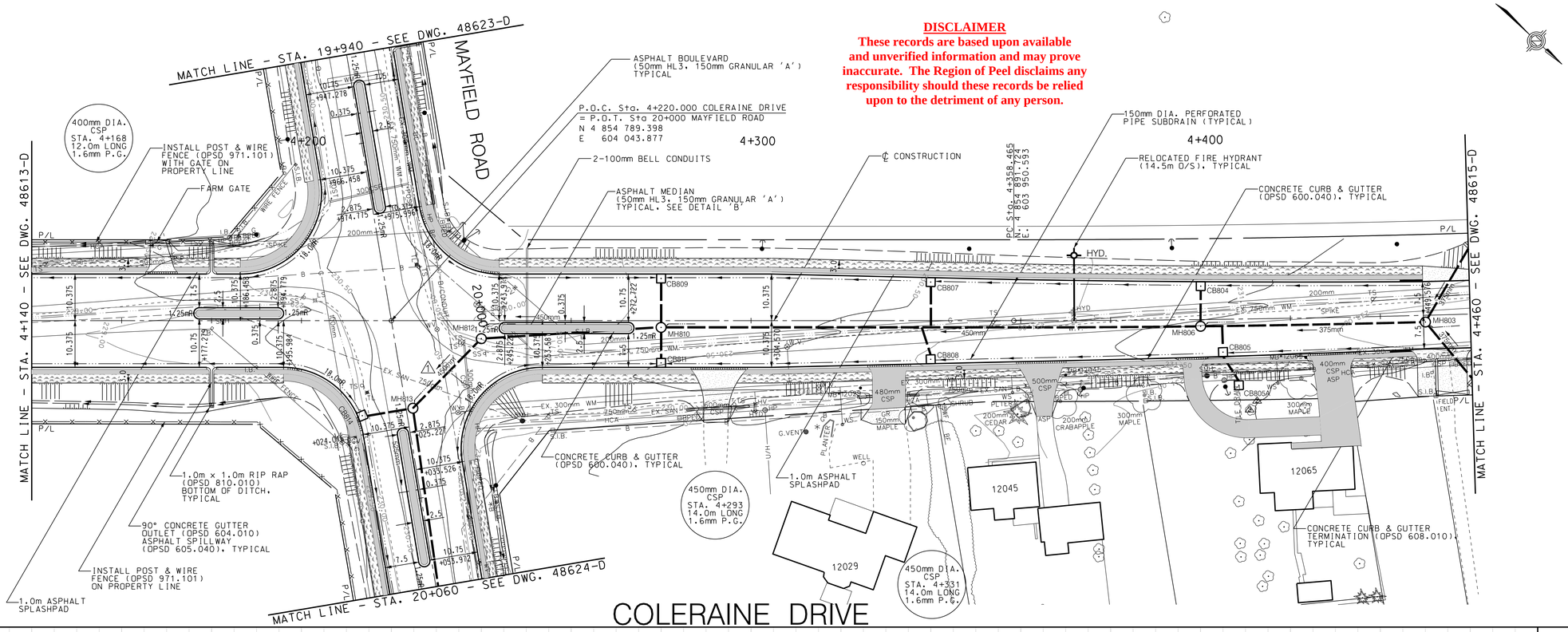
MAYFIELD ROAD

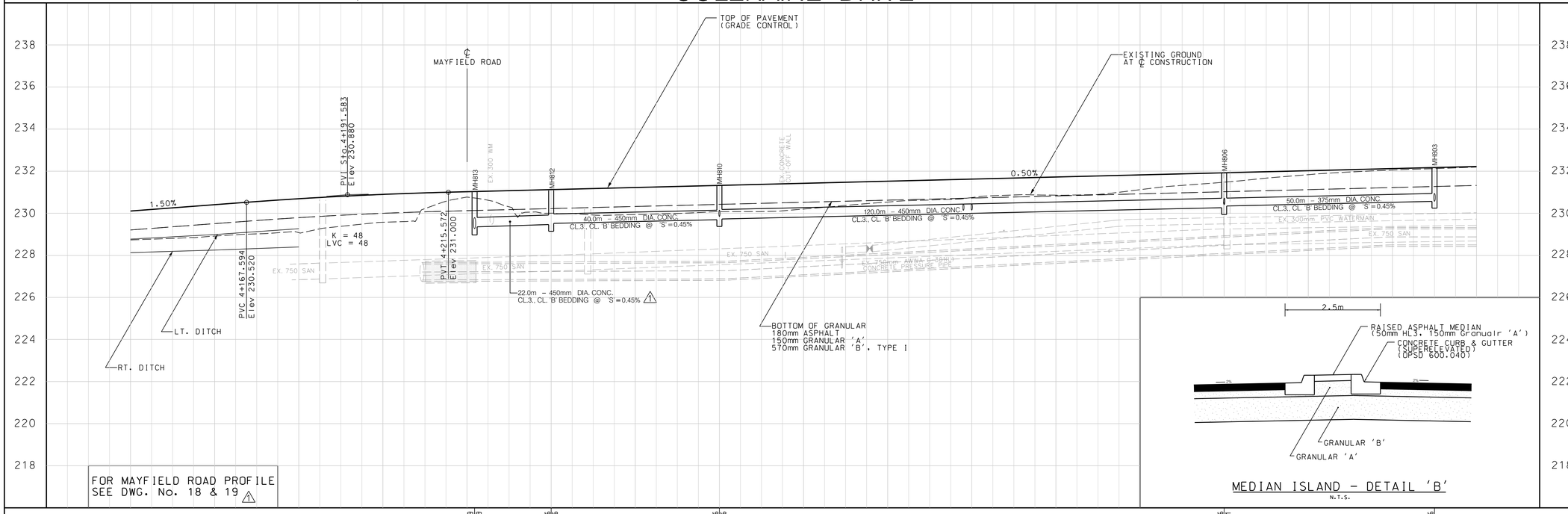


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DISCLAIMER

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FOR MAYFIELD ROAD PROFILE SEE DWG. No. 18 & 19 ⚠1

MEDIAN ISLAND - DETAIL 'B'
N.T.S.

| | | |

Simpson Road Landowners Group
Inc.C/O: Helen Mihailidi
7501 Keele Street, Suite 200
Vaughan, ON
L4K 1Y2

July 30, 2025
Reference: 20-717

Attention: Simpson Road Landowners Group

Reference: West Rainbow Creek Channel Re-Alignment - Simpson Road Extension, Town of Caledon
Conceptual Flood Hazard Assessment and Natural Channel Design

Dear Simpson Road Landowners Group,

Greck and Associates Limited (Greck) is pleased to provide this technical letter report in support of the proposed endeavor to develop within the Town of Caledon's Phase 2 Simpson Industrial Secondary Plan Area. Specifically, our work examines the technical feasibility and design requirements to extend the existing Equity Prestige Business Park SWM Pond (hereafter referred to as the Equity SWM Pond) outlet and convey flows through a new open channel system parallel to the proposed Simpson Road Extension. This solution builds on the already approved road extension and channel system accepted as part of the current Secondary Plan but offers a more refined solution offering improved development opportunities while adhering to all regulatory requirements. This report focuses primarily on technical flood and erosion hazard conveyance and protection, including elements of stormwater management and fluvial geomorphology and ecology (fish habitat).

The West Rainbow Creek channel realignment now includes a revised location for the Equity Park outfall, shifted easterly to better accommodate the proposed Simpson Road Extension. The reconfigured stormwater management pond outfall — complete with an emergency spillway — will discharge into a new 120m long, 4.2m x 1.5m concrete box culvert. This culvert will convey flow underground before daylighting into a new 33-metre-wide open channel.

The open channel will run parallel to the proposed Simpson Road alignment and will ultimately discharge beneath Mayfield Road via a new 6.0m x 1.5m concrete box culvert. The channel will include two shared crossings for four (4) landowners with each crossing having a single 3.6m x 1.5m box culvert.

Hydrologic and hydraulic analysis was undertaken through refinement of Toronto and Region Conservation Authority's (TRCA) Visual Otthymo (VO) model as well as the

creation of a new HEC-RAS, and PCSWMM model. Together, these models were used to design the new Equity SWM Pond outlet extension, natural channel, and quantify potential drainage and flood hazard impacts downstream. Results found that replacing the existing channel with a new engineered 33m wide natural channel at a low gradient slope of 0.1% will result in an average ~0.9% decrease to the regulatory storm flows downstream. This reduced channel grade not only improves flood and erosion hazards by attenuating and slowing channelized return flows it also provides improved fish habitat.

The methodology and preliminary results of this design have been conceptually reviewed and accepted in concept through ongoing discussions with the Town of Caledon, the Toronto Region Conservation Authority, and the Landowners Group. These stakeholders have provided comments and outlined specific requirements that must be addressed to obtain final approvals and building permits. While some of these requirements have been incorporated into the current concept design, a detailed design phase will follow, during which all remaining requirements will be fully addressed.

1.0 BACKGROUND

The subject properties that form Phase 2 of the South Simpson Industrial Secondary Plan Area (hereafter referred to as the Phase 2 Area) and the Simpson Road Landowners Group are within the headwaters of the Rainbow Creek tributary. The Phase 2 Area includes several landowners that are contemplating industrial development to utilize the new/future access from Simpson Road in lieu of Coleraine Drive. As part of the Phase 2 Area, Simpson Road is to be extended southerly to Mayfield Road. This new extension and intersection are required to provide necessary access to the industrial properties to improve traffic conditions on Coleraine Drive to the west. The Phase 2 Area is within the Toronto and Region Conservation Authority (TRCA) Humber River watershed. Previous phases of the Secondary Plan Area located immediately north of the subject properties, are now fully developed and drain to the Equity SWM Pond, See **Figure 1**.

The Equity SWM Pond currently outlets directly into Rainbow Creek. The existing channel is noted to have limited ecological value and functions more as an ephemeral channel (ditch), conveying primarily wet weather flow. The ecological significance of the feature has been further characterised by environmental consultants; see ecology study submitted under separate cover.

The Equity SWM Pond outfall is the origin of the existing open channel drainage feature which flows southeasterly through several properties towards Mayfield Road where flows are conveyed by an existing 1300mm diameter culvert under Mayfield Road. Design drawings for the Equity SWM Pond are appended. Note that this 1300mm diameter culvert is slated to be replaced with a 6.0m x 1.5m concrete box culvert as part of Region

Road Expansion works for Mayfield Road. The construction date of this replacement is unknown.

The 100 Pillsworth Road Industrial Building which is located east of the subject properties has been developed and is serviced by its own SWM pond located at the northeast corner of Mayfield Road and Rainbow Creek intersection. The Pillsworth SWM Pond currently discharges to a storm sewer on Mayfield Road; this storm sewer discharges downstream of Mayfield Road. The Pillsworth Pond will require a 20.5m wide emergency spill way onto the future Simpson Road extension as well as a 900mm diameter concrete by-pass pipe that outlets into a future channel. This pond facility will service 100 Pillsworth as well as the future Simpson Road Extension. Design drawings for the Pillsworth SWM Pond are appended.

As part of the initial Phase 2 Simpson Industrial Secondary Plan submission, detailed design drawings prepared by Wood (dated September 14, 2021) were prepared and approved. These drawings illustrated the proposed Simpson Road Extension, along with a 45m wide natural channel realignment for the headwater reach of Rainbow Creek. While only minor modifications are anticipated to Wood's Simpson Road design, the channel realignment design is to be replaced by the updated design presented in this letter report and by other consultant report provided under separate cover. Wood Drawings have been appended for reference.

#	Address	Owner	Area (ha)	Area (m²)
1	PT LT 1 CON 6 ALBION	Arion Services Ltd.	4.0 ha	40,111.9 m²
2	12155 Coleraine Drive	Triple X Inc.	4.2 ha	41,551.8 m²
3	PT LT 1 CON 6 ALBION	Coleraine Properties Inc.	4.0 ha	39,746.4 m²
4	0 Coleraine Drive	2781823 Ontario Inc.	3.8 ha	38,278.1 m²
5	8602 Mayfield Road	Anatolia Investment Corp.	1.9 ha	19,410.5 m²
6	12197 Coleraine Drive	2840928 Ontario Inc.	1.1 ha	11,326.6 m²
7	10265 Coleraine Drive	Morresi Holdings Limited	0.2 ha	2,235.4 m²
8	12045 Coleraine Drive	Morpo Holdings Ltd.	0.2 ha	2,360.0 m²
9	12029 Mayfield Road	11446835 Canada Inc.	0.5 ha	4,721.9 m²
10	8576 Mayfield Road	2833720 Ontario Inc.	2.3 ha	23,229.0 m²
11	0 Coleraine Drive	2744801 Ontario Inc.	0.2 ha	2,008.7 m²
12	8522 Mayfield Road	-VESPA ENGINEERS LTD. -THE CORPORATION OF THE TOWN OF CALEDON	1.2 ha	11,526.0 m²
A	88 Simpson Road	- 88 SIMPSON ROAD LTD. - THE CORPORATION OF THE TOWN OF CALEDON - 5008545 ONTARIO INC	3.2 ha	31,515.9 m²
B	100 Pillsworth Road	- ANATOLIA REAL ESTATE CORP. - THE REGIONAL MUNICIPALITY OF PEEL	12.8 ha	127,742.0 m²
	Total Area		39.6 ha	395,764.2 m²

Participating Landowners
Non-Participating Landowners
Pending Participation
Adjacent Landowners Not Within Block Plan Area

COLERAINE DR.
PARR BLVD.
SIMPSON RD.
MAYFIELD RD.
Equity Prestige Business Park SWM Pond
Existing Channel
Previously Constructed Commercial Development and SWM Pond at 100 Pillsworth Road

LEGEND
- Surroudning Parcel Fabric
- Block Plan Area
- Lot Subdivision
- Phase 2 Secondary Plan Area

FIGURE 1: Ownership Map with Greck Labels for Contextual Reference

Notes:

- Parcel fabric, Block plan Area and lot subdivision are approximate and subject to confirmation by a survey.
- Areas are approximate and subject to confirmation by a survey.
- Phase 2 Secondary Plan Area is sourced from Schedule C-5 from the South Simpson Industrial Secondary Plan (Town of Caledon OP).
- Air Photo is from First Base Solutions, dated 2022.

DRAWN / REVISED	
31 JUL 2023	First Draft

OWNERSHIP MAP

NORTHEAST CORNER OF COLERAINE DR. AND MAYFIELD RD.
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

N

SCALE
0 20 50 100m

WESTON CONSULTING

File Number: 10846
Date: 2023-07-31
Drawn By: ADB
Planner: SS
CAD: 10846_Ownership Map_2023-07-31.dgn

Drawing
OM

2.0 NATURAL CHANNEL DESIGN BY WOOD

As part of the Phase 2 Simpson Industrial Secondary Plan, detailed design drawings were prepared by Wood, dated September 14, 2021. These drawings illustrated the proposed Simpson Road extension along with a proposed channel re-alignment for the headwater drainage feature known as Rainbow Creek. The design proposed channel modifications that included a 45m wide by 1m deep corridor with a 2m wide bank full/low flow channel, see **Figure 2**.

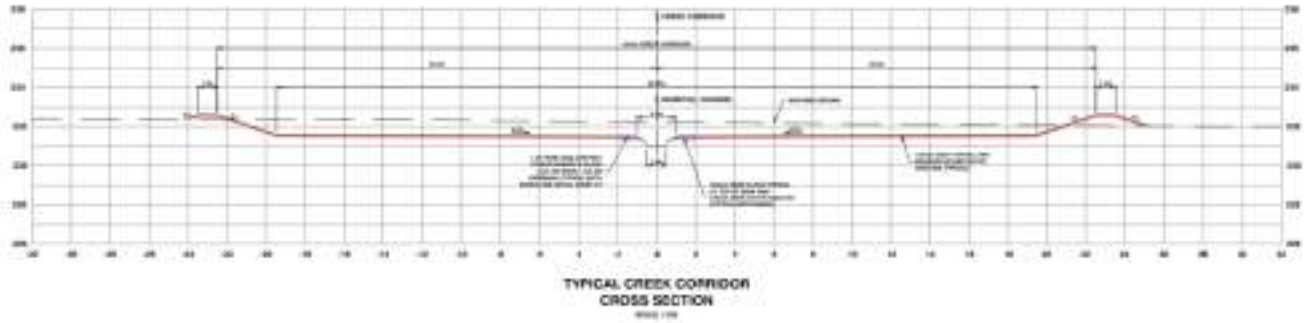


Figure 2 – Typical Creek Corridor Cross Section (Wood, Drawing C4, 2021)

A fluvial geomorphological report was prepared by AquaLogic Consulting, revised March 5, 2015, and February 11, 2019. As per this report it can be concluded that the valley width is attributed to both meander amplitude and flood storage requirements. We understand that no technical flood analysis or reporting was prepared however, through conversations with TRCA, it is understood that flood storage requirements were assessed using 1D hydraulics and achieving a cross-sectional cut and fill balance under conditions with no driveway crossings. A copy of the Wood Hec-RAS channel design was provided to Greck. It is presumed to be the only current hydraulic modelling for the area. In this model, the Regulatory floodplain is the regional storm event.

The proposed channel was to be 560m long, 1m deep, and 45m wide, requiring 2.52ha of land along the southeast side of Simpson Road. The channel would originate from the Equity Prestige Business Park SWMF flowing downstream to Mayfield Road, see **Figure 3**.

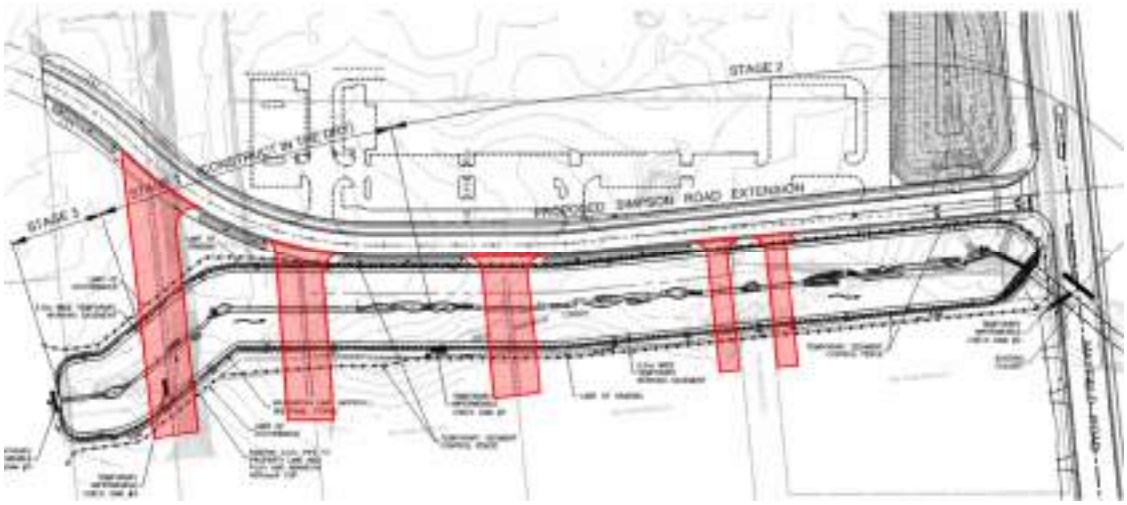


FIGURE 3 – PROPOSED 45M WIDE CHANNEL (WOOD, DRAWING C1, 2021)

Per this design, five (5) (red) driveway locations were proposed; three (3) 25m wide driveway crossings and two (2) 11m wide driveway crossing along the channel. The 25m driveway includes two 12.5m wide industrial driveways which is the maximum width as per the Town Zoning By-Law. An additional 3m on both sides for 3:1 side slopes into a 1m deep valley and 3m for property setbacks would also need to be included for a total driveway structure width of 34m. The 11m driveway would also need an additional 3m on both sides for 3:1 side slopes into a 1m deep valley and 3m for property setbacks. The total driveway structure would be 20m wide.

Based on a 560m open channel system, roughly 25% or 142m of channel would need to be filled to accommodate the industrial crossings shown. Each crossing would require a box culvert to convey flows without overtopping onto Simpson Road.

The ecological, hydrological, and hydraulic impacts of these crossings were not quantified, assessed and reported in the Wood design or Secondary Plan.

3.0 PROPOSED NATURAL CHANNEL DESIGN BY GRECK

On behalf of the Landowners Group, a new pond outfall and natural channel design has been proposed. The new design better utilizes available land while respecting the needs for industrial access and regulatory requirements for flood and erosion hazard, fluvial geomorphology and ecology. The redesign will consist of shifting and extending the Equity SWM Pond outlet, a reduced open channel width and a reduced number of driveway crossings (from five (5) to two (2)), see Conceptual Natural Channel System drawing appended.

The proposed flood hazard (stormwater) conveyance and natural channel system can be broken down into five (5) parts to service all return storm events up to 100-year and Regional Events including considerations for fish passage, geomorphology and erosion.

- Part 1 – Equity SWM Pond Retrofits and New Outlet Extension.

    - A new storm sewer outfall will be retrofitted to the existing pond infrastructure including a new 120m – 4.2m x 1.5m box culvert at 1.7% that will extend from the main pond cell to the new open channel downstream. This outfall will receive both the existing pond outflows via re-direction of the existing 750mm diameter PVC pipe from the existing 1.2m x 1.8m manhole box outlet structure and act as an emergency outfall for the pond via a new concrete riser.

    - The proposed pond emergency inlet riser will feature an oversized grate set at the maximum active storage elevation (233.75m) and capable of receiving the uncontrolled 100-year and Regional events. The inlet will feature a high-capacity grate will reduce inlet losses and will be capable of passing 100% design flow even if 50% blocked/clogged.

    - The 37m wide emergency spillway will be shifted approximately 36m to the east requiring re-grading of the pond banks and access pathway. The emergency spillway finished grades will remain the same acting as a secondary emergency outfall should the pond emergency inlet riser fail.

- Part 2 – Proposed Secondary Emergency Overland Spill Easement
    - A 60m wide emergency easement will be provided that includes grading requirements to safely convey major overland spill from the pond in the unlikely event that the primary pond outlet and pond emergency outlet is blocked. The easement will specify that the confirmed overland spill area should have covenants in place to restrict buildings.

- Part 3 – 380m Length Natural channel at 0.1% slope

    - A 33m wide natural two-tiered trapezoidal channel is to be provided to support fish passage, floodplain attenuation, and conveyance with natural plantings and erosion control. The channel will adopt 4:1 side slopes where possible along the Simpson Road R.O.W and 2:1 to 3:1 side slopes in other areas to support the baseflow channel and floodplain, see typical section on the Conceptual Natural Channel System drawing appended.

    - This portion of the channel is intentionally at a low gradient to slow stormwater and promote attenuation to maximize flow reduction while ensuring there is sufficient conveyance within the 33m wide valley.

- This section of channel will sustain slow moving water exhibiting characteristics similar to a wetland, optimal for fish habitat and passage.

- See West Rainbow Creek Fluvial Geomorphology Assessment and Channel Realignment Guidance by SLR, Dated July 2025

- Part 4 – 45m Length of Cascade Pools at 4% slope

  - In an effort maximize attenuation it is necessary to have a low gradient system and the longer this low gradient section (Part 3), the more attenuation can occur. As a result, to tie together / connect the upstream 0.1% slope channel and meet the fixed Mayfield Road culvert invert, a short steep channel form is required.

  - 6 cascade pools with 0.3m drops over a length of 45m is proposed to make up the grade elevation difference at the downstream end of the channel, close to Mayfield Road.

  - Part 4 will maintain a two-tiered channel section like Part 3.

  - The cascade pools will facilitate fish passage.

  - See West Rainbow Creek Fluvial Geomorphology Assessment and Channel Realignment Guidance by SLR, dated July 2025 for further details.

- Part 5 – 16m Length Natural channel at 0.1% slope
  - Part 4 will maintain a two-tiered channel section like Part 3 and 4.

  - This portion of the natural channel is located in the existing channel system which is the natural low point for the area that ties the channel to the Mayfield Road Culvert

  - As per the Wood's design, this area will receive overland flow from Simpson Road and by-pass flows from the Pillsworth SWM Pond. Erosion control measures such as appropriately sized riprap will be installed at the channel slopes to dissipate energy and long-term erosional forces from these localize storm outlet discharge points

  - This section has been designed to match grade and drain to the proposed 6.0m x 1.5m proposed box culvert crossing Mayfield Road. This box culvert will have an inlet invert of 227.79m and a proposed channel invert of

228.19m immediately upstream of the culvert per the Wood drawings dated September 2021 and appended for reference.

It should be noted that the Equity SWM Pond outlet extension and the natural channel described above will be owned and maintained by the Town of Caledon. Easements will be required on private property as discussed to ensure no buildings are placed within the easement for long-term maintenance of the pond outfall and emergency overland spillway should both the pond outfall and emergency inlet become incapacitated.

4.0 HYDROLOGIC MODELLING

An updated hydrology model was prepared to assess the new proposed channel system. TRCA's most recent hydrologic modelling was provided to Greck. The modelling was created using Visual Otthymo (VO) prepared by Civica, dated 2018. To access the impacts of a new natural channel system, including channel routing and attenuation, Greck re-ran four (4) modelling scenarios with the Regional and 100-year uncontrolled flows (6h AES) under the future land use scenario within the existing TRCA model:

- Scenario 1: Future Conditions – Original Civica Model (route channel)
- Scenario 2: Future Conditions – Civica Model with Greck Edits (route channel)
- Scenario 3: Future Conditions – Proposed Natural Channel by Wood (560m of modified route channel)
- Scenario 4: Future Conditions – Proposed Natural Channel by Greck (540m of modified route channel)

As per the Humber River Hydrology Update Report (Civica, April 2018), STANDHYD 7419 represents catchment 24.11 which corresponds to the Equity Prestige Business Park area. STANDHYD 7417 represents catchment 24.10 which corresponds to the Phase 2 Simpson Industrial area, an area west of Coleraine Drive and an area south of Mayfield Road, north of Countryside Drive. See **Figure 4** below for the geographic reference.

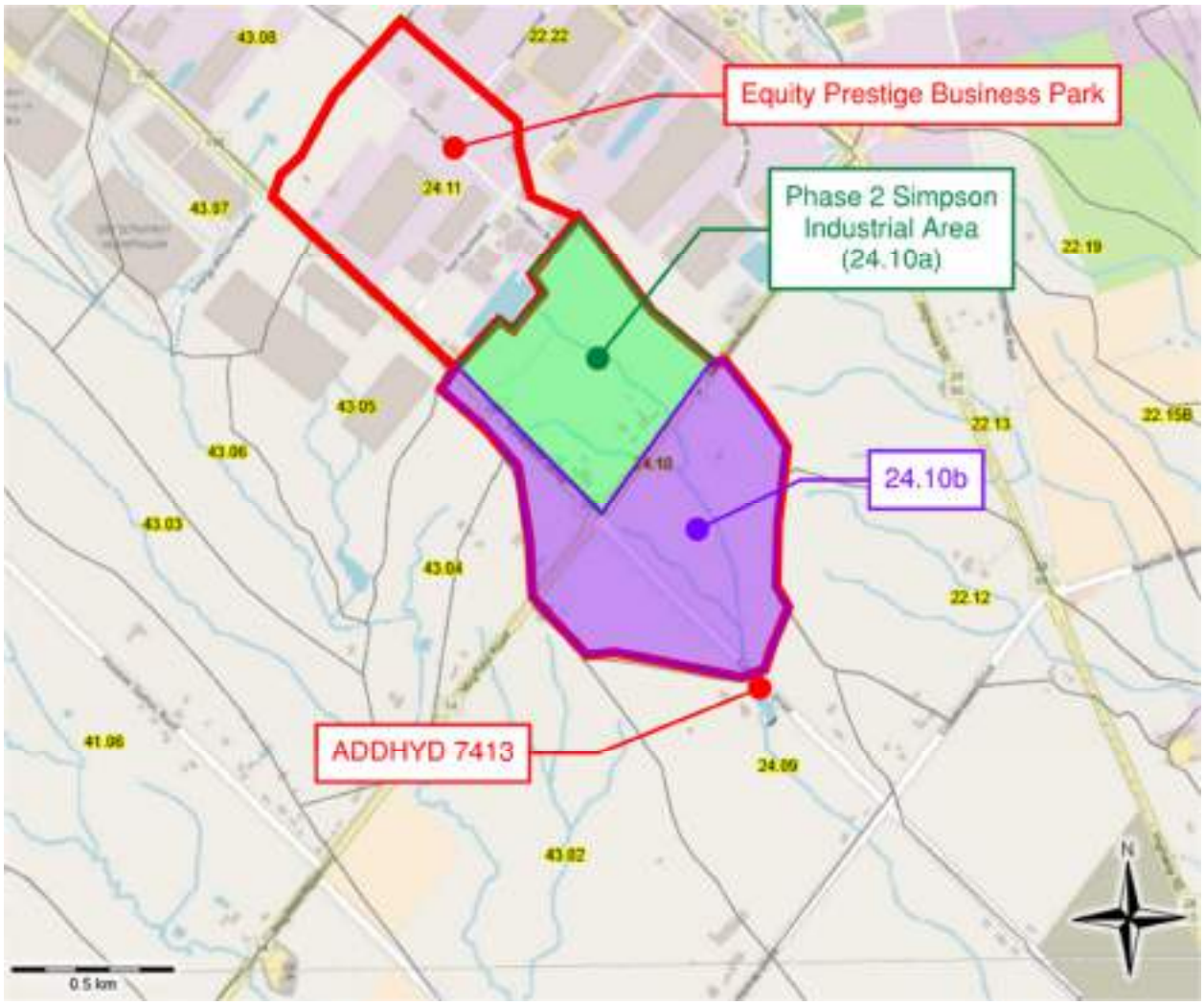


FIGURE 4: HYDROLOGIC MODELLING STUDY CATCHMENT - ADDHYD #7413

Note that catchment 24.10 includes some areas surrounding the Phase 2 Simpson Industrial area that drain external to the subject area. As such, catchment 24.10 was separated into two catchments, 24.10a which represents the Phase 2 Simpson Industrial area and 24.10b which represents the outside surrounding areas. All catchment parameters were maintained for catchment 24.10a and 24.10b except for the area. The Future Regional-CNIII wo Pond scenario catchments and route channels were reconfigured to more accurately model the hydrology of the study area. Note that the overall route channel geometry and slope were maintained as per the Civica 2018 model however, the route channel lengths were updated to match existing conditions. See **Figure 5** below for updated scenario schematic.

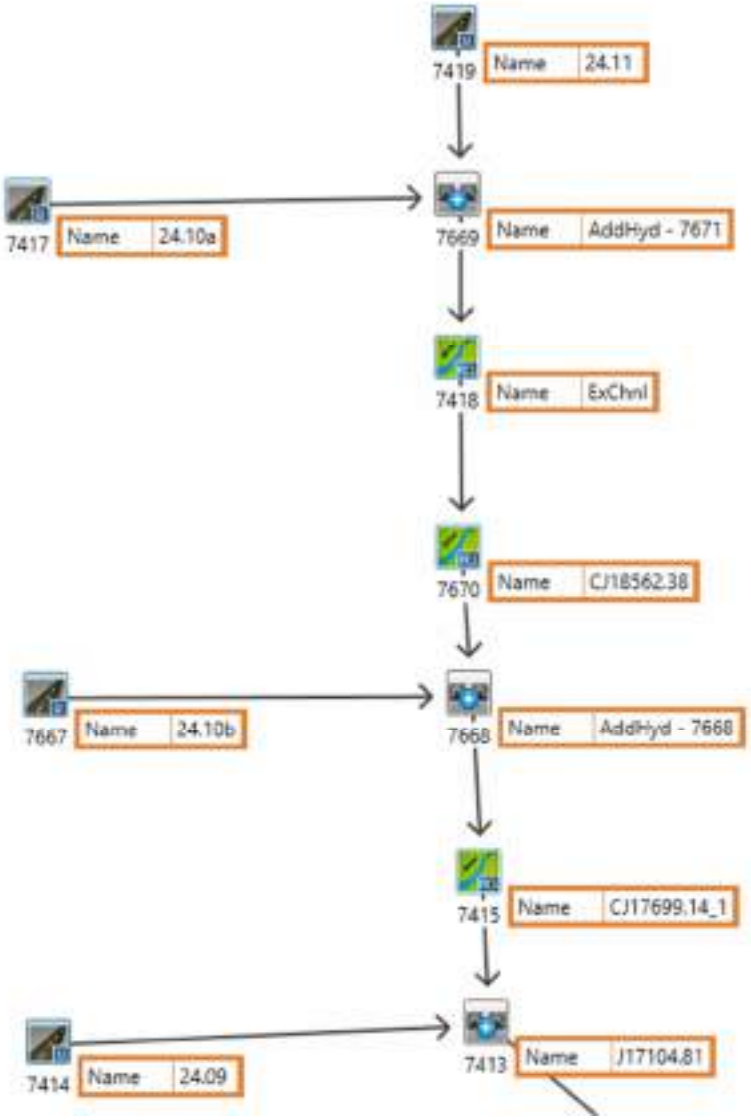


FIGURE 5: RECONFIGURED HYDROLOGY SCHEMATIC OF STUDY CATCHMENT - ADDHYD #7413

To model the Wood channel, RouteChannel 7418 was changed to have a channel length of 560m, channel slope of 0.6% and a 45m wide channel geometry as per the Simpson Road Extension Phase 3 drawings.

In the Greck Channel scenario, the Equity SWM Pond outlet extension, 0.1% slope channel, cascade pool system and connection section upstream of Mayfield Road were modelled.

The following results presented in **Table 1** were obtained at ADDHYD #7413 in the VO modelling (the flow location that receives all routed flows and drainage catchments).

TABLE 1 - DOWNSTREAM FLOW COMPARISON FOR ALTERNATIVE FLOW ROUTING - ADDHYD #7413

Scenario	Regulatory (Regional) Flow (m^3/s)
1 – Future Conditions – Original [Existing Channel]	25.316
2 – Future Conditions - Greck [Existing Channel]	23.837
3 – Proposed Channel - Wood	24.464
4 – Proposed Channel - Greck	23.539

The result of this comparison demonstrates that the redesigned 33m wide channel will result in a downstream peak flow decrease for the Regulatory event by 1.25% (between scenarios 2 and 4). This is primarily because most of the redesigned channel runs at a lower slope and therefore lower velocity promoting improved attenuation.

To further assess the impacts of attenuation between the redesigned proposed natural channel and culvert system, flow results were compared to the rest of the reach and greater watershed system downstream, see **Figure 6** which shows the downstream catchment and flow nodes. **Table 2** presents a comparison of flows at the indicated flow nodes. Note that the previously approved Wood channel design causes an increase in flows downstream.

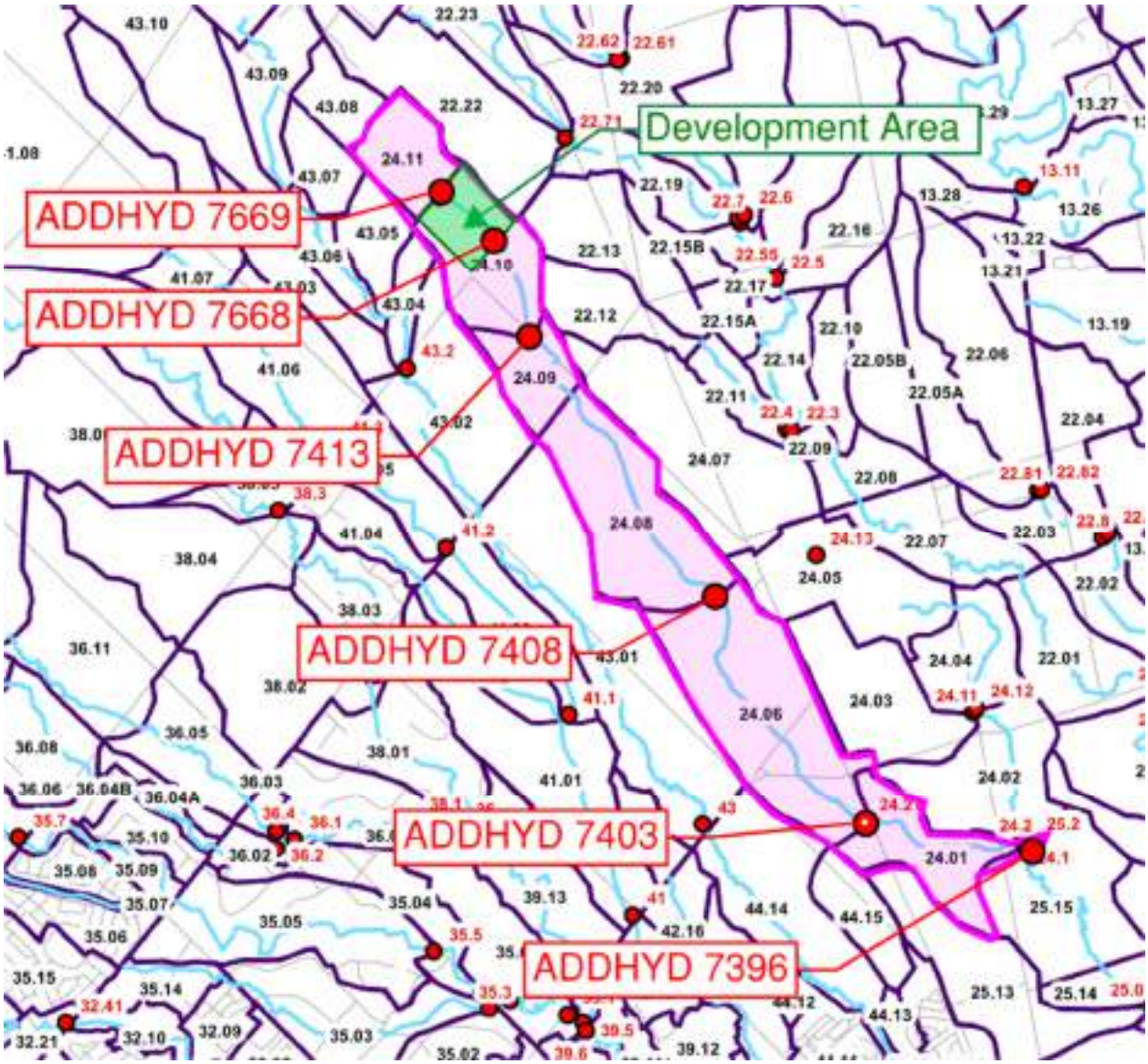


Figure 6 - Impacted Sub-watershed and Relevant Flow Nodes

TABLE 2 – NEW CHANNEL - DOWNSTREAM FLOOD HAZARD IMPACT COMPARISON (REGULATORY – REGIONAL EVENT)

ADDYD	Existing - Greck	Channel - Wood		Channel - Greck	
	Flow (m^3/s)	Flow (m^3/s)	% Difference from Existing	Flow (m^3/s)	% Difference from Existing
7669	12.718	12.718	0.00%	12.718	0.00%
7668	19.018	19.857	4.41%	18.675	-1.80%
7413	23.837	24.464	2.63%	23.539	-1.25%
7408	36.505	36.759	0.70%	36.271	-0.64%
7403	54.219	54.607	0.72%	54.025	-0.36%
7396	57.557	57.634	0.13%	57.403	-0.27%

With new Greck channel, the Regulatory flows decrease by on average 0.9% up to 7km downstream where the subject reach at confluences with another similarly sized tributary at Huntington Road and Rutherford Road (NASHYD 7396).

Hydrologic modeling results from the VO model for the downstream flows are included in the attachments.

5.0 HYDRAULIC MODELLING – REDESIGNED NATURAL CHANNEL

The proposed Equity SWM Pond outlet extension was modelled using PCSWMM software to appropriately size the outlet conduit. The redesigned two-tiered trapezoidal natural channel was modelled using CivilGEO GeoHEC-RAS software to have capacity to convey the uncontrolled Regional flows from the Equity Prestige Business Park and Phase 2 Simpson Industrial lands. GeoHEC-RAS utilizes the United States Army Corps of Engineers, HEC-RAS software. This version utilizes the 6.3.1 engine of HEC-RAS.

The proposed Equity SWM Pond outlet extension is modelled with a conduit to represent the 4.2m x 1.5m box culvert with a slope of 1.7%. The uncontrolled 100-year flow from STANDHYD 7419 (24.11) was input as baseline flow as well as controlled flows from two properties that may outlet to the pond outlet. Note, the 100-year flows dominates for all catchment upstream of Mayfield Road (The subject property).

The PCSWMM model included the following input parameters:

TABLE 3 – PCSWMM MODELLING INPUT PARAMETERS FOR EQUITY SWM POND OUTLET EXTENSION

Input Parameter	Value	Justification
Average Flow	10.41m^3/s (10.20 + 0.20)	- 100-year uncontrolled peak flow of 10.20m^3/s from STANDHYD 7419 (24.11) - Controlled outflow rates as per Humber River unit flow rates from two industrial properties = 0.20m^3/s *See calculations *Regional peak flow of 7.52m^3/s (Spillway based on 100 Year Uncontrolled)
Conduit Size	4.2m x 1.5m	Width x Height
Conduit Length	120m	Length of Equity SWM Pond outlet extension based on preliminary layout
Inlet Elevation	232.00m	Beginning of conduit is at the pond emergency inlet structure

Outlet Elevation	230.02m	Conduit to daylight at 12155 Coleraine Drive
Roughness	0.013	Typical value for concrete pipe (PCSWMM Support)
Entry Loss Coefficient	0.3	Minimum loss coefficient as per Minor Loss Coefficients for Storm Drain Modelling with SWMM by William H Frost (2006)
Exit Loss Coefficient	0.5	Transition loss for discharge into a free-flowing channel as per Minor Loss Coefficients for Storm Drain Modelling with SWMM by William H Frost (2006)
Average Loss Coefficient	0.3	Minor Loss Coefficients for Storm Drain Modelling with SWMM by William H Frost (2006)
Outfall Boundary Condition	231.79m	Fixed Stage, Regulatory flood elevation from hydraulic model for two-tired trapezoidal channel.

Figure 7 illustrates the model profile under regulatory peak flow conditions (100 year, 6hr AES). Note, no flooding occurs and the 4.2m x 1.5 conduit has sufficient capacity to convey the design flows. PCSWMM modeling results of the Equity SWM Pond extension are included in the attachments.

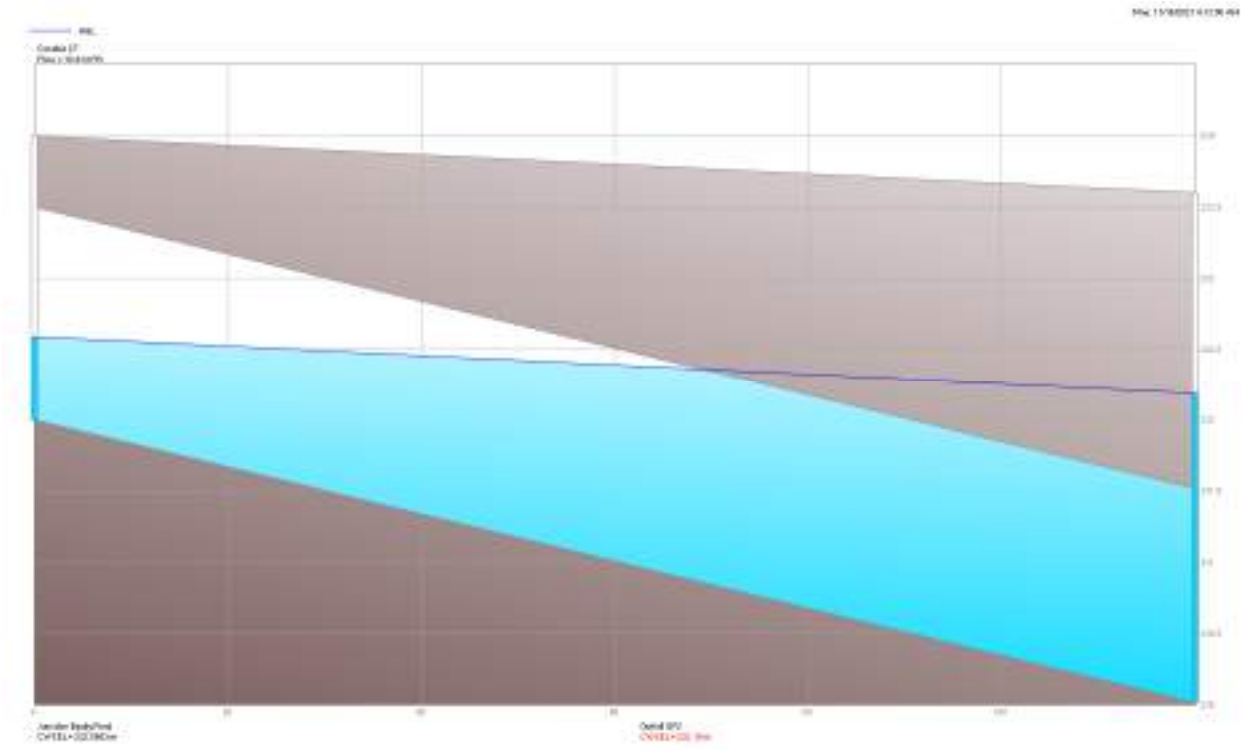


FIGURE 7 – PROPOSED CULVERT PROFILE UNDER REGULATORY PEAK FLOW CONDITIONS

The downstream boundary condition in the PCSWMM model is extracted from the proposed channel hydraulic modelling results. The HEC-RAS model includes a natural channel sufficient in size and slope to convey the Regional Storm Event. The natural channel runs from 12155 Coleraine Drive in the southerly direction to Mayfield Road. It should be noted that based on Wood's drawings and Mayfield Road expansion work drawings, a 6m x 1.8m concrete box culvert is proposed under future widened Mayfield Road. Currently, there is a 1.3m diameter CSP. The HEC-RAS model considers ultimate build out conditions with the new Mayfield Culvert.

The proposed new natural channel is a two-tiered trapezoidal channel with a low flow and high flow channel with floodplain:

- The low flow channel will have a bottom width of 1.0m and a depth of 0.45m with 2:1 side slopes capable of conveying a flow roughly half of the bankfull discharge (0.58 m^3/s; SLR, 2025).
- The high flow channel will have a top width of 14.1m and a depth of 0.82m with 2.5:1 side slopes capable of conveying greater flows.
- The greater floodplain will have a top width of 33m and a depth of 1.03m with 4:1 to 2.5:1 side slopes.

The low flow channel was assigned a 0.035 Mannings roughness. All other portions of the natural channel are to be heavily vegetated and were assigned a roughness coefficient of 0.08. Hard surfaces were assigned a roughness coefficient of 0.013. The downstream boundary condition is set to a known water surface elevation based on the provided TRCA hydraulic modelling for the Wood channel design.

In addition to strategic riparian plantings and channel bedding, the design of a two-tiered channel with low flow channel and reduced gradient will promote fish refuge and passage.

The ADDHYD 7669 flows were used as the upstream flow input for the natural channel through the subject property. It should be recognized that 100-year uncontrolled flows dominate the Regional storm at this location however, during the 100-year event, the Equity SWM Pond is considered to be functional. Therefore, Regional storm flows were used to assess flood hazard and support the proposed channel design.

Hydraulic modeling result tables are appended. See **Figure 8** showing a typical cross section of the two-tiered channel and Regional return event.

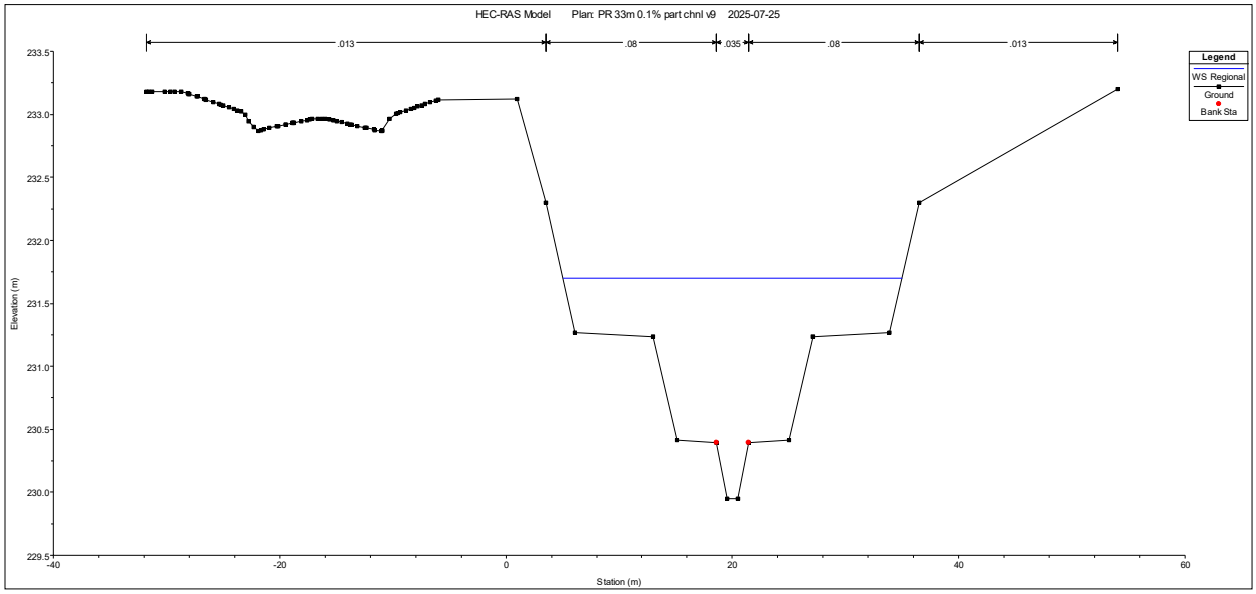


FIGURE 8 – TYPICAL CROSS SECTION OF THE NATURAL CHANNEL

As described previously, the natural channel planform is comprised of multiple parts or sections, the upper low gradient channel, cascade pools and connection to the proposed Mayfield Road culvert. The low gradient natural channel will have a slope of 0.1%, the cascade pools will have an average slope of 3.1% and the portion upstream of Mayfield Road will have a slope of 0.1% to connect with the Mayfield crossing inlet.

Figure 9 shows the channel profile for the Regional Event.

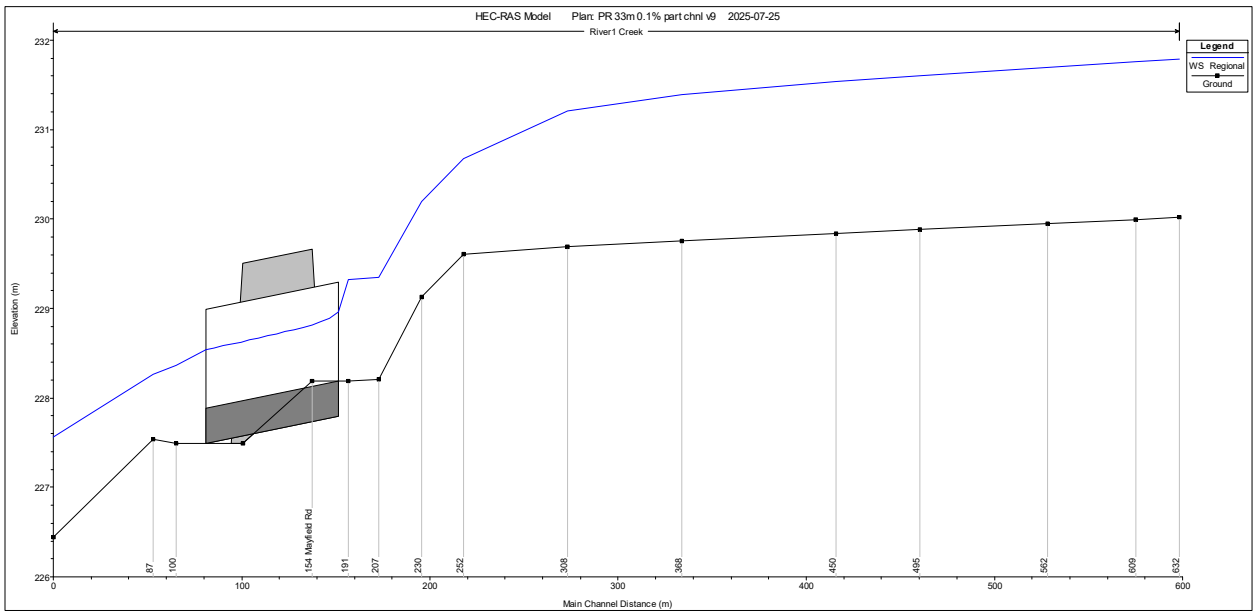


FIGURE 9 – NATURAL CHANNEL PROFILE AND REGIONAL WATER SURFACE ELEVATION

5.1 DRIVEWAY CROSSINGS

A second hydraulic model scenario was created to size two culvert crossings, see drawing C1 at the end of this memo for locations of the two crossings. Each driveway crossing is proposed to have a width of 12.0m to support driveway and shoulder space. As a result, each driveway crossing will require a 3.6m x 1.5m (W x H) concrete box culvert to provide conveyance for the Regional flows. The culverts will have a slope of 0.1%, as per the proposed channel inverts. To improve inlet losses, the culverts should have flared wingwalls and beveled edges.

Figure 10 shows a cross section of one of the crossings with the box culvert. Note that the driveway crossing design will be coordinated with the transportation/traffic engineer during the detailed design stage.

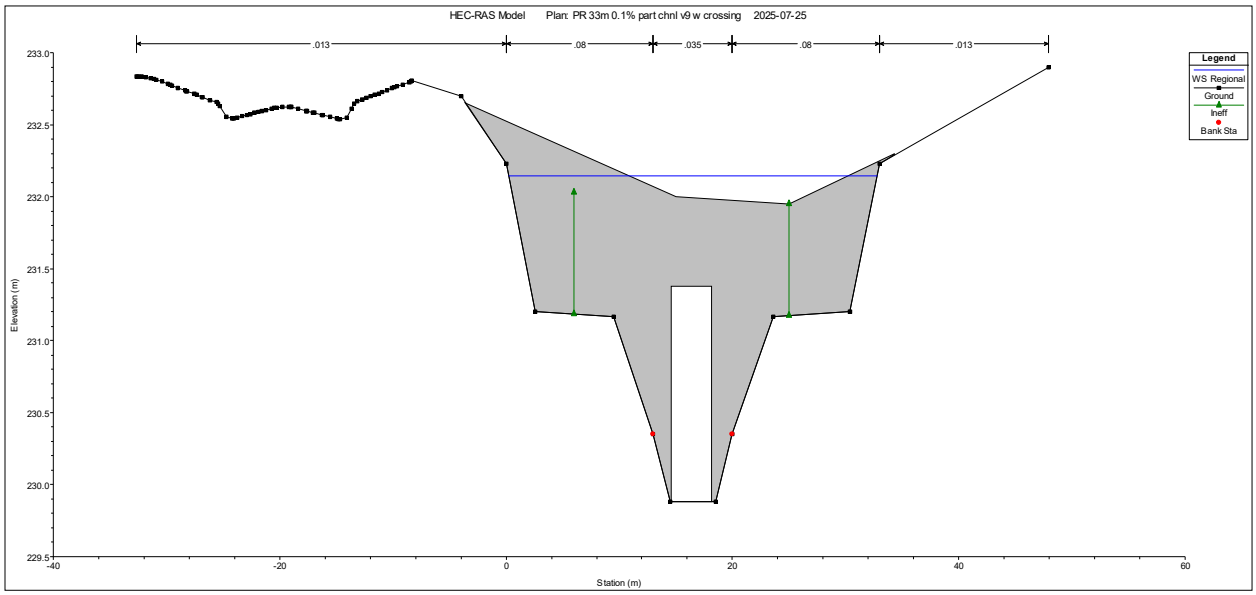


FIGURE 10 – CROSS SECTION OF DRIVEWAY CROSSING

Figure 11 shows a profile of the water surface elevation for the Regional event with proposed crossings.

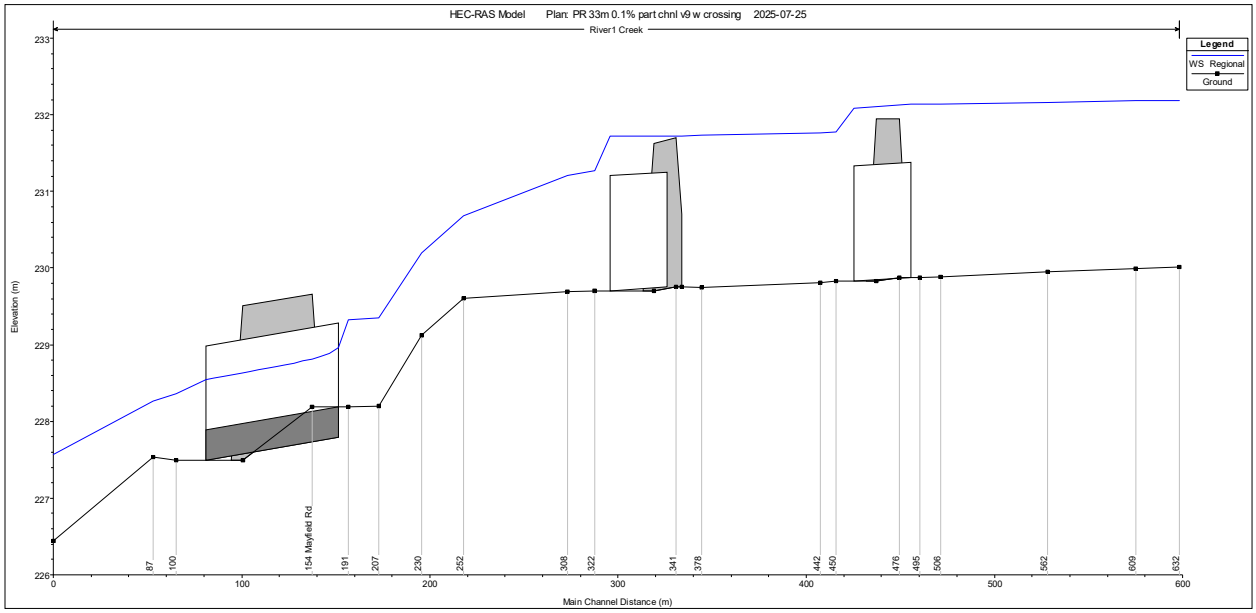


FIGURE 11 – WATER SURFACE ELEVATION PROFILE OF NATURAL CHANNEL WITH DRIVEWAY CROSSINGS

Full HEC-RAS modelling results can be found in the letter attachments.

5.2 PROPOSED SECONDARY EMERGENCY OVERLAND SPILL EASEMENT

The primary emergency outfall for the pond will become the new proposed outfall culvert and inlet riser. The secondary emergency outlet for the pond will become the shifted pond spillway weir and overland spill easement to receive the pond spillway flows in the unlikely event that the Equity SWM Pond emergency inlet structure is fully blocked, and the proposed outlet extension is incapacitated under uncontrolled flow conditions.

To size the easement area, a third hydraulic scenario in HEC-RAS was created. The proposed grades to contain the spill and direct major drainage to the open channel can be found on the Conceptual Culvert Conveyance System Drawing (Drawing C101).

The emergency flow path is sized to convey 100-year Uncontrolled flows from the Equity Prestige Business Park plus uncontrolled 100-year flows from the two properties in which the easement covers. The total flow that can be safely conveyed in the easement is 11.80m^3/s. This is slightly greater than the pond outfall because it conservatively considered that no SWM is be provided by the two contributing properties.

The emergency spill path will have a channel slope of 0.5% and width of 60m. **Figure 12** below shows a typical cross section of the spill path. The pond outlet extension will be located at the crown of the emergency spill path.

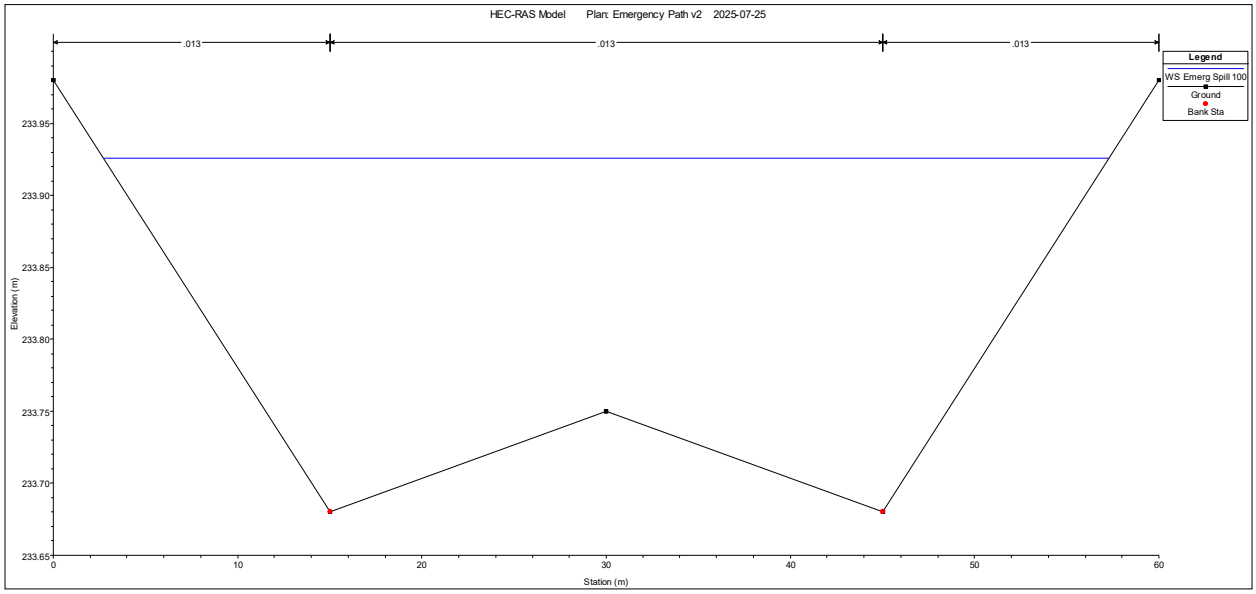


FIGURE 12: EMERGENCY SPILL PATH CROSS SECTION

The 100-year flow depth of the emergency spill path is 0.25m with a peak velocity of 1.40m/s. This equates to a depth velocity product of 0.35m^2/s. In accordance with MNRF Technical Guidelines, **Figure 13** illustrates risk thresholds for typical flood risk related to people and vehicles.

Table 4 Flood Risk Criteria

Risk Level	Low	Medium	High *
Depth	≤ 0.3 m	> 0.3 m and ≤ 0.8 m	> 0.8 m
Velocity	≤ 1.7 m/s	≤ 1.7 m/s	> 1.7 m/s
Depth-Velocity Product	≤ 0.37 m^2/s	≤ 0.37 m^2/s	> 0.37 m^2/s

* Exceedance of any one of the criteria results in high risk.

FIGURE 13: TABLE 4 FROM FLOODPLAIN SPILL ASSESSMENT PREPARED BY MATRIX

For areas classified as low risk, ingress and egress are feasible for pedestrian and vehicular traffic. For medium risk areas, ingress and egress are feasible for pedestrian traffic and emergency vehicles but not private vehicles. For high-risk areas, ingress and egress are not feasible for pedestrian nor vehicular traffic.

The emergency spill path hydraulic modelling results are appended.

6.0 CONCLUSIONS AND RECOMMENDATIONS

This study has successfully examined the technical feasibility and design requirements to extend the existing Equity Prestige Business Park SWM Pond outlet and convey flood flows through a new open channel system parallel to the proposed Simpson Road Extension. This solution builds on the already approved road extension and channel

system accepted as part of the current Secondary Plan but offers a more refined solution offering improved development opportunities while adhering to all regulatory objectives. The following key design features have been considered as part of this exercise to achieve project objectives:

- A new extended Equity Park outfall consisting of a 4.2m x 1.5m buried concrete box culvert, shifted easterly to better accommodate the proposed Simpson Road Extension.
- A new additional emergency pond outfall via a concrete riser connected directly to the new storm outfall
- An emergency overland spill easement designed to safely contain pond spill and protect develop via an easement
- A new 33-metre-wide two-tiered trapezoidal open channel offering improved attenuation that contains the regional storm event and reduces downstream flooding while provide fish passage and habitat
- Two new shared crossings for four (4) landowners each requiring a single 3.6m x 1.5m box culvert

Subject to continued approval of the conceptual methodology, results, and designs presented in this study and related works by others, detailed construction design plans will be prepared. A final, updated design brief will also be provided, incorporating the analysis outlined in this letter.

We trust this report offers sufficient information to assess the feasibility of a new culvert conveyance system with respect to the Simpson Road Secondary Plan.

Sincerely,
GRECK AND ASSOCIATES LIMITED

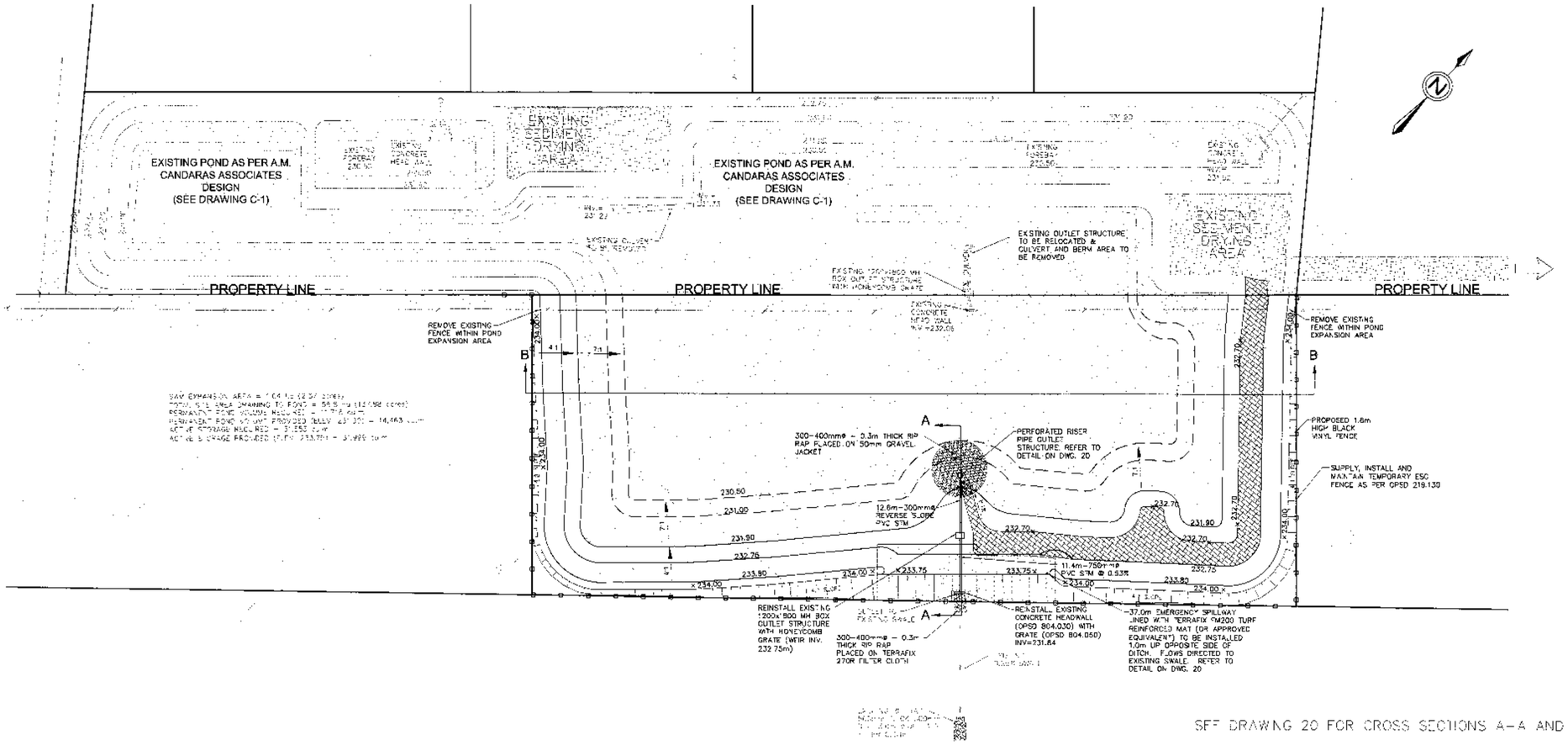


Eric Greck, P.Eng.
President

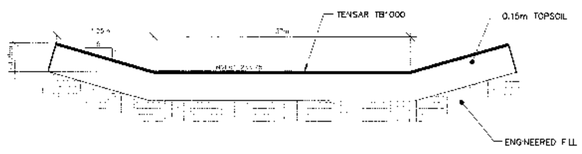
Jennifer Chan, P.Eng.
Water Resources Engineer

Attachments

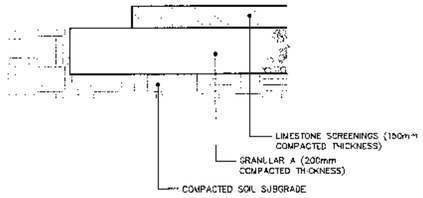
- Equity Prestige Business Park Stormwater Management Pond Design Drawings by Pitura Husson Limited dated August 14, 2008
- 100 Pillsowrth Stormwater Management Pond Design Drawings by MTE, dated March 16, 2021
- Simpson Road Extension Phase 3 Design Drawings by Wood, dated September 2021
- Hydrologic Modelling Results for Alternative Flow Routing
- Hydrologic Modelling Results for Downstream Flows
- Equity SWM Pond Outlet Modelling Results
- Hydraulic Modeling Results for Redesigned Natural channel
- Hydraulic Modelling Results for Redesigned Natural channel with Driveway Crossings
- Hydraulic Modelling Results for Emergency Flow Path
- Plan and Profile Drawing C1 of Natural channel System
    - Equity Prestige Business Park Stormwater Management Pond Outlet Extension Detail



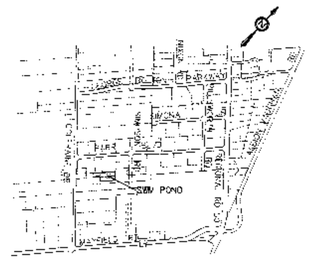
SEE DRAWING 20 FOR CROSS SECTIONS A–A AND B–B



EMERGENCY OVERFLOW ROUTE - SECTION
N.T.S.



LIMESTONE MAINTENANCE ACCESS ROAD
N.T.S.



KEYPLAN

GENERAL NOTES

LEGEND

- MAINTENANCE ACCESS ROAD WITH LIMESTONE SCREENINGS
- PERMANENT POOL AREA
- 4:1 SLOPE
- ESC FENCE AS PER OPSD 219.130

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
12.	DWS	08/07/31	SIXTH SUBMISSION		
11.	DWS	08/06/21	FIFTH SUBMISSION		
10.	DWS	08/06/14	ISSUED FOR CONSTRUCTION		
9.		08/04/04	FOURTH SUBMISSION		
8.		08/02/15	ISSUED FOR TENDER		
7.	GAR	08/02/08	UPDATED OVERFLOW SPILLWAY WIDTH		
6.	BPH	08/01/28	AS PER TRCA COMMENTS		
5.	BPH	07/12/17	THIRD SUBMISSION		
4.	BPH	07/08/14	ISSUED FOR MATERIAL ORDERING		

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO.

DATE _____ APPROVED BY: _____

D. CAMPBELL, C.E.T.
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

BENCH MARK:

ELEVATIONS ARE GEODETIC AND ARE REFERRED TO CITY BM 258058 HAVING AN ELEVATION OF 251.233

LICENSED PROFESSIONAL ENGINEER
M.T. COLEHOUSE
100011229
PROVINCE OF ONTARIO

PROJECT NAME

GWL INDUSTRIAL SUBDIVISION

CONSULTANT

Pitura Husson Limited
1725 16th Avenue – Suite 103
Richmond Hill, Ontario, L4B 4C6
Tel:(905) 709-5825 Fax:(905) 709-5850
Email: general@piturahusson.com

REGION OF PEEL

THE CORPORATION OF THE
TOWN OF CALEDON

POND DESIGN

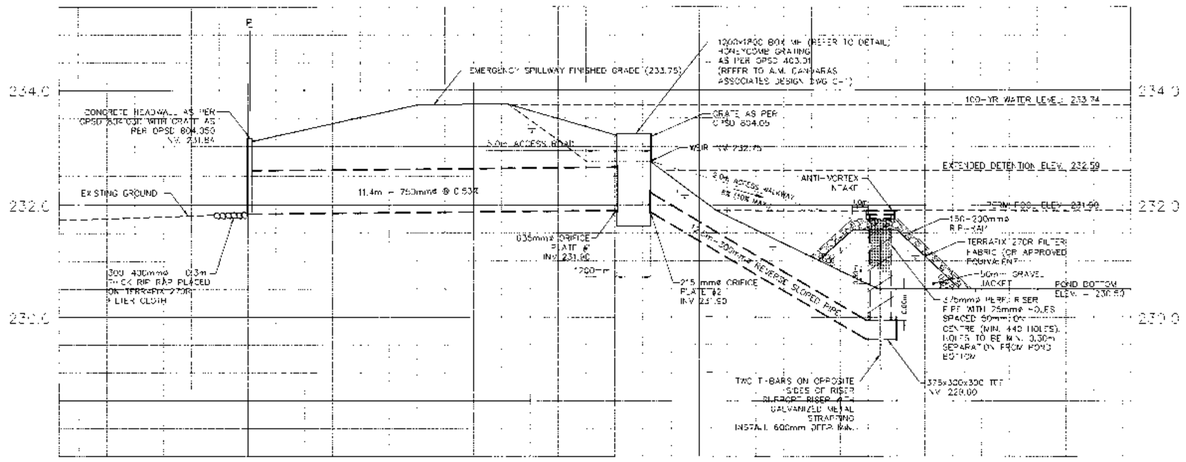
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PROJECT No. 27305

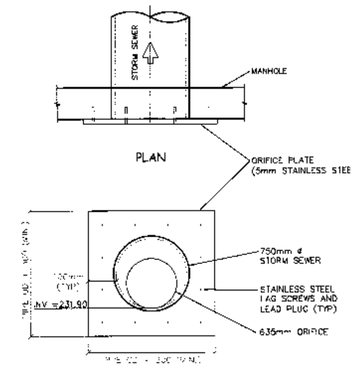
DESIGNED BY: MTC/SAK | DRAWN BY: SAK

MUNICIPAL NO: SPA 07-048 | REGION NO: C02.304

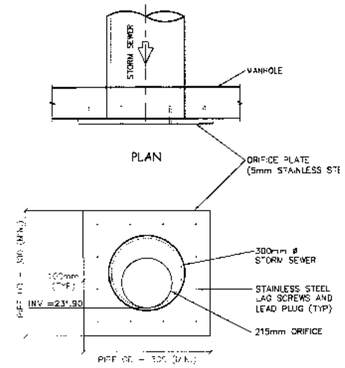
DRAWING No. 12



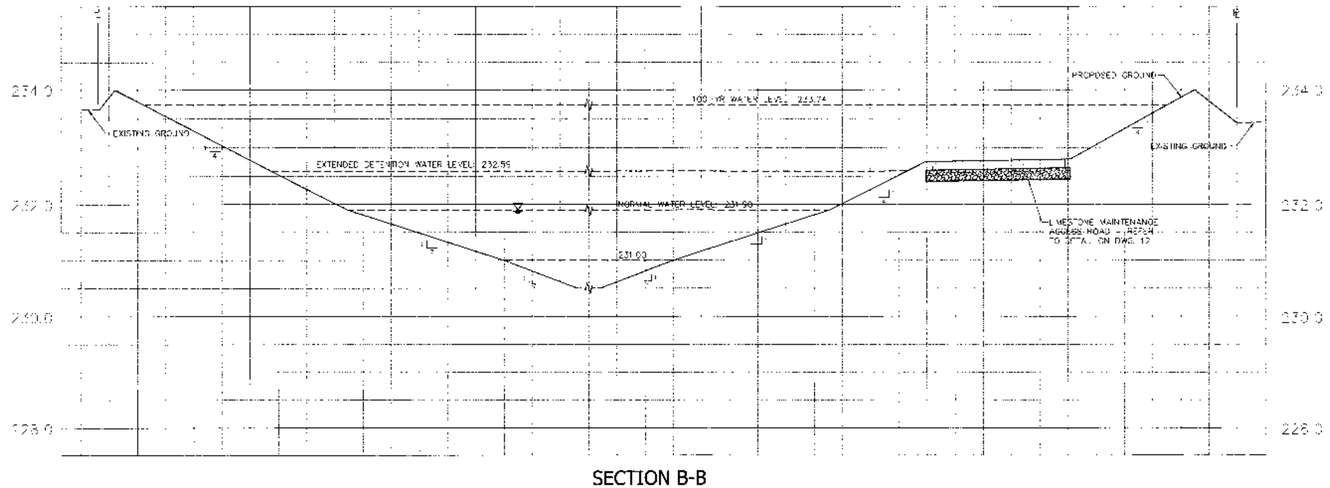
SECTION A-A
N.T.S.



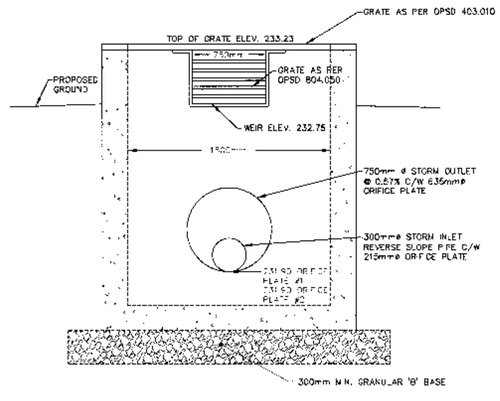
CONTROL MH ORIFICE PLATE #1
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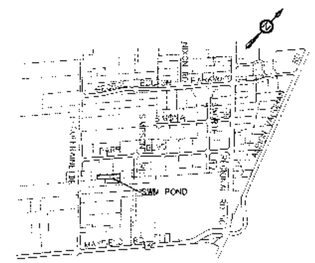
CONTROL MH ORIFICE PLATE #2
N.T.S.



SECTION B-B
N.T.S.



PRECAST CONCRETE DITCH INLET CATCHBASIN
N.T.S.



KEYPLAN
N.T.S.

GENERAL NOTES

NO.	BY	DATE	REVISION	CONSL. CHECKED	TOWN APPR'D
10.	DWS	08/07/31	SIXTH SUBMISSION		
9.	DWS	08/05/14	ISSUED FOR CONSTRUCTION		
8.	DWS	08/04/23	ISSUED FOR POND CONSTRUCTION		
7.		08/03/15	ISSUED FOR TENDER		
6.	DPH	08/01/29	AS PER TRCA COMMENTS		
5.	DPH	07/12/17	THIRD SUBMISSION		
4.	DPH	07/09/14	ISSUED FOR MATERIAL ORDERING		
3.	DPH	07/08/02	SECOND SUBMISSION		
2.	DPH	07/08/21	ISSUED FOR TENDER		
1.	DPH	07/06/01	FIRST SUBMISSION		

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO.

DATE: _____ APPROVED BY: _____
D. CAMPBELL C.E.T.
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

BENCH MARK:

ELEVATIONS ARE GEODETIC AND ARE REFERRED TO THE BM PERCH MARKED AS ELEVATION OF 251.043.

LICENSED PROFESSIONAL ENGINEER
M.T. COLERIDGE
100071229
PROVINCE OF ONTARIO

PROJECT NAME

GWL INDUSTRIAL SUBDIVISION

CONSULTANT

Pitura Husson Limited
1725 16th Avenue - Suite 103
Richmond Hill, Ontario, L4B 4C6
Tel:(905) 709-5825 Fax:(905) 709-5850
Email: general@piturahusson.com

REGION OF PEEL

THE CORPORATION OF THE
TOWN OF CALEDON

POND DETAILS

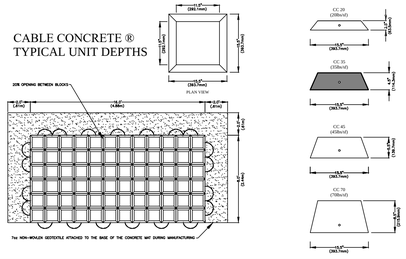
HORIZ. 1:500 VERT.

DESIGNED BY: MTC/SAK	DRAWN BY: SAK	PROJECT No.	27305
MUNICIPAL NO: SPA 07-048	REGION NO: C02.304	DRAWING No.	20

TOTAL POND BLOCK AREA	1.12ha

DESCRIPTION	PROVIDED STORAGE	REQUIRED STORAGE
PERMANENT POOL EL.227.15–229.00	3,680m^3	3,550m^3
EROSION CONTROL EL.229.00–229.75	3,800m^3	3,582m^3
2YR. W.L. EL.229.00–229.95	4,850m^3	4,850m^3
5YR. W.L. EL.229.00–230.15	5,850m^3	5,638m^3
10YR. W.L. EL.229.00–230.25	6,350m^3	6,198m^3
25YR. W.L. EL.229.00–230.40	7,150m^3	7,105m^3
50YR. W.L. EL.229.00–230.55	7,900m^3	7,739m^3
100YR. W.L. EL.229.00–230.85	10,550m^3	8,628m^3

CABLE CONCRETE ® TYPICAL UNIT DEPTHS



IECS INTERNATIONAL EROSION CONTROL SYSTEMS
22253 Haskins Line, Bradney, ON, N0L 1C0 — Phone: 800-821-7462, Fax:866-496-1990, www.iecs.com

CABLE CONCRETE ® TYPICAL UNIT DEPTHS

DRAWN BY: D. J | CHECKED BY: L.A | SCALE: N.T.S | DATE: 10/21/13 | SHEET 1 OF 1

STORM MANHOLES, DICBs, HEADWALLS

NAME	ELEVATION	SIZE	SPECIFICATION
CTL.MH–9	T/G = 231.35 SW INV IN = 229.43 NE INV OUT = 229.40 SE INV OUT = 228.65	3600x2400mm	
10	T/G = 231.35 SW INV IN = 229.15 NW INV IN = 229.04 SE INV OUT = 229.02	3000x3000mm	
CTL.MH–11	T/G = 231.35 N INV IN = 227.02 N INV IN = 229.00 N INV IN = 229.27 NE INV IN = 229.30 NW INV IN = 229.31 S INV OUT = 228.76	1800mm	OPSD 701.012
12	T/G = 230.70 N INV IN = 228.68 SE INV OUT = 228.60	1500mm	OPSD 701.011
13 (TO BE MODIFIED AND COORDINATED AT THE TIME OF MAYFIELD ROAD WIDENING WORKS)	T/G = 231.02 NW INV IN = 228.52 SW INV OUT = 228.47	1800mm	OPSD 701.012
14 (TO BE MODIFIED AND COORDINATED AT THE TIME OF MAYFIELD ROAD WIDENING WORKS)	T/G = 230.85 NE INV IN = 228.37 S INV OUT = 228.32	1800mm	OPSD 701.012
15 (TO BE CONSTRUCTED AND COORDINATED AT THE TIME OF MAYFIELD ROAD WIDENING WORKS)	T/G = 230.70 N INV = 228.24 NE INV = 228.30 S INV = 228.16	1800mm	OPSD 701.012
16	T/G = 229.60 NE INV = 227.28 S INV = 227.23	1200mm	OPSD 701.010

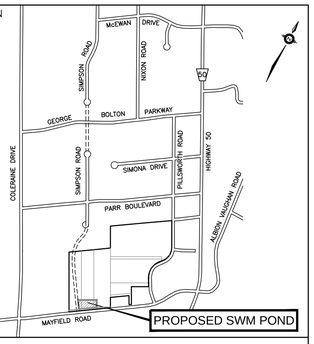
STORM MANHOLES, DICBs, HEADWALLS

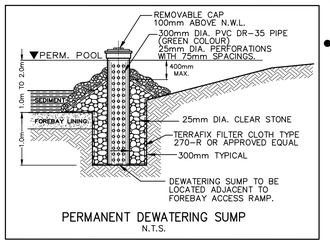
NAME	ELEVATION	SIZE	SPECIFICATION
HW–1	T/G = 230.80 NW INV IN = 229.00		OPSD 804.020 OPSD 804.050 (MODIFIED GRATING)
HW–2	T/G = 229.60 N INV IN = 228.35		OPSD 804.040 GRATING AS PER OPSD 804.050
TEMP. HW–3	T/G = 229.58 N INV IN = 228.27		OPSD 804.030 GRATING AS PER OPSD 804.050
HW–4 (TO BE CONSTRUCTED AND COORDINATED AT THE TIME OF MAYFIELD ROAD WIDENING WORKS)	T/G = 229.51 N INV IN = 228.12		OPSD 804.030 GRATING AS PER OPSD 804.050
DICB 1	T/G = 229.85 S INV OUT = 229.40	1200x600mm	OPSD 705.040
DICB 2	T/G = 230.00 S INV OUT = 229.40	1200x600mm	OPSD 705.040
DICB 3	T/G = 230.30 S INV OUT = 229.40	1200x600mm	OPSD 705.040
OGS–DCB–1	T/G = 230.49 NE INV OUT = 228.76		
[redacted]	T/G = 230.48 SW INV OUT = 228.80		

LIST OF DRAWINGS

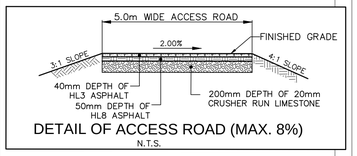
SWM–1A SIMPSON ROAD SWM POND (INTERIM)
SWM–1B SIMPSON ROAD SWM POND (ULTIMATE)
SWM–2A SWM POND SECTIONS (SEC–1A TO SEC–3A)
SWM–2B SWM POND SECTIONS (SEC–1B TO SEC–6B)
SWM–3 CONTROL FLOW STRUCTURE DETAIL
SWM–4 MANHOLES 9, 10 AND 16 DETAILS
SWM–5 STORM OUTFALL DETAIL

KEY PLAN N.T.S.

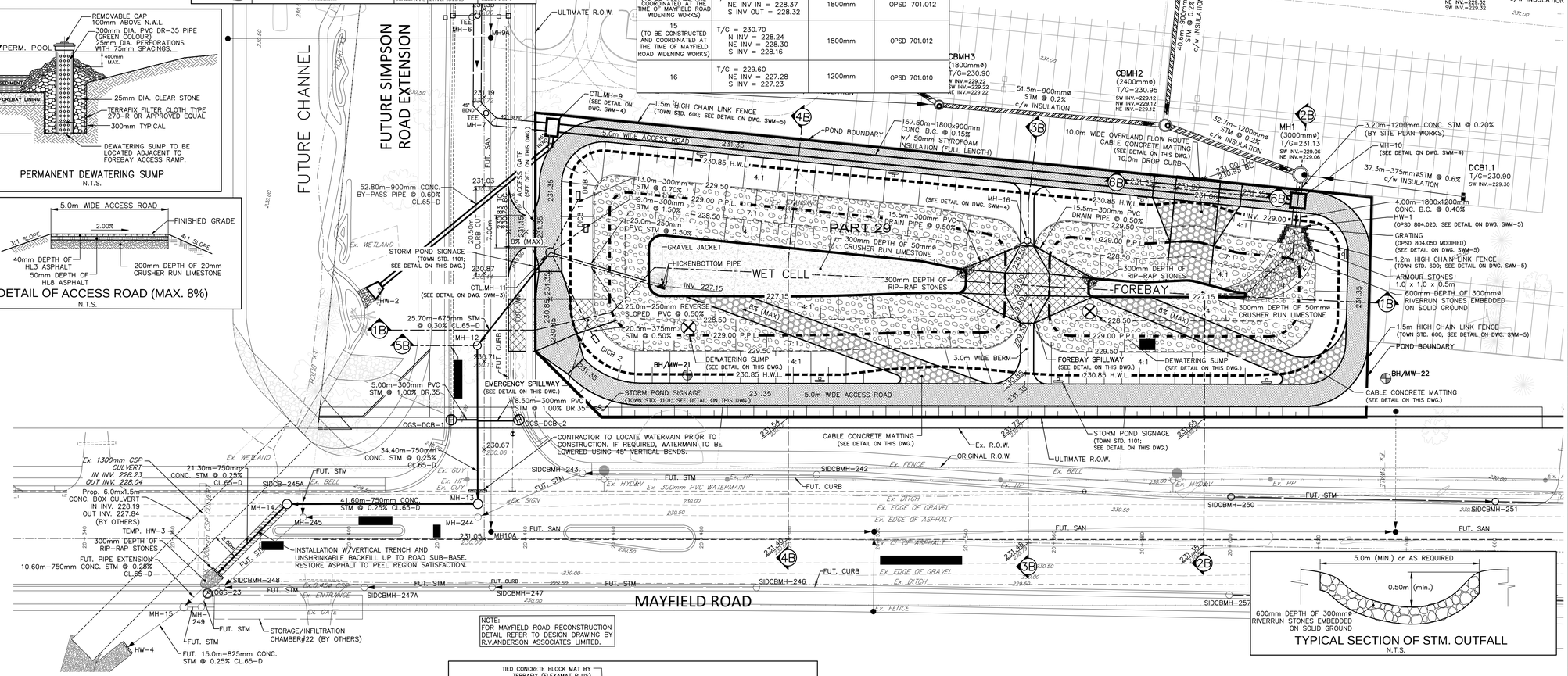




PERMANENT DEWATERING SUMP
N.T.S.



DETAIL OF ACCESS ROAD (MAX. 8%)
N.T.S.



TYPICAL SECTION OF STM. OUTFALL
N.T.S.

NOTES

1. THE LOCATION OF ALL UNDERGROUND AND ABOVE GROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON CONTRACT DRAWINGS, AND WHERE SHOWN THE ACCURACY OF THE LOCATION AND ELEVATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY EXACT LOCATION AND ELEVATION OF SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITIES OF DAMAGE.
2. ALL AREAS DISTURBED DURING CONSTRUCTION OF SEWERS AND WATERMAINS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER, TO THE SATISFACTION OF THE TOWN OF CALEDON .

LEGEND

- 230.07 (231.05) — DENOTES PROPOSED ELEVATION / DENOTES EXISTING ELEVATION
- 231.0 — DENOTES EXISTING CONTOUR ELEVATION
- DENOTES 100 YR. WATER LEVEL
- DENOTES PERMANENT POOL LEVEL
- DENOTES PROPOSED POND CONTOUR LINE
- DENOTES 300mm OF ON–SITE CLAYEY/SILT MATERIAL, FREE OF ORGANICS, COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD) ON TOP OF BENTOFIX GEOSYNTHETIC CLAY LINER (BY TERRAFIX)
- DENOTES 300mm OF 50mm CRUSHER RUN LIMESTONE
- DENOTES TIED CONCRETE BLOCK MAT BY TERRAFIX (FLEXAMAT) SEE DETAIL ON THIS DWG.
- DENOTES CABLE CONCRETE MATTING SEE DETAIL ON THIS DWG.
- DENOTES ASPHALT ACCESS ROAD SEE DETAIL ON THIS DWG.
- DENOTES DEWATERING SUMP SEE DETAIL ON THIS DWG.
- DENOTES STORM POND SIGNAGE AS PER TOWN STD. 1101; SEE DETAIL ON THIS DWG.

NO.	BY	DATE	REVISION	CONCL CHECKED	TOWN APPRVD
1.		21/06/25	WEEPER SYSTEM REMOVED		

NO.	DATE	ISSUED FOR
1.	20/07/06	ISSUED FOR SPA
2.	20/08/18	ISSUED FOR SPA
3.	20/10/07	ISSUED FOR SPA
4.	20/12/21	ISSUED FOR SPA
5.	21/04/06	ISSUED FOR SPA
6.	21/05/05	ISSUED FOR FINAL SUBMISSION

BENCH MARK:

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO CITY OF BRAMPTON CONTROL MONUNENT No. 010840151 HAVING A POSTED ELEVATION OF 229.82 METRES.

PROFESSIONAL ENGINEER F. TCHOURKINE PROVINCE OF ONTARIO — JUN. 25, 2021

Town of Caledon APPROVED AS NOTED

This approval constitutes a general review and does not certify dimensional accuracy.

This approval is subject to further certification of the "as recorded" works by a Professional Engineer of the Province of Ontario.

Date: _____
Approved By: _____
Print Name: _____

ANATOLIA CAPITAL CORPORATION

SCHAEFFERS CONSULTING ENGINEERS
SCHAEFFER & ASSOCIATES LTD.
6 Ronrose Drive, Concord, Ontario L4K 4B3
Tel: (905) 738-6100
Fax: (905) 738-6875
E-mail: design@schaeffers.com

Region of Peel Working for you.

TOWN OF CALEDON

SIMPSON ROAD SWM POND (ULTIMATE)

CITY FILE: XXX

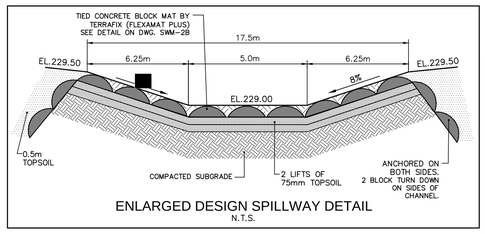
SCALE:	1:500	PROJECT No.	2019-4841
DESIGNED BY:	F.T.	DRAWN BY:	AM
CHECKED BY:	P.S.	DATE:	OCT. 2019
		DRAWING No.	SWM-1B

GENERAL NOTES – STORM SEWERS

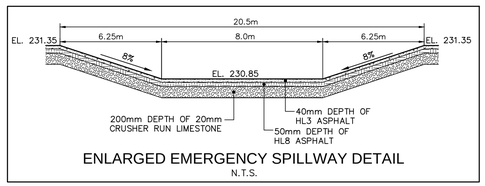
A. STORM SEWER TO BE PROVIDED ON ALL ROADS WITH CURB AND GUTTER.
B. PLACE ALL CATCH BASIN LATERALS AT 2% GRADE UNLESS OTHERWISE NOTED. PIPE SIZE MINIMUM 250mm DIA. SINGLE, 300mm DIA. DOUBLE.
C. STORM SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.030 FOR RIGID PIPE OR OPSD 802.010 WITH GRANULAR 'A' FOR FLEXIBLE PIPE UNLESS APPROVED OTHERWISE BY THE GENERAL MANAGER OF FINANCE & INFRASTRUCTURE SERVICES.
D. MAINTENANCE HOLE TOPS (FRAMES) AND CATCHBASIN (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED.
E. STORM SEWER TO BE LOCATED OFFSET 1.5m SOUTH OR WEST OF CENTERLINE UNLESS OTHERWISE SPECIFIED.
F. ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD 708.01 OR 708.03.
G. PIPE MATERIAL TO BE REINFORCED CONCRETE WITH A STRENGTH OF 50 N/m/mm CERTIFIED TO C.S.A. STANDARD A247.2–1982, CLASS 50–D (PREVIOUSLY C.S.A. STANDARD A257.2–1974 CLASS II) OR PVC CERTIFIED TO C.S.A. STANDARDS 182.2 AND 182.4 MAX. PVC PIPE DIA. IS 600mm BIG O BOSS 2000 POLYETHYLENE PIPE WITH GASKETED BELL AND SPIGOT JOINTS CERTIFIED C.S.A. B182.6 FOR STORM SEWERS UP TO 900mm DIA. WHERE ONLY CONNECTION STD CATCHBASINS ARE CONSIDERED.
H. STORM SEWER TO BE MINIMUM 300mm DIA. WITH JOINTS CONFORMING TO C.S.A. STANDARD A 257.3
I. ALL PIPE BEDDING MUST CONFORM TO OPSD MAXIMUM COVER TABLE. NO FLEXIBLE PIPE SEWERS WILL BE INSTALLED WITH A DEPTH COVER GREATER THAN 6m UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING.
J. ALL PIPE HANDLING INSTRUCTIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES AND THE OCPA OR UNIBELL GUIDELINES.

GENERAL NOTES – ROADWORKS

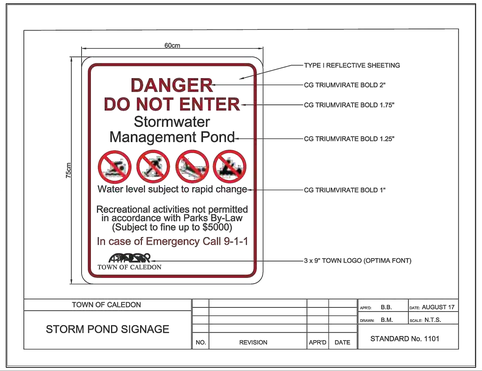
A. SINGLE – STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.040
B. TWO – STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.070
C. SIDEWALKS TO COMPLY WITH OPSD–310.010 AND ARE TO BE 1.5 METRES WIDE ON A 150mm COMPACTED GRANULAR "A" BASE. MINIMUM THICKNESS AS FOLLOWS: – NORMAL THICKNESS 125mm. – RESIDENTIAL DRIVEWAY 150mm – COMMERCIAL/INDUSTRIAL DRIVEWAY 200mm (REINFORCEMENT AS PER OPSS IF REQUIRED)
D. NATIVE SUBGRADE SHALL HAVE A CROSSFALL OF 3% AND THE MATERIAL SHALL BE APPROVED BY A SOILS CONSULTANT AND IS SUBJECT TO APPROVAL BY THE GENERAL MANAGER OF FINANCE & INFRASTRUCTURE SERVICES.
E. THE ROAD BASE SHALL INCORPORATE 100mm DIAMETER SUBDRAIN WITH FACTORY INSTALLED FILTER FABRIC AS PER TOWN OF CALEDON STANDARD No. 218.
F. ALL CURB RADII TO BE MINIMUM OF 10.0 METRES RESIDENTIAL AND 15.0 METRES INDUSTRIAL AT THE EDGE OF ASPHALT.
G. NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 95 % STANDARD PROCTOR MAXIMUM DRY DENSITY AND SHALL BE PROOF ROLLED.
H. GRADE AND CROSS FALL ADJUSTMENT OF MAINTENANCE HOLE AND CATCH BASIN FRAMES WILL BE MADE USING PRODUCTS SPECIFICALLY MANUFACTURED FOR THAT PURPOSE AS PER OPSD 704.010.
I. NON–COMPRESSIBLE BACK FILL WILL BE USED DURING REBUILDING, ADJUSTING, OR ANY OTHER APPLICABLE CATCH BASIN OR MAINTENANCE HOLE WORKS.
J. CURB AND SIDEWALK CONCRETE SHALL BE 32MPa AT 28 DAYS WITH 7% +/– 1.5% ENTRAINED AIR AND NOT LESS THAN 355 kg/m3 OF CEMENT.(PER OPSS 315 AND 353)



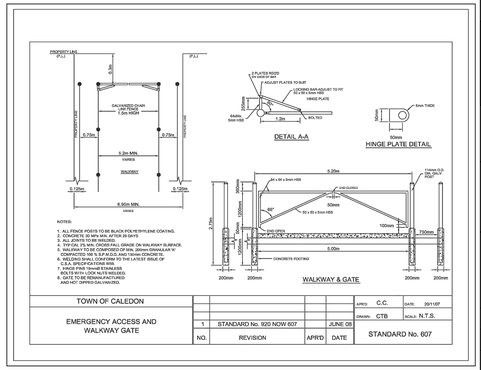
ENLARGED DESIGN SPILLWAY DETAIL
N.T.S.



ENLARGED EMERGENCY SPILLWAY DETAIL
N.T.S.



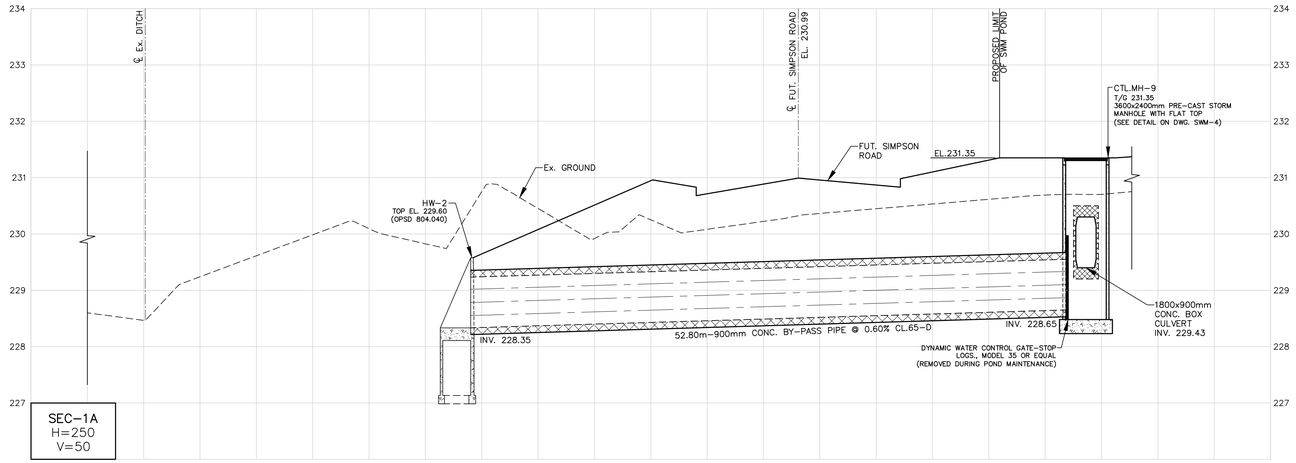
TOWN OF CALEDON							
STORM POND SIGNAGE					APRD: B.B.	DATE: AUGUST 17	
					DRAWN: B.M.	SCALE: N.T.S.	
	NO.	REVISION	APRD	DATE	STANDARD No. 1101		

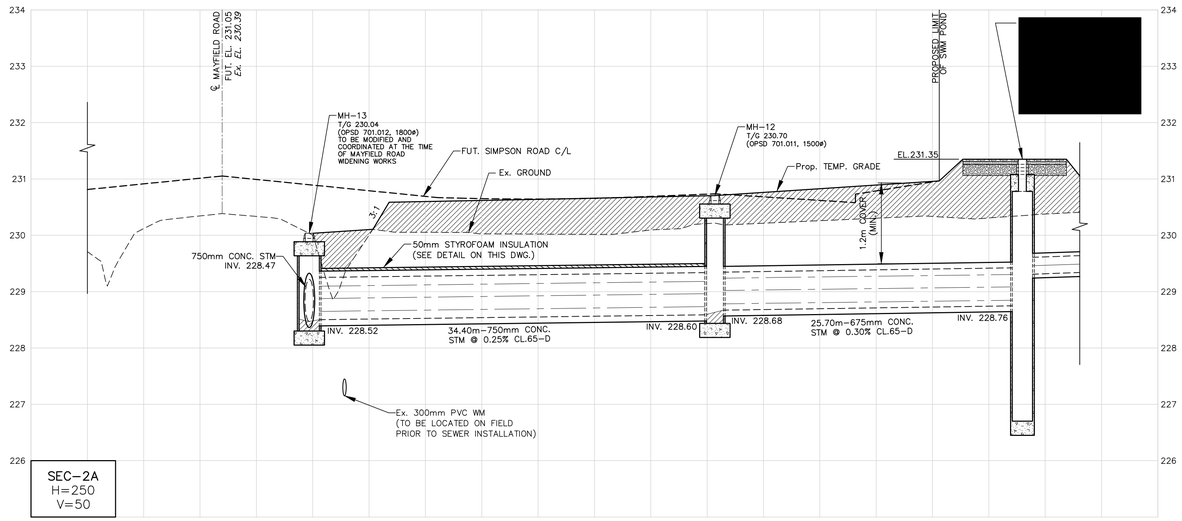


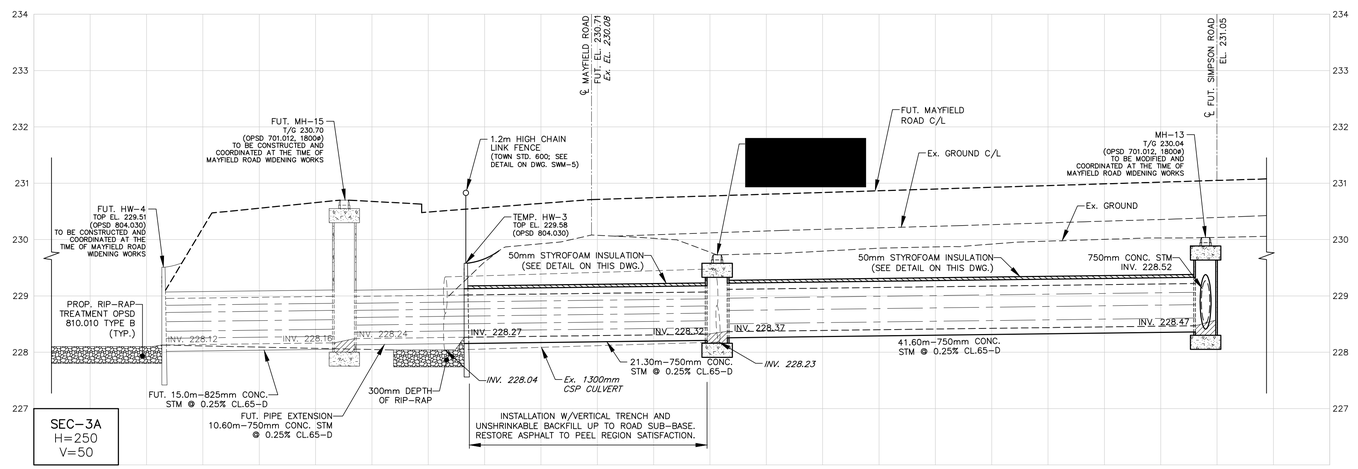
NOTES:
1. ALL STEEL POSTS TO BE BLACK POLYETHYLENE COATING.
2. CONCRETE 35 MPA MIN. AFTER 28 DAYS.
3. ALL JOINTS TO BE WELDED.
4. ALL STEEL TO BE PAINTED – BRUSH ON RAILWAY SURFACE.
5. WALKWAY TO BE COMPOSED OF MIN. 200mm GRANULAR 'A' COMPACTED TO 100 % OF S.P.M.D. AND 150mm CONCRETE.
6. CONCRETE TO BE AS PER OPSS 353 TO THE LATEST ISSUE OF O.P.S.S. SPECIFICATIONS MIN.
7. FENCE PIKE 19mmØ STAINLESS.
8. GATE TO BE 1800mm HIGH CHAIN LINK.
9. GATE TO BE REGINALFAST LATCH AND HOT DIPPED GALVANIZED.

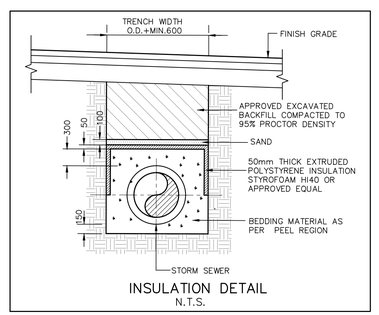
TOWN OF CALEDON							
EMERGENCY ACCESS AND WALKWAY GATE					APRD: C.C.	DATE: 29/1/07	
					DRAWN: CTB	SCALE: N.T.S.	
	1	STANDARD No. 920 NOW 607		JUNE 08			
	NO.	REVISION	APRD	DATE	STANDARD No. 607		

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INSULATION DETAIL
N.T.S.

NO.	BY	DATE	REVISION	CONCL. CHECKED	TOWN APPR'D
1.		21/06/25	WEEPER SYSTEM REMOVED		

NO.	DATE	ISSUED FOR
1.	20/07/06	ISSUED FOR SPA
2.	20/08/18	ISSUED FOR SPA
3.	20/10/07	ISSUED FOR SPA
4.	20/12/21	ISSUED FOR SPA
5.	21/04/06	ISSUED FOR SPA
6.	21/05/05	ISSUED FOR FINAL SUBMISSION

BENCH MARK:

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO CITY OF BRAMPTON CONTROL MONUNENT No. 010840151 HAVING A POSTED ELEVATION OF 229.82 METRES.

PROFESSIONAL ENGINEER
F. TCHOURKINE
JUN. 25, 2021
PROVINCE OF ONTARIO

Town of Caledon
APPROVED
AS NOTED

This approval constitutes a general review and does not certify dimensional accuracy.

This approval is subject to further certification of the "as recorded" works by a Professional Engineer of the Province of Ontario.

Date: _____
Approved By: _____
Print Name: _____

ANATOLIA CAPITAL CORPORATION

SCHAEFFERS
CONSULTING ENGINEERS
SCHAEFFER & ASSOCIATES LTD.
6 Ronrose Drive, Concord, Ontario L4K 4R3
Tel: (905) 738-6100
Fax: (905) 738-6875
E-mail: design@schaeffers.com

Region of Peel
Working for you

TOWN OF CALEDON

SWM POND SECTIONS
SEC-1A TO SEC-3A

CITY FILE: XXX

SCALE: AS SHOWN		PROJECT No.	2019-4841
DESIGNED BY: F.T.	DRAWN BY: AM	DRAWING No.	SWM-2A
CHECKED BY: P.S.	DATE: OCT. 2019		

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TOWN OF CALEDON

SIMPSON ROAD EXTENSION
PHASE 3

FROM 282m SOUTH OF PARR BOULEVARD TO MAYFIELD ROAD
CONTRACT- 14-093

REGION OF PEEL

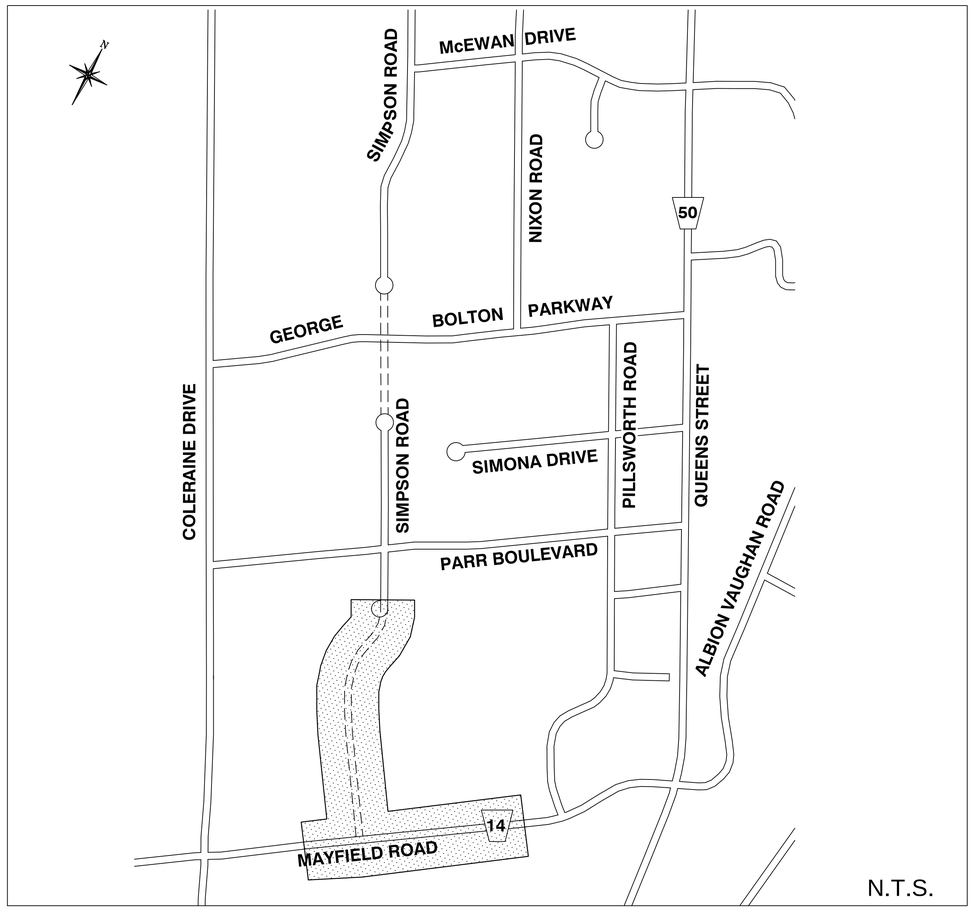
COMMISSIONER OF PUBLIC WORKS

wood.

3450 HARVESTER ROAD
BURLINGTON, ON
L7N 3W5

INFRASTRUCTURE

561m OF ROAD
459m OF STORM SEWER
833m OF SANITARY SEWER
583m OF WATERMAIN
17 MANHOLES
14 CATCHBASINS
16 STREETLIGHTS



DRAWING INDEX

1	LEGEND
2	GENERAL NOTES
3	EROSION & SEDIMENT CONTROL PLAN
4	GENERAL PLAN ABOVE GROUND
5	GENERAL PLAN BELOW GROUND
6	ALIGNMENT
7-8	REMOVALS
9-12	NEW CONSTRUCTION
13-14	PAVEMENT MARKINGS AND SIGNS
15	TYPICAL SECTIONS AND DETAILS
16	WATER DISTRIBUTION
17	SANITARY AREA DRAINAGE PLAN
18	STORM AREA DRAINAGE PLAN
C1-C7	CHANNEL LAYOUT
E01-E05	ELECTRICAL
L1-L4	LANDSCAPING

Issued for Client Review – 100% Detailed Design

LEGEND

1. EXISTING

GENERAL:

- BOUNDARY LINE
- BRIDGES
- CENTERLINE AND (OR) BASELINE
- CNR RAILWAY
- EASEMENT LINE
- DIRECTION OF GRADING
- LOT (LOT) LOT LINE
- MISCELLANEOUS
- PARKING
- LINE PAINTING REMOVAL
- ROAD
- RIGHT OF WAY
- LAKE SHORELINE
- TOP OR BOTTOM SLOPE, BERM
- STREAMS
- WATERSHED SUB-BOUNDARY
- SWAMP AREA, MARSH
- TRANS CANADA GAS PIPELINE
- LANE & PAVEMENT MARKINGS
- WATERSHED AREA

SITE & ROAD:

- BUILDINGS
- EX. BASE
- EX. CENTERLINE AND (OR) BASELINE
- EX. CURB
- EX. DITCH, SWALE (>)
- EX. FENCE (X)
- EX. GABION BASKETS
- EX. GUIDERAIL OR POST & WIRE
- EX. LINE PAINTING
- EX. EDGE OF PAVEMENT
- EX. EDGE OF SHOULDER
- EX. SIDEWALK

SEWER:

- EX. CULVERT
- EX. SANITARY MAIN (SAN)
- EX. SANITARY SERVICE
- EX. STORM MAIN / SUBDRAIN
- EX. STORM SERVICE

UTILITIES:

- EX. BELL (U/B)
- EX. CONDUIT (TRAFFIC LIGHTS ETC.)
- EX. CABLE TV (CTV)
- EX. GAS MAIN (G)
- EX. HYDRO (U/H)
- EX. SPRINKLER SYSTEM
- EX. WATER MAIN (W)
- EX. WATER SERVICE (WS)

2. PROPOSED

SITE & ROAD:

- BASE PLAN
- CURB
- DITCH LINE (>)
- FENCE (X)
- GABION BASKETS
- GUIDERAIL OR POST & WIRE
- LINE PAINTING
- PAVEMENT EDGE
- SHOULDER EDGE
- SIDEWALK

SEWER:

- CULVERTS
- SANITARY DRAINAGE AREA
- SANITARY MAIN
- SANITARY SERVICE
- STORM DRAINAGE AREA
- STORM MAIN / SUBDRAIN
- STORM SERVICE

UTILITIES:

- BELL
- CONDUIT (TRAFFIC LIGHTS ETC.)
- CABLE TV
- GAS MAIN
- HYDRO
- SPRINKLER SYSTEM
- WATER MAIN
- WATER SERVICE (WS)

3. DRAINAGE PLANS

SANITARY:

- SANITARY DRAINAGE DIVIDE
- SUBCATCHMENT BOUNDARY
- LOCAL BOUNDARY
- ZONING BOUNDARY

STORM:

- EX. WATERSHED BOUNDARY - 5 YEAR STORM
- EX. WATERSHED BOUNDARY - 100 YEAR STORM
- FUTURE WATERSHED BOUNDARY - 5 YR STORM
- FUTURE WATERSHED BOUNDARY - 100 YR STORM
- EXISTING SUBCATCHMENT - 5 YEAR
- EXISTING SUBCATCHMENT - 100 YEAR
- FUTURE SUBCATCHMENT - 5 YEAR
- FUTURE SUBCATCHMENT - 100 YEAR
- LOCAL BOUNDARY

SYMBOLS	DESCRIPTION
C.M. , S.I.B. , S.S.I.B.	CONCRETE MONUMENT, STANDARD IRON BAR, SHORT STANDARD IRON BAR
I.B. , STK , P.K.	IRON BAR, STAKE, NAIL
R.I.B. , I.P.	ROUND IRON BAR, IRON PIPE
C.C.	CUT CROSS
B.M., G.B.M.	BENCH MARK, GEODETIC BENCH MARK
G.S.M. #	GEODETIC SURVEY MONUMENT (2nd Order)
P.I.	POINT OF INTERSECTION
B.H.#	BORE HOLE
R.C.S.	RAILWAY CROSSING SIGN
S.B.	SIGNAL BOX
	RAILWAY TRACKS
H.P. , B.P.	HYDRO POLE, BELL POLE
G.W.	GUY WIRE
G.S. , B.S. , M.S.	GAS SIGN, BELL SIGN, MONUMENT SIGN
B.B. , H.B. , CTV.B.	BELL BOX, HYDRO BOX, CABLE TV BOX
POLE (DESCRIPTION)	MISC. POLE (ie. Clothline)
SIGN	SIGN POST (SPECIFY)
U.MH.	UTILITY MANHOLE (OTHER)
S.S. , T.S.	STOP SIGN, TRAFFIC SIGN
POST	POSTS
P.M.	SINGLE PARKING METER
P.M.	DOUBLE PARKING METER
L.P. , T.L.	LIGHT POLE, TRAFFIC LIGHT
H.MH.	HYDRO MANHOLE
E.MH.	ELECTRICAL MANHOLE (TRAFFIC LIGHTS)
B.MH.	BELL MANHOLE
TEL	TELEPHONE BOOTH
HYD.	FIRE HYDRANT
V #	WATER VALVE
	CURB STOP
	WATERMAIN CROSS, TEE
	WATERMAIN CAP, REDUCER
	FIRE HYDRANT (IN PROFILE)
G.V.	GAS VALVE
	EXISTING GROUND POINT
	VAULT
	GABION BASKET, STONE
	RIP RAP
	ROCK
WELL	WELL
SAN.MH.	SANITARY MANHOLE
STM.MH.	STORM MANHOLE
C.B.MH.	CATCH BASIN MANHOLE
C.B.	SINGLE CATCH BASIN
D.C.B., D.C.B.MH.	DOUBLE CATCH BASIN, DOUBLE CATCH BASIN MANHOLE
D.I.C.B.	DITCH INLET CATCH BASIN
	CULVERT
	SWAMP, MARSH
	TREE LINE, HEDGE
	DECIDUOUS, CONIFEROUS TREE ; STUMP (TREE SIZES WILL BE IN 100mm INCREMENTS)
	DECIDUOUS AND CONIFEROUS SHRUBS
	HATCHING FOR OBJECTS TO BE REMOVED (SCALE OF HATCHING TO BE IN PROPORTION TO THE ITEM TO BE REMOVED)

BLOCK SYMBOLS

BLOCK	BLOCK NAME	
C.M.	CM	
S.I.B.	SIB	
S.S.I.B.	SSIB	
I.B.	IB	
STK	STK	
P.K.	PK	
C.C.	CC	
R.I.B.	RIB	
I.P.	IP	
B.M.	BM	
G.B.M.	GBM	
P.I.	PI	
R.C.S.	RCS	
S.B.	SB	
S.S.	SS	
T.S.	TS	
SIGN	SIGN	
POST	POST	
P.M.	PM1	
P.M.	PM2	
	EG	
N	N	
H.P.	HP	
G.W.	GW	
L.P.	LP	
T.L.	TL	
POLE	POLE	
B.P.	BP	
B.S.	BS	
G.S.	GS	
M.S.	MS	
EX.SAN.MH.	SANMH	
EX.STM. MH.	STMMH	
EX. C.B.MH.	CBMH	
EX. D.C.B.MH.	DCBMH	
EX. C.B.	CB	
EX. D.C.B.	DCB	
EX. D.I.C.B.	DICB	
CULV	CULV	
TREELINE	TREELINE	
HEDGE	HEDGE	
B.MH.	BMH	
B.B.	BB	
PHONE	PHONE	
H.MH.	HMH	
E.MH.	EMH	
H.B.	HB	
U.MH.	UMH	
CTV.B.	CTVB	
DSHRUB	DSHRUB	
CSHRUB	CSHRUB	
HYD	HYD	
WV	WV	
CS	CS	
PHYD	PHYD	
PWV	PWV	
PCS	PCS	
CAP	CAP	
CROSS	CROSS	
TEE	TEE	
REDUCER	REDUCER	
PROP. FIRE HYDRANT STA. 0+035.4 FLANGE ELEV. 227.52	HYD-PROF	
G.V.	GV	
	VAULT	
	RIPRAP	
	SWAMP	
	ROCK	
WELL	WELL	

BLOCKS WITH ATTRIBUTES

BLOCK	BLOCK NAME	
PROP.STM. MH.#	PSTMMH	
PROP.C.B.#	PCBMH	
PROP.D.C.B. MH.#	PDCBMH	
PROP.C.B.#	PCB	
PROP.D.C.B.#	PDCB	
PROP. D.I.C.B.#	PDICB	
PROP.SAN. MH.#	PSANMH	
QUANTITY .1	D1	
QUANTITY .2	D2	
QUANTITY .3	D3	
QUANTITY .4	D4	
QUANTITY .5	D5	
QUANTITY .6	D6	
QUANTITY .7	D7	
QUANTITY .8	D8	
QUANTITY .9	D9	
QUANTITY 1.0	D10	
QUANTITY 1.1	D11	
QUANTITY 1.2	D12	
QUANTITY 1.3	D13	
QUANTITY 1.4	D14	
QUANTITY SIZE	D15	
QUANTITY 1	C1	
QUANTITY 2	C2	
QUANTITY 3	C3	
QUANTITY 4	C4	
QUANTITY 5	C5	
QUANTITY 6	C6	
QUANTITY 7	C7	
QUANTITY 8	C8	
QUANTITY 9	C9	
QUANTITY 1.0	C10	
QUANTITY 1.1	C11	
QUANTITY 1.2	C12	
QUANTITY 1.3	C13	
QUANTITY 1.4	C14	
QUANTITY SIZE	C15	
QUANTITY 1	STUMP1	
QUANTITY 2	STUMP2	
QUANTITY 3	STUMP3	
QUANTITY 4	STUMP4	
QUANTITY 5	STUMP5	
QUANTITY 6	STUMP6	
QUANTITY 7	STUMP7	
QUANTITY 8	STUMP8	
QUANTITY 9	STUMP9	
QUANTITY 10	STUMP10	
QUANTITY 11	STUMP11	
QUANTITY 12	STUMP12	
QUANTITY 13	STUMP13	
QUANTITY 14	STUMP14	
QUANTITY SIZE	STUMP15	
G.S.M. # #	GSM	
B.H.#	BH	

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	[redacted]	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

[redacted]

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

OF THE
TOWN OF CALEDON

LEGEND

SCALE: **N.T.S.**	PROJECT No. **TP113126**
DESIGNED BY: **F.W.** / DRAWN BY: **N.H.**	
CHECKED BY: **D.S.** / DATE: **NOV. 2020**	DRAWNING No. **1**

REGION OF PEEL GENERAL NOTES

GENERAL:

1. THE APPLICANT, APPLICANTS REPRESENTATIVE, CONSULTANT, CONTRACTOR AND SUB CONTRACTORS ARE RESPONSIBLE TO ENSURE THAT THEIR DESIGN MATERIALS AND CONSTRUCTION PRACTICES CONFORM TO THE LATEST REGION OF PEEL STANDARDS, SPECIFICATIONS, MATERIALS AND DESIGN CRITERIA, POSTED ON REGION OF PEEL'S WEBSITE (www.peelregion.ca/pw/standards). IN THE ABSENCE OF REGION SPECIFICATIONS, THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) SHALL APPLY.
2. ALL WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED THE CONSTRUCTOR AS DEFINED IN THE ACT.
3. THE CONTRACTOR AT THEIR EXPENSE SHALL VERIFY THE LOCATION, DIMENSION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES IN THE FIELD.
4. PRIOR TO EXCAVATION OR BORING CONTRACTOR AT THEIR EXPENSE SHALL EXPOSE AND VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND SERVICES TO BE CROSSED AND MUST NOTIFY THE DESIGN ENGINEER AND THE AGENCY FIELD INSPECTOR AND/OR PROJECT MANAGER IMMEDIATELY, IN WRITING, OF ANY CONFLICTS OR DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING THE EXISTING UTILITIES FAR ENOUGH IN ADVANCE OF CONSTRUCTION TO MAKE NECESSARY DESIGN MODIFICATIONS FOR REVIEW AND APPROVAL, IF REQUIRED, WITHOUT DELAYING THE WORK.
5. THE CONTRACTOR, AT THEIR EXPENSE AND TO THE SATISFACTION OF THE REGION OF PEEL, SHALL BE RESPONSIBLE FOR THE RESTORATION AND THE REPAIR OF THE EXISTING UTILITIES AND ALL AREAS BEYOND THE PLAN OF SUBDIVISION DISTURBED DURING CONSTRUCTION.
6. THE SUPPORT OF ALL UTILITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
7. ALL BACKFILL FOR SEWERS, WATERMAINS AND UTILITIES ON THE ROAD ALLOWANCE MUST BE MECHANICALLY COMPACTED.
8. ALL BOREHOLES SHOWN ON DRAWING ARE FOR INFORMATION ONLY. REFER TO GEOTECHNICAL REPORT.
9. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.

WATERMAINS:

1. THE REGION OF PEEL SHALL CONDUCT THE OPERATION OF EXISTING VALVES AND HYDRANTS IF REQUIRED.
2. CONTRACTOR MUST USE BATTER BOARD OR ROD-AND-LEVEL METHOD FOR WATERMAIN INSTALLATION.
3. ALL WATERMAINS SHALL HAVE 1.70m MINIMUM COVER FOR URBAN ROAD DESIGN AND 2.1m MINIMUM COVER FOR RURAL ROAD DESIGN.
4. ALL WATERMAINS SHALL MAINTAIN A MINIMUM 1.5m CLEARANCE FROM ALL MANHOLES AND CATCH BASINS, WHERE APPLICABLE.
5. FOR WATERMAINS CROSSING OVER OR UNDER SEWERS A MINIMUM 0.5m VERTICAL CLEARANCE SHALL BE PROVIDED.
6. FOR WATERMAIN CROSSING A SANITARY SEWER, WATERMAIN JOINTS ARE TO BE OFFSET A MINIMUM OF 2.5m HORIZONTALLY FROM THE CENTERLINE OF THE SANITARY SEWER.
7. WATERMAIN BEDDING SHOULD BE PER DWG 1-5-1.
8. WATERMAINS TO BE INSTALLED TO GRADES AS SHOWN ON APPROVED PLANS, COPY OF GRADE SHEET MUST BE SUPPLIED TO THE REGION OF PEEL INSPECTOR PRIOR TO COMMENCEMENT OF WORK.
9. ANY JOINT DEFLECTION SHALL NOT EXCEED 50% OF MANUFACTURERS SPECIFICATIONS. PIPE BARREL DEFLECTION IS PROHIBITED.
10. FIRE HYDRANTS SHALL BE INSTALLED AS PER REGION STD. DWG. 1-6-1 OR 1-6-2 WITH FLANGE SET BETWEEN 50mm AND 150mm ABOVE FINISHED GRADE.
11. ALL HYDRANTS SHALL HAVE 1.2m MINIMUM HORIZONTAL CLEARANCE FROM ALL OTHER UTILITIES AND STRUCTURES MEASURED FROM THE NEAREST POINT OF THE STRUCTURE.
12. MECHANICAL RESTRAINERS ARE REQUIRED FOR ALL FITTINGS, VALVES, DEAD ENDS, CAPS AND HYDRANTS ON ALL PVC WATERMAINS; MINIMUM RESTRAINED PIPE LENGTH AS PER REGION'S STANDARD DRAWING 1-5-9.
13. STAINLESS STEEL NUTS AND BOLTS ARE TO BE USED ON ALL METALLIC FITTINGS AND JOINT RESTRAINTS.
14. ALL METALLIC VALVES, FITTINGS, THROUGH WALL METAL PIPING AND JOINT RESTRAINTS TO BE C/W DENSO PASTE, DENSO MASTIC & DENSO TAPE OR APPROVED EQUAL APPLIED TO MANUFACTURERS RECOMMENDATIONS.
15. WHERE PLASTIC PIPE IS USED, INSTALL A 12 GAUGE TWU STRANDED COPPER, LIGHT COLOURED, PLASTIC COATED TRACER WIRE ATTACHED TO THE PIPE WITH APPROVED WIRE SPLICE. THE WIRE SHOULD BE BROUGHT TO THE SURFACE AT EACH SERVICE & VALVE BOX AND HYDRANT VALVES.
16. 50mm DIAMETER WATERMAIN SHALL BE TYPE K SOFT COPPER. WATERMAIN INSTALLATION IN CULDE-SACS AS PER REGION STD. DWG. 1-7-4.
17. A PHYSICAL SEPARATION MUST BE MAINTAINED AT ALL CONNECTION POINTS OF NEW WATERMAIN TO THE EXISTING SYSTEM UNTIL BACTERIOLOGICAL TESTS HAVE PASSED, AS PER STD. DWG. 1-7-7 AND 1-7-8.
18. PROVISION FOR FLUSHING OF NEW WATERMAINS PRIOR TO TESTING MUST BE PROVIDED WITH AT LEAST 50mm OUTLET ON WATERMAINS SMALLER THAN 300mm IN DIAMETER, AND MINIMUM 100mm OUTLET ON WATERMAINS 300mm AND LARGER. COPPER WATERMAINS ARE TO HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE WATERMAIN, AS PER STD. DWG. 1-7-7 AND 1-7-8.
19. ALL SERVICE CONNECTIONS TO PVC PIPES ARE TO BE MADE USING APPROVED WIDE BAND SERVICE SADDLE, DIRECT TAPPING IS NOT ALLOWED.
20. ALL WATER SEVICES SHALL BE MINIMUM 25mm DIA NOMINAL COPPER PIPE SIZE OR 32mm DIA POLYETHYLENE PIPE. IN GENERAL, NON METALLIC SERVICES SHALL BE ONE SIZE LARGER THAN THE NOMINAL COPPER PIPE SIZE AS PER LATEST APPROVED REGIONAL PRODUCT LIST AND SIZES C/W TRACER WIRE.
21. THE MINIMUM LATERAL DISTANCE BETWEEN WATER SERVICES AND OTHER UTILITIES SHALL BE 1.2m.
22. ALL RESIDENTIAL WATER SERVICE BOXES/CURB STOPS SHALL BE INSTALLED WITHIN SODDED AREAS WITH MINIMUM DISTANCE OF 1.0 METRES FROM THE EDGE OF THE DRIVEWAY, BE FLUSH WITH GRADE AND ACCESSIBLE AT ALL TIME.
23. VALVE AND BOXES SHALL BE CAST IRON SLIDING TYPE, COMPLETED WITH VALVE GUIDE PLATES AND INSTALLED AS PER REGION STD. 1-3-8. MAINLINE VALVES TO BE RESTRAINED AS PER REGION STD. 1-3-3A. VALVES SHALL OPEN TO THE LEFT (COUNTER-CLOCKWISE).
24. ALL WATER SERVICES BOXES SHOULD BE "LEAD FREE" AS PER REGION'S MATERIAL SPECIFICATIONS.
25. THE REGION WILL COMPLETE THE NECESSARY WATER TESTING (PRESSURE TEST, FLUSHING, CHLORINATION AND SAMPLING). CONTRACTOR MAY PROCEED WITH HIS OWN PRESSURE TEST AND FLUSHING PRIOR TO REGION'S TESTING.
26. ALL METALLIC WATER PIPES INCLUDING 'K' COPPER WATER SERVICES, INSTALLED OE REPAIRED, SHALL HAVE ZINC ANODE AS PER REGION OF PEEL STANDARD 1-7-1, OPSS 422 AND OPSD 1109.011 AND TO CONFORM TO ASTM B-418 TYPE.
27. ALL WATERMAIN PIPE DELIVERED ON SITE SHALL HAVE MANUFACTURER'S PLUGS AND STORED SO THAT NO DEBRIS ENTERS THE PIPE.
    NO WATERMAIN IS TO BE INSTALLED UNTIL NIGHT PLUG IS ON SITE.
    NIGHT PLUG TO BE USED EVERY TIME WORK IS STOPPED.

WATERMAIN IN FILL AREA:

1. NO WATERMAIN TO BE LAID ON FILL UNTIL THE FIELD DENSITY TEST REPORTS HAVE BEEN SUBMITTED TO AND APPROVED BY THE REGION OF PEEL OR THE CONSULTING ENGINEER.
2. PIPE JOINTS DEFLECTIONS ARE NOT ALLOWED IN FILL AREA.
3. JOINTS SHALL BE MECHANICALLY RESTRAINED THE WHOLE LENGTH.
4. ALL HYDRANTS, TEE BRANCH VALVES AND HORIZONTAL BENDS ARE TO BE MECHANICALLY RESTRAINED WITH TIE RODS.
5. IN EXISTING MUNICIPAL RIGHT-OF-WAY OR EASEMENT, FILL TO BE PLACED TO 600mm MINIMUM ABOVE THE OBVERT OF THE WATERMAIN AND TO 300mm EITHER SIDE, COMPACTED TO MINIMUM 100% STANDARD PROCTOR DENSITY IN 300mm LIFTS; AND THEREAFTER, FOR EVERY 300mm LIFT ALONG THE CENTERLINE, AND 1.5m TO EITHER SIDE, OF WATERMAIN AT MAXIMUM INTERVAL OF 30.0m. TEST RESULTS MUST BE SUBMITTED TO AND APPROVED BY THE CONSULTANT OR AGENCY.

SANITARY SEWERS:

1. ALL SANITARY SEWER BEDDING AS PER STD. 2-3-1.
2. MAINLINE SANITARY SEWER PIPE SIZE SHALL BE MINIMUM 250mm IN DIAMETER INSTALLED AT THE APPROVED DESIGN GRADE. PIPE CLASS AND APPURTENANCES AS PER REGIONS SPECIFICATIONS.
3. ALL SEWERS CONSTRUCTED WITH GRADES 0.5% OR LESS SHALL BE APPROVED BY THE ENGINEER AND THE AGENCY PROJECT MANAGER OR DESIGNATE AND BE INSTALLED WITH LASER AND CHECKED PRIOR TO BACKFILL.
4. MINIMUM SANITARY SEWER PIPE SLOPE FOR LAST LEG SHALL BE 1% AND DESIRABLE SLOPE 2%.
5. ALL MANHOLES SHALL BE AS PER REGION STD. DWG. 2-5-2, 2-5-3, 2-5-4, 2-5-5 AND 2-5-6 AND BENCHING AS PER STD 2-5-20.
6. FRAME AND COVERS SHALL BE AS PER REGION STD. DWG. 2-5-13, 2-6-1 TO 2-6-8.
7. MANHOLE STEPS SHALL BE AS PER REGION STD. DWG. 2-6-9 TO 2-6-11.
8. MANHOLES DEEPER THAN 5.0m MUST BE EQUIPPED WITH SAFETY PLATFORMS, AS PER STD 2-6-13 AND 2-6-14.
9. MANHOLE DROP STRUCTURES SHALL BE AS PER REGION STD. DWG. 2-5-26 AND 2-5-27.
10. SANITARY SERVICE LATERALS SHALL BE MINIMUM 150mm DIAMETER.
    a. SANITARY SERVICE SHALL BE LOWER THAN AND TO THE RIGHT OF THE STORM SERVICE AT THE PROPERTY LINE WHEN FACING THE LOT FROM THE STREET.
    b. CONNECTIONS TO SEWERS SHALL BE MADE WITH MANUFACTURED TEES OR WYES WHERE APPLICABLE APPLICABLE AND SHALL BE COLOUR CODED AS NON-WHITE, AS PER STD. DWG. 2-4-1 TO 2-4-7.

REGIONAL ROAD: (NOT APPLICABLE)

1. CONSTRUCTION AND DETOUR SIGNAGE MUST CONFORM TO "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" AND LATEST REVISION OF THE ONTARIO MINISTRY OF TRANSPORTATION "TRAFFIC CONTROL MANUAL FOR ROADWAY WORK OPERATIONS"
2. ALL TEMPORARY SIGNAGE AND TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF ONTARIO TRAFFIC MANUAL, BOOK 7 "TEMPORARY CONDITIONS" AND OPS SPECIFICATIONS AND STANDARD DRAWINGS.
3. PAVEMENT MARKINGS MUST BE IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL, BOOK 11 "PAVEMENT HAZARD AND DELINEATION MARKINGS".
4. THE CONTRACTOR SHALL NOTIFY IN ADVANCE, AS REQUIRED, THE APPROPRIATE AUTHORITY HAVING JURISDICTION FOR THE ROAD PRIOR TO COMMENCING ANY WORK AND SHALL ACQUIRE AND SATISFY THE REQUIREMENTS OF APPROPRIATE PERMITS (FEES, INSPECTIONS, SIGNAGE, TRAFFIC, MAINTENANCE, DIVERSION, ETC...)
5. REGIONAL ROAD CLOSURE IS NOT PERMITTED AT ANY TIME UNLESS APPROVAL FROM REGIONAL COUNCIL WAS OBTAINED FOR THE WORKS, WHERE A MINIMUM TWO MONTH LEAD TIME IS REQUIRED, AS PER REGIONAL POLICY W30-12.
6. WORK OPERATIONS THAT REQUIRE DIVERTING TRAFFIC TO ONE LANE ARE SUBJECT TO TIME RESTRICTIONS AND ,OR NIGHT TIME OPERATIONS AS SPECIFIED IN ROAD OCCUPANCY PERMIT. THROUGH LANES MUST BE MINIMUM 3.5m, UNLESS OTHERWISE APPROVED.
7. FOR TEMPORARY DELINEATION OF TRAFFIC IN OPPOSITE DIRECTIONS A YELLOW CENTRE LINE ON PAVEMENT MUST PAINTED. TRAFFIC CONTROL BARRELS (CONES) ARE NOT PERMITTED FOR THIS USE ON REGIONAL ROADS.
8. NEW JERSEY BARRIERS (NJB) WITH CRASH ATTENUATION DEVICES MUST BE USED ON LONG TERM PROJECTS AS OPPOSED TO TRAFFIC CONTROL DELINEATORS (BARRELS).
9. ACCESS TO EXISTING ENTRANCES AND SIDE STREETS, INCLUDING PEDESTRIAN ACCESS, SHALL BE MAINTAINED. ACCESS REQUIREMENTS MUST COMPLY WITH REGION OF PEEL CONTROLLED ACCESS BY-LAW.
10. LOCATION OF EXISTING UTILITIES TO BE ESTABLISHED BY THE CONTRACTOR. ALL EXISTING UTILITY ELEVATIONS (SANITARY AND WATERMAIN) INCLUDING CENTRE LINE OF THE ROAD ELEVATIONS HAVE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCING ANY WORK ON SITE. ANY DISCREPANCIES SHALL BE REPORTED TO THE REGION IMMEDIATELY.
11. THE THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UNDERGROUND AND OVERHEAD UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF HIS WORK, WHETHER SHOWN ON THE PLANS OR NOT, AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
12. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE TO GIVE 72 HOURS WRITTEN NOTICE TO UTILITY AUTHORITY PRIOR TO CROSSING SUCH UTILITIES FOR THE PURPOSE OF INSPECTION. THIS INSPECTION WILL BE FOR THE DURATION OF CONSTRUCTION WITH THE CONTRACTOR RESPONSIBLE FOR ALL COSTS ARISING FROM SUCH INSPECTIONS.
13. ALL ROAD BASE SHALL BE AS PER REGION OF PEEL STD. DWG. 5-1-1 AND 5-1-2.
14. ASPHALT PRESERVATIVE SEALER SUCH AS RE-CLIMATE OR APPROVED EQUIVALENT SHALL BE APPLIED AFTER THE ONE-YEAR MAINTENANCE PERIOD FOR THE TOP COURSE ASPHALT.
15. ALL EXISTING PAVEMENTS, CURBS, SIDEWALKS AND BOULEVARDS, AND OTHER AREAS DISTURBED BY THE WORK, TO BE REINSTATED EQUAL TO EXISTING AND TO THE SATISFACTION OF APPLICABLE AUTHORITY HAVING JURISDICTION OVER THE ROAD ALLOWANCE. EXISTING PAVEMENT AND CURBS TO BE SAW-CUT TO PROVIDE A SMOOTH JOINT.
16. EROSION CONTROL MEASURES TO BE IMPLEMENTED AS REQUIRED.
17. FOR ROAD PROJECTS THAT WILL NOT BE COMPLETED PRIOR TO THE END OF THE CONSTRUCTION SEASON, THE FOLLOWING WILL NEED TO BE CONSIDERED IN ORDER TO WINTERIZE THE CONSTRUCTION PROJECT TO ENSURE SAFE CONDITIONS DURING WINTER:
    a. WHERE APPLICABLE, CURB AND GUTTER SECTIONS ARE TO BE COMPLETED, THE BASE COURSE ASPHALT SHALL BE IN PLACE
    b. CATCHBASINS AND MAINTENANCE HOLES SET TO EXISTING BASE GRADE
    c. STEEL PLATING NOT PERMITTED
    d. HOT MIX ASPHALT (HMA) ONLY
    e. LANE DELINEATION AND PAVEMENT MARKING COMPLETED
    f. WHERE JERSEY BARRIERS USED, OFFSET NO LESS THAN 4.25m FROM EDGE OF TRAVELLED LANE
    g. ROAD AND BOULEVARD MUST BE FREE OF OBSTRUCTIONS AND ACCOMODATE SAFE SNOW PLOW OPERATION CONSIDERING THAT A WING AND PLOW IS 6m WIDE AND 1.52m SNOW STORAGE MINIMUM REQUIRED
    h. ALL CATCHBASIN GRATES SHALL BE SIDE INLET, OPSD 400.081 (LATEST VERSION) UNLESS OTHERWISE NOTED
    i. WINTER SHUT-DOWN MEETINGS WITH THE REGION OF PEEL ROAD MAINTENANCE STAFF ARE REQUIRED PRIOR TO SEASONAL SHUT-DOWN AND SHALL BE ORGANIZED BY THE CONSULTANT OR PROJECT MANAGER OR DESIGNATE.

TRAFFIC SIGNS AND SIGNALS ON REGIONAL ROADS: (NOT APPLICABLE)

1. ALL REQUIRED TRAFFIC SIGN, WHETHER REGULATORY, WARNING, TEMPORARY OR GUIDE/DIRECTIONAL IN NATURE SHAL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS SPECIFICATIONS AND LEGISLATION CONTAINED IN THE OTM MANUALS, THE HTA AND REGION OF PEEL TRAFFIC BY-LAW.
2. ELECTRICAL WORKS SHALL CONFORM TO THE ONTARIO PROVINCIAL STANDARDS (OPS) DRAWINGS AND REGION OF PEEL STANDARD DRAWINGS AND SPECIFICATIONS.
3. TRAFFIC CONTROLLERS MUST BE INSTALLED AS PER APPROVED LOCATIONS. EQUIPMENT MUST NOT ENCROACH ON PRIVATE PROPERTY WITHOUT PERMISSION TO ENTER, EASEMENT, PERMANENT OR TEMPORARY UNDERTAKINGS.

GENERAL NOTES - ROADWORKS

ROADS

A. SINGLE - STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.040
B. TWO - STAGE CURB & GUTTER TO COMPLY WITH OPSD 600.070
C. SIDEWALKS TO COMPLY WITH OPSD-310.010 AND ARE TO BE 1.5 METRES WIDE ON A 150mm COMPACTED GRANULAR "A" BASE. MINIMUM THICKNESS AS FOLLOWS :
   - NORMAL THICKNESS 125mm.
   - RESIDENTIAL DRIVEWAY 150mm
   - COMMERCIAL/INDUSTRIAL DRIVEWAY 200mm
   (REINFORCEMENT AS PER OPSS IF REQUIRED)
D. NATIVE SUBGRADE SHALL HAVE A CROSSFALL OF 3% AND THE MATERIAL SHALL BE APPROVED BY A SOILS CONSULTANT AND IS SUBJECT TO APPROVAL BY THE GENERAL MANAGER OF FINANCE & INFRASTRUCTURE SERVICES.
E. THE ROAD BASE SHALL INCORPORATE 100mm DIAMETER SUBDRAIN WITH FACTORY INSTALLED FILTER FABRIC AS PER TOWN OF CALEDON STANDARD No. 240.
F. ALL CURB RADII TO BE MINIMUM OF 10.0 METRES RESIDENTIAL AND 15.0 METRES INDUSTRIAL AT THE EDGE OF ASPHALT.
G. NATIVE SUBGRADE TO BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR MAXIMUM DRY DENSITY AND SHALL BE PROOF ROLLED.
H. GRADE AND CROSS FALL ADJUSTMENT OF MAINTENANCE HOLE AND CATCH BASIN FRAMES WILL BE MADE USING PRODUCTS SPECIFICALLY MANUFACTURED FOR THAT PURPOSE AS PER OPSD 704.010.
I. NON-COMPRESSIBLE BACK FILL WILL BE USED DURING REBUILDING, ADJUSTING, OR ANY OTHER APPLICABLE CATCH BASIN OR MAINTENANCE HOLE WORKS.
J. CURB AND SIDEWALK CONCRETE SHALL BE 30MPa AT 28 DAYS WITH 7% +/- 1.5% ENTRAINED AIR AND NOT LESS THAN 355 kg/m3 OF CEMENT.(PER OPSS 315 AND 353)

TOWN OF CALEDON						
GENERAL NOTES ROADWORKS					APR'D: C.C.	DATE: DEC 1999
	3	TEXT REVISION		MAY 19	DRAWN: BJM	SCALE: NTS
	2	STANDARD No. 125 NOW 102		JUNE 08		
	1	NOTES EDIT		MAR. 08		
	NO.	REVISION	APR'D	DATE	STANDARD No. 102	

GENERAL NOTES - STORM SEWERS

A. STORM SEWER TO BE PROVIDED ON ALL ROADS WITH CURB AND GUTTER.
B. PLACE ALL CATCH BASIN LATERALS AT 2% GRADE UNLESS OTHERWISE NOTED. PIPE SIZE MINIMUM 250mm DIA. SINGLE, 300mm DIA. DOUBLE.
C. STORM SEWERS SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.030 FOR RIGID PIPE OR OPSD 802.010 WITH GRANULAR 'A' FOR FLEXIBLE PIPE UNLESS APPROVED OTHERWISE BY THE GENERAL MANAGER OF FINANCE & INFRASTRUCTURE SERVICES.
D. MAINTENANCE HOLE TOPS (FRAMES) AND CATCHBASIN (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT AND THEN ADJUSTED TO FINAL GRADE WHEN THE TOP LIFT OF ASPHALT IS PLACED.
E. STORM SEWER TO BE LOCATED OFFSET 1.5m SOUTH OR WEST OF CENTRELINE UNLESS OTHERWISE SPECIFIED.
F. ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD 708.01 OR 708.03.
G. PIPE MATERIAL TO BE REINFORCED CONCRETE WITH A STRENGTH OF 50 N/m/mm CERTIFIED TO C.S.A. STANDARD A247.2-1982, CLASS 50-D (PREVIOUSLY C.S.A. STANDARD A257.2-1974 CLASS II) OR PVC CERTIFIED TO C.S.A. STANDARDS 182.2 AND 182.4 MAX. PVC PIPE DIA. IS 600mm BIG O BOSS 2000 POLYETHYLENE PIPE WITH GASKETED BELL AND SPIGOT JOINTS CERTIFIED C.S.A. B182.6 FOR STORM SEWERS UP TO 900mm DIA. WHERE ONLY CONNECTION STD CATCHBASINS ARE CONSIDERED.
H. STORM SEWER TO BE MINIMUM 300mm DIA. WITH JOINTS CONFORMING TO C.S.A. STANDARD A 257.3
I. ALL PIPE BEDDING MUST CONFORM TO OPSD MAXIMUM COVER TABLE. NO FLEXIBLE PIPE SEWERS WILL BE INSTALLED WITH A DEPTH COVER GREATER THAN 6m UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING.
J. ALL PIPE HANDLING INSTRUCTIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES AND THE OCPA OR UNIBELL GUIDELINES.

TOWN OF CALEDON						
GENERAL NOTES STORM SEWERS					APR'D: C.C.	DATE: MAR 01
	3	TEXT REVISION		MAY 19	DRAWN: BJM	SCALE: NTS
	2	STANDARD No. 120 NOW 101		JUNE 08		
	1	NOTES EDIT		MAR. 08		
	NO.	REVISION	APR'D	DATE	STANDARD No. 101	

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	■	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE MANAGER, ENGINEERING SERVICES — DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

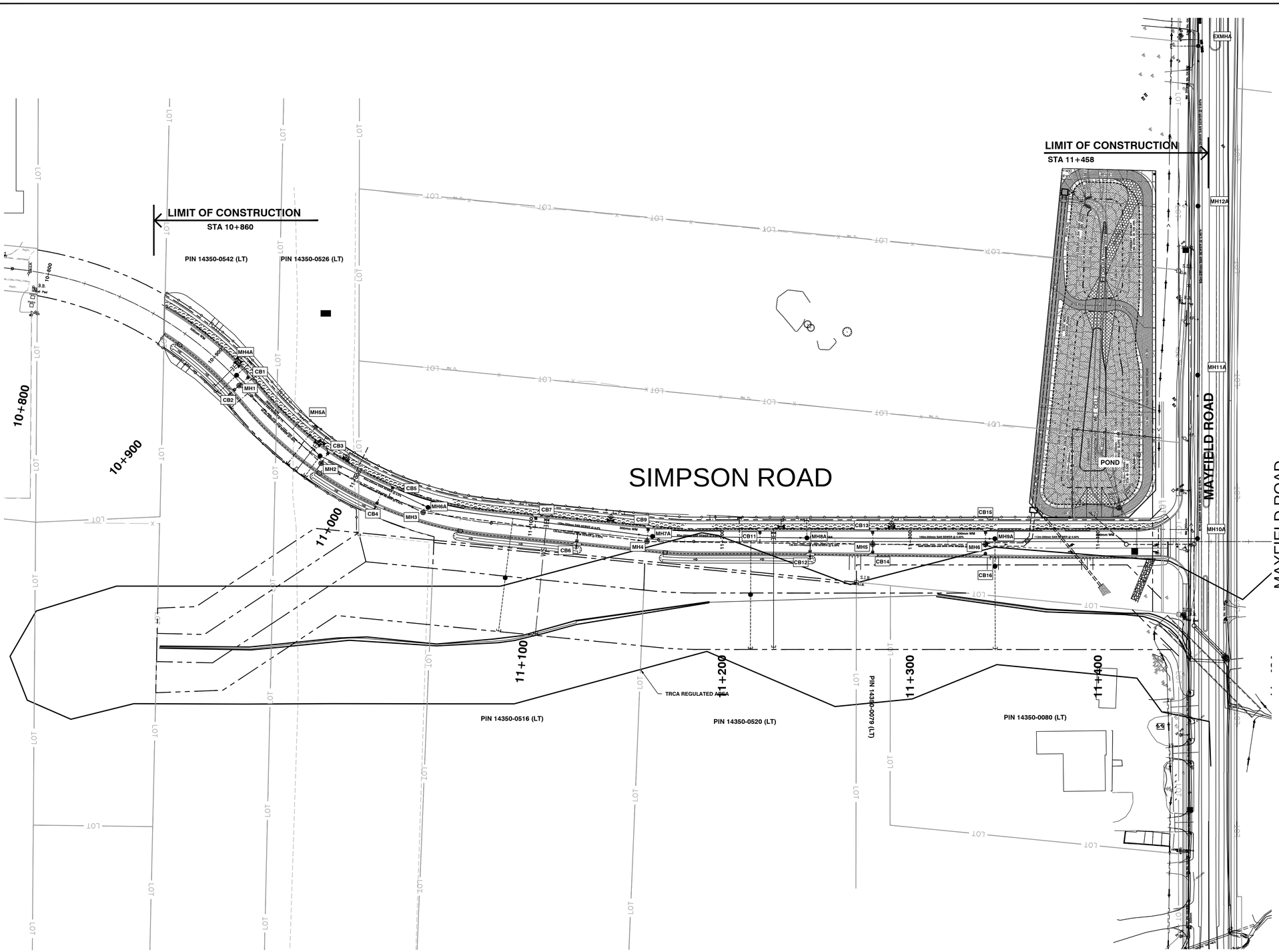
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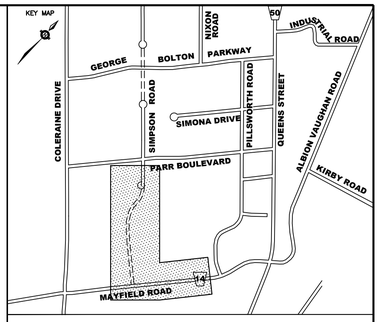
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

GENERAL NOTES

SCALE: N.T.S.		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	
CHECKED BY: D.S.	DATE: NOV. 2020	DRAWNING No. 2





LEGEND

- PROPOSED VALVE
- PROPOSED HYDRANT
- A1 — ADJUST CATCHBASIN/MANHOLE
- CB1 — PROPOSED CATCHBASIN/MANHOLE
- MH1A — PROPOSED SANITARY MANHOLE
- PROPOSED SILT FENCING

NOTE:
REFER TO DWG. C1 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.

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1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

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APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

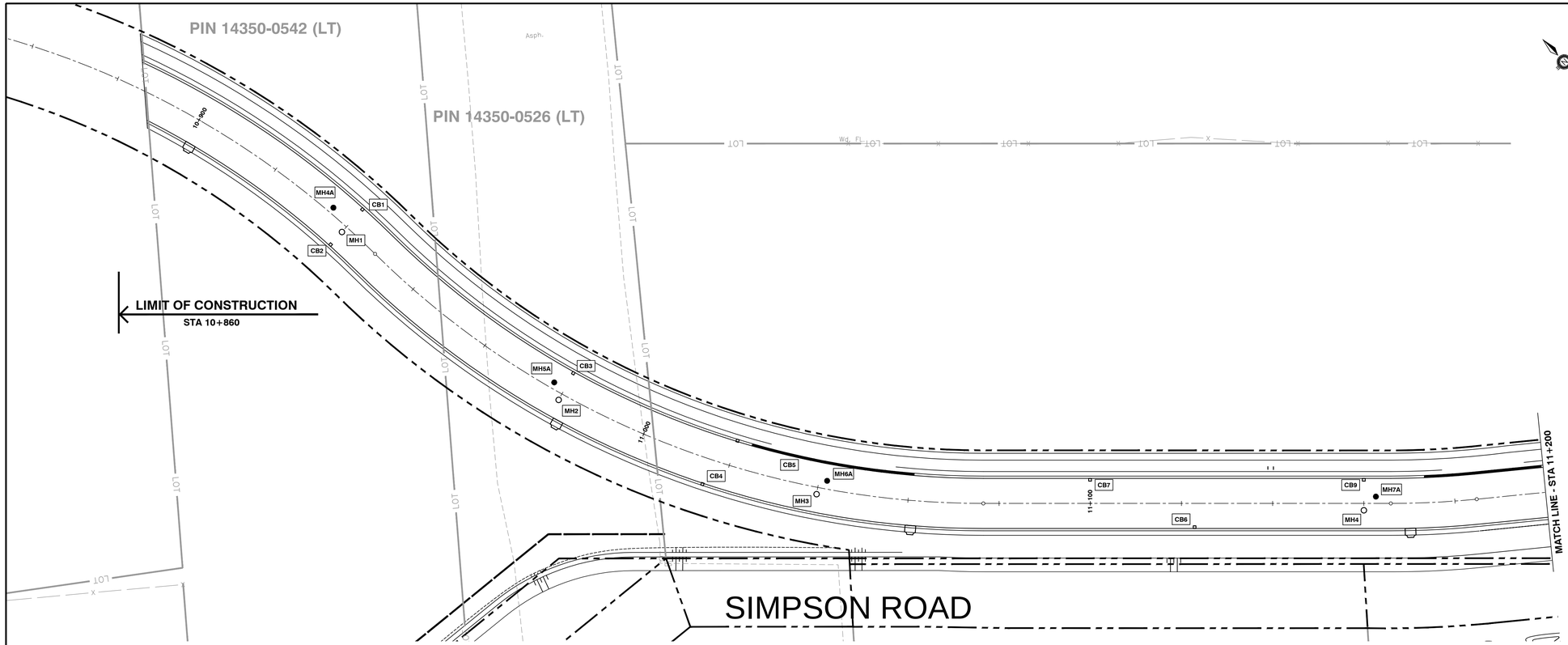
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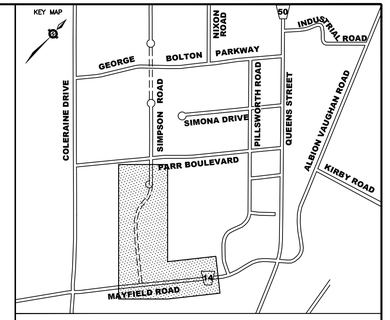
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TOWN OF CALEDON

SIMPSON ROAD EROSION AND SEDIMENT CONTROL

STA. 10+860 TO STA. 11+458

SCALE: **1:1000**		PROJECT No. **TP113126**
DESIGNED BY: **F.W.**	DRAWN BY: **N.H.**	
CHECKED BY: **D.S.**	DATE: **NOV. 2020**	DRAWNING No. **3**





LEGEND

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- A1 — ADJUST CATCHBASIN/MANHOLE
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R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES
DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

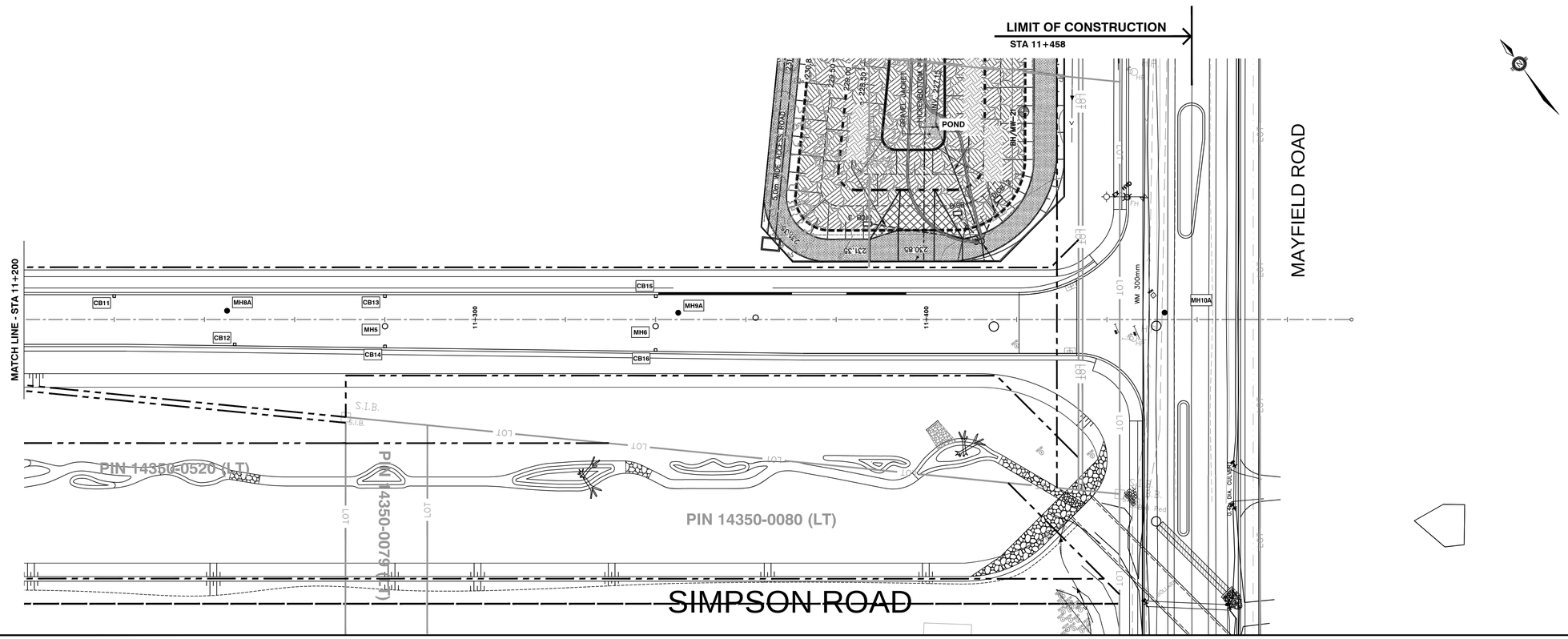
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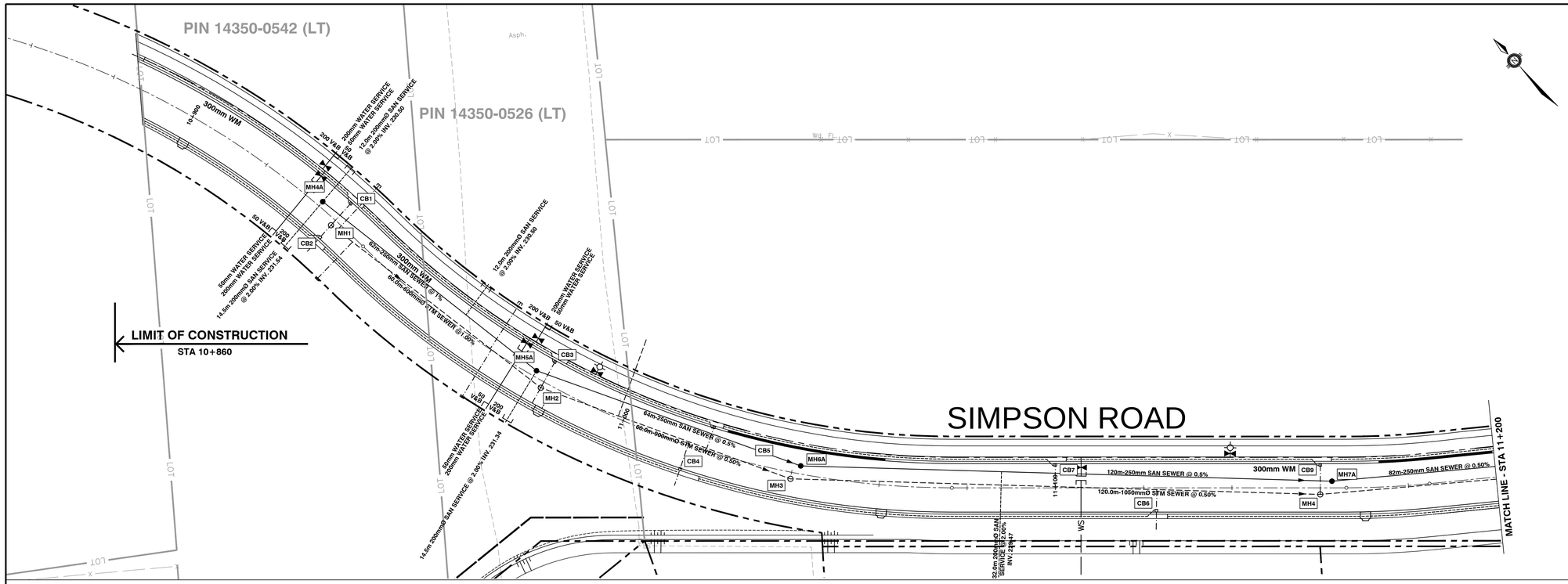
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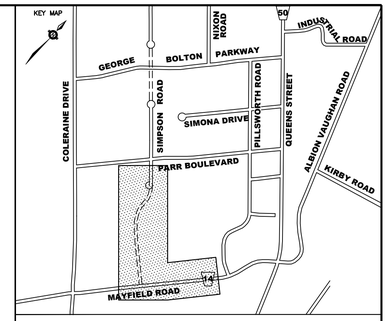
THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
GENERAL PLAN
ABOVE GROUND
STA. 10+860 TO STA. 11+458

1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWING No. 4
CHECKED BY: D.S.	DATE: NOV. 2020	







LEGEND

- PROPOSED VALVE
- PROPOSED HYDRANT
- A1 — ADJUST CATCHBASIN/MANHOLE
- CB1 — PROPOSED CATCHBASIN/MANHOLE
- MH1A — PROPOSED SANITARY MANHOLE

PROJECT STATISTICS	
1. WATERMAIN LENGTH	= 583 m
2. NUMBER OF WATER SERVICES	= 8
3. NUMBER OF HYDRANTS	= 3
4. SANITARY SEWER LENGTH	= 833 m
5. NUMBER OF SANITARY SERVICES	= 8
6. NUMBER OF SANITARY MANHOLES	= 10
7. STORM SEWER LENGTH	= 459 m
8. NUMBER OF STORM MANHOLES	= 7

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BENCH MARK:

CONSULTANT

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ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

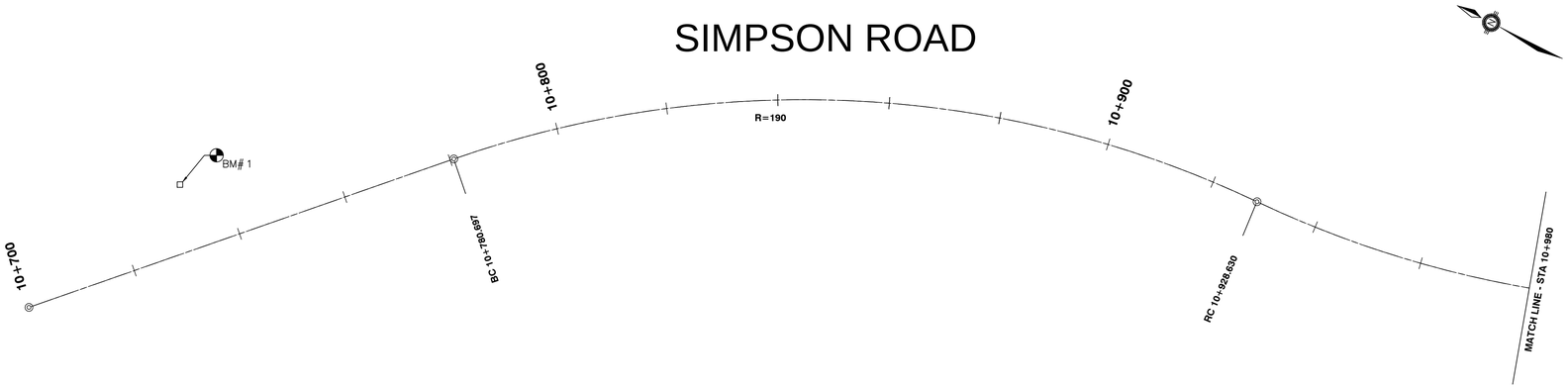
REGION OF PEEL
C02.312

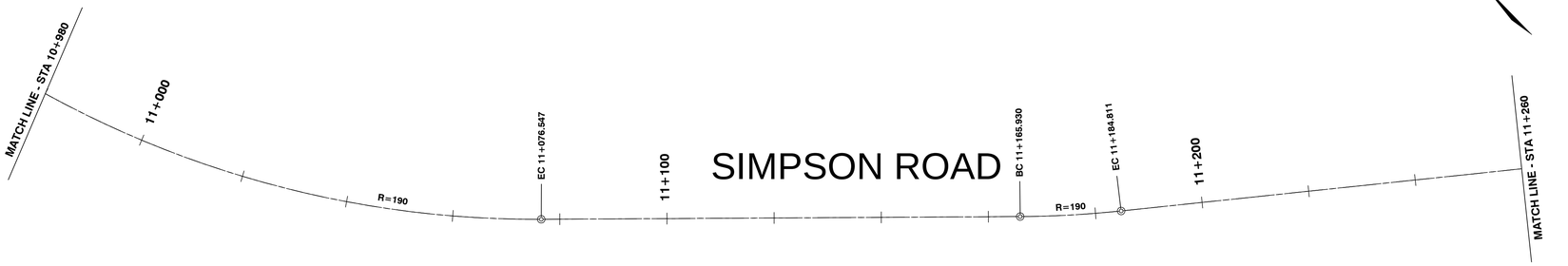
THE CORPORATION OF THE
TOWN OF CALEDON

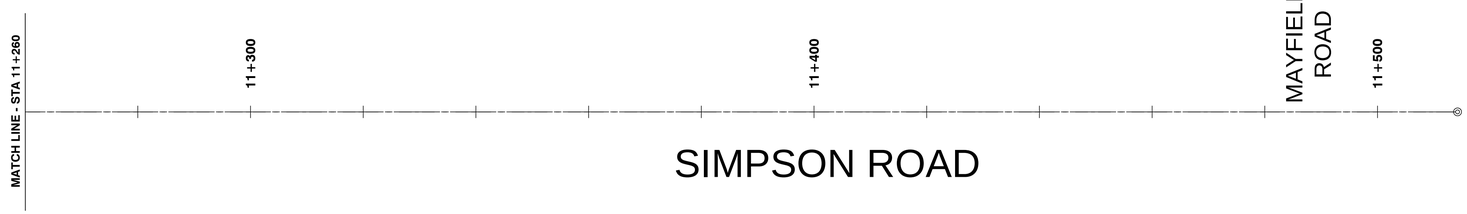
SIMPSON ROAD
GENERAL PLAN
BELOW GROUND
STA. 10+860 TO STA. 11+458

SCALE: 1:1000		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	
CHECKED BY: D.S.	DATE: NOV. 2020	DRAWING No. 5

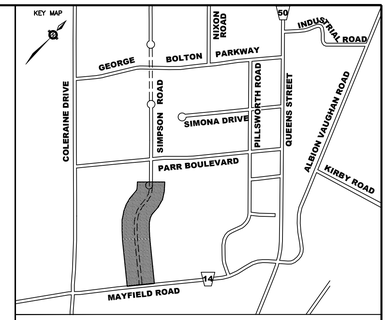
SIMPSON ROAD







SIMPSON ROAD			
	Station	Offset	Northing Easting
Element: Linear			
Start	10+700.000		4855690.992 603840.5596
BC	10+780.697		4855635.118 603898.7843
Tangential Direction:			S 46°10'50.0754" E
Tangential Length:			80.697
Element: Circular			
BC	10+780.697		4855635.118 603898.7843
PI	10+858.641		4855581.15 603955.0232
CC			4855498.028 603767.2306
RC	10+928.630		4855503.235 603957.1593
Radius:	190		
Delta:	44°36'36.6313"	Right	
Degree of Curvature (Arc):		30°09'20.4242"	
Length:	147.933		
Tangent:	77.944		
Chord:	144.225		
Middle Ordinate:	14.217		
External:	15.366		
Tangent Direction:			S 46°10'50.0754" E
Radial Direction:			S 43°49'09.9244" W
Chord Direction:			S 23°52'31.7598" E
Radial Direction:			S 88°25'46.5559" W
Tangent Direction:			S 1°34'13.4441" E
Element: Circular			
RC	10+928.630		4855503.235 603957.1593
PI	11+006.565		4855425.329 603959.2951
CC			4855508.442 604147.0879
EC	11+076.547		4855371.363 604015.5231
Radius:	190		
Delta:	44°36'19.8917"	Left	
Degree of Curvature (Arc):		30°09'20.4242"	
Length:	147.918		
Tangent:	77.935		
Chord:	144.21		
Middle Ordinate:	14.214		
External:	15.363		
Tangent Direction:			S 1°34'13.4441" E
Radial Direction:			S 88°25'46.5559" W
Chord Direction:			S 23°52'23.3900" E
Radial Direction:			S 43°49'26.6642" W
Tangent Direction:			S 46°10'33.3358" E
Element: Linear			
EC	11+076.547		4855371.363 604015.5231
BC	11+165.930		4855309.47 604080.0102
Tangential Direction:			S 46°10'33.3358" E
Tangential Length:			89.383
Element: Circular			
BC	11+165.930		4855309.47 604080.0102
PI	11+175.378		4855302.928 604086.8269
CC			4855446.549 604211.575
EC	11+184.811		4855297.094 604094.259
Radius:	190		
Delta:	5°41'37.4647"	Left	
Degree of Curvature (Arc):		30°09'20.4242"	
Length:	18.881		
Tangent:	9.448		
Chord:	18.873		
Middle Ordinate:	0.234		
External:	0.235		
Tangent Direction:			S 46°10'33.3358" E
Radial Direction:			S 43°49'26.6642" W
Chord Direction:			S 49°01'22.0680" E
Radial Direction:			S 38°07'49.1996" W
Tangent Direction:			S 51°52'10.8005" E
Element: Linear			
EC	11+184.811		4855297.094 604094.259
PI	11+494.214		4855106.052 604337.6376
Tangential Direction:			S 51°52'10.8005" E
Tangential Length:			309.403



NO.	BY	DATE	REVISION	CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

BM#1
HYDROBOX
N=4855676.820
E=603872.469
ELEVATION=233.448

BM#2
I.B.
N=4855107.787
E=604272.211
ELEVATION=233.448

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

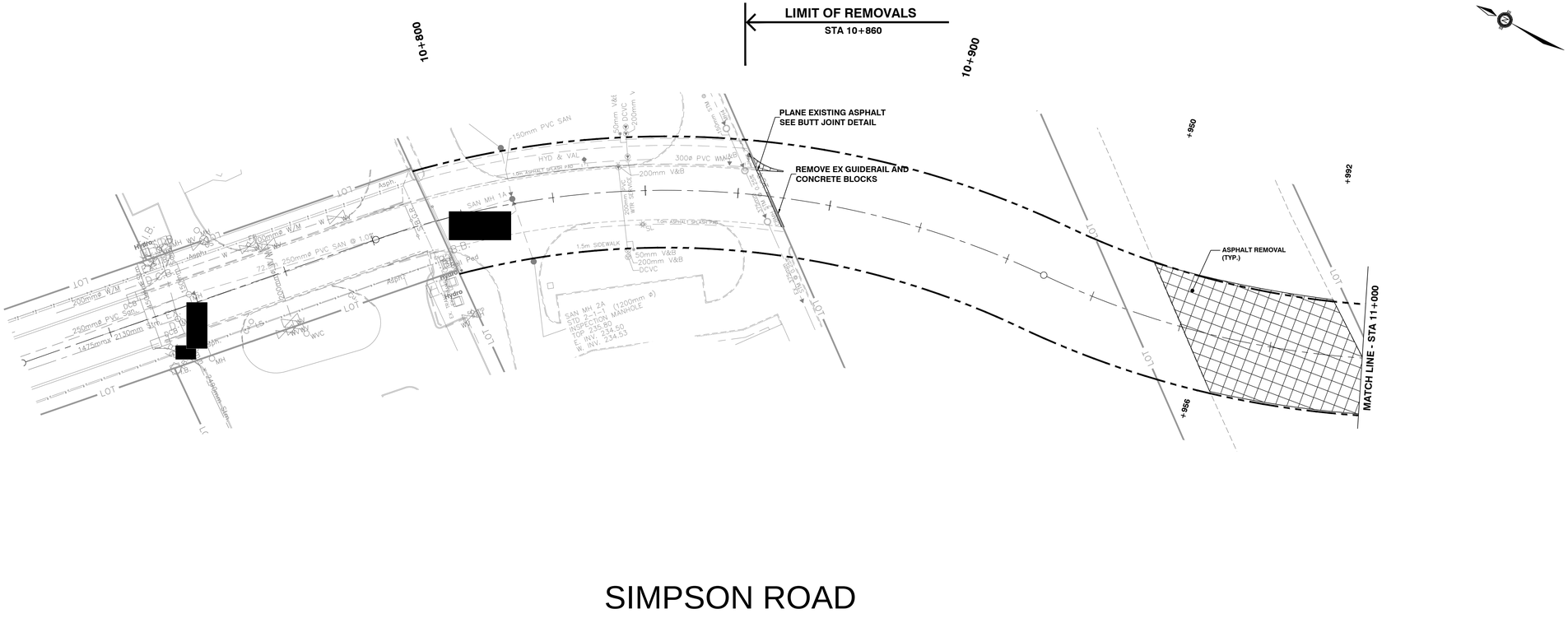
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

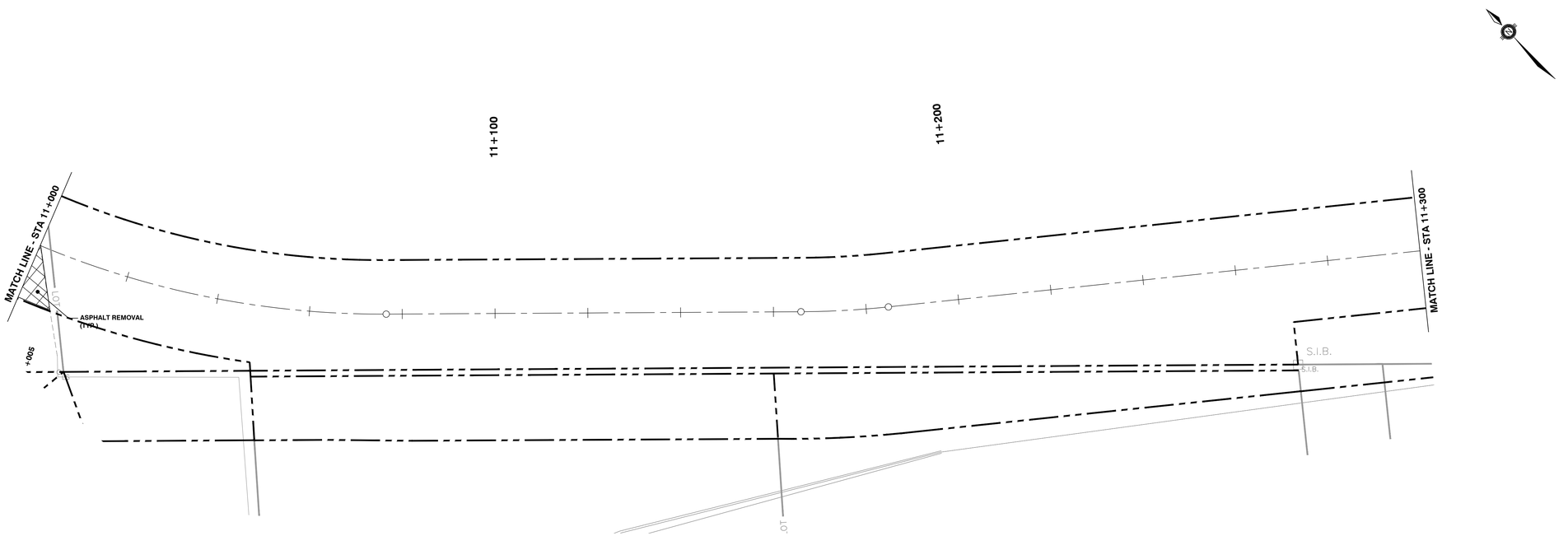
SIMPSON ROAD ALIGNMENT

STA. 10+700 TO STA. 11+455

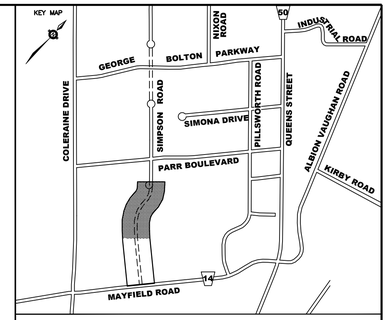
SCALE: 1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWNING No. 6
CHECKED BY: D.S.	DATE: NOV. 2020	



SIMPSON ROAD



SIMPSON ROAD



LEGEND

- REMOVAL SYMBOL
- REMOVAL HATCHING
- TREE REMOVAL

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
[redacted]	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	[redacted]	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

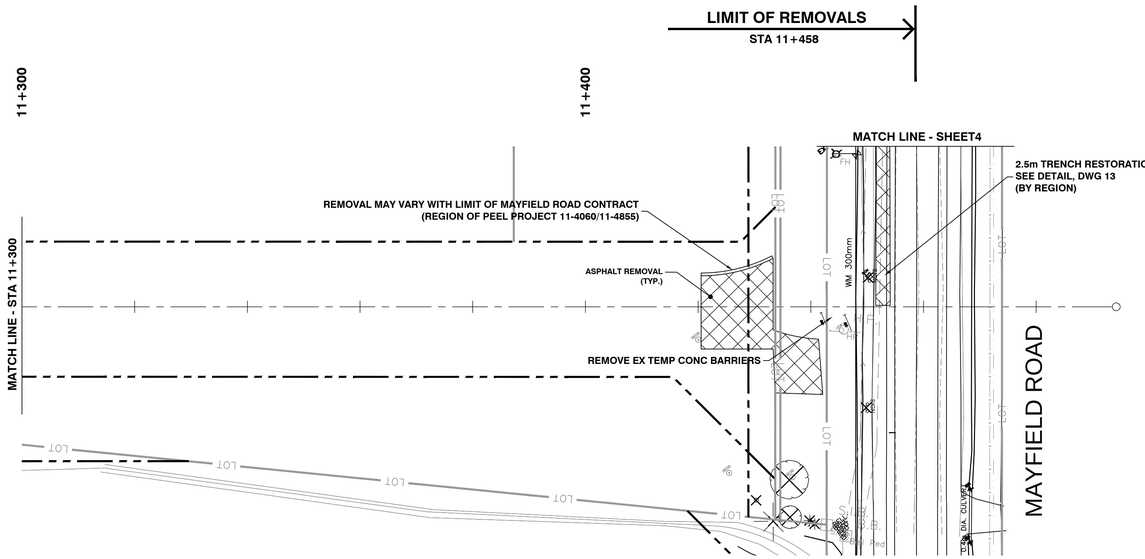
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

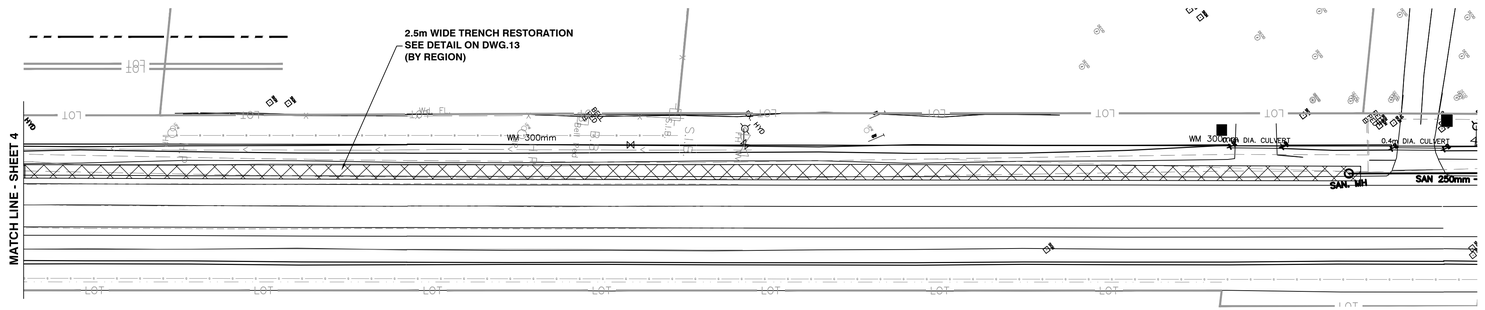
SIMPSON ROAD
REMOVALS

STA. 10+700 TO STA. 11+300

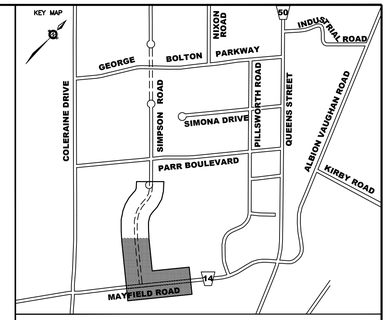
SCALE: 1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWNING No. 7
CHECKED BY: D.S.	DATE: NOV. 2020	



SIMPSON ROAD



MAYFIELD ROAD



LEGEND

- REMOVAL SYMBOL
- REMOVAL HATCHING
- TREE REMOVAL

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

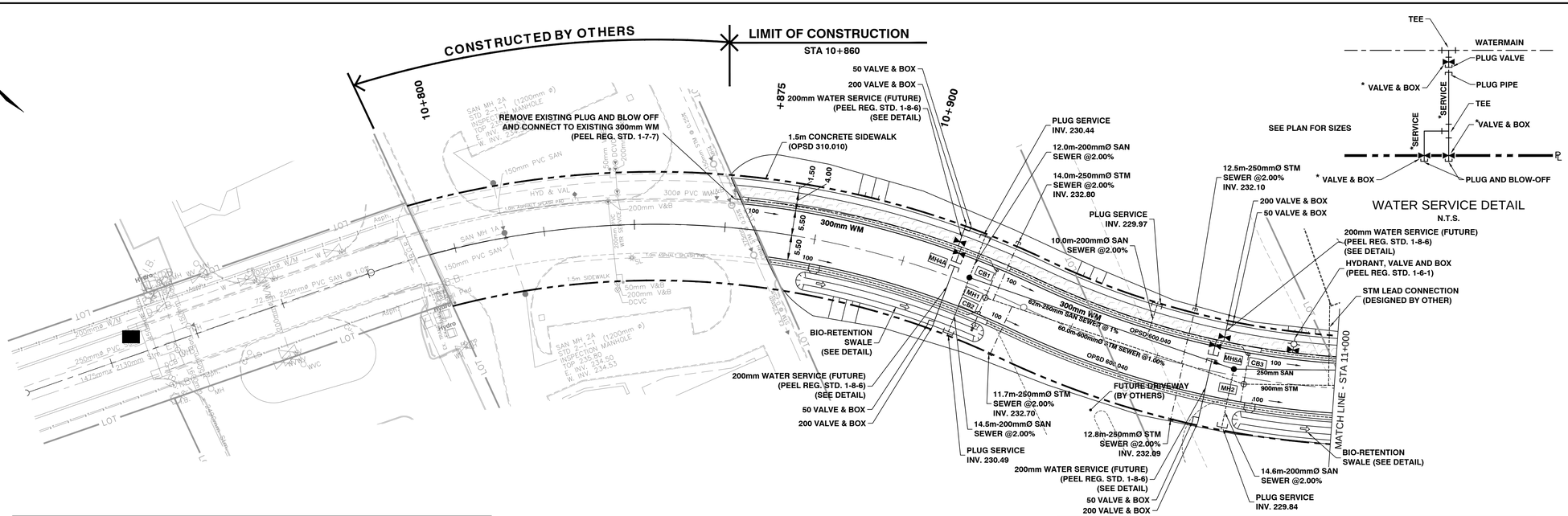
REGION OF PEEL
C02.312

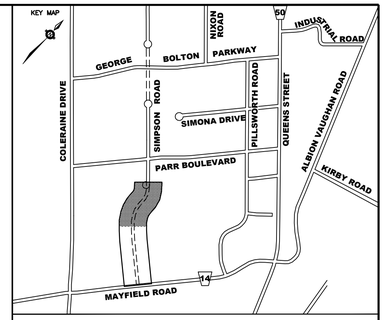
THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
REMOVALS

STA. 11+300 TO STA. 11+455

SCALE: 1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWNING No. 8
CHECKED BY: D.S.	DATE: NOV. 2020	





LEGEND

- PROPOSED PROPERTY LINE
- 100 — PROPOSED SUBDRAIN, DIRECTION AND SIZE (CALEDON STD. NO. 218)
- 825mm STM — PROPOSED STORM SEWER, DIRECTION AND SIZE
- 250mm SAN — PROPOSED SANITARY SEWER, DIRECTION AND SIZE
- 300mm WM — PROPOSED WATERMAIN AND SIZE
- PROPOSED VALVE
- PROPOSED HYDRANT
- A1 — ADJUST CATCHBASIN/MANHOLE
- CB1 — PROPOSED CATCHBASIN/MANHOLE
- MH1A — PROPOSED SANITARY MANHOLE
- FUTURE ENTRANCE
- CONCRETE GUTTER OUTLET OPSD 604.010
- FLOW ARROW

SIMPSON ROAD

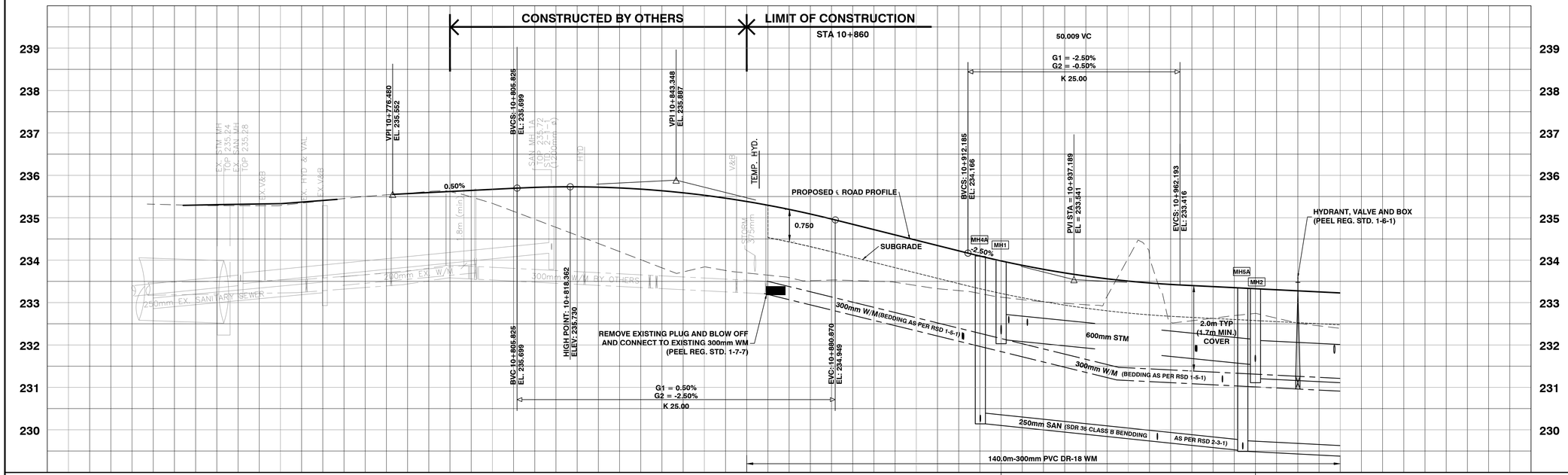
SANITARY SEWER DATA

STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT PEEL STD.	INVERTS		FRAME & COVER PEEL STD.	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
MH4A	10+915	1.5 LT	2-5-3		230.14	2-6-1	234.07	
MH5A	10+977	1.4 LT	2-5-3	229.52	229.49	2-6-1	233.30	

NOTE: ALL SERVICE PLUGS SHALL BE WATER TIGHT.

STORM SEWER DATA

STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT OPSD	INVERTS		FRAME & COVER OPSD	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
CB1	10+920	5.5 LT	705.010		232.42	400.010	233.87	
CB2	10+920	5.5 RT	705.010		232.42	400.010	233.87	
MH1	10+920	1.5 RT	701.011		232.13	401.010	233.94	
CB3	10+980	5.5 LT	705.010		231.77	400.010	233.22	
MH2	10+980	1.5 RT	701.012	231.53	231.21	401.010	233.27	



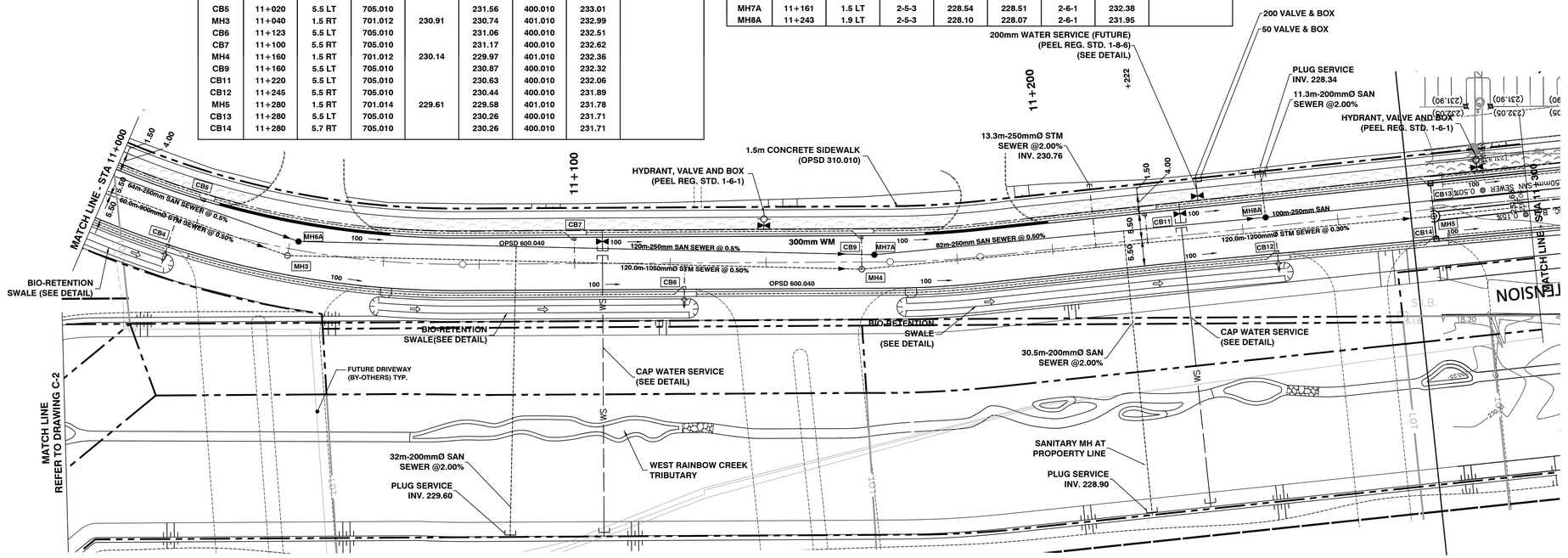
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STORM SEWER DATA

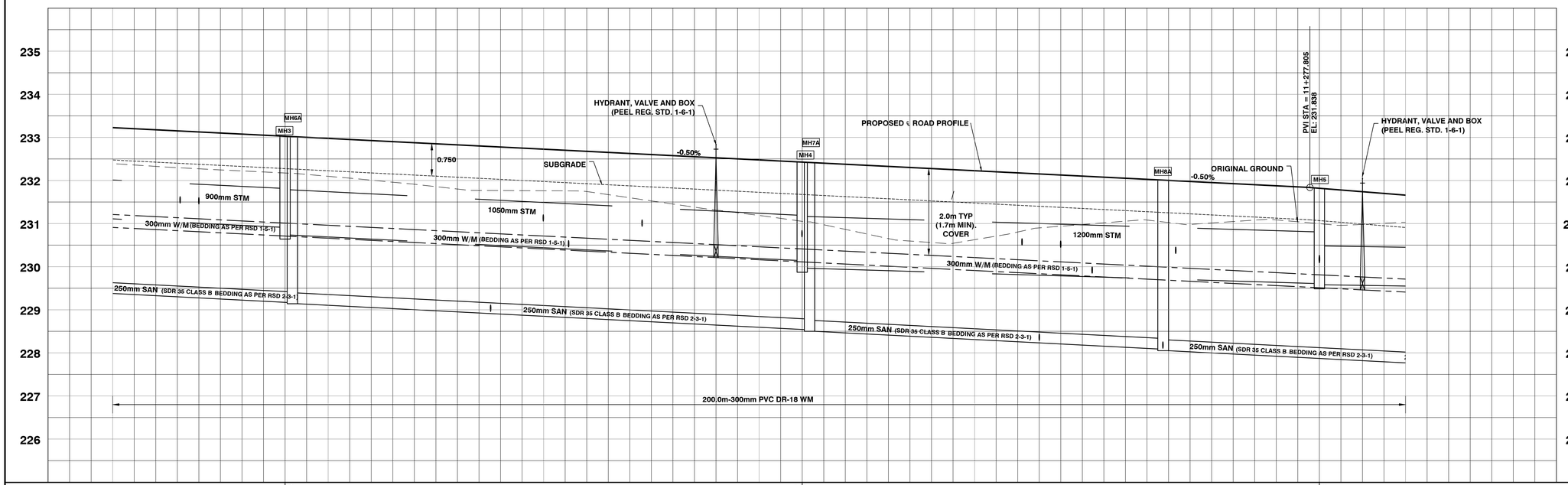
STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT OPSD	INVERTS		FRAME & COVER OPSD	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
CB4	11+016	5.5 RT	705.010		231.59	400.010	233.05	
CB5	11+020	5.5 LT	705.010		231.56	400.010	233.01	
MH3	11+040	1.5 RT	701.012	230.91	230.74	401.010	232.99	
CB6	11+123	5.5 LT	705.010		231.06	400.010	232.51	
CB7	11+100	5.5 RT	705.010		231.17	400.010	232.62	
MH4	11+160	1.5 RT	701.012	230.14	229.97	401.010	232.36	
CB9	11+160	5.5 LT	705.010		230.87	400.010	232.32	
CB11	11+220	5.5 LT	705.010		230.63	400.010	232.06	
CB12	11+245	5.5 RT	705.010		230.44	400.010	231.89	
MH5	11+280	1.5 RT	701.014	229.61	229.58	401.010	231.78	
CB13	11+280	5.5 LT	705.010		230.26	400.010	231.71	
CB14	11+280	5.7 RT	705.010		230.26	400.010	231.71	

SANITARY SEWER DATA

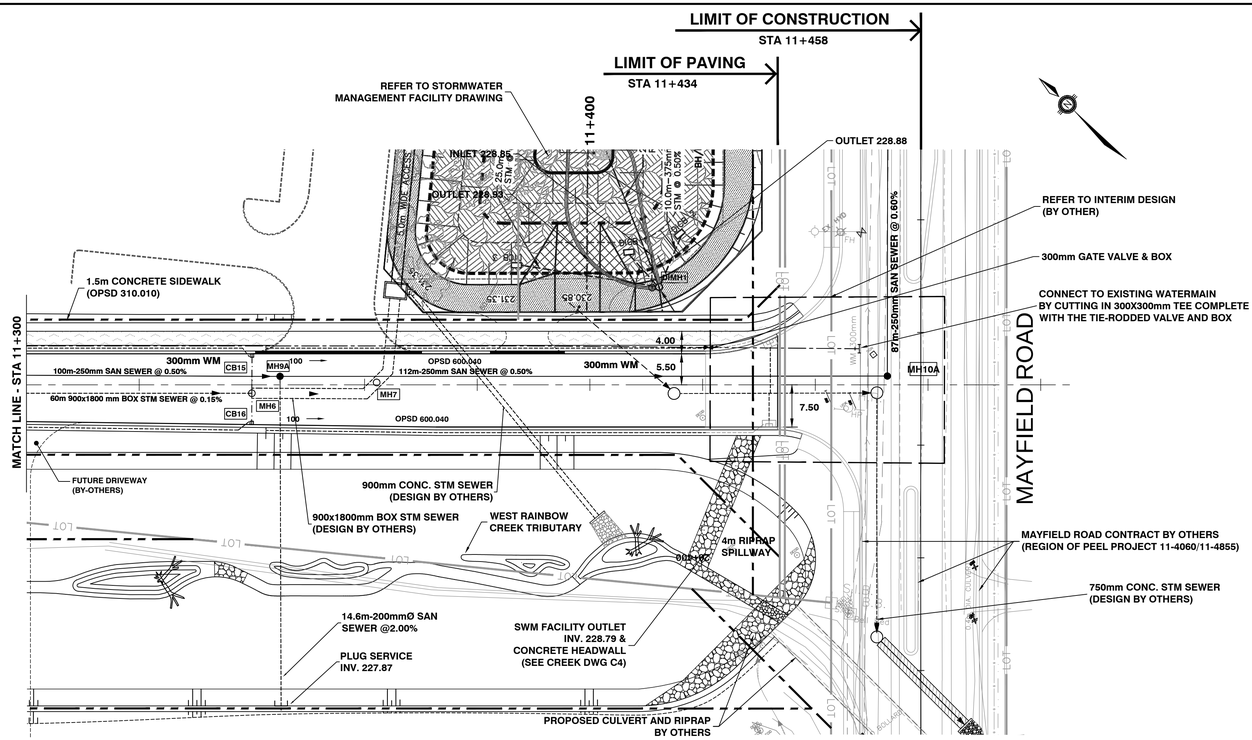
STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT PEEL STD.	INVERTS		FRAME & COVER PEEL STD.	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
MH6A	11+041	1.8 LT	2-5-3	229.17	229.14	2-6-1	232.96	
MH7A	11+161	1.5 LT	2-5-3	228.54	228.51	2-6-1	232.38	
MH8A	11+243	1.9 LT	2-5-3	228.10	228.07	2-6-1	231.95	



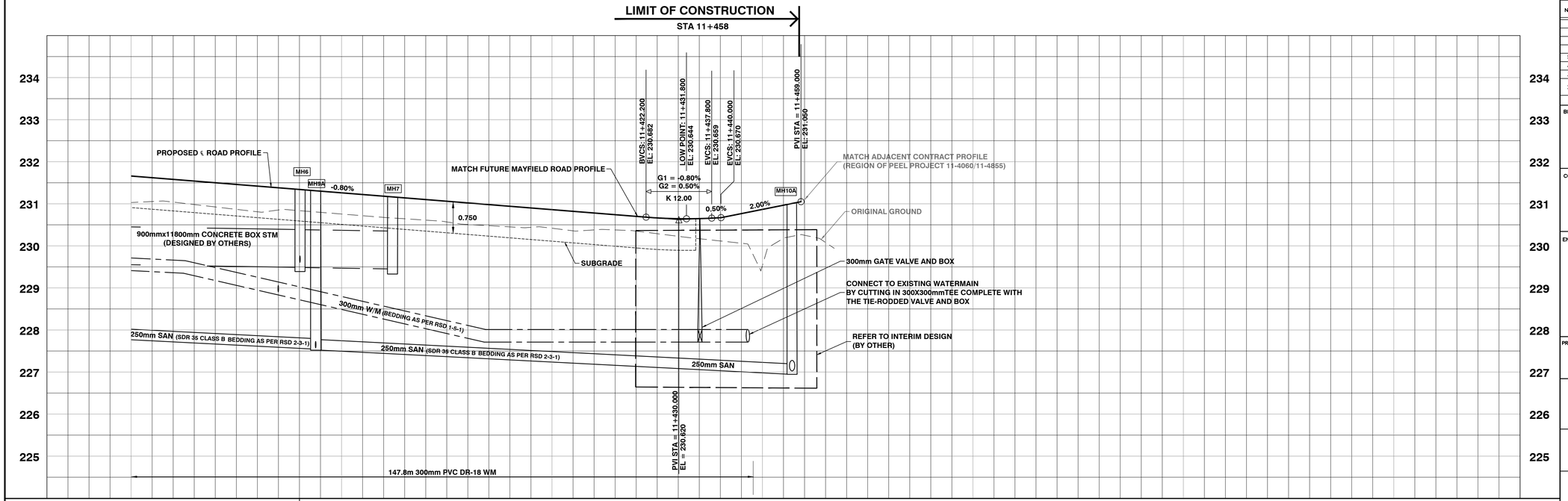
SIMPSON ROAD



| | | | |



SIMPSON ROAD



STORM INVERT	60m - 1800X900 CONCRETE BOX @ 0.15% (DESIGNED BY OTHERS) →	N229.49 S229.49	← 22m - 1800X900 CONCRETE BOX@ 0.15% (DESIGNED BY OTHERS)
SANITARY INVERT	100m - 250mm SDR 35 SAN. @ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1) →	N227.57 S227.54	← 112m - 250mm SDR 35 SAN.@ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1) N226.95
PROPOSED ℄ RD GRADES	231.66		231.26 230.86 230.86
℄ CHAINAGE	11+300		11+350 11+400 11+450

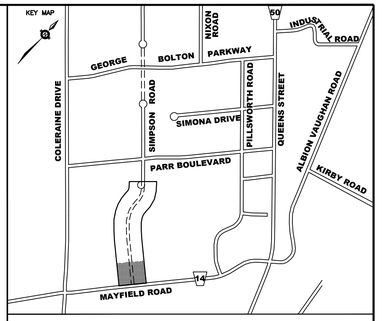
STORM SEWER DATA

STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT OPSD	INVERTS		FRAME & COVER OPSD	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
CB15	11+340	5.5 LT	705.010		229.77	400.010	231.22	
CB16	11+340	7.0 RT	705.010		229.74	400.010	231.19	
TEE MH6	11+340	1.5 RT		229.49	229.49	401.010	231.30	
TEE MH7	11+362	0.5LT		229.45	229.45	401.010	231.15	

SANITARY SEWER DATA

STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT PEEL STD.	INVERTS		FRAME & COVER PEEL STD.	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
MH9A	11+343	1.5 LT	2-5-3	227.57	227.54	2-6-1	231.28	
MH10A	11+455	1.5 LT	2-5-3	226.95	226.86	2-6-1	230.98 *	

* MATCH ROAD PROFILE FROM MAYFIELD ROAD CONTRACT (REGION OF PEEL PROJECT 11-4060/11-4855)



LEGEND

- PROPOSED PROPERTY LINE
- 100 → PROPOSED SUBDRAIN, DIRECTION AND SIZE (CALEDON STD. NO. 218)
- 825mm STM → PROPOSED STORM SEWER, DIRECTION AND SIZE
- 250mm SAN → PROPOSED SANITARY SEWER, DIRECTION AND SIZE
- 300mm WM — PROPOSED WATERMAIN AND SIZE
- PROPOSED VALVE
- PROPOSED HYDRANT
- A1 ADJUST CATCHBASIN/MANHOLE
- CB1 PROPOSED CATCHBASIN/MANHOLE
- MH1A PROPOSED SANITARY MANHOLE
- FUTURE ENTRANCE
- CONCRETE GUTTER OUTLET OPSD 604.010
- FLOW ARROW

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE, MANAGER, ENGINEERING SERVICES — DATE

PROJECT NAME

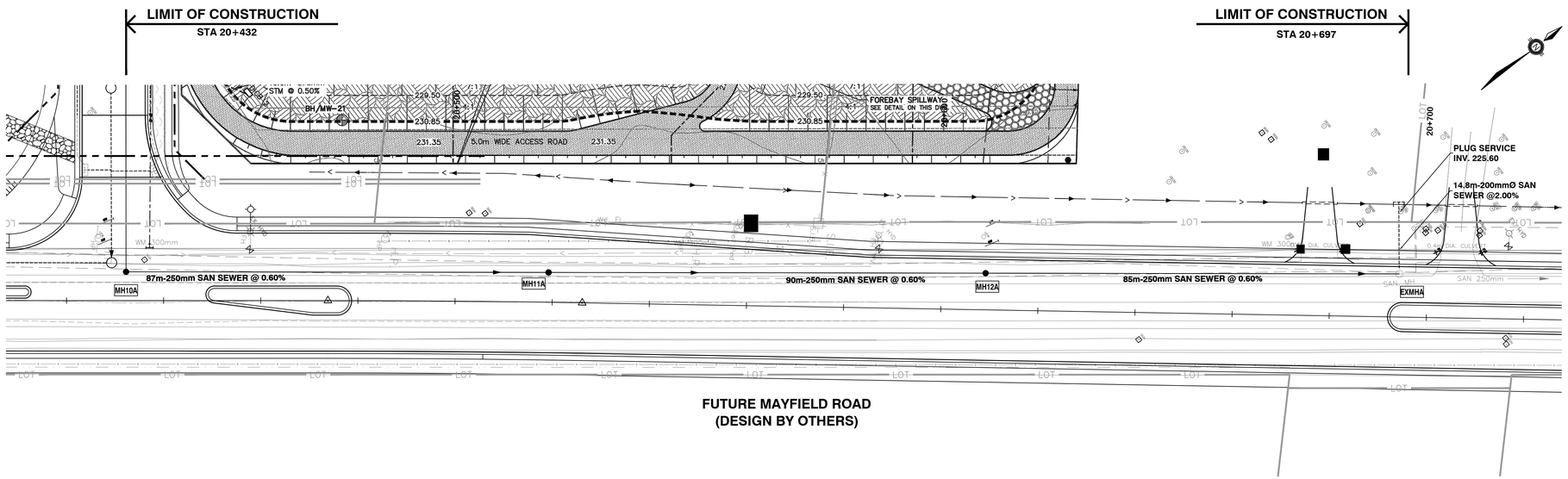
CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

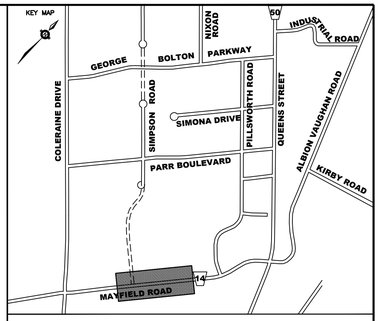
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
NEW CONSTRUCTION
PLAN AND PROFILE
STA. 11+300 TO STA. 11+458

SCALE: HORIZ. 1:500	VERT. 1:50	PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: B.L.	DRAWING No. 11
CHECKED BY: D.S.	DATE: AUG. 2020	





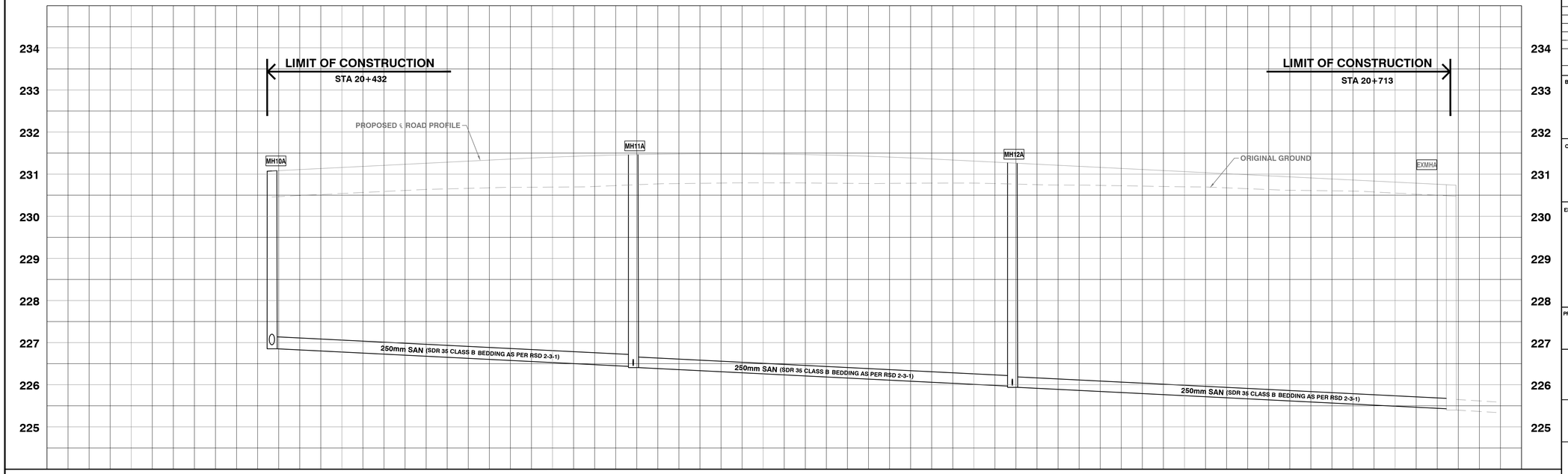
LEGEND

- PROPOSED PROPERTY LINE
- 100 — PROPOSED SUBDRAIN, DIRECTION AND SIZE (CALEDON STD. NO. 218)
- 825mm STM — PROPOSED STORM SEWER, DIRECTION AND SIZE
- 250mm SAN — PROPOSED SANITARY SEWER, DIRECTION AND SIZE
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- MH1A — PROPOSED SANITARY MANHOLE
- FUTURE ENTRANCE
- CONCRETE GUTTER OUTLET OPSD 604.010
- FLOW ARROW

SANITARY SEWER DATA

STRUCT NO	STATION	℄ GRATE OFFSET	STRUCT PEEL STD.	INVERTS		FRAME & COVER PEEL STD.	TOP OF FRAME ELEV	REMARKS
				INLET	OUTLET			
MH11A	20+519	6.1 LT	2-5-3	226.44	226.41	2-6-1	231.43	
MH12A	20+609	7.5 LT	2-5-3	225.97	225.94	2-6-1	231.23	
EX.MH	20+713	EX.	EX.	225.43	225.40 (EX.)	EX.	230.64	

MAYFIELD ROAD



STORM INVERT			
SANITARY INVERT	87m - 250mm SDR 35 SAN. @ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1)	W226.44 E226.41	90m - 250mm SDR 35 SAN. @ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1)
		W225.97 E225.94	101m - 250mm SDR 35 SAN. @ 0.50% (CLASS B BEDDING AS PER RSD 2-3-1)
PROPOSED ℄ RD GRADES			
℄ CHAINAGE	20+400	20+450	20+500

	20+550	20+600	20+650
	W225.43 E225.40		20+700

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE, MANAGER, ENGINEERING SERVICES — DATE

PROJECT NAME

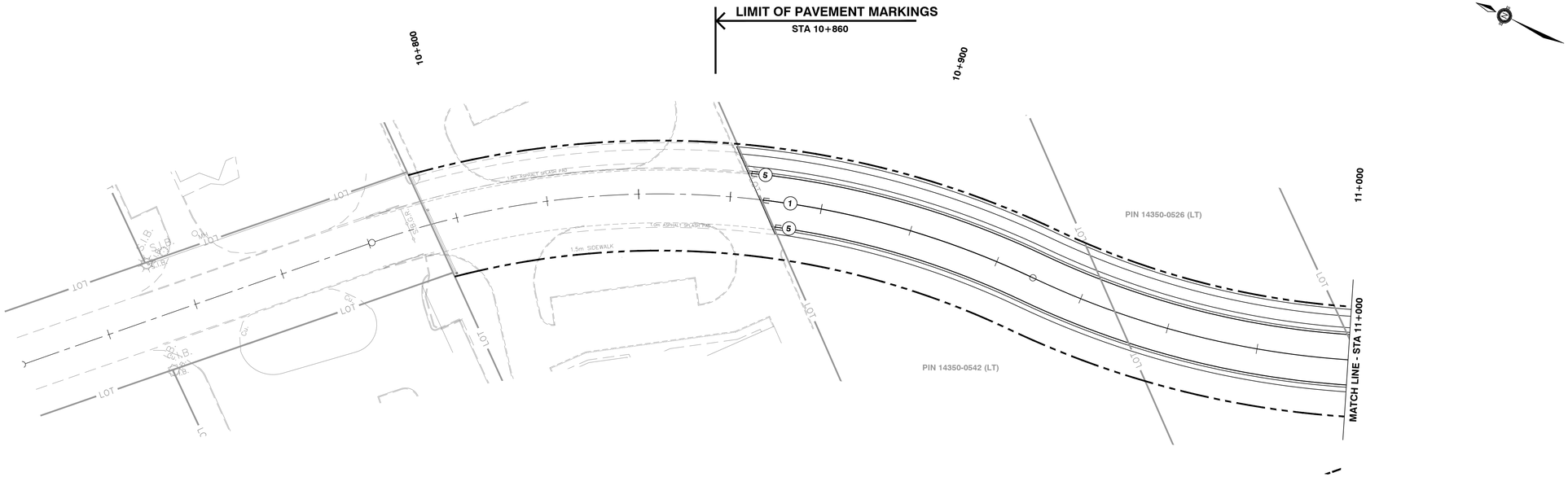
CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

REGION OF PEEL
C02.312

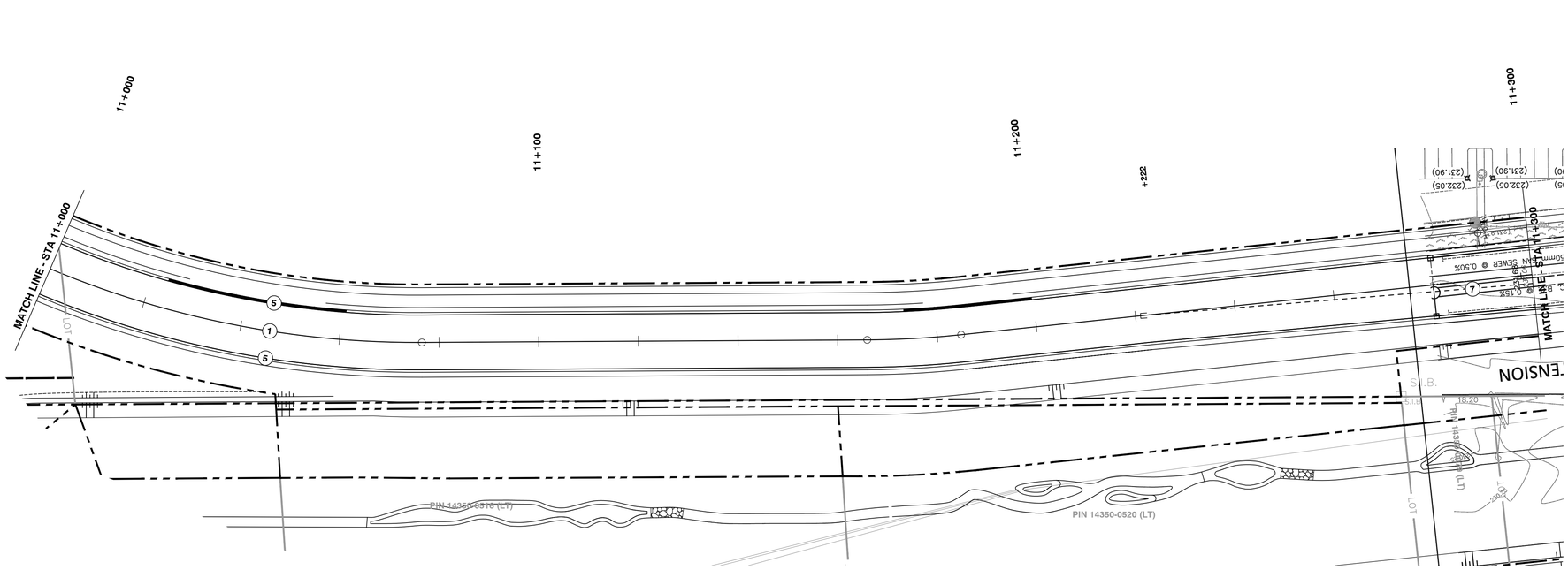
THE CORPORATION OF THE
TOWN OF CALEDON

MAYFIELD ROAD
NEW CONSTRUCTION
PLAN AND PROFILE
STA. 10+000 TO STA. 10+264

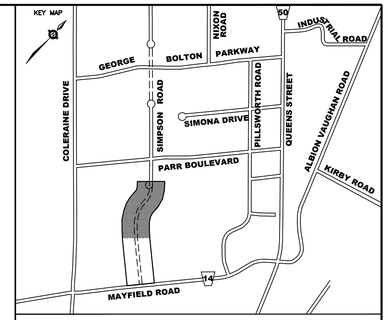
SCALE: HORIZ. 1:500	VERT. 1:50	PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: B.L.	DRAWING No. 12
CHECKED BY: D.S.	DATE: AUG. 2020	



SIMPSON ROAD



SIMPSON ROAD



LEGEND

- (1) 10cm SOLID YELLOW
- (5) 10cm SOLID WHITE
- (6) 60cm SOLID WHITE
- (7) 10cm BROKEN WHITE, 3m LINE, 3m GAP, 3m LINE
- END OF PAVEMENT MARKING
- (X) PAVEMENT MARKING
- (X) PAVEMENT MARKING, DURABLE
- TURNING ARROWS, DURABLE

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

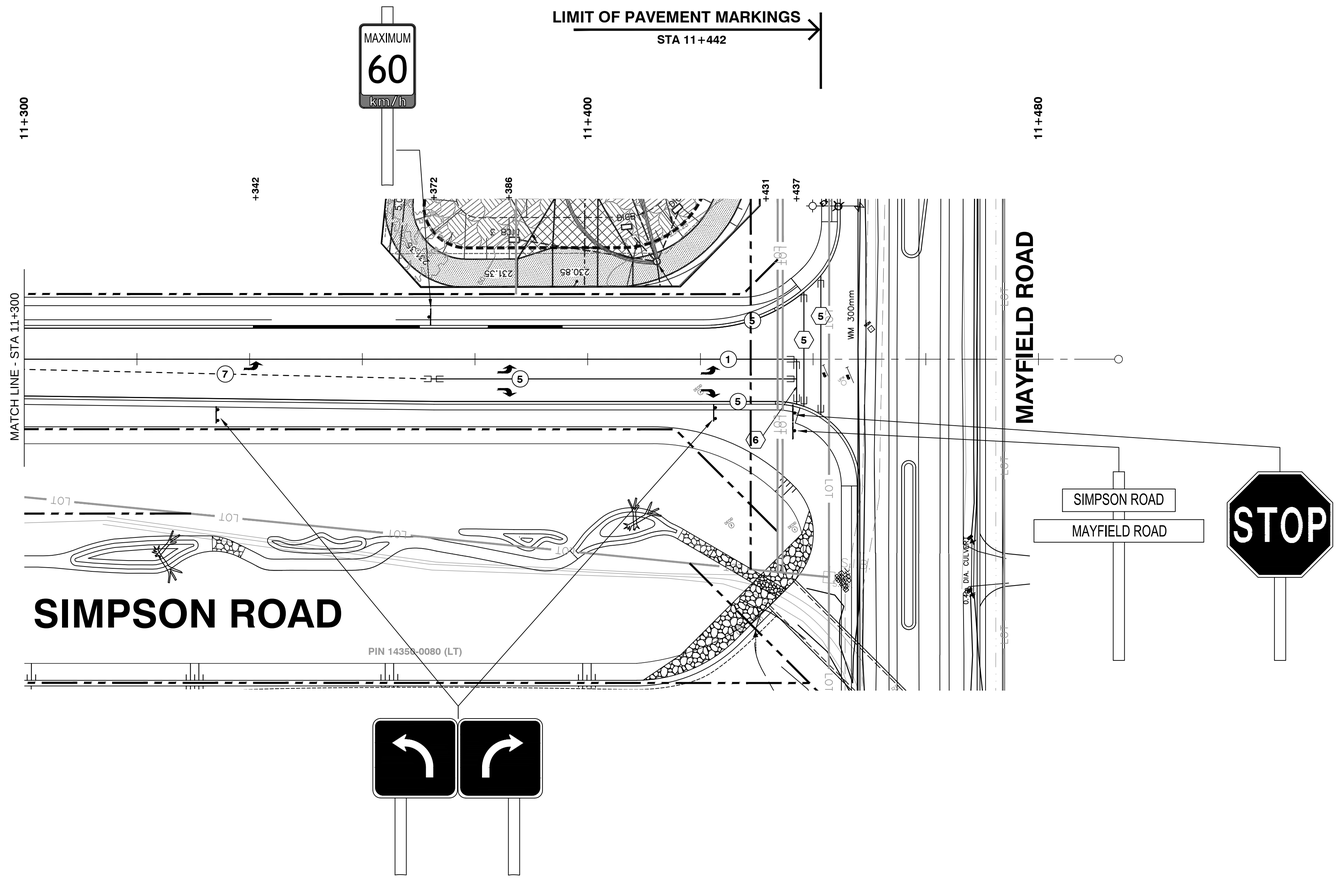
FINANCE AND INFRASTRUCTURE SERVICES

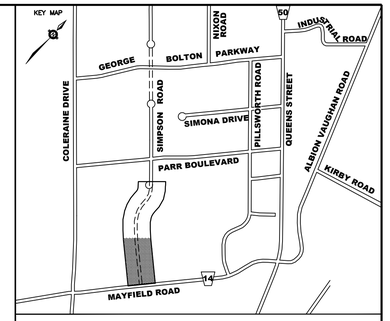
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
PAVEMENT
MARKINGS AND SIGNS
STA. 10+700 TO STA. 11+300

SCALE: 1:500		PROJECT No. TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWNING No. 13
CHECKED BY: D.S.	DATE: NOV. 2020	





LEGEND

- (1) 10cm SOLID YELLOW
- (5) 10cm SOLID WHITE
- (6) 60cm SOLID WHITE
- (7) 10cm BROKEN WHITE, 3m LINE, 3m GAP, 3m LINE
- END OF PAVEMENT MARKING
- (x) PAVEMENT MARKING
- (x) PAVEMENT MARKING, DURABLE
- TURNING ARROWS, DURABLE

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
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2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

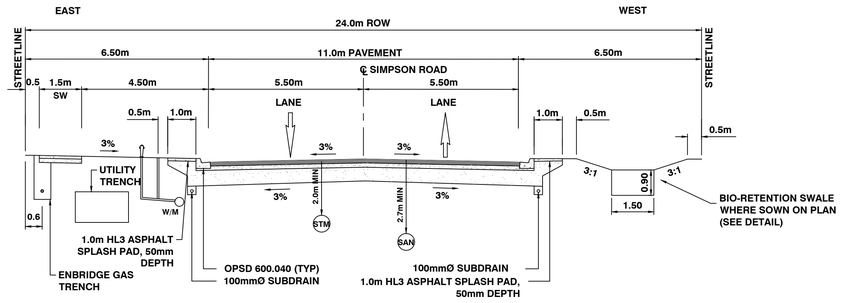
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

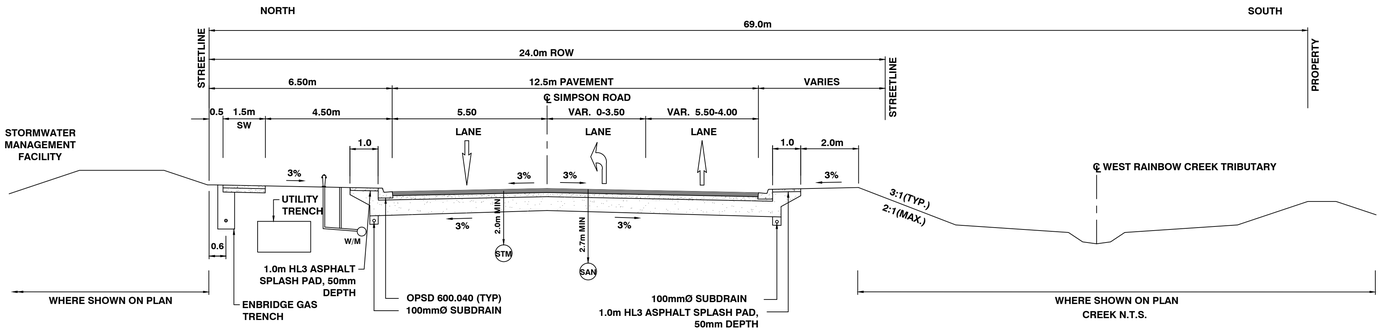
SIMPSON ROAD PAVEMENT MARKINGS AND SIGNS

STA. 11+300 TO STA. 11+455

SCALE: 1:500		PROJECT No.	TP113126
DESIGNED BY: F.W.	DRAWN BY: N.H.	DRAWNING No.	14
CHECKED BY: D.S.	DATE: NOV. 2020		

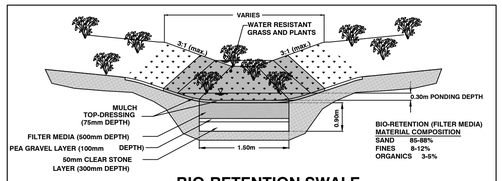


SIMPSON ROAD - EXTENSION
STA 10+860 TO STA 11+223
SCALE 1:100



SIMPSON ROAD - EXTENSION
STA 11+223 TO STA 11+434
SCALE 1:100

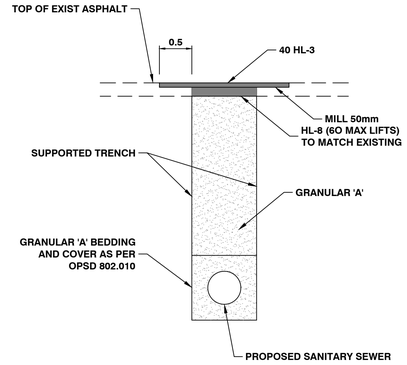
PAVEMENT AND GRANULAR SUMMARY					
	SURFACE	BINDER	GRANULAR 'A'	GRANULAR 'B'	PAVEMENT REMOVAL
	HL3	HDBC			
SIMPSON ROAD SOUTH STA 10+860 TO STA 11+434	40	50 60	150	450	FULL DEPTH
SPLASH PAD	50				



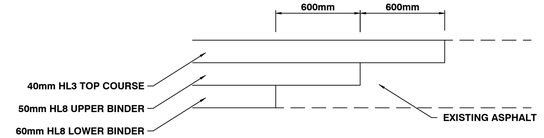
BIO-RETENTION SWALE
N.T.S.

BIO-RETENTION SWALE

1. EROSION AND SEDIMENT CONTROL TO BE CONSTRUCTED AND IN PLACE PRIOR TO ANY GRADING WORKS.
2. STOCK PILING OF MATERIALS TO BE SET BACK A MINIMUM 15m FROM SWALES AND WATERCOURSES. PERIMETER SILT FENCING TO BE PROVIDED AND INSTALLED ACCORDING TO OPSD 219.130.
3. ALL SWALE WORKS TO BE COMPLETED DURING DRY WEATHER.
4. PERIMETER SILT FENCE TO BE INSTALLED AND MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION AND REMOVED ONCE SITE HAS STABILIZED. CONSERVATION AUTHORITY TO BE CONSULTED IN THE DETERMINATION OF SITE STABILIZATION.

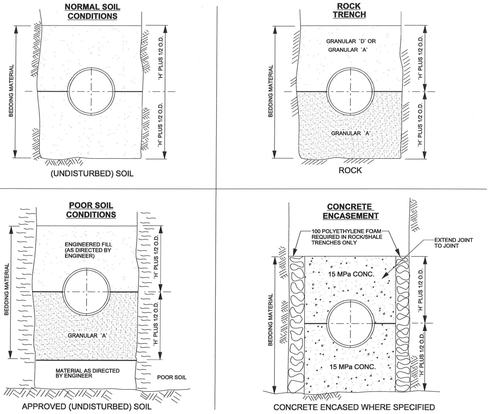


TRENCH RESTORATION DETAIL
ROAD/DRIVEWAY
N.T.S.



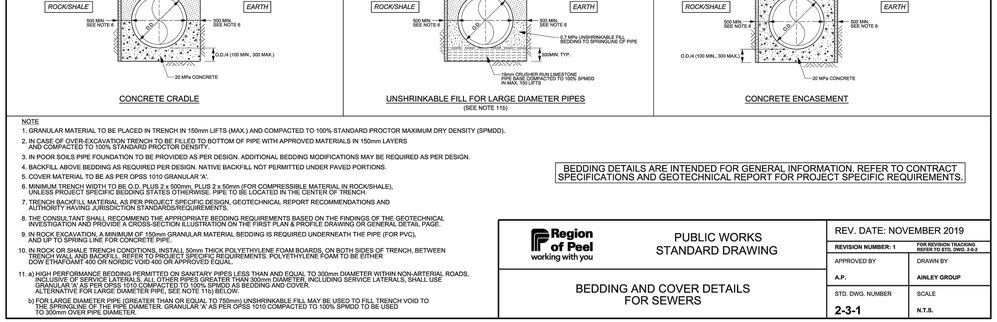
BUTT JOINT DETAIL
N.T.S.

BEDDING DETAILS ARE INTENDED FOR GENERAL INFORMATION. REFER TO CONTRACT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR PROJECT SPECIFIC REQUIREMENTS.



NOTE
1. FOR P.V.C. AND DUCTILE IRON PIPE, BEDDING MATERIAL TO BE GRANULAR D (LIMESTONE SCREENING COLOUR TO BE BETWEEN LIGHT GREY TO WHITE) 150mm ABOVE THE TOP OF PIPE.
2. MATERIAL TO BE PLACED IN TRENCH IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR DENSITY.
3. IN CASE OF OVER-EXCAVATION TRENCH TO BE FILLED TO BOTTOM OF PIPE WITH APPROVED MATERIALS IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR DENSITY.
4. IN POOR SOILS ENGINEER MAY VARY PIPE FOUNDATION TO SUIT.
5. BACKFILL ABOVE BEDDING AS APPROVED BY PROJECT MANAGER.
6. GRANULAR MATERIAL AS PER OPS SPECIFICATIONS AND REGION OF PEEL CAPITAL WORKS VOLUME 2 SPECIFICATIONS.
7. "H"=150 OR DIA./4 OF WATERMAIN WHICH EVER IS GREATER.
8. MIN. TRENCH WIDTH TO BE O.D. PLUS 600mm MAX. TRENCH WIDTH TO BE O.D. PLUS 750mm, UNLESS PROJECT SPECIFIC BEDDING STATES OTHERWISE.
9. COVER MATERIAL, NO STONES GREATER THAN 25mm WILL BE PERMITTED.
10. APPROVED SOIL AS PER GEOTECHNICAL REPORT RECOMMENDATIONS.
11. TO ADDRESS TIME DEPENDANT DEFORMATION IN ROCK OR SHALE TRENCH CONDITIONS, INSTALL 100mm THICK POLYETHYLENE FOAM FOR ALL CONCRETE ENCASED WATERMAIN INSTALLATIONS. REFER TO PROJECT SPECIFIC REQUIREMENTS. POLYETHYLENE FOAM TO BE EITHER DOW ETHAFOAM 400 OR NORDIC VOID 400 OR APPROVED EQUAL.

Region of Peel Working for you	PUBLIC WORKS STANDARD DRAWING	REV. DATE: APRIL 2014
		APPROVED BY: A.P. / DRAWN BY: AINLEY GROUP
WATERMAIN BEDDING		STD. DWG. NUMBER: 1-5-1 / SCALE: N.T.S.



NOTE
1. GRANULAR MATERIAL TO BE PLACED IN TRENCH IN 150mm LIFTS (MAX.) AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
2. IN CASE OF OVER-EXCAVATION TRENCH TO BE FILLED TO BOTTOM OF PIPE WITH APPROVED MATERIALS IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR DENSITY.
3. IN POOR SOILS PIPE FOUNDATION TO BE PROVIDED AS PER DESIGN. ADDITIONAL BEDDING MODIFICATIONS MAY BE REQUIRED AS PER DESIGN.
4. BACKFILL ABOVE BEDDING AS REQUIRED PER DESIGN. NATIVE BACKFILL NOT PERMITTED UNDER PAVED PORTIONS.
5. COVER MATERIAL TO BE AS PER OPSS 1010 GRANULAR 'A'.
6. MINIMUM TRENCH WIDTH TO BE O.D. PLUS 2 x 500mm. PLUS 2 x 50mm (FOR COMPRESSIBLE MATERIAL IN ROCK/SHALE), UNLESS PROJECT SPECIFIC BEDDING STATES OTHERWISE. PIPE TO BE LOCATED IN THE CENTER OF TRENCH.
7. TRENCH BACKFILL MATERIAL AS PER PROJECT SPECIFIC DESIGN, GEOTECHNICAL REPORT RECOMMENDATIONS AND AUTHORITY HAVING JURISDICTION STANDARDS/REQUIREMENTS.
8. THE CONSULTANT SHALL RECOMMEND THE APPROPRIATE BEDDING REQUIREMENTS BASED ON THE FINDINGS OF THE GEOTECHNICAL INVESTIGATION AND PROVIDE A CROSS-SECTION ILLUSTRATION ON THE FIRST PLAN & PROFILE DRAWING OR GENERAL DETAIL PAGE.
9. IN ROCK EXCAVATION, A MINIMUM OF 150mm GRANULAR MATERIAL BEDDING IS REQUIRED UNDERNEATH THE PIPE (FOR PVC), AND UP TO SPRING LINE FOR CONCRETE PIPE.
10. IN ROCK OR SHALE TRENCH CONDITIONS, INSTALL 50mm THICK POLYETHYLENE FOAM BOARDS, ON BOTH SIDES OF TRENCH, BETWEEN TRENCH WALL AND BACKFILL. REFER TO PROJECT SPECIFIC REQUIREMENTS. POLYETHYLENE FOAM TO BE EITHER DOW ETHAFOAM® 400 OR NORDIC VOID 400 OR APPROVED EQUAL.
11. a) HIGH PERFORMANCE BEDDING PERMITTED ON SANITARY PIPES LESS THAN AND EQUAL TO 300mm DIAMETER WITHIN NON-ARTERIAL ROADS, INCLUSIVE OF SERVICE LATERALS. ALL OTHER PIPES GREATER THAN 300mm DIAMETER, INCLUDING SERVICE LATERALS, SHALL USE GRANULAR 'A' AS PER OPSS 1010 COMPACTED TO 100% SPMDD AS BEDDING AND COVER. ALTERNATIVE FOR LARGE DIAMETER PIPE, SEE NOTE 11b) BELOW.
    b) FOR LARGE DIAMETER PIPE (GREATER THAN OR EQUAL TO 750mm) UNSHRINKABLE FILL MAY BE USED TO FILL TRENCH VOID TO THE SPRINGLINE OF THE PIPE DIAMETER. GRANULAR 'A' AS PER OPSS 1010 COMPACTED TO 100% SPMDD TO BE USED TO 300mm OVER PIPE DIAMETER.

BEDDING DETAILS ARE INTENDED FOR GENERAL INFORMATION. REFER TO CONTRACT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR PROJECT SPECIFIC REQUIREMENTS.

Region of Peel working with you	PUBLIC WORKS STANDARD DRAWING	REV. DATE: NOVEMBER 2019
		REVISION NUMBER: 1 / FOR REVISION TRACKING REFER TO STD. DWG. 2-2-1
		APPROVED BY: A.P. / DRAWN BY: AINLEY GROUP
BEDDING AND COVER DETAILS FOR SEWERS		STD. DWG. NUMBER: 2-3-1 / SCALE: N.T.S.

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
2	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		
1	M.B.K.	19/09/30	REVISED – TRCA SUBMISSION #4		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

LICENSED PROFESSIONAL ENGINEER F. K. Y. WONG 100076535 PROVINCE OF ONTARIO

APPROVED FOR CONSTRUCTION

ISSUED FOR TRCA PERMIT — 19/09/30
D. LOVERIDGE, PEng — DATE
DIRECTOR OF PUBLIC WORKS

PROJECT NAME

SIMPSON ROAD EXTENSION PHASE 3

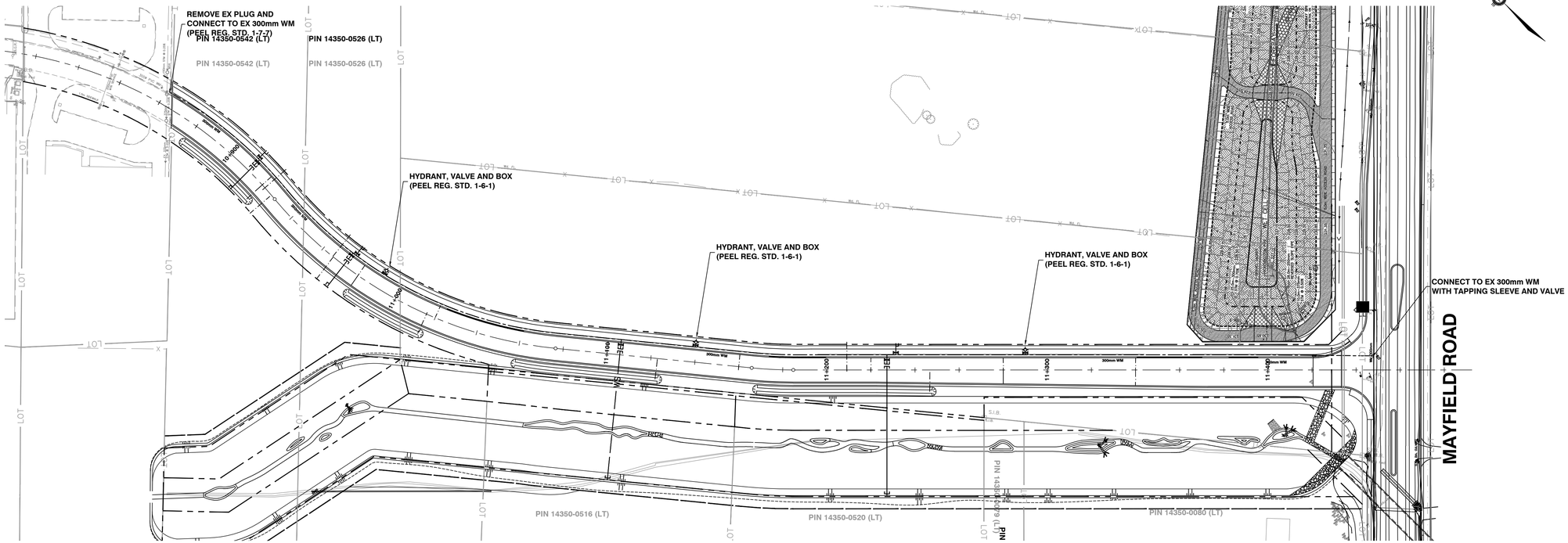
FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL

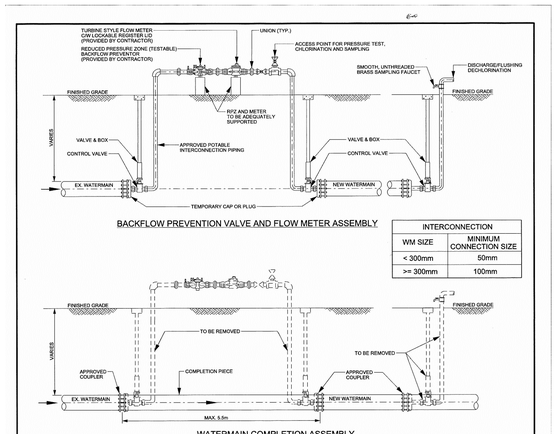
THE CORPORATION OF THE TOWN OF CALEDON

DETAILS

SCALE: AS NOTED	PROJECT No. TP113126
DESIGNED BY: F.W. / DRAWN BY: B.L.	
CHECKED BY: D.S. / DATE: SEPT. 2019	DRAWING No. 15



SIMPSON ROAD



BACKFLOW PREVENTION VALVE AND FLOW METER ASSEMBLY

INTERCONNECTION	
WM SIZE	MINIMUM CONNECTION SIZE
< 300mm	50mm
>= 300mm	100mm

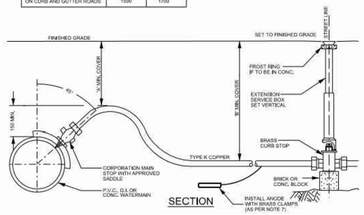
WATERMAIN COMPLETION ASSEMBLY

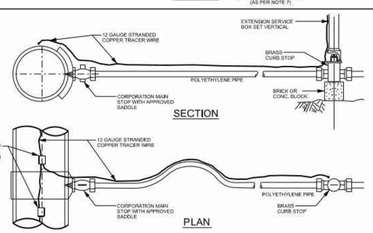
NOTE

1. THE REDUCED PRESSURE ZONE BACKFLOW PREVENTER (RPZ) MUST BE PROVIDED BY THE CONTRACTOR AND TESTED ANNUALLY AS PER CSA B64-10. THE ANNUAL TESTING LOGS MUST BE ON SITE AND AVAILABLE FOR REVIEW BY THE AGENCY AT ANYTIME.
2. THE BACKFLOW PREVENTION VALVE AND FLOW METER ASSEMBLY SHALL BE DISCONNECTED DURING WATERMAIN PRESSURE TESTS.
3. THE FINAL CONNECTION OF THE WATERMAIN SHALL BE COMPLETED ONLY AFTER AUTHORIZATION BY REGION OF PEEL.
4. THE WATERMAIN SHALL BE DRAINED BY CONTROLLED MEANS AND TEMPORARY CAP OR PLUGS INSTALLED AS REQUIRED. SUFFICIENT TRENCH DEWATERING CAPACITY SHALL BE USED WHEN THE EXISTING AND NEW WATERMAINS ARE DRAINED PRIOR TO THE FINAL CONNECTION TO ENSURE NO BACKFLOW OF TRENCH WATER INTO EITHER WATERMAIN.
5. THE WATERMAIN SHALL BE CUT BACK TO REMOVE THE TAPPING POINTS OF THE BACKFLOW PREVENTION VALVE ASSEMBLY. ENSURE COMPLETION PIECE IS LESS THAN 5.5m AND DISINFECTED ACCORDING TO AWWA 651-05.
6. ONLY MUNICIPAL STAFF SHALL OPERATE MUNICIPALITY OWNED VALVES.
7. ALL NEW PIPING AND APPURTENANCES PLACED IN THE CONNECTION SHALL BE THOROUGHLY DISINFECTED WITH 1-5% SOLUTION OF SODIUM HYPOCHLORITE SOLUTION (ANSI/NSF60 CERTIFIED) ACCORDING TO AWWA C651.
8. A PHYSICAL SEPARATION MUST BE MAINTAINED AT ALL CONNECTION POINTS OF NEW WATERMAINS TO THE EXISTING SYSTEMS UNTIL BACTERIOLOGICAL TESTS HAVE PASSED. A SAMPLING TAP MUST BE PROVIDED AT THE END OF EACH BRANCH OR STUB.
9. THIS DETAIL IS FOR SCHEMATIC INFORMATION ONLY. THE ACTUAL CONFIGURATION USED MUST SATISFY THE INTENT OF THIS DRAWING.
10. FREEZING PROTECTION MUST BE PROVIDED WHEN APPLICABLE. INSULATION IS REQUIRED BETWEEN FROST BOX & GROUND TO PREVENT ADHERENCE TO GROUND.
11. ALL TEMPORARY CAPS TO BE EITHER RESTRAINED OR APPROVED ALTERNATIVE. ALL RESTRAINED JOINTS AS PER PIPE MANUFACTURER'S SPECIFICATION.
12. RPZ AND FLOW METER TO BE LOCATED IN THE BOULEVARD.

Region of Peel Working for you	PUBLIC WORKS STANDARD DRAWING	REV. DATE: APRIL 2014	
TEMPORARY WATERMAIN CONNECTION DETAIL FROM WATERMAIN		APPROVED BY: D.D.	DRAWN BY: AINLEY GROUP
		STD. DWG. NUMBER: 1-7-7	SCALE: N.T.S.

	'A'	'B'
ON UNIMPROVED ROADS	1950	2100
ON CURB AND GUTTER ROADS	1590	1700



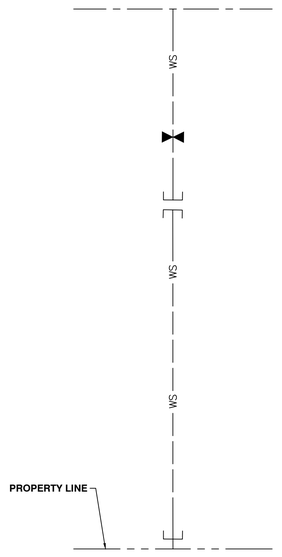


NOTE

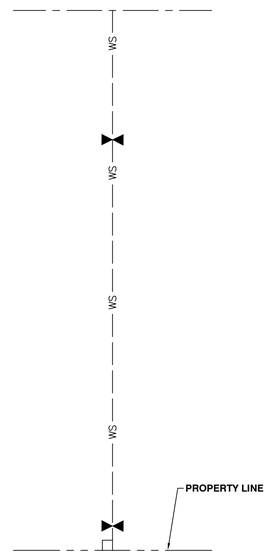
1. ALL SERVICES TO BE AT 90° TO THE WATERMAIN UNLESS OTHERWISE SPECIFIED.
2. WATER SERVICE TO BE A MIN. OF 1100mm UNDER THE BOTTOM OF DITCH.
3. SERVICE BOX TO BE SET TO FINISH GRADE.
4. NO DIRECT TAPPING OF PVC WATERMAINS. ALL CONNECTIONS TO PVC PIPE TO BE MADE USING AN APPROVED WIDE-BAND SERVICE SADDLE.
5. TRACER WIRE TO BE INSTALLED AS PER REGION STANDARDS.
6. ALL WATER SERVICE MATERIALS SHALL BE STORED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. ZINC ANODE (Z-12-24) TO BE INSTALLED 1000mm FROM CURB STOP AS PER OPSS 442.

Region of Peel working with you	PUBLIC WORKS STANDARD DRAWING	REV. DATE: MAR. 2018	
WATER SERVICE CONNECTION		APPROVED BY: E.O.	DRAWN BY: AINLEY GROUP
		STD. DWG. NUMBER: 1-7-1	SCALE: N.T.S.

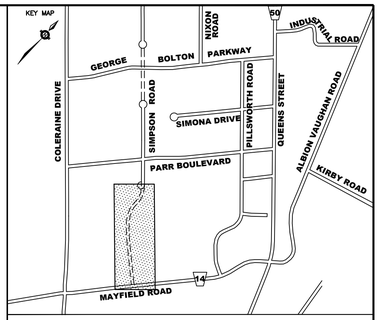
NOTE: MINIMUM CLEARANCE AS PER PEEL REGION 1-7-1 SHALL BE MAINTAINED BELOW PROPOSED CHANNEL.



OPTION A: WATER SERVICE WITHOUT SITE PLAN APPROVED



OPTION B: WATER SERVICE WITH SITE PLAN APPROVED



NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

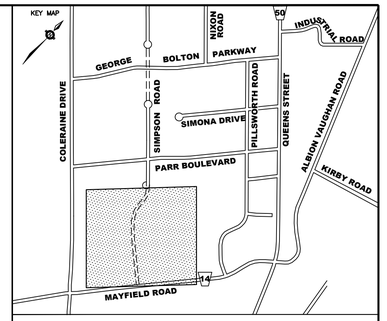
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SIMPSON ROAD
WATER DISTRIBUTION AND COMMISSIONING PLAN

SCALE: 1:750		PROJECT No. TP113126
DESIGNED BY: L.V.	DRAWN BY: N.H.	DRAWING No. 16
CHECKED BY: D.S.	DATE: NOV. 2020	





LEGEND

- MH1A — PROPOSED SANITARY MANHOLE
- 140 / 2.00 — EQUIVALENT POPULATION (70ppha) / AREA (ha)
- SANITARY BOUNDARY DRAINAGE AREA

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	ISSUED FOR 100% CLIENT REVIEW		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	ISSUED FOR 100% DETAILED DESIGN FOR ROP – MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

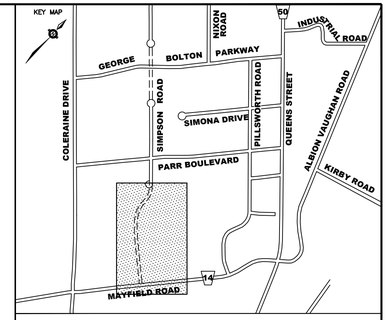
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

SANITARY DRAINAGE AREA PLAN

SCALE: 1:1250		PROJECT No. TP113126
DESIGNED BY: L.V.	DRAWN BY: N.H.	DRAWNING No. 17
CHECKED BY: D.S.	DATE: NOV. 2020	





LEGEND

- CB1 — PROPOSED CATCHBASIN/MANHOLE
- 0.9 / 7.57 — RUNOFF COEFFICIENT / AREA (ha)
- STORM BOUNDARY DRAINAGE AREA

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
5	F.W.	SEP. 21	ISSUED FOR 100% CLIENT REVIEW		
4	F.W.	NOV. 20	[redacted]		
3	F.W.	AUG. 20	ISSUED FOR 100% CLIENT REVIEW		
2	F.W.	JUN. 20	[redacted] MAYFIELD ROAD COORDINATION REVIEW		
1	F.W.	JAN. 20	ISSUED FOR 100% REVIEW		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
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FINANCE AND INFRASTRUCTURE SERVICES

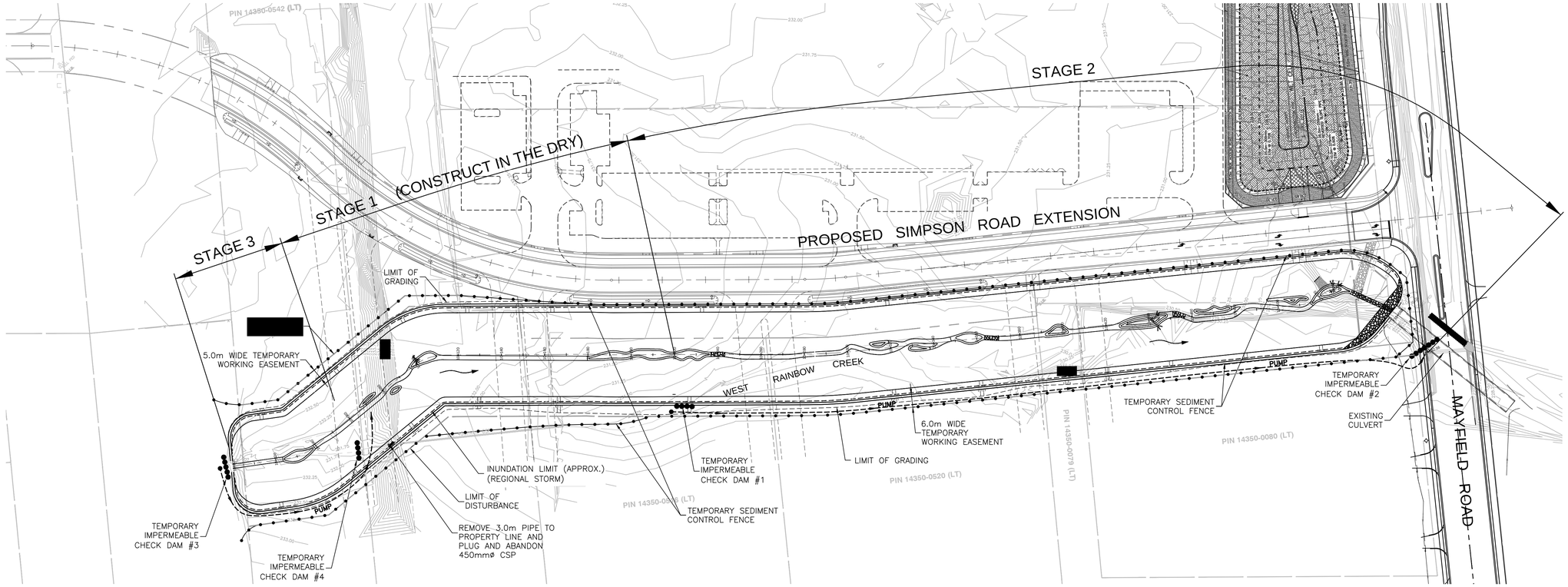
REGION OF PEEL
C02.312

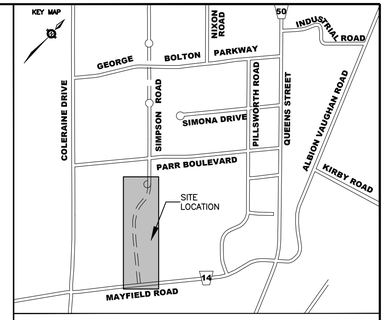
THE CORPORATION OF THE
TOWN OF CALEDON

STORM DRAINAGE AREA PLAN

STA. 10+860 TO STA. 11+458

SCALE: 1:1250		PROJECT No. TP113126
DESIGNED BY: L.V.	DRAWN BY: N.H.	
CHECKED BY: D.S.	DATE: NOV. 2020	DRAWNING No. 18





LEGEND

- SEDIMENT CONTROL FENCE
- TEMPORARY IMPERMEABLE CHECK DAM / COFFER DAM
- RIPRAP
- WOODY DEBRIS
- FLOW DIRECTION
- INUNDATION LIMIT (REGIONAL STORM)
- PROPERTY LINE

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
7	M.B.K.	20/11/19	ISSUED FOR 100% CLIENT REVIEW		
6	M.B.K.	20/01/20	ISSUED FOR 100% REVIEW		
5	M.B.K.	19/09/30	REVISED – TRCA SUBMISSION #4		
4	M.B.K.	19/02/19	REVISED – TRCA SUBMISSION #3		
3	J.P.E.	18/11/05	REVISED – TRCA SUBMISSION #2		
2	B.S.	18/05/14	REVISED – TRCA SUBMISSION		
1	B.S.	17/09/05	ISSUED FOR TRCA PERMIT		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY EROSION & SEDIMENT CONTROL & STAGING PLAN

SCALE: 1:1000		PROJECT No. TP113126
DESIGNED BY: M.K./B.D.	DRAWN BY: M.K.	DRAWING No. C1
CHECKED BY: B.B.	DATE: NOV. 2020	

GENERAL NOTES:

1. AN ON-SITE PRE-CONSTRUCTION MEETING MUST TAKE PLACE PRIOR TO THE COMMENCEMENT OF ANY WORK. REPRESENTATIVES FROM THE TORONTO REGION CONSERVATION AUTHORITY, THE REGION OF PEEL, THE DESIGN TEAM, AND THE SUCCESSFUL CONTRACTOR MUST BE PRESENT.
2. PRIOR TO COMMENCEMENT OF ALL PHASES OF WORK, INCLUDING STRIPPING AND FILLING, ALL EROSION AND SEDIMENT CONTROLS SHALL BE IN PLACE TO THE SATISFACTION OF THE SITE SUPERVISOR.
3. ALL EROSION AND SEDIMENT CONTROLS MUST BE MAINTAINED DURING CONSTRUCTION AND FULLY REMOVED ONCE ALL DISTURBED AREAS HAVE BEEN STABILIZED.
4. THE CONTRACTOR MUST ABIDE BY THE REGULATIONS SET OUT IN THE ONTARIO GOVERNMENT PUBLICATION "GUIDELINES ON EROSION AND SEDIMENTATION CONTROLS FOR URBAN CONSTRUCTION SITES", AND "EROSION & SEDIMENT CONTROL GUIDELINES FOR URBAN CONSTRUCTION" PREPARED BY THE GREATER GOLDEN HORSESHOE AREA CONSERVATION AUTHORITIES (DECEMBER 2006).
5. REFER TO LANDSCAPING PLANS FOR REVEGETATION STAGING AND SEED MIXES.
6. THE ENTIRE CONSTRUCTION SITE TO BE MONITORED DAILY FOR SEDIMENT AND EROSION CONTROL FOR THE DURATION OF THE CONTRACT. DEFICIENCIES AND/OR BREACHES OF THE EROSION AND SEDIMENT CONTROL MEASURES MUST BE BROUGHT TO THE ATTENTION OF THE SITE ENGINEER AND THE TORONTO REGION CONSERVATION AUTHORITY AND RECTIFIED IMMEDIATELY.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REGULATIONS AND PERMITTING PROVISION OF TRCA, THE REGION OF PEEL, MNR AND MOECC. THESE ARE TO BE POSTED OR AVAILABLE AT THE CONSTRUCTION SITE.
8. TEMPORARY IMPERMEABLE CHECK DAMS SHALL BE USED AS A COMPONENT OF THE DAM AND PUMP OPERATIONS FOR DEWATERING. IN THE EVENT THAT A TEMPORARY IMPERMEABLE CHECK DAM HAS BEEN PUT IN PLACE, IT SHALL BE REMOVED AS WELL AS ANY TRAPPED SEDIMENT UPON CONSTRUCTION COMPLETION OR AT THE DISCRETION OF THE SITE ENGINEER. UPON COMPLETION OF THE CHANNEL WORKS, THE ENGINEER AND CONTRACTOR ARE TO ENSURE THAT ALL STRUCTURES CONSTRUCTED WITHIN THE STREAM HAVE BEEN COMPLETELY REMOVED.
9. UNDER NO CIRCUMSTANCES SHALL RUNOFF FROM UNVEGETATED SOIL OR EXCAVATED PITS BE DISCHARGED OFF SITE OR DIRECTLY INTO ACTIVE OR TEMPORARILY INACTIVE WATERCOURSES.
10. ALL SEDIMENT CONTROL FENCING MUST BE MAINTAINED UNTIL SUCH TIME THE SITE SUPERVISOR DEEMS THE MEASURE IS NO LONGER NECESSARY.
11. ALL ACCUMULATED SEDIMENT MUST BE REMOVED DURING PERIODS OF LOW-FLOW OR DRY CONDITIONS, PRIOR TO THE REMOVAL OF THE DEWATERING CONTROLS, AND DISPOSED OF IN AN APPROVED ON-SITE LOCATION (TO BE DETERMINED IN THE FIELD).
12. ALL EXCAVATION/GRADING IS TO BE DONE IN THE DRY.
13. ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS WEATHER PERMITS FOLLOWING COMPLETION OF CONSTRUCTION WITH THE EXCEPTION OF SLOPES GREATER THAN 3:1 OR IN SENSITIVE AREAS. THESE AREAS SHALL BE STABILIZED IMMEDIATELY WITH TOPSOIL, SEED AND CURLEX II CL EROSION CONTROL BLANKET OR APPROVED EQUIVALENT.
14. ANY DISTURBANCE TO EXISTING VEGETATION AS PART OF CONSTRUCTION TEMPORARY WORK IS TO BE RESTORED AT THE DIRECTION OF THE LANDSCAPE ARCHITECT AND/OR THE SITE SUPERVISOR.
15. ALL STOCKPILES AND STORAGE AREAS ARE TO BE SURROUNDED BY SEDIMENT CONTROL FENCING OR EQUIVALENT.
16. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT EXCEEDING A 150mm (6 in.) THICKNESS OF LOOSE LIFTS . EACH LAYER SHALL BE COMPACTED BEFORE PLACING SUCCEEDING LAYER.
17. COMPACTION SHALL BE DONE IN ACCORDANCE WITH REGION OF PEEL STANDARDS. RECOMMENDED MINIMUM PERCENTAGE OF STANDARD PROCTOR MAXIMUM DRY DENSITY:
    (a) IN SITU SUBGRADE SOIL - A MINIMUM OF 98%
    (b) GENERAL FILL MATERIAL - A MINIMUM OF 98%
    (c) GRANULAR MATERIAL - A MINIMUM OF 98%
18. EXCAVATED MATERIAL FROM THE CREEK IS TO BE REMOVED OFF-SITE TO A LOCATION SOURCED BY THE CONTRACTOR.
19. LIVE STAKES ARE TO BE INSTALLED WITHIN 48 HRS. OF HARVEST. OTHERWISE THEY SHOULD BE SOAKED FOR 7-10 DAYS TO PROLONG THE WINDOW OF ROOTING OPPORTUNITY.
20. ALL MATERIALS AND EQUIPMENT USED FOR THE PURPOSE OF SITE PREPARATION AND PROJECT COMPLETION SHALL BE OPERATED AND STORED IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE (i.e. PETROLEUM PRODUCTS, DEBRIS) FROM ENTERING THE WATERCOURSE.
21. ALL VEHICLE AND EQUIPMENT REFUELING AND MAINTENANCE, STORAGE AND STOCKPILE AREAS AND ANY OTHER TEMPORARY CONSTRUCTION AREAS, SHALL BE CONDUCTED AND/OR LOCATED A MINIMUM OF 30m AWAY FROM THE WATERCOURSE ON FLAT GROUND SO THAT ANY RUNOFF FLOWS AWAY FROM THE CREEK.
22. ONLY CLEAN MATERIAL FREE OF FINE PARTICULATE MATTER SHALL BE PLACED IN THE CREEK.
23. DUE TO LOCAL FISH SPAWNING AND NURSERY PERIODS, NO IN-WATER WORK OR ACTIVITY SHALL TAKE PLACE BETWEEN MARCH 31st TO JULY 1st.
24. DUE TO MITIGATING IMPACTS OF TREE CLEARING ON BREEDING BIRDS, ANY VEGETATION REMOVAL WITH THE CORE BIRD BREEDING SEASON OF MAY 1st TO JULY 31st, MUST BE DONE IN ADHERENCE TO THE MIGRATORY BIRDS CONVENTION ACT. VEGETATION REMOVAL WITHIN THIS TIME MUST BE DONE IN CONSULTATION WITH ENVIRONMENT CANADA, CANADIAN WILDLIFE SERVICES.
25. CONSTRUCTION OF THE LOW-FLOW CHANNEL MUST BE SUPERVISED BY A QUALIFIED FLUVIAL GEOMORPHOLOGIST (OR APPROVED EQUIVALENT).

CONSTRUCTION STAGING NOTES:

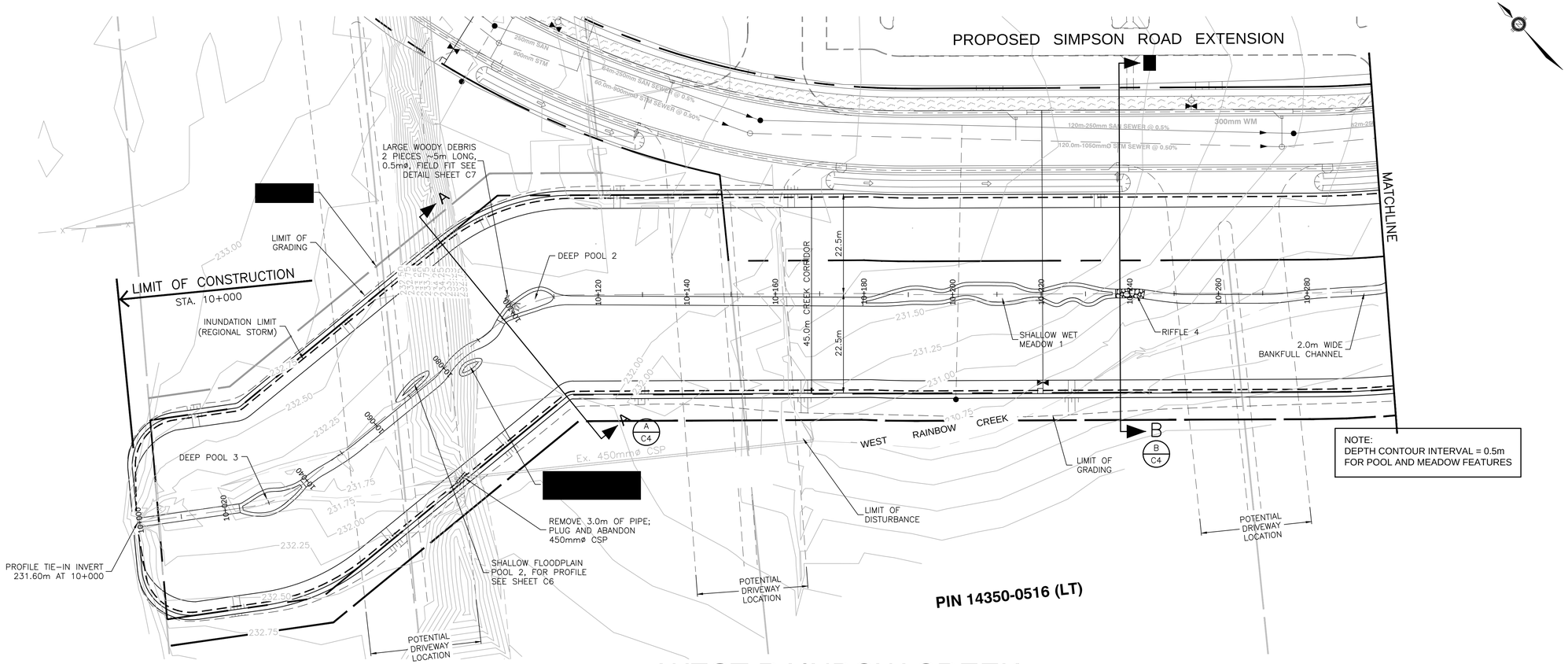
1. THE GEOMORPHOLOGIST AND/OR THE ENGINEERS RESPONSIBLE FOR THE DESIGN OF THE CREEK REALIGNMENT DESIGN MUST BE PRESENT DURING CONSTRUCTION AND APPROVE THE COMPLETION OF EACH STAGE.
2. NO FLOWS ARE TO BE REINSTATED INTO NEWLY CONSTRUCTED CHANNEL WORKS UNTIL THE WORK HAS BEEN APPROVED BY TORONTO REGION CONSERVATION AUTHORITY STAFF BASED ON A SITE INSPECTION OR SUBMISSION OF A DETAILED PHOTOGRAPHIC INVENTORY OF THE CHANNEL.
3. DAM AND PUMP FLOW LENGTHS AS STATED WITHIN EACH STAGE OF WORK ARE TO INFORM THE CONTRACTOR OF THE MAXIMUM LENGTH REQUIRED TO DEWATER . THE CONTRACTOR SHALL KEEP CLOSE ATTENTION TO WEATHER PATTERNS DURING CONSTRUCTION AND DAM AND PUMP IN LENGTHS SO THAT CONSTRUCTION CAN BE COMPLETED DURING DRY WEATHER. THE CONTRACTOR SHALL ENSURE THAT ALL TEMPORARY IMPERMEABLE CHECK DAMS ARE REMOVED (AS WELL AS ANY ACCUMULATED SEDIMENT) DURING ALL RAIN EVENTS THAT MAY CAUSE THE CREEK TO OVERTOP THE DAMS.
4. DURING ALL DAM AND PUMP DEWATERING OPERATIONS, FISH RESCUE MUST TAKE PLACE BY A QUALIFIED FISHERIES BIOLOGIST. RESCUE TRAPPED FISH FROM THE EXISTING CREEK BED BETWEEN THE 2 TEMPORARY DEWATERING CONTROLS (TEMPORARY IMPERMEABLE CHECK DAMS) AND RELOCATE FISH BACK INTO THE CREEK AT A POINT DOWNSTREAM OF THE LIMIT OF CONSTRUCTION.
5. DURING THE DEWATERING OPERATIONS, IF PUMPING, ENSURE THAT THE DISCHARGE HOSE (OR FLUME) OUTLETS TO AN APPROPRIATE DISSIPATION AREA SUCH AS A PATIO STONE OR PEA GRAVEL BAG AS OPPOSED TO EXPOSED SOIL, USE FILTER BAGS OR ANY OTHER FILTRATION TECHNIQUE/PRACTISE ED TO TREAT DEWATERING DISCHARGE BEFORE RETURNING IT TO CREEK DOWNSTREAM.
6. PRIOR TO COMMENCEMENT OF CONSTRUCTION, INSTALL ALL EROSION AND SEDIMENTATION CONTROLS.
7. CLEAR AND GRUB ALL WORK AREAS PRIOR TO CONSTRUCTION AS PER OPSS 201.
8. STRIP TOPSOIL FROM WORK AREA AND STOCKPILE IN AN AREA ON SITE TO BE DETERMINED IN THE FIELD IF APPLICABLE.

Stage 1 - Channel Realignment (Constructed In The Dry)

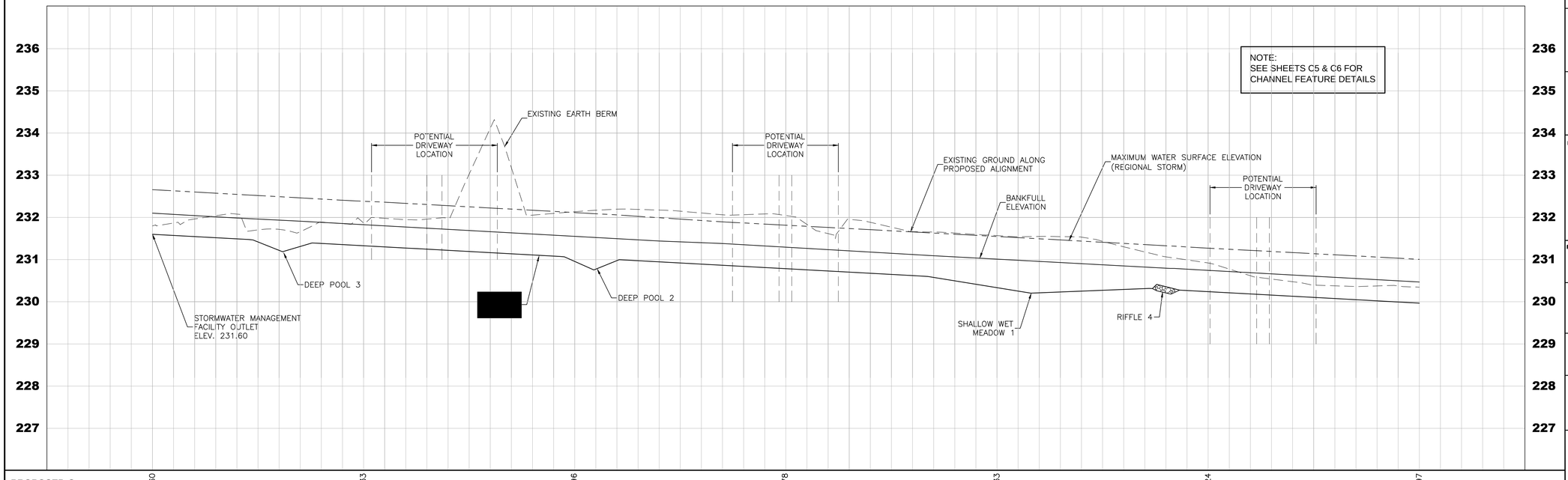
1. INSTALL SEDIMENT FENCING AS SHOWN ALONG THE NORTH BANK OF THE EXISTING CREEK.
2. CONSTRUCT NEW CHANNEL REALIGNMENT FROM STA. 10+060± TO STA. 10+220±.
3. STABILIZE AND REVEGETATE THE NEWLY CONSTRUCTED CHANNEL.
4. COMPLETE BALANCE OF FILL AND GRADING WORK REQUIRED. ALL RESTORATION, STABILIZATION AND LANDSCAPING WORK TO BE CARRIED OUT IMMEDIATELY FOLLOWING GRADING COMPLETION.
5. INSTALL TEMPORARY SEDIMENT CONTROL FENCING ALONG THE NORTH SIDE OF THE NEWLY CONSTRUCTED CHANNEL.

Stage 2 & 3 - Channel Realignment (Dam And Pump)

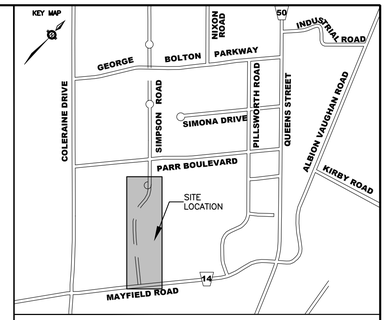
1. SEQUENCE THE CONSTRUCTION METHOD IN THE SAME MANNER FOR STAGES 2 & 3, STARTING AT THE DOWNSTREAM LIMIT (STAGE 2) AND MOVING THE TEMPORARY IMPERMEABLE CHECK DAMS UPSTREAM TO THE LOCATION FOR STAGE 3 AS SHOWN ON THE ABOVE PLAN.
2. CONSTRUCT A TEMPORARY IMPERMEABLE CHECK DAM AT THE UPSTREAM LIMIT OF THE STAGE TO BE COMPLETED.
3. GUIDE FISH FROM THE WORK AREA BEING DEWATERED AND MAKE SURE THEY HAVE BEEN DISPLACED TO THE CREEK DOWNSTREAM OF THE WORK BELOW THE AREA WHERE THE DOWNSTREAM TEMPORARY IMPERMEABLE CHECK DAM IS TO BE CONSTRUCTED.
4. CONSTRUCT A TEMPORARY IMPERMEABLE CHECK DAM AT THE DOWNSTREAM LIMIT OF THE STAGE TO BE COMPLETED.
5. WORK AREA TO BE KEPT DRY BY APPROPRIATE DEWATERING OPERATION (EG. DAM AND PUMP).
6. PUMP FLOW INTO THE EXISTING CULVERT FOR STAGE 2 AND INTO THE NEWLY CONSTRUCTED CHANNEL FOR STAGE 3 ENSURING THAT THAT THE DISCHARGE HOSE (OR FLUME) OUTLETS TO AN APPROPRIATE DISSIPATION AREA SUCH AS A PATIO STONE OR PEA GRAVEL BAG.
7. CONSTRUCT THE NEW CHANNEL CONNECTING WITH THE NEWLY CONSTRUCTED CHANNEL THAT WAS COMPLETED IN THE DRY (STAGE 1).
8. COMPLETE BALANCE OF FILL AND GRADING WORK REQUIRED. ALL RESTORATION, STABILIZATION AND LANDSCAPING WORK TO BE CARRIED OUT IMMEDIATELY FOLLOWING GRADING COMPLETION.
9. ALL CONSTRUCTION AND RESTORATION WORK MUST BE INSPECTED AND APPROVED BY TORONTO REGION CONSERVATION AUTHORITY STAFF PRIOR TO THE REINSTATEMENT OF CREEK FLOW TO ENSURE STABILIZATION AND REVEGETATION OF THE WORKS AFTER THE COMPLETION OF EACH STAGE.
10. INSTALL TEMPORARY SEDIMENT CONTROL FENCE ALONG THE NORTH AND SOUTH SIDES OF THE NEWLY CONSTRUCTED CHANNEL AFTER THE COMPLETION OF EACH STAGE
11. REMOVE AND DISPOSE OF ALL ACCUMULATED SEDIMENT (OFF-SITE) PRIOR TO THE REMOVAL OF THE TEMPORARY IMPERMEABLE CHECK DAMS.
12. REMOVE THE TEMPORARY IMPERMEABLE CHECK DAMS AND REINSTATE THE CREEK FLOW.



WEST RAINBOW CREEK



PROPOSED ℄ GRADES	231.60	231.33	230.96	230.78	230.33	230.24	229.97
℄ CHAINAGE	10+000	10+050	10+100	0+150	0+200	0+250	0+300



INUNDATION LIMIT (REGIONAL STORM)

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
7	M.B.K.	20/11/19	ISSUED FOR 100% CLIENT REVIEW		
6	M.B.K.	20/01/20	ISSUED FOR 100% REVIEW		
5	M.B.K.	19/09/30	REVISED – TRCA SUBMISSION #4		
4	M.B.K.	19/02/19	REVISED – TRCA SUBMISSION #3		
3	J.P.E.	18/11/05	REVISED – TRCA SUBMISSION #2		
2	B.S.	18/05/14	REVISED – TRCA SUBMISSION		
1	B.S.	17/09/05	ISSUED FOR TRCA PERMIT		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

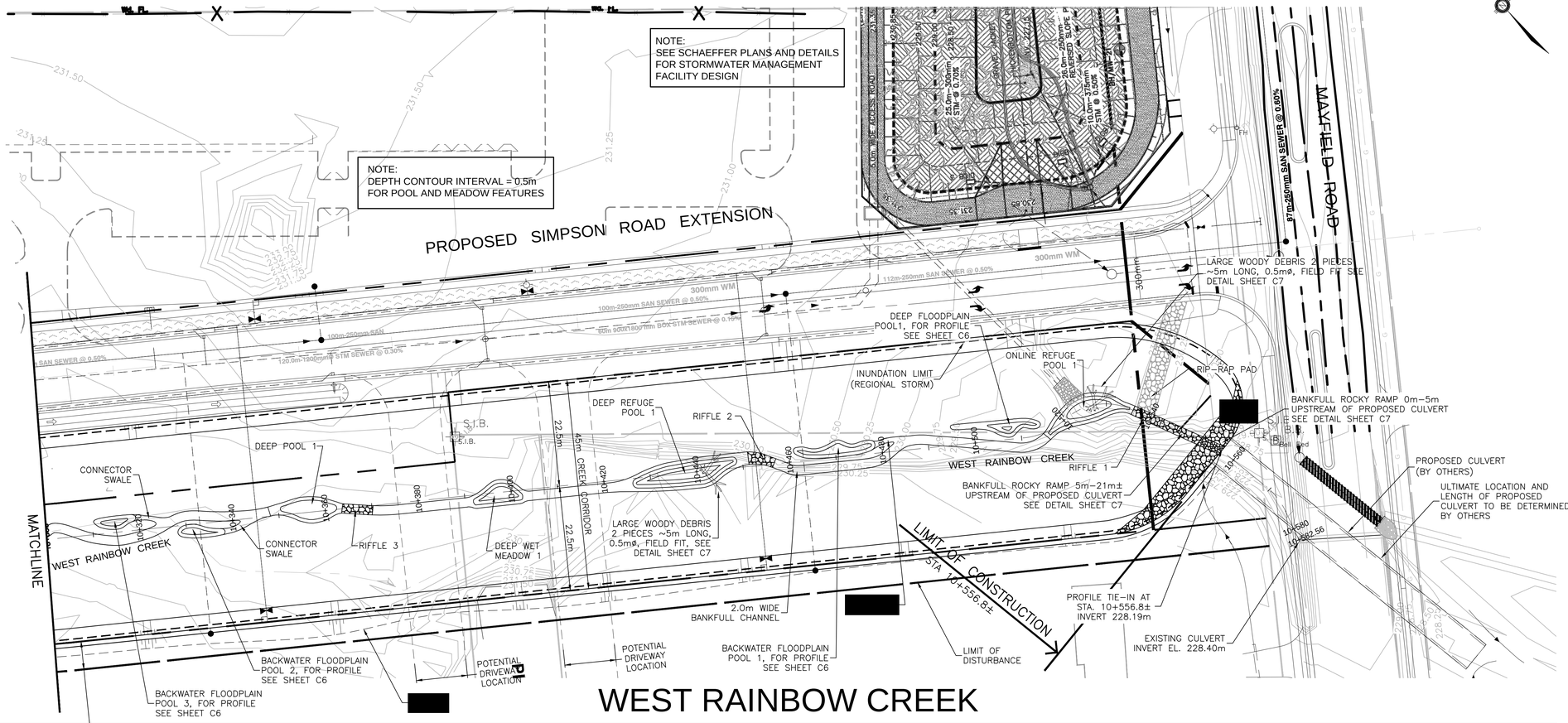
FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

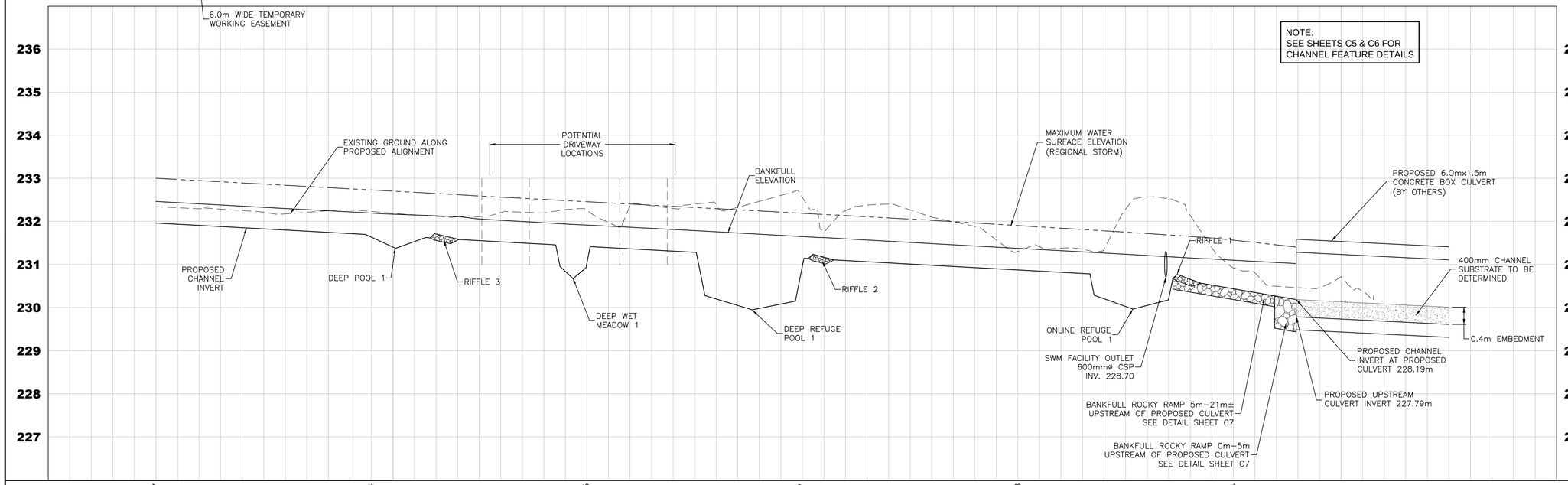
THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY
PLAN AND PROFILE
STA. 10+000 TO STA. 10+300

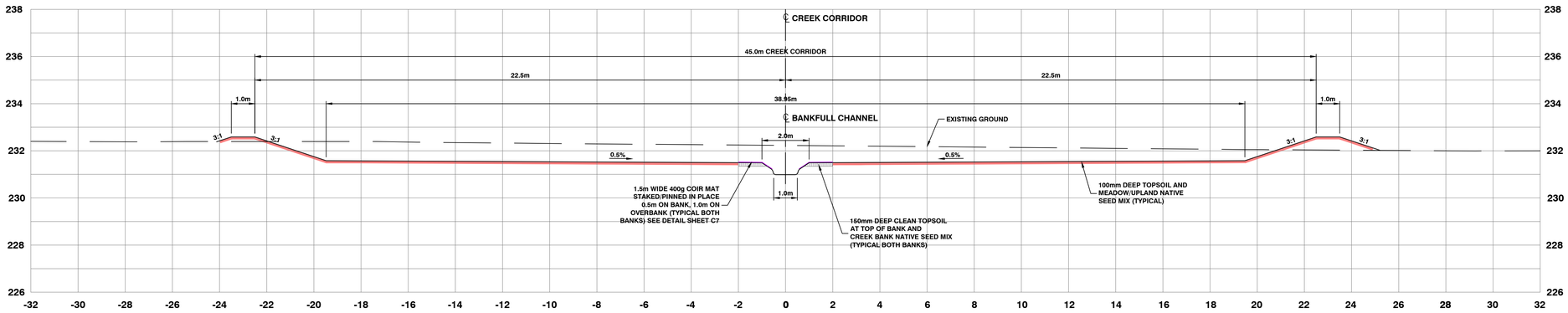
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DESIGNED BY: M.K./D.B.	DRAWN BY: M.K.	DRAWING No. C2
CHECKED BY: B.B.	DATE: NOV. 2020	



WEST RAINBOW CREEK

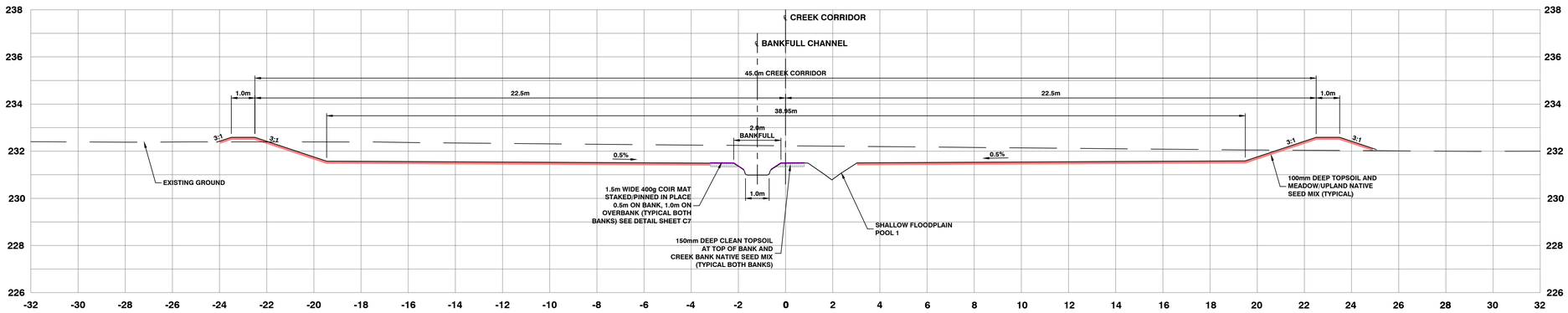


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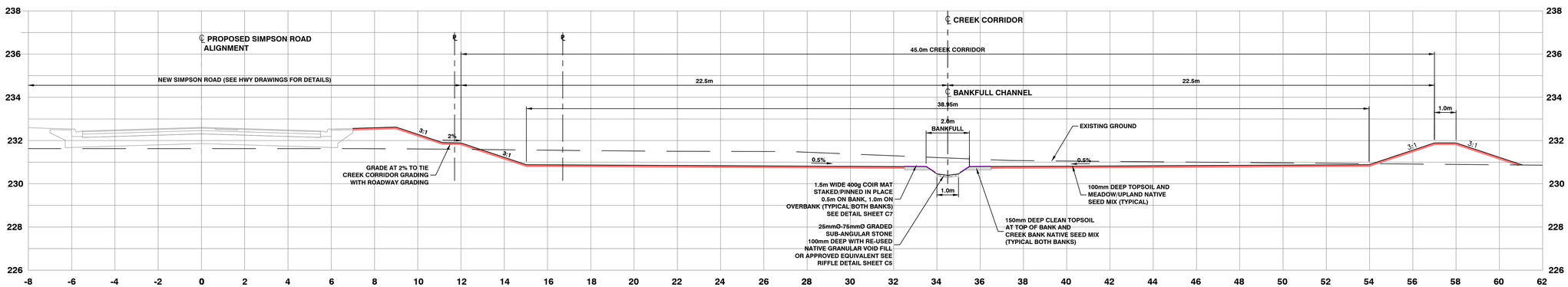
TYPICAL CREEK CORRIDOR CROSS SECTION

SCALE 1:100



SECTION A-A

SCALE 1:100



SECTION B-B

SCALE 1:100

NOT FOR CONSTRUCTION

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R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

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PROJECT NAME

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FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

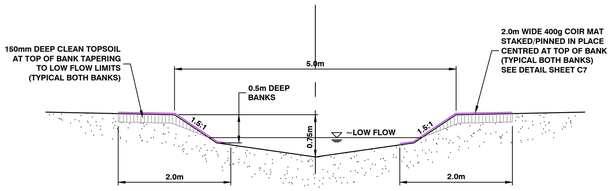
THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY

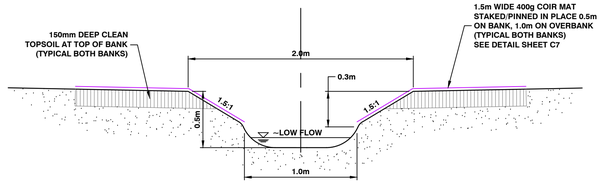
CROSS SECTIONS

SCALE: **AS NOTED**		PROJECT No. **TP113126**
DESIGNED BY: **M.K./B.D.**	DRAWN BY: **M.K.**	
CHECKED BY: **B.B.**	DATE: **NOV. 2020**	DRAWING No. **C4**

NOTE:
SEED MIX APPLIED UNDER COIR MAT TO BE ONTARIO SEED COMPANY #8215 "BANK SEED MIX", WITH A NURSE CROP OF ANNUAL OATS



DEEP POOL DETAIL
SHALLOW WET MEADOW DETAIL
SCALE 1:50



BANKFULL RUN DETAIL
SCALE 1:25

ONLINE REFUGE POOL DETAIL
DEEP WET MEADOW DETAIL
SCALE 1:50

BANKFULL RIFFLE (AT CREST) DETAIL
SCALE 1:25

DEEP REFUGE POOL DETAIL
SCALE 1:50

CONNECTOR SWALE DETAIL
SCALE 1:25

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
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6	M.B.K.	20/01/20	ISSUED FOR 100% REVIEW		
5	M.B.K.	19/09/30	REVISED – TRCA SUBMISSION #4		
4	M.B.K.	19/05/19	REVISED – TRCA SUBMISSION #3		
3	J.P.E.	[redacted]	REVISED – TRCA SUBMISSION #2		
2	B.S.	18/05/14	REVISED – TRCA SUBMISSION		
1	B.S.	17/09/05	ISSUED FOR TRCA PERMIT		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

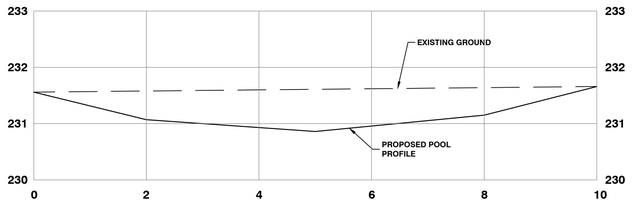
FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

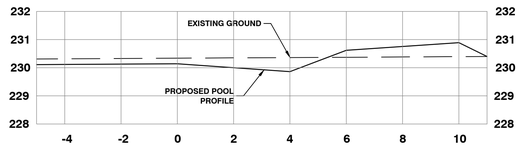
WEST RAINBOW CREEK TRIBUTARY
CREEK BANKFULL SECTIONS

SCALE: **AS NOTED**		PROJECT No. **TP113126**
DESIGNED BY: **M.K./B.D.**	DRAWN BY: **M.K.**	DRAWING No. **C5**
CHECKED BY: **B.B.**	DATE: **NOV. 2020**	

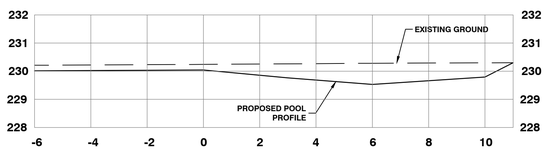


SHALLOW FLOODPLAIN
POOL 2 - PROFILE
SCALE 1:50

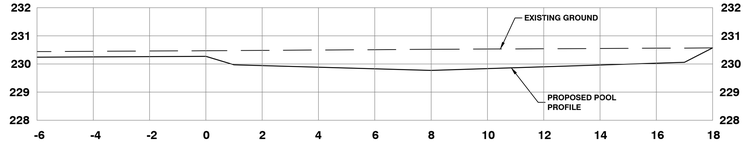
SHALLOW FLOODPLAIN
POOL 1 - PROFILE
SCALE 1:50



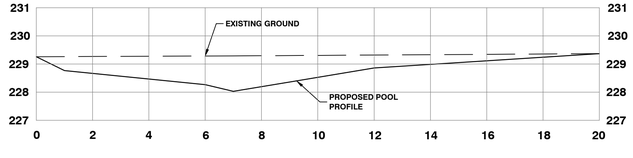
BACKWATER FLOODPLAIN
POOL 3 - PROFILE
SCALE 1:100



BACKWATER FLOODPLAIN
POOL 2 - PROFILE
SCALE 1:100



BACKWATER FLOODPLAIN
POOL 1 - PROFILE
SCALE 1:100



DEEP FLOODPLAIN
POOL 1 - PROFILE
SCALE 1:100

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	CHECKED	TOWN APPR'D
7	M.B.K.	20/11/19	ISSUED FOR 100% CLIENT REVIEW		
6	M.B.K.	20/01/20	ISSUED FOR 100% REVIEW		
5	M.B.K.	19/09/30	REVISED – TRCA SUBMISSION #4		
4	M.B.K.	19/02/19	REVISED – TRCA SUBMISSION #3		
■	J.P.E.	18/11/05	REVISED – TRCA SUBMISSION #2		
2	B.S.	18/05/14	REVISED – TRCA SUBMISSION		
1	B.S.	17/09/05	ISSUED FOR TRCA PERMIT		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE — DATE
MANAGER, ENGINEERING SERVICES

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

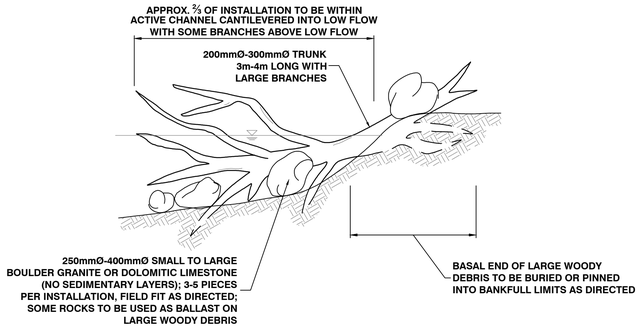
REGION OF PEEL
C02.312

THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY

POOL PROFILES

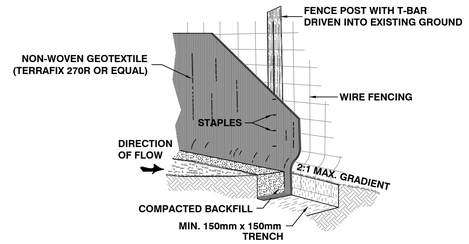
SCALE: **AS NOTED**		PROJECT No.	**TP113126**
DESIGNED BY: **M.K./B.D.**	DRAWN BY: **M.K.**	DRAWING No.	**C6**
CHECKED BY: **B.B.**	DATE: **NOV. 2020**		



NOTES:
1. RE-USED FOUND ON SITE MATERIALS PREFERRED EXCEPT SHALE
2. DISTURBED AREAS TO BE SEEDED AND RESTORED PER APPROVED LANDSCAPE PLANS

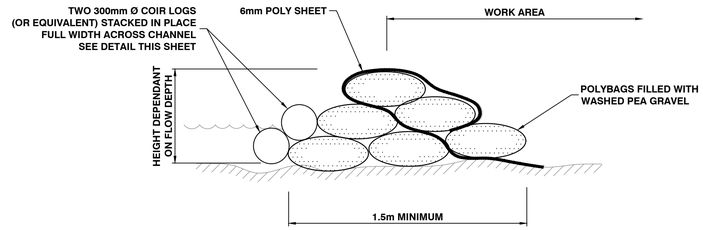
LARGE WOODY DEBRIS AND BOULDER INSTALLATION SECTION VIEW

N.T.S.



TEMPORARY SEDIMENT CONTROL FENCE

N.T.S.



TEMPORARY SANDBAG COFFERDAM

N.T.S.

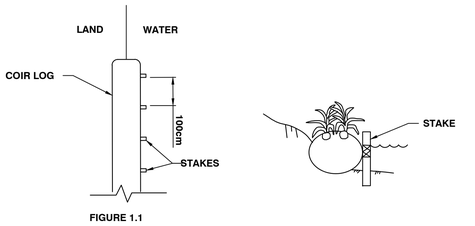


FIGURE 1.1

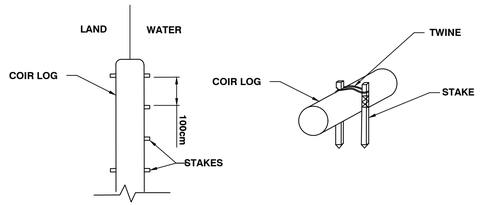


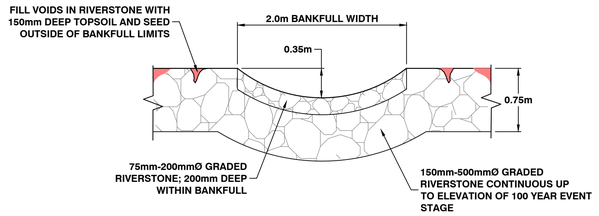
FIGURE 1.2

NOTES:

1. THE WOOD STAKES SHOULD BE PLACED ALONG THE WATER SIDE OF THE COIR LOG AND THE STAKE SHOULD BE PLACED THROUGH THE NETTING, FIGURE 1.1
2. WHERE WATER FLOW IS SLOW MOVING, AS FEW AS 4 STAKES PER 2.28 METRE LOG CAN BE USED. ON MEDIUM WATER FLOW SITES, 6 STAKES SHOULD BE USED AS FIGURE 1.2
3. FOR EROSION CONTROL, TYPICAL CHANNEL TO USE COIR MAT AS PER TERRAFIX GEOSYNTHETICS INC. INSTALLATION GUIDE.

COIR LOG INSTALLATION

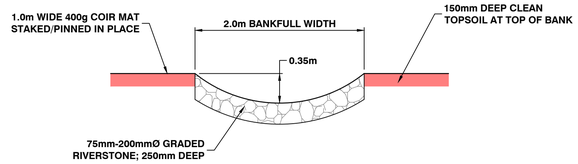
N.T.S.



BANKFULL ROCKY RAMP DETAIL 0m-5m UPSTREAM OF CULVERT

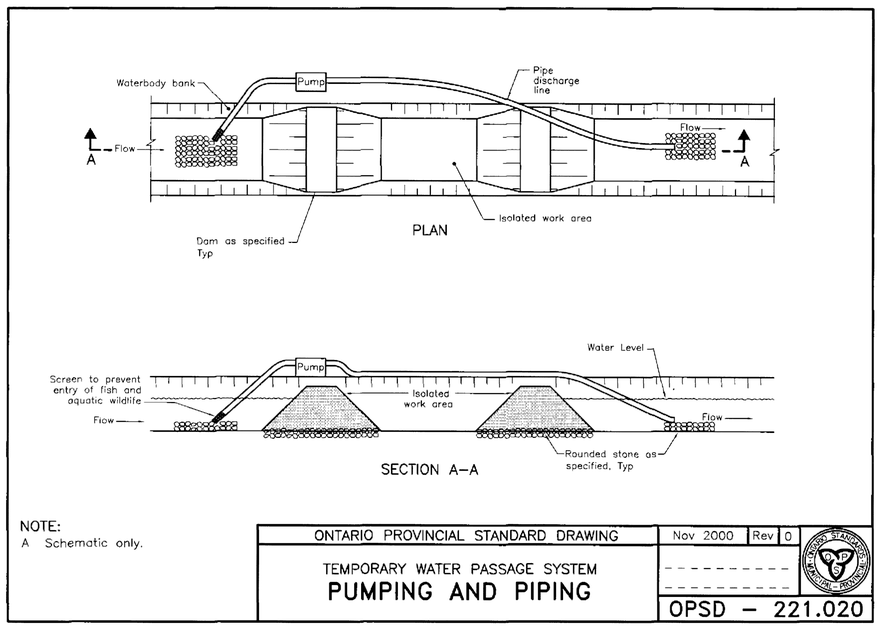
N.T.S.

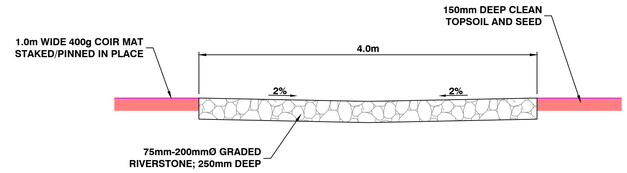
NOTE:
SEED MIX ADDED TO VOID TOPSOIL FILL AND APPLIED UNDER COIR MAT TO BE ONTARIO SEED COMPANY #8215 BANK SEED MIX, WITH A NURSE CROP OF ANNUAL OATS



BANKFULL ROCKY RAMP DETAIL 5m-21m± UPSTREAM OF CULVERT

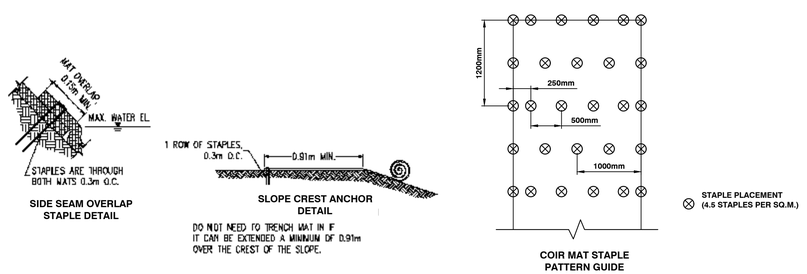
N.T.S.





RIP RAP SPILLWAY AND PAD

N.T.S.



1. FOR COHESIVE SOIL USE A 0.152m WIRE STAPLE AND FOR NON-COHESIVE SOIL USE A 0.203m WIRE STAPLE.
2. FOR BEST RESULTS INSERT STAPLES SO HEADS ARE PARALLEL TO THE FLOW OF WATER.
3. NOT TO SCALE DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.

COIR MAT INSTALLATION

N.T.S.

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
7	M.B.K.	20/11/19	ISSUED FOR CLIENT REVIEW-100% DETAILED DESIGN		
6	M.B.K.	20/01/20	ISSUED FOR 100% REVIEW		
5	M.B.K.	19/09/30	REVISED - TRCA SUBMISSION #4		
4	M.B.K.	19/02/19	REVISED - TRCA SUBMISSION #3		
3	J.P.E.	18/11/05	REVISED - TRCA SUBMISSION #2		
2	B.S.	18/05/14	REVISED - TRCA SUBMISSION		
1	B.S.	17/09/05	ISSUED FOR TRCA PERMIT		

BENCH MARK:

CONSULTANT

wood.

ENGINEER'S STAMP

APPROVED FOR CONSTRUCTION

R. GRODECKI, C.E.T., MITE
MANAGER, ENGINEERING SERVICES

DATE

PROJECT NAME

CONTRACT 14-093
SIMPSON ROAD EXTENSION PHASE 3

FINANCE AND INFRASTRUCTURE SERVICES

REGION OF PEEL
C02.312

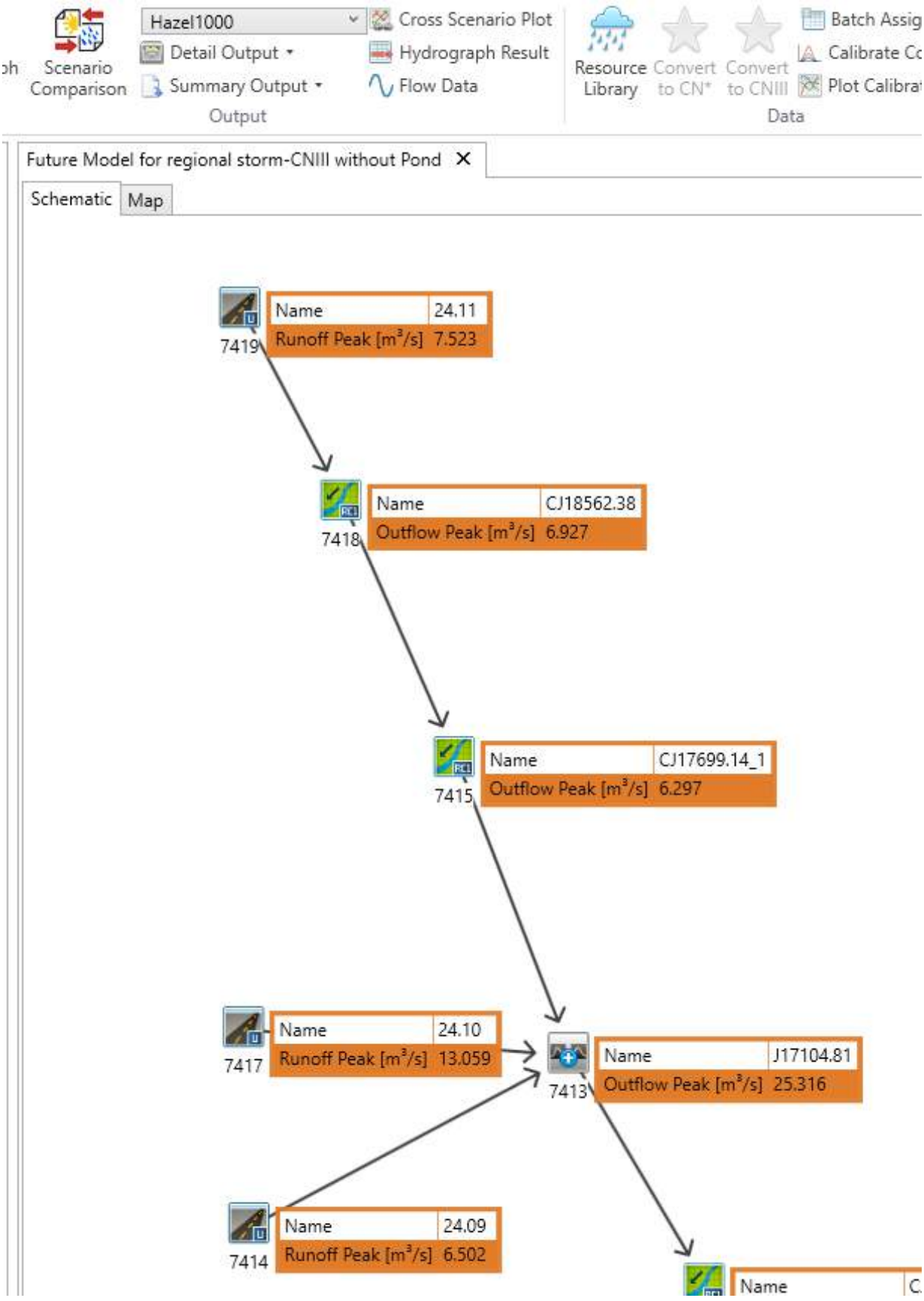
THE CORPORATION OF THE
TOWN OF CALEDON

WEST RAINBOW CREEK TRIBUTARY

TYPICAL DETAILS

SCALE: AS NOTED		PROJECT No. TP113126
DESIGNED BY: M.K./B.D.	DRAWN BY: M.K.	DRAWING No. C7
CHECKED BY: B.B.	DATE: NOV. 2020	

VO Modeling Results Alternative Flow Routing
Scenario 1: Future Conditions – Original Civica Model



```
**************************************************
** SIMULATION:100 Year 12 Hour AES (Bloor, TRCA) **
**************************************************
--------------------
| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56          2.66
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.31          1.31
     Length            (m)=     584.35         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

```
     Max.Eff.Inten.(mm/hr)=      40.71         37.96
               over (min)        10.00         15.00
     Storage Coeff.  (min)=       9.73 (ii)    13.33 (ii)
     Unit Hyd. Tpeak (min)=      10.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08
```

				TOTALS
PEAK FLOW	(cms)=	5.48	0.27	5.750 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	86.54	67.98	85.57
TOTAL RAINFALL	(mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT	=	0.98	0.77	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(7418)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.125E+04	0.4	0.32	55.12
0.43	231.12	.501E+04	2.4	0.50	34.72
0.64	231.33	.113E+05	7.1	0.66	26.50
0.86	231.55	.201E+05	15.3	0.80	21.87
1.07	231.76	.313E+05	27.7	0.92	18.85
1.29	231.98	.453E+05	43.0	0.99	17.53
1.50	232.19	.662E+05	55.3	0.87	19.94
1.72	232.41	.112E+06	80.6	0.75	23.21
1.93	232.62	.184E+06	152.1	0.86	20.20
2.15	232.84	.275E+06	254.6	0.97	18.01
2.36	233.05	.383E+06	418.6	1.14	15.27
2.58	233.27	.499E+06	620.1	1.30	13.41
2.79	233.48	.631E+06	831.7	1.38	12.64
3.01	233.70	.774E+06	1122.6	1.52	11.49
3.22	233.91	.926E+06	1446.6	1.63	10.67
3.44	234.13	.109E+07	1792.6	1.72	10.14
3.65	234.34	.127E+07	2189.3	1.80	9.67
3.98	234.67	.156E+07	3042.9	2.04	8.55
4.30	234.99	.187E+07	4039.2	2.26	7.72

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7419)	51.22	5.75	5.25	85.57	0.58	0.60
OUTFLOW: ID= 1 (7418)	51.22	5.11	5.33	85.57	0.55	0.58

ROUTE CHN(7415) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7418)	51.22	5.11	5.33	85.57	0.65	0.42

OUTFLOW: ID= 1 (7415) 51.22 4.48 5.42 85.56 0.62 0.40

CALIB		
STANDHYD (7414)	Area (ha)= 44.87	
ID= 1 DT= 5.0 min	Total Imp(%)= 72.29	Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

Max.Eff.Inten.(mm/hr)=		40.71	37.91
	over (min)	10.00	20.00
Storage Coeff. (min)=		8.61 (ii)	19.47 (ii)

Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.12	0.06	
			TOTALS
PEAK FLOW (cms)=	3.66	1.19	4.849 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	86.54	68.02	81.40
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.77	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7417)	Area (ha)= 90.03
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.11	17.92
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	774.73	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89

2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

			TOTALS
Max.Eff.Inten.(mm/hr)=	40.71	37.94	
over (min)	10.00	25.00	
Storage Coeff. (min)=	10.48 (ii)	21.21 (ii)	
Unit Hyd. Tpeak (min)=	10.00	25.00	
Unit Hyd. peak (cms)=	0.11	0.05	
PEAK FLOW (cms)=	8.13	1.66	9.779 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	86.54	68.03	82.85
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.98	0.77	0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7414):	44.87	4.849	5.25	81.40
+ ID2= 2 (7415):	51.22	4.479	5.42	85.56
ID = 3 (7413):	96.09	9.031	5.25	83.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7413)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7413):	96.09	9.031	5.25	83.62
+ ID2= 2 (7417):	90.03	9.779	5.25	82.85
ID = 1 (7413):	186.12	18.810	5.25	83.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION:100 Year 24 Hour AES (Bloor, TRCA) **
****

CALIB
STANDHYD (7419)
ID= 1 DT= 5.0 min

Area (ha)= 51.22
Total Imp(%)= 94.80 Dir. Conn.(%)= 94.80

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	48.56	2.66
Dep. Storage (mm)=	2.00	5.00

Average Slope	(%)=	1.31	1.31
Length	(m)=	584.35	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.88	12.250	6.23	18.33	0.48
0.167	0.00	6.250	2.88	12.333	3.36	18.42	0.48
0.250	0.00	6.333	8.15	12.417	3.36	18.50	0.48
0.333	0.48	6.417	8.15	12.500	3.36	18.58	0.48
0.417	0.48	6.500	8.15	12.583	3.36	18.67	0.48
0.500	0.48	6.583	8.15	12.667	3.36	18.75	0.48
0.583	0.48	6.667	8.15	12.750	3.36	18.83	0.48
0.667	0.48	6.750	8.15	12.833	3.36	18.92	0.48
0.750	0.48	6.833	8.15	12.917	3.36	19.00	0.48
0.833	0.48	6.917	8.15	13.000	3.36	19.08	0.48
0.917	0.48	7.000	8.15	13.083	3.36	19.17	0.48
1.000	0.48	7.083	8.15	13.167	3.36	19.25	0.48
1.083	0.48	7.167	8.15	13.250	3.36	19.33	0.48
1.167	0.48	7.250	8.15	13.333	3.36	19.42	0.48
1.250	0.48	7.333	8.15	13.417	3.36	19.50	0.48
1.333	0.48	7.417	8.15	13.500	3.36	19.58	0.48
1.417	0.48	7.500	8.15	13.583	3.36	19.67	0.48
1.500	0.48	7.583	8.15	13.667	3.36	19.75	0.48
1.583	0.48	7.667	8.15	13.750	3.36	19.83	0.48
1.667	0.48	7.750	8.15	13.833	3.36	19.92	0.48
1.750	0.48	7.833	8.15	13.917	3.36	20.00	0.48
1.833	0.48	7.917	8.15	14.000	3.36	20.08	0.48
1.917	0.48	8.000	8.15	14.083	3.36	20.17	0.48
2.000	0.48	8.083	8.15	14.167	3.36	20.25	0.48
2.083	0.48	8.167	8.15	14.250	3.36	20.33	0.48
2.167	0.48	8.250	8.15	14.333	1.92	20.42	0.48
2.250	0.48	8.333	22.06	14.417	1.92	20.50	0.48
2.333	0.48	8.417	22.06	14.500	1.92	20.58	0.48
2.417	0.48	8.500	22.06	14.583	1.92	20.67	0.48
2.500	0.48	8.583	22.06	14.667	1.92	20.75	0.48
2.583	0.48	8.667	22.06	14.750	1.92	20.83	0.48
2.667	0.48	8.750	22.06	14.833	1.92	20.92	0.48
2.750	0.48	8.833	22.06	14.917	1.92	21.00	0.48
2.833	0.48	8.917	22.06	15.000	1.92	21.08	0.48
2.917	0.48	9.000	22.06	15.083	1.92	21.17	0.48
3.000	0.48	9.083	22.06	15.167	1.92	21.25	0.48
3.083	0.48	9.167	22.06	15.250	1.92	21.33	0.48
3.167	0.48	9.250	22.06	15.333	1.92	21.42	0.48
3.250	0.48	9.333	22.06	15.417	1.92	21.50	0.48
3.333	0.48	9.417	22.06	15.500	1.92	21.58	0.48
3.417	0.48	9.500	22.06	15.583	1.92	21.67	0.48
3.500	0.48	9.583	22.06	15.667	1.92	21.75	0.48
3.583	0.48	9.667	22.06	15.750	1.92	21.83	0.48
3.667	0.48	9.750	22.06	15.833	1.92	21.92	0.48
3.750	0.48	9.833	22.06	15.917	1.92	22.00	0.48
3.833	0.48	9.917	22.06	16.000	1.92	22.08	0.48
3.917	0.48	10.000	22.06	16.083	1.92	22.17	0.48
4.000	0.48	10.083	22.06	16.167	1.92	22.25	0.48
4.083	0.48	10.167	22.06	16.250	1.92	22.33	0.48
4.167	0.48	10.250	22.06	16.333	0.96	22.42	0.48
4.250	0.48	10.333	6.23	16.417	0.96	22.50	0.48
4.333	2.88	10.417	6.23	16.500	0.96	22.58	0.48
4.417	2.88	10.500	6.23	16.583	0.96	22.67	0.48
4.500	2.88	10.583	6.23	16.667	0.96	22.75	0.48

4.583	2.88	10.667	6.23	16.750	0.96	22.83	0.48
4.667	2.88	10.750	6.23	16.833	0.96	22.92	0.48
4.750	2.88	10.833	6.23	16.917	0.96	23.00	0.48
4.833	2.88	10.917	6.23	17.000	0.96	23.08	0.48
4.917	2.88	11.000	6.23	17.083	0.96	23.17	0.48
5.000	2.88	11.083	6.23	17.167	0.96	23.25	0.48
5.083	2.88	11.167	6.23	17.250	0.96	23.33	0.48
5.167	2.88	11.250	6.23	17.333	0.96	23.42	0.48
5.250	2.88	11.333	6.23	17.417	0.96	23.50	0.48
5.333	2.88	11.417	6.23	17.500	0.96	23.58	0.48
5.417	2.88	11.500	6.23	17.583	0.96	23.67	0.48
5.500	2.88	11.583	6.23	17.667	0.96	23.75	0.48
5.583	2.88	11.667	6.23	17.750	0.96	23.83	0.48
5.667	2.88	11.750	6.23	17.833	0.96	23.92	0.48
5.750	2.88	11.833	6.23	17.917	0.96	24.00	0.48
5.833	2.88	11.917	6.23	18.000	0.96	24.08	0.48
5.917	2.88	12.000	6.23	18.083	0.96	24.17	0.48
6.000	2.88	12.083	6.23	18.167	0.96	24.25	0.48
6.083	2.88	12.167	6.23	18.250	0.96		

Max.Eff.Inten.(mm/hr)=	22.06		20.81	
over (min)	10.00		20.00	
Storage Coeff. (min)=	12.44	(ii)	17.03	(ii)
Unit Hyd. Tpeak (min)=	10.00		20.00	
Unit Hyd. peak (cms)=	0.10		0.06	
				TOTALS
PEAK FLOW (cms)=	2.98		0.15	3.127 (iii)
TIME TO PEAK (hrs)=	10.25		10.25	10.25
RUNOFF VOLUME (mm)=	93.92		75.12	92.94
TOTAL RAINFALL (mm)=	95.92		95.92	95.92
RUNOFF COEFFICIENT =	0.98		0.78	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(7418)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel

940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.125E+04	0.4	0.32	55.12
0.43	231.12	.501E+04	2.4	0.50	34.72
0.64	231.33	.113E+05	7.1	0.66	26.50
0.86	231.55	.201E+05	15.3	0.80	21.87
1.07	231.76	.313E+05	27.7	0.92	18.85
1.29	231.98	.453E+05	43.0	0.99	17.53
1.50	232.19	.662E+05	55.3	0.87	19.94
1.72	232.41	.112E+06	80.6	0.75	23.21
1.93	232.62	.184E+06	152.1	0.86	20.20
2.15	232.84	.275E+06	254.6	0.97	18.01
2.36	233.05	.383E+06	418.6	1.14	15.27
2.58	233.27	.499E+06	620.1	1.30	13.41
2.79	233.48	.631E+06	831.7	1.38	12.64
3.01	233.70	.774E+06	1122.6	1.52	11.49
3.22	233.91	.926E+06	1446.6	1.63	10.67
3.44	234.13	.109E+07	1792.6	1.72	10.14
3.65	234.34	.127E+07	2189.3	1.80	9.67
3.98	234.67	.156E+07	3042.9	2.04	8.55
4.30	234.99	.187E+07	4039.2	2.26	7.72

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7419)	51.22	3.13	10.25	92.94	0.46	0.52
OUTFLOW: ID= 1 (7418)	51.22	3.06	10.25	92.94	0.46	0.52

ROUTE CHN(7415) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7418)	51.22	3.06	10.25	92.94	0.54	0.38
OUTFLOW: ID= 1 (7415)	51.22	2.96	10.33	92.93	0.54	0.37

CALIB STANDHYD (7414) ID= 1 DT= 5.0 min	Area (ha)= 44.87 Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.88	12.250	6.23	18.33	0.48
0.167	0.00	6.250	2.88	12.333	3.36	18.42	0.48
0.250	0.00	6.333	8.15	12.417	3.36	18.50	0.48
0.333	0.48	6.417	8.15	12.500	3.36	18.58	0.48
0.417	0.48	6.500	8.15	12.583	3.36	18.67	0.48
0.500	0.48	6.583	8.15	12.667	3.36	18.75	0.48
0.583	0.48	6.667	8.15	12.750	3.36	18.83	0.48
0.667	0.48	6.750	8.15	12.833	3.36	18.92	0.48
0.750	0.48	6.833	8.15	12.917	3.36	19.00	0.48
0.833	0.48	6.917	8.15	13.000	3.36	19.08	0.48
0.917	0.48	7.000	8.15	13.083	3.36	19.17	0.48
1.000	0.48	7.083	8.15	13.167	3.36	19.25	0.48
1.083	0.48	7.167	8.15	13.250	3.36	19.33	0.48
1.167	0.48	7.250	8.15	13.333	3.36	19.42	0.48
1.250	0.48	7.333	8.15	13.417	3.36	19.50	0.48
1.333	0.48	7.417	8.15	13.500	3.36	19.58	0.48

1.417	0.48	7.500	8.15	13.583	3.36	19.67	0.48
1.500	0.48	7.583	8.15	13.667	3.36	19.75	0.48
1.583	0.48	7.667	8.15	13.750	3.36	19.83	0.48
1.667	0.48	7.750	8.15	13.833	3.36	19.92	0.48
1.750	0.48	7.833	8.15	13.917	3.36	20.00	0.48
1.833	0.48	7.917	8.15	14.000	3.36	20.08	0.48
1.917	0.48	8.000	8.15	14.083	3.36	20.17	0.48
2.000	0.48	8.083	8.15	14.167	3.36	20.25	0.48
2.083	0.48	8.167	8.15	14.250	3.36	20.33	0.48
2.167	0.48	8.250	8.15	14.333	1.92	20.42	0.48
2.250	0.48	8.333	22.06	14.417	1.92	20.50	0.48
2.333	0.48	8.417	22.06	14.500	1.92	20.58	0.48
2.417	0.48	8.500	22.06	14.583	1.92	20.67	0.48
2.500	0.48	8.583	22.06	14.667	1.92	20.75	0.48
2.583	0.48	8.667	22.06	14.750	1.92	20.83	0.48
2.667	0.48	8.750	22.06	14.833	1.92	20.92	0.48
2.750	0.48	8.833	22.06	14.917	1.92	21.00	0.48
2.833	0.48	8.917	22.06	15.000	1.92	21.08	0.48
2.917	0.48	9.000	22.06	15.083	1.92	21.17	0.48
3.000	0.48	9.083	22.06	15.167	1.92	21.25	0.48
3.083	0.48	9.167	22.06	15.250	1.92	21.33	0.48
3.167	0.48	9.250	22.06	15.333	1.92	21.42	0.48
3.250	0.48	9.333	22.06	15.417	1.92	21.50	0.48
3.333	0.48	9.417	22.06	15.500	1.92	21.58	0.48
3.417	0.48	9.500	22.06	15.583	1.92	21.67	0.48
3.500	0.48	9.583	22.06	15.667	1.92	21.75	0.48
3.583	0.48	9.667	22.06	15.750	1.92	21.83	0.48
3.667	0.48	9.750	22.06	15.833	1.92	21.92	0.48
3.750	0.48	9.833	22.06	15.917	1.92	22.00	0.48
3.833	0.48	9.917	22.06	16.000	1.92	22.08	0.48
3.917	0.48	10.000	22.06	16.083	1.92	22.17	0.48
4.000	0.48	10.083	22.06	16.167	1.92	22.25	0.48
4.083	0.48	10.167	22.06	16.250	1.92	22.33	0.48
4.167	0.48	10.250	22.06	16.333	0.96	22.42	0.48
4.250	0.48	10.333	6.23	16.417	0.96	22.50	0.48
4.333	2.88	10.417	6.23	16.500	0.96	22.58	0.48
4.417	2.88	10.500	6.23	16.583	0.96	22.67	0.48
4.500	2.88	10.583	6.23	16.667	0.96	22.75	0.48
4.583	2.88	10.667	6.23	16.750	0.96	22.83	0.48
4.667	2.88	10.750	6.23	16.833	0.96	22.92	0.48
4.750	2.88	10.833	6.23	16.917	0.96	23.00	0.48
4.833	2.88	10.917	6.23	17.000	0.96	23.08	0.48
4.917	2.88	11.000	6.23	17.083	0.96	23.17	0.48
5.000	2.88	11.083	6.23	17.167	0.96	23.25	0.48
5.083	2.88	11.167	6.23	17.250	0.96	23.33	0.48
5.167	2.88	11.250	6.23	17.333	0.96	23.42	0.48
5.250	2.88	11.333	6.23	17.417	0.96	23.50	0.48
5.333	2.88	11.417	6.23	17.500	0.96	23.58	0.48
5.417	2.88	11.500	6.23	17.583	0.96	23.67	0.48
5.500	2.88	11.583	6.23	17.667	0.96	23.75	0.48
5.583	2.88	11.667	6.23	17.750	0.96	23.83	0.48
5.667	2.88	11.750	6.23	17.833	0.96	23.92	0.48
5.750	2.88	11.833	6.23	17.917	0.96	24.00	0.48
5.833	2.88	11.917	6.23	18.000	0.96	24.08	0.48
5.917	2.88	12.000	6.23	18.083	0.96	24.17	0.48
6.000	2.88	12.083	6.23	18.167	0.96	24.25	0.48
6.083	2.88	12.167	6.23	18.250	0.96		

Max.Eff.Inten.(mm/hr)=	22.06	20.83	
over (min)	10.00	25.00	
Storage Coeff. (min)=	11.00 (ii)	24.80 (ii)	
Unit Hyd. Tpeak (min)=	10.00	25.00	
Unit Hyd. peak (cms)=	0.10	0.05	
			TOTALS

PEAK FLOW (cms)=	1.99	0.70	2.682 (iii)
TIME TO PEAK (hrs)=	10.25	10.25	10.25
RUNOFF VOLUME (mm)=	93.92	75.16	88.71
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.98	0.78	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7417)	Area (ha)= 90.03
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.11	17.92
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	774.73	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.88	12.250	6.23	18.33	0.48
0.167	0.00	6.250	2.88	12.333	3.36	18.42	0.48
0.250	0.00	6.333	8.15	12.417	3.36	18.50	0.48
0.333	0.48	6.417	8.15	12.500	3.36	18.58	0.48
0.417	0.48	6.500	8.15	12.583	3.36	18.67	0.48
0.500	0.48	6.583	8.15	12.667	3.36	18.75	0.48
0.583	0.48	6.667	8.15	12.750	3.36	18.83	0.48
0.667	0.48	6.750	8.15	12.833	3.36	18.92	0.48
0.750	0.48	6.833	8.15	12.917	3.36	19.00	0.48
0.833	0.48	6.917	8.15	13.000	3.36	19.08	0.48
0.917	0.48	7.000	8.15	13.083	3.36	19.17	0.48
1.000	0.48	7.083	8.15	13.167	3.36	19.25	0.48
1.083	0.48	7.167	8.15	13.250	3.36	19.33	0.48
1.167	0.48	7.250	8.15	13.333	3.36	19.42	0.48
1.250	0.48	7.333	8.15	13.417	3.36	19.50	0.48
1.333	0.48	7.417	8.15	13.500	3.36	19.58	0.48
1.417	0.48	7.500	8.15	13.583	3.36	19.67	0.48
1.500	0.48	7.583	8.15	13.667	3.36	19.75	0.48
1.583	0.48	7.667	8.15	13.750	3.36	19.83	0.48
1.667	0.48	7.750	8.15	13.833	3.36	19.92	0.48
1.750	0.48	7.833	8.15	13.917	3.36	20.00	0.48
1.833	0.48	7.917	8.15	14.000	3.36	20.08	0.48
1.917	0.48	8.000	8.15	14.083	3.36	20.17	0.48
2.000	0.48	8.083	8.15	14.167	3.36	20.25	0.48
2.083	0.48	8.167	8.15	14.250	3.36	20.33	0.48
2.167	0.48	8.250	8.15	14.333	1.92	20.42	0.48
2.250	0.48	8.333	22.06	14.417	1.92	20.50	0.48
2.333	0.48	8.417	22.06	14.500	1.92	20.58	0.48
2.417	0.48	8.500	22.06	14.583	1.92	20.67	0.48
2.500	0.48	8.583	22.06	14.667	1.92	20.75	0.48
2.583	0.48	8.667	22.06	14.750	1.92	20.83	0.48
2.667	0.48	8.750	22.06	14.833	1.92	20.92	0.48

2.750	0.48	8.833	22.06	14.917	1.92	21.00	0.48
2.833	0.48	8.917	22.06	15.000	1.92	21.08	0.48
2.917	0.48	9.000	22.06	15.083	1.92	21.17	0.48
3.000	0.48	9.083	22.06	15.167	1.92	21.25	0.48
3.083	0.48	9.167	22.06	15.250	1.92	21.33	0.48
3.167	0.48	9.250	22.06	15.333	1.92	21.42	0.48
3.250	0.48	9.333	22.06	15.417	1.92	21.50	0.48
3.333	0.48	9.417	22.06	15.500	1.92	21.58	0.48
3.417	0.48	9.500	22.06	15.583	1.92	21.67	0.48
3.500	0.48	9.583	22.06	15.667	1.92	21.75	0.48
3.583	0.48	9.667	22.06	15.750	1.92	21.83	0.48
3.667	0.48	9.750	22.06	15.833	1.92	21.92	0.48
3.750	0.48	9.833	22.06	15.917	1.92	22.00	0.48
3.833	0.48	9.917	22.06	16.000	1.92	22.08	0.48
3.917	0.48	10.000	22.06	16.083	1.92	22.17	0.48
4.000	0.48	10.083	22.06	16.167	1.92	22.25	0.48
4.083	0.48	10.167	22.06	16.250	1.92	22.33	0.48
4.167	0.48	10.250	22.06	16.333	0.96	22.42	0.48
4.250	0.48	10.333	6.23	16.417	0.96	22.50	0.48
4.333	2.88	10.417	6.23	16.500	0.96	22.58	0.48
4.417	2.88	10.500	6.23	16.583	0.96	22.67	0.48
4.500	2.88	10.583	6.23	16.667	0.96	22.75	0.48
4.583	2.88	10.667	6.23	16.750	0.96	22.83	0.48
4.667	2.88	10.750	6.23	16.833	0.96	22.92	0.48
4.750	2.88	10.833	6.23	16.917	0.96	23.00	0.48
4.833	2.88	10.917	6.23	17.000	0.96	23.08	0.48
4.917	2.88	11.000	6.23	17.083	0.96	23.17	0.48
5.000	2.88	11.083	6.23	17.167	0.96	23.25	0.48
5.083	2.88	11.167	6.23	17.250	0.96	23.33	0.48
5.167	2.88	11.250	6.23	17.333	0.96	23.42	0.48
5.250	2.88	11.333	6.23	17.417	0.96	23.50	0.48
5.333	2.88	11.417	6.23	17.500	0.96	23.58	0.48
5.417	2.88	11.500	6.23	17.583	0.96	23.67	0.48
5.500	2.88	11.583	6.23	17.667	0.96	23.75	0.48
5.583	2.88	11.667	6.23	17.750	0.96	23.83	0.48
5.667	2.88	11.750	6.23	17.833	0.96	23.92	0.48
5.750	2.88	11.833	6.23	17.917	0.96	24.00	0.48
5.833	2.88	11.917	6.23	18.000	0.96	24.08	0.48
5.917	2.88	12.000	6.23	18.083	0.96	24.17	0.48
6.000	2.88	12.083	6.23	18.167	0.96	24.25	0.48
6.083	2.88	12.167	6.23	18.250	0.96		

Max.Eff.Inten.(mm/hr)=	22.06	20.85	
over (min)	15.00	30.00	
Storage Coeff. (min)=	13.39 (ii)	27.03 (ii)	
Unit Hyd. Tpeak (min)=	15.00	30.00	
Unit Hyd. peak (cms)=	0.08	0.04	
			TOTALS
PEAK FLOW (cms)=	4.42	0.99	5.408 (iii)
TIME TO PEAK (hrs)=	10.25	10.25	10.25
RUNOFF VOLUME (mm)=	93.92	75.18	90.18
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.98	0.78	0.94

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| ADD HYD (7413)|
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7414):	44.87	2.682	10.25	88.71
+ ID2= 2 (7415):	51.22	2.957	10.33	92.93
ID = 3 (7413):	96.09	5.620	10.25	90.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (7413)|
| 3 + 2 = 1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (7413):	96.09	5.620	10.25	90.96
+ ID2= 2 (7417):	90.03	5.408	10.25	90.18
ID = 1 (7413):	186.12	11.029	10.25	90.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION:100 Year 6 Hour AES (Bloor, TRCA) **
****

| CALIB |
| STANDHYD (7419)|
|ID= 1 DT= 5.0 min |

Area (ha)= 51.22
Total Imp(%)= 94.80 Dir. Conn.(%)= 94.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.56	2.66
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.31	1.31
Length	(m)=	584.35	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)= 73.88 67.43

over (min)	10.00	15.00		
Storage Coeff. (min)=	7.67 (ii)	10.50 (ii)		
Unit Hyd. Tpeak (min)=	10.00	15.00		
Unit Hyd. peak (cms)=	0.13	0.09		
			TOTALS	
PEAK FLOW (cms)=	9.77	0.43	10.202 (iii)	
TIME TO PEAK (hrs)=	2.75	2.75	2.75	
RUNOFF VOLUME (mm)=	78.31	60.06	77.36	
TOTAL RAINFALL (mm)=	80.31	80.31	80.31	
RUNOFF COEFFICIENT =	0.98	0.75	0.96	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(7418)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.125E+04	0.4	0.32	55.12
0.43	231.12	.501E+04	2.4	0.50	34.72
0.64	231.33	.113E+05	7.1	0.66	26.50
0.86	231.55	.201E+05	15.3	0.80	21.87
1.07	231.76	.313E+05	27.7	0.92	18.85
1.29	231.98	.453E+05	43.0	0.99	17.53
1.50	232.19	.662E+05	55.3	0.87	19.94
1.72	232.41	.112E+06	80.6	0.75	23.21
1.93	232.62	.184E+06	152.1	0.86	20.20
2.15	232.84	.275E+06	254.6	0.97	18.01
2.36	233.05	.383E+06	418.6	1.14	15.27
2.58	233.27	.499E+06	620.1	1.30	13.41
2.79	233.48	.631E+06	831.7	1.38	12.64
3.01	233.70	.774E+06	1122.6	1.52	11.49
3.22	233.91	.926E+06	1446.6	1.63	10.67

3.44	234.13	.109E+07	1792.6	1.72	10.14
3.65	234.34	.127E+07	2189.3	1.80	9.67
3.98	234.67	.156E+07	3042.9	2.04	8.55
4.30	234.99	.187E+07	4039.2	2.26	7.72

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7419)	51.22	10.20	2.75	77.36	0.73	0.70
OUTFLOW: ID= 1 (7418)	51.22	7.55	2.83	77.36	0.66	0.66

ROUTE CHN(7415)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7418)	51.22	7.55	2.83	77.36	0.77	0.48
OUTFLOW: ID= 1 (7415)	51.22	5.77	3.00	77.35	0.68	0.43

CALIB STANDHYD (7414) ID= 1 DT= 5.0 min	Area (ha)= 44.87 Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.	(mm/hr)=	73.88	67.59	
	over (min)	5.00	20.00	
Storage Coeff.	(min)=	6.78 (ii)	15.40 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	20.00	
Unit Hyd. peak	(cms)=	0.18	0.07	
				TOTALS
PEAK FLOW	(cms)=	6.60	1.79	8.305 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	78.31	60.10	73.25
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.98	0.75	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7417)	Area (ha)= 90.03
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.11	17.92
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	774.73	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

				TOTALS
Max.Eff.Inten.(mm/hr)=		73.88	67.66	
over (min)		10.00	15.00	
Storage Coeff. (min)=		8.26 (ii)	12.97 (ii)	
Unit Hyd. Tpeak (min)=		10.00	15.00	
Unit Hyd. peak (cms)=		0.13	0.08	
PEAK FLOW	(cms)=	14.42	2.77	17.190 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	78.31	60.11	74.68
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.98	0.75	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)

```
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   8.305     2.75    73.25
      + ID2= 2 (  7415):    51.22   5.772     3.00    77.35
        ================================================
        ID = 3 (  7413):    96.09  12.441     2.75    75.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7413)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  7413):    96.09  12.441     2.75    75.44
      + ID2= 2 (  7417):    90.03  17.190     2.75    74.68
        ================================================
        ID = 1 (  7413):   186.12  29.632     2.75    75.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*********************************
** SIMULATION:Hazel1000        **
*********************************
--------------------
| CALIB              |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56          2.66
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.31          1.31
     Length            (m)=     584.35         40.00
     Mannings n             =     0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
  TIME     RAIN |   TIME     RAIN |'  TIME     RAIN |   TIME     RAIN
   hrs    mm/hr |    hrs    mm/hr |'   hrs    mm/hr |    hrs    mm/hr
 0.083     6.00 |  3.083    13.00 | 6.083    23.00 |   9.08    53.00
 0.167     6.00 |  3.167    13.00 | 6.167    23.00 |   9.17    53.00
 0.250     6.00 |  3.250    13.00 | 6.250    23.00 |   9.25    53.00
 0.333     6.00 |  3.333    13.00 | 6.333    23.00 |   9.33    53.00
 0.417     6.00 |  3.417    13.00 | 6.417    23.00 |   9.42    53.00
 0.500     6.00 |  3.500    13.00 | 6.500    23.00 |   9.50    53.00
 0.583     6.00 |  3.583    13.00 | 6.583    23.00 |   9.58    53.00
 0.667     6.00 |  3.667    13.00 | 6.667    23.00 |   9.67    53.00
 0.750     6.00 |  3.750    13.00 | 6.750    23.00 |   9.75    53.00
 0.833     6.00 |  3.833    13.00 | 6.833    23.00 |   9.83    53.00
 0.917     6.00 |  3.917    13.00 | 6.917    23.00 |   9.92    53.00
 1.000     6.00 |  4.000    13.00 | 7.000    23.00 |  10.00    53.00
 1.083     4.00 |  4.083    17.00 | 7.083    13.00 |  10.08    38.00
 1.167     4.00 |  4.167    17.00 | 7.167    13.00 |  10.17    38.00
 1.250     4.00 |  4.250    17.00 | 7.250    13.00 |  10.25    38.00
 1.333     4.00 |  4.333    17.00 | 7.333    13.00 |  10.33    38.00
 1.417     4.00 |  4.417    17.00 | 7.417    13.00 |  10.42    38.00
 1.500     4.00 |  4.500    17.00 | 7.500    13.00 |  10.50    38.00
 1.583     4.00 |  4.583    17.00 | 7.583    13.00 |  10.58    38.00
 1.667     4.00 |  4.667    17.00 | 7.667    13.00 |  10.67    38.00
 1.750     4.00 |  4.750    17.00 | 7.750    13.00 |  10.75    38.00
 1.833     4.00 |  4.833    17.00 | 7.833    13.00 |  10.83    38.00
```

1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.33	
over (min)	10.00	15.00	
Storage Coeff. (min)=	8.76 (ii)	11.99 (ii)	
Unit Hyd. Tpeak (min)=	10.00	15.00	
Unit Hyd. peak (cms)=	0.12	0.09	
			TOTALS
PEAK FLOW (cms)=	7.14	0.38	7.523 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.50	208.93
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ROUTE CHN(7418)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.21	230.90	.125E+04	0.4	0.32	55.12
0.43	231.12	.501E+04	2.4	0.50	34.72
0.64	231.33	.113E+05	7.1	0.66	26.50
0.86	231.55	.201E+05	15.3	0.80	21.87
1.07	231.76	.313E+05	27.7	0.92	18.85
1.29	231.98	.453E+05	43.0	0.99	17.53
1.50	232.19	.662E+05	55.3	0.87	19.94
1.72	232.41	.112E+06	80.6	0.75	23.21
1.93	232.62	.184E+06	152.1	0.86	20.20
2.15	232.84	.275E+06	254.6	0.97	18.01
2.36	233.05	.383E+06	418.6	1.14	15.27
2.58	233.27	.499E+06	620.1	1.30	13.41
2.79	233.48	.631E+06	831.7	1.38	12.64
3.01	233.70	.774E+06	1122.6	1.52	11.49
3.22	233.91	.926E+06	1446.6	1.63	10.67
3.44	234.13	.109E+07	1792.6	1.72	10.14
3.65	234.34	.127E+07	2189.3	1.80	9.67
3.98	234.67	.156E+07	3042.9	2.04	8.55
4.30	234.99	.187E+07	4039.2	2.26	7.72

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7419)	51.22	7.52	10.00	208.93	0.66	0.66
OUTFLOW: ID= 1 (7418)	51.22	6.93	10.08	208.93	0.64	0.65

ROUTE CHN(7415) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH	ELEV	VOLUME	FLOW RATE	VELOCITY	TRAV.TIME
(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84

1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7418)	51.22	6.93	10.08	208.93	0.74	0.47
OUTFLOW: ID= 1 (7415)	51.22	6.30	10.25	208.92	0.71	0.45

CALIB STANDHYD (7414) ID= 1 DT= 5.0 min	Area (ha)= 44.87 Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00

1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.45	
over (min)	10.00	20.00	
Storage Coeff. (min)=	7.74 (ii)	17.29 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
			TOTALS
PEAK FLOW (cms)=	4.77	1.73	6.502 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.54	204.32
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.96

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7417)	Area (ha)= 90.03
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	72.11	17.92
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	774.73	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00

0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.50	
over (min)	10.00	20.00	
Storage Coeff. (min)=	9.43 (ii)	18.86 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.12	0.06	
			TOTALS
PEAK FLOW (cms)=	10.59	2.47	13.059 (iii)
TIME TO PEAK (hrs)=	10.00	10.08	10.00
RUNOFF VOLUME (mm)=	210.00	189.56	205.92
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7414):		44.87	6.502	10.00	204.32
+ ID2= 2 (7415):		51.22	6.297	10.25	208.92
ID = 3 (7413):		96.09	12.288	10.08	206.77

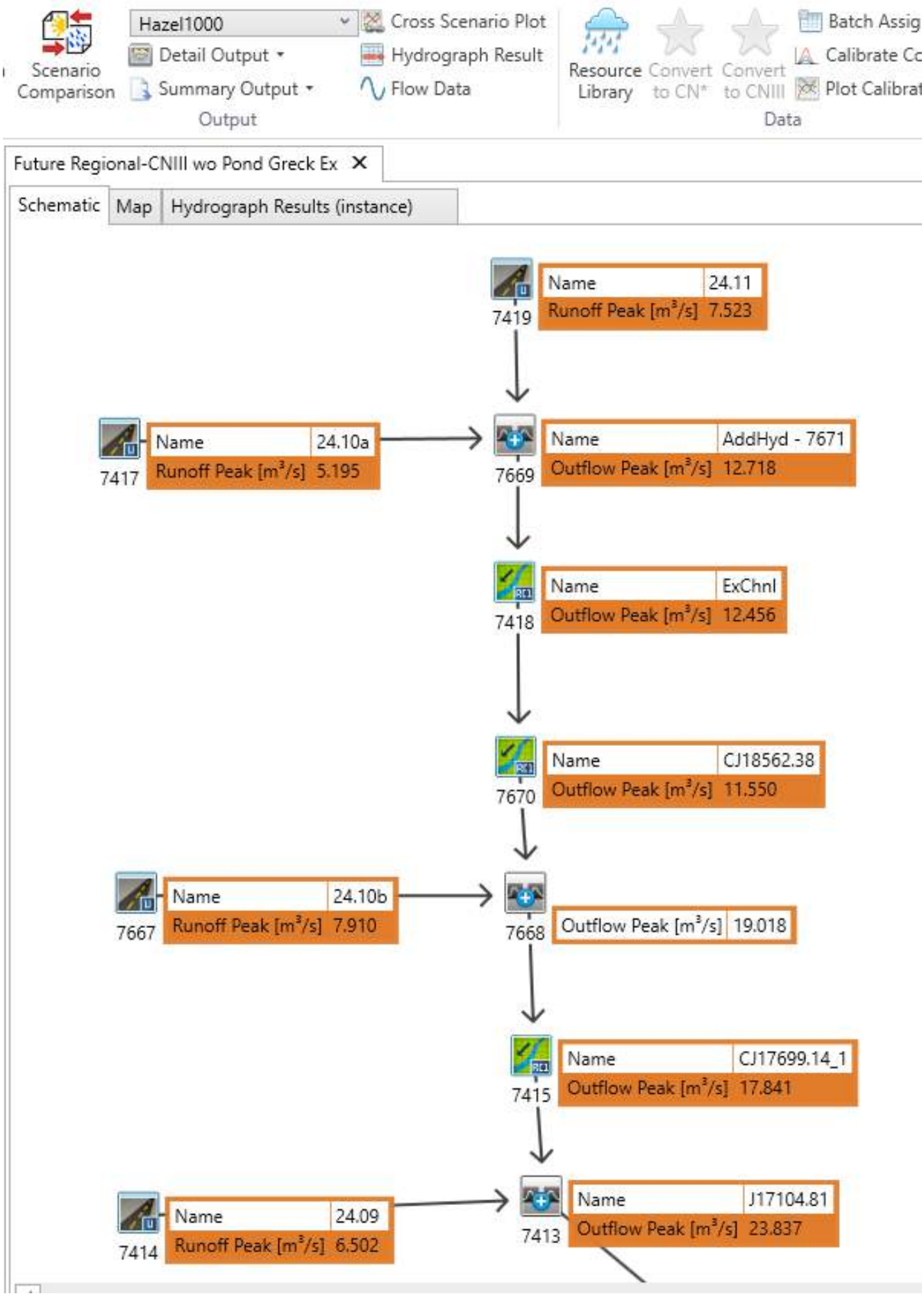
NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7413)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)

```
      ID1= 3 (  7413):    96.09  12.288    10.08   206.77
    + ID2= 2 (  7417):    90.03  13.059    10.00   205.92
      ================================================
      ID = 1 (  7413):   186.12  25.316    10.00   206.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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VO Modeling Results Alternative Flow Routing
Scenario 2: Future Conditions – Civica Model with Greck Edits



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**************************************************
** SIMULATION:1. 2 Year 6 Hour AES (Bloor, TRCA) **
**************************************************
--------------------
| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56         2.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.31         1.31
     Length            (m)=     584.35        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    4.32 | 3.250    9.36 |  4.83    0.72
              0.167    0.00 | 1.750    4.32 | 3.333    5.04 |  4.92    0.72
              0.250    0.00 | 1.833   12.24 | 3.417    5.04 |  5.00    0.72
              0.333    0.72 | 1.917   12.24 | 3.500    5.04 |  5.08    0.72
              0.417    0.72 | 2.000   12.24 | 3.583    5.04 |  5.17    0.72
              0.500    0.72 | 2.083   12.24 | 3.667    5.04 |  5.25    0.72
              0.583    0.72 | 2.167   12.24 | 3.750    5.04 |  5.33    0.72
              0.667    0.72 | 2.250   12.24 | 3.833    2.88 |  5.42    0.72
              0.750    0.72 | 2.333   33.12 | 3.917    2.88 |  5.50    0.72
              0.833    0.72 | 2.417   33.12 | 4.000    2.88 |  5.58    0.72
              0.917    0.72 | 2.500   33.12 | 4.083    2.88 |  5.67    0.72
              1.000    0.72 | 2.583   33.12 | 4.167    2.88 |  5.75    0.72
              1.083    0.72 | 2.667   33.12 | 4.250    2.88 |  5.83    0.72
              1.167    0.72 | 2.750   33.12 | 4.333    1.44 |  5.92    0.72
              1.250    0.72 | 2.833    9.36 | 4.417    1.44 |  6.00    0.72
              1.333    4.32 | 2.917    9.36 | 4.500    1.44 |  6.08    0.72
              1.417    4.32 | 3.000    9.36 | 4.583    1.44 |  6.17    0.72
              1.500    4.32 | 3.083    9.36 | 4.667    1.44 |  6.25    0.72
              1.583    4.32 | 3.167    9.36 | 4.750    1.44 |

     Max.Eff.Inten.(mm/hr)=      33.12         24.19
               over (min)        10.00         15.00
     Storage Coeff.  (min)=      10.57 (ii)    14.47 (ii)
     Unit Hyd. Tpeak (min)=      10.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.24          0.13      4.363 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.83       2.75
     RUNOFF VOLUME    (mm)=      34.00         19.17      33.23
     TOTAL RAINFALL   (mm)=      36.00         36.00      36.00
     RUNOFF COEFFICIENT   =       0.94          0.53       0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7417)|   Area    (ha)=  35.65
```

|ID= 1 DT= 5.0 min | Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.(mm/hr)=		33.12	23.51	
over (min)		10.00	25.00	
Storage Coeff. (min)=		8.62 (ii)	21.62 (ii)	
Unit Hyd. Tpeak (min)=		10.00	25.00	
Unit Hyd. peak (cms)=		0.12	0.05	
				TOTALS
PEAK FLOW	(cms)=	2.55	0.28	2.765 (iii)
TIME TO PEAK	(hrs)=	2.75	3.00	2.75
RUNOFF VOLUME	(mm)=	34.00	19.21	31.05
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.94	0.53	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7417):		35.65	2.765	2.75	31.05
+ ID2= 2 (7419):		51.22	4.363	2.75	33.23
ID = 3 (7669):		86.87	7.129	2.75	32.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7418)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.748E+03	0.4	0.32	32.91
0.43	231.12	.299E+04	2.4	0.50	20.73
0.64	231.33	.674E+04	7.1	0.66	15.82
0.86	231.55	.120E+05	15.3	0.80	13.06
1.07	231.76	.187E+05	27.7	0.92	11.26
1.29	231.98	.270E+05	43.0	0.99	10.47
1.50	232.19	.395E+05	55.3	0.87	11.91
1.72	232.41	.670E+05	80.6	0.75	13.86
1.93	232.62	.110E+06	152.1	0.86	12.06
2.15	232.84	.164E+06	254.6	0.97	10.75
2.36	233.05	.229E+06	418.6	1.14	9.12
2.58	233.27	.298E+06	620.1	1.30	8.00
2.79	233.48	.377E+06	831.7	1.38	7.55
3.01	233.70	.462E+06	1122.6	1.52	6.86
3.22	233.91	.553E+06	1446.6	1.63	6.37
3.44	234.13	.652E+06	1792.6	1.72	6.06
3.65	234.34	.759E+06	2189.3	1.80	5.78
3.98	234.67	.932E+06	3042.9	2.04	5.11
4.30	234.99	.112E+07	4039.2	2.26	4.61

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7669)	86.87	7.13	2.75	32.33	0.64	0.66
OUTFLOW: ID= 1 (7418)	86.87	5.96	2.83	32.33	0.59	0.61

| ROUTE CHN(7670)|

| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7418)	86.87	5.96	2.83	32.33	0.59	0.61
OUTFLOW: ID= 1 (7670)	86.87	4.30	3.08	32.33	0.52	0.55

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.56	10.82

Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.(mm/hr)=		33.12	23.51	
over (min)		10.00	25.00	
Storage Coeff. (min)=		9.78 (ii)	22.78 (ii)	
Unit Hyd. Tpeak (min)=		10.00	25.00	
Unit Hyd. peak (cms)=		0.11	0.05	
				TOTALS
PEAK FLOW	(cms)=	3.84	0.42	4.157 (iii)
TIME TO PEAK	(hrs)=	2.75	3.00	2.75
RUNOFF VOLUME	(mm)=	34.00	19.21	31.05
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.94	0.53	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7667):	54.38	4.157	2.75	31.05
	+ ID2= 2 (7670):	86.87	4.301	3.08	32.33
	ID = 3 (7668):	141.25	7.387	2.83	31.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7415)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7668)	141.25	7.39	2.83	31.84	0.77	0.48
OUTFLOW: ID= 1 (7415)	141.25	5.83	3.17	31.83	0.69	0.44

CALIB
STANDHYD (7414)
ID= 1 DT= 5.0 min

Area (ha)= 44.87
Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.	(mm/hr)=	33.12	23.48	
	over (min)	10.00	25.00	
Storage Coeff.	(min)=	9.35 (ii)	22.51 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	25.00	
Unit Hyd. peak	(cms)=	0.12	0.05	
				TOTALS
PEAK FLOW	(cms)=	2.87	0.49	3.242 (iii)
TIME TO PEAK	(hrs)=	2.75	3.00	2.75
RUNOFF VOLUME	(mm)=	34.00	19.20	29.89
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.94	0.53	0.83

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7414):	44.87	3.242	2.75	29.89
	+ ID2= 2 (7415):	141.25	5.832	3.17	31.83
	ID = 3 (7413):	186.12	8.019	2.83	31.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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** SIMULATION:2. 5 Year 6 Hour AES (Bloor, TRCA) **
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| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56         2.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.31         1.31
     Length            (m)=     584.35        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.74 | 3.250   12.43 |  4.83    0.96
               0.167    0.00 | 1.750    5.74 | 3.333    6.69 |  4.92    0.96
               0.250    0.00 | 1.833   16.25 | 3.417    6.69 |  5.00    0.96
               0.333    0.96 | 1.917   16.25 | 3.500    6.69 |  5.08    0.96
               0.417    0.96 | 2.000   16.25 | 3.583    6.69 |  5.17    0.96
               0.500    0.96 | 2.083   16.25 | 3.667    6.69 |  5.25    0.96
               0.583    0.96 | 2.167   16.25 | 3.750    6.69 |  5.33    0.96
               0.667    0.96 | 2.250   16.25 | 3.833    3.82 |  5.42    0.96
               0.750    0.96 | 2.333   43.98 | 3.917    3.82 |  5.50    0.96
               0.833    0.96 | 2.417   43.98 | 4.000    3.82 |  5.58    0.96
               0.917    0.96 | 2.500   43.98 | 4.083    3.82 |  5.67    0.96
               1.000    0.96 | 2.583   43.98 | 4.167    3.82 |  5.75    0.96
               1.083    0.96 | 2.667   43.98 | 4.250    3.82 |  5.83    0.96
               1.167    0.96 | 2.750   43.98 | 4.333    1.91 |  5.92    0.96
               1.250    0.96 | 2.833   12.43 | 4.417    1.91 |  6.00    0.96
               1.333    5.74 | 2.917   12.43 | 4.500    1.91 |  6.08    0.96
               1.417    5.74 | 3.000   12.43 | 4.583    1.91 |  6.17    0.96
               1.500    5.74 | 3.083   12.43 | 4.667    1.91 |  6.25    0.96
               1.583    5.74 | 3.167   12.43 | 4.750    1.91 |

     Max.Eff.Inten.(mm/hr)=      43.98         35.77
               over (min)        10.00         15.00
     Storage Coeff.  (min)=       9.44 (ii)    12.92 (ii)
     Unit Hyd. Tpeak (min)=      10.00         15.00
     Unit Hyd. peak  (cms)=       0.12          0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       5.71          0.21      5.912 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.83       2.75
     RUNOFF VOLUME    (mm)=      45.81         29.59      44.97
     TOTAL RAINFALL   (mm)=      47.81         47.81      47.81
     RUNOFF COEFFICIENT   =       0.96          0.62       0.94


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7417)|   Area    (ha)=  35.65
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|ID= 1 DT= 5.0 min | Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

Max.Eff.Inten.(mm/hr)=		43.98	35.10	
over (min)		10.00	20.00	
Storage Coeff. (min)=		7.70 (ii)	18.77 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.13	0.06	
				TOTALS
PEAK FLOW	(cms)=	3.42	0.48	3.845 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	45.81	29.63	42.58
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.96	0.62	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)|	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7417):		35.65	3.845	2.75	42.58
+ ID2= 2 (7419):		51.22	5.912	2.75	44.97
ID = 3 (7669):		86.87	9.757	2.75	43.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7418)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.748E+03	0.4	0.32	32.91
0.43	231.12	.299E+04	2.4	0.50	20.73
0.64	231.33	.674E+04	7.1	0.66	15.82
0.86	231.55	.120E+05	15.3	0.80	13.06
1.07	231.76	.187E+05	27.7	0.92	11.26
1.29	231.98	.270E+05	43.0	0.99	10.47
1.50	232.19	.395E+05	55.3	0.87	11.91
1.72	232.41	.670E+05	80.6	0.75	13.86
1.93	232.62	.110E+06	152.1	0.86	12.06
2.15	232.84	.164E+06	254.6	0.97	10.75
2.36	233.05	.229E+06	418.6	1.14	9.12
2.58	233.27	.298E+06	620.1	1.30	8.00
2.79	233.48	.377E+06	831.7	1.38	7.55
3.01	233.70	.462E+06	1122.6	1.52	6.86
3.22	233.91	.553E+06	1446.6	1.63	6.37
3.44	234.13	.652E+06	1792.6	1.72	6.06
3.65	234.34	.759E+06	2189.3	1.80	5.78
3.98	234.67	.932E+06	3042.9	2.04	5.11
4.30	234.99	.112E+07	4039.2	2.26	4.61

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (	7669)	86.87	9.76	2.75	43.99	0.71	0.70
OUTFLOW: ID= 1 (	7418)	86.87	8.35	2.83	43.99	0.68	0.68

| ROUTE CHN(7670)|

| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7418)	86.87	8.35	2.83	43.99	0.68	0.68
OUTFLOW: ID= 1 (7670)	86.87	6.36	3.00	43.98	0.61	0.63

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.56	10.82

Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

Max.Eff.Inten.(mm/hr)=		43.98	35.10	
over (min)		10.00	20.00	
Storage Coeff. (min)=		8.73 (ii)	19.81 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.12	0.06	
				TOTALS
PEAK FLOW	(cms)=	5.16	0.71	5.794 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	45.81	29.63	42.58
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.96	0.62	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7667):		54.38	5.794	2.75	42.58
+ ID2= 2 (7670):		86.87	6.361	3.00	43.98
ID = 3 (7668):		141.25	10.699	2.83	43.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7415)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7668)	141.25	10.70	2.83	43.44	0.87	0.51
OUTFLOW: ID= 1 (7415)	141.25	8.67	3.08	43.44	0.81	0.49

CALIB
STANDHYD (7414)
ID= 1 DT= 5.0 min

Area (ha)= 44.87
Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

Max.Eff.Inten.	(mm/hr)=	43.98	35.06	
	over (min)	10.00	20.00	
Storage Coeff.	(min)=	8.34 (ii)	19.56 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	20.00	
Unit Hyd. peak	(cms)=	0.13	0.06	
				TOTALS
PEAK FLOW	(cms)=	3.86	0.82	4.591 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	45.81	29.62	41.31
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.96	0.62	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7414):	44.87	4.591	2.75	41.31
	+ ID2= 2 (7415):	141.25	8.670	3.08	43.44
	ID = 3 (7413):	186.12	11.927	2.83	42.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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**************************************************
** SIMULATION:3. 10 Year 6 Hour AES (Bloor, TRCA) **
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| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56         2.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.31         1.31
     Length            (m)=     584.35        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    0.00 | 1.667    6.68 | 3.250   14.48 |  4.83    1.11
     0.167    0.00 | 1.750    6.68 | 3.333    7.80 |  4.92    1.11
     0.250    0.00 | 1.833   18.94 | 3.417    7.80 |  5.00    1.11
     0.333    1.11 | 1.917   18.94 | 3.500    7.80 |  5.08    1.11
     0.417    1.11 | 2.000   18.94 | 3.583    7.80 |  5.17    1.11
     0.500    1.11 | 2.083   18.94 | 3.667    7.80 |  5.25    1.11
     0.583    1.11 | 2.167   18.94 | 3.750    7.80 |  5.33    1.11
     0.667    1.11 | 2.250   18.94 | 3.833    4.46 |  5.42    1.11
     0.750    1.11 | 2.333   51.24 | 3.917    4.46 |  5.50    1.11
     0.833    1.11 | 2.417   51.24 | 4.000    4.46 |  5.58    1.11
     0.917    1.11 | 2.500   51.24 | 4.083    4.46 |  5.67    1.11
     1.000    1.11 | 2.583   51.24 | 4.167    4.46 |  5.75    1.11
     1.083    1.11 | 2.667   51.24 | 4.250    4.46 |  5.83    1.11
     1.167    1.11 | 2.750   51.24 | 4.333    2.23 |  5.92    1.11
     1.250    1.11 | 2.833   14.48 | 4.417    2.23 |  6.00    1.11
     1.333    6.68 | 2.917   14.48 | 4.500    2.23 |  6.08    1.11
     1.417    6.68 | 3.000   14.48 | 4.583    2.23 |  6.17    1.11
     1.500    6.68 | 3.083   14.48 | 4.667    2.23 |  6.25    1.11
     1.583    6.68 | 3.167   14.48 | 4.750    2.23 |

     Max.Eff.Inten.(mm/hr)=      51.24        43.50
               over (min)        10.00        15.00
     Storage Coeff.  (min)=       8.88 (ii)   12.16 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=       0.12         0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=       6.69         0.26       6.952 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.83        2.75
     RUNOFF VOLUME    (mm)=      53.69        36.81       52.81
     TOTAL RAINFALL   (mm)=      55.69        55.69       55.69
     RUNOFF COEFFICIENT   =       0.96         0.66        0.95


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7417)|   Area    (ha)=  35.65
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|ID= 1 DT= 5.0 min | Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

Max.Eff.Inten.(mm/hr)=		51.24	42.86	
over (min)		5.00	20.00	
Storage Coeff. (min)=		7.24 (ii)	17.46 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.17	0.06	
				TOTALS
PEAK FLOW	(cms)=	4.02	0.60	4.579 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	53.69	36.85	50.33
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.96	0.66	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7417):		35.65	4.579	2.75	50.33
+ ID2= 2 (7419):		51.22	6.952	2.75	52.81
ID = 3 (7669):		86.87	11.531	2.75	51.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7418)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.748E+03	0.4	0.32	32.91
0.43	231.12	.299E+04	2.4	0.50	20.73
0.64	231.33	.674E+04	7.1	0.66	15.82
0.86	231.55	.120E+05	15.3	0.80	13.06
1.07	231.76	.187E+05	27.7	0.92	11.26
1.29	231.98	.270E+05	43.0	0.99	10.47
1.50	232.19	.395E+05	55.3	0.87	11.91
1.72	232.41	.670E+05	80.6	0.75	13.86
1.93	232.62	.110E+06	152.1	0.86	12.06
2.15	232.84	.164E+06	254.6	0.97	10.75
2.36	233.05	.229E+06	418.6	1.14	9.12
2.58	233.27	.298E+06	620.1	1.30	8.00
2.79	233.48	.377E+06	831.7	1.38	7.55
3.01	233.70	.462E+06	1122.6	1.52	6.86
3.22	233.91	.553E+06	1446.6	1.63	6.37
3.44	234.13	.652E+06	1792.6	1.72	6.06
3.65	234.34	.759E+06	2189.3	1.80	5.78
3.98	234.67	.932E+06	3042.9	2.04	5.11
4.30	234.99	.112E+07	4039.2	2.26	4.61

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (	7669)	86.87	11.53	2.75	51.79	0.76	0.73
OUTFLOW: ID= 1 (	7418)	86.87	9.83	2.83	51.79	0.72	0.70

| ROUTE CHN(7670)|

| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7418)	86.87	9.83	2.83	51.79	0.72	0.70
OUTFLOW: ID= 1 (7670)	86.87	7.70	3.00	51.79	0.66	0.67

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.56	10.82

Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

Max.Eff.Inten.(mm/hr)=	51.24	42.86		
over (min)	10.00	20.00		
Storage Coeff. (min)=	8.22 (ii)	18.44 (ii)		
Unit Hyd. Tpeak (min)=	10.00	20.00		
Unit Hyd. peak (cms)=	0.13	0.06		
			TOTALS	
PEAK FLOW (cms)=	6.04	0.91	6.873 (iii)	
TIME TO PEAK (hrs)=	2.75	2.92	2.75	
RUNOFF VOLUME (mm)=	53.69	36.85	50.33	
TOTAL RAINFALL (mm)=	55.69	55.69	55.69	
RUNOFF COEFFICIENT =	0.96	0.66	0.90	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7667):		54.38	6.873	2.75	50.33
+ ID2= 2 (7670):		86.87	7.697	3.00	51.79
ID = 3 (7668):		141.25	13.135	2.83	51.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7415)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (	7668)	141.25	13.14	2.83	51.23	0.94	0.54
OUTFLOW: ID= 1 (	7415)	141.25	10.61	3.00	51.22	0.87	0.51

CALIB	
STANDHYD (7414)	Area (ha)= 44.87
ID= 1 DT= 5.0 min	Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

Max.Eff.Inten.	(mm/hr)=	51.24	42.81	
	over (min)	10.00	20.00	
Storage Coeff.	(min)=	7.85 (ii)	18.20 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	20.00	
Unit Hyd. peak	(cms)=	0.13	0.06	
				TOTALS
PEAK FLOW	(cms)=	4.51	1.04	5.474 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	53.69	36.84	49.01
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.96	0.66	0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7414):	44.87	5.474	2.75	49.01
	+ ID2= 2 (7415):	141.25	10.610	3.00	51.22
	ID = 3 (7413):	186.12	14.776	2.83	50.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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**************************************************
** SIMULATION:4. 25 Year 6 Hour AES (Bloor, TRCA) **
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| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56         2.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.31         1.31
     Length            (m)=     584.35        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    0.00 | 1.667    7.87 | 3.250   17.06 |  4.83    1.31
     0.167    0.00 | 1.750    7.87 | 3.333    9.18 |  4.92    1.31
     0.250    0.00 | 1.833   22.30 | 3.417    9.18 |  5.00    1.31
     0.333    1.31 | 1.917   22.30 | 3.500    9.18 |  5.08    1.31
     0.417    1.31 | 2.000   22.30 | 3.583    9.18 |  5.17    1.31
     0.500    1.31 | 2.083   22.30 | 3.667    9.18 |  5.25    1.31
     0.583    1.31 | 2.167   22.30 | 3.750    9.18 |  5.33    1.31
     0.667    1.31 | 2.250   22.30 | 3.833    5.25 |  5.42    1.31
     0.750    1.31 | 2.333   60.35 | 3.917    5.25 |  5.50    1.31
     0.833    1.31 | 2.417   60.35 | 4.000    5.25 |  5.58    1.31
     0.917    1.31 | 2.500   60.35 | 4.083    5.25 |  5.67    1.31
     1.000    1.31 | 2.583   60.35 | 4.167    5.25 |  5.75    1.31
     1.083    1.31 | 2.667   60.35 | 4.250    5.25 |  5.83    1.31
     1.167    1.31 | 2.750   60.35 | 4.333    2.62 |  5.92    1.31
     1.250    1.31 | 2.833   17.06 | 4.417    2.62 |  6.00    1.31
     1.333    7.87 | 2.917   17.06 | 4.500    2.62 |  6.08    1.31
     1.417    7.87 | 3.000   17.06 | 4.583    2.62 |  6.17    1.31
     1.500    7.87 | 3.083   17.06 | 4.667    2.62 |  6.25    1.31
     1.583    7.87 | 3.167   17.06 | 4.750    2.62 |

     Max.Eff.Inten.(mm/hr)=      60.35         53.17
               over (min)        10.00         15.00
     Storage Coeff.  (min)=       8.32 (ii)    11.39 (ii)
     Unit Hyd. Tpeak (min)=      10.00         15.00
     Unit Hyd. peak  (cms)=       0.13          0.09
                                                    *TOTALS*
     PEAK FLOW       (cms)=       7.93          0.33          8.259 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75           2.75
     RUNOFF VOLUME    (mm)=      63.59         46.06          62.68
     TOTAL RAINFALL   (mm)=      65.59         65.59          65.59
     RUNOFF COEFFICIENT   =       0.97          0.70           0.96


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7417)|   Area    (ha)=  35.65
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|ID= 1 DT= 5.0 min | Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)=		60.35	53.36	
over (min)		5.00	20.00	
Storage Coeff. (min)=		6.78 (ii)	16.15 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.18	0.06	
				TOTALS
PEAK FLOW	(cms)=	4.75	0.78	5.476 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	63.59	46.10	60.10
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.97	0.70	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)| 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7417):			35.65	5.476	2.75	60.10
+ ID2= 2 (7419):			51.22	8.259	2.75	62.68
ID = 3 (7669):			86.87	13.735	2.75	61.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7418)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.748E+03	0.4	0.32	32.91
0.43	231.12	.299E+04	2.4	0.50	20.73
0.64	231.33	.674E+04	7.1	0.66	15.82
0.86	231.55	.120E+05	15.3	0.80	13.06
1.07	231.76	.187E+05	27.7	0.92	11.26
1.29	231.98	.270E+05	43.0	0.99	10.47
1.50	232.19	.395E+05	55.3	0.87	11.91
1.72	232.41	.670E+05	80.6	0.75	13.86
1.93	232.62	.110E+06	152.1	0.86	12.06
2.15	232.84	.164E+06	254.6	0.97	10.75
2.36	233.05	.229E+06	418.6	1.14	9.12
2.58	233.27	.298E+06	620.1	1.30	8.00
2.79	233.48	.377E+06	831.7	1.38	7.55
3.01	233.70	.462E+06	1122.6	1.52	6.86
3.22	233.91	.553E+06	1446.6	1.63	6.37
3.44	234.13	.652E+06	1792.6	1.72	6.06
3.65	234.34	.759E+06	2189.3	1.80	5.78
3.98	234.67	.932E+06	3042.9	2.04	5.11
4.30	234.99	.112E+07	4039.2	2.26	4.61

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7669)	86.87	13.74	2.75	61.62	0.82	0.77
OUTFLOW: ID= 1 (7418)	86.87	11.82	2.83	61.62	0.77	0.73

| ROUTE CHN(7670)|

| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7418)	86.87	11.82	2.83	61.62	0.77	0.73
OUTFLOW: ID= 1 (7670)	86.87	9.28	3.00	61.62	0.70	0.69

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.56	10.82

Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)=		60.35	53.36	
over (min)		10.00	20.00	
Storage Coeff. (min)=		7.70 (ii)	17.06 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.13	0.06	
				TOTALS
PEAK FLOW	(cms)=	7.15	1.16	8.239 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	63.59	46.10	60.10
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.97	0.70	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7667):		54.38	8.239	2.75	60.10
+ ID2= 2 (7670):		86.87	9.285	3.00	61.62
ID = 3 (7668):		141.25	16.052	2.83	61.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7415)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7668)	141.25	16.05	2.83	61.03	1.03	0.58
OUTFLOW: ID= 1 (7415)	141.25	13.07	2.92	61.03	0.94	0.54

CALIB
STANDHYD (7414)
ID= 1 DT= 5.0 min

Area (ha)= 44.87
Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.	(mm/hr)=	60.35	53.31	
	over (min)	5.00	20.00	
Storage Coeff.	(min)=	7.35 (ii)	16.83 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	20.00	
Unit Hyd. peak	(cms)=	0.17	0.06	
				TOTALS
PEAK FLOW	(cms)=	5.37	1.34	6.630 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	63.59	46.09	58.73
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.97	0.70	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7414):	44.87	6.630	2.75	58.73
	+ ID2= 2 (7415):	141.25	13.066	2.92	61.03
	ID = 3 (7413):	186.12	17.530	2.75	60.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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**************************************************
** SIMULATION:5. 50 Year 6 Hour AES (Bloor, TRCA) **
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--------------------
| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56         2.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.31         1.31
     Length            (m)=     584.35        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    8.76 | 3.250   18.98 |  4.83    1.46
              0.167    0.00 | 1.750    8.76 | 3.333   10.22 |  4.92    1.46
              0.250    0.00 | 1.833   24.82 | 3.417   10.22 |  5.00    1.46
              0.333    1.46 | 1.917   24.82 | 3.500   10.22 |  5.08    1.46
              0.417    1.46 | 2.000   24.82 | 3.583   10.22 |  5.17    1.46
              0.500    1.46 | 2.083   24.82 | 3.667   10.22 |  5.25    1.46
              0.583    1.46 | 2.167   24.82 | 3.750   10.22 |  5.33    1.46
              0.667    1.46 | 2.250   24.82 | 3.833    5.84 |  5.42    1.46
              0.750    1.46 | 2.333   67.16 | 3.917    5.84 |  5.50    1.46
              0.833    1.46 | 2.417   67.16 | 4.000    5.84 |  5.58    1.46
              0.917    1.46 | 2.500   67.16 | 4.083    5.84 |  5.67    1.46
              1.000    1.46 | 2.583   67.16 | 4.167    5.84 |  5.75    1.46
              1.083    1.46 | 2.667   67.16 | 4.250    5.84 |  5.83    1.46
              1.167    1.46 | 2.750   67.16 | 4.333    2.92 |  5.92    1.46
              1.250    1.46 | 2.833   18.98 | 4.417    2.92 |  6.00    1.46
              1.333    8.76 | 2.917   18.98 | 4.500    2.92 |  6.08    1.46
              1.417    8.76 | 3.000   18.98 | 4.583    2.92 |  6.17    1.46
              1.500    8.76 | 3.083   18.98 | 4.667    2.92 |  6.25    1.46
              1.583    8.76 | 3.167   18.98 | 4.750    2.92 |

     Max.Eff.Inten.(mm/hr)=      67.16         60.36
                 over (min)      10.00         15.00
     Storage Coeff.  (min)=       7.97 (ii)    10.91 (ii)
     Unit Hyd. Tpeak (min)=      10.00         15.00
     Unit Hyd. peak  (cms)=       0.13          0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=       8.86          0.38      9.237 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.75       2.75
     RUNOFF VOLUME    (mm)=      71.00         53.08      70.07
     TOTAL RAINFALL   (mm)=      73.00         73.00      73.00
     RUNOFF COEFFICIENT   =       0.97          0.73       0.96


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7417)|   Area    (ha)=  35.65
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|ID= 1 DT= 5.0 min | Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	60.58	
over (min)		5.00	15.00	
Storage Coeff. (min)=		6.50 (ii)	11.39 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.18	0.09	
				TOTALS
PEAK FLOW	(cms)=	5.29	1.01	6.298 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	71.00	53.13	67.43
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.97	0.73	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)| 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7417):			35.65	6.298	2.75	67.43
+ ID2= 2 (7419):			51.22	9.237	2.75	70.07
ID = 3 (7669):			86.87	15.536	2.75	68.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7418)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.748E+03	0.4	0.32	32.91
0.43	231.12	.299E+04	2.4	0.50	20.73
0.64	231.33	.674E+04	7.1	0.66	15.82
0.86	231.55	.120E+05	15.3	0.80	13.06
1.07	231.76	.187E+05	27.7	0.92	11.26
1.29	231.98	.270E+05	43.0	0.99	10.47
1.50	232.19	.395E+05	55.3	0.87	11.91
1.72	232.41	.670E+05	80.6	0.75	13.86
1.93	232.62	.110E+06	152.1	0.86	12.06
2.15	232.84	.164E+06	254.6	0.97	10.75
2.36	233.05	.229E+06	418.6	1.14	9.12
2.58	233.27	.298E+06	620.1	1.30	8.00
2.79	233.48	.377E+06	831.7	1.38	7.55
3.01	233.70	.462E+06	1122.6	1.52	6.86
3.22	233.91	.553E+06	1446.6	1.63	6.37
3.44	234.13	.652E+06	1792.6	1.72	6.06
3.65	234.34	.759E+06	2189.3	1.80	5.78
3.98	234.67	.932E+06	3042.9	2.04	5.11
4.30	234.99	.112E+07	4039.2	2.26	4.61

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2	(7669)	86.87	15.54	2.75	68.99	0.86	0.80
OUTFLOW: ID= 1	(7418)	86.87	13.54	2.75	68.98	0.81	0.76

| ROUTE CHN(7670)|

| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7418)	86.87	13.54	2.75	68.98	0.81	0.76
OUTFLOW: ID= 1 (7670)	86.87	10.70	2.92	68.98	0.74	0.71

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.56	10.82

Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	60.58	
over (min)		5.00	15.00	
Storage Coeff. (min)=		7.37 (ii)	12.27 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.17	0.09	
				TOTALS
PEAK FLOW	(cms)=	8.03	1.51	9.540 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	71.00	53.13	67.43
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.97	0.73	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7667):	54.38	9.540	2.75	67.43
	+ ID2= 2 (7670):	86.87	10.698	2.92	68.98
	ID = 3 (7668):	141.25	18.486	2.75	68.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7415)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7668)	141.25	18.49	2.75	68.39	1.08	0.60
OUTFLOW: ID= 1 (7415)	141.25	14.82	2.92	68.38	0.99	0.57

CALIB
STANDHYD (7414)
ID= 1 DT= 5.0 min

Area (ha)= 44.87
Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.	(mm/hr)=	67.16	60.52	
	over (min)	5.00	20.00	
Storage Coeff.	(min)=	7.04 (ii)	16.06 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	20.00	
Unit Hyd. peak	(cms)=	0.17	0.06	
				TOTALS
PEAK FLOW	(cms)=	5.99	1.56	7.471 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	71.00	53.11	66.03
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.97	0.73	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7414):	44.87	7.471	2.75	66.03
	+ ID2= 2 (7415):	141.25	14.824	2.92	68.38
	ID = 3 (7413):	186.12	20.736	2.75	67.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION:6. 100 Year 6 Hour AES (Bloor, TRCA) **
****

CALIB		
STANDHYD (7419)	Area (ha)= 51.22	
ID= 1 DT= 5.0 min	Total Imp(%)= 94.80	Dir. Conn.(%)= 94.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.56	2.66
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.31	1.31
Length	(m)=	584.35	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=		73.88	67.43	
over (min)		10.00	15.00	
Storage Coeff. (min)=		7.67 (ii)	10.50 (ii)	
Unit Hyd. Tpeak (min)=		10.00	15.00	
Unit Hyd. peak (cms)=		0.13	0.09	
				TOTALS
PEAK FLOW	(cms)=	9.77	0.43	10.202 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	78.31	60.06	77.36
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.98	0.75	0.96

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (7417)	Area (ha)= 35.65	

|ID= 1 DT= 5.0 min | Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=		73.88	67.66	
over (min)		5.00	15.00	
Storage Coeff. (min)=		6.25 (ii)	10.97 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.19	0.09	
				TOTALS
PEAK FLOW	(cms)=	5.83	1.15	6.973 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	78.31	60.11	74.68
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.98	0.75	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)			AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3			(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7417):		35.65	6.973	2.75	74.68
+	ID2= 2 (7419):		51.22	10.202	2.75	77.36
	ID = 3 (7669):		86.87	17.175	2.75	76.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7418)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.748E+03	0.4	0.32	32.91
0.43	231.12	.299E+04	2.4	0.50	20.73
0.64	231.33	.674E+04	7.1	0.66	15.82
0.86	231.55	.120E+05	15.3	0.80	13.06
1.07	231.76	.187E+05	27.7	0.92	11.26
1.29	231.98	.270E+05	43.0	0.99	10.47
1.50	232.19	.395E+05	55.3	0.87	11.91
1.72	232.41	.670E+05	80.6	0.75	13.86
1.93	232.62	.110E+06	152.1	0.86	12.06
2.15	232.84	.164E+06	254.6	0.97	10.75
2.36	233.05	.229E+06	418.6	1.14	9.12
2.58	233.27	.298E+06	620.1	1.30	8.00
2.79	233.48	.377E+06	831.7	1.38	7.55
3.01	233.70	.462E+06	1122.6	1.52	6.86
3.22	233.91	.553E+06	1446.6	1.63	6.37
3.44	234.13	.652E+06	1792.6	1.72	6.06
3.65	234.34	.759E+06	2189.3	1.80	5.78
3.98	234.67	.932E+06	3042.9	2.04	5.11
4.30	234.99	.112E+07	4039.2	2.26	4.61

		AREA (ha)	<---- hydrograph ----> QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (	7669)	86.87	17.18	2.75	76.26	0.89	0.81
OUTFLOW: ID= 1 (	7418)	86.87	15.10	2.75	76.26	0.85	0.79

| ROUTE CHN(7670)|

| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7418)	86.87	15.10	2.75	76.26	0.85	0.79
OUTFLOW: ID= 1 (7670)	86.87	12.08	2.92	76.26	0.77	0.74

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.56	10.82

Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=	73.88	67.66		
over (min)	5.00	15.00		
Storage Coeff. (min)=	7.10 (ii)	11.81 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.17	0.09		
			TOTALS	
PEAK FLOW (cms)=	8.85	1.72	10.569 (iii)	
TIME TO PEAK (hrs)=	2.75	2.75	2.75	
RUNOFF VOLUME (mm)=	78.31	60.11	74.68	
TOTAL RAINFALL (mm)=	80.31	80.31	80.31	
RUNOFF COEFFICIENT =	0.98	0.75	0.93	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7667):	54.38	10.569	2.75	74.68
+	ID2= 2 (7670):	86.87	12.085	2.92	76.26
	ID = 3 (7668):	141.25	20.749	2.75	75.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7415)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7668)	141.25	20.75	2.75	75.65	1.12	0.61
OUTFLOW: ID= 1 (7415)	141.25	16.73	2.92	75.65	1.04	0.59

CALIB
STANDHYD (7414)
ID= 1 DT= 5.0 min

Area (ha)= 44.87
Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.	(mm/hr)=	73.88	67.59	
	over (min)	5.00	20.00	
Storage Coeff.	(min)=	6.78 (ii)	15.40 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	20.00	
Unit Hyd. peak	(cms)=	0.18	0.07	
				TOTALS
PEAK FLOW	(cms)=	6.60	1.79	8.305 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	78.31	60.10	73.25
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.98	0.75	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7414):	44.87	8.305	2.75	73.25
	+ ID2= 2 (7415):	141.25	16.725	2.92	75.65
	ID = 3 (7413):	186.12	23.415	2.75	75.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
**********************************
** SIMULATION:Hazel1000       **
**********************************
--------------------
| CALIB              |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56         2.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.31         1.31
     Length            (m)=     584.35        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

```
     Max.Eff.Inten.(mm/hr)=      53.00         52.33
                 over (min)      10.00         15.00
     Storage Coeff.  (min)=       8.76 (ii)    11.99 (ii)
     Unit Hyd. Tpeak (min)=      10.00         15.00
     Unit Hyd. peak  (cms)=       0.12          0.09
                                                      *TOTALS*
```

PEAK FLOW (cms)=	7.14	0.38	7.523 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.50	208.93
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7417)	Area (ha)= 35.65
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00

2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.50	
over (min)	5.00	20.00	
Storage Coeff. (min)=	7.14 (ii)	16.57 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.17	0.06	
			TOTALS
PEAK FLOW (cms)=	4.20	0.99	5.195 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.56	205.92
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (7417):	35.65	5.195	10.00	205.92	
+ ID2= 2 (7419):	51.22	7.523	10.00	208.93	
ID = 3 (7669):	86.87	12.718	10.00	207.70	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7418)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.748E+03	0.4	0.32	32.91
0.43	231.12	.299E+04	2.4	0.50	20.73
0.64	231.33	.674E+04	7.1	0.66	15.82
0.86	231.55	.120E+05	15.3	0.80	13.06
1.07	231.76	.187E+05	27.7	0.92	11.26
1.29	231.98	.270E+05	43.0	0.99	10.47
1.50	232.19	.395E+05	55.3	0.87	11.91
1.72	232.41	.670E+05	80.6	0.75	13.86
1.93	232.62	.110E+06	152.1	0.86	12.06
2.15	232.84	.164E+06	254.6	0.97	10.75
2.36	233.05	.229E+06	418.6	1.14	9.12
2.58	233.27	.298E+06	620.1	1.30	8.00
2.79	233.48	.377E+06	831.7	1.38	7.55
3.01	233.70	.462E+06	1122.6	1.52	6.86
3.22	233.91	.553E+06	1446.6	1.63	6.37
3.44	234.13	.652E+06	1792.6	1.72	6.06
3.65	234.34	.759E+06	2189.3	1.80	5.78
3.98	234.67	.932E+06	3042.9	2.04	5.11
4.30	234.99	.112E+07	4039.2	2.26	4.61

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7669)	86.87	12.72	10.00	207.70	0.79	0.75
OUTFLOW: ID= 1 (7418)	86.87	12.46	10.00	207.70	0.78	0.74

ROUTE CHN(7670)|
IN= 2---> OUT= 1	

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84

0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7418)	86.87	12.46	10.00	207.70	0.78	0.74
OUTFLOW: ID= 1 (7670)	86.87	11.55	10.17	207.69	0.76	0.73

CALIB	
STANDHYD (7667)	Area (ha)= 54.38
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.56	10.82
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00

1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.50	
over (min)	10.00	20.00	
Storage Coeff. (min)=	8.11 (ii)	17.53 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
			TOTALS
PEAK FLOW (cms)=	6.40	1.51	7.910 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.56	205.92
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
1 + 2 = 3	ID1= 1 (7667):	54.38	7.910	10.00	205.92
	+ ID2= 2 (7670):	86.87	11.550	10.17	207.69
	ID = 3 (7668):	141.25	19.018	10.00	207.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7415)
IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel

382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7668)	141.25	19.02	10.00	207.01	1.09	0.60
OUTFLOW: ID= 1 (7415)	141.25	17.84	10.17	207.01	1.06	0.59

CALIB STANDHYD (7414) ID= 1 DT= 5.0 min	Area (ha)= 44.87 Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00

0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.45	
over (min)	10.00	20.00	
Storage Coeff. (min)=	7.74 (ii)	17.29 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
			TOTALS
PEAK FLOW (cms)=	4.77	1.73	6.502 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.54	204.32
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.96

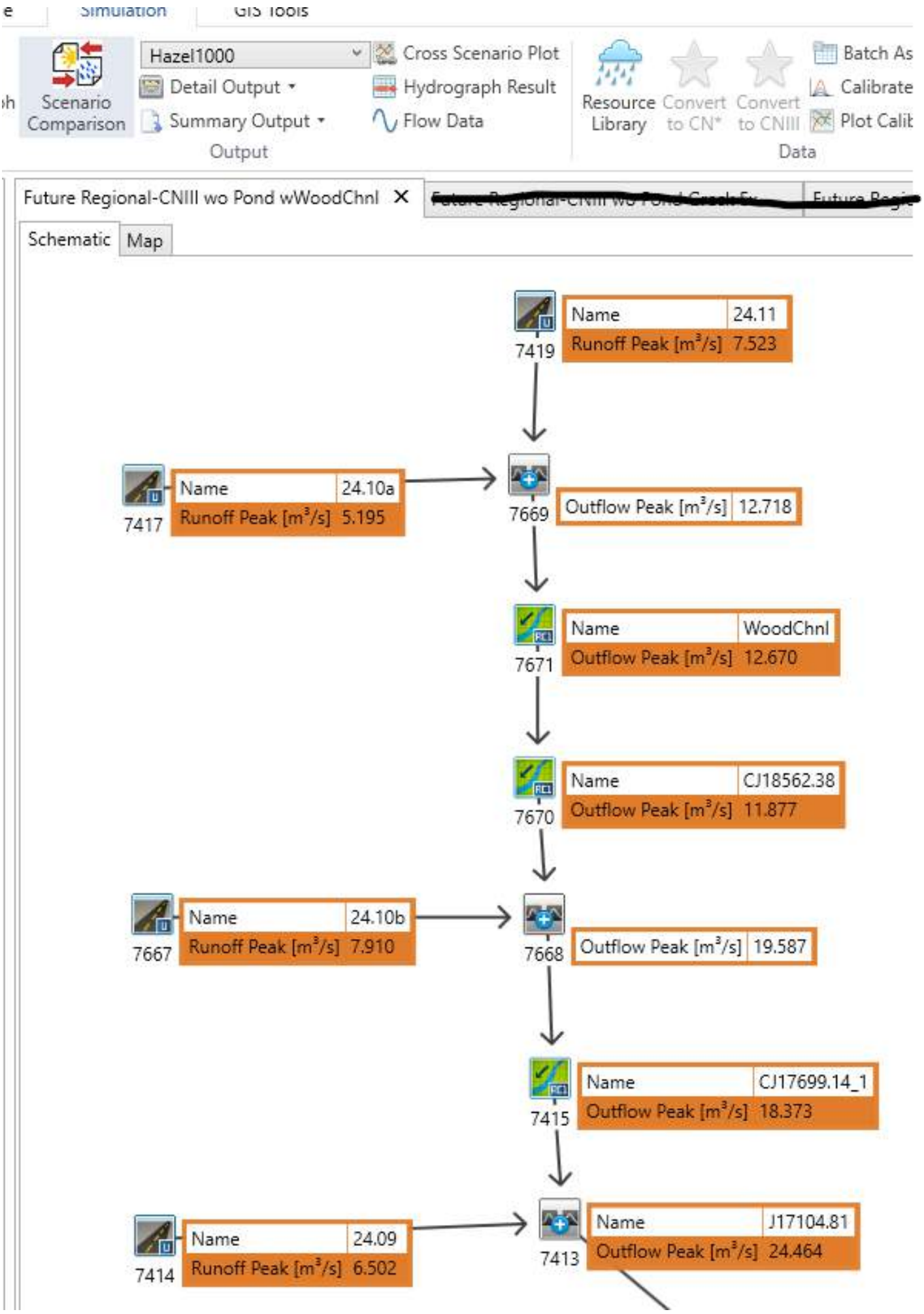
(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7414):	44.87	6.502	10.00	204.32
+ ID2= 2 (7415):	141.25	17.841	10.17	207.01
	==========	==========	==========	==========

ID = 3 (7413): 186.12 23.837 10.08 206.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

VO Modeling Results Alternative Flow Routing
Scenario 3: Future Conditions – Proposed Natural Channel by Wood



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************************************************
** SIMULATION:100 Year 6 Hour AES (Bloor, TRCA) **
************************************************
--------------------
| CALIB            |
| STANDHYD (  7417)|   Area    (ha)=  35.65
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.10   Dir. Conn.(%)=  80.04
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      28.56          7.09
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       1.80          1.80
     Length            (m)=     487.51         40.00
     Mannings n             =     0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    9.64 | 3.250   20.88 |  4.83    1.61
              0.167    0.00 | 1.750    9.64 | 3.333   11.24 |  4.92    1.61
              0.250    0.00 | 1.833   27.30 | 3.417   11.24 |  5.00    1.61
              0.333    1.61 | 1.917   27.30 | 3.500   11.24 |  5.08    1.61
              0.417    1.61 | 2.000   27.30 | 3.583   11.24 |  5.17    1.61
              0.500    1.61 | 2.083   27.30 | 3.667   11.24 |  5.25    1.61
              0.583    1.61 | 2.167   27.30 | 3.750   11.24 |  5.33    1.61
              0.667    1.61 | 2.250   27.30 | 3.833    6.42 |  5.42    1.61
              0.750    1.61 | 2.333   73.88 | 3.917    6.42 |  5.50    1.61
              0.833    1.61 | 2.417   73.88 | 4.000    6.42 |  5.58    1.61
              0.917    1.61 | 2.500   73.88 | 4.083    6.42 |  5.67    1.61
              1.000    1.61 | 2.583   73.88 | 4.167    6.42 |  5.75    1.61
              1.083    1.61 | 2.667   73.88 | 4.250    6.42 |  5.83    1.61
              1.167    1.61 | 2.750   73.88 | 4.333    3.21 |  5.92    1.61
              1.250    1.61 | 2.833   20.88 | 4.417    3.21 |  6.00    1.61
              1.333    9.64 | 2.917   20.88 | 4.500    3.21 |  6.08    1.61
              1.417    9.64 | 3.000   20.88 | 4.583    3.21 |  6.17    1.61
              1.500    9.64 | 3.083   20.88 | 4.667    3.21 |  6.25    1.61
              1.583    9.64 | 3.167   20.88 | 4.750    3.21 |

     Max.Eff.Inten.(mm/hr)=      73.88          67.66
                 over (min)       5.00          15.00
     Storage Coeff.  (min)=       6.25 (ii)     10.97 (ii)
     Unit Hyd. Tpeak (min)=       5.00          15.00
     Unit Hyd. peak  (cms)=       0.19           0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       5.83           1.15          6.973 (iii)
     TIME TO PEAK    (hrs)=       2.75           2.75           2.75
     RUNOFF VOLUME    (mm)=      78.31          60.11          74.68
     TOTAL RAINFALL   (mm)=      80.31          80.31          80.31
     RUNOFF COEFFICIENT   =       0.98           0.75           0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
```

|ID= 1 DT= 5.0 min | Total Imp(%)= 94.80 Dir. Conn.(%)= 94.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.56	2.66
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.31	1.31
Length	(m)=	584.35	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=		73.88	67.43	
over (min)		10.00	15.00	
Storage Coeff. (min)=		7.67 (ii)	10.50 (ii)	
Unit Hyd. Tpeak (min)=		10.00	15.00	
Unit Hyd. peak (cms)=		0.13	0.09	
				TOTALS
PEAK FLOW	(cms)=	9.77	0.43	10.202 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	78.31	60.06	77.36
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.98	0.75	0.96

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3					
ID1= 1 (7417):		35.65	6.973	2.75	74.68
+ ID2= 2 (7419):		51.22	10.202	2.75	77.36
ID = 3 (7669):		86.87	17.175	2.75	76.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTE CHN(7671)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	100.00	0.0350	Main Channel
3.00	99.00	0.0350	Main Channel
42.00	99.00	0.0350	Main Channel
45.00	100.00	0.0350	Main Channel

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.05	99.05	.115E+04	0.6	0.31	30.12
0.11	99.11	.232E+04	2.0	0.49	19.03
0.16	99.16	.349E+04	4.0	0.64	14.56
0.21	99.21	.467E+04	6.5	0.77	12.06
0.26	99.26	.586E+04	9.4	0.90	10.42
0.32	99.32	.706E+04	12.7	1.01	9.25
0.37	99.37	.827E+04	16.5	1.11	8.37
0.42	99.42	.949E+04	20.6	1.22	7.68
0.47	99.47	.107E+05	25.1	1.31	7.12
0.53	99.53	.120E+05	30.0	1.40	6.65
0.58	99.58	.132E+05	35.2	1.49	6.26
0.63	99.63	.145E+05	40.7	1.58	5.92
0.68	99.68	.157E+05	46.6	1.66	5.63
0.74	99.74	.170E+05	52.8	1.74	5.37
0.79	99.79	.183E+05	59.3	1.81	5.14
0.84	99.84	.196E+05	66.1	1.89	4.94
0.89	99.89	.209E+05	73.2	1.96	4.76
0.95	99.95	.222E+05	80.6	2.03	4.59
1.00	100.00	.235E+05	88.3	2.10	4.44

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7669)	86.87	17.18	2.75	76.26	0.38	1.13
OUTFLOW: ID= 1 (7671)	86.87	16.52	2.75	76.26	0.37	1.11

| ROUTE CHN(7670)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel

552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7671)	86.87	16.52	2.75	76.26	0.88	0.81
OUTFLOW: ID= 1 (7670)	86.87	13.08	2.92	76.26	0.80	0.75

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	43.56	10.82
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	1.80	1.80
Length (m)=	602.11	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61

0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

			TOTALS
Max.Eff.Inten.(mm/hr)=	73.88	67.66	
over (min)	5.00	15.00	
Storage Coeff. (min)=	7.10 (ii)	11.81 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.17	0.09	
PEAK FLOW (cms)=	8.85	1.72	10.569 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	78.31	60.11	74.68
TOTAL RAINFALL (mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT =	0.98	0.75	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7667):	54.38	10.569	2.75	74.68
+ ID2= 2 (7670):	86.87	13.078	2.92	76.26
ID = 3 (7668):	141.25	22.278	2.75	75.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7415)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel

546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7668)	141.25	22.28	2.75	75.65	1.15	0.62
OUTFLOW: ID= 1 (7415)	141.25	17.89	2.92	75.65	1.06	0.59

CALIB STANDHYD (7414) ID= 1 DT= 5.0 min	Area (ha)= 44.87 Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61

0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=	73.88	67.59	
over (min)	5.00	20.00	
Storage Coeff. (min)=	6.78 (ii)	15.40 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.18	0.07	
			TOTALS
PEAK FLOW (cms)=	6.60	1.79	8.305 (iii)
TIME TO PEAK (hrs)=	2.75	2.83	2.75
RUNOFF VOLUME (mm)=	78.31	60.10	73.25
TOTAL RAINFALL (mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT =	0.98	0.75	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413) | 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7414):	44.87	8.305	2.75	73.25
+ ID2= 2 (7415):	141.25	17.893	2.92	75.65
ID = 3 (7413):	186.12	24.632	2.75	75.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION:Hazel1000 **
****

CALIB
STANDHYD (7417) \| Area (ha)= 35.65
ID= 1 DT= 5.0 min \| Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.50	
over (min)	5.00	20.00	
Storage Coeff. (min)=	7.14 (ii)	16.57 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.17	0.06	
			TOTALS
PEAK FLOW (cms)=	4.20	0.99	5.195 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.56	205.92
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB

| STANDHYD (7419)| Area (ha)= 51.22
|ID= 1 DT= 5.0 min | Total Imp(%)= 94.80 Dir. Conn.(%)= 94.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.56	2.66
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.31	1.31
Length	(m)=	584.35	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=		53.00	52.33	
over (min)		10.00	15.00	
Storage Coeff. (min)=		8.76 (ii)	11.99 (ii)	
Unit Hyd. Tpeak (min)=		10.00	15.00	
Unit Hyd. peak (cms)=		0.12	0.09	
				TOTALS
PEAK FLOW	(cms)=	7.14	0.38	7.523 (iii)
TIME TO PEAK	(hrs)=	10.00	10.00	10.00
RUNOFF VOLUME	(mm)=	210.00	189.50	208.93
TOTAL RAINFALL	(mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT	=	0.99	0.89	0.99

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7417):    35.65   5.195    10.00   205.92
     + ID2= 2 (  7419):    51.22   7.523    10.00   208.93
       ================================================
       ID = 3 (  7669):    86.87  12.718    10.00   207.70

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7671)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00         100.00        0.0350      Main Channel
                  3.00          99.00        0.0350      Main Channel
                 42.00          99.00        0.0350      Main Channel
                 45.00         100.00        0.0350      Main Channel

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV       VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.05     99.05    .115E+04       0.6          0.31       30.12
      0.11     99.11    .232E+04       2.0          0.49       19.03
      0.16     99.16    .349E+04       4.0          0.64       14.56
      0.21     99.21    .467E+04       6.5          0.77       12.06
      0.26     99.26    .586E+04       9.4          0.90       10.42
      0.32     99.32    .706E+04      12.7          1.01        9.25
      0.37     99.37    .827E+04      16.5          1.11        8.37
      0.42     99.42    .949E+04      20.6          1.22        7.68
      0.47     99.47    .107E+05      25.1          1.31        7.12
      0.53     99.53    .120E+05      30.0          1.40        6.65
      0.58     99.58    .132E+05      35.2          1.49        6.26
      0.63     99.63    .145E+05      40.7          1.58        5.92
      0.68     99.68    .157E+05      46.6          1.66        5.63
      0.74     99.74    .170E+05      52.8          1.74        5.37
      0.79     99.79    .183E+05      59.3          1.81        5.14
      0.84     99.84    .196E+05      66.1          1.89        4.94
      0.89     99.89    .209E+05      73.2          1.96        4.76
      0.95     99.95    .222E+05      80.6          2.03        4.59
      1.00    100.00    .235E+05      88.3          2.10        4.44

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
   INFLOW : ID= 2 (  7669)   86.87    12.72   10.00 207.70      0.32      1.01
   OUTFLOW: ID= 1 (  7671)   86.87    12.67   10.00 207.70      0.31      1.00

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| ROUTE CHN(  7670)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         234.99        0.0600
                  53.06         234.75        0.0600      Main Channel
                  92.06         234.34        0.0600      Main Channel
                 232.28         233.82        0.0600      Main Channel
                 292.28         232.94        0.0600      Main Channel
                 316.40         232.30        0.0600      Main Channel
                 332.40         232.58        0.0600      Main Channel
                 356.40         232.15        0.0600      Main Channel
                 418.83         232.34        0.0600      Main Channel
                 474.52         231.93        0.0600      Main Channel
                 505.94         230.69        0.0600      Main Channel
                 541.95         232.04        0.0600      Main Channel
                 552.73         232.23        0.0600      Main Channel
                 739.23         232.86        0.0600      Main Channel
                 759.44         232.76        0.0600      Main Channel
                 799.56         233.26        0.0600      Main Channel
                 859.79         233.36        0.0600      Main Channel
                 906.16         233.77        0.0600      Main Channel
                 940.38         234.79    0.0600 /0.0600  Main Channel
                 960.79         235.04        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.21   230.90    .104E+04        0.4         0.32      45.78
       0.43   231.12    .416E+04        2.4         0.50      28.84
       0.64   231.33    .937E+04        7.1         0.66      22.01
       0.86   231.55    .167E+05       15.3         0.80      18.17
       1.07   231.76    .260E+05       27.7         0.92      15.66
       1.29   231.98    .376E+05       43.0         0.99      14.56
       1.50   232.19    .549E+05       55.3         0.87      16.57
       1.72   232.41    .933E+05       80.6         0.75      19.28
       1.93   232.62    .153E+06      152.1         0.86      16.78
       2.15   232.84    .228E+06      254.6         0.97      14.96
       2.36   233.05    .318E+06      418.6         1.14      12.68
       2.58   233.27    .414E+06      620.1         1.30      11.13
       2.79   233.48    .524E+06      831.7         1.38      10.50
       3.01   233.70    .643E+06     1122.6         1.52       9.55
       3.22   233.91    .769E+06     1446.6         1.63       8.86
       3.44   234.13    .906E+06     1792.6         1.72       8.43
       3.65   234.34    .106E+07     2189.3         1.80       8.04
       3.98   234.67    .130E+07     3042.9         2.04       7.10
       4.30   234.99    .155E+07     4039.2         2.26       6.41

                                    <---- hydrograph ---->   <-pipe / channel->
                             AREA     QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                             (ha)     (cms)   (hrs)   (mm)       (m)      (m/s)
   INFLOW : ID= 2 (  7671)   86.87    12.67   10.00 207.70       0.79      0.75
   OUTFLOW: ID= 1 (  7670)   86.87    11.88   10.08 207.69       0.77      0.73



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| CALIB            |
| STANDHYD (  7667)|   Area    (ha)=  54.38
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.10   Dir. Conn.(%)=  80.04
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.56	10.82
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.	(mm/hr)=	53.00	52.50	
	over (min)	10.00	20.00	
Storage Coeff.	(min)=	8.11 (ii)	17.53 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	20.00	
Unit Hyd. peak	(cms)=	0.13	0.06	
				TOTALS
PEAK FLOW	(cms)=	6.40	1.51	7.910 (iii)
TIME TO PEAK	(hrs)=	10.00	10.00	10.00
RUNOFF VOLUME	(mm)=	210.00	189.56	205.92
TOTAL RAINFALL	(mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT	=	0.99	0.89	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)|		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7667):		54.38	7.910	10.00	205.92
+ ID2= 2 (7670):		86.87	11.877	10.08	207.69
ID = 3 (7668):		141.25	19.587	10.00	207.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7415)		
IN= 2---> OUT= 1	Routing time step (min)'=	5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04

4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7668)	141.25	19.59	10.00	207.01	1.10	0.60
OUTFLOW: ID= 1 (7415)	141.25	18.37	10.17	207.01	1.07	0.60

CALIB	
STANDHYD (7414)	Area (ha)= 44.87
ID= 1 DT= 5.0 min	Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00

2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

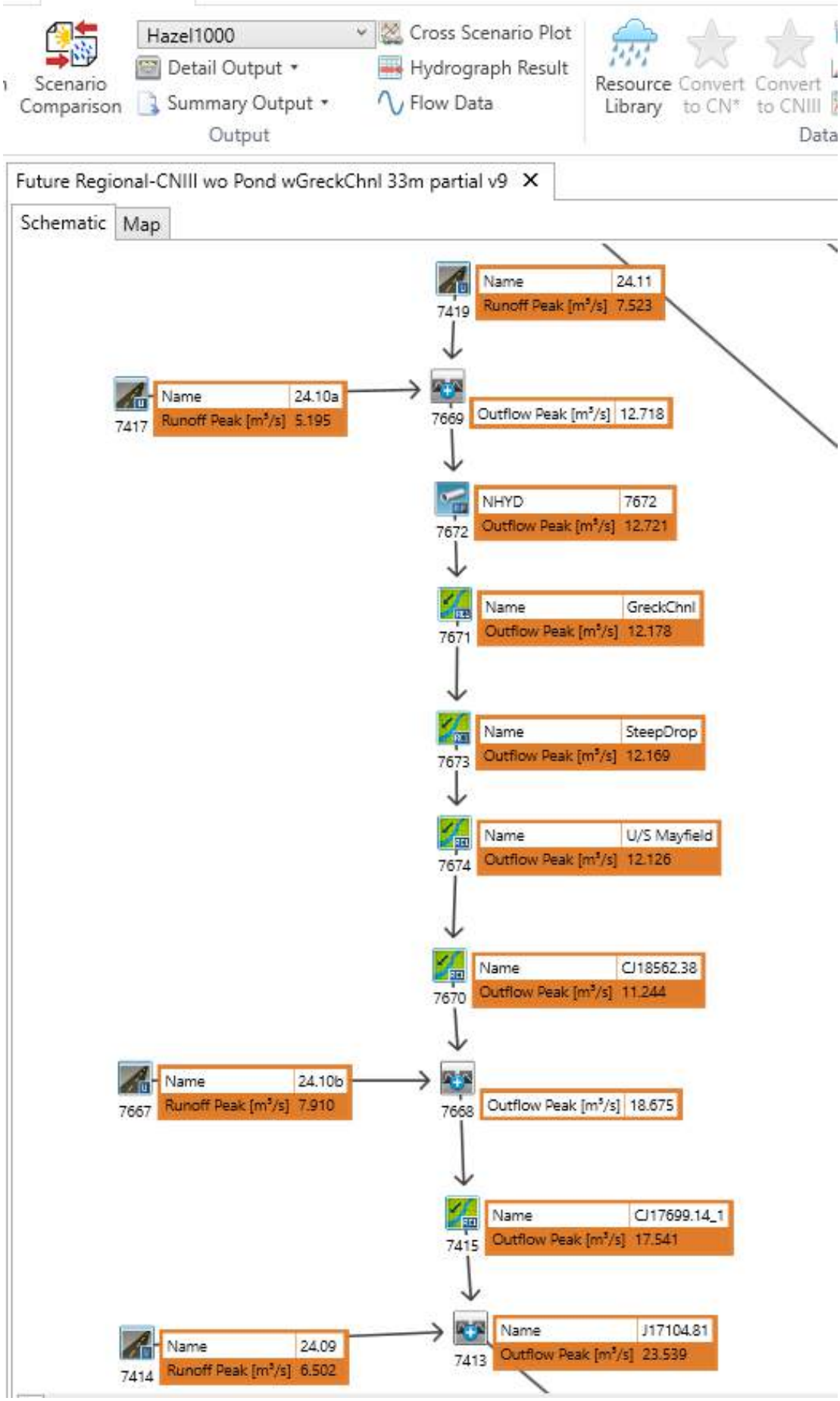
Max.Eff.Inten.(mm/hr)=	53.00	52.45	
over (min)	10.00	20.00	
Storage Coeff. (min)=	7.74 (ii)	17.29 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
			TOTALS
PEAK FLOW (cms)=	4.77	1.73	6.502 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.54	204.32
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.96

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7414):		44.87	6.502	10.00	204.32
+ ID2= 2 (7415):		141.25	18.373	10.17	207.01
ID = 3 (7413):		186.12	24.464	10.08	206.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

VO Modeling Results Alternative Flow Routing
Scenario 4: Future Conditions – Proposed Natural Channel by Greck



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**************************************************
** SIMULATION:1. 2 Year 6 Hour AES (Bloor, TRCA) **
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| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
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                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56         2.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.31         1.31
     Length            (m)=     584.35        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    4.32 | 3.250    9.36 |  4.83    0.72
              0.167    0.00 | 1.750    4.32 | 3.333    5.04 |  4.92    0.72
              0.250    0.00 | 1.833   12.24 | 3.417    5.04 |  5.00    0.72
              0.333    0.72 | 1.917   12.24 | 3.500    5.04 |  5.08    0.72
              0.417    0.72 | 2.000   12.24 | 3.583    5.04 |  5.17    0.72
              0.500    0.72 | 2.083   12.24 | 3.667    5.04 |  5.25    0.72
              0.583    0.72 | 2.167   12.24 | 3.750    5.04 |  5.33    0.72
              0.667    0.72 | 2.250   12.24 | 3.833    2.88 |  5.42    0.72
              0.750    0.72 | 2.333   33.12 | 3.917    2.88 |  5.50    0.72
              0.833    0.72 | 2.417   33.12 | 4.000    2.88 |  5.58    0.72
              0.917    0.72 | 2.500   33.12 | 4.083    2.88 |  5.67    0.72
              1.000    0.72 | 2.583   33.12 | 4.167    2.88 |  5.75    0.72
              1.083    0.72 | 2.667   33.12 | 4.250    2.88 |  5.83    0.72
              1.167    0.72 | 2.750   33.12 | 4.333    1.44 |  5.92    0.72
              1.250    0.72 | 2.833    9.36 | 4.417    1.44 |  6.00    0.72
              1.333    4.32 | 2.917    9.36 | 4.500    1.44 |  6.08    0.72
              1.417    4.32 | 3.000    9.36 | 4.583    1.44 |  6.17    0.72
              1.500    4.32 | 3.083    9.36 | 4.667    1.44 |  6.25    0.72
              1.583    4.32 | 3.167    9.36 | 4.750    1.44 |

     Max.Eff.Inten.(mm/hr)=      33.12         24.19
               over (min)        10.00         15.00
     Storage Coeff.  (min)=      10.57 (ii)    14.47 (ii)
     Unit Hyd. Tpeak (min)=      10.00         15.00
     Unit Hyd. peak  (cms)=       0.11          0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       4.24          0.13      4.363 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.83       2.75
     RUNOFF VOLUME    (mm)=      34.00         19.17      33.23
     TOTAL RAINFALL   (mm)=      36.00         36.00      36.00
     RUNOFF COEFFICIENT   =       0.94          0.53       0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  7417)|   Area    (ha)=  35.65
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|ID= 1 DT= 5.0 min | Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.(mm/hr)=		33.12	23.51	
over (min)		10.00	25.00	
Storage Coeff. (min)=		8.62 (ii)	21.62 (ii)	
Unit Hyd. Tpeak (min)=		10.00	25.00	
Unit Hyd. peak (cms)=		0.12	0.05	
				TOTALS
PEAK FLOW	(cms)=	2.55	0.28	2.765 (iii)
TIME TO PEAK	(hrs)=	2.75	3.00	2.75
RUNOFF VOLUME	(mm)=	34.00	19.21	31.05
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.94	0.53	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7417):		35.65	2.765	2.75	31.05
+ ID2= 2 (7419):		51.22	4.363	2.75	33.23
ID = 3 (7669):		86.87	7.129	2.75	32.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ROUTEPIPE(7672)| IN= 2---> OUT= 1 | DT= 5.0 min |

PIPE Number = 1.00
Width (mm)=2400.00 Height (mm)=1800.00
Length (m)= 90.00
Slope (m/m)= 0.017
Manning n = 0.013

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME min
0.09	.205E+02	0.5	1.98	0.76
0.19	.409E+02	1.4	3.00	0.50
0.28	.614E+02	2.6	3.77	0.40
0.38	.819E+02	4.0	4.38	0.34
0.47	.102E+03	5.6	4.89	0.31
0.57	.123E+03	7.3	5.32	0.28
0.66	.143E+03	9.1	5.69	0.26
0.76	.164E+03	11.0	6.02	0.25
0.85	.184E+03	12.9	6.31	0.24
0.95	.205E+03	14.9	6.57	0.23
1.04	.225E+03	17.0	6.80	0.22
1.14	.246E+03	19.1	7.01	0.21
1.23	.266E+03	21.3	7.20	0.21
1.33	.286E+03	23.5	7.38	0.20
1.42	.307E+03	25.7	7.54	0.20
1.52	.327E+03	28.0	7.68	0.20
1.61	.348E+03	30.2	7.82	0.19
1.71	.368E+03	32.5	7.95	0.19
1.80	.389E+03	34.8	8.06	0.19

		<---- hydrograph ---->			<-pipe / channel->	
		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW :	ID= 2 (7669)	86.87	7.13	2.75	32.33	0.56	5.28
OUTFLOW:	ID= 1 (7672)	86.87	7.10	2.75	32.33	0.56	5.28

| ROUTE CHN(7671)| IN= 2---> OUT= 1 |

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.524E+02	0.0	0.18	34.47

0.22	0.22	.124E+03	0.1	0.27	23.53
0.34	0.34	.215E+03	0.2	0.33	18.93
0.45	0.45	.325E+03	0.3	0.39	16.23
0.58	0.58	.789E+03	0.7	0.33	19.48
0.70	0.70	.131E+04	1.2	0.34	18.37
0.83	0.83	.186E+04	1.8	0.38	16.82
0.96	0.96	.244E+04	2.6	0.41	15.47
1.08	1.08	.305E+04	3.5	0.44	14.36
1.21	1.21	.370E+04	4.6	0.47	13.45
1.34	1.34	.453E+04	4.9	0.41	15.49
1.46	1.46	.589E+04	6.6	0.42	14.93
1.59	1.59	.728E+04	8.5	0.45	14.22
1.72	1.72	.870E+04	10.7	0.47	13.50
1.84	1.84	.101E+05	13.2	0.49	12.83
1.97	1.97	.116E+05	15.8	0.52	12.23
2.10	2.10	.131E+05	18.7	0.54	11.68
2.22	2.22	.147E+05	21.9	0.57	11.19
2.35	2.35	.163E+05	25.2	0.59	10.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7672)	86.87	7.10	2.75	32.33	1.50	0.43
OUTFLOW: ID= 1 (7671)	86.87	5.74	2.83	32.33	1.40	0.42

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7673)| | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.620E+01	0.2	1.16	0.65
0.22	0.22	.147E+02	0.6	1.70	0.44
0.34	0.34	.254E+02	1.2	2.12	0.35
0.45	0.45	.385E+02	2.1	2.47	0.30
0.58	0.58	.934E+02	4.3	2.06	0.36
0.70	0.70	.155E+03	7.5	2.18	0.34
0.83	0.83	.220E+03	11.6	2.38	0.31
0.96	0.96	.289E+03	16.6	2.59	0.29
1.08	1.08	.361E+03	22.4	2.79	0.27
1.21	1.21	.438E+03	29.0	2.98	0.25
1.34	1.34	.537E+03	30.9	2.59	0.29
1.46	1.46	.698E+03	41.6	2.68	0.28
1.59	1.59	.862E+03	54.0	2.82	0.27

1.72	1.72	.103E+04	67.9	2.97	0.25
1.84	1.84	.120E+04	83.3	3.12	0.24
1.97	1.97	.138E+04	100.2	3.28	0.23
2.10	2.10	.156E+04	118.6	3.43	0.22
2.22	2.22	.174E+04	138.3	3.58	0.21
2.35	2.35	.192E+04	159.4	3.73	0.20

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7671)	86.87	5.74	2.83	32.33	0.63	2.11
OUTFLOW: ID= 1 (7673)	86.87	5.81	2.83	32.33	0.64	2.11

ROUTE CHN(7674)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.220E+01	0.0	0.26	1.03
0.22	0.22	.522E+01	0.1	0.38	0.70
0.34	0.34	.905E+01	0.3	0.47	0.56
0.45	0.45	.137E+02	0.5	0.55	0.48
0.58	0.58	.332E+02	1.0	0.46	0.58
0.70	0.70	.551E+02	1.7	0.49	0.55
0.83	0.83	.782E+02	2.6	0.53	0.50
0.96	0.96	.103E+03	3.7	0.58	0.46
1.08	1.08	.128E+03	5.0	0.62	0.43
1.21	1.21	.156E+03	6.5	0.67	0.40
1.34	1.34	.191E+03	6.9	0.58	0.46
1.46	1.46	.248E+03	9.3	0.60	0.44
1.59	1.59	.306E+03	12.1	0.63	0.42
1.72	1.72	.366E+03	15.2	0.66	0.40
1.84	1.84	.427E+03	18.6	0.70	0.38
1.97	1.97	.490E+03	22.4	0.73	0.36
2.10	2.10	.553E+03	26.5	0.77	0.35
2.22	2.22	.618E+03	30.9	0.80	0.33
2.35	2.35	.684E+03	35.6	0.83	0.32

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7673)	86.87	5.81	2.83	32.33	1.15	0.65
OUTFLOW: ID= 1 (7674)	86.87	5.82	2.83	32.33	1.16	0.65

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

| ROUTE CHN(7670)|
| IN= 2---> OUT= 1 | Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7674)	86.87	5.82	2.83	32.33	0.59	0.61
OUTFLOW: ID= 1 (7670)	86.87	4.31	3.08	32.33	0.52	0.56

CALIB	
STANDHYD (7667)	Area (ha)= 54.38
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.56	10.82
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.	(mm/hr)=	33.12	23.51	
	over (min)	10.00	25.00	
Storage Coeff.	(min)=	9.78 (ii)	22.78 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	25.00	
Unit Hyd. peak	(cms)=	0.11	0.05	
				TOTALS
PEAK FLOW	(cms)=	3.84	0.42	4.157 (iii)
TIME TO PEAK	(hrs)=	2.75	3.00	2.75
RUNOFF VOLUME	(mm)=	34.00	19.21	31.05
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.94	0.53	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)	
1 + 2 = 3	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7667):	54.38	4.157	2.75	31.05
+ ID2= 2 (7670):	86.87	4.307	3.08	32.33

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      ================================================
      ID = 3 (  7668):   141.25   7.513     2.83    31.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ROUTE CHN(  7415)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
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              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00         228.37        0.0600
                 37.24         228.58        0.0600      Main Channel
                103.47         228.14        0.0600      Main Channel
                128.49         227.50        0.0600      Main Channel
                165.99         227.25        0.0600      Main Channel
                207.42         227.13        0.0600      Main Channel
                269.17         227.55        0.0600      Main Channel
                330.99         227.38        0.0600      Main Channel
                382.77         226.05        0.0600      Main Channel
                435.35         225.42        0.0600      Main Channel
                499.95         223.27        0.0600      Main Channel
                546.11         225.36        0.0600      Main Channel
                624.78         225.07        0.0600      Main Channel
                738.92         226.66        0.0600      Main Channel
                765.34         227.40        0.0600      Main Channel
                846.93         228.42        0.0600      Main Channel
                904.88         228.21        0.0600      Main Channel
                958.92         229.00        0.0600      Main Channel
                983.38         229.86    0.0600 /0.0600  Main Channel
                999.71         230.75        0.0600

    <---------------------- TRAVEL TIME TABLE ---------------------->
     DEPTH     ELEV       VOLUME     FLOW RATE     VELOCITY    TRAV.TIME
      (m)       (m)      (cu.m.)       (cms)         (m/s)       (min)
     0.26    223.53     .100E+04        0.4          0.23       42.43
     0.51    223.78     .402E+04        2.5          0.37       26.73
     0.77    224.04     .904E+04        7.4          0.48       20.40
     1.03    224.30     .161E+05       15.9          0.58       16.84
     1.28    224.55     .251E+05       28.9          0.67       14.51
     1.54    224.81     .362E+05       46.9          0.76       12.85
     1.79    225.06     .492E+05       70.8          0.84       11.60
     2.05    225.32     .706E+05       79.7          0.66       14.76
     2.31    225.58     .104E+06      130.9          0.74       13.19
     2.56    225.83     .143E+06      201.0          0.83       11.82
     2.82    226.09     .187E+06      291.3          0.91       10.72
     3.08    226.35     .237E+06      407.3          1.01        9.70
     3.33    226.60     .291E+06      544.1          1.10        8.92
     3.59    226.86     .349E+06      709.4          1.19        8.20
     3.84    227.11     .410E+06      898.3          1.29        7.61
     4.10    227.37     .481E+06      997.4          1.22        8.04
     4.36    227.63     .573E+06     1149.4          1.18        8.31
     4.61    227.88     .674E+06     1464.0          1.27        7.68
     4.87    228.14     .781E+06     1814.9          1.36        7.17

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
   INFLOW : ID= 2 (  7668)  141.25     7.51    2.83  31.84      0.77       0.48
   OUTFLOW: ID= 1 (  7415)  141.25     5.93    3.08  31.83      0.69       0.44



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CALIB	
STANDHYD (7414)	Area (ha)= 44.87
ID= 1 DT= 5.0 min	Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

Max.Eff.Inten.(mm/hr)=		33.12	23.48	
over (min)		10.00	25.00	
Storage Coeff. (min)=		9.35 (ii)	22.51 (ii)	
Unit Hyd. Tpeak (min)=		10.00	25.00	
Unit Hyd. peak (cms)=		0.12	0.05	
				TOTALS
PEAK FLOW	(cms)=	2.87	0.49	3.242 (iii)
TIME TO PEAK	(hrs)=	2.75	3.00	2.75
RUNOFF VOLUME	(mm)=	34.00	19.20	29.89
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.94	0.53	0.83

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7414):		44.87	3.242	2.75	29.89

```
 + ID2= 2 (  7415):   141.25   5.930     3.08    31.83
   ==================================================
   ID = 3 (  7413):   186.12   8.269     2.83    31.37

  NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
************************************************
** SIMULATION:2. 5 Year 6 Hour AES (Bloor, TRCA) **
************************************************
--------------------
| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
--------------------
                            IMPERVIOUS    PERVIOUS (i)
  Surface Area     (ha)=      48.56         2.66
  Dep. Storage     (mm)=       2.00         5.00
  Average Slope     (%)=       1.31         1.31
  Length            (m)=     584.35        40.00
  Mannings n           =      0.013        0.250

      NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
   TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
    hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
  0.083    0.00 | 1.667    5.74 | 3.250   12.43 |  4.83    0.96
  0.167    0.00 | 1.750    5.74 | 3.333    6.69 |  4.92    0.96
  0.250    0.00 | 1.833   16.25 | 3.417    6.69 |  5.00    0.96
  0.333    0.96 | 1.917   16.25 | 3.500    6.69 |  5.08    0.96
  0.417    0.96 | 2.000   16.25 | 3.583    6.69 |  5.17    0.96
  0.500    0.96 | 2.083   16.25 | 3.667    6.69 |  5.25    0.96
  0.583    0.96 | 2.167   16.25 | 3.750    6.69 |  5.33    0.96
  0.667    0.96 | 2.250   16.25 | 3.833    3.82 |  5.42    0.96
  0.750    0.96 | 2.333   43.98 | 3.917    3.82 |  5.50    0.96
  0.833    0.96 | 2.417   43.98 | 4.000    3.82 |  5.58    0.96
  0.917    0.96 | 2.500   43.98 | 4.083    3.82 |  5.67    0.96
  1.000    0.96 | 2.583   43.98 | 4.167    3.82 |  5.75    0.96
  1.083    0.96 | 2.667   43.98 | 4.250    3.82 |  5.83    0.96
  1.167    0.96 | 2.750   43.98 | 4.333    1.91 |  5.92    0.96
  1.250    0.96 | 2.833   12.43 | 4.417    1.91 |  6.00    0.96
  1.333    5.74 | 2.917   12.43 | 4.500    1.91 |  6.08    0.96
  1.417    5.74 | 3.000   12.43 | 4.583    1.91 |  6.17    0.96
  1.500    5.74 | 3.083   12.43 | 4.667    1.91 |  6.25    0.96
  1.583    5.74 | 3.167   12.43 | 4.750    1.91 |

  Max.Eff.Inten.(mm/hr)=      43.98         35.77
            over (min)        10.00         15.00
  Storage Coeff.  (min)=       9.44 (ii)    12.92 (ii)
  Unit Hyd. Tpeak (min)=      10.00         15.00
  Unit Hyd. peak  (cms)=       0.12          0.08
                                                    *TOTALS*
  PEAK FLOW       (cms)=       5.71          0.21      5.912 (iii)
  TIME TO PEAK    (hrs)=       2.75          2.83       2.75
  RUNOFF VOLUME    (mm)=      45.81         29.59      44.97
  TOTAL RAINFALL   (mm)=      47.81         47.81      47.81
  RUNOFF COEFFICIENT   =       0.96          0.62       0.94


    (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
         CN*  =  93.0    Ia = Dep. Storage  (Above)
   (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
        THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7417)	Area (ha)= 35.65
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

				TOTALS
Max.Eff.Inten.(mm/hr)=		43.98	35.10	
over (min)		10.00	20.00	
Storage Coeff. (min)=		7.70 (ii)	18.77 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.13	0.06	
PEAK FLOW	(cms)=	3.42	0.48	3.845 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	45.81	29.63	42.58
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.96	0.62	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)

```
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK      R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
        ID1= 1 (  7417):    35.65   3.845     2.75     42.58
      + ID2= 2 (  7419):    51.22   5.912     2.75     44.97
        ================================================
        ID = 3 (  7669):    86.87   9.757     2.75     43.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| ROUTEPIPE(  7672)|     PIPE Number      =   1.00
| IN= 2---> OUT= 1 |     Width       (mm)=2400.00     Height   (mm)=1800.00
| DT=  5.0 min     |     Length       (m)=  90.00
--------------------     Slope      (m/m)=  0.017
                         Manning n       =  0.013

     <------------------ TRAVEL TIME TABLE --------------------->
       DEPTH      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
        (m)      (cu.m.)      (cms)        (m/s)        min
       0.09     .205E+02       0.5          1.98         0.76
       0.19     .409E+02       1.4          3.00         0.50
       0.28     .614E+02       2.6          3.77         0.40
       0.38     .819E+02       4.0          4.38         0.34
       0.47     .102E+03       5.6          4.89         0.31
       0.57     .123E+03       7.3          5.32         0.28
       0.66     .143E+03       9.1          5.69         0.26
       0.76     .164E+03      11.0          6.02         0.25
       0.85     .184E+03      12.9          6.31         0.24
       0.95     .205E+03      14.9          6.57         0.23
       1.04     .225E+03      17.0          6.80         0.22
       1.14     .246E+03      19.1          7.01         0.21
       1.23     .266E+03      21.3          7.20         0.21
       1.33     .286E+03      23.5          7.38         0.20
       1.42     .307E+03      25.7          7.54         0.20
       1.52     .327E+03      28.0          7.68         0.20
       1.61     .348E+03      30.2          7.82         0.19
       1.71     .368E+03      32.5          7.95         0.19
       1.80     .389E+03      34.8          8.06         0.19
                                     <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
   INFLOW : ID= 2 (  7669)   86.87     9.76    2.75  43.99      0.70       5.81
   OUTFLOW: ID= 1 (  7672)   86.87     9.72    2.75  43.99      0.70       5.80



--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7671)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00          2.35         0.0800      Main Channel
                  2.60          1.32         0.0800      Main Channel
                  9.50          1.29         0.0800      Main Channel
                 11.60          0.47         0.0800      Main Channel
                 15.10          0.45    0.0800 /0.0350   Main Channel
                 16.00          0.00         0.0350      Main Channel
                 17.00          0.00         0.0350      Main Channel
                 17.90          0.45    0.0350 /0.0800   Main Channel
                 21.50          0.47         0.0800      Main Channel
                 23.60          1.29         0.0800      Main Channel
                 30.40          1.32         0.0800      Main Channel
```

33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.524E+02	0.0	0.18	34.47
0.22	0.22	.124E+03	0.1	0.27	23.53
0.34	0.34	.215E+03	0.2	0.33	18.93
0.45	0.45	.325E+03	0.3	0.39	16.23
0.58	0.58	.789E+03	0.7	0.33	19.48
0.70	0.70	.131E+04	1.2	0.34	18.37
0.83	0.83	.186E+04	1.8	0.38	16.82
0.96	0.96	.244E+04	2.6	0.41	15.47
1.08	1.08	.305E+04	3.5	0.44	14.36
1.21	1.21	.370E+04	4.6	0.47	13.45
1.34	1.34	.453E+04	4.9	0.41	15.49
1.46	1.46	.589E+04	6.6	0.42	14.93
1.59	1.59	.728E+04	8.5	0.45	14.22
1.72	1.72	.870E+04	10.7	0.47	13.50
1.84	1.84	.101E+05	13.2	0.49	12.83
1.97	1.97	.116E+05	15.8	0.52	12.23
2.10	2.10	.131E+05	18.7	0.54	11.68
2.22	2.22	.147E+05	21.9	0.57	11.19
2.35	2.35	.163E+05	25.2	0.59	10.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7672)	86.87	9.72	2.75	43.99	1.66	0.46
OUTFLOW: ID= 1 (7671)	86.87	8.05	2.83	43.99	1.56	0.44

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7673)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.620E+01	0.2	1.16	0.65
0.22	0.22	.147E+02	0.6	1.70	0.44
0.34	0.34	.254E+02	1.2	2.12	0.35
0.45	0.45	.385E+02	2.1	2.47	0.30
0.58	0.58	.934E+02	4.3	2.06	0.36
0.70	0.70	.155E+03	7.5	2.18	0.34
0.83	0.83	.220E+03	11.6	2.38	0.31

0.96	0.96	.289E+03	16.6	2.59	0.29
1.08	1.08	.361E+03	22.4	2.79	0.27
1.21	1.21	.438E+03	29.0	2.98	0.25
1.34	1.34	.537E+03	30.9	2.59	0.29
1.46	1.46	.698E+03	41.6	2.68	0.28
1.59	1.59	.862E+03	54.0	2.82	0.27
1.72	1.72	.103E+04	67.9	2.97	0.25
1.84	1.84	.120E+04	83.3	3.12	0.24
1.97	1.97	.138E+04	100.2	3.28	0.23
2.10	2.10	.156E+04	118.6	3.43	0.22
2.22	2.22	.174E+04	138.3	3.58	0.21
2.35	2.35	.192E+04	159.4	3.73	0.20

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7671)	86.87	8.05	2.83	43.99	0.72	2.21
OUTFLOW: ID= 1 (7673)	86.87	8.06	2.83	43.99	0.72	2.21

ROUTE CHN(7674)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.220E+01	0.0	0.26	1.03
0.22	0.22	.522E+01	0.1	0.38	0.70
0.34	0.34	.905E+01	0.3	0.47	0.56
0.45	0.45	.137E+02	0.5	0.55	0.48
0.58	0.58	.332E+02	1.0	0.46	0.58
0.70	0.70	.551E+02	1.7	0.49	0.55
0.83	0.83	.782E+02	2.6	0.53	0.50
0.96	0.96	.103E+03	3.7	0.58	0.46
1.08	1.08	.128E+03	5.0	0.62	0.43
1.21	1.21	.156E+03	6.5	0.67	0.40
1.34	1.34	.191E+03	6.9	0.58	0.46
1.46	1.46	.248E+03	9.3	0.60	0.44
1.59	1.59	.306E+03	12.1	0.63	0.42
1.72	1.72	.366E+03	15.2	0.66	0.40
1.84	1.84	.427E+03	18.6	0.70	0.38
1.97	1.97	.490E+03	22.4	0.73	0.36
2.10	2.10	.553E+03	26.5	0.77	0.35
2.22	2.22	.618E+03	30.9	0.80	0.33
2.35	2.35	.684E+03	35.6	0.83	0.32

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7673)	86.87	8.06	2.83	43.99	1.40	0.59
OUTFLOW: ID= 1 (7674)	86.87	8.07	2.83	43.99	1.40	0.59

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7670)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7674)	86.87	8.07	2.83	43.99	0.67	0.67

OUTFLOW: ID= 1 (7670) 86.87 6.11 3.00 43.98 0.60 0.62

CALIB	
STANDHYD (7667)	Area (ha)= 54.38
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.56	10.82
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

Max.Eff.Inten.	(mm/hr)=	43.98	35.10	
	over (min)	10.00	20.00	
Storage Coeff.	(min)=	8.73 (ii)	19.81 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	20.00	
Unit Hyd. peak	(cms)=	0.12	0.06	
				TOTALS
PEAK FLOW	(cms)=	5.16	0.71	5.794 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	45.81	29.63	42.58
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.96	0.62	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   5.794     2.75    42.58
      + ID2= 2 (  7670):    86.87   6.110     3.00    43.98
        ==========================================================
        ID = 3 (  7668):   141.25  10.766     2.83    43.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7415)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00         228.37        0.0600
                  37.24         228.58        0.0600      Main Channel
                 103.47         228.14        0.0600      Main Channel
                 128.49         227.50        0.0600      Main Channel
                 165.99         227.25        0.0600      Main Channel
                 207.42         227.13        0.0600      Main Channel
                 269.17         227.55        0.0600      Main Channel
                 330.99         227.38        0.0600      Main Channel
                 382.77         226.05        0.0600      Main Channel
                 435.35         225.42        0.0600      Main Channel
                 499.95         223.27        0.0600      Main Channel
                 546.11         225.36        0.0600      Main Channel
                 624.78         225.07        0.0600      Main Channel
                 738.92         226.66        0.0600      Main Channel
                 765.34         227.40        0.0600      Main Channel
                 846.93         228.42        0.0600      Main Channel
                 904.88         228.21        0.0600      Main Channel
                 958.92         229.00        0.0600      Main Channel
                 983.38         229.86    0.0600 /0.0600  Main Channel
                 999.71         230.75        0.0600

     <--------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.26   223.53    .100E+04        0.4         0.23       42.43
      0.51   223.78    .402E+04        2.5         0.37       26.73
      0.77   224.04    .904E+04        7.4         0.48       20.40
      1.03   224.30    .161E+05       15.9         0.58       16.84
      1.28   224.55    .251E+05       28.9         0.67       14.51
      1.54   224.81    .362E+05       46.9         0.76       12.85
      1.79   225.06    .492E+05       70.8         0.84       11.60
      2.05   225.32    .706E+05       79.7         0.66       14.76
      2.31   225.58    .104E+06      130.9         0.74       13.19
      2.56   225.83    .143E+06      201.0         0.83       11.82
      2.82   226.09    .187E+06      291.3         0.91       10.72
      3.08   226.35    .237E+06      407.3         1.01        9.70
      3.33   226.60    .291E+06      544.1         1.10        8.92
      3.59   226.86    .349E+06      709.4         1.19        8.20
      3.84   227.11    .410E+06      898.3         1.29        7.61
      4.10   227.37    .481E+06      997.4         1.22        8.04
      4.36   227.63    .573E+06     1149.4         1.18        8.31
      4.61   227.88    .674E+06     1464.0         1.27        7.68
      4.87   228.14    .781E+06     1814.9         1.36        7.17

                                  <---- hydrograph ---->   <-pipe / channel->
                            AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                            (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
```

INFLOW : ID= 2 (7668)	141.25	10.77	2.83	43.44	0.87	0.52
OUTFLOW: ID= 1 (7415)	141.25	8.66	3.00	43.44	0.81	0.49

CALIB	
STANDHYD (7414)	Area (ha)= 44.87
ID= 1 DT= 5.0 min	Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

Max.Eff.Inten.(mm/hr)=		43.98	35.06	
over (min)		10.00	20.00	
Storage Coeff. (min)=		8.34 (ii)	19.56 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.13	0.06	
				TOTALS
PEAK FLOW	(cms)=	3.86	0.82	4.591 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	45.81	29.62	41.31
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.96	0.62	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   4.591     2.75    41.31
      + ID2= 2 (  7415):   141.25   8.664     3.00    43.44
        ==========================================================
        ID = 3 (  7413):   186.12  12.149     2.83    42.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
**********************************************************
** SIMULATION:3. 10 Year 6 Hour AES (Bloor, TRCA) **
**********************************************************
--------------------
| CALIB              |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      48.56         2.66
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       1.31         1.31
     Length            (m)=     584.35        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |   TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |    hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    6.68 | 3.250   14.48 |  4.83    1.11
              0.167    0.00 | 1.750    6.68 | 3.333    7.80 |  4.92    1.11
              0.250    0.00 | 1.833   18.94 | 3.417    7.80 |  5.00    1.11
              0.333    1.11 | 1.917   18.94 | 3.500    7.80 |  5.08    1.11
              0.417    1.11 | 2.000   18.94 | 3.583    7.80 |  5.17    1.11
              0.500    1.11 | 2.083   18.94 | 3.667    7.80 |  5.25    1.11
              0.583    1.11 | 2.167   18.94 | 3.750    7.80 |  5.33    1.11
              0.667    1.11 | 2.250   18.94 | 3.833    4.46 |  5.42    1.11
              0.750    1.11 | 2.333   51.24 | 3.917    4.46 |  5.50    1.11
              0.833    1.11 | 2.417   51.24 | 4.000    4.46 |  5.58    1.11
              0.917    1.11 | 2.500   51.24 | 4.083    4.46 |  5.67    1.11
              1.000    1.11 | 2.583   51.24 | 4.167    4.46 |  5.75    1.11
              1.083    1.11 | 2.667   51.24 | 4.250    4.46 |  5.83    1.11
              1.167    1.11 | 2.750   51.24 | 4.333    2.23 |  5.92    1.11
              1.250    1.11 | 2.833   14.48 | 4.417    2.23 |  6.00    1.11
              1.333    6.68 | 2.917   14.48 | 4.500    2.23 |  6.08    1.11
              1.417    6.68 | 3.000   14.48 | 4.583    2.23 |  6.17    1.11
              1.500    6.68 | 3.083   14.48 | 4.667    2.23 |  6.25    1.11
              1.583    6.68 | 3.167   14.48 | 4.750    2.23 |

     Max.Eff.Inten.(mm/hr)=      51.24         43.50
               over (min)        10.00         15.00
     Storage Coeff.  (min)=       8.88 (ii)    12.16 (ii)
     Unit Hyd. Tpeak (min)=      10.00         15.00
     Unit Hyd. peak  (cms)=       0.12          0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.69          0.26        6.952 (iii)
     TIME TO PEAK    (hrs)=       2.75          2.83         2.75
     RUNOFF VOLUME    (mm)=      53.69         36.81        52.81
     TOTAL RAINFALL   (mm)=      55.69         55.69        55.69
     RUNOFF COEFFICIENT   =       0.96          0.66         0.95
```

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7417)	Area (ha)= 35.65
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

				TOTALS
Max.Eff.Inten.	(mm/hr)=	51.24	42.86	
over	(min)	5.00	20.00	
Storage Coeff.	(min)=	7.24 (ii)	17.46 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	20.00	
Unit Hyd. peak	(cms)=	0.17	0.06	
PEAK FLOW	(cms)=	4.02	0.60	4.579 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	53.69	36.85	50.33
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.96	0.66	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)|		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3			(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7417):		35.65	4.579	2.75	50.33
+	ID2= 2 (7419):		51.22	6.952	2.75	52.81
	ID = 3 (7669):		86.87	11.531	2.75	51.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTEPIPE(7672)				
IN= 2---> OUT= 1	PIPE Number	= 1.00		
DT= 5.0 min	Width	(mm)=2400.00	Height	(mm)=1800.00
	Length	(m)= 90.00		
	Slope	(m/m)= 0.017		
	Manning n	= 0.013		

<-------------- TRAVEL TIME TABLE ---------->

DEPTH (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME min
0.09	.205E+02	0.5	1.98	0.76
0.19	.409E+02	1.4	3.00	0.50
0.28	.614E+02	2.6	3.77	0.40
0.38	.819E+02	4.0	4.38	0.34
0.47	.102E+03	5.6	4.89	0.31
0.57	.123E+03	7.3	5.32	0.28
0.66	.143E+03	9.1	5.69	0.26
0.76	.164E+03	11.0	6.02	0.25
0.85	.184E+03	12.9	6.31	0.24
0.95	.205E+03	14.9	6.57	0.23
1.04	.225E+03	17.0	6.80	0.22
1.14	.246E+03	19.1	7.01	0.21
1.23	.266E+03	21.3	7.20	0.21
1.33	.286E+03	23.5	7.38	0.20
1.42	.307E+03	25.7	7.54	0.20
1.52	.327E+03	28.0	7.68	0.20
1.61	.348E+03	30.2	7.82	0.19
1.71	.368E+03	32.5	7.95	0.19
1.80	.389E+03	34.8	8.06	0.19

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7669)	86.87	11.53	2.75	51.79	0.79	6.10
OUTFLOW: ID= 1 (7672)	86.87	11.55	2.75	51.79	0.79	6.11

ROUTE CHN(7671)		
IN= 2---> OUT= 1	Routing time step (min)'= 5.00	

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel

16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.524E+02	0.0	0.18	34.47
0.22	0.22	.124E+03	0.1	0.27	23.53
0.34	0.34	.215E+03	0.2	0.33	18.93
0.45	0.45	.325E+03	0.3	0.39	16.23
0.58	0.58	.789E+03	0.7	0.33	19.48
0.70	0.70	.131E+04	1.2	0.34	18.37
0.83	0.83	.186E+04	1.8	0.38	16.82
0.96	0.96	.244E+04	2.6	0.41	15.47
1.08	1.08	.305E+04	3.5	0.44	14.36
1.21	1.21	.370E+04	4.6	0.47	13.45
1.34	1.34	.453E+04	4.9	0.41	15.49
1.46	1.46	.589E+04	6.6	0.42	14.93
1.59	1.59	.728E+04	8.5	0.45	14.22
1.72	1.72	.870E+04	10.7	0.47	13.50
1.84	1.84	.101E+05	13.2	0.49	12.83
1.97	1.97	.116E+05	15.8	0.52	12.23
2.10	2.10	.131E+05	18.7	0.54	11.68
2.22	2.22	.147E+05	21.9	0.57	11.19
2.35	2.35	.163E+05	25.2	0.59	10.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7672)	86.87	11.55	2.75	51.79	1.76	0.48
OUTFLOW: ID= 1 (7671)	86.87	9.66	2.75	51.79	1.65	0.46

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7673)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.620E+01	0.2	1.16	0.65

0.22	0.22	.147E+02	0.6	1.70	0.44
0.34	0.34	.254E+02	1.2	2.12	0.35
0.45	0.45	.385E+02	2.1	2.47	0.30
0.58	0.58	.934E+02	4.3	2.06	0.36
0.70	0.70	.155E+03	7.5	2.18	0.34
0.83	0.83	.220E+03	11.6	2.38	0.31
0.96	0.96	.289E+03	16.6	2.59	0.29
1.08	1.08	.361E+03	22.4	2.79	0.27
1.21	1.21	.438E+03	29.0	2.98	0.25
1.34	1.34	.537E+03	30.9	2.59	0.29
1.46	1.46	.698E+03	41.6	2.68	0.28
1.59	1.59	.862E+03	54.0	2.82	0.27
1.72	1.72	.103E+04	67.9	2.97	0.25
1.84	1.84	.120E+04	83.3	3.12	0.24
1.97	1.97	.138E+04	100.2	3.28	0.23
2.10	2.10	.156E+04	118.6	3.43	0.22
2.22	2.22	.174E+04	138.3	3.58	0.21
2.35	2.35	.192E+04	159.4	3.73	0.20

		<---- hydrograph ---->			<-pipe / channel->	
		AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
		(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7671)		86.87	9.66	2.75	51.79	0.77	2.28
OUTFLOW: ID= 1 (7673)		86.87	9.62	2.75	51.79	0.77	2.28

ROUTE CHN(7674)
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.220E+01	0.0	0.26	1.03
0.22	0.22	.522E+01	0.1	0.38	0.70
0.34	0.34	.905E+01	0.3	0.47	0.56
0.45	0.45	.137E+02	0.5	0.55	0.48
0.58	0.58	.332E+02	1.0	0.46	0.58
0.70	0.70	.551E+02	1.7	0.49	0.55
0.83	0.83	.782E+02	2.6	0.53	0.50
0.96	0.96	.103E+03	3.7	0.58	0.46
1.08	1.08	.128E+03	5.0	0.62	0.43
1.21	1.21	.156E+03	6.5	0.67	0.40
1.34	1.34	.191E+03	6.9	0.58	0.46
1.46	1.46	.248E+03	9.3	0.60	0.44
1.59	1.59	.306E+03	12.1	0.63	0.42
1.72	1.72	.366E+03	15.2	0.66	0.40

1.84	1.84	.427E+03	18.6	0.70	0.38
1.97	1.97	.490E+03	22.4	0.73	0.36
2.10	2.10	.553E+03	26.5	0.77	0.35
2.22	2.22	.618E+03	30.9	0.80	0.33
2.35	2.35	.684E+03	35.6	0.83	0.32

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7673)	86.87	9.62	2.75	51.79	1.48	0.60
OUTFLOW: ID= 1 (7674)	86.87	9.87	2.75	51.79	1.72	0.66

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7670)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10

4.30 234.99 .155E+07 4039.2 2.26 6.41

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->			<-pipe / channel->	
INFLOW : ID= 2 (7674)	86.87	9.87	2.75	51.79	0.72	0.70
OUTFLOW: ID= 1 (7670)	86.87	7.34	3.00	51.79	0.65	0.66

CALIB STANDHYD (7667)	Area (ha)= 54.38		
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10	Dir. Conn.(%)= 80.04	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.56	10.82
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

Max.Eff.Inten.(mm/hr)=		51.24	42.86	
over (min)		10.00	20.00	
Storage Coeff. (min)=		8.22 (ii)	18.44 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.13	0.06	
				TOTALS
PEAK FLOW	(cms)=	6.04	0.91	6.873 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	53.69	36.85	50.33
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.96	0.66	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7668)	
1 + 2 = 3	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7667):	54.38	6.873	2.75	50.33
+ ID2= 2 (7670):	86.87	7.342	3.00	51.79
ID = 3 (7668):	141.25	12.834	2.83	51.23

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTE CHN(7415)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	228.37	0.0600	
37.24	228.58	0.0600	Main Channel
103.47	228.14	0.0600	Main Channel
128.49	227.50	0.0600	Main Channel
165.99	227.25	0.0600	Main Channel
207.42	227.13	0.0600	Main Channel
269.17	227.55	0.0600	Main Channel
330.99	227.38	0.0600	Main Channel
382.77	226.05	0.0600	Main Channel
435.35	225.42	0.0600	Main Channel
499.95	223.27	0.0600	Main Channel
546.11	225.36	0.0600	Main Channel
624.78	225.07	0.0600	Main Channel
738.92	226.66	0.0600	Main Channel
765.34	227.40	0.0600	Main Channel
846.93	228.42	0.0600	Main Channel
904.88	228.21	0.0600	Main Channel
958.92	229.00	0.0600	Main Channel
983.38	229.86	0.0600 /0.0600	Main Channel
999.71	230.75	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31

4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
		<---- hydrograph ---->			<-pipe / channel->	
INFLOW : ID= 2 (7668)	141.25	12.83	2.83	51.23	0.93	0.54
OUTFLOW: ID= 1 (7415)	141.25	10.42	3.00	51.22	0.86	0.51

CALIB	STANDHYD (7414)	ID= 1 DT= 5.0 min

Area (ha)= 44.87
Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

Max.Eff.Inten.	(mm/hr)=	51.24	42.81	
	over (min)	10.00	20.00	
Storage Coeff.	(min)=	7.85 (ii)	18.20 (ii)	
Unit Hyd. Tpeak	(min)=	10.00	20.00	
Unit Hyd. peak	(cms)=	0.13	0.06	
				TOTALS
PEAK FLOW	(cms)=	4.51	1.04	5.474 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	53.69	36.84	49.01
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.96	0.66	0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

```
          CN*  =  93.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7414):    44.87   5.474     2.75    49.01
     + ID2= 2 (  7415):   141.25  10.417     3.00    51.22
       ==========================================================
       ID = 3 (  7413):   186.12  14.678     2.83    50.69

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
**************************************************
** SIMULATION:4. 25 Year 6 Hour AES (Bloor, TRCA) **
**************************************************
--------------------
| CALIB            |
| STANDHYD (  7419)|   Area    (ha)=  51.22
|ID= 1 DT= 5.0 min |   Total Imp(%)=  94.80   Dir. Conn.(%)=  94.80
--------------------
                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      48.56         2.66
    Dep. Storage     (mm)=       2.00         5.00
    Average Slope     (%)=       1.31         1.31
    Length            (m)=     584.35        40.00
    Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
     TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
      hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
    0.083    0.00 | 1.667    7.87 | 3.250   17.06 |  4.83    1.31
    0.167    0.00 | 1.750    7.87 | 3.333    9.18 |  4.92    1.31
    0.250    0.00 | 1.833   22.30 | 3.417    9.18 |  5.00    1.31
    0.333    1.31 | 1.917   22.30 | 3.500    9.18 |  5.08    1.31
    0.417    1.31 | 2.000   22.30 | 3.583    9.18 |  5.17    1.31
    0.500    1.31 | 2.083   22.30 | 3.667    9.18 |  5.25    1.31
    0.583    1.31 | 2.167   22.30 | 3.750    9.18 |  5.33    1.31
    0.667    1.31 | 2.250   22.30 | 3.833    5.25 |  5.42    1.31
    0.750    1.31 | 2.333   60.35 | 3.917    5.25 |  5.50    1.31
    0.833    1.31 | 2.417   60.35 | 4.000    5.25 |  5.58    1.31
    0.917    1.31 | 2.500   60.35 | 4.083    5.25 |  5.67    1.31
    1.000    1.31 | 2.583   60.35 | 4.167    5.25 |  5.75    1.31
    1.083    1.31 | 2.667   60.35 | 4.250    5.25 |  5.83    1.31
    1.167    1.31 | 2.750   60.35 | 4.333    2.62 |  5.92    1.31
    1.250    1.31 | 2.833   17.06 | 4.417    2.62 |  6.00    1.31
    1.333    7.87 | 2.917   17.06 | 4.500    2.62 |  6.08    1.31
    1.417    7.87 | 3.000   17.06 | 4.583    2.62 |  6.17    1.31
    1.500    7.87 | 3.083   17.06 | 4.667    2.62 |  6.25    1.31
    1.583    7.87 | 3.167   17.06 | 4.750    2.62 |

    Max.Eff.Inten.(mm/hr)=      60.35        53.17
              over (min)        10.00        15.00
    Storage Coeff.  (min)=       8.32 (ii)   11.39 (ii)
    Unit Hyd. Tpeak (min)=      10.00        15.00
    Unit Hyd. peak  (cms)=       0.13         0.09
```

				TOTALS
PEAK FLOW	(cms)=	7.93	0.33	8.259 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	63.59	46.06	62.68
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.97	0.70	0.96

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (7417)	Area (ha)=	35.65	
ID= 1 DT= 5.0 min	Total Imp(%)=	80.10	Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.	(mm/hr)=	60.35	53.36	
	over (min)	5.00	20.00	
Storage Coeff.	(min)=	6.78 (ii)	16.15 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	20.00	
Unit Hyd. peak	(cms)=	0.18	0.06	
				TOTALS
PEAK FLOW	(cms)=	4.75	0.78	5.476 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	63.59	46.10	60.10
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.97	0.70	0.92

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   5.476     2.75    60.10
      + ID2= 2 (  7419):    51.22   8.259     2.75    62.68
        ================================================
        ID = 3 (  7669):    86.87  13.735     2.75    61.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| ROUTEPIPE(  7672)|     PIPE Number      =   1.00
| IN= 2---> OUT= 1 |     Width       (mm)=2400.00     Height   (mm)=1800.00
| DT=  5.0 min     |     Length       (m)=  90.00
--------------------     Slope      (m/m)=  0.017
                         Manning n        =  0.013

     <----------------- TRAVEL TIME TABLE ------------------->
       DEPTH      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
        (m)      (cu.m.)      (cms)        (m/s)        min
       0.09     .205E+02       0.5          1.98         0.76
       0.19     .409E+02       1.4          3.00         0.50
       0.28     .614E+02       2.6          3.77         0.40
       0.38     .819E+02       4.0          4.38         0.34
       0.47     .102E+03       5.6          4.89         0.31
       0.57     .123E+03       7.3          5.32         0.28
       0.66     .143E+03       9.1          5.69         0.26
       0.76     .164E+03      11.0          6.02         0.25
       0.85     .184E+03      12.9          6.31         0.24
       0.95     .205E+03      14.9          6.57         0.23
       1.04     .225E+03      17.0          6.80         0.22
       1.14     .246E+03      19.1          7.01         0.21
       1.23     .266E+03      21.3          7.20         0.21
       1.33     .286E+03      23.5          7.38         0.20
       1.42     .307E+03      25.7          7.54         0.20
       1.52     .327E+03      28.0          7.68         0.20
       1.61     .348E+03      30.2          7.82         0.19
       1.71     .368E+03      32.5          7.95         0.19
       1.80     .389E+03      34.8          8.06         0.19
                                    <---- hydrograph ---->   <-pipe / channel->
                               AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                               (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
   INFLOW : ID= 2 (  7669)   86.87    13.74    2.75  61.62      0.89      6.41
   OUTFLOW: ID= 1 (  7672)   86.87    13.76    2.75  61.62      0.89      6.42



--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7671)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
```

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.524E+02	0.0	0.18	34.47
0.22	0.22	.124E+03	0.1	0.27	23.53
0.34	0.34	.215E+03	0.2	0.33	18.93
0.45	0.45	.325E+03	0.3	0.39	16.23
0.58	0.58	.789E+03	0.7	0.33	19.48
0.70	0.70	.131E+04	1.2	0.34	18.37
0.83	0.83	.186E+04	1.8	0.38	16.82
0.96	0.96	.244E+04	2.6	0.41	15.47
1.08	1.08	.305E+04	3.5	0.44	14.36
1.21	1.21	.370E+04	4.6	0.47	13.45
1.34	1.34	.453E+04	4.9	0.41	15.49
1.46	1.46	.589E+04	6.6	0.42	14.93
1.59	1.59	.728E+04	8.5	0.45	14.22
1.72	1.72	.870E+04	10.7	0.47	13.50
1.84	1.84	.101E+05	13.2	0.49	12.83
1.97	1.97	.116E+05	15.8	0.52	12.23
2.10	2.10	.131E+05	18.7	0.54	11.68
2.22	2.22	.147E+05	21.9	0.57	11.19
2.35	2.35	.163E+05	25.2	0.59	10.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7672)	86.87	13.76	2.75	61.62	1.87	0.50
OUTFLOW: ID= 1 (7671)	86.87	11.73	2.75	61.62	1.77	0.48

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7673)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel

33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.620E+01	0.2	1.16	0.65
0.22	0.22	.147E+02	0.6	1.70	0.44
0.34	0.34	.254E+02	1.2	2.12	0.35
0.45	0.45	.385E+02	2.1	2.47	0.30
0.58	0.58	.934E+02	4.3	2.06	0.36
0.70	0.70	.155E+03	7.5	2.18	0.34
0.83	0.83	.220E+03	11.6	2.38	0.31
0.96	0.96	.289E+03	16.6	2.59	0.29
1.08	1.08	.361E+03	22.4	2.79	0.27
1.21	1.21	.438E+03	29.0	2.98	0.25
1.34	1.34	.537E+03	30.9	2.59	0.29
1.46	1.46	.698E+03	41.6	2.68	0.28
1.59	1.59	.862E+03	54.0	2.82	0.27
1.72	1.72	.103E+04	67.9	2.97	0.25
1.84	1.84	.120E+04	83.3	3.12	0.24
1.97	1.97	.138E+04	100.2	3.28	0.23
2.10	2.10	.156E+04	118.6	3.43	0.22
2.22	2.22	.174E+04	138.3	3.58	0.21
2.35	2.35	.192E+04	159.4	3.73	0.20

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7671)	86.87	11.73	2.75	61.62	0.83	2.38
OUTFLOW: ID= 1 (7673)	86.87	11.72	2.75	61.62	0.83	2.38

ROUTE CHN(7674)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.220E+01	0.0	0.26	1.03
0.22	0.22	.522E+01	0.1	0.38	0.70
0.34	0.34	.905E+01	0.3	0.47	0.56
0.45	0.45	.137E+02	0.5	0.55	0.48
0.58	0.58	.332E+02	1.0	0.46	0.58
0.70	0.70	.551E+02	1.7	0.49	0.55
0.83	0.83	.782E+02	2.6	0.53	0.50
0.96	0.96	.103E+03	3.7	0.58	0.46

1.08	1.08	.128E+03	5.0	0.62	0.43
1.21	1.21	.156E+03	6.5	0.67	0.40
1.34	1.34	.191E+03	6.9	0.58	0.46
1.46	1.46	.248E+03	9.3	0.60	0.44
1.59	1.59	.306E+03	12.1	0.63	0.42
1.72	1.72	.366E+03	15.2	0.66	0.40
1.84	1.84	.427E+03	18.6	0.70	0.38
1.97	1.97	.490E+03	22.4	0.73	0.36
2.10	2.10	.553E+03	26.5	0.77	0.35
2.22	2.22	.618E+03	30.9	0.80	0.33
2.35	2.35	.684E+03	35.6	0.83	0.32

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7673)	86.87	11.72	2.75	61.62	1.57	0.63
OUTFLOW: ID= 1 (7674)	86.87	11.68	2.75	61.62	1.57	0.62

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7670)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13

2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7674)	86.87	11.68	2.75	61.62	0.76	0.73
OUTFLOW: ID= 1 (7670)	86.87	9.02	2.92	61.61	0.69	0.69

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.56	10.82
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)=		60.35	53.36	
over (min)		10.00	20.00	
Storage Coeff. (min)=		7.70 (ii)	17.06 (ii)	
Unit Hyd. Tpeak (min)=		10.00	20.00	
Unit Hyd. peak (cms)=		0.13	0.06	
				TOTALS
PEAK FLOW	(cms)=	7.15	1.16	8.239 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75
RUNOFF VOLUME	(mm)=	63.59	46.10	60.10

```
     TOTAL RAINFALL   (mm)=      65.59        65.59          65.59
     RUNOFF COEFFICIENT   =       0.97         0.70           0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   8.239     2.75    60.10
      + ID2= 2 (  7670):    86.87   9.021     2.92    61.61
        ================================================
        ID = 3 (  7668):   141.25  16.066     2.83    61.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7415)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00        228.37        0.0600
                  37.24        228.58        0.0600      Main Channel
                 103.47        228.14        0.0600      Main Channel
                 128.49        227.50        0.0600      Main Channel
                 165.99        227.25        0.0600      Main Channel
                 207.42        227.13        0.0600      Main Channel
                 269.17        227.55        0.0600      Main Channel
                 330.99        227.38        0.0600      Main Channel
                 382.77        226.05        0.0600      Main Channel
                 435.35        225.42        0.0600      Main Channel
                 499.95        223.27        0.0600      Main Channel
                 546.11        225.36        0.0600      Main Channel
                 624.78        225.07        0.0600      Main Channel
                 738.92        226.66        0.0600      Main Channel
                 765.34        227.40        0.0600      Main Channel
                 846.93        228.42        0.0600      Main Channel
                 904.88        228.21        0.0600      Main Channel
                 958.92        229.00        0.0600      Main Channel
                 983.38        229.86    0.0600 /0.0600  Main Channel
                 999.71        230.75        0.0600

      <---------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.26   223.53    .100E+04        0.4          0.23      42.43
       0.51   223.78    .402E+04        2.5          0.37      26.73
       0.77   224.04    .904E+04        7.4          0.48      20.40
       1.03   224.30    .161E+05       15.9          0.58      16.84
       1.28   224.55    .251E+05       28.9          0.67      14.51
       1.54   224.81    .362E+05       46.9          0.76      12.85
       1.79   225.06    .492E+05       70.8          0.84      11.60
       2.05   225.32    .706E+05       79.7          0.66      14.76
       2.31   225.58    .104E+06      130.9          0.74      13.19
       2.56   225.83    .143E+06      201.0          0.83      11.82
       2.82   226.09    .187E+06      291.3          0.91      10.72
```

3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7668)	141.25	16.07	2.83	61.03	1.03	0.58
OUTFLOW: ID= 1 (7415)	141.25	13.16	2.92	61.03	0.94	0.54

CALIB	
STANDHYD (7414)	Area (ha)= 44.87
ID= 1 DT= 5.0 min	Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)=		60.35	53.31	
over (min)		5.00	20.00	
Storage Coeff. (min)=		7.35 (ii)	16.83 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.17	0.06	
				TOTALS
PEAK FLOW	(cms)=	5.37	1.34	6.630 (iii)
TIME TO PEAK	(hrs)=	2.75	2.83	2.75

RUNOFF VOLUME (mm)=	63.59	46.09	58.73
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.97	0.70	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7414):	44.87	6.630	2.75	58.73
+ ID2= 2 (7415):	141.25	13.157	2.92	61.03
ID = 3 (7413):	186.12	17.814	2.75	60.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION:5. 50 Year 6 Hour AES (Bloor, TRCA) **
****

CALIB
STANDHYD (7419)
ID= 1 DT= 5.0 min

Area (ha)= 51.22
Total Imp(%)= 94.80 Dir. Conn.(%)= 94.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.56	2.66
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.31	1.31
Length	(m)=	584.35	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=	67.16	60.36	
over (min)	10.00	15.00	
Storage Coeff. (min)=	7.97 (ii)	10.91 (ii)	
Unit Hyd. Tpeak (min)=	10.00	15.00	
Unit Hyd. peak (cms)=	0.13	0.09	
			TOTALS
PEAK FLOW (cms)=	8.86	0.38	9.237 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	71.00	53.08	70.07
TOTAL RAINFALL (mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT =	0.97	0.73	0.96

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7417)	Area (ha)= 35.65
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=	67.16	60.58
over (min)	5.00	15.00
Storage Coeff. (min)=	6.50 (ii)	11.39 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.18	0.09

			TOTALS
PEAK FLOW (cms)=	5.29	1.01	6.298 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	71.00	53.13	67.43
TOTAL RAINFALL (mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT =	0.97	0.73	0.92

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7417):	35.65	6.298	2.75	67.43
	+ ID2= 2 (7419):	51.22	9.237	2.75	70.07
	ID = 3 (7669):	86.87	15.536	2.75	68.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTEPIPE(7672)	PIPE Number = 1.00		
IN= 2---> OUT= 1	Width (mm)=2400.00	Height (mm)=1800.00	
DT= 5.0 min	Length (m)= 90.00		
	Slope (m/m)= 0.017		
	Manning n = 0.013		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME min
0.09	.205E+02	0.5	1.98	0.76
0.19	.409E+02	1.4	3.00	0.50
0.28	.614E+02	2.6	3.77	0.40
0.38	.819E+02	4.0	4.38	0.34
0.47	.102E+03	5.6	4.89	0.31
0.57	.123E+03	7.3	5.32	0.28
0.66	.143E+03	9.1	5.69	0.26
0.76	.164E+03	11.0	6.02	0.25
0.85	.184E+03	12.9	6.31	0.24
0.95	.205E+03	14.9	6.57	0.23
1.04	.225E+03	17.0	6.80	0.22
1.14	.246E+03	19.1	7.01	0.21
1.23	.266E+03	21.3	7.20	0.21
1.33	.286E+03	23.5	7.38	0.20
1.42	.307E+03	25.7	7.54	0.20
1.52	.327E+03	28.0	7.68	0.20
1.61	.348E+03	30.2	7.82	0.19
1.71	.368E+03	32.5	7.95	0.19
1.80	.389E+03	34.8	8.06	0.19

	<---- hydrograph ---->				<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7669)	86.87	15.54	2.75	68.99	0.97	6.63
OUTFLOW: ID= 1 (7672)	86.87	15.57	2.75	68.99	0.98	6.64

```
--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7671)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00          2.35        0.0800      Main Channel
                  2.60          1.32        0.0800      Main Channel
                  9.50          1.29        0.0800      Main Channel
                 11.60          0.47        0.0800      Main Channel
                 15.10          0.45    0.0800 /0.0350  Main Channel
                 16.00          0.00        0.0350      Main Channel
                 17.00          0.00        0.0350      Main Channel
                 17.90          0.45    0.0350 /0.0800  Main Channel
                 21.50          0.47        0.0800      Main Channel
                 23.60          1.29        0.0800      Main Channel
                 30.40          1.32        0.0800      Main Channel
                 33.00          2.35        0.0800      Main Channel

     <-------------------- TRAVEL TIME TABLE ---------------------->
      DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
       (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
      0.11      0.11    .524E+02       0.0         0.18       34.47
      0.22      0.22    .124E+03       0.1         0.27       23.53
      0.34      0.34    .215E+03       0.2         0.33       18.93
      0.45      0.45    .325E+03       0.3         0.39       16.23
      0.58      0.58    .789E+03       0.7         0.33       19.48
      0.70      0.70    .131E+04       1.2         0.34       18.37
      0.83      0.83    .186E+04       1.8         0.38       16.82
      0.96      0.96    .244E+04       2.6         0.41       15.47
      1.08      1.08    .305E+04       3.5         0.44       14.36
      1.21      1.21    .370E+04       4.6         0.47       13.45
      1.34      1.34    .453E+04       4.9         0.41       15.49
      1.46      1.46    .589E+04       6.6         0.42       14.93
      1.59      1.59    .728E+04       8.5         0.45       14.22
      1.72      1.72    .870E+04      10.7         0.47       13.50
      1.84      1.84    .101E+05      13.2         0.49       12.83
      1.97      1.97    .116E+05      15.8         0.52       12.23
      2.10      2.10    .131E+05      18.7         0.54       11.68
      2.22      2.22    .147E+05      21.9         0.57       11.19
      2.35      2.35    .163E+05      25.2         0.59       10.75

                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)      (m/s)
   INFLOW : ID= 2 (  7672)   86.87    15.57    2.75  68.99      1.96      0.52
   OUTFLOW: ID= 1 (  7671)   86.87    13.42    2.75  68.98      1.85      0.50


     **** WARNING:  COMPUTATIONS FAILED TO CONVERGE.

--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7673)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00          2.35        0.0800      Main Channel
                  2.60          1.32        0.0800      Main Channel
                  9.50          1.29        0.0800      Main Channel
                 11.60          0.47        0.0800      Main Channel
                 15.10          0.45    0.0800 /0.0350  Main Channel
```

16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.620E+01	0.2	1.16	0.65
0.22	0.22	.147E+02	0.6	1.70	0.44
0.34	0.34	.254E+02	1.2	2.12	0.35
0.45	0.45	.385E+02	2.1	2.47	0.30
0.58	0.58	.934E+02	4.3	2.06	0.36
0.70	0.70	.155E+03	7.5	2.18	0.34
0.83	0.83	.220E+03	11.6	2.38	0.31
0.96	0.96	.289E+03	16.6	2.59	0.29
1.08	1.08	.361E+03	22.4	2.79	0.27
1.21	1.21	.438E+03	29.0	2.98	0.25
1.34	1.34	.537E+03	30.9	2.59	0.29
1.46	1.46	.698E+03	41.6	2.68	0.28
1.59	1.59	.862E+03	54.0	2.82	0.27
1.72	1.72	.103E+04	67.9	2.97	0.25
1.84	1.84	.120E+04	83.3	3.12	0.24
1.97	1.97	.138E+04	100.2	3.28	0.23
2.10	2.10	.156E+04	118.6	3.43	0.22
2.22	2.22	.174E+04	138.3	3.58	0.21
2.35	2.35	.192E+04	159.4	3.73	0.20

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7671)	86.87	13.42	2.75	68.98	0.88	2.45
OUTFLOW: ID= 1 (7673)	86.87	13.38	2.75	68.98	0.87	2.45

ROUTE CHN(7674)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.220E+01	0.0	0.26	1.03
0.22	0.22	.522E+01	0.1	0.38	0.70

0.34	0.34	.905E+01	0.3	0.47	0.56
0.45	0.45	.137E+02	0.5	0.55	0.48
0.58	0.58	.332E+02	1.0	0.46	0.58
0.70	0.70	.551E+02	1.7	0.49	0.55
0.83	0.83	.782E+02	2.6	0.53	0.50
0.96	0.96	.103E+03	3.7	0.58	0.46
1.08	1.08	.128E+03	5.0	0.62	0.43
1.21	1.21	.156E+03	6.5	0.67	0.40
1.34	1.34	.191E+03	6.9	0.58	0.46
1.46	1.46	.248E+03	9.3	0.60	0.44
1.59	1.59	.306E+03	12.1	0.63	0.42
1.72	1.72	.366E+03	15.2	0.66	0.40
1.84	1.84	.427E+03	18.6	0.70	0.38
1.97	1.97	.490E+03	22.4	0.73	0.36
2.10	2.10	.553E+03	26.5	0.77	0.35
2.22	2.22	.618E+03	30.9	0.80	0.33
2.35	2.35	.684E+03	35.6	0.83	0.32

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7673)	86.87	13.38	2.75	68.98	1.64	0.64
OUTFLOW: ID= 1 (7674)	86.87	13.25	2.75	68.98	1.64	0.64

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7670)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56

1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7674)	86.87	13.25	2.75	68.98	0.81	0.76
OUTFLOW: ID= 1 (7670)	86.87	10.37	2.92	68.98	0.73	0.71

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.56	10.82
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	60.58
	over (min)	5.00	15.00
Storage Coeff.	(min)=	7.37 (ii)	12.27 (ii)

```
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.17         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       8.03         1.51         9.540 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75          2.75
     RUNOFF VOLUME    (mm)=      71.00        53.13         67.43
     TOTAL RAINFALL   (mm)=      73.00        73.00         73.00
     RUNOFF COEFFICIENT   =       0.97         0.73          0.92


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   9.540     2.75    67.43
      + ID2= 2 (  7670):    86.87  10.368     2.92    68.98
        ================================================
        ID = 3 (  7668):   141.25  18.627     2.75    68.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7415)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00        228.37        0.0600
                  37.24        228.58        0.0600      Main Channel
                 103.47        228.14        0.0600      Main Channel
                 128.49        227.50        0.0600      Main Channel
                 165.99        227.25        0.0600      Main Channel
                 207.42        227.13        0.0600      Main Channel
                 269.17        227.55        0.0600      Main Channel
                 330.99        227.38        0.0600      Main Channel
                 382.77        226.05        0.0600      Main Channel
                 435.35        225.42        0.0600      Main Channel
                 499.95        223.27        0.0600      Main Channel
                 546.11        225.36        0.0600      Main Channel
                 624.78        225.07        0.0600      Main Channel
                 738.92        226.66        0.0600      Main Channel
                 765.34        227.40        0.0600      Main Channel
                 846.93        228.42        0.0600      Main Channel
                 904.88        228.21        0.0600      Main Channel
                 958.92        229.00        0.0600      Main Channel
                 983.38        229.86    0.0600 /0.0600  Main Channel
                 999.71        230.75        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
         (m)      (m)     (cu.m.)      (cms)        (m/s)      (min)
        0.26   223.53    .100E+04        0.4         0.23      42.43
        0.51   223.78    .402E+04        2.5         0.37      26.73
        0.77   224.04    .904E+04        7.4         0.48      20.40
        1.03   224.30    .161E+05       15.9         0.58      16.84
        1.28   224.55    .251E+05       28.9         0.67      14.51
```

1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7668)	141.25	18.63	2.75	68.39	1.08	0.60
OUTFLOW: ID= 1 (7415)	141.25	14.87	2.92	68.38	0.99	0.57

CALIB	STANDHYD (7414)	ID= 1 DT= 5.0 min

Area (ha)= 44.87
Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	60.52
	over (min)	5.00	20.00

Storage Coeff. (min)=	7.04 (ii)	16.06 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.17	0.06		
			TOTALS	
PEAK FLOW (cms)=	5.99	1.56	7.471 (iii)	
TIME TO PEAK (hrs)=	2.75	2.83	2.75	
RUNOFF VOLUME (mm)=	71.00	53.11	66.03	
TOTAL RAINFALL (mm)=	73.00	73.00	73.00	
RUNOFF COEFFICIENT =	0.97	0.73	0.90	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7414):	44.87	7.471	2.75	66.03
+	ID2= 2 (7415):	141.25	14.868	2.92	68.38
	ID = 3 (7413):	186.12	21.026	2.75	67.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION:6. 100 Year 6 Hour AES (Bloor, TRCA) **
****

CALIB STANDHYD (7419) ID= 1 DT= 5.0 min				
	Area (ha)=	51.22		
	Total Imp(%)=	94.80	Dir. Conn.(%)=	94.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.56	2.66
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.31	1.31
Length	(m)=	584.35	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61

1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=	73.88	67.43	
over (min)	10.00	15.00	
Storage Coeff. (min)=	7.67 (ii)	10.50 (ii)	
Unit Hyd. Tpeak (min)=	10.00	15.00	
Unit Hyd. peak (cms)=	0.13	0.09	
			TOTALS
PEAK FLOW (cms)=	9.77	0.43	10.202 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	78.31	60.06	77.36
TOTAL RAINFALL (mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT =	0.98	0.75	0.96

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (7417)	Area (ha)= 35.65
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=	73.88		67.66	
over (min)	5.00		15.00	
Storage Coeff. (min)=	6.25	(ii)	10.97	(ii)
Unit Hyd. Tpeak (min)=	5.00		15.00	
Unit Hyd. peak (cms)=	0.19		0.09	
				TOTALS
PEAK FLOW (cms)=	5.83		1.15	6.973 (iii)
TIME TO PEAK (hrs)=	2.75		2.75	2.75
RUNOFF VOLUME (mm)=	78.31		60.11	74.68
TOTAL RAINFALL (mm)=	80.31		80.31	80.31
RUNOFF COEFFICIENT =	0.98		0.75	0.93

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (7417):		35.65	6.973	2.75	74.68
+ ID2= 2 (7419):		51.22	10.202	2.75	77.36
ID = 3 (7669):		86.87	17.175	2.75	76.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ROUTEPIPE(7672)	PIPE Number = 1.00		
IN= 2---> OUT= 1	Width (mm)=4200.00	Height (mm)=1500.00	
DT= 5.0 min	Length (m)= 120.00		
	Slope (m/m)= 0.017		
	Manning n = 0.013		

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME min
0.08	.398E+02	0.6	1.80	1.11
0.16	.796E+02	1.9	2.79	0.72
0.24	.119E+03	3.6	3.58	0.56
0.32	.159E+03	5.6	4.24	0.47
0.39	.199E+03	8.0	4.82	0.42
0.47	.239E+03	10.6	5.33	0.38
0.55	.279E+03	13.4	5.78	0.35
0.63	.318E+03	16.4	6.20	0.32
0.71	.358E+03	19.6	6.58	0.30
0.79	.398E+03	23.0	6.93	0.29
0.87	.438E+03	26.5	7.25	0.28
0.95	.477E+03	30.1	7.55	0.26
1.03	.517E+03	33.8	7.83	0.26
1.11	.557E+03	37.6	8.09	0.25
1.18	.597E+03	41.5	8.34	0.24
1.26	.637E+03	45.5	8.57	0.23
1.34	.676E+03	49.5	8.78	0.23
1.42	.716E+03	53.7	8.99	0.22
1.50	.756E+03	57.9	9.18	0.22

	<---- hydrograph ---->				<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	(m)	(m/s)
INFLOW : ID= 2 (7669)		86.87	17.18	2.75	76.26	0.65	6.28
OUTFLOW: ID= 1 (7672)		86.87	17.20	2.75	76.26	0.65	6.29

ROUTE CHN(7671) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.524E+02	0.0	0.18	34.47
0.22	0.22	.124E+03	0.1	0.27	23.53
0.34	0.34	.215E+03	0.2	0.33	18.93
0.45	0.45	.325E+03	0.3	0.39	16.23
0.58	0.58	.789E+03	0.7	0.33	19.48
0.70	0.70	.131E+04	1.2	0.34	18.37
0.83	0.83	.186E+04	1.8	0.38	16.82
0.96	0.96	.244E+04	2.6	0.41	15.47
1.08	1.08	.305E+04	3.5	0.44	14.36
1.21	1.21	.370E+04	4.6	0.47	13.45
1.34	1.34	.453E+04	4.9	0.41	15.49
1.46	1.46	.589E+04	6.6	0.42	14.93
1.59	1.59	.728E+04	8.5	0.45	14.22
1.72	1.72	.870E+04	10.7	0.47	13.50
1.84	1.84	.101E+05	13.2	0.49	12.83
1.97	1.97	.116E+05	15.8	0.52	12.23
2.10	2.10	.131E+05	18.7	0.54	11.68
2.22	2.22	.147E+05	21.9	0.57	11.19
2.35	2.35	.163E+05	25.2	0.59	10.75

		<---- hydrograph ----> AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	<-pipe / channel-> MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7672)		86.87	17.20	2.75	76.26	2.03	0.53
OUTFLOW: ID= 1 (7671)		86.87	14.96	2.75	76.26	1.92	0.51

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7673) IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.620E+01	0.1	1.02	0.73
0.22	0.22	.147E+02	0.5	1.50	0.50
0.34	0.34	.254E+02	1.1	1.87	0.40
0.45	0.45	.385E+02	1.9	2.18	0.34
0.58	0.58	.934E+02	3.8	1.81	0.41
0.70	0.70	.155E+03	6.6	1.92	0.39
0.83	0.83	.220E+03	10.3	2.10	0.36
0.96	0.96	.289E+03	14.7	2.28	0.33
1.08	1.08	.361E+03	19.7	2.46	0.30
1.21	1.21	.438E+03	25.5	2.63	0.29
1.34	1.34	.537E+03	27.2	2.28	0.33
1.46	1.46	.698E+03	36.7	2.37	0.32
1.59	1.59	.862E+03	47.6	2.48	0.30
1.72	1.72	.103E+04	59.9	2.62	0.29
1.84	1.84	.120E+04	73.5	2.75	0.27
1.97	1.97	.138E+04	88.4	2.89	0.26
2.10	2.10	.156E+04	104.5	3.02	0.25
2.22	2.22	.174E+04	121.9	3.16	0.24
2.35	2.35	.192E+04	140.5	3.29	0.23

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7671)	86.87	14.96	2.75	76.26	0.96	2.29
OUTFLOW: ID= 1 (7673)	86.87	14.89	2.75	76.26	0.96	2.29

ROUTE CHN(7674)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.220E+01	0.0	0.18	1.45
0.22	0.22	.522E+01	0.1	0.27	0.99
0.34	0.34	.905E+01	0.2	0.33	0.80
0.45	0.45	.137E+02	0.3	0.39	0.68
0.58	0.58	.332E+02	0.7	0.33	0.82
0.70	0.70	.551E+02	1.2	0.34	0.77
0.83	0.83	.782E+02	1.8	0.38	0.71
0.96	0.96	.103E+03	2.6	0.41	0.65
1.08	1.08	.128E+03	3.5	0.44	0.60
1.21	1.21	.156E+03	4.6	0.47	0.57
1.34	1.34	.191E+03	4.9	0.41	0.65
1.46	1.46	.248E+03	6.6	0.42	0.63
1.59	1.59	.306E+03	8.5	0.45	0.60
1.72	1.72	.366E+03	10.7	0.47	0.57
1.84	1.84	.427E+03	13.2	0.49	0.54
1.97	1.97	.490E+03	15.8	0.52	0.51
2.10	2.10	.553E+03	18.7	0.54	0.49
2.22	2.22	.618E+03	21.9	0.57	0.47
2.35	2.35	.684E+03	25.2	0.59	0.45

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7673)	86.87	14.89	2.75	76.26	1.92	0.51
OUTFLOW: ID= 1 (7674)	86.87	14.85	2.75	76.26	2.00	0.52

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7670)| | IN= 2---> OUT= 1 |	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)

0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7674)	86.87	14.85	2.75	76.26	0.85	0.79
OUTFLOW: ID= 1 (7670)	86.87	11.67	2.92	76.26	0.76	0.73

CALIB STANDHYD (7667) ID= 1 DT= 5.0 min	Area (ha)= 54.38 Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.56	10.82
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61

```
             1.500    9.64 | 3.083   20.88 | 4.667    3.21 |  6.25    1.61
             1.583    9.64 | 3.167   20.88 | 4.750    3.21 |

     Max.Eff.Inten.(mm/hr)=      73.88        67.66
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       7.10 (ii)   11.81 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.17         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       8.85         1.72        10.569 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75         2.75
     RUNOFF VOLUME    (mm)=      78.31        60.11        74.68
     TOTAL RAINFALL   (mm)=      80.31        80.31        80.31
     RUNOFF COEFFICIENT   =       0.98         0.75         0.93


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38  10.569     2.75    74.68
      + ID2= 2 (  7670):    86.87  11.667     2.92    76.26
        ================================================
        ID = 3 (  7668):   141.25  20.836     2.75    75.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7415)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00        228.37        0.0600
                  37.24        228.58        0.0600      Main Channel
                 103.47        228.14        0.0600      Main Channel
                 128.49        227.50        0.0600      Main Channel
                 165.99        227.25        0.0600      Main Channel
                 207.42        227.13        0.0600      Main Channel
                 269.17        227.55        0.0600      Main Channel
                 330.99        227.38        0.0600      Main Channel
                 382.77        226.05        0.0600      Main Channel
                 435.35        225.42        0.0600      Main Channel
                 499.95        223.27        0.0600      Main Channel
                 546.11        225.36        0.0600      Main Channel
                 624.78        225.07        0.0600      Main Channel
                 738.92        226.66        0.0600      Main Channel
                 765.34        227.40        0.0600      Main Channel
                 846.93        228.42        0.0600      Main Channel
                 904.88        228.21        0.0600      Main Channel
                 958.92        229.00        0.0600      Main Channel
                 983.38        229.86    0.0600 /0.0600  Main Channel
                 999.71        230.75        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
```

(m)	(m)	(cu.m.)	(cms)	(m/s)	(min)
0.26	223.53	.100E+04	0.4	0.23	42.43
0.51	223.78	.402E+04	2.5	0.37	26.73
0.77	224.04	.904E+04	7.4	0.48	20.40
1.03	224.30	.161E+05	15.9	0.58	16.84
1.28	224.55	.251E+05	28.9	0.67	14.51
1.54	224.81	.362E+05	46.9	0.76	12.85
1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7668)	141.25	20.84	2.75	75.65	1.12	0.61
OUTFLOW: ID= 1 (7415)	141.25	16.71	2.92	75.65	1.04	0.58

CALIB STANDHYD (7414) ID= 1 DT= 5.0 min	Area (ha)= 44.87 Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61

1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

			TOTALS
Max.Eff.Inten.(mm/hr)=	73.88	67.59	
over (min)	5.00	20.00	
Storage Coeff. (min)=	6.78 (ii)	15.40 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.18	0.07	
PEAK FLOW (cms)=	6.60	1.79	8.305 (iii)
TIME TO PEAK (hrs)=	2.75	2.83	2.75
RUNOFF VOLUME (mm)=	78.31	60.10	73.25
TOTAL RAINFALL (mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT =	0.98	0.75	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (7414):	44.87	8.305	2.75	73.25
	+ ID2= 2 (7415):	141.25	16.712	2.92	75.65
	ID = 3 (7413):	186.12	23.650	2.75	75.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION:Hazel1000 **
****

CALIB STANDHYD (7419)	Area (ha)= 51.22		
ID= 1 DT= 5.0 min	Total Imp(%)= 94.80	Dir. Conn.(%)= 94.80	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	48.56	2.66
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.31	1.31
Length	(m)=	584.35	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00

0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.33	
over (min)	10.00	15.00	
Storage Coeff. (min)=	8.76 (ii)	11.99 (ii)	
Unit Hyd. Tpeak (min)=	10.00	15.00	
Unit Hyd. peak (cms)=	0.12	0.09	
			TOTALS
PEAK FLOW (cms)=	7.14	0.38	7.523 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.50	208.93
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB		
STANDHYD (7417)	Area (ha)=	35.65
ID= 1 DT= 5.0 min	Total Imp(%)=	80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	28.56	7.09
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	487.51	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.50	
over (min)	5.00	20.00	
Storage Coeff. (min)=	7.14 (ii)	16.57 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.17	0.06	
			TOTALS
PEAK FLOW (cms)=	4.20	0.99	5.195 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.56	205.92
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7669)

```
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK      R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
        ID1= 1 (  7417):    35.65   5.195    10.00   205.92
      + ID2= 2 (  7419):    51.22   7.523    10.00   208.93
        ================================================
        ID = 3 (  7669):    86.87  12.718    10.00   207.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| ROUTEPIPE(  7672)|     PIPE Number      =   1.00
| IN= 2---> OUT= 1 |     Width       (mm)=4200.00     Height   (mm)=1500.00
| DT=  5.0 min     |     Length       (m)= 120.00
--------------------     Slope      (m/m)=  0.017
                         Manning n        =  0.013

     <------------------ TRAVEL TIME TABLE --------------------->
       DEPTH      VOLUME    FLOW RATE    VELOCITY    TRAV.TIME
        (m)      (cu.m.)      (cms)        (m/s)        min
       0.08     .398E+02       0.6          1.80         1.11
       0.16     .796E+02       1.9          2.79         0.72
       0.24     .119E+03       3.6          3.58         0.56
       0.32     .159E+03       5.6          4.24         0.47
       0.39     .199E+03       8.0          4.82         0.42
       0.47     .239E+03      10.6          5.33         0.38
       0.55     .279E+03      13.4          5.78         0.35
       0.63     .318E+03      16.4          6.20         0.32
       0.71     .358E+03      19.6          6.58         0.30
       0.79     .398E+03      23.0          6.93         0.29
       0.87     .438E+03      26.5          7.25         0.28
       0.95     .477E+03      30.1          7.55         0.26
       1.03     .517E+03      33.8          7.83         0.26
       1.11     .557E+03      37.6          8.09         0.25
       1.18     .597E+03      41.5          8.34         0.24
       1.26     .637E+03      45.5          8.57         0.23
       1.34     .676E+03      49.5          8.78         0.23
       1.42     .716E+03      53.7          8.99         0.22
       1.50     .756E+03      57.9          9.18         0.22
                                    <---- hydrograph ---->   <-pipe / channel->
                              AREA    QPEAK   TPEAK   R.V.   MAX DEPTH  MAX VEL
                              (ha)    (cms)   (hrs)   (mm)      (m)       (m/s)
   INFLOW : ID= 2 (  7669)   86.87    12.72   10.00 207.70      0.53       5.66
   OUTFLOW: ID= 1 (  7672)   86.87    12.72   10.00 207.70      0.53       5.65



--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7671)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
              <------ DATA FOR SECTION (   1.1) ------>
              Distance      Elevation       Manning
                  0.00          2.35         0.0800      Main Channel
                  2.60          1.32         0.0800      Main Channel
                  9.50          1.29         0.0800      Main Channel
                 11.60          0.47         0.0800      Main Channel
                 15.10          0.45    0.0800 /0.0350   Main Channel
                 16.00          0.00         0.0350      Main Channel
                 17.00          0.00         0.0350      Main Channel
                 17.90          0.45    0.0350 /0.0800   Main Channel
                 21.50          0.47         0.0800      Main Channel
                 23.60          1.29         0.0800      Main Channel
                 30.40          1.32         0.0800      Main Channel
```

33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.524E+02	0.0	0.18	34.47
0.22	0.22	.124E+03	0.1	0.27	23.53
0.34	0.34	.215E+03	0.2	0.33	18.93
0.45	0.45	.325E+03	0.3	0.39	16.23
0.58	0.58	.789E+03	0.7	0.33	19.48
0.70	0.70	.131E+04	1.2	0.34	18.37
0.83	0.83	.186E+04	1.8	0.38	16.82
0.96	0.96	.244E+04	2.6	0.41	15.47
1.08	1.08	.305E+04	3.5	0.44	14.36
1.21	1.21	.370E+04	4.6	0.47	13.45
1.34	1.34	.453E+04	4.9	0.41	15.49
1.46	1.46	.589E+04	6.6	0.42	14.93
1.59	1.59	.728E+04	8.5	0.45	14.22
1.72	1.72	.870E+04	10.7	0.47	13.50
1.84	1.84	.101E+05	13.2	0.49	12.83
1.97	1.97	.116E+05	15.8	0.52	12.23
2.10	2.10	.131E+05	18.7	0.54	11.68
2.22	2.22	.147E+05	21.9	0.57	11.19
2.35	2.35	.163E+05	25.2	0.59	10.75

		<---- hydrograph ---->			<-pipe / channel->	
	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	MAX DEPTH (m)	MAX VEL (m/s)
INFLOW : ID= 2 (7672)	86.87	12.72	10.00	207.70	1.82	0.49
OUTFLOW: ID= 1 (7671)	86.87	12.18	10.00	207.70	1.79	0.48

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7673)	
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<-------------------- TRAVEL TIME TABLE ---------------------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.620E+01	0.1	1.02	0.73
0.22	0.22	.147E+02	0.5	1.50	0.50
0.34	0.34	.254E+02	1.1	1.87	0.40
0.45	0.45	.385E+02	1.9	2.18	0.34
0.58	0.58	.934E+02	3.8	1.81	0.41
0.70	0.70	.155E+03	6.6	1.92	0.39
0.83	0.83	.220E+03	10.3	2.10	0.36

0.96	0.96	.289E+03	14.7	2.28	0.33
1.08	1.08	.361E+03	19.7	2.46	0.30
1.21	1.21	.438E+03	25.5	2.63	0.29
1.34	1.34	.537E+03	27.2	2.28	0.33
1.46	1.46	.698E+03	36.7	2.37	0.32
1.59	1.59	.862E+03	47.6	2.48	0.30
1.72	1.72	.103E+04	59.9	2.62	0.29
1.84	1.84	.120E+04	73.5	2.75	0.27
1.97	1.97	.138E+04	88.4	2.89	0.26
2.10	2.10	.156E+04	104.5	3.02	0.25
2.22	2.22	.174E+04	121.9	3.16	0.24
2.35	2.35	.192E+04	140.5	3.29	0.23

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7671)	86.87	12.18	10.00	207.70	0.89	2.18
OUTFLOW: ID= 1 (7673)	86.87	12.17	10.00	207.70	0.88	2.18

ROUTE CHN(7674)
IN= 2---> OUT= 1

Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	2.35	0.0800	Main Channel
2.60	1.32	0.0800	Main Channel
9.50	1.29	0.0800	Main Channel
11.60	0.47	0.0800	Main Channel
15.10	0.45	0.0800 /0.0350	Main Channel
16.00	0.00	0.0350	Main Channel
17.00	0.00	0.0350	Main Channel
17.90	0.45	0.0350 /0.0800	Main Channel
21.50	0.47	0.0800	Main Channel
23.60	1.29	0.0800	Main Channel
30.40	1.32	0.0800	Main Channel
33.00	2.35	0.0800	Main Channel

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.11	0.11	.220E+01	0.0	0.18	1.45
0.22	0.22	.522E+01	0.1	0.27	0.99
0.34	0.34	.905E+01	0.2	0.33	0.80
0.45	0.45	.137E+02	0.3	0.39	0.68
0.58	0.58	.332E+02	0.7	0.33	0.82
0.70	0.70	.551E+02	1.2	0.34	0.77
0.83	0.83	.782E+02	1.8	0.38	0.71
0.96	0.96	.103E+03	2.6	0.41	0.65
1.08	1.08	.128E+03	3.5	0.44	0.60
1.21	1.21	.156E+03	4.6	0.47	0.57
1.34	1.34	.191E+03	4.9	0.41	0.65
1.46	1.46	.248E+03	6.6	0.42	0.63
1.59	1.59	.306E+03	8.5	0.45	0.60
1.72	1.72	.366E+03	10.7	0.47	0.57
1.84	1.84	.427E+03	13.2	0.49	0.54
1.97	1.97	.490E+03	15.8	0.52	0.51
2.10	2.10	.553E+03	18.7	0.54	0.49
2.22	2.22	.618E+03	21.9	0.57	0.47
2.35	2.35	.684E+03	25.2	0.59	0.45

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7673)	86.87	12.17	10.00	207.70	1.79	0.48
OUTFLOW: ID= 1 (7674)	86.87	12.13	10.00	207.70	2.02	0.53

**** WARNING: COMPUTATIONS FAILED TO CONVERGE.

ROUTE CHN(7670)|
IN= 2---> OUT= 1	Routing time step (min)'= 5.00

<------ DATA FOR SECTION (1.1) ------>

Distance	Elevation	Manning	
0.00	234.99	0.0600	
53.06	234.75	0.0600	Main Channel
92.06	234.34	0.0600	Main Channel
232.28	233.82	0.0600	Main Channel
292.28	232.94	0.0600	Main Channel
316.40	232.30	0.0600	Main Channel
332.40	232.58	0.0600	Main Channel
356.40	232.15	0.0600	Main Channel
418.83	232.34	0.0600	Main Channel
474.52	231.93	0.0600	Main Channel
505.94	230.69	0.0600	Main Channel
541.95	232.04	0.0600	Main Channel
552.73	232.23	0.0600	Main Channel
739.23	232.86	0.0600	Main Channel
759.44	232.76	0.0600	Main Channel
799.56	233.26	0.0600	Main Channel
859.79	233.36	0.0600	Main Channel
906.16	233.77	0.0600	Main Channel
940.38	234.79	0.0600 /0.0600	Main Channel
960.79	235.04	0.0600	

<---------- TRAVEL TIME TABLE ---------->

DEPTH (m)	ELEV (m)	VOLUME (cu.m.)	FLOW RATE (cms)	VELOCITY (m/s)	TRAV.TIME (min)
0.21	230.90	.104E+04	0.4	0.32	45.78
0.43	231.12	.416E+04	2.4	0.50	28.84
0.64	231.33	.937E+04	7.1	0.66	22.01
0.86	231.55	.167E+05	15.3	0.80	18.17
1.07	231.76	.260E+05	27.7	0.92	15.66
1.29	231.98	.376E+05	43.0	0.99	14.56
1.50	232.19	.549E+05	55.3	0.87	16.57
1.72	232.41	.933E+05	80.6	0.75	19.28
1.93	232.62	.153E+06	152.1	0.86	16.78
2.15	232.84	.228E+06	254.6	0.97	14.96
2.36	233.05	.318E+06	418.6	1.14	12.68
2.58	233.27	.414E+06	620.1	1.30	11.13
2.79	233.48	.524E+06	831.7	1.38	10.50
3.01	233.70	.643E+06	1122.6	1.52	9.55
3.22	233.91	.769E+06	1446.6	1.63	8.86
3.44	234.13	.906E+06	1792.6	1.72	8.43
3.65	234.34	.106E+07	2189.3	1.80	8.04
3.98	234.67	.130E+07	3042.9	2.04	7.10
4.30	234.99	.155E+07	4039.2	2.26	6.41

		<---- hydrograph ---->		<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7674)	86.87	12.13	10.00	207.70	0.78	0.74

OUTFLOW: ID= 1 (7670) 86.87 11.24 10.17 207.69 0.75 0.72

CALIB	
STANDHYD (7667)	Area (ha)= 54.38
ID= 1 DT= 5.0 min	Total Imp(%)= 80.10 Dir. Conn.(%)= 80.04

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	43.56	10.82
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.80	1.80
Length	(m)=	602.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00
2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=		53.00	52.50
over (min)		10.00	20.00
Storage Coeff. (min)=		8.11 (ii)	17.53 (ii)
Unit Hyd. Tpeak (min)=		10.00	20.00

```
     Unit Hyd. peak  (cms)=       0.13         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       6.40         1.51          7.910 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.00         10.00
     RUNOFF VOLUME    (mm)=     210.00       189.56        205.92
     TOTAL RAINFALL   (mm)=     212.00       212.00        212.00
     RUNOFF COEFFICIENT   =       0.99         0.89          0.97


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  93.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   7.910    10.00   205.92
      + ID2= 2 (  7670):    86.87  11.244    10.17   207.69
        ================================================
        ID = 3 (  7668):   141.25  18.675    10.08   207.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| ROUTE CHN(  7415)|
| IN= 2---> OUT= 1 |     Routing time step (min)'=  5.00
--------------------
               <------ DATA FOR SECTION (   1.1) ------>
               Distance      Elevation       Manning
                   0.00        228.37        0.0600
                  37.24        228.58        0.0600      Main Channel
                 103.47        228.14        0.0600      Main Channel
                 128.49        227.50        0.0600      Main Channel
                 165.99        227.25        0.0600      Main Channel
                 207.42        227.13        0.0600      Main Channel
                 269.17        227.55        0.0600      Main Channel
                 330.99        227.38        0.0600      Main Channel
                 382.77        226.05        0.0600      Main Channel
                 435.35        225.42        0.0600      Main Channel
                 499.95        223.27        0.0600      Main Channel
                 546.11        225.36        0.0600      Main Channel
                 624.78        225.07        0.0600      Main Channel
                 738.92        226.66        0.0600      Main Channel
                 765.34        227.40        0.0600      Main Channel
                 846.93        228.42        0.0600      Main Channel
                 904.88        228.21        0.0600      Main Channel
                 958.92        229.00        0.0600      Main Channel
                 983.38        229.86    0.0600 /0.0600  Main Channel
                 999.71        230.75        0.0600

      <--------------------- TRAVEL TIME TABLE ---------------------->
       DEPTH     ELEV      VOLUME    FLOW RATE    VELOCITY   TRAV.TIME
        (m)       (m)     (cu.m.)      (cms)        (m/s)      (min)
       0.26   223.53    .100E+04       0.4          0.23      42.43
       0.51   223.78    .402E+04       2.5          0.37      26.73
       0.77   224.04    .904E+04       7.4          0.48      20.40
       1.03   224.30    .161E+05      15.9          0.58      16.84
       1.28   224.55    .251E+05      28.9          0.67      14.51
       1.54   224.81    .362E+05      46.9          0.76      12.85
```

1.79	225.06	.492E+05	70.8	0.84	11.60
2.05	225.32	.706E+05	79.7	0.66	14.76
2.31	225.58	.104E+06	130.9	0.74	13.19
2.56	225.83	.143E+06	201.0	0.83	11.82
2.82	226.09	.187E+06	291.3	0.91	10.72
3.08	226.35	.237E+06	407.3	1.01	9.70
3.33	226.60	.291E+06	544.1	1.10	8.92
3.59	226.86	.349E+06	709.4	1.19	8.20
3.84	227.11	.410E+06	898.3	1.29	7.61
4.10	227.37	.481E+06	997.4	1.22	8.04
4.36	227.63	.573E+06	1149.4	1.18	8.31
4.61	227.88	.674E+06	1464.0	1.27	7.68
4.87	228.14	.781E+06	1814.9	1.36	7.17

		<---- hydrograph ---->			<-pipe / channel->	
	AREA	QPEAK	TPEAK	R.V.	MAX DEPTH	MAX VEL
	(ha)	(cms)	(hrs)	(mm)	(m)	(m/s)
INFLOW : ID= 2 (7668)	141.25	18.67	10.08	207.01	1.08	0.60
OUTFLOW: ID= 1 (7415)	141.25	17.54	10.17	207.01	1.06	0.59

CALIB	
STANDHYD (7414)	Area (ha)= 44.87
ID= 1 DT= 5.0 min	Total Imp(%)= 72.29 Dir. Conn.(%)= 72.23

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	32.44	12.43
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	1.73	1.73
Length	(m)=	546.93	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.00	3.083	13.00	6.083	23.00	9.08	53.00
0.167	6.00	3.167	13.00	6.167	23.00	9.17	53.00
0.250	6.00	3.250	13.00	6.250	23.00	9.25	53.00
0.333	6.00	3.333	13.00	6.333	23.00	9.33	53.00
0.417	6.00	3.417	13.00	6.417	23.00	9.42	53.00
0.500	6.00	3.500	13.00	6.500	23.00	9.50	53.00
0.583	6.00	3.583	13.00	6.583	23.00	9.58	53.00
0.667	6.00	3.667	13.00	6.667	23.00	9.67	53.00
0.750	6.00	3.750	13.00	6.750	23.00	9.75	53.00
0.833	6.00	3.833	13.00	6.833	23.00	9.83	53.00
0.917	6.00	3.917	13.00	6.917	23.00	9.92	53.00
1.000	6.00	4.000	13.00	7.000	23.00	10.00	53.00
1.083	4.00	4.083	17.00	7.083	13.00	10.08	38.00
1.167	4.00	4.167	17.00	7.167	13.00	10.17	38.00
1.250	4.00	4.250	17.00	7.250	13.00	10.25	38.00
1.333	4.00	4.333	17.00	7.333	13.00	10.33	38.00
1.417	4.00	4.417	17.00	7.417	13.00	10.42	38.00
1.500	4.00	4.500	17.00	7.500	13.00	10.50	38.00
1.583	4.00	4.583	17.00	7.583	13.00	10.58	38.00
1.667	4.00	4.667	17.00	7.667	13.00	10.67	38.00
1.750	4.00	4.750	17.00	7.750	13.00	10.75	38.00
1.833	4.00	4.833	17.00	7.833	13.00	10.83	38.00
1.917	4.00	4.917	17.00	7.917	13.00	10.92	38.00

2.000	4.00	5.000	17.00	8.000	13.00	11.00	38.00
2.083	6.00	5.083	13.00	8.083	13.00	11.08	13.00
2.167	6.00	5.167	13.00	8.167	13.00	11.17	13.00
2.250	6.00	5.250	13.00	8.250	13.00	11.25	13.00
2.333	6.00	5.333	13.00	8.333	13.00	11.33	13.00
2.417	6.00	5.417	13.00	8.417	13.00	11.42	13.00
2.500	6.00	5.500	13.00	8.500	13.00	11.50	13.00
2.583	6.00	5.583	13.00	8.583	13.00	11.58	13.00
2.667	6.00	5.667	13.00	8.667	13.00	11.67	13.00
2.750	6.00	5.750	13.00	8.750	13.00	11.75	13.00
2.833	6.00	5.833	13.00	8.833	13.00	11.83	13.00
2.917	6.00	5.917	13.00	8.917	13.00	11.92	13.00
3.000	6.00	6.000	13.00	9.000	13.00	12.00	13.00

Max.Eff.Inten.(mm/hr)=	53.00	52.45	
over (min)	10.00	20.00	
Storage Coeff. (min)=	7.74 (ii)	17.29 (ii)	
Unit Hyd. Tpeak (min)=	10.00	20.00	
Unit Hyd. peak (cms)=	0.13	0.06	
			TOTALS
PEAK FLOW (cms)=	4.77	1.73	6.502 (iii)
TIME TO PEAK (hrs)=	10.00	10.00	10.00
RUNOFF VOLUME (mm)=	210.00	189.54	204.32
TOTAL RAINFALL (mm)=	212.00	212.00	212.00
RUNOFF COEFFICIENT =	0.99	0.89	0.96

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 93.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (7413)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7414):	44.87	6.502	10.00	204.32
+ ID2= 2 (7415):	141.25	17.541	10.17	207.01
ID = 3 (7413):	186.12	23.539	10.08	206.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

VO Modeling Results Downstream Flows
Scenario 1: Future Conditions – Original Civica Model

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**************************************************
** SIMULATION:100 Year 12 Hour AES (Bloor, TRCA) **
**************************************************

-------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   4.849     5.25    81.40
      + ID2= 2 (  7415):    51.22   4.479     5.42    85.56
        ================================================
        ID = 3 (  7413):    96.09   9.031     5.25    83.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7413)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  7413):    96.09   9.031     5.25    83.62
      + ID2= 2 (  7417):    90.03   9.779     5.25    82.85
        ================================================
        ID = 1 (  7413):   186.12  18.810     5.25    83.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  15.055     5.25    80.26
      + ID2= 2 (  7410):   186.12  14.131     5.67    83.24
        ================================================
        ID = 3 (  7408):   329.97  25.863     5.33    81.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  19.607     5.25    80.29
      + ID2= 2 (  7405):   329.97  20.173     6.00    81.94
        ================================================
        ID = 3 (  7403):   517.74  31.167     5.42    81.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  26.946     6.25    81.34
      + ID2= 2 (  7399):    77.10   8.571     5.25    83.65
        ================================================
        ID = 3 (  7581):   594.84  29.419     6.25    81.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
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```
-------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7581):   594.84  29.419     6.25    81.64
     + ID2= 2 (  7582):   556.86  45.780     5.33    81.14
       ================================================
       ID = 3 (  7396):  1151.70  66.682     5.33    81.40

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
*************************************************
** SIMULATION:100 Year 24 Hour AES (Bloor, TRCA) **
*************************************************

-------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7414):    44.87   2.682    10.25    88.71
     + ID2= 2 (  7415):    51.22   2.957    10.33    92.93
       ================================================
       ID = 3 (  7413):    96.09   5.620    10.25    90.96

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7413)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  7413):    96.09   5.620    10.25    90.96
     + ID2= 2 (  7417):    90.03   5.408    10.25    90.18
       ================================================
       ID = 1 (  7413):   186.12  11.029    10.25    90.58

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7409):   143.85   8.475    10.25    87.55
     + ID2= 2 (  7410):   186.12   9.901    10.58    90.58
       ================================================
       ID = 3 (  7408):   329.97  17.863    10.25    89.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7404):   187.77  11.098    10.25    87.60
     + ID2= 2 (  7405):   329.97  15.390    10.83    89.26
       ================================================
       ID = 3 (  7403):   517.74  24.222    10.33    88.65

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------

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```
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7397):   517.74  21.340    11.00    88.65
     + ID2= 2 (  7399):    77.10   4.664    10.25    90.99
       ================================================
       ID = 3 (  7581):   594.84  22.869    10.92    88.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7581):   594.84  22.869    10.92    88.96
     + ID2= 2 (  7582):   556.86  31.193    10.33    88.45
       ================================================
       ID = 3 (  7396):  1151.70  52.823    10.33    88.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
************************************************
** SIMULATION:100 Year 6 Hour AES (Bloor, TRCA) **
************************************************


-------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7414):    44.87   8.305     2.75    73.25
     + ID2= 2 (  7415):    51.22   5.772     3.00    77.35
       ================================================
       ID = 3 (  7413):    96.09  12.441     2.75    75.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7413)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  7413):    96.09  12.441     2.75    75.44
     + ID2= 2 (  7417):    90.03  17.190     2.75    74.68
       ================================================
       ID = 1 (  7413):   186.12  29.632     2.75    75.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7409):   143.85  24.988     2.75    72.14
     + ID2= 2 (  7410):   186.12  17.156     3.42    75.07
       ================================================
       ID = 3 (  7408):   329.97  32.124     2.83    73.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7403)|
```

```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7404):   187.77  32.246     2.75    72.16
     + ID2= 2 (  7405):   329.97  23.584     3.75    73.79
       ================================================
       ID = 3 (  7403):   517.74  36.074     2.75    73.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7397):   517.74  29.564     4.00    73.20
     + ID2= 2 (  7399):    77.10  15.193     2.75    75.47
       ================================================
       ID = 3 (  7581):   594.84  31.185     3.92    73.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7581):   594.84  31.185     3.92    73.49
     + ID2= 2 (  7582):   556.86  55.475     3.08    73.00
       ================================================
       ID = 3 (  7396):  1151.70  79.358     3.25    73.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*********************************
** SIMULATION:Hazel1000        **
*********************************


------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7414):    44.87   6.502    10.00   204.32
     + ID2= 2 (  7415):    51.22   6.297    10.25   208.92
       ================================================
       ID = 3 (  7413):    96.09  12.288    10.08   206.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


------------------
| ADD HYD  (  7413)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  7413):    96.09  12.288    10.08   206.77
     + ID2= 2 (  7417):    90.03  13.059    10.00   205.92
       ================================================
       ID = 1 (  7413):   186.12  25.316    10.00   206.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  20.475    10.00   202.96
      + ID2= 2 (  7410):   186.12  21.486    10.75   206.36
        ==================================================
        ID = 3 (  7408):   329.97  37.666    10.08   204.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  26.627    10.00   203.14
      + ID2= 2 (  7405):   329.97  36.098    11.17   204.88
        ==================================================
        ID = 3 (  7403):   517.74  55.870    11.00   204.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  52.763    11.33   204.25
      + ID2= 2 (  7399):    77.10  11.304    10.00   206.82
        ==================================================
        ID = 3 (  7581):   594.84  59.011    11.00   204.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  59.011    11.00   204.58
      + ID2= 2 (  7582):   556.86  67.694    10.33   204.04
        ==================================================
        ID = 3 (  7396):  1151.70 122.150    11.00   204.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
```

VO Modeling Results Downstream Flows
Scenario 2: Future Conditions – Civica Model with Greck

```
**************************************************
** SIMULATION:1. 2 Year 6 Hour AES (Bloor, TRCA) **
**************************************************

--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7417):    35.65   2.765     2.75    31.05
     + ID2= 2 (  7419):    51.22   4.363     2.75    33.23
       ================================================
       ID = 3 (  7669):    86.87   7.129     2.75    32.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7667):    54.38   4.157     2.75    31.05
     + ID2= 2 (  7670):    86.87   4.301     3.08    32.33
       ================================================
       ID = 3 (  7668):   141.25   7.387     2.83    31.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7414):    44.87   3.242     2.75    29.89
     + ID2= 2 (  7415):   141.25   5.832     3.17    31.83
       ================================================
       ID = 3 (  7413):   186.12   8.019     2.83    31.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7409):   143.85   9.051     2.83    29.11
     + ID2= 2 (  7410):   186.12   5.262     4.25    31.36
       ================================================
       ID = 3 (  7408):   329.97   9.700     2.83    30.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7404):   187.77  11.485     2.83    28.95
     + ID2= 2 (  7405):   329.97   6.417     4.83    30.38
       ================================================
       ID = 3 (  7403):   517.74  12.341     2.83    29.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7397):   517.74   8.064     4.75    29.86
     + ID2= 2 (  7399):    77.10   6.105     2.75    31.67
       ================================================
       ID = 3 (  7581):   594.84   8.438     4.33    30.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7581):   594.84   8.438     4.33    30.09
     + ID2= 2 (  7582):   556.86  17.773     3.33    29.69
       ================================================
       ID = 3 (  7396):  1151.70  24.390     3.58    29.90

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
***********************************************
** SIMULATION:2. 5 Year 6 Hour AES (Bloor, TRCA) **
***********************************************


--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7417):    35.65   3.845     2.75    42.58
     + ID2= 2 (  7419):    51.22   5.912     2.75    44.97
       ================================================
       ID = 3 (  7669):    86.87   9.757     2.75    43.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7667):    54.38   5.794     2.75    42.58
     + ID2= 2 (  7670):    86.87   6.361     3.00    43.98
       ================================================
       ID = 3 (  7668):   141.25  10.699     2.83    43.44

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  7414):    44.87   4.591     2.75    41.31
     + ID2= 2 (  7415):   141.25   8.670     3.08    43.44
       ================================================
       ID = 3 (  7413):   186.12  11.927     2.83    42.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
```

```
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  13.280     2.75    40.41
      + ID2= 2 (  7410):   186.12   7.511     4.00    42.93
        ==============================================
        ID = 3 (  7408):   329.97  14.105     2.75    41.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  16.666     2.83    40.31
      + ID2= 2 (  7405):   329.97   9.400     4.58    41.83
        ==============================================
        ID = 3 (  7403):   517.74  18.293     2.83    41.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  12.049     4.42    41.27
      + ID2= 2 (  7399):    77.10   8.638     2.75    43.27
        ==============================================
        ID = 3 (  7581):   594.84  12.864     4.25    41.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  12.864     4.25    41.53
      + ID2= 2 (  7582):   556.86  27.480     3.25    41.09
        ==============================================
        ID = 3 (  7396):  1151.70  37.299     3.33    41.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
************************************************
** SIMULATION:3. 10 Year 6 Hour AES (Bloor, TRCA) **
************************************************


-------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   4.579     2.75    50.33
      + ID2= 2 (  7419):    51.22   6.952     2.75    52.81
        ==============================================
        ID = 3 (  7669):    86.87  11.531     2.75    51.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7668)|
```

```
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   6.873     2.75    50.33
      + ID2= 2 (  7670):    86.87   7.697     3.00    51.79
        ================================================
        ID = 3 (  7668):   141.25  13.135     2.83    51.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   5.474     2.75    49.01
      + ID2= 2 (  7415):   141.25  10.610     3.00    51.22
        ================================================
        ID = 3 (  7413):   186.12  14.776     2.83    50.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  15.946     2.75    48.04
      + ID2= 2 (  7410):   186.12   9.228     3.92    50.69
        ================================================
        ID = 3 (  7408):   329.97  17.078     2.75    49.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  20.383     2.75    47.98
      + ID2= 2 (  7405):   329.97  11.730     4.42    49.53
        ================================================
        ID = 3 (  7403):   517.74  22.008     2.75    48.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  14.995     4.33    48.97
      + ID2= 2 (  7399):    77.10  10.208     2.75    51.05
        ================================================
        ID = 3 (  7581):   594.84  15.970     4.25    49.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  15.970     4.25    49.24
      + ID2= 2 (  7582):   556.86  34.119     3.25    48.78
```

```
        ==========================================================
        ID = 3 (  7396):  1151.70  46.861     3.33    49.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
************************************************
** SIMULATION:4. 25 Year 6 Hour AES (Bloor, TRCA) **
************************************************

--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   5.476     2.75    60.10
      + ID2= 2 (  7419):    51.22   8.259     2.75    62.68
        ==========================================================
        ID = 3 (  7669):    86.87  13.735     2.75    61.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   8.239     2.75    60.10
      + ID2= 2 (  7670):    86.87   9.285     3.00    61.62
        ==========================================================
        ID = 3 (  7668):   141.25  16.052     2.83    61.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   6.630     2.75    58.73
      + ID2= 2 (  7415):   141.25  13.066     2.92    61.03
        ==========================================================
        ID = 3 (  7413):   186.12  17.530     2.75    60.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  19.359     2.75    57.70
      + ID2= 2 (  7410):   186.12  11.590     3.75    60.47
        ==========================================================
        ID = 3 (  7408):   329.97  21.116     2.75    59.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  24.816     2.75    57.67
      + ID2= 2 (  7405):   329.97  14.983     4.17    59.26
        ==========================================================
```

```
        ID = 3 (  7403):   517.74  27.076     2.75    58.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  19.318     4.25    58.68
      + ID2= 2 (  7399):    77.10  12.183     2.75    60.85
        ================================================
        ID = 3 (  7581):   594.84  20.487     4.17    58.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  20.487     4.17    58.96
      + ID2= 2 (  7582):   556.86  42.661     3.17    58.49
        ================================================
        ID = 3 (  7396):  1151.70  59.152     3.33    58.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
**********************************************
** SIMULATION:5. 50 Year 6 Hour AES (Bloor, TRCA) **
**********************************************


--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   6.298     2.75    67.43
      + ID2= 2 (  7419):    51.22   9.237     2.75    70.07
        ================================================
        ID = 3 (  7669):    86.87  15.536     2.75    68.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   9.540     2.75    67.43
      + ID2= 2 (  7670):    86.87  10.698     2.92    68.98
        ================================================
        ID = 3 (  7668):   141.25  18.486     2.75    68.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   7.471     2.75    66.03
      + ID2= 2 (  7415):   141.25  14.824     2.92    68.38
        ================================================
        ID = 3 (  7413):   186.12  20.736     2.75    67.82
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7408)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7409):	143.85	22.374	2.75	64.96
	+ ID2= 2 (7410):	186.12	13.591	3.67	67.81
	ID = 3 (7408):	329.97	24.769	2.75	66.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7403)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7404):	187.77	28.840	2.75	64.95
	+ ID2= 2 (7405):	329.97	17.801	4.00	66.57
	ID = 3 (7403):	517.74	31.741	2.75	65.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7581)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7397):	517.74	23.127	4.08	65.98
	+ ID2= 2 (7399):	77.10	13.734	2.75	68.20
	ID = 3 (7581):	594.84	24.642	3.75	66.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7396)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7581):	594.84	24.642	3.75	66.27
	+ ID2= 2 (7582):	556.86	49.113	3.17	65.78
	ID = 3 (7396):	1151.70	69.040	3.25	66.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION:6. 100 Year 6 Hour AES (Bloor, TRCA) **
****

ADD HYD (7669)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7417):	35.65	6.973	2.75	74.68
	+ ID2= 2 (7419):	51.22	10.202	2.75	77.36
	ID = 3 (7669):	86.87	17.175	2.75	76.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7668)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7667):	54.38	10.569	2.75	74.68
	+ ID2= 2 (7670):	86.87	12.085	2.92	76.26
	ID = 3 (7668):	141.25	20.749	2.75	75.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7413)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7414):	44.87	8.305	2.75	73.25
	+ ID2= 2 (7415):	141.25	16.725	2.92	75.65
	ID = 3 (7413):	186.12	23.415	2.75	75.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7408)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7409):	143.85	24.988	2.75	72.14
	+ ID2= 2 (7410):	186.12	15.677	3.67	75.07
	ID = 3 (7408):	329.97	27.937	2.75	73.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7403)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7404):	187.77	32.246	2.75	72.16
	+ ID2= 2 (7405):	329.97	20.707	3.83	73.79
	ID = 3 (7403):	517.74	35.808	2.75	73.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7581)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (7397):	517.74	27.068	4.00	73.20
	+ ID2= 2 (7399):	77.10	15.193	2.75	75.47
	ID = 3 (7581):	594.84	29.030	3.75	73.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  29.030     3.75    73.49
      + ID2= 2 (  7582):   556.86  55.475     3.08    73.00
        ================================================
        ID = 3 (  7396):  1151.70  78.929     3.25    73.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Hazel1000       **
*******************************

-------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   5.195    10.00   205.92
      + ID2= 2 (  7419):    51.22   7.523    10.00   208.93
        ================================================
        ID = 3 (  7669):    86.87  12.718    10.00   207.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   7.910    10.00   205.92
      + ID2= 2 (  7670):    86.87  11.550    10.17   207.69
        ================================================
        ID = 3 (  7668):   141.25  19.018    10.00   207.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   6.502    10.00   204.32
      + ID2= 2 (  7415):   141.25  17.841    10.17   207.01
        ================================================
        ID = 3 (  7413):   186.12  23.837    10.08   206.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  20.475    10.00   202.96
      + ID2= 2 (  7410):   186.12  21.230    11.08   206.36
        ================================================
        ID = 3 (  7408):   329.97  36.505    11.00   204.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7403)|
```

```
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  26.627    10.00   203.14
      + ID2= 2 (  7405):   329.97  34.874    11.25   204.88
        ================================================
        ID = 3 (  7403):   517.74  54.219    11.00   204.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  51.212    11.33   204.25
      + ID2= 2 (  7399):    77.10  11.304    10.00   206.82
        ================================================
        ID = 3 (  7581):   594.84  57.557    11.00   204.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  57.557    11.00   204.58
      + ID2= 2 (  7582):   556.86  67.694    10.33   204.04
        ================================================
        ID = 3 (  7396):  1151.70 120.696    11.00   204.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

VO Modeling Results Downstream Flows
Scenario 3: Future Conditions – Proposed Natural Channel by Wood

```
**************************************************
** SIMULATION:100 Year 6 Hour AES (Bloor, TRCA) **
**************************************************

--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   6.973     2.75    74.68
      + ID2= 2 (  7419):    51.22  10.202     2.75    77.36
        ==========================================================
        ID = 3 (  7669):    86.87  17.175     2.75    76.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38  10.569     2.75    74.68
      + ID2= 2 (  7670):    86.87  13.078     2.92    76.26
        ==========================================================
        ID = 3 (  7668):   141.25  22.278     2.75    75.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   8.305     2.75    73.25
      + ID2= 2 (  7415):   141.25  17.893     2.92    75.65
        ==========================================================
        ID = 3 (  7413):   186.12  24.632     2.75    75.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  24.988     2.75    72.14
      + ID2= 2 (  7410):   186.12  16.169     3.58    75.07
        ==========================================================
        ID = 3 (  7408):   329.97  28.073     2.75    73.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  32.246     2.75    72.16
      + ID2= 2 (  7405):   329.97  21.307     3.83    73.79
        ==========================================================
        ID = 3 (  7403):   517.74  35.812     2.75    73.20

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  27.445     4.08    73.20
      + ID2= 2 (  7399):    77.10  15.193     2.75    75.47
        ================================================
        ID = 3 (  7581):   594.84  29.260     3.75    73.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  29.260     3.75    73.49
      + ID2= 2 (  7582):   556.86  55.475     3.08    73.00
        ================================================
        ID = 3 (  7396):  1151.70  78.944     3.25    73.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
*******************************
** SIMULATION:Hazel1000       **
*******************************


--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   5.195    10.00   205.92
      + ID2= 2 (  7419):    51.22   7.523    10.00   208.93
        ================================================
        ID = 3 (  7669):    86.87  12.718    10.00   207.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   7.910    10.00   205.92
      + ID2= 2 (  7670):    86.87  11.877    10.08   207.69
        ================================================
        ID = 3 (  7668):   141.25  19.587    10.00   207.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   6.502    10.00   204.32
      + ID2= 2 (  7415):   141.25  18.373    10.17   207.01
        ================================================
        ID = 3 (  7413):   186.12  24.464    10.08   206.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


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```

| ADD HYD (7408)|
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7409):	143.85	20.475	10.00	202.96
+ ID2= 2 (7410):	186.12	21.436	11.00	206.36
ID = 3 (7408):	329.97	36.759	10.92	204.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (7403)|
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7404):	187.77	26.627	10.00	203.14
+ ID2= 2 (7405):	329.97	35.211	11.25	204.88
ID = 3 (7403):	517.74	54.607	11.00	204.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (7581)|
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7397):	517.74	51.483	11.33	204.25
+ ID2= 2 (7399):	77.10	11.304	10.00	206.82
ID = 3 (7581):	594.84	57.634	11.00	204.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (7396)|
| 1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (7581):	594.84	57.634	11.00	204.58
+ ID2= 2 (7582):	556.86	67.694	10.33	204.04
ID = 3 (7396):	1151.70	120.773	11.00	204.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

VO Modeling Results Downstream Flows
Scenario 4: Future Conditions – Proposed Natural Channel by Greck

```
**************************************************
** SIMULATION:1. 2 Year 6 Hour AES (Bloor, TRCA) **
**************************************************

-------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   2.765     2.75    31.05
      + ID2= 2 (  7419):    51.22   4.363     2.75    33.23
        ================================================
        ID = 3 (  7669):    86.87   7.129     2.75    32.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   4.157     2.75    31.05
      + ID2= 2 (  7670):    86.87   4.307     3.08    32.33
        ================================================
        ID = 3 (  7668):   141.25   7.513     2.83    31.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   3.242     2.75    29.89
      + ID2= 2 (  7415):   141.25   5.930     3.08    31.83
        ================================================
        ID = 3 (  7413):   186.12   8.269     2.83    31.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85   9.051     2.83    29.11
      + ID2= 2 (  7410):   186.12   5.306     4.17    31.36
        ================================================
        ID = 3 (  7408):   329.97   9.719     2.83    30.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  11.485     2.83    28.95
      + ID2= 2 (  7405):   329.97   6.476     4.83    30.38
        ================================================
        ID = 3 (  7403):   517.74  12.341     2.83    29.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

```
--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74   8.096     4.83    29.86
      + ID2= 2 (  7399):    77.10   6.105     2.75    31.67
        ==========================================================
        ID = 3 (  7581):   594.84   8.455     4.33    30.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84   8.455     4.33    30.09
      + ID2= 2 (  7582):   556.86  17.773     3.33    29.69
        ==========================================================
        ID = 3 (  7396):  1151.70  24.391     3.58    29.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
*************************************************
** SIMULATION:2. 5 Year 6 Hour AES (Bloor, TRCA) **
*************************************************


--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   3.845     2.75    42.58
      + ID2= 2 (  7419):    51.22   5.912     2.75    44.97
        ==========================================================
        ID = 3 (  7669):    86.87   9.757     2.75    43.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   5.794     2.75    42.58
      + ID2= 2 (  7670):    86.87   6.110     3.00    43.98
        ==========================================================
        ID = 3 (  7668):   141.25  10.766     2.83    43.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   4.591     2.75    41.31
      + ID2= 2 (  7415):   141.25   8.664     3.00    43.44
        ==========================================================
        ID = 3 (  7413):   186.12  12.149     2.83    42.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------


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```

```
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  13.280     2.75    40.41
      + ID2= 2 (  7410):   186.12   7.492     4.00    42.93
        ================================================
        ID = 3 (  7408):   329.97  14.133     2.75    41.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  16.666     2.83    40.31
      + ID2= 2 (  7405):   329.97   9.430     4.58    41.83
        ================================================
        ID = 3 (  7403):   517.74  18.294     2.83    41.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  12.084     4.42    41.27
      + ID2= 2 (  7399):    77.10   8.638     2.75    43.27
        ================================================
        ID = 3 (  7581):   594.84  12.898     4.25    41.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  12.898     4.25    41.53
      + ID2= 2 (  7582):   556.86  27.480     3.25    41.09
        ================================================
        ID = 3 (  7396):  1151.70  37.300     3.33    41.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
************************************************
** SIMULATION:3. 10 Year 6 Hour AES (Bloor, TRCA) **
************************************************


-------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   4.579     2.75    50.33
      + ID2= 2 (  7419):    51.22   6.952     2.75    52.81
        ================================================
        ID = 3 (  7669):    86.87  11.531     2.75    51.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


-------------------
| ADD HYD  (  7668)|
```

```
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   6.873     2.75    50.33
      + ID2= 2 (  7670):    86.87   7.342     3.00    51.79
        ================================================
        ID = 3 (  7668):   141.25  12.834     2.83    51.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   5.474     2.75    49.01
      + ID2= 2 (  7415):   141.25  10.417     3.00    51.22
        ================================================
        ID = 3 (  7413):   186.12  14.678     2.83    50.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  15.946     2.75    48.04
      + ID2= 2 (  7410):   186.12   9.094     3.83    50.69
        ================================================
        ID = 3 (  7408):   329.97  17.125     2.75    49.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  20.383     2.75    47.98
      + ID2= 2 (  7405):   329.97  11.684     4.42    49.53
        ================================================
        ID = 3 (  7403):   517.74  22.009     2.75    48.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  15.011     4.33    48.97
      + ID2= 2 (  7399):    77.10  10.208     2.75    51.05
        ================================================
        ID = 3 (  7581):   594.84  15.988     4.25    49.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  15.988     4.25    49.24
      + ID2= 2 (  7582):   556.86  34.119     3.25    48.78
```

```
        ==========================================================
        ID = 3 (  7396):  1151.70  46.863     3.33    49.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
**********************************************************
** SIMULATION:4. 25 Year 6 Hour AES (Bloor, TRCA) **
**********************************************************

--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   5.476     2.75    60.10
      + ID2= 2 (  7419):    51.22   8.259     2.75    62.68
        ==========================================================
        ID = 3 (  7669):    86.87  13.735     2.75    61.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   8.239     2.75    60.10
      + ID2= 2 (  7670):    86.87   9.021     2.92    61.61
        ==========================================================
        ID = 3 (  7668):   141.25  16.066     2.83    61.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   6.630     2.75    58.73
      + ID2= 2 (  7415):   141.25  13.157     2.92    61.03
        ==========================================================
        ID = 3 (  7413):   186.12  17.814     2.75    60.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  19.359     2.75    57.70
      + ID2= 2 (  7410):   186.12  11.485     3.75    60.47
        ==========================================================
        ID = 3 (  7408):   329.97  21.190     2.75    59.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------

--------------------
| ADD HYD  (  7403)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  24.816     2.75    57.67
      + ID2= 2 (  7405):   329.97  15.005     4.08    59.26
        ==========================================================
```

```
        ID = 3 (  7403):   517.74  27.079     2.75    58.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  19.380     4.25    58.68
      + ID2= 2 (  7399):    77.10  12.183     2.75    60.85
        ================================================
        ID = 3 (  7581):   594.84  20.552     4.17    58.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  20.552     4.17    58.96
      + ID2= 2 (  7582):   556.86  42.661     3.17    58.49
        ================================================
        ID = 3 (  7396):  1151.70  59.161     3.33    58.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
**********************************************
** SIMULATION:5. 50 Year 6 Hour AES (Bloor, TRCA) **
**********************************************


--------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   6.298     2.75    67.43
      + ID2= 2 (  7419):    51.22   9.237     2.75    70.07
        ================================================
        ID = 3 (  7669):    86.87  15.536     2.75    68.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   9.540     2.75    67.43
      + ID2= 2 (  7670):    86.87  10.368     2.92    68.98
        ================================================
        ID = 3 (  7668):   141.25  18.627     2.75    68.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   7.471     2.75    66.03
      + ID2= 2 (  7415):   141.25  14.868     2.92    68.38
        ================================================
        ID = 3 (  7413):   186.12  21.026     2.75    67.82
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7408)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7409):	143.85	22.374	2.75	64.96
	+ ID2= 2 (7410):	186.12	13.449	3.58	67.81
	ID = 3 (7408):	329.97	24.866	2.75	66.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7403)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7404):	187.77	28.840	2.75	64.95
	+ ID2= 2 (7405):	329.97	17.786	3.92	66.57
	ID = 3 (7403):	517.74	31.745	2.75	65.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7581)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7397):	517.74	23.187	4.08	65.98
	+ ID2= 2 (7399):	77.10	13.734	2.75	68.20
	ID = 3 (7581):	594.84	24.731	3.75	66.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7396)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7581):	594.84	24.731	3.75	66.27
	+ ID2= 2 (7582):	556.86	49.113	3.17	65.78
	ID = 3 (7396):	1151.70	69.054	3.25	66.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****

** SIMULATION:6. 100 Year 6 Hour AES (Bloor, TRCA) **

****

ADD HYD (7669)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7417):	35.65	6.973	2.75	74.68
	+ ID2= 2 (7419):	51.22	10.202	2.75	77.36
	ID = 3 (7669):	86.87	17.175	2.75	76.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7668)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7667):	54.38	10.569	2.75	74.68
	+ ID2= 2 (7670):	86.87	11.667	2.92	76.26
	ID = 3 (7668):	141.25	20.836	2.75	75.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7413)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7414):	44.87	8.305	2.75	73.25
	+ ID2= 2 (7415):	141.25	16.712	2.92	75.65
	ID = 3 (7413):	186.12	23.650	2.75	75.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7408)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7409):	143.85	24.988	2.75	72.14
	+ ID2= 2 (7410):	186.12	15.530	3.58	75.07
	ID = 3 (7408):	329.97	28.049	2.75	73.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7403)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7404):	187.77	32.246	2.75	72.16
	+ ID2= 2 (7405):	329.97	20.704	3.83	73.79
	ID = 3 (7403):	517.74	35.814	2.75	73.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (7581)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (7397):	517.74	27.140	4.00	73.20
	+ ID2= 2 (7399):	77.10	15.193	2.75	75.47
	ID = 3 (7581):	594.84	29.115	3.75	73.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  29.115     3.75    73.49
      + ID2= 2 (  7582):   556.86  55.475     3.08    73.00
        ==============================================
        ID = 3 (  7396):  1151.70  78.941     3.25    73.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*******************************
** SIMULATION:Hazel1000       **
*******************************

-------------------
| ADD HYD  (  7669)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7417):    35.65   5.195    10.00   205.92
      + ID2= 2 (  7419):    51.22   7.523    10.00   208.93
        ==============================================
        ID = 3 (  7669):    86.87  12.718    10.00   207.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7668)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7667):    54.38   7.910    10.00   205.92
      + ID2= 2 (  7670):    86.87  11.244    10.17   207.69
        ==============================================
        ID = 3 (  7668):   141.25  18.675    10.08   207.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7413)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7414):    44.87   6.502    10.00   204.32
      + ID2= 2 (  7415):   141.25  17.541    10.17   207.01
        ==============================================
        ID = 3 (  7413):   186.12  23.539    10.08   206.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7408)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7409):   143.85  20.475    10.00   202.96
      + ID2= 2 (  7410):   186.12  21.007    11.08   206.36
        ==============================================
        ID = 3 (  7408):   329.97  36.271    11.00   204.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  7403)|
```

```
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7404):   187.77  26.627    10.00   203.14
      + ID2= 2 (  7405):   329.97  34.664    11.25   204.88
        ================================================
        ID = 3 (  7403):   517.74  54.025    11.00   204.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7581)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7397):   517.74  51.114    11.33   204.25
      + ID2= 2 (  7399):    77.10  11.304    10.00   206.82
        ================================================
        ID = 3 (  7581):   594.84  57.403    11.00   204.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------


--------------------
| ADD HYD  (  7396)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  7581):   594.84  57.403    11.00   204.58
      + ID2= 2 (  7582):   556.86  67.694    10.33   204.04
        ================================================
        ID = 3 (  7396):  1151.70 120.542    11.00   204.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
```

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

****
Element Count
****
Number of rain gages 2
Number of subcatchments ... 0
Number of nodes 2
Number of links 1
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
AES_6h_100y	AES_6h_100y	INTENSITY	15 min.
Hazel_48h	Hazel_48h	INTENSITY	60 min.

****
Node Summary
****

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
EquityPond	JUNCTION	232.00	2.00	0.0	Yes
OF2	OUTFALL	230.02	1.50	0.0	

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C7	EquityPond	OF2	CONDUIT	120.0	1.6527	0.0130

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C7	RECT_CLOSED	1.50	6.30	0.55	4.20	1	41.96

****
Transect Summary
****

Transect EmergencyPath
Area:

0.0005	0.0019	0.0043	0.0077	0.0120
0.0173	0.0235	0.0307	0.0389	0.0480
0.0581	0.0691	0.0811	0.0941	0.1080
0.1229	0.1387	0.1555	0.1733	0.1920
0.2117	0.2323	0.2539	0.2765	0.3000
0.3242	0.3486	0.3734	0.3986	0.4240
0.4498	0.4758	0.5022	0.5290	0.5560
0.5834	0.6110	0.6390	0.6674	0.6960
0.7250	0.7542	0.7838	0.8138	0.8440
0.8746	0.9054	0.9366	0.9682	1.0000

Hrad:

0.0160	0.0320	0.0480	0.0640	0.0800
0.0960	0.1120	0.1280	0.1440	0.1600
0.1760	0.1920	0.2080	0.2240	0.2400
0.2560	0.2720	0.2880	0.3040	0.3200
0.3360	0.3520	0.3680	0.3840	0.4000
0.4266	0.4528	0.4788	0.5045	0.5300
0.5553	0.5803	0.6051	0.6297	0.6541
0.6783	0.7024	0.7262	0.7499	0.7734
0.7967	0.8198	0.8429	0.8657	0.8884
0.9110	0.9334	0.9558	0.9779	1.0000

Width:

0.0300	0.0600	0.0900	0.1200	0.1500
0.1800	0.2100	0.2400	0.2700	0.3000
0.3300	0.3600	0.3900	0.4200	0.4500
0.4800	0.5100	0.5400	0.5700	0.6000
0.6300	0.6600	0.6900	0.7200	0.7500
0.7600	0.7700	0.7800	0.7900	0.8000
0.8100	0.8200	0.8300	0.8400	0.8500
0.8600	0.8700	0.8800	0.8900	0.9000
0.9100	0.9200	0.9300	0.9400	0.9500
0.9600	0.9700	0.9800	0.9900	1.0000

Transect T-C1
Area:

0.0002	0.0009	0.0019	0.0032	0.0047
0.0066	0.0088	0.0114	0.0144	0.0182
0.0228	0.0281	0.0341	0.0419	0.0508
0.0608	0.0721	0.0843	0.0971	0.1109
0.1256	0.1412	0.1577	0.1753	0.1941
0.2136	0.2340	0.2553	0.2776	0.3009
0.3251	0.3502	0.3766	0.4044	0.4338
0.4643	0.4958	0.5278	0.5604	0.5938
0.6280	0.6632	0.6989	0.7356	0.7745
0.8185	0.8635	0.9088	0.9543	1.0000

Hrad:

0.0316	0.0631	0.1017	0.1416	0.1760
0.2094	0.2308	0.2627	0.3115	0.3518
0.3789	0.4021	0.4170	0.4233	0.4313
0.4338	0.4445	0.4595	0.4736	0.4900
0.5032	0.5190	0.5363	0.5465	0.5626
0.5819	0.5990	0.6155	0.6333	0.6490
0.6663	0.6815	0.6929	0.7011	0.7110
0.7261	0.7515	0.7758	0.8036	0.8235
0.8412	0.8661	0.8916	0.9100	0.9190
0.8800	0.9087	0.9388	0.9692	1.0000

Width:

0.0093	0.0186	0.0256	0.0309	0.0370
0.0431	0.0522	0.0618	0.0739	0.0896
0.1089	0.1231	0.1548	0.1816	0.2061
0.2360	0.2567	0.2722	0.2924	0.3086
0.3311	0.3511	0.3695	0.3973	0.4183

```
            0.4351     0.4550     0.4760     0.4956     0.5180
            0.5385     0.5618     0.5903     0.6238     0.6560
            0.6812     0.6931     0.7067     0.7159     0.7359
            0.7596     0.7735     0.7865     0.8095     0.9141
            0.9777     0.9849     0.9901     0.9951     1.0000

Transect T-C8
Area:
            0.0003     0.0009     0.0017     0.0026     0.0039
            0.0057     0.0080     0.0107     0.0137     0.0177
            0.0227     0.0286     0.0351     0.0423     0.0505
            0.0594     0.0688     0.0787     0.0890     0.1000
            0.1117     0.1241     0.1370     0.1505     0.1650
            0.1809     0.1979     0.2164     0.2385     0.2645
            0.2924     0.3225     0.3541     0.3874     0.4214
            0.4558     0.4905     0.5256     0.5609     0.5967
            0.6330     0.6697     0.7066     0.7437     0.7810
            0.8192     0.8601     0.9040     0.9503     1.0000
Hrad:
            0.0347     0.0878     0.1386     0.1852     0.1530
            0.2027     0.2580     0.3047     0.3496     0.3630
            0.3772     0.3896     0.4074     0.4272     0.4372
            0.4580     0.4815     0.5047     0.5247     0.5468
            0.5578     0.5788     0.6036     0.6219     0.6334
            0.6455     0.6615     0.6661     0.6195     0.6313
            0.6391     0.6109     0.6276     0.6382     0.6635
            0.6920     0.7203     0.7525     0.7828     0.8098
            0.8438     0.8738     0.9090     0.9449     0.9806
            1.0147     1.0239     1.0091     1.0279     1.0000
Width:
            0.0103     0.0141     0.0166     0.0191     0.0341
            0.0385     0.0495     0.0548     0.0656     0.0905
            0.1049     0.1227     0.1345     0.1419     0.1691
            0.1784     0.1865     0.1958     0.2075     0.2173
            0.2348     0.2463     0.2553     0.2693     0.2954
            0.3236     0.3417     0.3796     0.4891     0.5166
            0.5604     0.5997     0.6287     0.6561     0.6644
            0.6710     0.6789     0.6836     0.6908     0.7020
            0.7065     0.7156     0.7192     0.7223     0.7257
            0.7699     0.8185     0.8816     0.9199     1.0000


************************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
************************************************************

***************
Analysis Options
***************
Flow Units ............... CMS
Process Models:
  Rainfall/Runoff ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ YES
  Water Quality .......... NO
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN

Starting Date ............ 11/16/2021 00:00:00
Ending Date .............. 11/19/2021 00:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 1
Head Tolerance ........... 0.001500 m


*************************        Volume         Volume
Flow Routing Continuity        hectare-m      10^6 ltr
*************************     ---------      ---------
Dry Weather Inflow .......       269.797      2697.996
Wet Weather Inflow .......         0.000         0.000
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.001
External Outflow .........       269.782      2697.848
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.038         0.378
Final Stored Volume ......         0.053         0.526
Continuity Error (%) .....         0.000


***************************
Time-Step Critical Elements
***************************
None


*********************************
Highest Flow Instability Indexes
*********************************
All links are stable.


************************
Routing Time Step Summary
************************
Minimum Time Step           :     4.50 sec
Average Time Step           :     5.00 sec
Maximum Time Step           :     5.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     2.00
Percent Not Converging      :     0.00
Time Step Frequencies       :
    5.000 -  3.155 sec      :   100.00 %
    3.155 -  1.991 sec      :     0.00 %
    1.991 -  1.256 sec      :     0.00 %
    1.256 -  0.792 sec      :     0.00 %
    0.792 -  0.500 sec      :     0.00 %


*****************
Node Depth Summary
*****************

--------------------------------------------------------------------------------
```

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
EquityPond	JUNCTION	0.59	1.15	233.15	0 00:00	0.99
OF2	OUTFALL	2.17	2.17	232.19	0 00:00	2.17

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
EquityPond	JUNCTION	10.410	10.559	0 00:00	2.7e+03	2.7e+03	0.006
OF2	OUTFALL	0.000	13.782	0 00:01	0	2.7e+03	0.000

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
OF2	100.00	10.409	13.782	2697.836
System	100.00	10.409	13.782	2697.836

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C7	CONDUIT	13.782	0 00:01	2.81	0.33	0.88

****
Flow Classification Summary
****

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C7	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

****
Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Upstream	Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C7	0.01	0.01	72.00	0.01	0.01

Analysis begun on: Mon Jul 28 17:16:37 2025
Analysis ended on: Mon Jul 28 17:16:37 2025
Total elapsed time: < 1 sec

HEC-RAS Plan: PR 33m 0.1% part chnl v9 River: River1 Reach: Creek

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Left	Vel Chnl	Vel Right	Flow Area	Top Width	Froude # Chl	Volume
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m/s)	(m/s)	(m2)	(m)		(1000 m3)
Creek	632	Flsh	0.30	230.02	230.44		230.45	0.001014		0.38		0.79	2.70	0.23	0.36
Creek	632	1.5	5.35	230.02	231.27		231.30	0.001157	0.31	0.99	0.31	10.34	13.93	0.30	4.20
Creek	632	2	7.13	230.02	231.48		231.52	0.001194	0.25	1.13	0.25	15.41	28.50	0.31	5.57
Creek	632	5	9.76	230.02	231.64		231.68	0.001140	0.30	1.19	0.30	20.22	29.34	0.31	7.83
Creek	632	10	11.53	230.02	231.73		231.77	0.001166	0.33	1.25	0.33	22.80	29.78	0.32	8.90
Creek	632	25	13.74	230.02	231.83		231.87	0.001194	0.36	1.32	0.36	25.78	30.28	0.33	10.29
Creek	632	50	15.54	230.02	231.91		231.95	0.001214	0.38	1.37	0.38	28.08	30.67	0.33	11.36
Creek	632	100	17.18	230.02	231.97		232.02	0.001232	0.40	1.42	0.40	30.07	30.99	0.34	12.42
Creek	632	Regional	12.72	230.02	231.79		231.83	0.001181	0.34	1.29	0.35	24.43	30.06	0.32	9.65
Creek	609	Flsh	0.30	229.99	230.42		230.43	0.001016		0.38		0.79	2.70	0.23	0.34
Creek	609	1.5	5.35	229.99	231.24		231.28	0.001176	0.31	1.00	0.32	10.28	13.91	0.30	3.97
Creek	609	2	7.13	229.99	231.45		231.49	0.001225	0.25	1.14	0.26	15.24	28.47	0.32	5.22
Creek	609	5	9.76	229.99	231.62		231.66	0.001157	0.30	1.20	0.30	20.10	29.32	0.32	7.36
Creek	609	10	11.53	229.99	231.70		231.74	0.001185	0.33	1.26	0.33	22.66	29.76	0.32	8.38
Creek	609	25	13.74	229.99	231.80		231.85	0.001215	0.36	1.33	0.36	25.62	30.26	0.33	9.69
Creek	609	50	15.54	229.99	231.88		231.92	0.001235	0.38	1.38	0.38	27.90	30.64	0.33	10.72
Creek	609	100	17.18	229.99	231.94		231.99	0.001254	0.40	1.43	0.40	29.87	30.96	0.34	11.73
Creek	609	Regional	12.72	229.99	231.76		231.80	0.001201	0.34	1.30	0.35	24.28	30.03	0.33	9.09
Creek	562	Flsh	0.30	229.95	230.37		230.38	0.001026		0.38		0.78	2.70	0.23	0.30
Creek	562	1.5	5.35	229.95	231.19		231.22	0.001221	0.32	1.01	0.32	10.13	13.85	0.31	3.49
Creek	562	2	7.13	229.95	231.38		231.43	0.001318	0.26	1.17	0.26	14.77	28.39	0.33	4.52
Creek	562	5	9.76	229.95	231.56		231.60	0.001203	0.30	1.22	0.30	19.80	29.27	0.32	6.42
Creek	562	10	11.53	229.95	231.64		231.69	0.001235	0.33	1.28	0.33	22.30	29.70	0.33	7.32
Creek	562	25	13.74	229.95	231.74		231.79	0.001267	0.36	1.35	0.36	25.21	30.19	0.34	8.50
Creek	562	50	15.54	229.95	231.82		231.86	0.001290	0.39	1.41	0.39	27.45	30.56	0.34	9.41
Creek	562	100	17.18	229.95	231.88		231.93	0.001311	0.41	1.45	0.41	29.39	30.88	0.35	10.33
Creek	562	Regional	12.72	229.95	231.70		231.74	0.001253	0.35	1.32	0.35	23.90	29.97	0.33	7.96
Creek	495	Flsh	0.30	229.88	230.30		230.31	0.001054		0.39		0.78	2.68	0.23	0.25
Creek	495	1.5	5.35	229.88	231.10		231.13	0.001318	0.33	1.04	0.33	9.85	13.75	0.32	2.81
Creek	495	2	7.13	229.88	231.28		231.33	0.001580	0.27	1.26	0.27	13.66	28.19	0.36	3.56
Creek	495	5	9.76	229.88	231.47		231.52	0.001303	0.31	1.26	0.31	19.18	29.16	0.33	5.11
Creek	495	10	11.53	229.88	231.55		231.60	0.001342	0.34	1.32	0.34	21.60	29.58	0.34	5.83
Creek	495	25	13.74	229.88	231.65		231.70	0.001380	0.37	1.40	0.37	24.42	30.06	0.35	6.82
Creek	495	50	15.54	229.88	231.72		231.77	0.001405	0.39	1.45	0.40	26.60	30.42	0.36	7.59
Creek	495	100	17.18	229.88	231.78		231.84	0.001429	0.42	1.50	0.42	28.47	30.73	0.36	8.38
Creek	495	Regional	12.72	229.88	231.61		231.65	0.001363	0.36	1.36	0.36	23.15	29.84	0.35	6.37
Creek	450	Flsh	0.30	229.84	230.25		230.26	0.001079		0.39		0.77	2.67	0.23	0.21
Creek	450	1.5	5.35	229.84	231.04		231.07	0.001411	0.33	1.06	0.33	9.60	13.65	0.33	2.37
Creek	450	2	7.13	229.84	231.19		231.25	0.001994	0.28	1.38	0.28	12.31	27.94	0.40	2.97
Creek	450	5	9.76	229.84	231.41		231.45	0.001406	0.31	1.29	0.32	18.62	29.06	0.35	4.26
Creek	450	10	11.53	229.84	231.49		231.54	0.001450	0.34	1.36	0.35	20.97	29.47	0.35	4.88
Creek	450	25	13.74	229.84	231.58		231.63	0.001491	0.38	1.44	0.38	23.72	29.94	0.36	5.74
Creek	450	50	15.54	229.84	231.65		231.71	0.001517	0.40	1.49	0.41	25.85	30.29	0.37	6.41
Creek	450	100	17.18	229.84	231.71		231.77	0.001542	0.42	1.54	0.43	27.68	30.60	0.37	7.12
Creek	450	Regional	12.72	229.84	231.54		231.59	0.001472	0.36	1.40	0.37	22.47	29.73	0.36	5.35
Creek	368	Flsh	0.30	229.75	230.16		230.17	0.001202		0.41		0.74	2.63	0.24	0.15
Creek	368	1.5	5.35	229.75	230.90		230.95	0.001714	0.35	1.13	0.35	8.93	13.40	0.36	1.62
Creek	368	2	7.13	229.75	231.04		231.09	0.001823	0.40	1.27	0.40	10.81	14.10	0.38	2.03
Creek	368	5	9.76	229.75	231.26		231.32	0.001794	0.33	1.42	0.33	16.87	28.76	0.39	2.82
Creek	368	10	11.53	229.75	231.34		231.40	0.001845	0.36	1.49	0.37	19.08	29.14	0.40	3.25
Creek	368	25	13.74	229.75	231.43		231.50	0.001880	0.40	1.57	0.40	21.71	29.60	0.40	3.90
Creek	368	50	15.54	229.75	231.50		231.57	0.001891	0.43	1.62	0.43	23.80	29.95	0.41	4.39
Creek	368	100	17.18	229.75	231.56		231.63	0.001913	0.45	1.67	0.45	25.55	30.24	0.41	4.96
Creek	368	Regional	12.72	229.75	231.39		231.45	0.001864	0.38	1.53	0.39	20.52	29.39	0.40	3.60
Creek	308	Flsh	0.30	229.69	230.07		230.08	0.001589		0.45		0.67	2.52	0.28	0.11
Creek	308	1.5	5.35	229.69	230.77		230.82	0.002305	0.38	1.25	0.39	8.00	13.04	0.41	1.11
Creek	308	2	7.13	229.69	230.90		230.96	0.002447	0.44	1.40	0.44	9.69	13.69	0.43	1.41
Creek	308	5	9.76	229.69	231.07		231.17	0.003295	0.37	1.79	0.37	13.04	28.16	0.52	1.91
Creek	308	10	11.53	229.69	231.15		231.26	0.003094	0.41	1.82	0.41	15.50	28.73	0.51	2.20
Creek	308	25	13.74	229.69	231.25		231.35	0.002893	0.44	1.85	0.44	18.41	29.39	0.50	2.68
Creek	308	50	15.54	229.69	231.33		231.43	0.002751	0.47	1.87	0.47	20.72	29.91	0.49	3.04
Creek	308	100	17.18	229.69	231.39		231.49	0.002715	0.49	1.90	0.49	22.52	30.30	0.49	3.50
Creek	308	Regional	12.72	229.69	231.21		231.31	0.002960	0.43	1.83	0.43	17.13	29.10	0.50	2.46
Creek	252	Flsh	0.30	229.61	229.80	229.79	229.86	0.019443		1.10		0.27	1.78	0.90	0.08
Creek	252	1.5	5.35	229.61	230.37	230.37	230.56	0.012791	0.60	2.24	0.60	4.15	11.43	0.91	0.77
Creek	252	2	7.13	229.61	230.46	230.46	230.68	0.013101	0.70	2.47	0.70	5.15	11.87	0.94	1.00
Creek	252	5	9.76	229.61	230.56	230.56	230.83	0.013722	0.83	2.78	0.83	6.43	12.41	0.98	1.37
Creek	252	10	11.53	229.61	230.63	230.63	230.92	0.013841	0.89	2.94	0.89	7.27	12.75	1.00	1.57
Creek	252	25	13.74	229.61	230.71	230.71	231.03	0.013768	0.96	3.11	0.96	8.30	13.16	1.01	1.94
Creek	252	50	15.54	229.61	230.76	230.76	231.11	0.014159	1.02	3.26	1.02	9.00	13.43	1.04	2.22
Creek	252	100	17.18	229.61	230.83	230.83	231.18	0.013298	1.04	3.30	1.04	9.93	14.12	1.02	2.60
Creek	252	Regional	12.72	229.61	230.67	230.67	230.98	0.013818	0.93	3.03	0.93	7.83	12.97	1.01	1.77
Creek	230	Flsh	0.30	229.13	229.31	229.31	229.38	0.025296		1.21		0.25	1.73	1.02	0.08
Creek	230	1.5	5.35	229.13	229.89	229.89	230.08	0.012790	0.60	2.24	0.60	4.15	11.43	0.91	0.68
Creek	230	2	7.13	229.13	229.98	229.98	230.20	0.013115	0.70	2.47	0.70	5.15	11.87	0.94	0.89
Creek	230	5	9.76	229.13	230.08	230.08	230.35	0.013730	0.83	2.78	0.83	6.43	12.41	0.98	1.23
Creek	230	10	11.53	229.13	230.15	230.15	230.44	0.013851	0.89	2.94	0.89	7.27	12.75	1.00	1.41
Creek	230	25	13.74	229.13	230.23	230.23	230.55	0.013762	0.96	3.11	0.96	8.30	13.16	1.01	1.76
Creek	230	50	15.54	229.13	230.28	230.28	230.63	0.014158	1.02	3.26	1.02	9.00	13.43	1.04	2.02
Creek	230	100	17.18	229.13	230.35	230.35	230.70	0.013300	1.04	3.30	1.04	9.93	13.78	1.02	2.38
Creek	230	Regional	12.72	229.13	230.19	230.19	230.50	0.013812	0.93	3.03	0.93	7.83	12.97	1.01	1.60
Creek	207	Flsh	0.30	228.21	228.43	228.39	228.48	0.010965		0.90		0.33	1.91	0.69	0.07
Creek	207	1.5	5.35	228.21	228.97	228.97	229.16	0.012787	0.60	2.24	0.60	4.15	11.43	0.91	0.59
Creek	207	2	7.13	228.21	229.06	229.06	229.28	0.013092	0.70	2.47	0.70	5.15	11.87	0.94	0.78
Creek	207	5	9.76	228.21	229.16	229.16	229.43	0.013711	0.83	2.78	0.83	6.43	12.41	0.98	1.09
Creek	207	10	11.53	228.21	229.27	229.23	229.52	0.011568	0.85	2.77	0.85	7.77	12.95	0.92	1.25
Creek	207	25	13.74	228.21	229.43	229.31	229.65	0.008382	0.83	2.63	0.83	9.98	13.80	0.81	1.56
Creek	207	50	15.54	228.21	229.59	229.36	229.85	0.008176	0.59	2.83	0.59	13.15	28.09	0.81	1.78

HEC-RAS Plan: PR 33m 0.1% part chnl v9 River: River1 Reach: Creek (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Left	Vel Chnl	Vel Right	Flow Area	Top Width	Froude # Chl	Volume
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m/s)	(m/s)	(m2)	(m)		(1000 m3)
Creek	207	100	17.18	228.21	229.71		229.90	0.005736	0.58	2.53	0.59	16.66	28.72	0.69	2.10
Creek	207	Regional	12.72	228.21	229.35		229.59	0.009937	0.84	2.71	0.85	8.85	13.37	0.87	1.42
Creek	191	FIsh	0.30	228.19	228.27	228.25	228.29	0.009887		0.54		0.56	6.66	0.59	0.06
Creek	191	1.5	5.35	228.19	228.80	228.59	228.88	0.004433		1.24		4.31	7.54	0.52	0.52
Creek	191	2	7.13	228.19	228.94	228.67	229.03	0.004109		1.34		5.33	7.76	0.51	0.69
Creek	191	5	9.76	228.19	229.13	228.79	229.23	0.003662		1.43		6.82	8.07	0.50	0.98
Creek	191	10	11.53	228.19	229.25	228.86	229.36	0.003421		1.48		7.81	8.27	0.49	1.12
Creek	191	25	13.74	228.19	229.41	228.94	229.52	0.003172	0.11	1.50		9.20	11.06	0.47	1.40
Creek	191	50	15.54	228.19	229.60	229.00	229.70	0.002261	0.24	1.41	0.12	11.10	17.78	0.41	1.57
Creek	191	100	17.18	228.19	229.70	229.05	229.80	0.002040	0.18	1.41	0.14	14.01	21.11	0.40	1.84
Creek	191	Regional	12.72	228.19	229.32	228.90	229.44	0.003362		1.50		8.47	8.61	0.48	1.27
Creek	154 Mayfield Rd		Culvert												
Creek	100	FIsh	0.30	227.49	227.76	227.56	227.76	0.000218		0.17		1.80	7.14	0.11	0.03
Creek	100	1.5	5.35	227.49	228.22	227.90	228.27	0.002600	0.02	0.96		5.54	12.04	0.41	0.32
Creek	100	2	7.13	227.49	228.25	227.98	228.32	0.004010	0.09	1.23		5.80	13.02	0.51	0.45
Creek	100	5	9.76	227.49	228.31	228.08	228.43	0.005363	0.28	1.52	0.07	6.47	15.06	0.60	0.69
Creek	100	10	11.53	227.49	228.35	228.17	228.49	0.006130	0.38	1.69	0.15	6.91	16.25	0.65	0.79
Creek	100	25	13.74	227.49	228.38	228.24	228.57	0.007517	0.49	1.92	0.20	7.27	17.67	0.73	1.03
Creek	100	50	15.54	227.49	228.42	228.30	228.63	0.008101	0.59	2.06	0.27	7.73	19.28	0.76	1.14
Creek	100	100	17.18	227.49	228.46	228.35	228.69	0.008124	0.68	2.15	0.37	8.30	22.02	0.77	1.25
Creek	100	Regional	12.72	227.49	228.36	228.21	228.53	0.006931	0.44	1.82	0.17	7.09	16.96	0.70	0.92
Creek	87	FIsh	0.30	227.54	227.70	227.70	227.74	0.023137	0.38	0.97		0.36	4.39	0.95	0.02
Creek	87	1.5	5.35	227.54	228.03	228.01	228.17	0.018437	0.88	2.15	0.73	4.26	19.75	1.06	0.26
Creek	87	2	7.13	227.54	228.12	228.11	228.23	0.012160	0.90	1.99	0.72	6.14	21.57	0.89	0.38
Creek	87	5	9.76	227.54	228.18	228.16	228.32	0.013476	1.06	2.25	0.77	7.47	23.40	0.96	0.60
Creek	87	10	11.53	227.54	228.27		228.38	0.009457	1.00	2.08	0.70	9.75	28.27	0.82	0.68
Creek	87	25	13.74	227.54	228.27	228.24	228.43	0.013934	1.20	2.52	0.84	9.61	28.03	0.99	0.92
Creek	87	50	15.54	227.54	228.33	228.27	228.48	0.011385	1.14	2.42	0.88	11.52	31.08	0.91	1.01
Creek	87	100	17.18	227.54	228.40	228.31	228.53	0.009823	1.04	2.39	0.87	13.69	34.27	0.86	1.10
Creek	87	Regional	12.72	227.54	228.27	228.23	228.41	0.011990	1.12	2.33	0.77	9.60	28.01	0.92	0.81
Creek	34	FIsh	0.30	226.44	226.69	226.66	226.73	0.013075	0.05	0.86		0.35	2.54	0.74	
Creek	34	1.5	5.35	226.44	227.22	227.22	227.42	0.011097	0.92	2.24	0.76	3.45	39.81	0.88	
Creek	34	2	7.13	226.44	227.28	227.28	227.54	0.013485	1.08	2.62	0.92	4.04	41.05	0.99	
Creek	34	5	9.76	226.44	227.44	227.44	227.68	0.010405	1.11	2.63	0.95	5.90	45.19	0.90	
Creek	34	10	11.53	226.44	227.46	227.46	227.77	0.013099	1.26	3.00	1.08	6.17	45.74	1.01	
Creek	34	25	13.74	226.44	227.64	227.64	227.87	0.008161	1.04	2.67	0.97	8.95	52.51	0.82	
Creek	34	50	15.54	226.44	227.67	227.67	227.93	0.009075	1.12	2.87	1.05	9.50	53.72	0.87	
Creek	34	100	17.18	226.44	227.69	227.69	227.98	0.010062	1.20	3.06	1.13	9.89	54.43	0.92	
Creek	34	Regional	12.72	226.44	227.56	227.56	227.82	0.009983	1.17	2.81	0.97	7.65	49.64	0.90	

HEC-RAS Plan: PR 33m 0.1% part chnl v9 w crossing River: River1 Reach: Creek

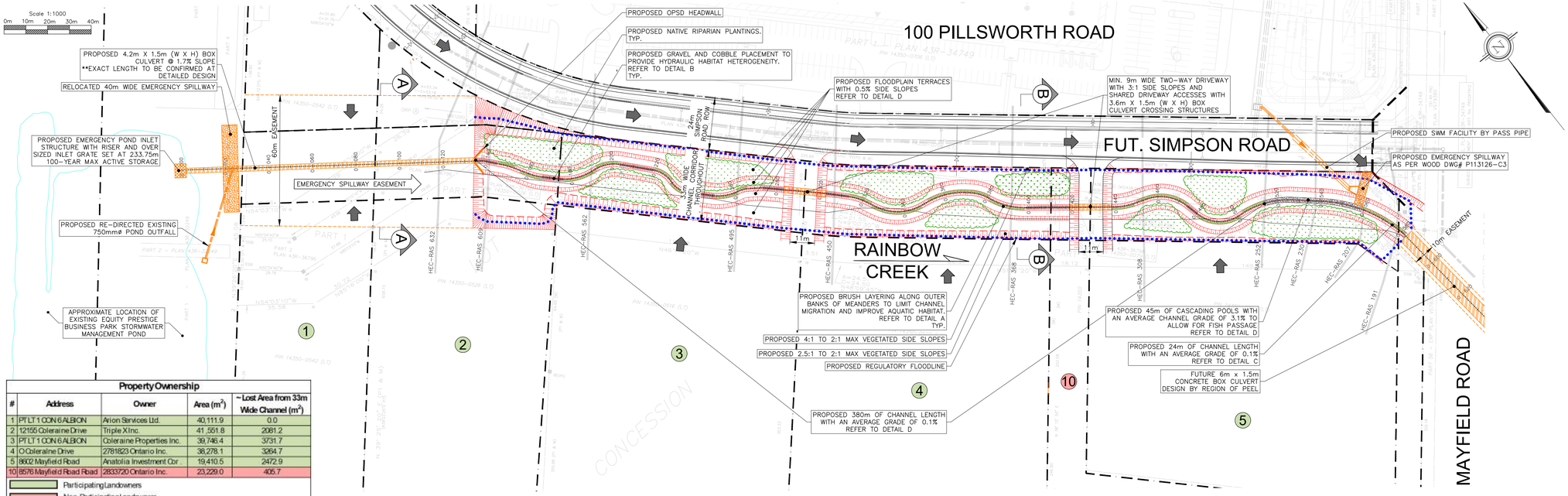
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Left	Vel Chnl	Vel Right	Flow Area	Top Width	Froude # Chl	Volume
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m/s)	(m/s)	(m2)	(m)		(1000 m3)
Creek	632	Flsh	0.30	230.02	230.43		230.44	0.001152		0.40		0.75	2.65	0.24	0.37
Creek	632	1.5	5.35	230.02	231.29		231.32	0.001063	0.30	0.96	0.31	10.67	14.05	0.29	3.90
Creek	632	2	7.13	230.02	231.52		231.55	0.000993	0.24	1.05	0.25	16.62	28.71	0.29	5.49
Creek	632	5	9.76	230.02	231.84		231.86	0.000588	0.25	0.93	0.25	26.02	30.32	0.23	8.31
Creek	632	10	11.53	230.02	232.08		232.10	0.000411	0.25	0.85	0.25	33.55	31.55	0.20	10.29
Creek	632	25	13.74	230.02	232.25		232.27	0.000386	0.26	0.87	0.26	38.93	32.41	0.19	12.29
Creek	632	50	15.54	230.02	232.33		232.35	0.000408	0.28	0.92	0.28	41.70	32.83	0.20	13.48
Creek	632	100	17.18	230.02	232.40		232.42	0.000434	0.30	0.97	0.30	43.75	33.61	0.21	14.59
Creek	632	Regional	12.72	230.02	232.19		232.20	0.000383	0.25	0.85	0.25	36.95	32.10	0.19	11.47
Creek	609	Flsh	0.30	229.99	230.40		230.41	0.001197		0.41		0.74	2.63	0.24	0.36
Creek	609	1.5	5.35	229.99	231.27		231.30	0.001070	0.31	0.97	0.31	10.64	14.04	0.29	3.66
Creek	609	2	7.13	229.99	231.50		231.53	0.000993	0.24	1.05	0.25	16.63	28.71	0.29	5.11
Creek	609	5	9.76	229.99	231.83		231.85	0.000570	0.25	0.92	0.25	26.33	30.37	0.23	7.71
Creek	609	10	11.53	229.99	232.07		232.09	0.000397	0.24	0.84	0.24	33.99	31.63	0.19	9.51
Creek	609	25	13.74	229.99	232.24		232.26	0.000374	0.26	0.86	0.26	39.41	32.48	0.19	11.39
Creek	609	50	15.54	229.99	232.33		232.34	0.000396	0.28	0.91	0.28	42.16	32.91	0.20	12.52
Creek	609	100	17.18	229.99	232.39		232.41	0.000421	0.29	0.96	0.29	44.21	33.92	0.20	13.58
Creek	609	Regional	12.72	229.99	232.18		232.20	0.000370	0.25	0.84	0.25	37.42	32.17	0.19	10.62
Creek	562	Flsh	0.30	229.95	230.34		230.35	0.001371		0.43		0.70	2.58	0.26	0.32
Creek	562	1.5	5.35	229.95	231.22		231.25	0.001086	0.31	0.97	0.31	10.59	14.02	0.29	3.16
Creek	562	2	7.13	229.95	231.45		231.48	0.000992	0.24	1.05	0.25	16.64	28.72	0.29	4.32
Creek	562	5	9.76	229.95	231.80		231.82	0.000533	0.25	0.90	0.25	26.99	30.49	0.22	6.46
Creek	562	10	11.53	229.95	232.05		232.07	0.000368	0.24	0.82	0.24	34.93	31.78	0.19	7.89
Creek	562	25	13.74	229.95	232.22		232.24	0.000348	0.25	0.84	0.25	40.40	32.63	0.18	9.51
Creek	562	50	15.54	229.95	232.31		232.32	0.000371	0.27	0.89	0.27	43.13	33.25	0.19	10.51
Creek	562	100	17.18	229.95	232.37		232.39	0.000395	0.29	0.94	0.29	45.18	34.60	0.20	11.48
Creek	562	Regional	12.72	229.95	232.16		232.18	0.000344	0.24	0.82	0.24	38.42	32.33	0.18	8.83
Creek	506	Flsh	0.30	229.89	230.25		230.26	0.001892		0.48		0.63	2.45	0.30	0.29
Creek	506	1.5	5.35	229.89	231.16		231.19	0.001083	0.31	0.97	0.31	10.60	14.02	0.29	2.56
Creek	506	2	7.13	229.89	231.40		231.43	0.000960	0.24	1.04	0.24	16.86	28.75	0.28	3.37
Creek	506	5	9.76	229.89	231.77		231.79	0.000480	0.24	0.86	0.24	28.05	30.66	0.21	4.90
Creek	506	10	11.53	229.89	232.04		232.05	0.000331	0.23	0.79	0.23	36.31	31.99	0.18	5.87
Creek	506	25	13.74	229.89	232.21		232.22	0.000316	0.25	0.81	0.25	41.84	32.86	0.18	7.18
Creek	506	50	15.54	229.89	232.29		232.30	0.000336	0.26	0.86	0.26	44.58	34.14	0.18	8.02
Creek	506	100	17.18	229.89	232.35		232.36	0.000360	0.28	0.90	0.28	46.64	35.39	0.19	8.88
Creek	506	Regional	12.72	229.89	232.15		232.16	0.000310	0.24	0.79	0.24	39.86	32.55	0.17	6.61
Creek	495	Flsh	0.30	229.88	230.22	230.07	230.24	0.002386		0.52		0.58	2.37	0.34	0.28
Creek	495	1.5	5.35	229.88	231.14	230.65	231.18	0.001115	0.31	0.98	0.31	10.48	13.98	0.30	2.44
Creek	495	2	7.13	229.88	231.39	230.73	231.42	0.000925	0.28	1.02	0.31	14.91	28.73	0.28	3.19
Creek	495	5	9.76	229.88	231.76	230.85	231.78	0.000562	0.29	0.93	0.32	22.03	30.62	0.23	4.59
Creek	495	10	11.53	229.88	232.03	230.91	232.05	0.000361	0.28	0.82	0.24	32.55	31.99	0.19	5.47
Creek	495	25	13.74	229.88	232.20	230.99	232.22	0.000315	0.25	0.81	0.25	41.90	32.87	0.18	6.72
Creek	495	50	15.54	229.88	232.29	231.04	232.30	0.000335	0.26	0.86	0.26	44.63	34.41	0.18	7.53
Creek	495	100	17.18	229.88	232.34	231.10	232.36	0.000359	0.28	0.90	0.28	46.70	35.92	0.19	8.36
Creek	495	Regional	12.72	229.88	232.14	230.95	232.16	0.000309	0.24	0.79	0.24	39.91	32.56	0.17	6.17
Creek	476		Culvert												
Creek	450	Flsh	0.30	229.84	230.22	230.02	230.23	0.001443		0.43		0.69	2.56	0.27	0.23
Creek	450	1.5	5.35	229.84	231.05	230.61	231.08	0.001364	0.33	1.05	0.33	9.73	13.70	0.32	2.24
Creek	450	2	7.13	229.84	231.25	230.69	231.29	0.001354	0.26	1.17	0.33	13.57	28.27	0.33	2.93
Creek	450	5	9.76	229.84	231.50	230.80	231.53	0.001022	0.31	1.15	0.36	19.07	29.51	0.30	4.26
Creek	450	10	11.53	229.84	231.66	230.86	231.69	0.000857	0.33	1.13	0.37	22.81	30.35	0.28	5.08
Creek	450	25	13.74	229.84	231.85	230.94	231.88	0.000665	0.30	1.07	0.31	31.99	31.30	0.25	6.18
Creek	450	50	15.54	229.84	231.94	231.00	231.97	0.000668	0.32	1.10	0.32	34.92	31.77	0.25	6.91
Creek	450	100	17.18	229.84	232.02	231.05	232.05	0.000678	0.34	1.14	0.34	37.35	32.16	0.25	7.67
Creek	450	Regional	12.72	229.84	231.78	230.91	231.80	0.000700	0.30	1.06	0.30	29.67	30.93	0.25	5.70
Creek	442	Flsh	0.30	229.81	230.21		230.22	0.001310		0.42		0.72	2.59	0.25	0.22
Creek	442	1.5	5.35	229.81	231.03		231.07	0.001316	0.33	1.04	0.33	9.86	13.75	0.32	2.16
Creek	442	2	7.13	229.81	231.23		231.28	0.001434	0.26	1.21	0.26	14.25	28.29	0.34	2.82
Creek	442	5	9.76	229.81	231.49		231.52	0.000960	0.29	1.12	0.29	21.61	29.58	0.29	4.09
Creek	442	10	11.53	229.81	231.66		231.69	0.000768	0.29	1.07	0.29	26.68	30.43	0.26	4.87
Creek	442	25	13.74	229.81	231.84		231.87	0.000638	0.30	1.05	0.30	32.47	31.38	0.24	5.93
Creek	442	50	15.54	229.81	231.94		231.96	0.000644	0.32	1.09	0.32	35.40	31.85	0.25	6.63
Creek	442	100	17.18	229.81	232.01		232.04	0.000654	0.33	1.12	0.33	37.84	32.23	0.25	7.37
Creek	442	Regional	12.72	229.81	231.77		231.80	0.000671	0.29	1.05	0.30	30.13	31.00	0.25	5.46
Creek	378	Flsh	0.30	229.75	230.12	229.93	230.13	0.001714		0.46		0.65	2.49	0.29	0.18
Creek	378	1.5	5.35	229.75	230.95	230.51	230.98	0.001408	0.33	1.06	0.33	9.61	13.66	0.33	1.54
Creek	378	2	7.13	229.75	231.12	230.60	231.18	0.001764	0.27	1.31	0.26	13.13	29.03	0.38	1.95
Creek	378	5	9.76	229.75	231.43	230.71	231.46	0.000906	0.28	1.09	0.28	22.29	30.29	0.28	2.70
Creek	378	10	11.53	229.75	231.61	230.77	231.64	0.000696	0.28	1.03	0.28	27.88	31.03	0.25	3.14
Creek	378	25	13.74	229.75	231.81	230.85	231.83	0.000570	0.29	1.00	0.29	34.02	31.83	0.23	3.82
Creek	378	50	15.54	229.75	231.90	230.91	231.92	0.000577	0.31	1.04	0.31	36.98	32.21	0.23	4.34
Creek	378	100	17.18	229.75	231.98	230.96	232.00	0.000589	0.32	1.08	0.33	39.42	32.51	0.24	4.92
Creek	378	Regional	12.72	229.75	231.73	230.82	231.76	0.000600	0.28	1.00	0.29	31.59	31.52	0.24	3.50
Creek	368	Flsh	0.30	229.75	230.09	229.94	230.11	0.002466		0.53		0.57	2.36	0.34	0.17
Creek	368	1.5	5.35	229.75	230.93	230.52	230.97	0.001565	0.34	1.10	0.34	9.24	13.52	0.35	1.45
Creek	368	2	7.13	229.75	231.10	230.61	231.16	0.001782	0.30	1.30	0.32	12.11	27.95	0.38	1.82
Creek	368	5	9.76	229.75	231.41	230.71	231.45	0.001030	0.33	1.15	0.34	18.81	29.51	0.30	2.48
Creek	368	10	11.53	229.75	231.60	230.78	231.63	0.000829	0.34	1.12	0.35	22.78	30.44	0.27	2.86
Creek	368	25	13.74	229.75	231.80	230.86	231.82	0.000610	0.30	1.03	0.30	33.01	31.47	0.24	3.48
Creek	368	50	15.54	229.75	231.89	230.92	231.92	0.000618	0.31	1.07	0.32	35.93	31.93	0.24	3.96
Creek	368	100	17.18	229.75	231.97	230.97	231.99	0.000630	0.33	1.11	0.33	38.34	32.31	0.25	4.52
Creek	368	Regional	12.72	229.75	231.72	230.83	231.75	0.000680	0.33	1.06	0.30	28.29	31.06	0.25	3.18
Creek	341		Culvert												
Creek	322	Flsh	0.30	229.71	230.09	229.89	230.10	0.001451		0.43		0.69	2.55	0.27	0.12
Creek	322	1.5	5.35	229.71	230.81	230.48	230.86	0.002091	0.37	1.21	0.37	8.30	13.16	0.39	1.22
Creek	322	2	7.13	229.71	230.94	230.56	231.00	0.002219	0.43	1.36	0.43	10.05	13.82	0.42	1.55

HEC-RAS Plan: PR 33m 0.1% part chnl v9 w crossing River: River1 Reach: Creek (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Left	Vel Chnl	Vel Right	Flow Area	Top Width	Froude # Chl	Volume
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m/s)	(m/s)	(m2)	(m)		(1000 m3)
Creek	322	5	9.76	229.71	231.16	230.67	231.22	0.002112	0.41	1.49	0.44	13.74	28.48	0.42	2.11
Creek	322	10	11.53	229.71	231.23	230.74	231.30	0.002287	0.46	1.61	0.49	15.04	28.86	0.44	2.44
Creek	322	25	13.74	229.71	231.31	230.81	231.40	0.002467	0.51	1.74	0.55	16.56	29.30	0.46	2.95
Creek	322	50	15.54	229.71	231.37	230.87	231.46	0.002631	0.56	1.84	0.59	17.64	29.61	0.48	3.35
Creek	322	100	17.18	229.71	231.43	230.92	231.53	0.002671	0.59	1.91	0.62	18.79	29.95	0.48	3.82
Creek	322	Regional	12.72	229.71	231.27	230.78	231.35	0.002396	0.49	1.68	0.52	15.86	29.09	0.45	2.71
Creek	308	Flsh	0.30	229.69	230.07	229.88	230.08	0.001581		0.45		0.67	2.52	0.28	0.11
Creek	308	1.5	5.35	229.69	230.77	230.46	230.82	0.002319	0.39	1.25	0.39	7.98	13.03	0.41	1.11
Creek	308	2	7.13	229.69	230.90	230.55	230.96	0.002454	0.44	1.40	0.44	9.68	13.68	0.43	1.41
Creek	308	5	9.76	229.69	231.07	230.66	231.17	0.003324	0.37	1.80	0.37	12.99	28.15	0.52	1.91
Creek	308	10	11.53	229.69	231.15	230.72	231.26	0.003114	0.41	1.82	0.41	15.46	28.72	0.51	2.20
Creek	308	25	13.74	229.69	231.26	230.80	231.35	0.002880	0.44	1.84	0.44	18.44	29.40	0.49	2.68
Creek	308	50	15.54	229.69	231.33	230.85	231.43	0.002782	0.47	1.87	0.47	20.63	29.89	0.49	3.04
Creek	308	100	17.18	229.69	231.40	230.91	231.49	0.002674	0.49	1.89	0.49	22.65	30.33	0.48	3.49
Creek	308	Regional	12.72	229.69	231.21	230.76	231.31	0.002981	0.43	1.84	0.43	17.08	29.09	0.50	2.46
Creek	252	Flsh	0.30	229.61	229.80	229.79	229.86	0.020048		1.11		0.27	1.78	0.91	0.08
Creek	252	1.5	5.35	229.61	230.38	230.38	230.56	0.012437	0.60	2.22	0.60	4.20	11.45	0.90	0.77
Creek	252	2	7.13	229.61	230.46	230.46	230.68	0.012929	0.70	2.46	0.70	5.18	11.88	0.93	1.00
Creek	252	5	9.76	229.61	230.57	230.57	230.83	0.013415	0.82	2.76	0.82	6.49	12.43	0.97	1.37
Creek	252	10	11.53	229.61	230.63	230.63	230.92	0.013586	0.89	2.92	0.89	7.32	12.77	0.99	1.57
Creek	252	25	13.74	229.61	230.71	230.71	231.03	0.013923	0.96	3.12	0.96	8.27	13.14	1.02	1.94
Creek	252	50	15.54	229.61	230.77	230.77	231.11	0.013668	1.01	3.23	1.01	9.12	13.47	1.02	2.22
Creek	252	100	17.18	229.61	230.82	230.82	231.18	0.014009	1.06	3.36	1.06	9.74	13.71	1.04	2.60
Creek	252	Regional	12.72	229.61	230.68	230.68	230.98	0.013536	0.92	3.01	0.93	7.89	13.00	1.00	1.77
Creek	230	Flsh	0.30	229.13	229.31	229.31	229.38	0.024506		1.19		0.25	1.74	1.00	0.08
Creek	230	1.5	5.35	229.13	229.89	229.89	230.08	0.012790	0.60	2.24	0.60	4.15	11.43	0.91	0.68
Creek	230	2	7.13	229.13	229.98	229.98	230.20	0.013115	0.70	2.47	0.70	5.15	11.87	0.94	0.89
Creek	230	5	9.76	229.13	230.08	230.08	230.35	0.013730	0.83	2.78	0.83	6.43	12.41	0.98	1.23
Creek	230	10	11.53	229.13	230.15	230.15	230.44	0.013851	0.89	2.94	0.89	7.27	12.75	1.00	1.41
Creek	230	25	13.74	229.13	230.23	230.23	230.55	0.013762	0.96	3.11	0.96	8.30	13.16	1.01	1.76
Creek	230	50	15.54	229.13	230.28	230.28	230.63	0.014158	1.02	3.26	1.02	9.00	13.43	1.04	2.02
Creek	230	100	17.18	229.13	230.35	230.35	230.70	0.013300	1.04	3.30	1.04	9.93	13.78	1.02	2.38
Creek	230	Regional	12.72	229.13	230.19	230.19	230.50	0.013812	0.93	3.03	0.93	7.83	12.97	1.01	1.60
Creek	207	Flsh	0.30	228.21	228.43	228.39	228.48	0.010965		0.90		0.33	1.91	0.69	0.07
Creek	207	1.5	5.35	228.21	228.97	228.97	229.16	0.012787	0.60	2.24	0.60	4.15	11.43	0.91	0.59
Creek	207	2	7.13	228.21	229.06	229.06	229.28	0.013092	0.70	2.47	0.70	5.15	11.87	0.94	0.78
Creek	207	5	9.76	228.21	229.16	229.16	229.43	0.013711	0.83	2.78	0.83	6.43	12.41	0.98	1.09
Creek	207	10	11.53	228.21	229.27	229.23	229.52	0.011568	0.85	2.77	0.85	7.77	12.95	0.92	1.25
Creek	207	25	13.74	228.21	229.43	229.31	229.65	0.008382	0.83	2.63	0.83	9.98	13.80	0.81	1.56
Creek	207	50	15.54	228.21	229.59	229.36	229.85	0.008176	0.59	2.83	0.59	13.15	28.09	0.81	1.78
Creek	207	100	17.18	228.21	229.71		229.90	0.005736	0.58	2.53	0.59	16.66	28.72	0.69	2.10
Creek	207	Regional	12.72	228.21	229.35		229.59	0.009937	0.84	2.71	0.85	8.85	13.37	0.87	1.42
Creek	191	Flsh	0.30	228.19	228.27	228.25	228.29	0.009887		0.54		0.56	6.66	0.59	0.06
Creek	191	1.5	5.35	228.19	228.80	228.59	228.88	0.004433		1.24		4.31	7.54	0.52	0.52
Creek	191	2	7.13	228.19	228.94	228.67	229.03	0.004109		1.34		5.33	7.76	0.51	0.69
Creek	191	5	9.76	228.19	229.13	228.79	229.23	0.003662		1.43		6.82	8.07	0.50	0.98
Creek	191	10	11.53	228.19	229.25	228.86	229.36	0.003421		1.48		7.81	8.27	0.49	1.12
Creek	191	25	13.74	228.19	229.41	228.94	229.52	0.003172	0.11	1.50		9.20	11.06	0.47	1.40
Creek	191	50	15.54	228.19	229.60	229.00	229.70	0.002261	0.24	1.41	0.12	11.10	17.78	0.41	1.57
Creek	191	100	17.18	228.19	229.70	229.05	229.80	0.002040	0.18	1.41	0.14	14.01	21.11	0.40	1.84
Creek	191	Regional	12.72	228.19	229.32	228.90	229.44	0.003362		1.50		8.47	8.61	0.48	1.27
Creek	154 Mayfield Rd		Culvert												
Creek	100	Flsh	0.30	227.49	227.76	227.56	227.76	0.000218		0.17		1.80	7.14	0.11	0.03
Creek	100	1.5	5.35	227.49	228.22	227.90	228.27	0.002600	0.02	0.96		5.54	12.04	0.41	0.32
Creek	100	2	7.13	227.49	228.25	227.98	228.32	0.004010	0.09	1.23		5.80	13.02	0.51	0.45
Creek	100	5	9.76	227.49	228.31	228.08	228.43	0.005363	0.28	1.52	0.07	6.47	15.06	0.60	0.69
Creek	100	10	11.53	227.49	228.35	228.17	228.49	0.006130	0.38	1.69	0.15	6.91	16.25	0.65	0.79
Creek	100	25	13.74	227.49	228.38	228.24	228.57	0.007517	0.49	1.92	0.20	7.27	17.67	0.73	1.03
Creek	100	50	15.54	227.49	228.42	228.30	228.63	0.008101	0.59	2.06	0.27	7.73	19.28	0.76	1.14
Creek	100	100	17.18	227.49	228.46	228.35	228.69	0.008124	0.68	2.15	0.37	8.30	22.02	0.77	1.25
Creek	100	Regional	12.72	227.49	228.36	228.21	228.53	0.006931	0.44	1.82	0.17	7.09	16.96	0.70	0.92
Creek	87	Flsh	0.30	227.54	227.70	227.70	227.74	0.023137	0.38	0.97		0.36	4.39	0.95	0.02
Creek	87	1.5	5.35	227.54	228.03	228.01	228.17	0.018437	0.88	2.15	0.73	4.26	19.75	1.06	0.26
Creek	87	2	7.13	227.54	228.12	228.11	228.23	0.012160	0.90	1.99	0.72	6.14	21.57	0.89	0.38
Creek	87	5	9.76	227.54	228.18	228.16	228.32	0.013476	1.06	2.25	0.77	7.47	23.40	0.96	0.60
Creek	87	10	11.53	227.54	228.27		228.38	0.009457	1.00	2.08	0.70	9.75	28.27	0.82	0.68
Creek	87	25	13.74	227.54	228.27	228.24	228.43	0.013934	1.20	2.52	0.84	9.61	28.03	0.99	0.92
Creek	87	50	15.54	227.54	228.33	228.27	228.48	0.011385	1.14	2.42	0.88	11.52	31.08	0.91	1.01
Creek	87	100	17.18	227.54	228.40	228.31	228.53	0.009823	1.04	2.39	0.87	13.69	34.27	0.86	1.10
Creek	87	Regional	12.72	227.54	228.27	228.23	228.41	0.011990	1.12	2.33	0.77	9.60	28.01	0.92	0.81
Creek	34	Flsh	0.30	226.44	226.69	226.66	226.73	0.013075	0.05	0.86		0.35	2.54	0.74	
Creek	34	1.5	5.35	226.44	227.22	227.22	227.42	0.011097	0.92	2.24	0.76	3.45	39.81	0.88	
Creek	34	2	7.13	226.44	227.28	227.28	227.54	0.013485	1.08	2.62	0.92	4.04	41.05	0.99	
Creek	34	5	9.76	226.44	227.44	227.44	227.68	0.010405	1.11	2.63	0.95	5.90	45.19	0.90	
Creek	34	10	11.53	226.44	227.46	227.46	227.77	0.013099	1.26	3.00	1.08	6.17	45.74	1.01	
Creek	34	25	13.74	226.44	227.64	227.64	227.87	0.008161	1.04	2.67	0.97	8.95	52.51	0.82	
Creek	34	50	15.54	226.44	227.67	227.67	227.93	0.009075	1.12	2.87	1.05	9.50	53.72	0.87	
Creek	34	100	17.18	226.44	227.69	227.69	227.98	0.010062	1.20	3.06	1.13	9.89	54.43	0.92	
Creek	34	Regional	12.72	226.44	227.56	227.56	227.82	0.009983	1.17	2.81	0.97	7.65	49.64	0.90	

HEC-RAS Plan: Emergency Path v2 River: River1 Reach: Creek

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Creek	721	Emerg Spill Reg	8.71	233.68	233.89	233.89	233.96	0.002891	1.29	7.39	50.87	0.99
Creek	721	Emerg Spill 100	11.80	233.68	233.93	233.93	234.01	0.002651	1.40	9.33	54.55	0.98
Creek	646	Emerg Spill Reg	8.71	233.38	233.59	233.59	233.66	0.002894	1.29	7.39	50.86	0.99
Creek	646	Emerg Spill 100	11.80	233.38	233.63	233.63	233.71	0.002651	1.40	9.33	54.54	0.98



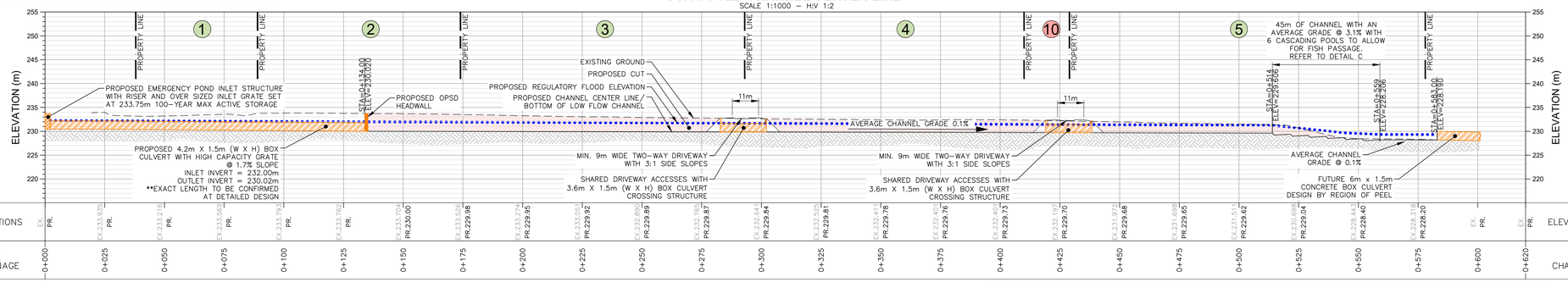
Property Ownership

#	Address	Owner	Area (m^2)	~ Lost Area from 33m Wide Channel (m^2)
1	PT LT 1 CON 6 ALBION	Arion Services Ltd.	40,111.9	0.0
2	12155 Coleraine Drive	Triple X Inc.	41,551.8	2081.2
3	PT LT 1 CON 6 ALBION	Coleraine Properties Inc.	39,746.4	3731.7
4	0 Coleraine Drive	2781823 Ontario Inc.	38,278.1	3264.7
5	8602 Mayfield Road	Anatolia Investment Cor...	19,410.5	2472.9
10	8576 Mayfield Road Road	2833720 Ontario Inc.	23,229.0	405.7

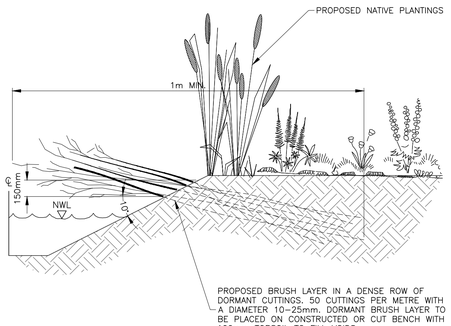
Participating Landowners
Non-Participating Landowners

PROPOSED CHANNEL CENTER LINE

SCALE 1:1000 – H:V 1:2



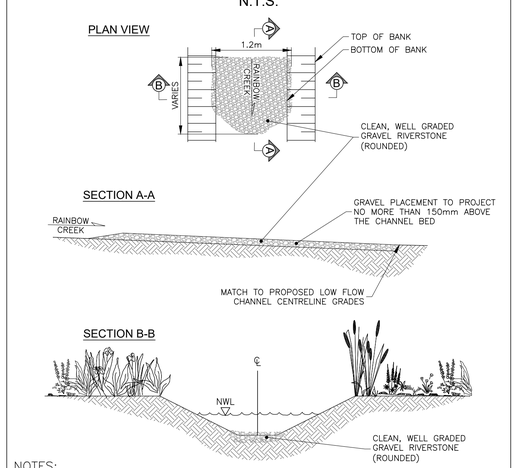
DETAIL A
TYPICAL BANK BRUSH LAYERING TREATMENT
N.T.S.



NOTES:

- COVER BRUSH LAYER IMMEDIATELY WITH 0.15m OF TOPSOIL AND COMPACT USING A VIBRATOR TAMPER.
- BRUSH LAYERING SHOULD BE SOAKED IN WATER PRIOR TO INSTALLATION AND HANDLED/TRANSPORTED WITH CARE.
- BRUSH LAYER WILL BE OF NATIVE WILLOW AND DOGWOOD SPECIES.

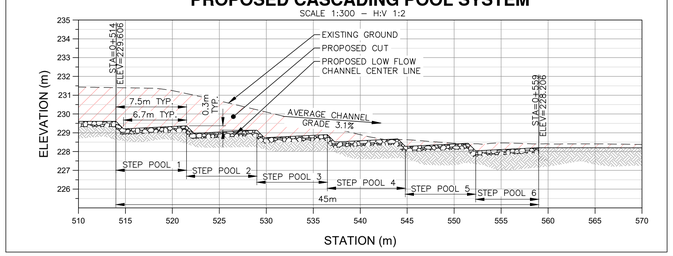
DETAIL B
TYPICAL BED GRAVEL AND COBBLE TREATMENT
N.T.S.



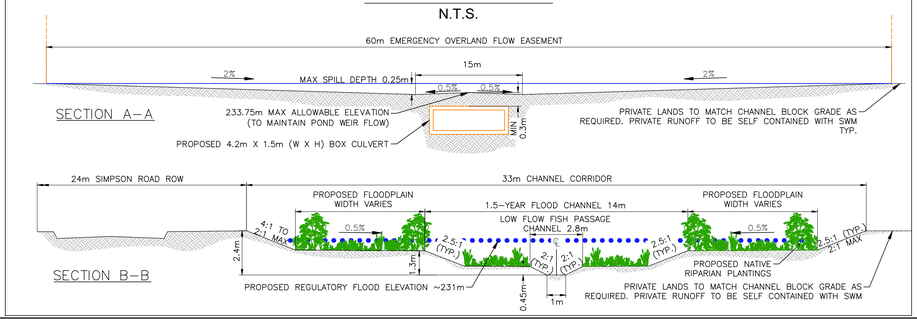
NOTES:

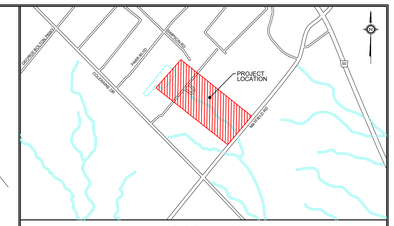
- GRAVEL TO BE CLEANED PRIOR TO PLACEMENT THEN CAREFULLY DISTRIBUTED ACROSS THE CHANNEL BED UNDER THE GUIDANCE OF ONSITE ADMINISTRATOR.
- WELL-GRADED AGGREGATE TO RANGE IN DIAMETER FROM 10mm TO 150mm"

DETAIL C
PROPOSED CASCADING POOL SYSTEM
SCALE 1:300 – H:V 1:2



DETAIL D
TYPICAL SECTIONS
N.T.S.





KEY PLAN
N.T.S.

LEGEND

EXISTING / PROPOSED

- PROPERTY LINE
- RAINBOW CREEK
- TOP OF SLOPE
- BOTTOM OF SLOPE
- CHANNEL CENTRE LINE
- HEC-RAS CROSS SECTION
- BRUSH LAYERING BANKS
- GRAVEL AND COBBLE CHANNEL BED
- CASCADING POOL SYSTEM
- EMERGENCY SPILLWAY
- NATIVE RIPARIAN PLANTINGS
- CULVERT
- STORM PIPE
- CULVERT EASEMENT
- REGULATORY FLOODLINE (REGIONAL EVENT)
- OVERLAND FLOW

DRAFT DRAWING
NOT TO BE USED FOR CONSTRUCTION

BENCHMARK

SURVEY INFORMATION SOURCE :

EXISTING GROUND INFORMATION DERIVED FROM LIDAR INFORMATION PROVIDED BY GEI CONSULTANTS IN AUGUST 2023. NO TOPOGRAPHIC SURVEY COMPETED TO DATE.

ALL FUTURE SIMPSON ROAD GRADING INFORMATION AS PER WOODS DRAWINGS DATED SEPTEMBER 2023.

ALL SUBJECT LANDS GRADING AS PER DRAWINGS BY GEI CONSULTANTS DATED JULY 2025.

LEGAL BOUNDAREIS AND LEGAL INFORMATION AS PER INFORMATION PROVIDED BY GEI CONSULTANTS DATED JULY 2025.

NO.	REVISION	DATE	BY	APPROVED
1	ISSUED FOR REVIEW	2025/07/25	P.G.	E.G.

Greck
Civil · Water Resources · Environmental
5770 Highway 7, Woodbridge, Ontario, L4L 1T8 www.greck.ca

CLIENT NAME:
SIMPSON ROAD LANDOWNERS GROUP INC.
7501 KEELE STREET, SUITE 200
VAUGHAN, ON L4K 1Y2

PROJECT NAME:
SIMPSON ROAD MESP
CHANNEL WORK

CHANNEL REALIGNMENT AND NATURALIZED CONCEPT

DESIGNED BY:	J.C.	SCALES: AS SHOWN	PROJECT No. 20-717
CHECKED BY:	E.G.		DRAWING No. C1
DRAWN BY:	P.G.		SHEET No.
DATE:	JULY, 2025	SHEET SIZE: 24"x36"	

STORMWATER MANAGEMENT POND REPORT

SIMPSON ROAD EXTENSION

PROPOSED SWM POND

TOWN OF CALEDON

PROJECT 2019-4841 **AUGUST 2020**

Revision	Description	Prepared		Checked	
		By	Date	By	Date
2.0	Revised Report as per Agency comments	M. Ventresca	August 2020	K. Shahbikian	August 2020
1.0	Revised Report as per Agency comments	M. Ventresca K. Swain	April 2020	K. Shahbikian	April 2020
0.0	Original Report	M. Ventresca	Jan. 2020	K. Shahbikian	Jan. 2020

SCHAEFFERS
CONSULTING ENGINEERS
6 Ronrose Drive
Concord, Ontario L4K 4R3

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APPENDICES

Appendix A: Stormwater Management Calculations

Appendix B: Background Information

Appendix C: Engineering Drawings

1.0 Introduction

1.1 Study Objectives

This Stormwater Management (SWM) Pond Report has been prepared in support of the detailed design of the proposed stormwater management facility located at the North corner of the intersection of the future Simpson Road extension and Mayfield Road within the Town of Caledon.

This report demonstrates that the proposed SWM Pond is designed in accordance with the Town of Caledon, Toronto and Region Conservation Authority (TRCA), and the Ministry of Environment (MOE) stormwater management design criteria for stormwater quality, quantity, and erosion control. Furthermore, the report demonstrates compliancy with the neighbouring site plan functional servicing and stormwater management report. Please refer to the attached drawings in **Appendix C** and refer to the key plan illustrating the location of the proposed pond.

1.2 Background

The following documents were considered in preparing the proposed functional servicing strategy for the proposed development:

- *Stormwater Management Planning and Design Manual,* prepared by Ministry of the Environment Conservation and Parks MECP (March 2003);
- *Town of Caledon Development Standards Manual, Version 5.0,* prepared by Town of Caledon (May 2019);
- *Stormwater Management Criteria,* prepared by Toronto and Region Conservation Authority TRCA (August 2012);
- *Groundwater Monitoring Program Report, Proposed Industrial Building, 100 Pillsworth Road, Caledon,* prepared by Forward Engineering & Associates Inc. (September 2019);
- *Geotechnical Investigation Report, Subsurface Geotechnical Investigation Proposed Industrial Building, 100 Pillsworth Road, Caledon,* prepared by Forward Engineering & Associates Inc. (September 2019);
- *Functional Servicing and Stormwater Management Report, 100 Pillsworth Phase 3 Addition, Caledon,* prepared by MTE Consultants Inc. (March 2019);
- *Simpson Road Extension Stormwater Management Facility* prepared by Wood Group PLC (formerly Amec Foster Wheeler) (December 2017);

1.3 Proposed Development Plan

The Town of Caledon has identified an opportunity to satisfy the Town's Simpson Road extension works in conjunction with the detailed stormwater management schemes of the neighbouring private lands. The Town of Caledon is to provide quantity and quality control for the road ROW area, however in order to optimize the available land, the proposed SWM Pond located at the intersection of the future Simpson Road Extension and Mayfield Road is to provide volumes that will satisfy the criteria of the entire development tributary area of approximately 16.64ha.

Currently, the southern site plan at 100 Pillsworth Road is proceeding with detailed design, and has also been planned to drain to the proposed pond (see **Appendix B** for relevant FSR report excerpts). Therefore, this report will serve as a coordination document that details the SWM Pond design and ensures that capacity is available for all the intended tributary participants.

2.0 Stormwater Management Pond Design

The following sections provide details of the stormwater management (SWM) pond design for the proposed SWM facility at the northern corner of the intersection of Mayfield Road and the future Simpson Road Extension.

2.1 Existing Conditions

The proposed location for the Simpson Road extension pond currently consists of undeveloped farm lands, containing predominantly low-lying vegetation with sparse amounts of trees spread throughout. The area currently drains southwards from the property, and under Mayfield Road where it drains to a tributary of the larger Humber River. The site's location has been identified as being within Humber River Sub-basin 36 as per the SWM Criteria from the TRCA (August, 2012).

2.2 Design Criteria

The Town of Caledon and Toronto and Region Conservation Authority Design Standards require the following stormwater management (SWM) criteria for developments, and are consistent with the criteria used for the original pond design by *Amec Foster Wheeler Environment & Infrastructure*;

- **Quality Control** 80% long term TSS removal for 90% of the cumulative annual runoff;
- **Erosion Control** 25 mm extended detention for forty eight (48) hours;
- **Quantity Control** Provided in accordance with the unitary rates established for the Humber River by the TRCA. The rates are determined based on the equations for Humber River Sub-basin 36 which applies to the site's location. The target rates are presented in **Section 2.4**;
- Furthermore a few different storm distributions should be modelled as per Town and TRCA requirements. These include:
    - 6-hour, 12 hours & 24-hour AES Storm;
    - 6-hour & 12-hour SCS Storm;
    - 4-hour Chicago Storm.

2.3 Proposed Conditions

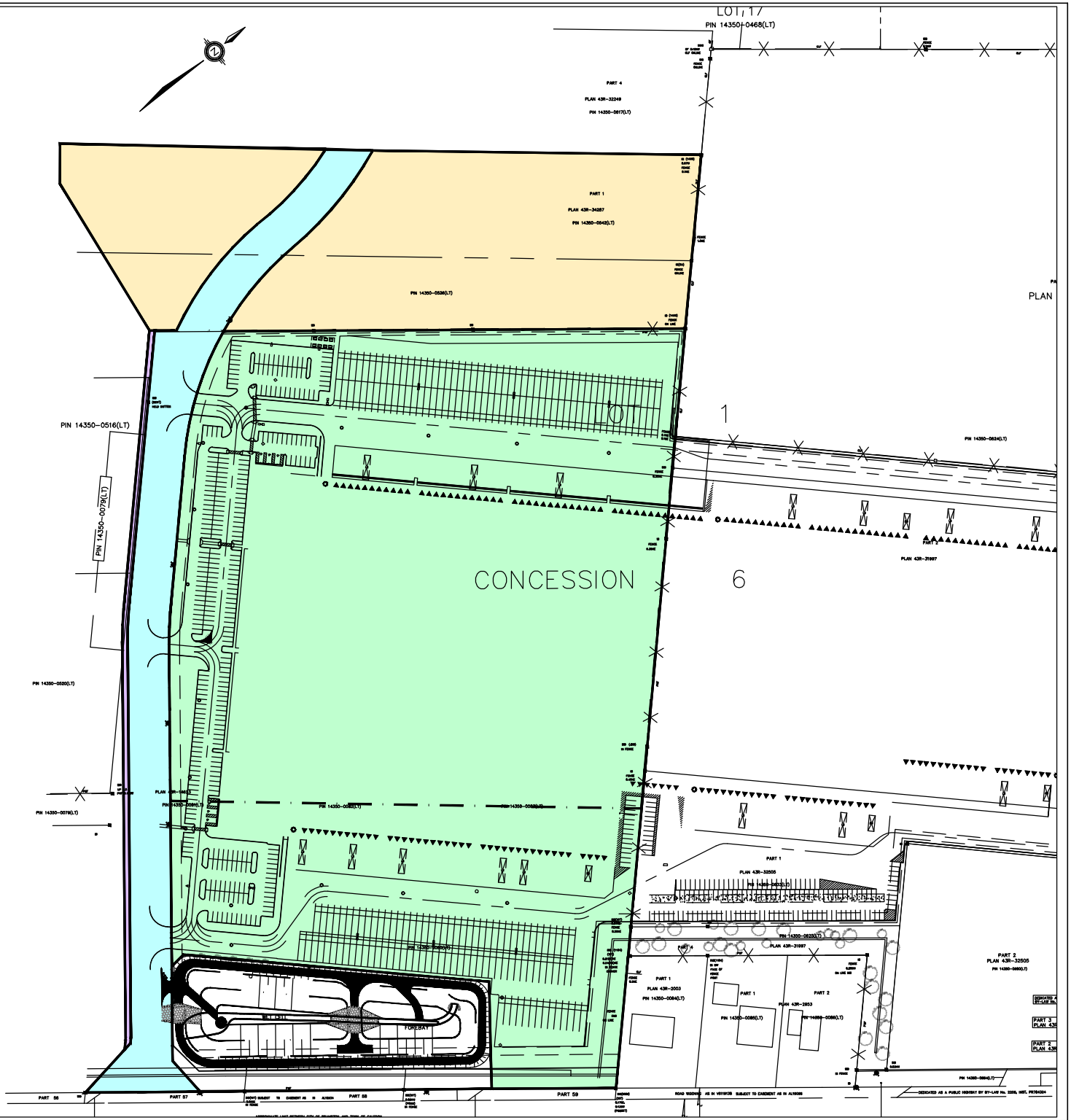
The design of the proposed SWM Pond was originally done by *Amec Foster Wheeler Environment & Infrastructure* in August, 2017. The original pond design was discussed in a SWM brief, attached in **Appendix B** for reference, where the Humber River unitary rates were applied to size the pond. At the time of this analysis the pond was sized to incorporate the two (2) proposed site plans to the north of the proposed SWM facility as well as the Simpson Road Extension. The original design concept was consistent with the Simpson Road Environmental Study Report (AMEC Environment & Infrastructure, December 2012), as well as the Bolton South Industrial Lands Master Environmental Servicing Plan.

As part of the updated design, the SWM pond design has been updated with the latest detailed information from the site plan immediately north of the proposed SWM Pond, this design report is provided in **Appendix B** for reference. This includes an overall 16.64ha tributary area, which will all be controlled to the pond.

Furthermore, the proposed SWM facility will be appropriately sized to provide quality controls for the incoming storm flows. The provided permanent pool volume will be sized based on a target 80% TSS removal or “enhanced” protection level, as per the 2003 MOE design guidelines. Erosion control will be provided extended detention of the 25mm 4hour Chicago storm event over a 48hour period. The pond will be equipped with an appropriately sized spillway and sediment forebay.

Table 2-1 presented below summarizes the post development drainage plan for the subject site. The imperviousness calculations for each block are presented in **Appendix A** for reference. Please refer to below for a schematic illustration of the drainage area to the proposed SWM Pond.

Michael Ventresca



SIMPSON ROAD EXTENSION
SWM POND DESIGN
TOWN OF CALEDON

LEGEND

- CONTROLLED SIMPSON ROAD EXTENSION AREA
  A = 14500m² TIMP = 80%
- CONTROLLED NORTHERN SITE PLAN AREA
  A = 32200m² TIMP = 92.4%
- CONTROLLED SOUTHERN SITE PLAN AREA
  A = 105700m² TIMP = 90.5%
- CONTROLLED SWM POND AREA
  A = 12700m TIMP = 50%
- TOTAL CONTROLLED SWM POND TRIBUTARY AREA
  A = 165100m²
- UNCONTROLLED SIMPSON ROAD EXTENSION AREA
  A = 1250m² CN = 82, I_A = 5

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FIGURE 2-1
PROPOSED STORMWATER
DRAINAGE PLAN

2019-4841	AUGUST 2020	SCALE: N.T.S.

Table 2-1: Post- Development Catchment Area Summary

Catchment ID	Hydrograph Method	Area (ha)	Imperviousness TIMP (%)	CN	Comment
201	STANDHYD	5.27	99%	82	South Site Plan Roof Area
202	STANDHYD	6.57	81%	82	South Site Plan Parking, SWM Pond & Landscape.
203	STANDHYD	2.095	80%	82	North Site Plan Parking & Landscape
204	STANDHYD	1.45	80%	82	Simpson Road Extension
205	STANDHYD	1.125	99%	82	North Site Plan Rooftop Area*
206	NASHYD	0.125	N/A	82	Other Area
Total	-	16.635	-	-	-

**Accounts for 35% of the North Site Plan area as assumed in the 2017 AMEC Brief.*

2.4 Allowable Release Rates

The pond's allowable release rates were established based on the Humber River Watershed Sub-Basin-36 Unit flow equations. A total pre-development drainage area of 16.64ha was used to determine the allowable release. **Table 2-2** below presents the pre-development flow rates as calculated using the unit flow equations.

Table 2-2: Total Allowable Release Rates

Design Storm Event	Humber River Watershed Sub-Basin 36 Unit Flow Equations	Target Unit Release Rate ($m^3/s/ha$)	Target Release Rates (m^3/s)
2 - Year	Q = 9.506 - 0.719 ln(A)	0.0075	0.125
5 - Year	Q = 14.652 - 1.136 ln(A)	0.0115	0.191
10 - Year	Q = 17.957 - 1.373 ln(A)	0.0141	0.235
25 - Year	Q = 22.639 - 1.741 ln(A)	0.0177	0.295
50 - Year	Q = 26.566 - 2.082 ln(A)	0.0207	0.345
100 - Year	Q = 29.912 - 2.316 ln(A)	0.0234	0.389

Note that the 0.125ha area downstream of the SWM Pond will not be controlled and therefore the peak flows from this area are subtracted from the unit flow rates to calculate the allowable release rates of the SWM Pond. The largest peak flow rate from all the relevant design storms was taken for this uncontrolled are to be subtracted from the unit flow rates.

Table 2-3: Pond Allowable Release Rates

Design Storm Event	Design Storm	Target Release Rates (m^3/s)	Uncontrolled Flow Rate (m^3/s)	Adjusted Pond Release Rate (m^3/s)
2 - Year	12 Hour SCS	0.125	0.0042	0.121
5 - Year	12 Hour SCS	0.191	0.0083	0.183
10 - Year	6 Hour SCS	0.235	0.0107	0.224
25 - Year	6 Hour SCS	0.295	0.0147	0.280
50 - Year	6 Hour SCS	0.345	0.0174	0.328
100 - Year	6 Hour SCS	0.389	0.0205	0.369

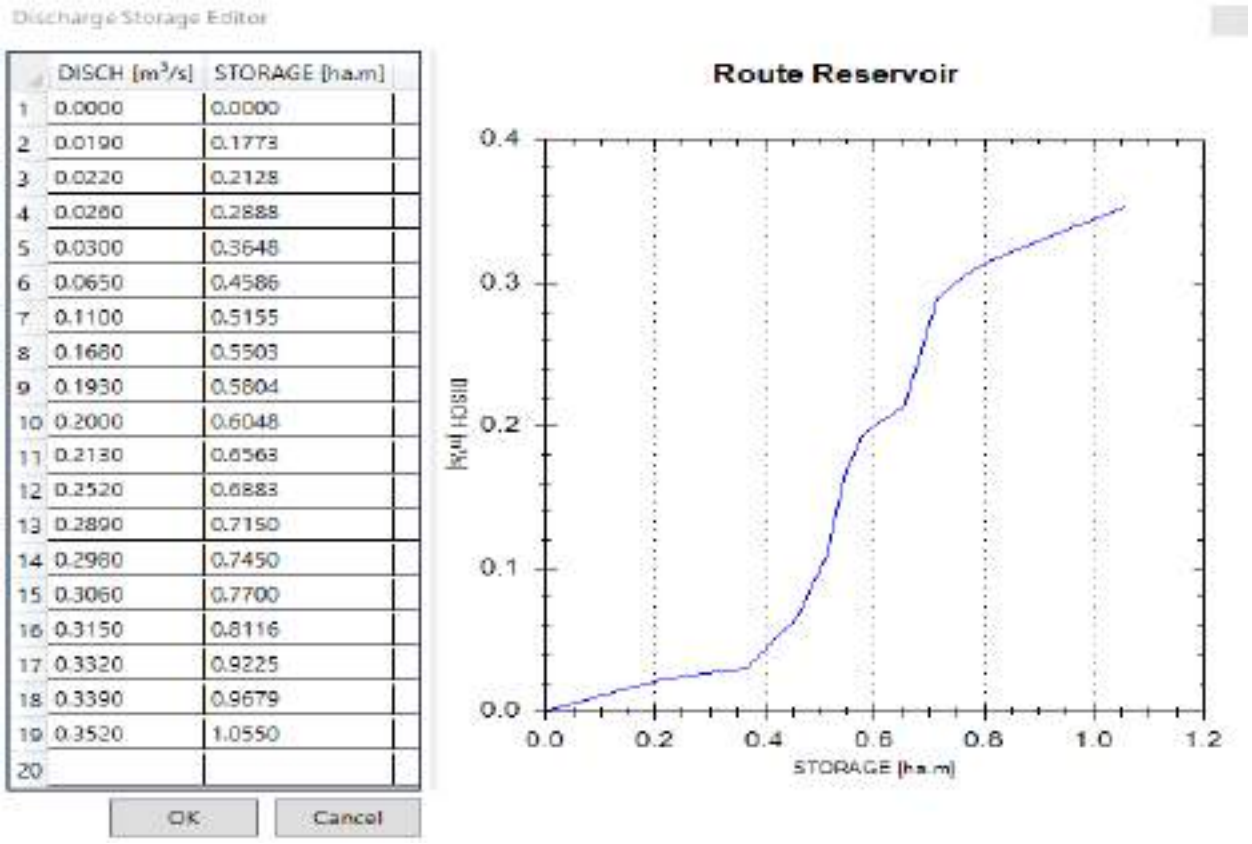
2.5 Erosion Control

The erosion target release rate was established based on the detention of the run-off from a 4-hour 25mm storm event for forty eight (48) hours. As per the calculations presented in **Appendix A**, the required erosion control volume based on the 25mm 4-hour erosion event is estimated to be 3,582m^3 and the target release rate is calculated to be 0.031m^3/s. The entire control area of 16.51ha was considered when estimating the erosion control volume. In order to meet the required erosion control target release rate, it is proposed to have a reverse slope hickenbottom pipe with one (1) 130mmØ orifice plate at the lip invert elevation of 229.0masl. Detailed calculations are attached in **Appendix A**, for reference.

2.6 Quantity Control

As mentioned, quantity control for the controlled 16.64ha area is provided through a proposed multi-orifice structure. The following section describes the measures used to provide quantity control. In order to meet the prescribed unitary rates, the following stage-storage discharge rating curve was used in VO modeling of the pond.

Figure 2-2: Rating Curve used in Visual OTTHYMO



Based on the provided stage-storage-discharge curve the following **Table 2-4** through **Table 2-9** summarize the pond's performance during each of the modeled storm events. Note that the bolded entries indicate the controlling/critical storm for each return period. Associated VO model output has been provided in **Appendix A** for reference.

Table 2-4: SWM Pond Storage Requirements – 12 hr AES

Storm	Required Unitary Release Rate	12-hr AES Release Rate	VO Required Storage	Provided Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)	Volume (m^3)
2-Year	0.121	0.082	4,804	4,850
5-Year	0.183	0.173	5,558	5,850
10-Year	0.224	0.200	6,056	6,350
25-Year	0.280	0.243	6,807	7,150
50-Year	0.328	0.292	7,248	7,900
100-Year	0.369	0.308	7,812	10,550

Table 2-5: SWM Pond Storage Requirements – 12 hr SCS

Storm	Required Unitary Release Rate	12-hr SCS Release Rate	VO Required Storage	Provided Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)	Volume (m^3)
2-Year	0.121	0.065	4,590	4,850
5-Year	0.183	**0.179**	**5,638**	5,850
10-Year	0.224	0.203	6,175	6,350
25-Year	0.280	0.277	7,068	7,150
50-Year	0.328	0.304	7,629	7,900
100-Year	0.369	0.320	8,418	10,550

Table 2-6: SWM Pond Storage Requirements – 24-hr AES

Storm	Required Unitary Release Rate	24-hr AES Release Rate	VO Required Storage	Provided Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)	Volume (m^3)
2-Year	0.121	**0.086**	**4,850**	4,850
5-Year	0.183	0.173	5,564	5,850
10-Year	0.224	0.199	6,006	6,350
25-Year	0.280	0.237	6,762	7,150
50-Year	0.328	0.289	7,152	7,900
100-Year	0.369	0.303	7,622	10,550

Table 2-7: SWM Pond Storage Requirements – 6-hr AES

Storm	Required Unitary Release Rate	6-hr AES Release Rate	VO Required Storage	Provided Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)	Volume (m^3)
2-Year	0.121	0.058	4,389	4,850
5-Year	0.183	0.137	5,317	5,850
10-Year	0.224	0.186	5,718	6,350
25-Year	0.280	0.211	6,485	7,150
50-Year	0.328	0.268	7,002	7,900
100-Year	0.369	0.299	7,498	10,550

Table 2-8: SWM Pond Storage Requirements – 6-hr SCS

Storm	Required Unitary Release Rate	6-hr SCS Release Rate	VO Required Storage	Provided Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)	Volume (m^3)
2-Year	0.121	0.059	4,431	4,850
5-Year	0.183	0.176	5,598	5,850
10-Year	0.224	**0.204**	**6,198**	6,350
25-Year	0.280	**0.280**	**7,105**	7,150
50-Year	0.328	**0.307**	**7,739**	7,900
100-Year	0.369	**0.322**	**8,625**	10,550

Table 2-9: SWM Pond Storage Requirements – 4hr Chicago

Storm	Required Unitary Release Rate	4-hr Chicago Release Rate	VO Required Storage	Provided Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)	Volume (m^3)
2-Year	0.121	0.051	4,203	4,850
5-Year	0.183	0.154	5,417	5,850
10-Year	0.224	0.197	5,962	6,350
25-Year	0.280	0.260	6,942	7,150
50-Year	0.328	0.300	7,499	7,900
100-Year	0.369	0.318	8,334	10,550

As the provided stage-storage-discharge curve and structure produces site flows below the prescribed release rates, it is expected that the proposed pond structure will be sufficient to provide adequate quantity controls on site. Note that the provide storage volumes are shown for the precise water levels that correspond with the release calculated in the hydrology model. The details on the outlet structure and pond volumes can be seen in the design calculations included in **Appendix A** and the provided volumes can be referenced on drawing SWM-1 in **Appendix C**.

2.7 Outlet Control Structure Design

In order to achieve the target release rate specified in **Section 2.4**, the following control structure is proposed. As part of the outlet control structure, an initial 130mmØ orifice plate will be provided via a reverse sloped pipe within the pond to provide the extended detention of the 25mm event. Following this three (3) sets of orifices and DICB's have been proposed in order to meet the required release rates. A summary of the proposed outlet structure is provided in the following, **Table 2-10**. See drawings SWM 2 and SWM-3 in **Appendix C** for details.

Table 2-10: SWM Pond Outlet Control Structure Details

Component	Aperture Description	Size	Invert Elevation (m)
25mm Extended Detention	Reverse slope pipe Orifice Plate	130 mmØ	229.00
2-yr to 100-yr	3 x DICB (3:1 inclined Grate)	1.2 x 0.6 m	229.85 230.00 230.30
2-yr to 100-yr	Orifice Plate	210 mmØ 215 mmØ 175mmØ	229.40 229.40 229.40

Pond Outlet in the Interim Condition

Prior to the proposed Mayfield Road expansion works, the SWM pond will outlet at the temporary headwall (TEMP HW-2) seen on drawing SWM-1 in **Appendix C**.

Pond Outlet in the Ultimate Condition

In the ultimate condition, the interim outlet TEMP HW-2 will be decommissioned and the storm outlet sewer is proposed to be extended to the proposed Headwall (HW-3) downstream of the expanded Mayfield Road ROW.

By-Pass System for Maintenance

It is proposed to have a bypass system for ease of maintenance for the SWM Pond. The bypass pipe is proposed from HW-1 to CTL.MH-9, this way the inflow to the SWM Pond can be temporarily plugged and diverted straight into the watercourse west of the SWM Pond during a period of maintenance. Please refer to drawing SWM-1 in **Appendix C** for details.

2.8 Quality Control

Water quality storage requirements for the proposed SWM Pond's permanent pool have been determined in accordance with Table 3.2 of the MOE SWMPD Manual (March, 2003) for the *Enhanced* quality control of the area of 16.51ha. The required and provided permanent pool volumes are summarized in **Table 2-11**. Permanent pool storage calculations are provided in **Appendix A**. The design drawings for SWM Pond are provided in **Appendix C**.

Table 2-11: Permanent Pool Requirements

Level of Protection	Enhanced (80%)
Drainage Area (Catchment 200+206+209E)	16.51 ha
Weighted Imperviousness	88%
Total Storage Volume Requirement	255 m^3/ha
Minimum Extended Detention Storage Volume Requirement	40 m^3/ha
Permanent Pool Requirement	215 m^3/ha
Required Permanent Pool Storage Volume	3,550 m^3
Provided Permanent Pool Storage Volume	3,601 m^3

2.9 Emergency Spillway

The proposed SWM pond has been designed with an emergency spillway to allow stormwater runoff to safely exit the facility in the event that the outlet fails to function or the storm event is greater than the facility's design (100-year return period). The bottom of the emergency spillway is placed at a lip elevation of 230.85masl, which is above the proposed 100-year high water level of 230.75masl; the top of the spillway is 231.35masl. It will convey flows out of the pond should the water elevation in the pond rise above the provided 100-year water elevation. The flows were compared between the 100-year storm uncontrolled inflows to the pond and it was found that the critical flow occurred from the 100-year 4-hour Chicago storm. During this event a peak flow of 5.00 m^3/s, while the maximum conveyance capacity of the proposed spillway is 7.76 m^3/s refer to **Table 2-12** below and the associated calculations provided in **Appendix A**. Based on this calculation the minimum rip-rap sizing required is a D_{50} of 100mm. Detailed drawings of the spillway are provided in Drawing SWM-1, provided in **Appendix C**.

Table 2-12: SWM Pond Emergency Spillway Design

Bottom width (m)	Top Width (m)	Depth (m)	100-year (4Hr Chic) Inflow (m^3/s)	Capacity (m^3/s)
8	20.5	0.5	5.01	7.76

2.10 Sediment Forebay Design

The function of the sediment forebay is to facilitate maintenance and improve pollutant removal by trapping larger particles from stormwater runoff near the inlet of the pond. The sizing of the sediment forebay is based on the settling length and dispersion length calculations provided in the MOE SWMPD Manual (March 2003). The forebay length should be greater than or equal to the larger of the settling and dispersion lengths.

Sediment forebay sizing calculations for the forebay is provided in **Appendix A** and summarized in **Table 2-13**. The forebay design includes; a forebay length of 54m, measured from forebay inlet to forebay outlet, and an average width of 23m. **Table 2-13** demonstrates that the SWM Pond has provided a forebay of sufficient length, with length to width ratios of at least 2:1 and permanent pool depths of 1.85 m.

Table 2-13: Sediment Forebay Details

Description	Forebay Size
Provided Length-to-Width Ratio	2:1
Provided Permanent Pool Depth	1.85
Required Settling Length	14 m
Required Dispersion Length	23 m
Provided Forebay Length	54 m
Maximum Forebay Width to meet 2:1 requirement	27 m
Provided Forebay Width	23 m

3.0 SUMMARY

This stormwater management report provides an overview of the proposed stormwater management pond design for the Simpson Road extension, the Anatolia industrial building located at 100 Pillsworth Road, as well as the future industrial building immediately north of the Anatolia Development, located within the Town of Caledon. This report demonstrates that the stormwater management pond is adequately designed to service the three (3) tributary developments mentioned above:

Stormwater Management Pond

The proposed stormwater management pond is to provide water quantity controls as per the Humber River Unitary rates for sub-basin 36. Quality control to an enhanced treatment level in accordance with the MECP standards through the implementation of a permanent pool, as well as erosion control for the entire 16.51ha tributary area will be provided within the pond through the extended detention of 4-hour 25mm event for forty eight (48) hours.

Should you have any questions or comments please do not hesitate to call the undersigned.
Respectfully Submitted,

SCHAEFFER & ASSOCIATES LTD.





August 17, 2020

Michael Ventresca, M.Eng., EIT.,
Water Resources Analyst

Koryun Shahbikian, LLM, M.Eng., P.Eng.
Partner

Appendix A
SWM Pond Calculations

Project: 2019-4841
Project Name: Simpson Road Extension SWM Pond

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DICB & Orifice Plate Outlet Structure

	Extended Detention	Outlet 1	DICB 1	Outlet 2	DICB 2	Outlet 3	DICB 3
Invert Elevation / Lip Elevation	229.00	229.40	229.85	229.40	230.00	229.40	230.30
Diameter (mm) / Length (m)	130	210	1.2	215	1.2	175	1.2
Max Area (m^2)	0.013	0.035	-	0.036	-	0.024	-
Number	1	1		1		1	
Coefficient.	0.62	0.62	-	0.62	-	0.62	-
Starting Flow Elevation.(m)	229.00	229.85	-	230.00	-	230.30	-
Top Elevation (m)	232.00	232.00	232.00	232.00	232.00	232.00	232.00

Stage-Storage-Discharge:

Stage		Extended Detention		Outlet 1		DICB 1			Outlet 2		DICB 2			Outlet 3		DICB 3			Pond Storage	Total Flow	VO5 Storage (12HR AES)	VO5 Flow (12HR AES)	VO5 Storage (12HR SCS)	VO5 Flow (12HR SCS)	VO5 Storage (24HR AES)	VO5 Flow (24HR) AES	VO5 Storage (6HR AES)	VO5 Flow (6HR AES)	VO5 Storage (6HR SCS)	VO5 Flow (6HR SCS)	VO5 Storage (Chicago)	VO5 Flow (Chicago)
Water Elevation (m)	Water Elevation Above Perm. Pool (m)	Head (m)	Q (m^3/s)	Head (m)	Q (m^3/s)	Head (m)	Q / m width* ($m^3/s/m$)	Q (m^3/s)	Head (m)	Q (m^3/s)	Head (m)	Q / m width* ($m^3/s/m$)	Q (m^3/s)	Head (m)	Q (m^3/s)	Head (m)	Q / m width* ($m^3/s/m$)	Q (m^3/s)	(m^3)	(m^3/s)	(m^3)	(m^3/s)	(m^3)	(m^3/s)	(m^3)	(m^3/s)	(m^3)	(m^3/s)	(m^3)	(m^3/s)	(m^3)	(m^3/s)
229.00	0.00	na	0.0000	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0	0.000												
229.05	0.05	na	0.0051	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	253	0.005												
229.10	0.10	0.03	0.0101	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	507	0.010												
229.15	0.15	0.09	0.0106	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	760	0.011												
229.20	0.20	0.13	0.0134	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,013	0.013												
229.25	0.25	0.19	0.0157	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,267	0.016												
229.30	0.30	0.24	0.0177	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,520	0.018												
229.35	0.35	0.28	0.0195	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,773	0.019												
229.36	0.36	0.30	0.0199	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,844	0.020												
229.37	0.37	0.31	0.0201	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1,875	0.020												
229.42	0.42	0.35	0.0217	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2,128	0.022												
229.47	0.47	0.40	0.0232	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2,381	0.023												
229.52	0.52	0.46	0.0246	0.02	na	na	na	na	0.01	na	na	na	na	0.03	na	na	na	na	2,635	0.025												
229.57	0.57	0.50	0.0259	0.06	na	na	na	na	0.06	na	na	na	na	0.08	na	na	na	na	2,888	0.026												
229.62	0.62	0.56	0.0272	0.11	na	na	na	na	0.11	na	na	na	na	0.13	na	na	na	na	3,141	0.027												
229.67	0.67	0.60	0.0284	0.16	na	na	na	na	0.16	na	na	na	na	0.18	na	na	na	na	3,395	0.028												
229.72	0.72	0.65	0.0295	0.21	na	na	na	na	0.21	na	na	na	na	0.23	na	na	na	na	3,648	0.030												
229.75	0.75	0.69	0.0302	0.24	na	na	na	na	0.24	na	na	na	na	0.26	na	na	na	na	**3,800**	**0.030**												
229.87	0.87	0.80	0.0327	0.36	0.0574	0.02	0.020	0.012	0.36	na	na	na	na	0.38	na	na	na	na	4,429	0.044							4389	0.058			4203	0.051
229.90	0.90	0.83	0.0333	0.39	0.0598	0.05	0.053	0.032	0.39	na	na	na	na	0.41	na	na	na	na	4,586	0.065									4431	0.059		
229.92	0.92	0.85	0.0337	0.41	0.0613	0.07	0.082	0.049	0.41	na	na	na	na	0.43	na	na	na	na	4,692	0.083			4590	0.065									
229.95	0.95	0.88	0.0343	0.44	0.0635	0.10	0.14	0.18	0.44	na	na	na	na	0.46	na	na	na	na	**4,850**	**0.098**	4804	0.082			**4850**	**0.086**						
230.01	1.01	0.95	0.0354	0.51	0.0676	0.16	0.29	0.27	0.50	0.071	0.01	0.012	0.007	0.52	na	na	na	na	5,155	0.110												
230.06	1.06	1.00	0.0364	0.56	0.0709	0.21	0.45	0.33	0.55	0.074	0.06	0.068	0.041	0.57	na	na	na	na	5,406	0.148							5317	0.137				
230.07	1.07	1.01	0.0366	0.57	0.0715	0.22	0.49	0.34	0.56	0.075	0.07	0.083	0.050	0.58	na	na	na	na	5,456	0.158											5417	0.154
230.08	1.08	1.02	0.0367	0.58	0.0721	0.23	0.52	0.35	0.57	0.075	0.08	0.099	0.059	0.59	na	na	na	na	5,503	0.168												
230.11	1.11	1.05	0.0373	0.61	0.0740	0.26	0.65	0.38	0.60	0.077	0.11	0.158	0.202	0.62	na	na	na	na	**5,654**	**0.189**	5558	0.173	**5638**	**0.179**	5564	0.173			5598	0.176		
230.13	1.13	1.06	0.0375	0.62	0.0749	0.28	0.71	0.39	0.62	0.078	0.13	0.192	0.226	0.64	na	na	na	na	5,729	0.191							5718	0.186				
230.14	1.14	1.07	0.0378	0.635	0.0758	0.29	0.78	0.40	0.63	0.079	0.14	0.230	0.247	0.65	na	na	na	na	5,804	0.193												
230.15	1.15	1.08	0.0380	0.644	0.0763	0.30	0.83	0.41	0.64	0.080	0.15	0.254	0.259	0.66	na	na	na	na	5,850	0.194												
230.17	1.17	1.10	0.0383	0.664	0.0775	0.32	0.93	0.43	0.66	0.081	0.17	0.312	0.284	0.68	na	na	na	na	5,949	0.197												
230.19	1.19	1.12	0.0386	0.684	0.0787	0.34	1.04	0.44	0.68	0.082	0.19	0.376	0.307	0.70	na	na	na	na	6,048	0.200					6006	0.199					5962	0.197
230.21	1.21	1.14	0.0390	0.704	0.0798	0.36	1.15	0.46	0.70	0.084	0.21	0.445	0.328	0.72	na	na	na	na	6,147	0.202	6056	0.200										
230.25	1.25	1.19	0.0397	0.745	0.0821	0.40	1.40	0.49	0.74	0.086	0.25	0.605	0.368	0.76	na	na	na	na	**6,350**	**0.208**			6175	0.203					**6198**	**0.204**		
230.29	1.29	1.22	0.0403	0.785	0.0843	0.44	1.66	0.51	0.78	0.088	0.29	0.784	0.403	0.80	na	na	na	na	6,563	0.213							6485	0.211				
230.31	1.31	1.25	0.0407	0.805	0.0853	0.46	1.80	0.53	0.80	0.089	0.31	0.882	0.419	0.82	0.060	0.01	0.012	0.007	6,670	0.222												
230.33	1.33	1.27	0.0410	0.825	0.0864	0.48	1.95	0.54	0.82	0.090	0.33	0.986	0.435	0.84	0.061	0.03	0.029	0.018	6,777	0.235					6762	0.237						
230.35	1.35	1.28	0.0413	0.845	0.0874	0.50	2.10	0.55	0.84	0.092	0.35	1.096	0.450	0.86	0.061	0.05	0.053	0.032	6,883	0.252	6807	0.243										
230.37	1.37	1.31	0.0416	0.865	0.0885	0.52	2.26	0.56	0.86	0.093	0.37	1.212	0.465	0.88	0.062	0.07	0.082	0.049	6,990	0.272											6942	0.260
230.39	1.39	1.32	0.0420	0.885	0.0895	0.54	2.43	0.57	0.88	0.094	0.39	1.333	0.479	0.90	0.063	0.09	0.117	0.070	7,097	0.288			7068	0.277			7002	0.268				
230.40	1.40	1.34	0.0421	0.895	0.0900	0.55	2.51	0.58	0.89	0.094	0.40	1.396	0.486	0.91	0.063	0.10	0.137	0.185	**7,150**	**0.289**									**7105**	**0.283**		
230.43	1.43	1.36	0.0426	0.924	0.0914	0.58	2.76	0.60	0.92	0.096	0.43	1.585	0.505	0.94	0.064	0.13	0.202	0.231	7,294	0.294	7248	0.292			7152	0.289						
230.44	1.44	1.38	0.0427	0.935	0.0920	0.59	2.86	0.60	0.93	0.096	0.44	1.662	0.513	0.95	0.064	0.14	0.230	0.247	7,350	0.295												
230.46	1.46	1.40	0.0431	0.955	0.0930	0.61	3.05	0.61	0.95	0.097	0.46	1.803	0.526	0.97	0.065	0.16	0.285	0.273	7,450	0.298												
230.48	1.48	1.41	0.0434	0.975	0.0939	0.630	3.238	0.625	0.97	0.098	0.48	1.950	0.539	0.99	0.066	0.18	0.346	0.297	7,550	0.301							7498	0.299			7499	0.300
230.49	1.49	1.43	0.0435	0.985	0.0944	0.640	3.336	0.631	0.98	0.099	0.49	2.026	0.545	1.00	0.066	0.19	0.379	0.308	7,600	0.303												
230.51	1.51	1.44	0.0438	1.005	0.0954	0.660	3.535	0.641	1.00	0.100	0.51	2.182	0.557	1.02	0.067	0.21	0.448	0.329	7,700	0.306			7629	0.304	7622	0.303						
230.53	1.53	1.47	0.0441	1.025	0.0963	0.680	3.740	0.652	1.02	0.101	0.53	2.344	0.569	1.04	0.067	0.23	0.523	0.349	**7,800**	**0.309**									**7739**	**0.307**		
230.55	1.55	1.49	0.0444	1.045	0.0972	0.700	3.950	0.662	1.04	0.102	0.55	2.511	0.581	1.06	0.068	0.25	0.605	0.368	7,900	0.312	7812	0.308										
230.57	1.57	1.51	0.0448	1.069	0.0984	0.724	4.216	0.674	1.07	0.103	0.57	2.724	0.595	1.09	0.069	0.27	0.712	0.389	8,116	0.315												
230.60	1.60	1.53	0.0452	1.095	0.100	0.750	4.502	0.687	1.09	0.104	0.60	2.955	0.609	1.11	0.070	0.30	0.832	0.411	8,342	0.319											8334	0.318
230.65	1.65	1.59	0.0459	1.145	0.102	0.800	5.089	0.711	1.14	0.107	0.65	3.434	0.636	1.16	0.071	0.35	1.096	0.450	**8,783**	**0.325**			8418	0.320					**8625**	**0.323**		
230.70	1.70	1.63	0.0466	1.195	0.104	0.850	5.713	0.734	1.19	0.109	0.70	3.950	0.662	1.21	0.073	0.40	1.396	0.486	9,225	0.332												
230.75	1.75	1.69	0.0473	1.246	0.106	0.901	6.392	0.757	1.24	0.111	0.75	4.518	0.688	1.26	0.074	0.45	1.742	0.520	9,679	0.339												
230.85	1.85	1.78	0.0487	1.345	0.110	1.000	7.799	0.800	1.34	0.116	0.85	5.713	0.734	1.36	0.077	0.55	2.511	0.581	10,550	0.352												

na - not applicable

* - from MTO Design Chart 4.20 for grate slope of 6 :1

Storm Event

SCE File: 2019-4841

Revised: 2020-07-24

Project # **4841** **Simpson Road Extension**

Date: **7/24/2020**

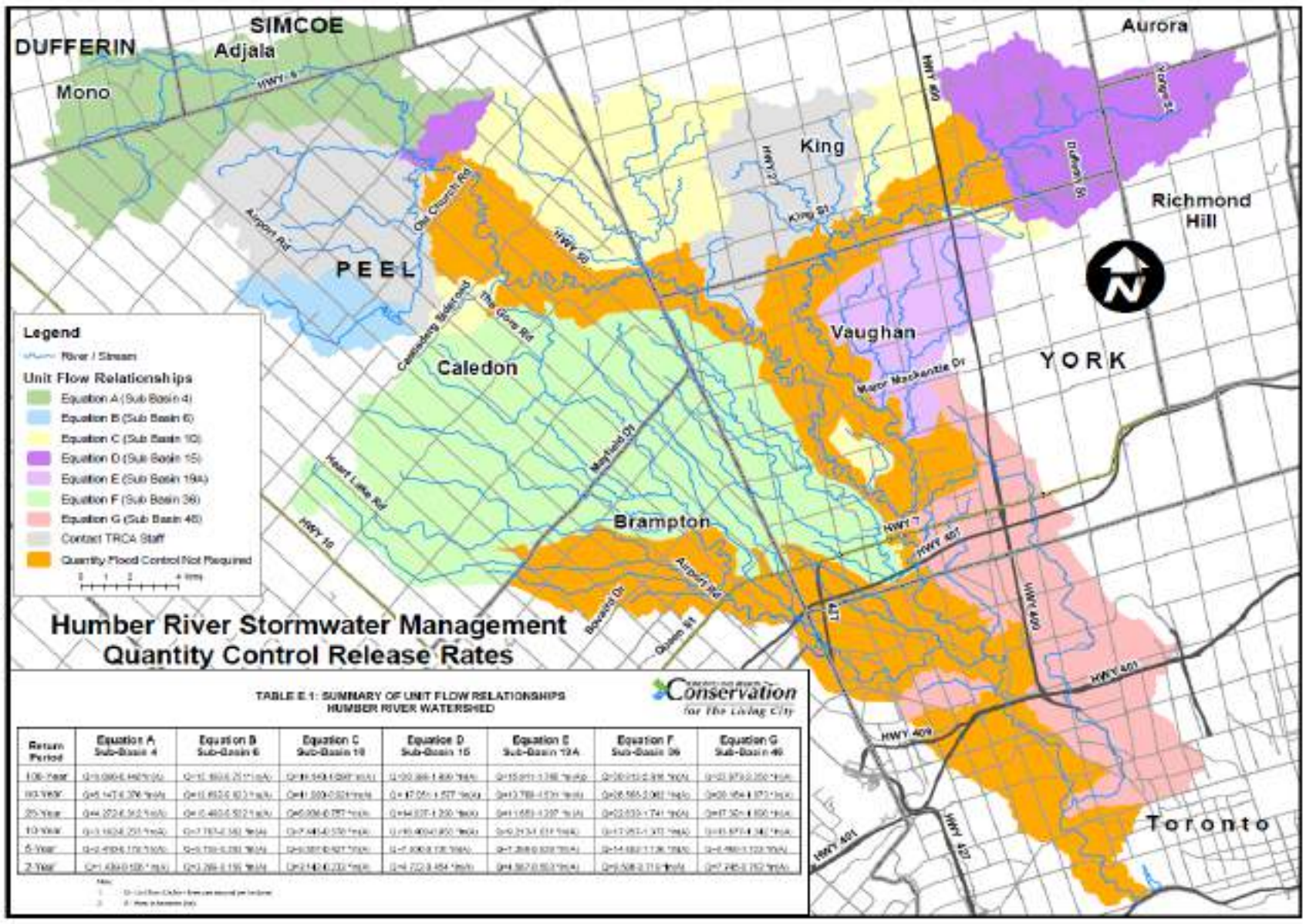
Pre-Development Parameters		**Post Development Parameters**	
Total Site	16.64	**Total Post Development area**	**16.64 ha**
Total Area	**16.64**		
		Controlled Area	16.51 ha
		Uncontrolled Area	0.13 ha

	Target Release Rate	Actual Release Rate (SWM Pond)	SWM Pond Storage Volume		
			Required Storage Volume	Project Water Level	Provided Storage Volume
Storm event	(m^3/s)	(m^3/s)	(m^3)	(m)	(m^3)
Permanent Pool	--	--	3550	229.00	3750
Erosion Control[1]	0.031	0.030	3582	229.75	3800
2 - Year	0.125	0.098	4850	229.95	4850
5 - Year	0.191	0.189	5638	230.15	5850
10 - Year	0.235	0.208	6198	230.25	6350
25 - Year	0.295	0.289	7105	230.40	7150
50 - Year	0.345	0.309	7739	230.55	7900
100 - Year	0.389	0.352	8625	230.85	10550

Simpson Road Extension
SWM Pond
ALLOWABLE RELEASE RATES

Pre-development Drainage Area = 16.64 ha

Design Storm Event	*Humber River Watershed Sub-Basin 36 Unit Flow Equations*	*Target Unit Release Rate ($m^3/s/ha$)*	*Target Release Rates (m^3/s)*
2 - Year	Q = 9.506 - 0.719 ln(A)	0.0075	0.125
5 - Year	Q = 14.652 - 1.136 ln(A)	0.0115	0.191
10 - Year	Q = 17.957 - 1.373 ln(A)	0.0141	0.235
25 - Year	Q = 22.639 - 1.741 ln(A)	0.0177	0.295
50 - Year	Q = 26.566 - 2.082 ln(A)	0.0207	0.345
100 - Year	Q = 29.912 - 2.316 ln(A)	0.0234	0.389



Simpson Road Extension
WATER QUALITY REQUIREMENT CALCULATIONS
SWM Pond (Ultimate)

Table: Water Quality Storage Requirements Based on Receiving Waters

Protection Level	SWMP Type	Storage Volume (m^3/ha) for Impervious Level					
		0%	35%	55%	70%	85%	100%
Level 1	Wet Pond	53	140	190	225	250	275

* For wet ponds, all of the storage, except for 40 m^3/ha represents the permanent pool volume.
The 40 m^3/ha represents extended detention storage.

Input:

Estimated Imperviousness = 88%
Area = 16.51 ha

Level of Protection : 1
SWMP Type : Wet Pond

Calculation:

Total Storage Volume Required =	**255**	**m^3/ha →**	**4,210**	**m^3**
Permanent Pool Volume =	**215**	**m^3/ha →**	**3,550**	**m^3**
Active Storage Volume =	40	m^3/ha →	660	m^3

Proposed Conditio Hydrological Modelling Parameters

Catch ID	*Description*	Hydrograph Method	Area, A (ha)	Perv. CN	Perv. Ia (mm)	Imperviousness (%) TIMP	Imperviousness (%) XIMP	A*TIMP	A*XIMP	Peak (Tp (hrs)
1. Controlled Area										
201	South Site Plan Roof Area	STANDHYD	5.27	82	5	*99*	*99*	5.22	5.22	
202	South Site Plan Parking and Landscape	STANDHYD	6.57	82	5	*81*	*81*	5.32	5.32	
203	North Site plan Parking and Landscape	STANDHYD	2.10	82	5	*80*	*80*	1.68	1.68	
204	Simpson Road Extension	STANDHYD	1.45	82	5	*80*	*80*	1.16	1.16	
205	North Siteplan Roff Area (35% of NorthSite Plan Area)	STANDHYD	1.125	82	5	*99*	*99*	1.11	1.11	
	Sub Total		**16.51**					**14.49**	**14.49**	
1. Uncontrolled Area										
206	External Area	NASHYD	0.125	82	5	0		0		0.25
	Sub Total		**0.125**							
	Total		**16.635**							

0.877574

NB:

Parameters adopted from:

100 Pillsworth Road Phase 3 Addition, Functional Servicing and Stormwater Management Report, dated March 1, 2009 and Simpson Road Extension Stormwater Management Facility Memo, dated August 31, 2017.

Simpson Road Extension
EROSION CONTROL CALCULATIONS
SWM POND 1

Based on 25mm Storm Event Releasing over 48-Hour Period

Run: Erosion Show All Runs

Run	NHYD	DT [hr]	AREA [ha]	PKFW [m^3/s]	TP [hr]	RV [mm]	DWF [m^3/s]
Erosion	266	0.0833	16.5100	0.9525	1.5000	21.6968	0.0000

Input:

Area =	16.51	ha
R.V =	21.6968	mm
Draw Down Time =	48	hrs

Calculations:

Required Storage =	3,582	m^3
Average Outflow =	0.021	m^3/s
Peak Outflow =	0.031	m^3/s (Estimated at 1.5 times Average Outflow)

Simpson Road Extension - SWM Pond
EMERGENCY SPILLWAY CAPACITY/EROSION TREATMENT

Weir Parameters

Weir Length (L) (Longitudinal)	7	m	
Crest Bottom Length (B)	**8**	m	(Perpendicular to Flow)
Crest Top Length (B)	**20.5**	m	(Perpendicular to Flow)
Q_{100} (100-year peak flow)	**5.01**	m^3/s	
Crest Elevation	230.85	m	
Top of Weir Elevation	231.35	m	
Depth of Weir	0.50	m	

Weir Calculations ($Q = Cd * b * H^{3/2}$)

Water Level (H)	H/L	Cd	Q
0.10	0.014	1.40	0.631
0.20	0.029	1.43	1.823
0.30	0.043	1.50	3.512
0.40	0.057	1.53	5.516
0.50	0.071	1.54	7.759

With a flow width (B) of	14.25	m
And a depth of	0.50	m
Maximum flow is	7.76	m^3/s

See MTO Drainage Manual - Chapter 8 - Pp 121-123

Erosion Treatment

Bottom Width	=	14	m
Side Slope	=	3.00	:1
Depth	=	0.50	m
Flow Area	=	7.88	m^2
Wetted Perimeter	=	17.41	m
Max Flow	=	7.76	m^3/s
Maximum Velocity	=	0.99	m/s
1/R	=	2.21	
Tractive force, T	=	3.34	kg/m^2 (From MTO Design Chart 2.24)
Stone Size, D_{50}	=	100	mm
Critical Shear Stress, T_{cb}	=	0.0642 x D50	(MTO, Equation 5.31)
	=	6.42	kg/m^2

O.K. - the critical shear stress capacity of the stone is greater than the tractive force of the flow

Simpson Road Extension - SWM Pond
EMERGENCY SPILLWAY CAPACITY/EROSION TREATMENT

Weir Parameters

Weir Length (L) (Longitudinal)	7	m	
Crest Bottom Length (B)	**5**	m	(Perpendicular to Flow)
Crest Top Length (B)	**17.5**	m	(Perpendicular to Flow)
Q_{100} (100-year peak flow)	**5.01**	m^3/s	
Q_{REG} (Regional peak flow)	**6.13**	m^3/s	
Crest Elevation	229.00	m	
Top of Weir Elevation	229.50	m	
Depth of Weir	0.50	m	

Weir Calculations ($Q = Cd * b * H^{3/2}$)

Water Level (H)	H/L	Cd	Q
0.050	0.007	1.40	0.176
0.100	0.014	1.40	0.498
0.200	0.029	1.43	1.439
0.300	0.043	1.50	2.773
0.400	0.057	1.53	4.354
0.500	0.071	1.54	6.125

With a flow width (B) of	5.00	m
And a depth of	0.30	m
Maximum flow is	6.13	m^3/s

See MTO Drainage Manual - Chapter 8 - Pp 121-123

Erosion Treatment

Bottom Width	=	5	m
Side Slope	=	3.00	:1
Depth	=	0.50	m
Flow Area	=	3.25	m^2
Wetted Perimeter	=	8.16	m
Max Flow	=	6.13	m^3/s
Maximum Velocity	=	1.88	m/s
1/R	=	2.51	
Tractive force, T	=	4.93	kg/m^2 (From MTO Design Chart 2.24)
Stone Size, D_{50}	=	100	mm
Critical Shear Stress, T_{cb}	=	0.0642 x D50	(MTO, Equation 5.31)
	=	6.42	kg/m^2

O.K. - the critical shear stress capacity of the stone is greater than the tractive force of the flow

PROJECT NO: *Simpson Road Extension*
DESCRIPTION: *SWM Pond*
DATE: *December 2017*

SCHAEFFERS
CONSULTING ENGINEERS

FOREBAY SETTLING LENGTH

ref: SWM Planning & Design Manual (MOE, March 2003)

$Dist = (rQ_p / V_s)^{1/2}$, where

Dist = forebay length (m)
r = Length to width ratio of forebay (>2:1)
Q_p = peak flowrate from the pond during design quality storm (m^3/s)
V_s = settling velocity in the forebay (m/s)

r =	2		(2:1)
Q_p =	0.031	m^3/s	(required erosion outflow rate)
V_s =	0.0003	m	(based on 150μm particles)

Dist = 14 metres

DISPERSION LENGTH

ref: SWM Planning & Design Manual (MOE, March 2003)

$D = 8Q / dV_f$, where

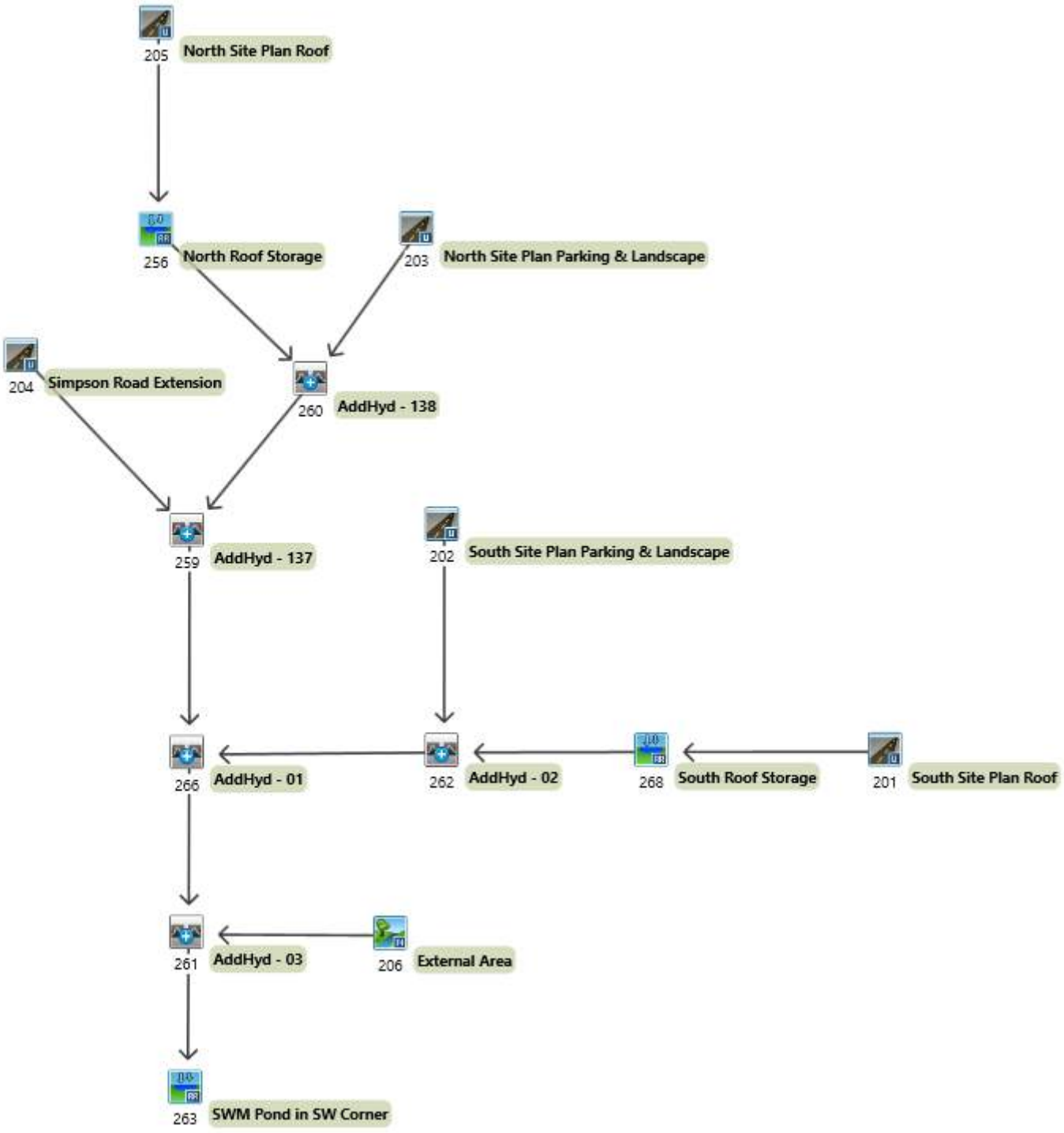
D = length of dispersion (m)
Q = 5 year inlet flowrate (m^3/s)
d = depth of permanent pool in forebay (m)
V_f = desired velocity in the forebay (m/s)

Q =	2.646	m^3/s	(from hydrologic model)
d =	1.85	m	
V_f =	0.5	m/s	(MOEE empirical value)

D = 23 m

Forebay Length Required: 23 metres
Forebay Length Provided: 54 metres

VO MODEL OUTPUT & CD



SCHAEFFERS
CONSULTING ENGINEERS

Post-development Visual OTTHYMO™ Schematic
4 Hour Chicago 2-100 Year

Job #: 2018-4841	**Date: July 2020**

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================================================================================
============================

       V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 07/06/2020                          TIME: 04:29:09

USER:


COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 10 Year Chicago               **
  ***********************************************


--------------------
| CHICAGO STORM    |    IDF curve parameters: A=2221.000
| Ptotal= 58.62 mm |                          B=  12.000
--------------------                          C=   0.908
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.17    2.39 |  1.17   37.17 |  2.17    8.06 |  3.17    3.05
                 0.33    2.89 |  1.33  134.16 |  2.33    6.42 |  3.33    2.75
                 0.50    3.65 |  1.50   50.03 |  2.50    5.30 |  3.50    2.50
                 0.67    4.89 |  1.67   24.37 |  2.67    4.50 |  3.67    2.29
                 0.83    7.23 |  1.83   15.14 |  2.83    3.89 |  3.83    2.11
                 1.00   12.87 |  2.00   10.64 |  3.00    3.42 |  4.00    1.96


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                                ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    2.39 | 1.083   37.17 | 2.083    8.06 |  3.08    3.05
                 0.167    2.39 | 1.167   37.17 | 2.167    8.06 |  3.17    3.05
                 0.250    2.89 | 1.250  134.16 | 2.250    6.42 |  3.25    2.75
                 0.333    2.89 | 1.333  134.16 | 2.333    6.42 |  3.33    2.75
                 0.417    3.65 | 1.417   50.03 | 2.417    5.30 |  3.42    2.50
                 0.500    3.65 | 1.500   50.03 | 2.500    5.30 |  3.50    2.50
                 0.583    4.89 | 1.583   24.37 | 2.583    4.50 |  3.58    2.29
                 0.667    4.89 | 1.667   24.37 | 2.667    4.50 |  3.67    2.29
                 0.750    7.23 | 1.750   15.14 | 2.750    3.89 |  3.75    2.11
                 0.833    7.23 | 1.833   15.14 | 2.833    3.89 |  3.83    2.11
                 0.917   12.87 | 1.917   10.64 | 2.917    3.42 |  3.92    1.96
                 1.000   12.87 | 2.000   10.64 | 3.000    3.42 |  4.00    1.96

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.010 (i)
    TIME TO PEAK    (hrs)=   1.583
    RUNOFF VOLUME    (mm)=  26.257
    TOTAL RAINFALL   (mm)=  58.616
    RUNOFF COEFFICIENT   =   0.448

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=2221.000
| Ptotal= 58.62 mm |                          B=  12.000
--------------------                          C=   0.908
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    2.39 |  1.17   37.17 |  2.17    8.06 |  3.17    3.05
                  0.33    2.89 |  1.33  134.16 |  2.33    6.42 |  3.33    2.75
                  0.50    3.65 |  1.50   50.03 |  2.50    5.30 |  3.50    2.50
                  0.67    4.89 |  1.67   24.37 |  2.67    4.50 |  3.67    2.29
                  0.83    7.23 |  1.83   15.14 |  2.83    3.89 |  3.83    2.11
                  1.00   12.87 |  2.00   10.64 |  3.00    3.42 |  4.00    1.96


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11          0.01
```

```
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

```
     Max.Eff.Inten.(mm/hr)=     134.16        55.75
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.08 (ii)    3.08 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.31         0.27
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.41         0.00          0.415 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      57.62        26.28          57.30
     TOTAL RAINFALL   (mm)=      58.62        58.62          58.62
     RUNOFF COEFFICIENT   =       0.98         0.45           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0470      0.0750

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)    1.125      0.415      1.33      57.30
   OUTFLOW: ID= 1 (  0256)    1.125      0.030      2.00      56.95

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.19
                 TIME SHIFT OF PEAK FLOW         (min)= 40.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0476

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=2221.000
| Ptotal= 58.62 mm |                          B=  12.000
--------------------                          C=   0.908
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.39	1.17	37.17	2.17	8.06	3.17	3.05
0.33	2.89	1.33	134.16	2.33	6.42	3.33	2.75
0.50	3.65	1.50	50.03	2.50	5.30	3.50	2.50
0.67	4.89	1.67	24.37	2.67	4.50	3.67	2.29
0.83	7.23	1.83	15.14	2.83	3.89	3.83	2.11
1.00	12.87	2.00	10.64	3.00	3.42	4.00	1.96

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

```
     Max.Eff.Inten.(mm/hr)=     134.16        55.75
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.51 (ii)    6.11 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.62         0.05          0.657 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      57.62        26.28          51.35
     TOTAL RAINFALL   (mm)=      58.62        58.62          58.62
     RUNOFF COEFFICIENT   =       0.98         0.45           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  82.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.657     1.33    51.35
     + ID2= 2 (  0256):     1.12   0.030     2.00    56.95
       ================================================
       ID = 3 (  0260):     3.22   0.675     1.33    53.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=2221.000
| Ptotal= 58.62 mm |                          B=  12.000
--------------------                          C=   0.908
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.39	1.17	37.17	2.17	8.06	3.17	3.05
0.33	2.89	1.33	134.16	2.33	6.42	3.33	2.75
0.50	3.65	1.50	50.03	2.50	5.30	3.50	2.50
0.67	4.89	1.67	24.37	2.67	4.50	3.67	2.29
0.83	7.23	1.83	15.14	2.83	3.89	3.83	2.11
1.00	12.87	2.00	10.64	3.00	3.42	4.00	1.96

```
--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

```
     Max.Eff.Inten.(mm/hr)=     134.16        55.75
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.25 (ii)    5.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.43         0.04          0.458 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      57.62        26.28          51.35
     TOTAL RAINFALL   (mm)=      58.62        58.62          58.62
     RUNOFF COEFFICIENT   =       0.98         0.45           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  82.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.458     1.33    51.35
     + ID2= 2 (  0260):     3.22   0.675     1.33    53.30
       ================================================
       ID = 3 (  0259):     4.67   1.133     1.33    52.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=2221.000
| Ptotal= 58.62 mm |                          B=  12.000
--------------------                          C=   0.908
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.39	1.17	37.17	2.17	8.06	3.17	3.05
0.33	2.89	1.33	134.16	2.33	6.42	3.33	2.75
0.50	3.65	1.50	50.03	2.50	5.30	3.50	2.50
0.67	4.89	1.67	24.37	2.67	4.50	3.67	2.29
0.83	7.23	1.83	15.14	2.83	3.89	3.83	2.11
1.00	12.87	2.00	10.64	3.00	3.42	4.00	1.96

```
--------------------
```

```
| CALIB           |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

```
     Max.Eff.Inten.(mm/hr)=     134.16        55.75
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       3.31 (ii)    4.31 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.26         0.23
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.87         0.01          1.883 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=      57.62        26.28          57.30
     TOTAL RAINFALL   (mm)=      58.62        58.62          58.62
     RUNOFF COEFFICIENT   =       0.98         0.45           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.1959     0.1883
                         0.0980     0.0369    |   0.2939     0.4335

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)    5.270     1.883      1.33      57.30
   OUTFLOW: ID= 1 (  0268)    5.270     0.200      1.92      57.29

     PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.61
     TIME SHIFT OF PEAK FLOW         (min)= 35.00
     MAXIMUM  STORAGE   USED       (ha.m.)=  0.1986

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=2221.000
| Ptotal= 58.62 mm |                          B=  12.000
--------------------                          C=   0.908
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.39	1.17	37.17	2.17	8.06	3.17	3.05
0.33	2.89	1.33	134.16	2.33	6.42	3.33	2.75
0.50	3.65	1.50	50.03	2.50	5.30	3.50	2.50
0.67	4.89	1.67	24.37	2.67	4.50	3.67	2.29
0.83	7.23	1.83	15.14	2.83	3.89	3.83	2.11
1.00	12.87	2.00	10.64	3.00	3.42	4.00	1.96

```
--------------------------------------------------------------------------------
--------------------
| CALIB           |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

```
     Max.Eff.Inten.(mm/hr)=     134.16        55.75
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.54 (ii)    7.05 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.14
                                                    *TOTALS*
     PEAK FLOW       (cms)=       1.90         0.15          2.011 (iii)
```

```
     TIME TO PEAK    (hrs)=       1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=      57.62        26.28         51.66
     TOTAL RAINFALL   (mm)=      58.62        58.62         58.62
     RUNOFF COEFFICIENT   =       0.98         0.45          0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   2.011     1.33    51.66
     + ID2= 2 (  0268):     5.27   0.200     1.92    57.29
       ================================================
       ID = 3 (  0262):    11.84   2.160     1.33    54.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   1.133     1.33    52.70
     + ID2= 2 (  0262):    11.84   2.160     1.33    54.17
       ================================================
       ID = 3 (  0266):    16.51   3.293     1.33    53.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2130     0.6563
                         0.0190     0.1773    |   0.2520     0.6883
                         0.0220     0.2128    |   0.2890     0.7150
                         0.0260     0.2888    |   0.2980     0.7450
                         0.0300     0.3648    |   0.3060     0.7700
                         0.0650     0.4586    |   0.3150     0.8127
                         0.1100     0.5155    |   0.3320     0.9290
                         0.1680     0.5503    |   0.3390     0.9767
                         0.1930     0.5804    |   0.3520     1.0680
                         0.2000     0.6048    |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)    16.510     3.293      1.33      53.75
   OUTFLOW: ID= 1 (  0263)    16.510     0.197      4.08      53.61

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.00
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5962

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.010     1.58    26.26
     + ID2= 2 (  0263):    16.51   0.197     4.08    53.61
       ================================================
       ID = 3 (  0261):    16.64   0.198     4.00    53.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
============================

       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\8504cf40-631c-4016-80fa-66a7da8228b7\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\8504cf40-631c-4016-80fa-66a7da8228b7\s


DATE: 07/06/2020                          TIME: 04:29:09

USER:



COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 100 Year Chicago              **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A=4688.000
| Ptotal= 89.87 mm |                          B=  17.000
--------------------                          C=   0.962
                         used in:   INTENSITY =  A / (t + B)^C
```

```
                     Duration of storm  =  4.00 hrs
                     Storm time step    = 10.00 min
                     Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.89 |  1.17   62.12 |  2.17   12.48 |  3.17    3.91
               0.33    3.67 |  1.33  196.54 |  2.33    9.60 |  3.33    3.44
               0.50    4.88 |  1.50   83.09 |  2.50    7.66 |  3.50    3.05
               0.67    6.96 |  1.67   41.25 |  2.67    6.29 |  3.67    2.73
               0.83   11.02 |  1.83   25.07 |  2.83    5.28 |  3.83    2.47
               1.00   21.03 |  2.00   17.06 |  3.00    4.51 |  4.00    2.24


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.89 | 1.083   62.12 | 2.083   12.48 |  3.08    3.91
              0.167    2.89 | 1.167   62.12 | 2.167   12.48 |  3.17    3.91
              0.250    3.67 | 1.250  196.54 | 2.250    9.60 |  3.25    3.44
              0.333    3.67 | 1.333  196.54 | 2.333    9.60 |  3.33    3.44
              0.417    4.88 | 1.417   83.09 | 2.417    7.66 |  3.42    3.05
              0.500    4.88 | 1.500   83.09 | 2.500    7.66 |  3.50    3.05
              0.583    6.96 | 1.583   41.25 | 2.583    6.29 |  3.58    2.73
              0.667    6.96 | 1.667   41.25 | 2.667    6.29 |  3.67    2.73
              0.750   11.02 | 1.750   25.07 | 2.750    5.28 |  3.75    2.47
              0.833   11.02 | 1.833   25.07 | 2.833    5.28 |  3.83    2.47
              0.917   21.03 | 1.917   17.06 | 2.917    4.51 |  3.92    2.24
              1.000   21.03 | 2.000   17.06 | 3.000    4.51 |  4.00    2.24

     Unit Hyd Qpeak  (cms)=   0.019

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  51.175
     TOTAL RAINFALL   (mm)=  89.870
     RUNOFF COEFFICIENT   =   0.569

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=4688.000
| Ptotal= 89.87 mm |                          B=  17.000
--------------------                          C=   0.962
                     used in:   INTENSITY =  A / (t + B)^C

                     Duration of storm  =  4.00 hrs
                     Storm time step    = 10.00 min
                     Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.89 |  1.17   62.12 |  2.17   12.48 |  3.17    3.91
               0.33    3.67 |  1.33  196.54 |  2.33    9.60 |  3.33    3.44
               0.50    4.88 |  1.50   83.09 |  2.50    7.66 |  3.50    3.05
               0.67    6.96 |  1.67   41.25 |  2.67    6.29 |  3.67    2.73
               0.83   11.02 |  1.83   25.07 |  2.83    5.28 |  3.83    2.47
               1.00   21.03 |  2.00   17.06 |  3.00    4.51 |  4.00    2.24


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11          0.01
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      86.60         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.89 | 1.083   62.12 | 2.083   12.48 |  3.08    3.91
              0.167    2.89 | 1.167   62.12 | 2.167   12.48 |  3.17    3.91
              0.250    3.67 | 1.250  196.54 | 2.250    9.60 |  3.25    3.44
              0.333    3.67 | 1.333  196.54 | 2.333    9.60 |  3.33    3.44
              0.417    4.88 | 1.417   83.09 | 2.417    7.66 |  3.42    3.05
              0.500    4.88 | 1.500   83.09 | 2.500    7.66 |  3.50    3.05
              0.583    6.96 | 1.583   41.25 | 2.583    6.29 |  3.58    2.73
              0.667    6.96 | 1.667   41.25 | 2.667    6.29 |  3.67    2.73
              0.750   11.02 | 1.750   25.07 | 2.750    5.28 |  3.75    2.47
              0.833   11.02 | 1.833   25.07 | 2.833    5.28 |  3.83    2.47
              0.917   21.03 | 1.917   17.06 | 2.917    4.51 |  3.92    2.24
              1.000   21.03 | 2.000   17.06 | 3.000    4.51 |  4.00    2.24

     Max.Eff.Inten.(mm/hr)=     196.54       110.60
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      1.79 (ii)    2.65 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.32         0.29
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.61         0.00         0.610 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.33          1.33
     RUNOFF VOLUME    (mm)=     88.87        51.22         88.49
     TOTAL RAINFALL   (mm)=     89.87        89.87         89.87
     RUNOFF COEFFICIENT   =      0.99         0.57          0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
```

```
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470      0.0750

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)      1.125      0.610      1.33      88.49
   OUTFLOW: ID= 1 (  0256)      1.125      0.047      2.00      88.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.67
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0748
```

```
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=4688.000
| Ptotal= 89.87 mm |                          B=  17.000
--------------------                          C=   0.962
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.89	1.17	62.12	2.17	12.48	3.17	3.91
0.33	3.67	1.33	196.54	2.33	9.60	3.33	3.44
0.50	4.88	1.50	83.09	2.50	7.66	3.50	3.05
0.67	6.96	1.67	41.25	2.67	6.29	3.67	2.73
0.83	11.02	1.83	25.07	2.83	5.28	3.83	2.47
1.00	21.03	2.00	17.06	3.00	4.51	4.00	2.24

```
--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.89	1.083	62.12	2.083	12.48	3.08	3.91
0.167	2.89	1.167	62.12	2.167	12.48	3.17	3.91
0.250	3.67	1.250	196.54	2.250	9.60	3.25	3.44
0.333	3.67	1.333	196.54	2.333	9.60	3.33	3.44
0.417	4.88	1.417	83.09	2.417	7.66	3.42	3.05
0.500	4.88	1.500	83.09	2.500	7.66	3.50	3.05
0.583	6.96	1.583	41.25	2.583	6.29	3.58	2.73
0.667	6.96	1.667	41.25	2.667	6.29	3.67	2.73
0.750	11.02	1.750	25.07	2.750	5.28	3.75	2.47
0.833	11.02	1.833	25.07	2.833	5.28	3.83	2.47
0.917	21.03	1.917	17.06	2.917	4.51	3.92	2.24
1.000	21.03	2.000	17.06	3.000	4.51	4.00	2.24

```
     Max.Eff.Inten.(mm/hr)=     196.54       110.60
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.16 (ii)    5.25 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.91         0.11          1.000 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=      88.87        51.22         81.34
     TOTAL RAINFALL   (mm)=      89.87        89.87         89.87
     RUNOFF COEFFICIENT   =       0.99         0.57          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   1.000     1.33    81.34
     + ID2= 2 (  0256):     1.12   0.047     2.00    88.14
       ================================================
       ID = 3 (  0260):     3.22   1.028     1.33    83.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=4688.000
| Ptotal= 89.87 mm |                          B=  17.000
--------------------                          C=   0.962
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.89	1.17	62.12	2.17	12.48	3.17	3.91
0.33	3.67	1.33	196.54	2.33	9.60	3.33	3.44
0.50	4.88	1.50	83.09	2.50	7.66	3.50	3.05
0.67	6.96	1.67	41.25	2.67	6.29	3.67	2.73
0.83	11.02	1.83	25.07	2.83	5.28	3.83	2.47
1.00	21.03	2.00	17.06	3.00	4.51	4.00	2.24

```
--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
```

```
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.89 | 1.083   62.12 | 2.083   12.48 |  3.08    3.91
              0.167    2.89 | 1.167   62.12 | 2.167   12.48 |  3.17    3.91
              0.250    3.67 | 1.250  196.54 | 2.250    9.60 |  3.25    3.44
              0.333    3.67 | 1.333  196.54 | 2.333    9.60 |  3.33    3.44
              0.417    4.88 | 1.417   83.09 | 2.417    7.66 |  3.42    3.05
              0.500    4.88 | 1.500   83.09 | 2.500    7.66 |  3.50    3.05
              0.583    6.96 | 1.583   41.25 | 2.583    6.29 |  3.58    2.73
              0.667    6.96 | 1.667   41.25 | 2.667    6.29 |  3.67    2.73
              0.750   11.02 | 1.750   25.07 | 2.750    5.28 |  3.75    2.47
              0.833   11.02 | 1.833   25.07 | 2.833    5.28 |  3.83    2.47
              0.917   21.03 | 1.917   17.06 | 2.917    4.51 |  3.92    2.24
              1.000   21.03 | 2.000   17.06 | 3.000    4.51 |  4.00    2.24

     Max.Eff.Inten.(mm/hr)=     196.54       110.60
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      1.93 (ii)    5.02 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.31         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.63         0.08      0.695 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42       1.33
     RUNOFF VOLUME    (mm)=     88.87        51.22      81.34
     TOTAL RAINFALL   (mm)=     89.87        89.87      89.87
     RUNOFF COEFFICIENT   =      0.99         0.57       0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.695     1.33    81.34
     + ID2= 2 (  0260):     3.22   1.028     1.33    83.71
       ================================================
       ID = 3 (  0259):     4.67   1.723     1.33    82.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=4688.000
| Ptotal= 89.87 mm |                          B=  17.000
--------------------                          C=   0.962
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.89 |  1.17   62.12 |  2.17   12.48 |  3.17    3.91
                0.33    3.67 |  1.33  196.54 |  2.33    9.60 |  3.33    3.44
                0.50    4.88 |  1.50   83.09 |  2.50    7.66 |  3.50    3.05
                0.67    6.96 |  1.67   41.25 |  2.67    6.29 |  3.67    2.73
                0.83   11.02 |  1.83   25.07 |  2.83    5.28 |  3.83    2.47
                1.00   21.03 |  2.00   17.06 |  3.00    4.51 |  4.00    2.24

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.89 | 1.083   62.12 | 2.083   12.48 |  3.08    3.91
              0.167    2.89 | 1.167   62.12 | 2.167   12.48 |  3.17    3.91
              0.250    3.67 | 1.250  196.54 | 2.250    9.60 |  3.25    3.44
              0.333    3.67 | 1.333  196.54 | 2.333    9.60 |  3.33    3.44
              0.417    4.88 | 1.417   83.09 | 2.417    7.66 |  3.42    3.05
              0.500    4.88 | 1.500   83.09 | 2.500    7.66 |  3.50    3.05
              0.583    6.96 | 1.583   41.25 | 2.583    6.29 |  3.58    2.73
              0.667    6.96 | 1.667   41.25 | 2.667    6.29 |  3.67    2.73
              0.750   11.02 | 1.750   25.07 | 2.750    5.28 |  3.75    2.47
              0.833   11.02 | 1.833   25.07 | 2.833    5.28 |  3.83    2.47
              0.917   21.03 | 1.917   17.06 | 2.917    4.51 |  3.92    2.24
              1.000   21.03 | 2.000   17.06 | 3.000    4.51 |  4.00    2.24

     Max.Eff.Inten.(mm/hr)=     196.54       110.60
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      2.84 (ii)    3.70 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.28         0.25
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.79         0.02      2.807 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.33       1.33
     RUNOFF VOLUME    (mm)=     88.87        51.22      88.49
     TOTAL RAINFALL   (mm)=     89.87        89.87      89.87
     RUNOFF COEFFICIENT   =      0.99         0.57       0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1959      0.1883
                         0.0980     0.0369   |   0.2939      0.4335

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)     5.270     2.807      1.33      88.49
   OUTFLOW: ID= 1 (  0268)     5.270     0.251      2.00      88.48

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.96
                 TIME SHIFT OF PEAK FLOW         (min)= 40.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.3273

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=4688.000
| Ptotal= 89.87 mm |                          B=  17.000
--------------------                          C=   0.962
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.89 |  1.17   62.12 |  2.17   12.48 |  3.17    3.91
               0.33    3.67 |  1.33  196.54 |  2.33    9.60 |  3.33    3.44
               0.50    4.88 |  1.50   83.09 |  2.50    7.66 |  3.50    3.05
               0.67    6.96 |  1.67   41.25 |  2.67    6.29 |  3.67    2.73
               0.83   11.02 |  1.83   25.07 |  2.83    5.28 |  3.83    2.47
               1.00   21.03 |  2.00   17.06 |  3.00    4.51 |  4.00    2.24


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    2.89 | 1.083   62.12 | 2.083   12.48 |  3.08    3.91
             0.167    2.89 | 1.167   62.12 | 2.167   12.48 |  3.17    3.91
             0.250    3.67 | 1.250  196.54 | 2.250    9.60 |  3.25    3.44
             0.333    3.67 | 1.333  196.54 | 2.333    9.60 |  3.33    3.44
             0.417    4.88 | 1.417   83.09 | 2.417    7.66 |  3.42    3.05
             0.500    4.88 | 1.500   83.09 | 2.500    7.66 |  3.50    3.05
             0.583    6.96 | 1.583   41.25 | 2.583    6.29 |  3.58    2.73
             0.667    6.96 | 1.667   41.25 | 2.667    6.29 |  3.67    2.73
             0.750   11.02 | 1.750   25.07 | 2.750    5.28 |  3.75    2.47
             0.833   11.02 | 1.833   25.07 | 2.833    5.28 |  3.83    2.47
             0.917   21.03 | 1.917   17.06 | 2.917    4.51 |  3.92    2.24
             1.000   21.03 | 2.000   17.06 | 3.000    4.51 |  4.00    2.24

     Max.Eff.Inten.(mm/hr)=     196.54       110.60
                 over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.04 (ii)    6.05 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.27         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.83         0.31          3.087 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      88.87        51.22          81.72
     TOTAL RAINFALL   (mm)=      89.87        89.87          89.87
     RUNOFF COEFFICIENT   =       0.99         0.57           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   3.087     1.33    81.72
     + ID2= 2 (  0268):     5.27   0.251     2.00    88.48
       ================================================
       ID = 3 (  0262):    11.84   3.280     1.33    84.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   1.723     1.33    82.98
     + ID2= 2 (  0262):    11.84   3.280     1.33    84.72
       ================================================
       ID = 3 (  0266):    16.51   5.003     1.33    84.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2130      0.6563
                         0.0190     0.1773   |   0.2520      0.6883
                         0.0220     0.2128   |   0.2890      0.7150
                         0.0260     0.2888   |   0.2980      0.7450
```

```
                        0.0300     0.3648   |   0.3060      0.7700
                        0.0650     0.4586   |   0.3150      0.8127
                        0.1100     0.5155   |   0.3320      0.9290
                        0.1680     0.5503   |   0.3390      0.9767
                        0.1930     0.5804   |   0.3520      1.0680
                        0.2000     0.6048   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)    16.510     5.003      1.33      84.23
   OUTFLOW: ID= 1 (  0263)    16.510     0.318      3.83      84.09

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.36
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8335

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--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.021     1.58    51.17
     + ID2= 2 (  0263):    16.51   0.318     3.83    84.09
       ================================================
       ID = 3 (  0261):    16.64   0.319     3.67    83.84

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\29bd5170-cfb7-467d-aabf-cbae28c2ed47\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\29bd5170-cfb7-467d-aabf-cbae28c2ed47\s


DATE: 07/06/2020                          TIME: 04:29:09

USER:
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COMMENTS: _____

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  ***********************************************
  ** SIMULATION : 2 Year Chicago                **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1070.000
| Ptotal= 34.22 mm |                          B=   7.850
--------------------                          C=   0.876
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

     TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
      hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.17    1.53 |  1.17   19.60 |  2.17    4.48 |  3.17    1.89
     0.33    1.81 |  1.33   85.72 |  2.33    3.65 |  3.33    1.73
     0.50    2.22 |  1.50   26.59 |  2.50    3.08 |  3.50    1.59
     0.67    2.87 |  1.67   12.64 |  2.67    2.66 |  3.67    1.47
     0.83    4.06 |  1.83    7.99 |  2.83    2.34 |  3.83    1.37
     1.00    6.86 |  2.00    5.76 |  3.00    2.10 |  4.00    1.29

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
     TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
      hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
    0.083    1.53 | 1.083   19.60 | 2.083    4.48 |  3.08    1.89
    0.167    1.53 | 1.167   19.60 | 2.167    4.48 |  3.17    1.89
    0.250    1.81 | 1.250   85.72 | 2.250    3.65 |  3.25    1.73
    0.333    1.81 | 1.333   85.72 | 2.333    3.65 |  3.33    1.73
    0.417    2.22 | 1.417   26.59 | 2.417    3.08 |  3.42    1.59
    0.500    2.22 | 1.500   26.59 | 2.500    3.08 |  3.50    1.59
    0.583    2.87 | 1.583   12.64 | 2.583    2.66 |  3.58    1.47
    0.667    2.87 | 1.667   12.64 | 2.667    2.66 |  3.67    1.47
    0.750    4.06 | 1.750    7.99 | 2.750    2.34 |  3.75    1.37
    0.833    4.06 | 1.833    7.99 | 2.833    2.34 |  3.83    1.37
    0.917    6.86 | 1.917    5.76 | 2.917    2.10 |  3.92    1.29
    1.000    6.86 | 2.000    5.76 | 3.000    2.10 |  4.00    1.29

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.004 (i)
    TIME TO PEAK    (hrs)=   1.583
    RUNOFF VOLUME    (mm)=  10.033
    TOTAL RAINFALL   (mm)=  34.218
    RUNOFF COEFFICIENT   =   0.293

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| CHICAGO STORM    |    IDF curve parameters: A=1070.000
| Ptotal= 34.22 mm |                          B=   7.850
-------------------                          C=   0.876
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    1.53 |  1.17   19.60 |  2.17    4.48 |  3.17    1.89
               0.33    1.81 |  1.33   85.72 |  2.33    3.65 |  3.33    1.73
               0.50    2.22 |  1.50   26.59 |  2.50    3.08 |  3.50    1.59
               0.67    2.87 |  1.67   12.64 |  2.67    2.66 |  3.67    1.47
               0.83    4.06 |  1.83    7.99 |  2.83    2.34 |  3.83    1.37
               1.00    6.86 |  2.00    5.76 |  3.00    2.10 |  4.00    1.29


--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    1.53 | 1.083   19.60 | 2.083    4.48 |  3.08    1.89
              0.167    1.53 | 1.167   19.60 | 2.167    4.48 |  3.17    1.89
              0.250    1.81 | 1.250   85.72 | 2.250    3.65 |  3.25    1.73
              0.333    1.81 | 1.333   85.72 | 2.333    3.65 |  3.33    1.73
              0.417    2.22 | 1.417   26.59 | 2.417    3.08 |  3.42    1.59
              0.500    2.22 | 1.500   26.59 | 2.500    3.08 |  3.50    1.59
              0.583    2.87 | 1.583   12.64 | 2.583    2.66 |  3.58    1.47
              0.667    2.87 | 1.667   12.64 | 2.667    2.66 |  3.67    1.47
              0.750    4.06 | 1.750    7.99 | 2.750    2.34 |  3.75    1.37
              0.833    4.06 | 1.833    7.99 | 2.833    2.34 |  3.83    1.37
              0.917    6.86 | 1.917    5.76 | 2.917    2.10 |  3.92    1.29
              1.000    6.86 | 2.000    5.76 | 3.000    2.10 |  4.00    1.29

     Max.Eff.Inten.(mm/hr)=      85.72        20.65
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      2.49 (ii)    3.69 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.29         0.25
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.26         0.00          0.262 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=     33.22        10.05          32.98
     TOTAL RAINFALL   (mm)=     34.22        34.22          34.22
     RUNOFF COEFFICIENT   =      0.97         0.29           0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0470      0.0750

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)      1.125     0.262      1.33      32.98
   OUTFLOW: ID= 1 (  0256)      1.125     0.017      2.00      32.63

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.51
                TIME SHIFT OF PEAK FLOW         (min)= 40.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0273

--------------------------------------------------------------------------------
-------------------
| CHICAGO STORM    |    IDF curve parameters: A=1070.000
| Ptotal= 34.22 mm |                          B=   7.850
-------------------                          C=   0.876
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    1.53 |  1.17   19.60 |  2.17    4.48 |  3.17    1.89
               0.33    1.81 |  1.33   85.72 |  2.33    3.65 |  3.33    1.73
               0.50    2.22 |  1.50   26.59 |  2.50    3.08 |  3.50    1.59
               0.67    2.87 |  1.67   12.64 |  2.67    2.66 |  3.67    1.47
               0.83    4.06 |  1.83    7.99 |  2.83    2.34 |  3.83    1.37
               1.00    6.86 |  2.00    5.76 |  3.00    2.10 |  4.00    1.29


--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.53	1.083	19.60	2.083	4.48	3.08	1.89
0.167	1.53	1.167	19.60	2.167	4.48	3.17	1.89
0.250	1.81	1.250	85.72	2.250	3.65	3.25	1.73
0.333	1.81	1.333	85.72	2.333	3.65	3.33	1.73
0.417	2.22	1.417	26.59	2.417	3.08	3.42	1.59
0.500	2.22	1.500	26.59	2.500	3.08	3.50	1.59
0.583	2.87	1.583	12.64	2.583	2.66	3.58	1.47
0.667	2.87	1.667	12.64	2.667	2.66	3.67	1.47
0.750	4.06	1.750	7.99	2.750	2.34	3.75	1.37
0.833	4.06	1.833	7.99	2.833	2.34	3.83	1.37
0.917	6.86	1.917	5.76	2.917	2.10	3.92	1.29
1.000	6.86	2.000	5.76	3.000	2.10	4.00	1.29

Max.Eff.Inten.(mm/hr)=		85.72	20.65	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.00 (ii)	7.31 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.28	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.39	0.02	0.401 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	33.22	10.05	28.58
TOTAL RAINFALL	(mm)=	34.22	34.22	34.22
RUNOFF COEFFICIENT	=	0.97	0.29	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0203):	2.10	0.401	1.33	28.58
	+ ID2= 2 (0256):	1.12	0.017	2.00	32.63
	ID = 3 (0260):	3.22	0.411	1.33	30.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CHICAGO STORM	IDF curve parameters: A=1070.000
Ptotal= 34.22 mm	B= 7.850
	C= 0.876

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	1.53	1.17	19.60	2.17	4.48	3.17	1.89
0.33	1.81	1.33	85.72	2.33	3.65	3.33	1.73
0.50	2.22	1.50	26.59	2.50	3.08	3.50	1.59
0.67	2.87	1.67	12.64	2.67	2.66	3.67	1.47
0.83	4.06	1.83	7.99	2.83	2.34	3.83	1.37
1.00	6.86	2.00	5.76	3.00	2.10	4.00	1.29

CALIB	
STANDHYD (0204)	Area (ha)= 1.45
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.53	1.083	19.60	2.083	4.48	3.08	1.89
0.167	1.53	1.167	19.60	2.167	4.48	3.17	1.89
0.250	1.81	1.250	85.72	2.250	3.65	3.25	1.73
0.333	1.81	1.333	85.72	2.333	3.65	3.33	1.73
0.417	2.22	1.417	26.59	2.417	3.08	3.42	1.59
0.500	2.22	1.500	26.59	2.500	3.08	3.50	1.59
0.583	2.87	1.583	12.64	2.583	2.66	3.58	1.47
0.667	2.87	1.667	12.64	2.667	2.66	3.67	1.47
0.750	4.06	1.750	7.99	2.750	2.34	3.75	1.37
0.833	4.06	1.833	7.99	2.833	2.34	3.83	1.37
0.917	6.86	1.917	5.76	2.917	2.10	3.92	1.29
1.000	6.86	2.000	5.76	3.000	2.10	4.00	1.29

Max.Eff.Inten.(mm/hr)=		85.72	20.65	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.69 (ii)	7.00 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.29	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.27	0.01	0.280 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	33.22	10.05	28.58
TOTAL RAINFALL	(mm)=	34.22	34.22	34.22
RUNOFF COEFFICIENT	=	0.97	0.29	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3					

```
       ID1= 1 (  0204):     1.45   0.280     1.33    28.58
     + ID2= 2 (  0260):     3.22   0.411     1.33    30.00
       ================================================
       ID = 3 (  0259):     4.67   0.691     1.33    29.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1070.000
| Ptotal= 34.22 mm |                          B=   7.850
--------------------                          C=   0.876
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    1.53 |  1.17   19.60 |  2.17    4.48 |  3.17    1.89
                0.33    1.81 |  1.33   85.72 |  2.33    3.65 |  3.33    1.73
                0.50    2.22 |  1.50   26.59 |  2.50    3.08 |  3.50    1.59
                0.67    2.87 |  1.67   12.64 |  2.67    2.66 |  3.67    1.47
                0.83    4.06 |  1.83    7.99 |  2.83    2.34 |  3.83    1.37
                1.00    6.86 |  2.00    5.76 |  3.00    2.10 |  4.00    1.29



--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    1.53 | 1.083   19.60 | 2.083    4.48 |  3.08    1.89
               0.167    1.53 | 1.167   19.60 | 2.167    4.48 |  3.17    1.89
               0.250    1.81 | 1.250   85.72 | 2.250    3.65 |  3.25    1.73
               0.333    1.81 | 1.333   85.72 | 2.333    3.65 |  3.33    1.73
               0.417    2.22 | 1.417   26.59 | 2.417    3.08 |  3.42    1.59
               0.500    2.22 | 1.500   26.59 | 2.500    3.08 |  3.50    1.59
               0.583    2.87 | 1.583   12.64 | 2.583    2.66 |  3.58    1.47
               0.667    2.87 | 1.667   12.64 | 2.667    2.66 |  3.67    1.47
               0.750    4.06 | 1.750    7.99 | 2.750    2.34 |  3.75    1.37
               0.833    4.06 | 1.833    7.99 | 2.833    2.34 |  3.83    1.37
               0.917    6.86 | 1.917    5.76 | 2.917    2.10 |  3.92    1.29
               1.000    6.86 | 2.000    5.76 | 3.000    2.10 |  4.00    1.29

     Max.Eff.Inten.(mm/hr)=      85.72        20.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.96 (ii)    5.16 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.24         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=      1.16         0.00          1.166 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=     33.22        10.05         32.99
     TOTAL RAINFALL   (mm)=     34.22        34.22         34.22
     RUNOFF COEFFICIENT   =      0.97         0.29          0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270      1.166      1.33      32.99
   OUTFLOW: ID= 1 (  0268)      5.270      0.144      1.75      32.97

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.36
                  TIME SHIFT OF PEAK FLOW         (min)= 25.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1084

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1070.000
| Ptotal= 34.22 mm |                          B=   7.850
--------------------                          C=   0.876
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    1.53 |  1.17   19.60 |  2.17    4.48 |  3.17    1.89
                0.33    1.81 |  1.33   85.72 |  2.33    3.65 |  3.33    1.73
                0.50    2.22 |  1.50   26.59 |  2.50    3.08 |  3.50    1.59
                0.67    2.87 |  1.67   12.64 |  2.67    2.66 |  3.67    1.47
                0.83    4.06 |  1.83    7.99 |  2.83    2.34 |  3.83    1.37
                1.00    6.86 |  2.00    5.76 |  3.00    2.10 |  4.00    1.29



--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
```

```
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    1.53 | 1.083   19.60 | 2.083    4.48 |  3.08    1.89
              0.167    1.53 | 1.167   19.60 | 2.167    4.48 |  3.17    1.89
              0.250    1.81 | 1.250   85.72 | 2.250    3.65 |  3.25    1.73
              0.333    1.81 | 1.333   85.72 | 2.333    3.65 |  3.33    1.73
              0.417    2.22 | 1.417   26.59 | 2.417    3.08 |  3.42    1.59
              0.500    2.22 | 1.500   26.59 | 2.500    3.08 |  3.50    1.59
              0.583    2.87 | 1.583   12.64 | 2.583    2.66 |  3.58    1.47
              0.667    2.87 | 1.667   12.64 | 2.667    2.66 |  3.67    1.47
              0.750    4.06 | 1.750    7.99 | 2.750    2.34 |  3.75    1.37
              0.833    4.06 | 1.833    7.99 | 2.833    2.34 |  3.83    1.37
              0.917    6.86 | 1.917    5.76 | 2.917    2.10 |  3.92    1.29
              1.000    6.86 | 2.000    5.76 | 3.000    2.10 |  4.00    1.29

     Max.Eff.Inten.(mm/hr)=      85.72        20.65
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      4.23 (ii)    8.43 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.24         0.12
                                                      *TOTALS*
     PEAK FLOW       (cms)=      1.17         0.05       1.208 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42        1.33
     RUNOFF VOLUME    (mm)=     33.22        10.05       28.81
     TOTAL RAINFALL   (mm)=     34.22        34.22       34.22
     RUNOFF COEFFICIENT   =      0.97         0.29        0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   1.208     1.33    28.81
     + ID2= 2 (  0268):     5.27   0.144     1.75    32.97
       ================================================
       ID = 3 (  0262):    11.84   1.324     1.33    30.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.691     1.33    29.56
     + ID2= 2 (  0262):    11.84   1.324     1.33    30.66
       ================================================
       ID = 3 (  0266):    16.51   2.015     1.33    30.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2130      0.6563
                          0.0190     0.1773   |   0.2520      0.6883
                          0.0220     0.2128   |   0.2890      0.7150
                          0.0260     0.2888   |   0.2980      0.7450
                          0.0300     0.3648   |   0.3060      0.7700
                          0.0650     0.4586   |   0.3150      0.8127
                          0.1100     0.5155   |   0.3320      0.9290
                          0.1680     0.5503   |   0.3390      0.9767
                          0.1930     0.5804   |   0.3520      1.0680
                          0.2000     0.6048   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510     2.015      1.33      30.35
   OUTFLOW: ID= 1 (  0263)     16.510     0.051      5.08      30.21

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.52
                TIME SHIFT OF PEAK FLOW         (min)=225.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4203

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.004     1.58    10.03
     + ID2= 2 (  0263):    16.51   0.051     5.08    30.21
       ================================================
       ID = 3 (  0261):    16.64   0.051     5.08    30.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****
```

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\d0e94bad-d0c1-4b0d-a3e4-fac57b58e0c0\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\d0e94bad-d0c1-4b0d-a3e4-fac57b58e0c0\s

DATE: 07/06/2020                          TIME: 04:29:09

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 25 Year Chicago               **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A=3158.000
| Ptotal= 71.59 mm |                          B=  15.000
--------------------                          C=   0.933
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.68 |  1.17   47.76 |  2.17   10.11 |  3.17    3.51
               0.33    3.31 |  1.33  156.47 |  2.33    7.92 |  3.33    3.13
               0.50    4.28 |  1.50   63.86 |  2.50    6.44 |  3.50    2.81
               0.67    5.90 |  1.67   31.72 |  2.67    5.38 |  3.67    2.55
               0.83    9.00 |  1.83   19.56 |  2.83    4.59 |  3.83    2.33
               1.00   16.53 |  2.00   13.56 |  3.00    3.99 |  4.00    2.15


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.68 | 1.083   47.76 | 2.083   10.11 |  3.08    3.51
              0.167    2.68 | 1.167   47.76 | 2.167   10.11 |  3.17    3.51
              0.250    3.31 | 1.250  156.47 | 2.250    7.92 |  3.25    3.13
              0.333    3.31 | 1.333  156.47 | 2.333    7.92 |  3.33    3.13
              0.417    4.28 | 1.417   63.86 | 2.417    6.44 |  3.42    2.81
              0.500    4.28 | 1.500   63.86 | 2.500    6.44 |  3.50    2.81
              0.583    5.90 | 1.583   31.72 | 2.583    5.38 |  3.58    2.55
              0.667    5.90 | 1.667   31.72 | 2.667    5.38 |  3.67    2.55
              0.750    9.00 | 1.750   19.56 | 2.750    4.59 |  3.75    2.33
              0.833    9.00 | 1.833   19.56 | 2.833    4.59 |  3.83    2.33
              0.917   16.53 | 1.917   13.56 | 2.917    3.99 |  3.92    2.15
              1.000   16.53 | 2.000   13.56 | 3.000    3.99 |  4.00    2.15

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.014 (i)
    TIME TO PEAK    (hrs)=   1.583
    RUNOFF VOLUME    (mm)=  36.209
    TOTAL RAINFALL   (mm)=  71.589
    RUNOFF COEFFICIENT   =   0.506

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=3158.000
| Ptotal= 71.59 mm |                          B=  15.000
--------------------                          C=   0.933
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.68 |  1.17   47.76 |  2.17   10.11 |  3.17    3.51
               0.33    3.31 |  1.33  156.47 |  2.33    7.92 |  3.33    3.13
               0.50    4.28 |  1.50   63.86 |  2.50    6.44 |  3.50    2.81
               0.67    5.90 |  1.67   31.72 |  2.67    5.38 |  3.67    2.55
               0.83    9.00 |  1.83   19.56 |  2.83    4.59 |  3.83    2.33
               1.00   16.53 |  2.00   13.56 |  3.00    3.99 |  4.00    2.15


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=          1.11          0.01
    Dep. Storage     (mm)=          1.00          5.00
    Average Slope     (%)=          1.00          2.00
    Length            (m)=         86.60         40.00
    Mannings n           =         0.013         0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.68 | 1.083   47.76 | 2.083   10.11 |  3.08    3.51
              0.167    2.68 | 1.167   47.76 | 2.167   10.11 |  3.17    3.51
              0.250    3.31 | 1.250  156.47 | 2.250    7.92 |  3.25    3.13
              0.333    3.31 | 1.333  156.47 | 2.333    7.92 |  3.33    3.13
              0.417    4.28 | 1.417   63.86 | 2.417    6.44 |  3.42    2.81
              0.500    4.28 | 1.500   63.86 | 2.500    6.44 |  3.50    2.81
              0.583    5.90 | 1.583   31.72 | 2.583    5.38 |  3.58    2.55
              0.667    5.90 | 1.667   31.72 | 2.667    5.38 |  3.67    2.55
              0.750    9.00 | 1.750   19.56 | 2.750    4.59 |  3.75    2.33
              0.833    9.00 | 1.833   19.56 | 2.833    4.59 |  3.83    2.33
              0.917   16.53 | 1.917   13.56 | 2.917    3.99 |  3.92    2.15
              1.000   16.53 | 2.000   13.56 | 3.000    3.99 |  4.00    2.15
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              0.750    9.00 | 1.750   19.56 | 2.750    4.59 |  3.75    2.33
              0.833    9.00 | 1.833   19.56 | 2.833    4.59 |  3.83    2.33
              0.917   16.53 | 1.917   13.56 | 2.917    3.99 |  3.92    2.15
              1.000   16.53 | 2.000   13.56 | 3.000    3.99 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=     156.47        75.73
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      1.96 (ii)    2.90 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.31         0.28
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.48         0.00          0.485 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.33          1.33
     RUNOFF VOLUME    (mm)=     70.59        36.24         70.24
     TOTAL RAINFALL   (mm)=     71.59        71.59         71.59
     RUNOFF COEFFICIENT   =      0.99         0.51          0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0470      0.0750

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)     1.125     0.485      1.33      70.24
   OUTFLOW: ID= 1 (  0256)     1.125     0.037      2.08      69.89

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.58
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0587

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=3158.000
| Ptotal= 71.59 mm |                          B=  15.000
--------------------                          C=   0.933
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    2.68 |  1.17   47.76 |  2.17   10.11 |  3.17    3.51
                  0.33    3.31 |  1.33  156.47 |  2.33    7.92 |  3.33    3.13
                  0.50    4.28 |  1.50   63.86 |  2.50    6.44 |  3.50    2.81
                  0.67    5.90 |  1.67   31.72 |  2.67    5.38 |  3.67    2.55
                  0.83    9.00 |  1.83   19.56 |  2.83    4.59 |  3.83    2.33
                  1.00   16.53 |  2.00   13.56 |  3.00    3.99 |  4.00    2.15


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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.68 | 1.083   47.76 | 2.083   10.11 |  3.08    3.51
               0.167    2.68 | 1.167   47.76 | 2.167   10.11 |  3.17    3.51
               0.250    3.31 | 1.250  156.47 | 2.250    7.92 |  3.25    3.13
               0.333    3.31 | 1.333  156.47 | 2.333    7.92 |  3.33    3.13
               0.417    4.28 | 1.417   63.86 | 2.417    6.44 |  3.42    2.81
               0.500    4.28 | 1.500   63.86 | 2.500    6.44 |  3.50    2.81
               0.583    5.90 | 1.583   31.72 | 2.583    5.38 |  3.58    2.55
               0.667    5.90 | 1.667   31.72 | 2.667    5.38 |  3.67    2.55
               0.750    9.00 | 1.750   19.56 | 2.750    4.59 |  3.75    2.33
               0.833    9.00 | 1.833   19.56 | 2.833    4.59 |  3.83    2.33
               0.917   16.53 | 1.917   13.56 | 2.917    3.99 |  3.92    2.15
               1.000   16.53 | 2.000   13.56 | 3.000    3.99 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=     156.47        75.73
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.36 (ii)    5.75 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.30         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.72         0.07          0.780 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=     70.59        36.24         63.72
     TOTAL RAINFALL   (mm)=     71.59        71.59         71.59
     RUNOFF COEFFICIENT   =      0.99         0.51          0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):      2.10   0.780     1.33    63.72
     + ID2= 2 (  0256):      1.12   0.037     2.08    69.89
       ==================================================
       ID = 3 (  0260):      3.22   0.802     1.33    65.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
| CHICAGO STORM    |    IDF curve parameters: A=3158.000
| Ptotal= 71.59 mm |                          B=  15.000
                                              C=   0.933
                     used in:   INTENSITY =  A / (t + B)^C

                     Duration of storm  =  4.00 hrs
                     Storm time step    = 10.00 min
                     Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.68	1.17	47.76	2.17	10.11	3.17	3.51
0.33	3.31	1.33	156.47	2.33	7.92	3.33	3.13
0.50	4.28	1.50	63.86	2.50	6.44	3.50	2.81
0.67	5.90	1.67	31.72	2.67	5.38	3.67	2.55
0.83	9.00	1.83	19.56	2.83	4.59	3.83	2.33
1.00	16.53	2.00	13.56	3.00	3.99	4.00	2.15

```
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.68	1.083	47.76	2.083	10.11	3.08	3.51
0.167	2.68	1.167	47.76	2.167	10.11	3.17	3.51
0.250	3.31	1.250	156.47	2.250	7.92	3.25	3.13
0.333	3.31	1.333	156.47	2.333	7.92	3.33	3.13
0.417	4.28	1.417	63.86	2.417	6.44	3.42	2.81
0.500	4.28	1.500	63.86	2.500	6.44	3.50	2.81
0.583	5.90	1.583	31.72	2.583	5.38	3.58	2.55
0.667	5.90	1.667	31.72	2.667	5.38	3.67	2.55
0.750	9.00	1.750	19.56	2.750	4.59	3.75	2.33
0.833	9.00	1.833	19.56	2.833	4.59	3.83	2.33
0.917	16.53	1.917	13.56	2.917	3.99	3.92	2.15
1.000	16.53	2.000	13.56	3.000	3.99	4.00	2.15

Max.Eff.Inten.(mm/hr)	=	156.47	75.73	
over (min)		5.00	10.00	
Storage Coeff. (min)	=	2.11 (ii)	5.50 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	10.00	
Unit Hyd. peak (cms)	=	0.31	0.16	
				TOTALS
PEAK FLOW	(cms)=	0.50	0.05	0.543 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	70.59	36.24	63.72
TOTAL RAINFALL	(mm)=	71.59	71.59	71.59
RUNOFF COEFFICIENT	=	0.99	0.51	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD  (  0259)|
|   1 +  2 =  3    |
```

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):		1.45	0.543	1.33	63.72
+ ID2= 2 (0260):		3.22	0.802	1.33	65.88
ID = 3 (0259):		4.67	1.345	1.33	65.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| CHICAGO STORM    |    IDF curve parameters: A=3158.000
| Ptotal= 71.59 mm |                          B=  15.000
                                              C=   0.933
                     used in:   INTENSITY =  A / (t + B)^C

                     Duration of storm  =  4.00 hrs
                     Storm time step    = 10.00 min
                     Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.68	1.17	47.76	2.17	10.11	3.17	3.51
0.33	3.31	1.33	156.47	2.33	7.92	3.33	3.13
0.50	4.28	1.50	63.86	2.50	6.44	3.50	2.81
0.67	5.90	1.67	31.72	2.67	5.38	3.67	2.55
0.83	9.00	1.83	19.56	2.83	4.59	3.83	2.33
1.00	16.53	2.00	13.56	3.00	3.99	4.00	2.15

```
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.68	1.083	47.76	2.083	10.11	3.08	3.51
0.167	2.68	1.167	47.76	2.167	10.11	3.17	3.51

```
              0.250    3.31 | 1.250  156.47 | 2.250    7.92 |  3.25    3.13
              0.333    3.31 | 1.333  156.47 | 2.333    7.92 |  3.33    3.13
              0.417    4.28 | 1.417   63.86 | 2.417    6.44 |  3.42    2.81
              0.500    4.28 | 1.500   63.86 | 2.500    6.44 |  3.50    2.81
              0.583    5.90 | 1.583   31.72 | 2.583    5.38 |  3.58    2.55
              0.667    5.90 | 1.667   31.72 | 2.667    5.38 |  3.67    2.55
              0.750    9.00 | 1.750   19.56 | 2.750    4.59 |  3.75    2.33
              0.833    9.00 | 1.833   19.56 | 2.833    4.59 |  3.83    2.33
              0.917   16.53 | 1.917   13.56 | 2.917    3.99 |  3.92    2.15
              1.000   16.53 | 2.000   13.56 | 3.000    3.99 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=     156.47        75.73
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      3.11 (ii)    4.05 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.27         0.24
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.20         0.01        2.215 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.33         1.33
     RUNOFF VOLUME    (mm)=     70.59        36.24        70.25
     TOTAL RAINFALL   (mm)=     71.59        71.59        71.59
     RUNOFF COEFFICIENT   =      0.99         0.51         0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270      2.215      1.33      70.25
   OUTFLOW: ID= 1 (  0268)      5.270      0.220      1.92      70.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.96
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2498

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=3158.000
| Ptotal= 71.59 mm |                          B=  15.000
--------------------                          C=   0.933
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.68 |  1.17   47.76 |  2.17   10.11 |  3.17    3.51
                0.33    3.31 |  1.33  156.47 |  2.33    7.92 |  3.33    3.13
                0.50    4.28 |  1.50   63.86 |  2.50    6.44 |  3.50    2.81
                0.67    5.90 |  1.67   31.72 |  2.67    5.38 |  3.67    2.55
                0.83    9.00 |  1.83   19.56 |  2.83    4.59 |  3.83    2.33
                1.00   16.53 |  2.00   13.56 |  3.00    3.99 |  4.00    2.15

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--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    2.68 | 1.083   47.76 | 2.083   10.11 |  3.08    3.51
                0.167    2.68 | 1.167   47.76 | 2.167   10.11 |  3.17    3.51
                0.250    3.31 | 1.250  156.47 | 2.250    7.92 |  3.25    3.13
                0.333    3.31 | 1.333  156.47 | 2.333    7.92 |  3.33    3.13
                0.417    4.28 | 1.417   63.86 | 2.417    6.44 |  3.42    2.81
                0.500    4.28 | 1.500   63.86 | 2.500    6.44 |  3.50    2.81
                0.583    5.90 | 1.583   31.72 | 2.583    5.38 |  3.58    2.55
                0.667    5.90 | 1.667   31.72 | 2.667    5.38 |  3.67    2.55
                0.750    9.00 | 1.750   19.56 | 2.750    4.59 |  3.75    2.33
                0.833    9.00 | 1.833   19.56 | 2.833    4.59 |  3.83    2.33
                0.917   16.53 | 1.917   13.56 | 2.917    3.99 |  3.92    2.15
                1.000   16.53 | 2.000   13.56 | 3.000    3.99 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=     156.47        75.73
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.33 (ii)    6.63 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.26         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=      2.23         0.21        2.397 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42         1.33
     RUNOFF VOLUME    (mm)=     70.59        36.24        64.06
     TOTAL RAINFALL   (mm)=     71.59        71.59        71.59
     RUNOFF COEFFICIENT   =      0.99         0.51         0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
```

```
       ID1= 1 (  0202):     6.57   2.397     1.33    64.06
     + ID2= 2 (  0268):     5.27   0.220     1.92    70.23
       ================================================
       ID = 3 (  0262):    11.84   2.563     1.33    66.81

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   1.345     1.33    65.21
     + ID2= 2 (  0262):    11.84   2.563     1.33    66.81
       ================================================
       ID = 3 (  0266):    16.51   3.908     1.33    66.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2130      0.6563
                         0.0190     0.1773   |   0.2520      0.6883
                         0.0220     0.2128   |   0.2890      0.7150
                         0.0260     0.2888   |   0.2980      0.7450
                         0.0300     0.3648   |   0.3060      0.7700
                         0.0650     0.4586   |   0.3150      0.8127
                         0.1100     0.5155   |   0.3320      0.9290
                         0.1680     0.5503   |   0.3390      0.9767
                         0.1930     0.5804   |   0.3520      1.0680
                         0.2000     0.6048   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)    16.510     3.908      1.33      66.35
   OUTFLOW: ID= 1 (  0263)    16.510     0.260      4.00      66.21

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.66
                  TIME SHIFT OF PEAK FLOW         (min)=160.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6942

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.014     1.58    36.21
     + ID2= 2 (  0263):    16.51   0.260     4.00    66.21
       ================================================
       ID = 3 (  0261):    16.64   0.261     4.00    65.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\cf5e7dcc-1985-49a1-a765-5cf26aa15c50\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\cf5e7dcc-1985-49a1-a765-5cf26aa15c50\s


DATE: 07/06/2020                          TIME: 04:29:09

USER:



COMMENTS: _____

--------------------------------------------------------------------------------
--------------------------
  ********************************************
  ** SIMULATION : 5 Year Chicago              **
  ********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1593.000
| Ptotal= 49.55 mm |                          B=  11.000
--------------------                          C=   0.879
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.35 |  1.17   30.47 |  2.17    7.17 |  3.17    2.93
                0.33    2.80 |  1.33  109.68 |  2.33    5.81 |  3.33    2.67
                0.50    3.46 |  1.50   40.71 |  2.50    4.87 |  3.50    2.45
                0.67    4.52 |  1.67   20.28 |  2.67    4.19 |  3.67    2.26
                0.83    6.48 |  1.83   12.91 |  2.83    3.67 |  3.83    2.10
                1.00   11.07 |  2.00    9.28 |  3.00    3.26 |  4.00    1.96
```

```
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
                     U.H. Tp(hrs)=   0.25
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

```
     Unit Hyd Qpeak  (cms)=   0.019

     PEAK FLOW       (cms)=   0.007 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  19.767
     TOTAL RAINFALL   (mm)=  49.553
     RUNOFF COEFFICIENT   =   0.399

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| CHICAGO STORM    |    IDF curve parameters: A=1593.000
| Ptotal= 49.55 mm |                          B=  11.000
                     used in:   INTENSITY =  A / (t + B)^C
                                C=   0.879

                     Duration of storm  =  4.00 hrs
                     Storm time step    = 10.00 min
                     Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.35	1.17	30.47	2.17	7.17	3.17	2.93
0.33	2.80	1.33	109.68	2.33	5.81	3.33	2.67
0.50	3.46	1.50	40.71	2.50	4.87	3.50	2.45
0.67	4.52	1.67	20.28	2.67	4.19	3.67	2.26
0.83	6.48	1.83	12.91	2.83	3.67	3.83	2.10
1.00	11.07	2.00	9.28	3.00	3.26	4.00	1.96

```
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n             =     0.013        0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

```
     Max.Eff.Inten.(mm/hr)=     109.68        39.07
           over (min)             5.00         5.00
     Storage Coeff.  (min)=       2.26 (ii)    3.34 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.30         0.26
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.34         0.00       0.338 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33        1.33
     RUNOFF VOLUME    (mm)=      48.55        19.79       48.26
     TOTAL RAINFALL   (mm)=      49.55        49.55       49.55
     RUNOFF COEFFICIENT   =       0.98         0.40        0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                          (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.0470      0.0750

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)      1.125      0.338      1.33       48.26
   OUTFLOW: ID= 1 (  0256)      1.125      0.025      2.08       47.91

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.31
                TIME SHIFT OF PEAK FLOW         (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0394
```

```
| CHICAGO STORM    |    IDF curve parameters: A=1593.000
| Ptotal= 49.55 mm |                          B=  11.000
--------------------                          C=   0.879
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.35	1.17	30.47	2.17	7.17	3.17	2.93
0.33	2.80	1.33	109.68	2.33	5.81	3.33	2.67
0.50	3.46	1.50	40.71	2.50	4.87	3.50	2.45
0.67	4.52	1.67	20.28	2.67	4.19	3.67	2.26
0.83	6.48	1.83	12.91	2.83	3.67	3.83	2.10
1.00	11.07	2.00	9.28	3.00	3.26	4.00	1.96

```
--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

Max.Eff.Inten.(mm/hr)=		109.68	39.07	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.72 (ii)	6.63 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.29	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.50	0.04	0.529 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	48.55	19.79	42.80
TOTAL RAINFALL	(mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT	=	0.98	0.40	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0203):	2.10	0.529	1.33	42.80
+ ID2= 2 (0256):	1.12	0.025	2.08	47.91
ID = 3 (0260):	3.22	0.543	1.33	44.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=1593.000
| Ptotal= 49.55 mm |                          B=  11.000
--------------------                          C=   0.879
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.35	1.17	30.47	2.17	7.17	3.17	2.93
0.33	2.80	1.33	109.68	2.33	5.81	3.33	2.67
0.50	3.46	1.50	40.71	2.50	4.87	3.50	2.45
0.67	4.52	1.67	20.28	2.67	4.19	3.67	2.26
0.83	6.48	1.83	12.91	2.83	3.67	3.83	2.10
1.00	11.07	2.00	9.28	3.00	3.26	4.00	1.96

```
--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67

0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

			TOTALS
Max.Eff.Inten.(mm/hr)=	109.68	39.07	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.44 (ii)	6.34 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.15	
PEAK FLOW (cms)=	0.35	0.03	0.369 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	48.55	19.79	42.80
TOTAL RAINFALL (mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT =	0.98	0.40	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	1.45	0.369	1.33	42.80
+ ID2= 2 (0260):	3.22	0.543	1.33	44.58
ID = 3 (0259):	4.67	0.912	1.33	44.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CHICAGO STORM	IDF curve parameters: A=1593.000
Ptotal= 49.55 mm	B= 11.000
	C= 0.879

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.35	1.17	30.47	2.17	7.17	3.17	2.93
0.33	2.80	1.33	109.68	2.33	5.81	3.33	2.67
0.50	3.46	1.50	40.71	2.50	4.87	3.50	2.45
0.67	4.52	1.67	20.28	2.67	4.19	3.67	2.26
0.83	6.48	1.83	12.91	2.83	3.67	3.83	2.10
1.00	11.07	2.00	9.28	3.00	3.26	4.00	1.96

CALIB	
STANDHYD (0201)	Area (ha)= 5.27
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

			TOTALS
Max.Eff.Inten.(mm/hr)=	109.68	39.07	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.59 (ii)	4.67 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.26	0.22	
PEAK FLOW (cms)=	1.52	0.01	1.523 (iii)
TIME TO PEAK (hrs)=	1.33	1.33	1.33
RUNOFF VOLUME (mm)=	48.55	19.79	48.27
TOTAL RAINFALL (mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT =	0.98	0.40	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	1.523	1.33	48.27
OUTFLOW: ID= 1 (0268)	5.270	0.178	1.83	48.25

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.67
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1605

--------------------------------------------------------------------------------
-------------------
| CHICAGO STORM    |    IDF curve parameters: A=1593.000
| Ptotal= 49.55 mm |                          B=  11.000
-------------------                          C=   0.879
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.17    2.35 |  1.17   30.47 |  2.17    7.17 |  3.17    2.93
              0.33    2.80 |  1.33  109.68 |  2.33    5.81 |  3.33    2.67
              0.50    3.46 |  1.50   40.71 |  2.50    4.87 |  3.50    2.45
              0.67    4.52 |  1.67   20.28 |  2.67    4.19 |  3.67    2.26
              0.83    6.48 |  1.83   12.91 |  2.83    3.67 |  3.83    2.10
              1.00   11.07 |  2.00    9.28 |  3.00    3.26 |  4.00    1.96


--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.35 | 1.083   30.47 | 2.083    7.17 |  3.08    2.93
              0.167    2.35 | 1.167   30.47 | 2.167    7.17 |  3.17    2.93
              0.250    2.80 | 1.250  109.68 | 2.250    5.81 |  3.25    2.67
              0.333    2.80 | 1.333  109.68 | 2.333    5.81 |  3.33    2.67
              0.417    3.46 | 1.417   40.71 | 2.417    4.87 |  3.42    2.45
              0.500    3.46 | 1.500   40.71 | 2.500    4.87 |  3.50    2.45
              0.583    4.52 | 1.583   20.28 | 2.583    4.19 |  3.58    2.26
              0.667    4.52 | 1.667   20.28 | 2.667    4.19 |  3.67    2.26
              0.750    6.48 | 1.750   12.91 | 2.750    3.67 |  3.75    2.10
              0.833    6.48 | 1.833   12.91 | 2.833    3.67 |  3.83    2.10
              0.917   11.07 | 1.917    9.28 | 2.917    3.26 |  3.92    1.96
              1.000   11.07 | 2.000    9.28 | 3.000    3.26 |  4.00    1.96

     Max.Eff.Inten.(mm/hr)=     109.68        39.07
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.83 (ii)    7.64 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.25         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.53         0.10          1.609 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      48.55        19.79          43.09
     TOTAL RAINFALL   (mm)=      49.55        49.55          49.55
     RUNOFF COEFFICIENT   =       0.98         0.40           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   1.609     1.33    43.09
     + ID2= 2 (  0268):     5.27   0.178     1.83    48.25
       ================================================
       ID = 3 (  0262):    11.84   1.743     1.33    45.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.912     1.33    44.03
     + ID2= 2 (  0262):    11.84   1.743     1.33    45.38
       ================================================
       ID = 3 (  0266):    16.51   2.655     1.33    45.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2130      0.6563
                         0.0190     0.1773   |   0.2520      0.6883
                         0.0220     0.2128   |   0.2890      0.7150
                         0.0260     0.2888   |   0.2980      0.7450
                         0.0300     0.3648   |   0.3060      0.7700
                         0.0650     0.4586   |   0.3150      0.8127
                         0.1100     0.5155   |   0.3320      0.9290
                         0.1680     0.5503   |   0.3390      0.9767
                         0.1930     0.5804   |   0.3520      1.0680
                         0.2000     0.6048   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      2.655      1.33      45.00
   OUTFLOW: ID= 1 (  0263)     16.510      0.154      4.17      44.86

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.78
                TIME SHIFT OF PEAK FLOW         (min)=170.00
```

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                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5417

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--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.007     1.58    19.77
     + ID2= 2 (  0263):    16.51   0.154     4.17    44.86
       ================================================
       ID = 3 (  0261):    16.64   0.154     4.17    44.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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      V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\09f510bb-7666-4313-abe8-5fb20fee11a6\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\09f510bb-7666-4313-abe8-5fb20fee11a6\s


DATE: 07/06/2020                          TIME: 04:29:09

USER:


COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 50 Year Chicago               **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A=3886.000
| Ptotal= 80.32 mm |                          B=  16.000
--------------------                          C=   0.950
                       used in:   INTENSITY =  A / (t + B)^C
                                  Duration of storm  =  4.00 hrs
                                  Storm time step    = 10.00 min
                                  Time to peak ratio =  0.33

 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.17    2.76 |  1.17   54.62 |'  2.17   11.20 |  3.17    3.68
 0.33    3.46 |  1.33  176.19 |'  2.33    8.68 |  3.33    3.25
 0.50    4.54 |  1.50   73.10 |'  2.50    6.99 |  3.50    2.91
 0.67    6.37 |  1.67   36.22 |'  2.67    5.78 |  3.67    2.62
 0.83    9.92 |  1.83   22.14 |'  2.83    4.89 |  3.83    2.38
 1.00   18.63 |  2.00   15.18 |'  3.00    4.21 |  4.00    2.18

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    2.76 | 1.083   54.62 | 2.083   11.20 |  3.08    3.68
0.167    2.76 | 1.167   54.62 | 2.167   11.20 |  3.17    3.68
0.250    3.46 | 1.250  176.19 | 2.250    8.68 |  3.25    3.25
0.333    3.46 | 1.333  176.19 | 2.333    8.68 |  3.33    3.25
0.417    4.54 | 1.417   73.10 | 2.417    6.99 |  3.42    2.91
0.500    4.54 | 1.500   73.10 | 2.500    6.99 |  3.50    2.91
0.583    6.37 | 1.583   36.22 | 2.583    5.78 |  3.58    2.62
0.667    6.37 | 1.667   36.22 | 2.667    5.78 |  3.67    2.62
0.750    9.92 | 1.750   22.14 | 2.750    4.89 |  3.75    2.38
0.833    9.92 | 1.833   22.14 | 2.833    4.89 |  3.83    2.38
0.917   18.63 | 1.917   15.18 | 2.917    4.21 |  3.92    2.18
1.000   18.63 | 2.000   15.18 | 3.000    4.21 |  4.00    2.18

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.017 (i)
    TIME TO PEAK    (hrs)=   1.583
    RUNOFF VOLUME    (mm)=  43.241
    TOTAL RAINFALL   (mm)=  80.320
    RUNOFF COEFFICIENT   =   0.538

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A=3886.000
| Ptotal= 80.32 mm |                          B=  16.000
--------------------                          C=   0.950
                       used in:   INTENSITY =  A / (t + B)^C

                                  Duration of storm  =  4.00 hrs
                                  Storm time step    = 10.00 min
                                  Time to peak ratio =  0.33

 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
```

0.17	2.76	1.17	54.62	2.17	11.20	3.17	3.68
0.33	3.46	1.33	176.19	2.33	8.68	3.33	3.25
0.50	4.54	1.50	73.10	2.50	6.99	3.50	2.91
0.67	6.37	1.67	36.22	2.67	5.78	3.67	2.62
0.83	9.92	1.83	22.14	2.83	4.89	3.83	2.38
1.00	18.63	2.00	15.18	3.00	4.21	4.00	2.18

CALIB			
STANDHYD (0205)	Area (ha)= 1.12		
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.76	1.083	54.62	2.083	11.20	3.08	3.68
0.167	2.76	1.167	54.62	2.167	11.20	3.17	3.68
0.250	3.46	1.250	176.19	2.250	8.68	3.25	3.25
0.333	3.46	1.333	176.19	2.333	8.68	3.33	3.25
0.417	4.54	1.417	73.10	2.417	6.99	3.42	2.91
0.500	4.54	1.500	73.10	2.500	6.99	3.50	2.91
0.583	6.37	1.583	36.22	2.583	5.78	3.58	2.62
0.667	6.37	1.667	36.22	2.667	5.78	3.67	2.62
0.750	9.92	1.750	22.14	2.750	4.89	3.75	2.38
0.833	9.92	1.833	22.14	2.833	4.89	3.83	2.38
0.917	18.63	1.917	15.18	2.917	4.21	3.92	2.18
1.000	18.63	2.000	15.18	3.000	4.21	4.00	2.18

Max.Eff.Inten.(mm/hr)=		176.19	92.36	
over (min)		5.00	5.00	
Storage Coeff. (min)=		1.87 (ii)	2.76 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.32	0.28	
				TOTALS
PEAK FLOW	(cms)=	0.54	0.00	0.546 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	79.32	43.28	78.96
TOTAL RAINFALL	(mm)=	80.32	80.32	80.32
RUNOFF COEFFICIENT	=	0.99	0.54	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)			
IN= 2---> OUT= 1			

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.546	1.33	78.96
OUTFLOW: ID= 1 (0256)	1.125	0.042	2.08	78.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.61
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.0664

CHICAGO STORM	IDF curve parameters: A=3886.000
Ptotal= 80.32 mm	B= 16.000
	C= 0.950

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.76	1.17	54.62	2.17	11.20	3.17	3.68
0.33	3.46	1.33	176.19	2.33	8.68	3.33	3.25
0.50	4.54	1.50	73.10	2.50	6.99	3.50	2.91
0.67	6.37	1.67	36.22	2.67	5.78	3.67	2.62
0.83	9.92	1.83	22.14	2.83	4.89	3.83	2.38
1.00	18.63	2.00	15.18	3.00	4.21	4.00	2.18

CALIB			
STANDHYD (0203)	Area (ha)= 2.10		
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00	Dir. Conn.(%)= 80.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.76	1.083	54.62	2.083	11.20	3.08	3.68
0.167	2.76	1.167	54.62	2.167	11.20	3.17	3.68
0.250	3.46	1.250	176.19	2.250	8.68	3.25	3.25
0.333	3.46	1.333	176.19	2.333	8.68	3.33	3.25
0.417	4.54	1.417	73.10	2.417	6.99	3.42	2.91
0.500	4.54	1.500	73.10	2.500	6.99	3.50	2.91
0.583	6.37	1.583	36.22	2.583	5.78	3.58	2.62
0.667	6.37	1.667	36.22	2.667	5.78	3.67	2.62
0.750	9.92	1.750	22.14	2.750	4.89	3.75	2.38
0.833	9.92	1.833	22.14	2.833	4.89	3.83	2.38
0.917	18.63	1.917	15.18	2.917	4.21	3.92	2.18

```
               1.000   18.63 | 2.000   15.18 | 3.000    4.21 |  4.00    2.18

     Max.Eff.Inten.(mm/hr)=     176.19        92.36
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.25 (ii)    5.48 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.81         0.09          0.888 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      79.32        43.28          72.11
     TOTAL RAINFALL   (mm)=      80.32        80.32          80.32
     RUNOFF COEFFICIENT   =       0.99         0.54           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.888     1.33    72.11
     + ID2= 2 (  0256):     1.12   0.042     2.08    78.61
       ================================================
       ID = 3 (  0260):     3.22   0.912     1.33    74.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=3886.000
| Ptotal= 80.32 mm |                          B=  16.000
--------------------                          C=   0.950
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.17    2.76 |  1.17   54.62 |  2.17   11.20 |  3.17    3.68
                 0.33    3.46 |  1.33  176.19 |  2.33    8.68 |  3.33    3.25
                 0.50    4.54 |  1.50   73.10 |  2.50    6.99 |  3.50    2.91
                 0.67    6.37 |  1.67   36.22 |  2.67    5.78 |  3.67    2.62
                 0.83    9.92 |  1.83   22.14 |  2.83    4.89 |  3.83    2.38
                 1.00   18.63 |  2.00   15.18 |  3.00    4.21 |  4.00    2.18


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                                  ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    2.76 | 1.083   54.62 | 2.083   11.20 |  3.08    3.68
                 0.167    2.76 | 1.167   54.62 | 2.167   11.20 |  3.17    3.68
                 0.250    3.46 | 1.250  176.19 | 2.250    8.68 |  3.25    3.25
                 0.333    3.46 | 1.333  176.19 | 2.333    8.68 |  3.33    3.25
                 0.417    4.54 | 1.417   73.10 | 2.417    6.99 |  3.42    2.91
                 0.500    4.54 | 1.500   73.10 | 2.500    6.99 |  3.50    2.91
                 0.583    6.37 | 1.583   36.22 | 2.583    5.78 |  3.58    2.62
                 0.667    6.37 | 1.667   36.22 | 2.667    5.78 |  3.67    2.62
                 0.750    9.92 | 1.750   22.14 | 2.750    4.89 |  3.75    2.38
                 0.833    9.92 | 1.833   22.14 | 2.833    4.89 |  3.83    2.38
                 0.917   18.63 | 1.917   15.18 | 2.917    4.21 |  3.92    2.18
                 1.000   18.63 | 2.000   15.18 | 3.000    4.21 |  4.00    2.18

     Max.Eff.Inten.(mm/hr)=     176.19        92.36
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.02 (ii)    5.25 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.56         0.06          0.617 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      79.32        43.28          72.11
     TOTAL RAINFALL   (mm)=      80.32        80.32          80.32
     RUNOFF COEFFICIENT   =       0.99         0.54           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.617     1.33    72.11
     + ID2= 2 (  0260):     3.22   0.912     1.33    74.38
       ================================================
       ID = 3 (  0259):     4.67   1.530     1.33    73.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=3886.000
| Ptotal= 80.32 mm |                          B=  16.000
--------------------                          C=   0.950
                       used in:   INTENSITY =  A / (t + B)^C
```

```
                    Duration of storm  =  4.00 hrs
                    Storm time step    = 10.00 min
                    Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.76 |  1.17   54.62 |  2.17   11.20 |  3.17    3.68
               0.33    3.46 |  1.33  176.19 |  2.33    8.68 |  3.33    3.25
               0.50    4.54 |  1.50   73.10 |  2.50    6.99 |  3.50    2.91
               0.67    6.37 |  1.67   36.22 |  2.67    5.78 |  3.67    2.62
               0.83    9.92 |  1.83   22.14 |  2.83    4.89 |  3.83    2.38
               1.00   18.63 |  2.00   15.18 |  3.00    4.21 |  4.00    2.18


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.76 | 1.083   54.62 | 2.083   11.20 |  3.08    3.68
              0.167    2.76 | 1.167   54.62 | 2.167   11.20 |  3.17    3.68
              0.250    3.46 | 1.250  176.19 | 2.250    8.68 |  3.25    3.25
              0.333    3.46 | 1.333  176.19 | 2.333    8.68 |  3.33    3.25
              0.417    4.54 | 1.417   73.10 | 2.417    6.99 |  3.42    2.91
              0.500    4.54 | 1.500   73.10 | 2.500    6.99 |  3.50    2.91
              0.583    6.37 | 1.583   36.22 | 2.583    5.78 |  3.58    2.62
              0.667    6.37 | 1.667   36.22 | 2.667    5.78 |  3.67    2.62
              0.750    9.92 | 1.750   22.14 | 2.750    4.89 |  3.75    2.38
              0.833    9.92 | 1.833   22.14 | 2.833    4.89 |  3.83    2.38
              0.917   18.63 | 1.917   15.18 | 2.917    4.21 |  3.92    2.18
              1.000   18.63 | 2.000   15.18 | 3.000    4.21 |  4.00    2.18

     Max.Eff.Inten.(mm/hr)=     176.19        92.36
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.97 (ii)    3.86 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.28         0.25
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.49         0.01         2.506 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.33          1.33
     RUNOFF VOLUME    (mm)=      79.32        43.28         78.96
     TOTAL RAINFALL   (mm)=      80.32        80.32         80.32
     RUNOFF COEFFICIENT   =       0.99         0.54          0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.

     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270     2.506      1.33      78.96
   OUTFLOW: ID= 1 (  0268)      5.270     0.235      1.92      78.94

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.39
                TIME SHIFT OF PEAK FLOW         (min)= 35.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2870

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A=3886.000
| Ptotal= 80.32 mm |                          B=  16.000
--------------------                          C=   0.950
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.76 |  1.17   54.62 |  2.17   11.20 |  3.17    3.68
               0.33    3.46 |  1.33  176.19 |  2.33    8.68 |  3.33    3.25
               0.50    4.54 |  1.50   73.10 |  2.50    6.99 |  3.50    2.91
               0.67    6.37 |  1.67   36.22 |  2.67    5.78 |  3.67    2.62
               0.83    9.92 |  1.83   22.14 |  2.83    4.89 |  3.83    2.38
               1.00   18.63 |  2.00   15.18 |  3.00    4.21 |  4.00    2.18


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.76 | 1.083   54.62 | 2.083   11.20 |  3.08    3.68
              0.167    2.76 | 1.167   54.62 | 2.167   11.20 |  3.17    3.68
              0.250    3.46 | 1.250  176.19 | 2.250    8.68 |  3.25    3.25
              0.333    3.46 | 1.333  176.19 | 2.333    8.68 |  3.33    3.25
```

```
               0.417    4.54 | 1.417   73.10 | 2.417    6.99 |  3.42    2.91
               0.500    4.54 | 1.500   73.10 | 2.500    6.99 |  3.50    2.91
               0.583    6.37 | 1.583   36.22 | 2.583    5.78 |  3.58    2.62
               0.667    6.37 | 1.667   36.22 | 2.667    5.78 |  3.67    2.62
               0.750    9.92 | 1.750   22.14 | 2.750    4.89 |  3.75    2.38
               0.833    9.92 | 1.833   22.14 | 2.833    4.89 |  3.83    2.38
               0.917   18.63 | 1.917   15.18 | 2.917    4.21 |  3.92    2.18
               1.000   18.63 | 2.000   15.18 | 3.000    4.21 |  4.00    2.18

     Max.Eff.Inten.(mm/hr)=     176.19        92.36
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.17 (ii)    6.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.27         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.53         0.26          2.734 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      79.32        43.28          72.47
     TOTAL RAINFALL   (mm)=      80.32        80.32          80.32
     RUNOFF COEFFICIENT   =       0.99         0.54           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   2.734     1.33    72.47
     + ID2= 2 (  0268):     5.27   0.235     1.92    78.94
       ================================================
       ID = 3 (  0262):    11.84   2.914     1.33    75.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   1.530     1.33    73.68
     + ID2= 2 (  0262):    11.84   2.914     1.33    75.35
       ================================================
       ID = 3 (  0266):    16.51   4.443     1.33    74.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2130      0.6563
                         0.0190     0.1773    |   0.2520      0.6883
                         0.0220     0.2128    |   0.2890      0.7150
                         0.0260     0.2888    |   0.2980      0.7450
                         0.0300     0.3648    |   0.3060      0.7700
                         0.0650     0.4586    |   0.3150      0.8127
                         0.1100     0.5155    |   0.3320      0.9290
                         0.1680     0.5503    |   0.3390      0.9767
                         0.1930     0.5804    |   0.3520      1.0680
                         0.2000     0.6048    |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      4.443      1.33      74.88
   OUTFLOW: ID= 1 (  0263)     16.510      0.300      3.75      74.73

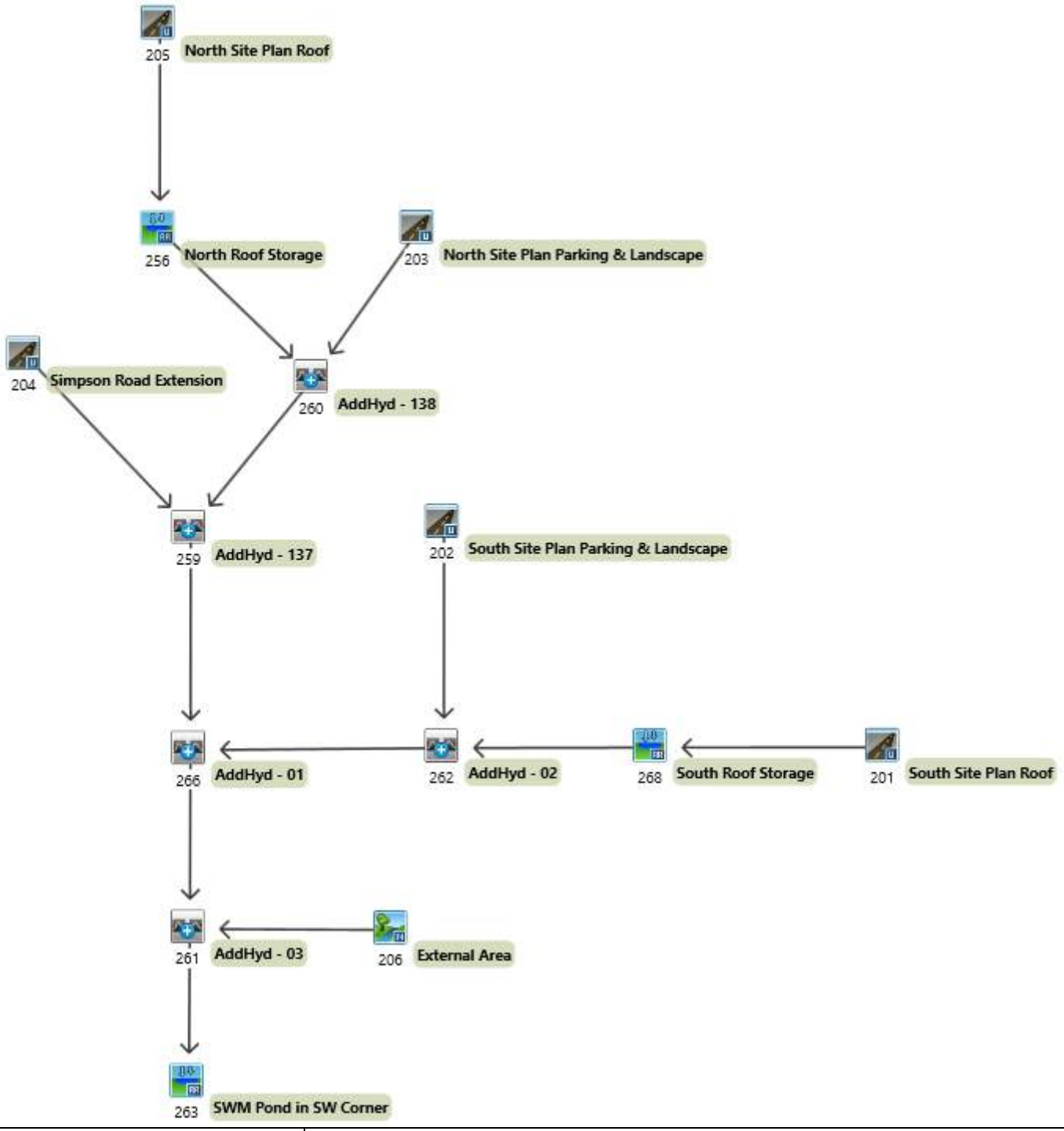
                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.74
                  TIME SHIFT OF PEAK FLOW         (min)=145.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7499

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.017     1.58    43.24
     + ID2= 2 (  0263):    16.51   0.300     3.75    74.73
       ================================================
       ID = 3 (  0261):    16.64   0.300     3.75    74.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
```



SCHAEFFERS
CONSULTING ENGINEERS

Post-development Visual OTTHYMO™ Schematic
6 Hour AES 2-100 Year

Job #: 2018-4841	**Date: July 2020**

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================================================================================
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       V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\b9051a5c-533b-459e-ac2f-3b896adea026\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\b9051a5c-533b-459e-ac2f-3b896adea026\s


DATE: 07/06/2020                          TIME: 04:30:38

USER:


COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
---------------------------
  ***********************************************
  ** SIMULATION : 10 Year 6 Hour AES           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\06d1c7dc
| Ptotal= 55.69 mm |    Comments: 10 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   18.94 |  3.75    7.80 |  5.50    1.11
                0.50    1.11 |  2.25   18.94 |  4.00    4.46 |  5.75    1.11
                0.75    1.11 |  2.50   51.24 |  4.25    4.46 |  6.00    1.11
                1.00    1.11 |  2.75   51.24 |  4.50    2.23 |  6.25    1.11
                1.25    1.11 |  3.00   14.48 |  4.75    2.23 |
                1.50    6.68 |  3.25   14.48 |  5.00    1.11 |
                1.75    6.68 |  3.50    7.80 |  5.25    1.11 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    6.68 | 3.250   14.48 |  4.83    1.11
               0.167    0.00 | 1.750    6.68 | 3.333    7.80 |  4.92    1.11
               0.250    0.00 | 1.833   18.94 | 3.417    7.80 |  5.00    1.11
               0.333    1.11 | 1.917   18.94 | 3.500    7.80 |  5.08    1.11
               0.417    1.11 | 2.000   18.94 | 3.583    7.80 |  5.17    1.11
               0.500    1.11 | 2.083   18.94 | 3.667    7.80 |  5.25    1.11
               0.583    1.11 | 2.167   18.94 | 3.750    7.80 |  5.33    1.11
               0.667    1.11 | 2.250   18.94 | 3.833    4.46 |  5.42    1.11
               0.750    1.11 | 2.333   51.24 | 3.917    4.46 |  5.50    1.11
               0.833    1.11 | 2.417   51.24 | 4.000    4.46 |  5.58    1.11
               0.917    1.11 | 2.500   51.24 | 4.083    4.46 |  5.67    1.11
               1.000    1.11 | 2.583   51.24 | 4.167    4.46 |  5.75    1.11
               1.083    1.11 | 2.667   51.24 | 4.250    4.46 |  5.83    1.11
               1.167    1.11 | 2.750   51.24 | 4.333    2.23 |  5.92    1.11
               1.250    1.11 | 2.833   14.48 | 4.417    2.23 |  6.00    1.11
               1.333    6.68 | 2.917   14.48 | 4.500    2.23 |  6.08    1.11
               1.417    6.68 | 3.000   14.48 | 4.583    2.23 |  6.17    1.11
               1.500    6.68 | 3.083   14.48 | 4.667    2.23 |  6.25    1.11
               1.583    6.68 | 3.167   14.48 | 4.750    2.23 |

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.007 (i)
    TIME TO PEAK    (hrs)=   2.833
    RUNOFF VOLUME    (mm)=  24.114
    TOTAL RAINFALL   (mm)=  55.690
    RUNOFF COEFFICIENT   =   0.433

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\06d1c7dc
| Ptotal= 55.69 mm |    Comments: 10 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   18.94 |  3.75    7.80 |  5.50    1.11
                0.50    1.11 |  2.25   18.94 |  4.00    4.46 |  5.75    1.11
                0.75    1.11 |  2.50   51.24 |  4.25    4.46 |  6.00    1.11
                1.00    1.11 |  2.75   51.24 |  4.50    2.23 |  6.25    1.11
                1.25    1.11 |  3.00   14.48 |  4.75    2.23 |
                1.50    6.68 |  3.25   14.48 |  5.00    1.11 |
                1.75    6.68 |  3.50    7.80 |  5.25    1.11 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
```

```
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

```
     Max.Eff.Inten.(mm/hr)=      51.24        29.66
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      3.06 (ii)    4.53 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.27         0.23
                                                  *TOTALS*
     PEAK FLOW       (cms)=      0.16         0.00          0.159 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=     54.69        24.14          54.38
     TOTAL RAINFALL   (mm)=     55.69        55.69          55.69
     RUNOFF COEFFICIENT   =      0.98         0.43           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   0.0470     0.0750

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)      1.125      0.159      2.75      54.38
   OUTFLOW: ID= 1 (  0256)      1.125      0.027      3.42      54.03

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.64
                    TIME SHIFT OF PEAK FLOW         (min)= 40.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0424

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\06d1c7dc
| Ptotal= 55.69 mm |    Comments: 10 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	18.94	3.75	7.80	5.50	1.11
0.50	1.11	2.25	18.94	4.00	4.46	5.75	1.11
0.75	1.11	2.50	51.24	4.25	4.46	6.00	1.11
1.00	1.11	2.75	51.24	4.50	2.23	6.25	1.11
1.25	1.11	3.00	14.48	4.75	2.23		
1.50	6.68	3.25	14.48	5.00	1.11		
1.75	6.68	3.50	7.80	5.25	1.11		

```
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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

```
     Max.Eff.Inten.(mm/hr)=      51.24        28.47
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       3.69 (ii)   15.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.25         0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.02          0.259 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.92           2.75
     RUNOFF VOLUME    (mm)=      54.69        24.14          48.57
     TOTAL RAINFALL   (mm)=      55.69        55.69          55.69
     RUNOFF COEFFICIENT   =       0.98         0.43           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.259     2.75    48.57
     + ID2= 2 (  0256):     1.12   0.027     3.42    54.03
       ================================================
       ID = 3 (  0260):     3.22   0.282     2.75    50.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\06d1c7dc
| Ptotal= 55.69 mm |    Comments: 10 Year 6 Hour AES (Bloor, TRCA)
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   18.94 |  3.75    7.80 |  5.50    1.11
                0.50    1.11 |  2.25   18.94 |  4.00    4.46 |  5.75    1.11
                0.75    1.11 |  2.50   51.24 |  4.25    4.46 |  6.00    1.11
                1.00    1.11 |  2.75   51.24 |  4.50    2.23 |  6.25    1.11
                1.25    1.11 |  3.00   14.48 |  4.75    2.23 |
                1.50    6.68 |  3.25   14.48 |  5.00    1.11 |
                1.75    6.68 |  3.50    7.80 |  5.25    1.11 |

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-------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
-------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    6.68 | 3.250   14.48 |  4.83    1.11
               0.167    0.00 | 1.750    6.68 | 3.333    7.80 |  4.92    1.11
               0.250    0.00 | 1.833   18.94 | 3.417    7.80 |  5.00    1.11
               0.333    1.11 | 1.917   18.94 | 3.500    7.80 |  5.08    1.11
               0.417    1.11 | 2.000   18.94 | 3.583    7.80 |  5.17    1.11
               0.500    1.11 | 2.083   18.94 | 3.667    7.80 |  5.25    1.11
               0.583    1.11 | 2.167   18.94 | 3.750    7.80 |  5.33    1.11
               0.667    1.11 | 2.250   18.94 | 3.833    4.46 |  5.42    1.11
               0.750    1.11 | 2.333   51.24 | 3.917    4.46 |  5.50    1.11
               0.833    1.11 | 2.417   51.24 | 4.000    4.46 |  5.58    1.11
               0.917    1.11 | 2.500   51.24 | 4.083    4.46 |  5.67    1.11
               1.000    1.11 | 2.583   51.24 | 4.167    4.46 |  5.75    1.11
               1.083    1.11 | 2.667   51.24 | 4.250    4.46 |  5.83    1.11
               1.167    1.11 | 2.750   51.24 | 4.333    2.23 |  5.92    1.11
               1.250    1.11 | 2.833   14.48 | 4.417    2.23 |  6.00    1.11
               1.333    6.68 | 2.917   14.48 | 4.500    2.23 |  6.08    1.11
               1.417    6.68 | 3.000   14.48 | 4.583    2.23 |  6.17    1.11
               1.500    6.68 | 3.083   14.48 | 4.667    2.23 |  6.25    1.11
               1.583    6.68 | 3.167   14.48 | 4.750    2.23 |

     Max.Eff.Inten.(mm/hr)=      51.24        28.47
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       3.30 (ii)   14.97 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.26         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.17         0.02          0.181 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.83           2.75
     RUNOFF VOLUME    (mm)=      54.69        24.14          48.57
     TOTAL RAINFALL   (mm)=      55.69        55.69          55.69
     RUNOFF COEFFICIENT   =       0.98         0.43           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.181     2.75    48.57
     + ID2= 2 (  0260):     3.22   0.282     2.75    50.48
       ================================================
       ID = 3 (  0259):     4.67   0.463     2.75    49.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\06d1c7dc
| Ptotal= 55.69 mm |    Comments: 10 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	18.94	3.75	7.80	5.50	1.11
0.50	1.11	2.25	18.94	4.00	4.46	5.75	1.11
0.75	1.11	2.50	51.24	4.25	4.46	6.00	1.11
1.00	1.11	2.75	51.24	4.50	2.23	6.25	1.11
1.25	1.11	3.00	14.48	4.75	2.23		
1.50	6.68	3.25	14.48	5.00	1.11		
1.75	6.68	3.50	7.80	5.25	1.11		

```
--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

```
        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

				TOTALS
Max.Eff.Inten.(mm/hr)	=	51.24	29.66	
over (min)		5.00	10.00	
Storage Coeff. (min)	=	4.87 (ii)	6.33 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	10.00	
Unit Hyd. peak (cms)	=	0.22	0.15	
PEAK FLOW	(cms)=	0.74	0.00	0.746 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	54.69	24.14	54.38
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.98	0.43	0.98

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270     0.746      2.75      54.38
   OUTFLOW: ID= 1 (  0268)      5.270     0.179      3.33      54.37

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.05
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1630

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\06d1c7dc
| Ptotal= 55.69 mm |    Comments: 10 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	18.94	3.75	7.80	5.50	1.11
0.50	1.11	2.25	18.94	4.00	4.46	5.75	1.11
0.75	1.11	2.50	51.24	4.25	4.46	6.00	1.11
1.00	1.11	2.75	51.24	4.50	2.23	6.25	1.11
1.25	1.11	3.00	14.48	4.75	2.23		
1.50	6.68	3.25	14.48	5.00	1.11		
1.75	6.68	3.50	7.80	5.25	1.11		

```
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--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

```
        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.68	3.250	14.48	4.83	1.11
0.167	0.00	1.750	6.68	3.333	7.80	4.92	1.11
0.250	0.00	1.833	18.94	3.417	7.80	5.00	1.11
0.333	1.11	1.917	18.94	3.500	7.80	5.08	1.11
0.417	1.11	2.000	18.94	3.583	7.80	5.17	1.11
0.500	1.11	2.083	18.94	3.667	7.80	5.25	1.11
0.583	1.11	2.167	18.94	3.750	7.80	5.33	1.11
0.667	1.11	2.250	18.94	3.833	4.46	5.42	1.11
0.750	1.11	2.333	51.24	3.917	4.46	5.50	1.11
0.833	1.11	2.417	51.24	4.000	4.46	5.58	1.11
0.917	1.11	2.500	51.24	4.083	4.46	5.67	1.11
1.000	1.11	2.583	51.24	4.167	4.46	5.75	1.11
1.083	1.11	2.667	51.24	4.250	4.46	5.83	1.11
1.167	1.11	2.750	51.24	4.333	2.23	5.92	1.11
1.250	1.11	2.833	14.48	4.417	2.23	6.00	1.11
1.333	6.68	2.917	14.48	4.500	2.23	6.08	1.11
1.417	6.68	3.000	14.48	4.583	2.23	6.17	1.11
1.500	6.68	3.083	14.48	4.667	2.23	6.25	1.11
1.583	6.68	3.167	14.48	4.750	2.23		

			TOTALS
Max.Eff.Inten.(mm/hr)=	51.24	28.47	
over (min)	5.00	20.00	
Storage Coeff. (min)=	5.20 (ii)	16.86 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.21	0.06	
PEAK FLOW (cms)=	0.76	0.07	0.815 (iii)
TIME TO PEAK (hrs)=	2.75	2.92	2.75
RUNOFF VOLUME (mm)=	54.69	24.14	48.88
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.43	0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	6.57	0.815	2.75	48.88
+ ID2= 2 (0268):	5.27	0.179	3.33	54.37
ID = 3 (0262):	11.84	0.979	2.75	51.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):	4.67	0.463	2.75	49.89
+ ID2= 2 (0262):	11.84	0.979	2.75	51.32
ID = 3 (0266):	16.51	1.442	2.75	50.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0263)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2130	0.6563
0.0190	0.1773	0.2520	0.6883
0.0220	0.2128	0.2890	0.7150
0.0260	0.2888	0.2980	0.7450
0.0300	0.3648	0.3060	0.7700
0.0650	0.4586	0.3150	0.8127
0.1100	0.5155	0.3320	0.9290
0.1680	0.5503	0.3390	0.9767
0.1930	0.5804	0.3520	1.0680
0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	1.442	2.75	50.92
OUTFLOW: ID= 1 (0263)	16.510	0.186	5.25	50.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.88
TIME SHIFT OF PEAK FLOW (min)=150.00
MAXIMUM STORAGE USED (ha.m.)= 0.5718

ADD HYD (0261)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0206):	0.12	0.007	2.83	24.11
+ ID2= 2 (0263):	16.51	0.186	5.25	50.77
ID = 3 (0261):	16.64	0.186	5.25	50.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
V    V   I    SS     U   U   A A   L
 V  V    I     SS    U   U  AAAAA  L
 V  V    I      SS   U   U  A   A  L
  VV     I    SSSSS  UUUUU  A   A  LLLLL

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M   M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
```

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***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\7071979d-c3ec-43b0-a4e0-89d3f7d945fe\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\7071979d-c3ec-43b0-a4e0-89d3f7d945fe\s


DATE: 07/06/2020                          TIME: 04:30:38

USER:


COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
--------------------------
  ***********************************************
  ** SIMULATION : 100 Year 6 Hour AES           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\c1e20d2d
| Ptotal= 80.31 mm |    Comments: 100 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   27.30 |  3.75   11.24 |  5.50    1.61
                0.50    1.61 |  2.25   27.30 |  4.00    6.42 |  5.75    1.61
                0.75    1.61 |  2.50   73.88 |  4.25    6.42 |  6.00    1.61
                1.00    1.61 |  2.75   73.88 |  4.50    3.21 |  6.25    1.61
                1.25    1.61 |  3.00   20.88 |  4.75    3.21 |
                1.50    9.64 |  3.25   20.88 |  5.00    1.61 |
                1.75    9.64 |  3.50   11.24 |  5.25    1.61 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    9.64 | 3.250   20.88 |  4.83    1.61
               0.167    0.00 | 1.750    9.64 | 3.333   11.24 |  4.92    1.61
               0.250    0.00 | 1.833   27.30 | 3.417   11.24 |  5.00    1.61
               0.333    1.61 | 1.917   27.30 | 3.500   11.24 |  5.08    1.61
               0.417    1.61 | 2.000   27.30 | 3.583   11.24 |  5.17    1.61
               0.500    1.61 | 2.083   27.30 | 3.667   11.24 |  5.25    1.61
               0.583    1.61 | 2.167   27.30 | 3.750   11.24 |  5.33    1.61
               0.667    1.61 | 2.250   27.30 | 3.833    6.42 |  5.42    1.61
               0.750    1.61 | 2.333   73.88 | 3.917    6.42 |  5.50    1.61
               0.833    1.61 | 2.417   73.88 | 4.000    6.42 |  5.58    1.61
               0.917    1.61 | 2.500   73.88 | 4.083    6.42 |  5.67    1.61
               1.000    1.61 | 2.583   73.88 | 4.167    6.42 |  5.75    1.61
               1.083    1.61 | 2.667   73.88 | 4.250    6.42 |  5.83    1.61
               1.167    1.61 | 2.750   73.88 | 4.333    3.21 |  5.92    1.61
               1.250    1.61 | 2.833   20.88 | 4.417    3.21 |  6.00    1.61
               1.333    9.64 | 2.917   20.88 | 4.500    3.21 |  6.08    1.61
               1.417    9.64 | 3.000   20.88 | 4.583    3.21 |  6.17    1.61
               1.500    9.64 | 3.083   20.88 | 4.667    3.21 |  6.25    1.61
               1.583    9.64 | 3.167   20.88 | 4.750    3.21 |

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.013 (i)
    TIME TO PEAK    (hrs)=   2.833
    RUNOFF VOLUME    (mm)=  43.233
    TOTAL RAINFALL   (mm)=  80.310
    RUNOFF COEFFICIENT   =   0.538

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\c1e20d2d
| Ptotal= 80.31 mm |    Comments: 100 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   27.30 |  3.75   11.24 |  5.50    1.61
                0.50    1.61 |  2.25   27.30 |  4.00    6.42 |  5.75    1.61
                0.75    1.61 |  2.50   73.88 |  4.25    6.42 |  6.00    1.61
                1.00    1.61 |  2.75   73.88 |  4.50    3.21 |  6.25    1.61
                1.25    1.61 |  3.00   20.88 |  4.75    3.21 |
                1.50    9.64 |  3.25   20.88 |  5.00    1.61 |
                1.75    9.64 |  3.50   11.24 |  5.25    1.61 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=          1.11          0.01
    Dep. Storage     (mm)=          1.00          5.00
    Average Slope     (%)=          1.00          2.00
    Length            (m)=         86.60         40.00
    Mannings n           =         0.013         0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    9.64 | 3.250   20.88 |  4.83    1.61
               0.167    0.00 | 1.750    9.64 | 3.333   11.24 |  4.92    1.61
               0.250    0.00 | 1.833   27.30 | 3.417   11.24 |  5.00    1.61
               0.333    1.61 | 1.917   27.30 | 3.500   11.24 |  5.08    1.61
               0.417    1.61 | 2.000   27.30 | 3.583   11.24 |  5.17    1.61
               0.500    1.61 | 2.083   27.30 | 3.667   11.24 |  5.25    1.61
```

0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=		73.88	51.56	
over (min)		5.00	5.00	
Storage Coeff. (min)=		2.65 (ii)	3.91 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.29	0.25	
				TOTALS
PEAK FLOW	(cms)=	0.23	0.00	0.230 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	79.31	43.27	78.95
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.54	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.230	2.75	78.95
OUTFLOW: ID= 1 (0256)	1.125	0.039	3.33	78.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 16.73
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0615

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\532f9adf-2237-4159-99ad-dfda1740d167\c1e20d2d
Ptotal= 80.31 mm	Comments: 100 Year 6 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	27.30	3.75	11.24	5.50	1.61
0.50	1.61	2.25	27.30	4.00	6.42	5.75	1.61
0.75	1.61	2.50	73.88	4.25	6.42	6.00	1.61
1.00	1.61	2.75	73.88	4.50	3.21	6.25	1.61
1.25	1.61	3.00	20.88	4.75	3.21		
1.50	9.64	3.25	20.88	5.00	1.61		
1.75	9.64	3.50	11.24	5.25	1.61		

CALIB	
STANDHYD (0203)	Area (ha)= 2.10
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

Max.Eff.Inten.(mm/hr)=		73.88	51.56	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.19 (ii)	7.76 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.27	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.34	0.05	0.398 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	79.31	43.27	72.10
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.54	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.398     2.75    72.10
     + ID2= 2 (  0256):     1.12   0.039     3.33    78.60
       ================================================
       ID = 3 (  0260):     3.22   0.431     2.75    74.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\c1e20d2d
| Ptotal= 80.31 mm |    Comments: 100 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   27.30 |  3.75   11.24 |  5.50    1.61
                0.50    1.61 |  2.25   27.30 |  4.00    6.42 |  5.75    1.61
                0.75    1.61 |  2.50   73.88 |  4.25    6.42 |  6.00    1.61
                1.00    1.61 |  2.75   73.88 |  4.50    3.21 |  6.25    1.61
                1.25    1.61 |  3.00   20.88 |  4.75    3.21 |
                1.50    9.64 |  3.25   20.88 |  5.00    1.61 |
                1.75    9.64 |  3.50   11.24 |  5.25    1.61 |

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--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    9.64 | 3.250   20.88 |  4.83    1.61
               0.167    0.00 | 1.750    9.64 | 3.333   11.24 |  4.92    1.61
               0.250    0.00 | 1.833   27.30 | 3.417   11.24 |  5.00    1.61
               0.333    1.61 | 1.917   27.30 | 3.500   11.24 |  5.08    1.61
               0.417    1.61 | 2.000   27.30 | 3.583   11.24 |  5.17    1.61
               0.500    1.61 | 2.083   27.30 | 3.667   11.24 |  5.25    1.61
               0.583    1.61 | 2.167   27.30 | 3.750   11.24 |  5.33    1.61
               0.667    1.61 | 2.250   27.30 | 3.833    6.42 |  5.42    1.61
               0.750    1.61 | 2.333   73.88 | 3.917    6.42 |  5.50    1.61
               0.833    1.61 | 2.417   73.88 | 4.000    6.42 |  5.58    1.61
               0.917    1.61 | 2.500   73.88 | 4.083    6.42 |  5.67    1.61
               1.000    1.61 | 2.583   73.88 | 4.167    6.42 |  5.75    1.61
               1.083    1.61 | 2.667   73.88 | 4.250    6.42 |  5.83    1.61
               1.167    1.61 | 2.750   73.88 | 4.333    3.21 |  5.92    1.61
               1.250    1.61 | 2.833   20.88 | 4.417    3.21 |  6.00    1.61
               1.333    9.64 | 2.917   20.88 | 4.500    3.21 |  6.08    1.61
               1.417    9.64 | 3.000   20.88 | 4.583    3.21 |  6.17    1.61
               1.500    9.64 | 3.083   20.88 | 4.667    3.21 |  6.25    1.61
               1.583    9.64 | 3.167   20.88 | 4.750    3.21 |

     Max.Eff.Inten.(mm/hr)=      73.88        51.56
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.85 (ii)    7.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.28         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.04          0.276 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      79.31        43.27          72.10
     TOTAL RAINFALL   (mm)=      80.31        80.31          80.31
     RUNOFF COEFFICIENT   =       0.99         0.54           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.276     2.75    72.10
     + ID2= 2 (  0260):     3.22   0.431     2.75    74.37
       ================================================
       ID = 3 (  0259):     4.67   0.707     2.75    73.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\c1e20d2d
| Ptotal= 80.31 mm |    Comments: 100 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   27.30 |  3.75   11.24 |  5.50    1.61
                0.50    1.61 |  2.25   27.30 |  4.00    6.42 |  5.75    1.61
                0.75    1.61 |  2.50   73.88 |  4.25    6.42 |  6.00    1.61
                1.00    1.61 |  2.75   73.88 |  4.50    3.21 |  6.25    1.61
                1.25    1.61 |  3.00   20.88 |  4.75    3.21 |
                1.50    9.64 |  3.25   20.88 |  5.00    1.61 |
                1.75    9.64 |  3.50   11.24 |  5.25    1.61 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
```

```
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61
1.500	9.64	3.083	20.88	4.667	3.21	6.25	1.61
1.583	9.64	3.167	20.88	4.750	3.21		

```
     Max.Eff.Inten.(mm/hr)=      73.88        51.56
               over (min)        5.00        10.00
     Storage Coeff.  (min)=     4.20 (ii)    5.47 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.24         0.16
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.07         0.01      1.077 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75       2.75
     RUNOFF VOLUME    (mm)=     79.31        43.27      78.95
     TOTAL RAINFALL   (mm)=     80.31        80.31      80.31
     RUNOFF COEFFICIENT   =      0.99         0.54       0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1959      0.1883
                         0.0980     0.0369   |   0.2939      0.4335

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270      1.077      2.75       78.95
   OUTFLOW: ID= 1 (  0268)      5.270      0.221      3.33       78.93

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.52
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2515

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\c1e20d2d
| Ptotal= 80.31 mm |    Comments: 100 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	27.30	3.75	11.24	5.50	1.61
0.50	1.61	2.25	27.30	4.00	6.42	5.75	1.61
0.75	1.61	2.50	73.88	4.25	6.42	6.00	1.61
1.00	1.61	2.75	73.88	4.50	3.21	6.25	1.61
1.25	1.61	3.00	20.88	4.75	3.21		
1.50	9.64	3.25	20.88	5.00	1.61		
1.75	9.64	3.50	11.24	5.25	1.61		

```
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	9.64	3.250	20.88	4.83	1.61
0.167	0.00	1.750	9.64	3.333	11.24	4.92	1.61
0.250	0.00	1.833	27.30	3.417	11.24	5.00	1.61
0.333	1.61	1.917	27.30	3.500	11.24	5.08	1.61
0.417	1.61	2.000	27.30	3.583	11.24	5.17	1.61
0.500	1.61	2.083	27.30	3.667	11.24	5.25	1.61
0.583	1.61	2.167	27.30	3.750	11.24	5.33	1.61
0.667	1.61	2.250	27.30	3.833	6.42	5.42	1.61
0.750	1.61	2.333	73.88	3.917	6.42	5.50	1.61
0.833	1.61	2.417	73.88	4.000	6.42	5.58	1.61
0.917	1.61	2.500	73.88	4.083	6.42	5.67	1.61
1.000	1.61	2.583	73.88	4.167	6.42	5.75	1.61
1.083	1.61	2.667	73.88	4.250	6.42	5.83	1.61
1.167	1.61	2.750	73.88	4.333	3.21	5.92	1.61
1.250	1.61	2.833	20.88	4.417	3.21	6.00	1.61
1.333	9.64	2.917	20.88	4.500	3.21	6.08	1.61
1.417	9.64	3.000	20.88	4.583	3.21	6.17	1.61

```
               1.500    9.64 | 3.083   20.88 | 4.667    3.21 |  6.25    1.61
               1.583    9.64 | 3.167   20.88 | 4.750    3.21 |

     Max.Eff.Inten.(mm/hr)=      73.88        51.56
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       4.49 (ii)    8.95 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.09         0.16         1.249 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75          2.75
     RUNOFF VOLUME    (mm)=      79.31        43.27         72.46
     TOTAL RAINFALL   (mm)=      80.31        80.31         80.31
     RUNOFF COEFFICIENT   =       0.99         0.54          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   1.249     2.75    72.46
     + ID2= 2 (  0268):     5.27   0.221     3.33    78.93
       ================================================
       ID = 3 (  0262):    11.84   1.455     2.75    75.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.707     2.75    73.66
     + ID2= 2 (  0262):    11.84   1.455     2.75    75.34
       ================================================
       ID = 3 (  0266):    16.51   2.162     2.75    74.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2130      0.6563
                         0.0190     0.1773    |   0.2520      0.6883
                         0.0220     0.2128    |   0.2890      0.7150
                         0.0260     0.2888    |   0.2980      0.7450
                         0.0300     0.3648    |   0.3060      0.7700
                         0.0650     0.4586    |   0.3150      0.8127
                         0.1100     0.5155    |   0.3320      0.9290
                         0.1680     0.5503    |   0.3390      0.9767
                         0.1930     0.5804    |   0.3520      1.0680
                         0.2000     0.6048    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510     2.162      2.75      74.87
   OUTFLOW: ID= 1 (  0263)     16.510     0.299      4.83      74.72

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.85
                 TIME SHIFT OF PEAK FLOW         (min)=125.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.7498

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.013     2.83    43.23
     + ID2= 2 (  0263):    16.51   0.299     4.83    74.72
       ================================================
       ID = 3 (  0261):    16.64   0.301     4.75    74.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
==========================

       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\f8929c83-f604-457f-a465-0b1ae2b7052b\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\f8929c83-f604-457f-a465-0b1ae2b7052b\s


DATE: 07/06/2020                          TIME: 04:30:38

USER:



COMMENTS: _____________________________________________________________


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```

```
  ********************************************
  ** SIMULATION : 2 Year 6 Hour AES          **
  ********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\712b2231
| Ptotal= 36.00 mm |    Comments: 2 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	12.24	3.75	5.04	5.50	0.72
0.50	0.72	2.25	12.24	4.00	2.88	5.75	0.72
0.75	0.72	2.50	33.12	4.25	2.88	6.00	0.72
1.00	0.72	2.75	33.12	4.50	1.44	6.25	0.72
1.25	0.72	3.00	9.36	4.75	1.44		
1.50	4.32	3.25	9.36	5.00	0.72		
1.75	4.32	3.50	5.04	5.25	0.72		

```
--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

```
    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.003 (i)
    TIME TO PEAK    (hrs)=   2.833
    RUNOFF VOLUME    (mm)=  11.063
    TOTAL RAINFALL   (mm)=  36.000
    RUNOFF COEFFICIENT   =   0.307

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\712b2231
| Ptotal= 36.00 mm |    Comments: 2 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	12.24	3.75	5.04	5.50	0.72
0.50	0.72	2.25	12.24	4.00	2.88	5.75	0.72
0.75	0.72	2.50	33.12	4.25	2.88	6.00	0.72
1.00	0.72	2.75	33.12	4.50	1.44	6.25	0.72
1.25	0.72	3.00	9.36	4.75	1.44		
1.50	4.32	3.25	9.36	5.00	0.72		
1.75	4.32	3.50	5.04	5.25	0.72		

```
--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       1.11         0.01
    Dep. Storage     (mm)=       1.00         5.00
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      86.60        40.00
    Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

```
    Max.Eff.Inten.(mm/hr)=      33.12        14.06
              over (min)        5.00        10.00
    Storage Coeff.  (min)=      3.65 (ii)    5.39 (ii)
    Unit Hyd. Tpeak (min)=      5.00        10.00
    Unit Hyd. peak  (cms)=      0.25         0.16
```

```
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.00          0.103 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      35.00        11.08          34.76
     TOTAL RAINFALL   (mm)=      36.00        36.00          36.00
     RUNOFF COEFFICIENT   =       0.97         0.31           0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470      0.0750

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)     1.125      0.103      2.75      34.76
   OUTFLOW: ID= 1 (  0256)     1.125      0.017      3.42      34.41

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.50
                 TIME SHIFT OF PEAK FLOW         (min)= 40.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0271

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\712b2231
| Ptotal= 36.00 mm |    Comments: 2 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   12.24 |  3.75    5.04 |  5.50    0.72
                0.50    0.72 |  2.25   12.24 |  4.00    2.88 |  5.75    0.72
                0.75    0.72 |  2.50   33.12 |  4.25    2.88 |  6.00    0.72
                1.00    0.72 |  2.75   33.12 |  4.50    1.44 |  6.25    0.72
                1.25    0.72 |  3.00    9.36 |  4.75    1.44 |
                1.50    4.32 |  3.25    9.36 |  5.00    0.72 |
                1.75    4.32 |  3.50    5.04 |  5.25    0.72 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250
```

```
     NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    4.32 | 3.250    9.36 |  4.83    0.72
               0.167    0.00 | 1.750    4.32 | 3.333    5.04 |  4.92    0.72
               0.250    0.00 | 1.833   12.24 | 3.417    5.04 |  5.00    0.72
               0.333    0.72 | 1.917   12.24 | 3.500    5.04 |  5.08    0.72
               0.417    0.72 | 2.000   12.24 | 3.583    5.04 |  5.17    0.72
               0.500    0.72 | 2.083   12.24 | 3.667    5.04 |  5.25    0.72
               0.583    0.72 | 2.167   12.24 | 3.750    5.04 |  5.33    0.72
               0.667    0.72 | 2.250   12.24 | 3.833    2.88 |  5.42    0.72
               0.750    0.72 | 2.333   33.12 | 3.917    2.88 |  5.50    0.72
               0.833    0.72 | 2.417   33.12 | 4.000    2.88 |  5.58    0.72
               0.917    0.72 | 2.500   33.12 | 4.083    2.88 |  5.67    0.72
               1.000    0.72 | 2.583   33.12 | 4.167    2.88 |  5.75    0.72
               1.083    0.72 | 2.667   33.12 | 4.250    2.88 |  5.83    0.72
               1.167    0.72 | 2.750   33.12 | 4.333    1.44 |  5.92    0.72
               1.250    0.72 | 2.833    9.36 | 4.417    1.44 |  6.00    0.72
               1.333    4.32 | 2.917    9.36 | 4.500    1.44 |  6.08    0.72
               1.417    4.32 | 3.000    9.36 | 4.583    1.44 |  6.17    0.72
               1.500    4.32 | 3.083    9.36 | 4.667    1.44 |  6.25    0.72
               1.583    4.32 | 3.167    9.36 | 4.750    1.44 |

     Max.Eff.Inten.(mm/hr)=      33.12        12.45
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       4.39 (ii)   20.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.23         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.15         0.01          0.161 (iii)
     TIME TO PEAK    (hrs)=       2.75         3.00           2.75
     RUNOFF VOLUME    (mm)=      35.00        11.08          30.21
     TOTAL RAINFALL   (mm)=      36.00        36.00          36.00
     RUNOFF COEFFICIENT   =       0.97         0.31           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10    0.161     2.75    30.21
     + ID2= 2 (  0256):     1.12    0.017     3.42    34.41
       ================================================
       ID = 3 (  0260):     3.22    0.175     2.75    31.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
```

```
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\712b2231
| Ptotal= 36.00 mm |    Comments: 2 Year 6 Hour AES (Bloor, TRCA)
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	12.24	3.75	5.04	5.50	0.72
0.50	0.72	2.25	12.24	4.00	2.88	5.75	0.72
0.75	0.72	2.50	33.12	4.25	2.88	6.00	0.72
1.00	0.72	2.75	33.12	4.50	1.44	6.25	0.72
1.25	0.72	3.00	9.36	4.75	1.44		
1.50	4.32	3.25	9.36	5.00	0.72		
1.75	4.32	3.50	5.04	5.25	0.72		

```
-------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.16         0.29
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     98.32        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72
0.417	0.72	2.000	12.24	3.583	5.04	5.17	0.72
0.500	0.72	2.083	12.24	3.667	5.04	5.25	0.72
0.583	0.72	2.167	12.24	3.750	5.04	5.33	0.72
0.667	0.72	2.250	12.24	3.833	2.88	5.42	0.72
0.750	0.72	2.333	33.12	3.917	2.88	5.50	0.72
0.833	0.72	2.417	33.12	4.000	2.88	5.58	0.72
0.917	0.72	2.500	33.12	4.083	2.88	5.67	0.72
1.000	0.72	2.583	33.12	4.167	2.88	5.75	0.72
1.083	0.72	2.667	33.12	4.250	2.88	5.83	0.72
1.167	0.72	2.750	33.12	4.333	1.44	5.92	0.72
1.250	0.72	2.833	9.36	4.417	1.44	6.00	0.72
1.333	4.32	2.917	9.36	4.500	1.44	6.08	0.72
1.417	4.32	3.000	9.36	4.583	1.44	6.17	0.72
1.500	4.32	3.083	9.36	4.667	1.44	6.25	0.72
1.583	4.32	3.167	9.36	4.750	1.44		

```
     Max.Eff.Inten.(mm/hr)=      33.12        12.45
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      3.93 (ii)   20.17 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.24         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.11         0.01          0.111 (iii)
     TIME TO PEAK    (hrs)=      2.75         3.00           2.75
     RUNOFF VOLUME    (mm)=     35.00        11.08          30.21
     TOTAL RAINFALL   (mm)=     36.00        36.00          36.00
     RUNOFF COEFFICIENT   =      0.97         0.31           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.111     2.75    30.21
     + ID2= 2 (  0260):     3.22   0.175     2.75    31.68
       ================================================
       ID = 3 (  0259):     4.67   0.286     2.75    31.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\712b2231
| Ptotal= 36.00 mm |    Comments: 2 Year 6 Hour AES (Bloor, TRCA)
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	12.24	3.75	5.04	5.50	0.72
0.50	0.72	2.25	12.24	4.00	2.88	5.75	0.72
0.75	0.72	2.50	33.12	4.25	2.88	6.00	0.72
1.00	0.72	2.75	33.12	4.50	1.44	6.25	0.72
1.25	0.72	3.00	9.36	4.75	1.44		
1.50	4.32	3.25	9.36	5.00	0.72		
1.75	4.32	3.50	5.04	5.25	0.72		

```
-------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      5.22         0.05
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    187.44        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.32	3.250	9.36	4.83	0.72
0.167	0.00	1.750	4.32	3.333	5.04	4.92	0.72
0.250	0.00	1.833	12.24	3.417	5.04	5.00	0.72
0.333	0.72	1.917	12.24	3.500	5.04	5.08	0.72

```
              0.417    0.72 | 2.000   12.24 | 3.583    5.04 |  5.17    0.72
              0.500    0.72 | 2.083   12.24 | 3.667    5.04 |  5.25    0.72
              0.583    0.72 | 2.167   12.24 | 3.750    5.04 |  5.33    0.72
              0.667    0.72 | 2.250   12.24 | 3.833    2.88 |  5.42    0.72
              0.750    0.72 | 2.333   33.12 | 3.917    2.88 |  5.50    0.72
              0.833    0.72 | 2.417   33.12 | 4.000    2.88 |  5.58    0.72
              0.917    0.72 | 2.500   33.12 | 4.083    2.88 |  5.67    0.72
              1.000    0.72 | 2.583   33.12 | 4.167    2.88 |  5.75    0.72
              1.083    0.72 | 2.667   33.12 | 4.250    2.88 |  5.83    0.72
              1.167    0.72 | 2.750   33.12 | 4.333    1.44 |  5.92    0.72
              1.250    0.72 | 2.833    9.36 | 4.417    1.44 |  6.00    0.72
              1.333    4.32 | 2.917    9.36 | 4.500    1.44 |  6.08    0.72
              1.417    4.32 | 3.000    9.36 | 4.583    1.44 |  6.17    0.72
              1.500    4.32 | 3.083    9.36 | 4.667    1.44 |  6.25    0.72
              1.583    4.32 | 3.167    9.36 | 4.750    1.44 |

    Max.Eff.Inten.(mm/hr)=      33.12        14.06
              over (min)        5.00        10.00
    Storage Coeff.  (min)=      5.79 (ii)    7.54 (ii)
    Unit Hyd. Tpeak (min)=      5.00        10.00
    Unit Hyd. peak  (cms)=      0.20         0.13
                                                        *TOTALS*
    PEAK FLOW       (cms)=      0.48         0.00          0.480 (iii)
    TIME TO PEAK    (hrs)=      2.75         2.75           2.75
    RUNOFF VOLUME    (mm)=     35.00        11.08          34.76
    TOTAL RAINFALL   (mm)=     36.00        36.00          36.00
    RUNOFF COEFFICIENT   =      0.97         0.31           0.97


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)     5.270      0.480      2.75      34.76
   OUTFLOW: ID= 1 (  0268)     5.270      0.136      3.25      34.74

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.38
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0961

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\712b2231
| Ptotal= 36.00 mm |    Comments: 2 Year 6 Hour AES (Bloor, TRCA)
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00   12.24 |  3.75    5.04 |  5.50    0.72
               0.50    0.72 |  2.25   12.24 |  4.00    2.88 |  5.75    0.72
               0.75    0.72 |  2.50   33.12 |  4.25    2.88 |  6.00    0.72
               1.00    0.72 |  2.75   33.12 |  4.50    1.44 |  6.25    0.72
               1.25    0.72 |  3.00    9.36 |  4.75    1.44 |
               1.50    4.32 |  3.25    9.36 |  5.00    0.72 |
               1.75    4.32 |  3.50    5.04 |  5.25    0.72 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    4.32 | 3.250    9.36 |  4.83    0.72
              0.167    0.00 | 1.750    4.32 | 3.333    5.04 |  4.92    0.72
              0.250    0.00 | 1.833   12.24 | 3.417    5.04 |  5.00    0.72
              0.333    0.72 | 1.917   12.24 | 3.500    5.04 |  5.08    0.72
              0.417    0.72 | 2.000   12.24 | 3.583    5.04 |  5.17    0.72
              0.500    0.72 | 2.083   12.24 | 3.667    5.04 |  5.25    0.72
              0.583    0.72 | 2.167   12.24 | 3.750    5.04 |  5.33    0.72
              0.667    0.72 | 2.250   12.24 | 3.833    2.88 |  5.42    0.72
              0.750    0.72 | 2.333   33.12 | 3.917    2.88 |  5.50    0.72
              0.833    0.72 | 2.417   33.12 | 4.000    2.88 |  5.58    0.72
              0.917    0.72 | 2.500   33.12 | 4.083    2.88 |  5.67    0.72
              1.000    0.72 | 2.583   33.12 | 4.167    2.88 |  5.75    0.72
              1.083    0.72 | 2.667   33.12 | 4.250    2.88 |  5.83    0.72
              1.167    0.72 | 2.750   33.12 | 4.333    1.44 |  5.92    0.72
              1.250    0.72 | 2.833    9.36 | 4.417    1.44 |  6.00    0.72
              1.333    4.32 | 2.917    9.36 | 4.500    1.44 |  6.08    0.72
              1.417    4.32 | 3.000    9.36 | 4.583    1.44 |  6.17    0.72
              1.500    4.32 | 3.083    9.36 | 4.667    1.44 |  6.25    0.72
              1.583    4.32 | 3.167    9.36 | 4.750    1.44 |

    Max.Eff.Inten.(mm/hr)=      33.12        12.45
              over (min)        5.00        25.00
    Storage Coeff.  (min)=      6.19 (ii)   22.43 (ii)
    Unit Hyd. Tpeak (min)=      5.00        25.00
    Unit Hyd. peak  (cms)=      0.19         0.05
                                                        *TOTALS*
    PEAK FLOW       (cms)=      0.49         0.03          0.506 (iii)
    TIME TO PEAK    (hrs)=      2.75         3.00           2.75
    RUNOFF VOLUME    (mm)=     35.00        11.08          30.45
    TOTAL RAINFALL   (mm)=     36.00        36.00          36.00
    RUNOFF COEFFICIENT   =      0.97         0.31           0.85


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
```

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0202):		6.57	0.506	2.75	30.45
+ ID2= 2 (0268):		5.27	0.136	3.25	34.74
ID = 3 (0262):		11.84	0.634	2.75	32.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0259):		4.67	0.286	2.75	31.22
+ ID2= 2 (0262):		11.84	0.634	2.75	32.36
ID = 3 (0266):		16.51	0.920	2.75	32.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0263)					
IN= 2---> OUT= 1					
DT= 5.0 min		OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	0.2130	0.6563
		0.0190	0.1773	0.2520	0.6883
		0.0220	0.2128	0.2890	0.7150
		0.0260	0.2888	0.2980	0.7450
		0.0300	0.3648	0.3060	0.7700
		0.0650	0.4586	0.3150	0.8127
		0.1100	0.5155	0.3320	0.9290
		0.1680	0.5503	0.3390	0.9767
		0.1930	0.5804	0.3520	1.0680
		0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	0.920	2.75	32.04
OUTFLOW: ID= 1 (0263)	16.510	0.058	6.42	31.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.27
TIME SHIFT OF PEAK FLOW (min)=220.00
MAXIMUM STORAGE USED (ha.m.)= 0.4389

ADD HYD (0261)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0206):		0.12	0.003	2.83	11.06
+ ID2= 2 (0263):		16.51	0.058	6.42	31.90
ID = 3 (0261):		16.64	0.058	6.42	31.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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```

***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-4bf8-aeac-18a29a864848\cd00d386-05ec-42ad-8542-23415444c346\s
Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-4bf8-aeac-18a29a864848\cd00d386-05ec-42ad-8542-23415444c346\s

DATE: 07/06/2020 TIME: 04:30:38

USER:

COMMENTS: _____

```
  ********************************************
  ** SIMULATION : 25 Year 6 Hour AES          **
  ********************************************
```

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\532f9adf-2237-4159-99ad-dfda1740d167\0ba2d124
Ptotal= 65.59 mm	Comments: 25 Year 6 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	22.30	3.75	9.18	5.50	1.31
0.50	1.31	2.25	22.30	4.00	5.25	5.75	1.31
0.75	1.31	2.50	60.35	4.25	5.25	6.00	1.31
1.00	1.31	2.75	60.35	4.50	2.62	6.25	1.31
1.25	1.31	3.00	17.06	4.75	2.62		
1.50	7.87	3.25	17.06	5.00	1.31		
1.75	7.87	3.50	9.18	5.25	1.31		

```
--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

```
     Unit Hyd Qpeak  (cms)=   0.019

     PEAK FLOW       (cms)=   0.010 (i)
     TIME TO PEAK    (hrs)=   2.833
     RUNOFF VOLUME    (mm)=  31.524
     TOTAL RAINFALL   (mm)=  65.590
     RUNOFF COEFFICIENT   =   0.481

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\0ba2d124
| Ptotal= 65.59 mm |    Comments: 25 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	22.30	3.75	9.18	5.50	1.31
0.50	1.31	2.25	22.30	4.00	5.25	5.75	1.31
0.75	1.31	2.50	60.35	4.25	5.25	6.00	1.31
1.00	1.31	2.75	60.35	4.50	2.62	6.25	1.31
1.25	1.31	3.00	17.06	4.75	2.62		
1.50	7.87	3.25	17.06	5.00	1.31		
1.75	7.87	3.50	9.18	5.25	1.31		

```
--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

```
        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)=		60.35	38.26	
over (min)		5.00	5.00	
Storage Coeff. (min)=		2.87 (ii)	4.24 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.28	0.24	
				TOTALS
PEAK FLOW	(cms)=	0.19	0.00	0.188 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	64.59	31.55	64.26
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.98	0.48	0.98

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |   0.0470      0.0750

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)      1.125      0.188      2.75      64.26
   OUTFLOW: ID= 1 (  0256)      1.125      0.031      3.33      63.90

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.69
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0501

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\0ba2d124
| Ptotal= 65.59 mm |    Comments: 25 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   22.30 |  3.75    9.18 |  5.50    1.31
                0.50    1.31 |  2.25   22.30 |  4.00    5.25 |  5.75    1.31
                0.75    1.31 |  2.50   60.35 |  4.25    5.25 |  6.00    1.31
                1.00    1.31 |  2.75   60.35 |  4.50    2.62 |  6.25    1.31
                1.25    1.31 |  3.00   17.06 |  4.75    2.62 |
                1.50    7.87 |  3.25   17.06 |  5.00    1.31 |
                1.75    7.87 |  3.50    9.18 |  5.25    1.31 |

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                         ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    7.87 | 3.250   17.06 |  4.83    1.31
               0.167    0.00 | 1.750    7.87 | 3.333    9.18 |  4.92    1.31
               0.250    0.00 | 1.833   22.30 | 3.417    9.18 |  5.00    1.31
               0.333    1.31 | 1.917   22.30 | 3.500    9.18 |  5.08    1.31
               0.417    1.31 | 2.000   22.30 | 3.583    9.18 |  5.17    1.31
               0.500    1.31 | 2.083   22.30 | 3.667    9.18 |  5.25    1.31
               0.583    1.31 | 2.167   22.30 | 3.750    9.18 |  5.33    1.31
               0.667    1.31 | 2.250   22.30 | 3.833    5.25 |  5.42    1.31
               0.750    1.31 | 2.333   60.35 | 3.917    5.25 |  5.50    1.31
               0.833    1.31 | 2.417   60.35 | 4.000    5.25 |  5.58    1.31
               0.917    1.31 | 2.500   60.35 | 4.083    5.25 |  5.67    1.31
               1.000    1.31 | 2.583   60.35 | 4.167    5.25 |  5.75    1.31
               1.083    1.31 | 2.667   60.35 | 4.250    5.25 |  5.83    1.31
               1.167    1.31 | 2.750   60.35 | 4.333    2.62 |  5.92    1.31
               1.250    1.31 | 2.833   17.06 | 4.417    2.62 |  6.00    1.31
               1.333    7.87 | 2.917   17.06 | 4.500    2.62 |  6.08    1.31
               1.417    7.87 | 3.000   17.06 | 4.583    2.62 |  6.17    1.31
               1.500    7.87 | 3.083   17.06 | 4.667    2.62 |  6.25    1.31
               1.583    7.87 | 3.167   17.06 | 4.750    2.62 |

     Max.Eff.Inten.(mm/hr)=      60.35        38.26
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.46 (ii)    8.42 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.04          0.320 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      64.59        31.55          57.98
     TOTAL RAINFALL   (mm)=      65.59        65.59          65.59
     RUNOFF COEFFICIENT   =       0.98         0.48           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.320     2.75    57.98
     + ID2= 2 (  0256):     1.12   0.031     3.33    63.90
       ================================================
       ID = 3 (  0260):     3.22   0.347     2.75    60.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\0ba2d124
| Ptotal= 65.59 mm |    Comments: 25 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   22.30 |  3.75    9.18 |  5.50    1.31
                0.50    1.31 |  2.25   22.30 |  4.00    5.25 |  5.75    1.31
                0.75    1.31 |  2.50   60.35 |  4.25    5.25 |  6.00    1.31
                1.00    1.31 |  2.75   60.35 |  4.50    2.62 |  6.25    1.31
                1.25    1.31 |  3.00   17.06 |  4.75    2.62 |
                1.50    7.87 |  3.25   17.06 |  5.00    1.31 |
                1.75    7.87 |  3.50    9.18 |  5.25    1.31 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
```

Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)	=	60.35	38.26
over (min)		5.00	10.00
Storage Coeff. (min)	=	3.09 (ii)	8.06 (ii)
Unit Hyd. Tpeak (min)	=	5.00	10.00
Unit Hyd. peak (cms)	=	0.27	0.13

				TOTALS
PEAK FLOW	(cms)=	0.19	0.03	0.222 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	64.59	31.55	57.98
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.98	0.48	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.45	0.222	2.75	57.98
	+ ID2= 2 (0260):	3.22	0.347	2.75	60.05
	ID = 3 (0259):	4.67	0.569	2.75	59.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\532f9adf-2237-4159-99ad-dfda1740d167\0ba2d124
Ptotal= 65.59 mm	Comments: 25 Year 6 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	22.30	3.75	9.18	5.50	1.31
0.50	1.31	2.25	22.30	4.00	5.25	5.75	1.31
0.75	1.31	2.50	60.35	4.25	5.25	6.00	1.31
1.00	1.31	2.75	60.35	4.50	2.62	6.25	1.31
1.25	1.31	3.00	17.06	4.75	2.62		
1.50	7.87	3.25	17.06	5.00	1.31		
1.75	7.87	3.50	9.18	5.25	1.31		

CALIB	STANDHYD (0201)	Area (ha)= 5.27	
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	7.87	3.250	17.06	4.83	1.31
0.167	0.00	1.750	7.87	3.333	9.18	4.92	1.31
0.250	0.00	1.833	22.30	3.417	9.18	5.00	1.31
0.333	1.31	1.917	22.30	3.500	9.18	5.08	1.31
0.417	1.31	2.000	22.30	3.583	9.18	5.17	1.31
0.500	1.31	2.083	22.30	3.667	9.18	5.25	1.31
0.583	1.31	2.167	22.30	3.750	9.18	5.33	1.31
0.667	1.31	2.250	22.30	3.833	5.25	5.42	1.31
0.750	1.31	2.333	60.35	3.917	5.25	5.50	1.31
0.833	1.31	2.417	60.35	4.000	5.25	5.58	1.31
0.917	1.31	2.500	60.35	4.083	5.25	5.67	1.31
1.000	1.31	2.583	60.35	4.167	5.25	5.75	1.31
1.083	1.31	2.667	60.35	4.250	5.25	5.83	1.31
1.167	1.31	2.750	60.35	4.333	2.62	5.92	1.31
1.250	1.31	2.833	17.06	4.417	2.62	6.00	1.31
1.333	7.87	2.917	17.06	4.500	2.62	6.08	1.31
1.417	7.87	3.000	17.06	4.583	2.62	6.17	1.31
1.500	7.87	3.083	17.06	4.667	2.62	6.25	1.31
1.583	7.87	3.167	17.06	4.750	2.62		

Max.Eff.Inten.(mm/hr)	=	60.35	38.26
over (min)		5.00	10.00
Storage Coeff. (min)	=	4.56 (ii)	5.93 (ii)
Unit Hyd. Tpeak (min)	=	5.00	10.00
Unit Hyd. peak (cms)	=	0.23	0.15

```
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.87         0.01          0.879 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      64.59        31.55          64.26
     TOTAL RAINFALL   (mm)=      65.59        65.59          65.59
     RUNOFF COEFFICIENT   =       0.98         0.48           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1959      0.1883
                         0.0980     0.0369   |   0.2939      0.4335

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)     5.270      0.879      2.75      64.26
   OUTFLOW: ID= 1 (  0268)     5.270      0.200      3.33      64.24

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.70
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1976

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\0ba2d124
| Ptotal= 65.59 mm |    Comments: 25 Year 6 Hour AES (Bloor, TRCA)
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00   22.30 |  3.75    9.18 |  5.50    1.31
               0.50    1.31 |  2.25   22.30 |  4.00    5.25 |  5.75    1.31
               0.75    1.31 |  2.50   60.35 |  4.25    5.25 |  6.00    1.31
               1.00    1.31 |  2.75   60.35 |  4.50    2.62 |  6.25    1.31
               1.25    1.31 |  3.00   17.06 |  4.75    2.62 |
               1.50    7.87 |  3.25   17.06 |  5.00    1.31 |
               1.75    7.87 |  3.50    9.18 |  5.25    1.31 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250
```

```
     NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    7.87 | 3.250   17.06 |  4.83    1.31
               0.167    0.00 | 1.750    7.87 | 3.333    9.18 |  4.92    1.31
               0.250    0.00 | 1.833   22.30 | 3.417    9.18 |  5.00    1.31
               0.333    1.31 | 1.917   22.30 | 3.500    9.18 |  5.08    1.31
               0.417    1.31 | 2.000   22.30 | 3.583    9.18 |  5.17    1.31
               0.500    1.31 | 2.083   22.30 | 3.667    9.18 |  5.25    1.31
               0.583    1.31 | 2.167   22.30 | 3.750    9.18 |  5.33    1.31
               0.667    1.31 | 2.250   22.30 | 3.833    5.25 |  5.42    1.31
               0.750    1.31 | 2.333   60.35 | 3.917    5.25 |  5.50    1.31
               0.833    1.31 | 2.417   60.35 | 4.000    5.25 |  5.58    1.31
               0.917    1.31 | 2.500   60.35 | 4.083    5.25 |  5.67    1.31
               1.000    1.31 | 2.583   60.35 | 4.167    5.25 |  5.75    1.31
               1.083    1.31 | 2.667   60.35 | 4.250    5.25 |  5.83    1.31
               1.167    1.31 | 2.750   60.35 | 4.333    2.62 |  5.92    1.31
               1.250    1.31 | 2.833   17.06 | 4.417    2.62 |  6.00    1.31
               1.333    7.87 | 2.917   17.06 | 4.500    2.62 |  6.08    1.31
               1.417    7.87 | 3.000   17.06 | 4.583    2.62 |  6.17    1.31
               1.500    7.87 | 3.083   17.06 | 4.667    2.62 |  6.25    1.31
               1.583    7.87 | 3.167   17.06 | 4.750    2.62 |

     Max.Eff.Inten.(mm/hr)=      60.35        38.26
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      4.87 (ii)    9.71 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.22         0.11
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.89         0.11          1.004 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=     64.59        31.55          58.31
     TOTAL RAINFALL   (mm)=     65.59        65.59          65.59
     RUNOFF COEFFICIENT   =      0.98         0.48           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):      6.57   1.004     2.75    58.31
     + ID2= 2 (  0268):      5.27   0.200     3.33    64.24
       ==================================================
       ID = 3 (  0262):     11.84   1.187     2.75    60.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
```

```
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.569     2.75    59.41
     + ID2= 2 (  0262):    11.84   1.187     2.75    60.95
       ================================================
       ID = 3 (  0266):    16.51   1.756     2.75    60.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   0.2130      0.6563
                        0.0190     0.1773    |   0.2520      0.6883
                        0.0220     0.2128    |   0.2890      0.7150
                        0.0260     0.2888    |   0.2980      0.7450
                        0.0300     0.3648    |   0.3060      0.7700
                        0.0650     0.4586    |   0.3150      0.8127
                        0.1100     0.5155    |   0.3320      0.9290
                        0.1680     0.5503    |   0.3390      0.9767
                        0.1930     0.5804    |   0.3520      1.0680
                        0.2000     0.6048    |   0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      1.756      2.75      60.51
   OUTFLOW: ID= 1 (  0263)     16.510      0.211      5.33      60.37

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.02
                TIME SHIFT OF PEAK FLOW         (min)=155.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6485

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-------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.010     2.83    31.52
     + ID2= 2 (  0263):    16.51   0.211     5.33    60.37
       ================================================
       ID = 3 (  0261):    16.64   0.211     5.17    60.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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```
                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\69cdb30f-e921-4933-a0e8-629ee5e1929f\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\69cdb30f-e921-4933-a0e8-629ee5e1929f\s


DATE: 07/06/2020                          TIME: 04:30:38

USER:



COMMENTS: _____________________________________________________


--------------------------------------------------------------------------------
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  **********************************************
  ** SIMULATION : 5 Year 6 Hour AES            **
  **********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\04fe6def
| Ptotal= 47.81 mm |    Comments: 5 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   16.25 |  3.75    6.69 |  5.50    0.96
                0.50    0.96 |  2.25   16.25 |  4.00    3.82 |  5.75    0.96
                0.75    0.96 |  2.50   43.98 |  4.25    3.82 |  6.00    0.96
                1.00    0.96 |  2.75   43.98 |  4.50    1.91 |  6.25    0.96
                1.25    0.96 |  3.00   12.43 |  4.75    1.91 |
                1.50    5.74 |  3.25   12.43 |  5.00    0.96 |
                1.75    5.74 |  3.50    6.69 |  5.25    0.96 |

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.74 | 3.250   12.43 |  4.83    0.96
               0.167    0.00 | 1.750    5.74 | 3.333    6.69 |  4.92    0.96
               0.250    0.00 | 1.833   16.25 | 3.417    6.69 |  5.00    0.96
               0.333    0.96 | 1.917   16.25 | 3.500    6.69 |  5.08    0.96
               0.417    0.96 | 2.000   16.25 | 3.583    6.69 |  5.17    0.96
```

```
               0.500    0.96 | 2.083   16.25 | 3.667    6.69 |  5.25    0.96
               0.583    0.96 | 2.167   16.25 | 3.750    6.69 |  5.33    0.96
               0.667    0.96 | 2.250   16.25 | 3.833    3.82 |  5.42    0.96
               0.750    0.96 | 2.333   43.98 | 3.917    3.82 |  5.50    0.96
               0.833    0.96 | 2.417   43.98 | 4.000    3.82 |  5.58    0.96
               0.917    0.96 | 2.500   43.98 | 4.083    3.82 |  5.67    0.96
               1.000    0.96 | 2.583   43.98 | 4.167    3.82 |  5.75    0.96
               1.083    0.96 | 2.667   43.98 | 4.250    3.82 |  5.83    0.96
               1.167    0.96 | 2.750   43.98 | 4.333    1.91 |  5.92    0.96
               1.250    0.96 | 2.833   12.43 | 4.417    1.91 |  6.00    0.96
               1.333    5.74 | 2.917   12.43 | 4.500    1.91 |  6.08    0.96
               1.417    5.74 | 3.000   12.43 | 4.583    1.91 |  6.17    0.96
               1.500    5.74 | 3.083   12.43 | 4.667    1.91 |  6.25    0.96
               1.583    5.74 | 3.167   12.43 | 4.750    1.91 |

     Unit Hyd Qpeak  (cms)=   0.019

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=   2.833
     RUNOFF VOLUME    (mm)=  18.574
     TOTAL RAINFALL   (mm)=  47.810
     RUNOFF COEFFICIENT   =   0.389

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\04fe6def
| Ptotal= 47.81 mm |    Comments: 5 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   16.25 |  3.75    6.69 |  5.50    0.96
                0.50    0.96 |  2.25   16.25 |  4.00    3.82 |  5.75    0.96
                0.75    0.96 |  2.50   43.98 |  4.25    3.82 |  6.00    0.96
                1.00    0.96 |  2.75   43.98 |  4.50    1.91 |  6.25    0.96
                1.25    0.96 |  3.00   12.43 |  4.75    1.91 |
                1.50    5.74 |  3.25   12.43 |  5.00    0.96 |
                1.75    5.74 |  3.50    6.69 |  5.25    0.96 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.74 | 3.250   12.43 |  4.83    0.96
               0.167    0.00 | 1.750    5.74 | 3.333    6.69 |  4.92    0.96
               0.250    0.00 | 1.833   16.25 | 3.417    6.69 |  5.00    0.96
               0.333    0.96 | 1.917   16.25 | 3.500    6.69 |  5.08    0.96
               0.417    0.96 | 2.000   16.25 | 3.583    6.69 |  5.17    0.96
               0.500    0.96 | 2.083   16.25 | 3.667    6.69 |  5.25    0.96
               0.583    0.96 | 2.167   16.25 | 3.750    6.69 |  5.33    0.96
               0.667    0.96 | 2.250   16.25 | 3.833    3.82 |  5.42    0.96
               0.750    0.96 | 2.333   43.98 | 3.917    3.82 |  5.50    0.96
               0.833    0.96 | 2.417   43.98 | 4.000    3.82 |  5.58    0.96
               0.917    0.96 | 2.500   43.98 | 4.083    3.82 |  5.67    0.96
               1.000    0.96 | 2.583   43.98 | 4.167    3.82 |  5.75    0.96
               1.083    0.96 | 2.667   43.98 | 4.250    3.82 |  5.83    0.96
               1.167    0.96 | 2.750   43.98 | 4.333    1.91 |  5.92    0.96
               1.250    0.96 | 2.833   12.43 | 4.417    1.91 |  6.00    0.96
               1.333    5.74 | 2.917   12.43 | 4.500    1.91 |  6.08    0.96
               1.417    5.74 | 3.000   12.43 | 4.583    1.91 |  6.17    0.96
               1.500    5.74 | 3.083   12.43 | 4.667    1.91 |  6.25    0.96
               1.583    5.74 | 3.167   12.43 | 4.750    1.91 |

     Max.Eff.Inten.(mm/hr)=      43.98        23.12
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      3.25 (ii)    4.81 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.27         0.22
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.14         0.00          0.137 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=     46.81        18.59          46.53
     TOTAL RAINFALL   (mm)=     47.81        47.81          47.81
     RUNOFF COEFFICIENT   =      0.98         0.39           0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470     0.0750

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)      1.125      0.137      2.75      46.53
   OUTFLOW: ID= 1 (  0256)      1.125      0.023      3.42      46.17

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.60
                TIME SHIFT OF PEAK FLOW         (min)= 40.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0363

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\04fe6def
| Ptotal= 47.81 mm |    Comments: 5 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	16.25	3.75	6.69	5.50	0.96
0.50	0.96	2.25	16.25	4.00	3.82	5.75	0.96
0.75	0.96	2.50	43.98	4.25	3.82	6.00	0.96
1.00	0.96	2.75	43.98	4.50	1.91	6.25	0.96
1.25	0.96	3.00	12.43	4.75	1.91		
1.50	5.74	3.25	12.43	5.00	0.96		
1.75	5.74	3.50	6.69	5.25	0.96		

```
--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96
0.667	0.96	2.250	16.25	3.833	3.82	5.42	0.96
0.750	0.96	2.333	43.98	3.917	3.82	5.50	0.96
0.833	0.96	2.417	43.98	4.000	3.82	5.58	0.96
0.917	0.96	2.500	43.98	4.083	3.82	5.67	0.96
1.000	0.96	2.583	43.98	4.167	3.82	5.75	0.96
1.083	0.96	2.667	43.98	4.250	3.82	5.83	0.96
1.167	0.96	2.750	43.98	4.333	1.91	5.92	0.96
1.250	0.96	2.833	12.43	4.417	1.91	6.00	0.96
1.333	5.74	2.917	12.43	4.500	1.91	6.08	0.96
1.417	5.74	3.000	12.43	4.583	1.91	6.17	0.96
1.500	5.74	3.083	12.43	4.667	1.91	6.25	0.96
1.583	5.74	3.167	12.43	4.750	1.91		

				TOTALS
Max.Eff.Inten.(mm/hr)=		43.98	22.08	
over (min)		5.00	20.00	
Storage Coeff. (min)=		3.92 (ii)	16.84 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.24	0.06	
PEAK FLOW	(cms)=	0.20	0.02	0.220 (iii)
TIME TO PEAK	(hrs)=	2.75	2.92	2.75
RUNOFF VOLUME	(mm)=	46.81	18.59	41.16
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.98	0.39	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |
--------------------
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0203):	2.10	0.220	2.75	41.16
+ ID2= 2 (0256):	1.12	0.023	3.42	46.17
ID = 3 (0260):	3.22	0.239	2.75	42.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\04fe6def
| Ptotal= 47.81 mm |    Comments: 5 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	16.25	3.75	6.69	5.50	0.96
0.50	0.96	2.25	16.25	4.00	3.82	5.75	0.96
0.75	0.96	2.50	43.98	4.25	3.82	6.00	0.96
1.00	0.96	2.75	43.98	4.50	1.91	6.25	0.96
1.25	0.96	3.00	12.43	4.75	1.91		
1.50	5.74	3.25	12.43	5.00	0.96		
1.75	5.74	3.50	6.69	5.25	0.96		

```
--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.74	3.250	12.43	4.83	0.96
0.167	0.00	1.750	5.74	3.333	6.69	4.92	0.96
0.250	0.00	1.833	16.25	3.417	6.69	5.00	0.96
0.333	0.96	1.917	16.25	3.500	6.69	5.08	0.96
0.417	0.96	2.000	16.25	3.583	6.69	5.17	0.96
0.500	0.96	2.083	16.25	3.667	6.69	5.25	0.96
0.583	0.96	2.167	16.25	3.750	6.69	5.33	0.96

```
               0.667    0.96 | 2.250   16.25 | 3.833    3.82 |  5.42    0.96
               0.750    0.96 | 2.333   43.98 | 3.917    3.82 |  5.50    0.96
               0.833    0.96 | 2.417   43.98 | 4.000    3.82 |  5.58    0.96
               0.917    0.96 | 2.500   43.98 | 4.083    3.82 |  5.67    0.96
               1.000    0.96 | 2.583   43.98 | 4.167    3.82 |  5.75    0.96
               1.083    0.96 | 2.667   43.98 | 4.250    3.82 |  5.83    0.96
               1.167    0.96 | 2.750   43.98 | 4.333    1.91 |  5.92    0.96
               1.250    0.96 | 2.833   12.43 | 4.417    1.91 |  6.00    0.96
               1.333    5.74 | 2.917   12.43 | 4.500    1.91 |  6.08    0.96
               1.417    5.74 | 3.000   12.43 | 4.583    1.91 |  6.17    0.96
               1.500    5.74 | 3.083   12.43 | 4.667    1.91 |  6.25    0.96
               1.583    5.74 | 3.167   12.43 | 4.750    1.91 |

     Max.Eff.Inten.(mm/hr)=      43.98        22.08
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.51 (ii)   16.43 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.26         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.14         0.01         0.152 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.92          2.75
     RUNOFF VOLUME    (mm)=     46.81        18.59         41.16
     TOTAL RAINFALL   (mm)=     47.81        47.81         47.81
     RUNOFF COEFFICIENT   =      0.98         0.39          0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.152     2.75    41.16
     + ID2= 2 (  0260):     3.22   0.239     2.75    42.91
       ================================================
       ID = 3 (  0259):     4.67   0.391     2.75    42.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\04fe6def
| Ptotal= 47.81 mm |    Comments: 5 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   16.25 |  3.75    6.69 |  5.50    0.96
                0.50    0.96 |  2.25   16.25 |  4.00    3.82 |  5.75    0.96
                0.75    0.96 |  2.50   43.98 |  4.25    3.82 |  6.00    0.96
                1.00    0.96 |  2.75   43.98 |  4.50    1.91 |  6.25    0.96
                1.25    0.96 |  3.00   12.43 |  4.75    1.91 |
                1.50    5.74 |  3.25   12.43 |  5.00    0.96 |
                1.75    5.74 |  3.50    6.69 |  5.25    0.96 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 1.667    5.74 | 3.250   12.43 |  4.83    0.96
                0.167    0.00 | 1.750    5.74 | 3.333    6.69 |  4.92    0.96
                0.250    0.00 | 1.833   16.25 | 3.417    6.69 |  5.00    0.96
                0.333    0.96 | 1.917   16.25 | 3.500    6.69 |  5.08    0.96
                0.417    0.96 | 2.000   16.25 | 3.583    6.69 |  5.17    0.96
                0.500    0.96 | 2.083   16.25 | 3.667    6.69 |  5.25    0.96
                0.583    0.96 | 2.167   16.25 | 3.750    6.69 |  5.33    0.96
                0.667    0.96 | 2.250   16.25 | 3.833    3.82 |  5.42    0.96
                0.750    0.96 | 2.333   43.98 | 3.917    3.82 |  5.50    0.96
                0.833    0.96 | 2.417   43.98 | 4.000    3.82 |  5.58    0.96
                0.917    0.96 | 2.500   43.98 | 4.083    3.82 |  5.67    0.96
                1.000    0.96 | 2.583   43.98 | 4.167    3.82 |  5.75    0.96
                1.083    0.96 | 2.667   43.98 | 4.250    3.82 |  5.83    0.96
                1.167    0.96 | 2.750   43.98 | 4.333    1.91 |  5.92    0.96
                1.250    0.96 | 2.833   12.43 | 4.417    1.91 |  6.00    0.96
                1.333    5.74 | 2.917   12.43 | 4.500    1.91 |  6.08    0.96
                1.417    5.74 | 3.000   12.43 | 4.583    1.91 |  6.17    0.96
                1.500    5.74 | 3.083   12.43 | 4.667    1.91 |  6.25    0.96
                1.583    5.74 | 3.167   12.43 | 4.750    1.91 |

     Max.Eff.Inten.(mm/hr)=      43.98        23.12
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      5.17 (ii)    6.73 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.21         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.64         0.00         0.639 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75          2.75
     RUNOFF VOLUME    (mm)=     46.81        18.59         46.53
     TOTAL RAINFALL   (mm)=     47.81        47.81         47.81
     RUNOFF COEFFICIENT   =      0.98         0.39          0.97

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
```

```
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270      0.639      2.75      46.53
   OUTFLOW: ID= 1 (  0268)      5.270      0.162      3.25      46.51

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 25.32
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1359

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\04fe6def
| Ptotal= 47.81 mm |    Comments: 5 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   16.25 |  3.75    6.69 |  5.50    0.96
                0.50    0.96 |  2.25   16.25 |  4.00    3.82 |  5.75    0.96
                0.75    0.96 |  2.50   43.98 |  4.25    3.82 |  6.00    0.96
                1.00    0.96 |  2.75   43.98 |  4.50    1.91 |  6.25    0.96
                1.25    0.96 |  3.00   12.43 |  4.75    1.91 |
                1.50    5.74 |  3.25   12.43 |  5.00    0.96 |
                1.75    5.74 |  3.50    6.69 |  5.25    0.96 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.74 | 3.250   12.43 |  4.83    0.96
               0.167    0.00 | 1.750    5.74 | 3.333    6.69 |  4.92    0.96
               0.250    0.00 | 1.833   16.25 | 3.417    6.69 |  5.00    0.96
               0.333    0.96 | 1.917   16.25 | 3.500    6.69 |  5.08    0.96
               0.417    0.96 | 2.000   16.25 | 3.583    6.69 |  5.17    0.96
               0.500    0.96 | 2.083   16.25 | 3.667    6.69 |  5.25    0.96
               0.583    0.96 | 2.167   16.25 | 3.750    6.69 |  5.33    0.96
               0.667    0.96 | 2.250   16.25 | 3.833    3.82 |  5.42    0.96
               0.750    0.96 | 2.333   43.98 | 3.917    3.82 |  5.50    0.96
               0.833    0.96 | 2.417   43.98 | 4.000    3.82 |  5.58    0.96
               0.917    0.96 | 2.500   43.98 | 4.083    3.82 |  5.67    0.96
               1.000    0.96 | 2.583   43.98 | 4.167    3.82 |  5.75    0.96
               1.083    0.96 | 2.667   43.98 | 4.250    3.82 |  5.83    0.96
               1.167    0.96 | 2.750   43.98 | 4.333    1.91 |  5.92    0.96
               1.250    0.96 | 2.833   12.43 | 4.417    1.91 |  6.00    0.96
               1.333    5.74 | 2.917   12.43 | 4.500    1.91 |  6.08    0.96
               1.417    5.74 | 3.000   12.43 | 4.583    1.91 |  6.17    0.96
               1.500    5.74 | 3.083   12.43 | 4.667    1.91 |  6.25    0.96
               1.583    5.74 | 3.167   12.43 | 4.750    1.91 |

     Max.Eff.Inten.(mm/hr)=      43.98        22.08
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       5.53 (ii)   18.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.20         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.65         0.05          0.691 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.92           2.75
     RUNOFF VOLUME    (mm)=      46.81        18.59          41.45
     TOTAL RAINFALL   (mm)=      47.81        47.81          47.81
     RUNOFF COEFFICIENT   =       0.98         0.39           0.87

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   0.691     2.75    41.45
     + ID2= 2 (  0268):     5.27   0.162     3.25    46.51
       ================================================
       ID = 3 (  0262):    11.84   0.840     2.75    43.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.391     2.75    42.37
     + ID2= 2 (  0262):    11.84   0.840     2.75    43.70
       ================================================
       ID = 3 (  0266):    16.51   1.231     2.75    43.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2130      0.6563
                         0.0190     0.1773   |   0.2520      0.6883
                         0.0220     0.2128   |   0.2890      0.7150
                         0.0260     0.2888   |   0.2980      0.7450
                         0.0300     0.3648   |   0.3060      0.7700
                         0.0650     0.4586   |   0.3150      0.8127
```

```
                        0.1100     0.5155   |   0.3320      0.9290
                        0.1680     0.5503   |   0.3390      0.9767
                        0.1930     0.5804   |   0.3520      1.0680
                        0.2000     0.6048   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510     1.231      2.75      43.32
   OUTFLOW: ID= 1 (  0263)     16.510     0.137      6.25      43.18

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.12
                  TIME SHIFT OF PEAK FLOW         (min)=210.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5317

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.006     2.83    18.57
     + ID2= 2 (  0263):    16.51   0.137     6.25    43.18
       ================================================
       ID = 3 (  0261):    16.64   0.137     6.25    43.00

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
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      V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\d836b700-adbd-4282-bfe7-b79316ed9535\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\d836b700-adbd-4282-bfe7-b79316ed9535\s


DATE: 07/06/2020                          TIME: 04:30:38

USER:


COMMENTS: _____________________________________________________________
```

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--------------------------------------------------------------------------------
-------------------------
  ********************************************
  ** SIMULATION : 50 Year 6 Hour AES           **
  ********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\d42f3a3a
| Ptotal= 73.00 mm |    Comments: 50 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   24.82 |  3.75   10.22 |  5.50    1.46
                0.50    1.46 |  2.25   24.82 |  4.00    5.84 |  5.75    1.46
                0.75    1.46 |  2.50   67.16 |  4.25    5.84 |  6.00    1.46
                1.00    1.46 |  2.75   67.16 |  4.50    2.92 |  6.25    1.46
                1.25    1.46 |  3.00   18.98 |  4.75    2.92 |
                1.50    8.76 |  3.25   18.98 |  5.00    1.46 |
                1.75    8.76 |  3.50   10.22 |  5.25    1.46 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    8.76 | 3.250   18.98 |  4.83    1.46
               0.167    0.00 | 1.750    8.76 | 3.333   10.22 |  4.92    1.46
               0.250    0.00 | 1.833   24.82 | 3.417   10.22 |  5.00    1.46
               0.333    1.46 | 1.917   24.82 | 3.500   10.22 |  5.08    1.46
               0.417    1.46 | 2.000   24.82 | 3.583   10.22 |  5.17    1.46
               0.500    1.46 | 2.083   24.82 | 3.667   10.22 |  5.25    1.46
               0.583    1.46 | 2.167   24.82 | 3.750   10.22 |  5.33    1.46
               0.667    1.46 | 2.250   24.82 | 3.833    5.84 |  5.42    1.46
               0.750    1.46 | 2.333   67.16 | 3.917    5.84 |  5.50    1.46
               0.833    1.46 | 2.417   67.16 | 4.000    5.84 |  5.58    1.46
               0.917    1.46 | 2.500   67.16 | 4.083    5.84 |  5.67    1.46
               1.000    1.46 | 2.583   67.16 | 4.167    5.84 |  5.75    1.46
               1.083    1.46 | 2.667   67.16 | 4.250    5.84 |  5.83    1.46
               1.167    1.46 | 2.750   67.16 | 4.333    2.92 |  5.92    1.46
               1.250    1.46 | 2.833   18.98 | 4.417    2.92 |  6.00    1.46
               1.333    8.76 | 2.917   18.98 | 4.500    2.92 |  6.08    1.46
               1.417    8.76 | 3.000   18.98 | 4.583    2.92 |  6.17    1.46
               1.500    8.76 | 3.083   18.98 | 4.667    2.92 |  6.25    1.46
               1.583    8.76 | 3.167   18.98 | 4.750    2.92 |

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.012 (i)
    TIME TO PEAK    (hrs)=   2.833
    RUNOFF VOLUME    (mm)=  37.329
    TOTAL RAINFALL   (mm)=  73.000
```

```
     RUNOFF COEFFICIENT   =   0.511

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\d42f3a3a
| Ptotal= 73.00 mm |    Comments: 50 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   24.82 |  3.75   10.22 |  5.50    1.46
                0.50    1.46 |  2.25   24.82 |  4.00    5.84 |  5.75    1.46
                0.75    1.46 |  2.50   67.16 |  4.25    5.84 |  6.00    1.46
                1.00    1.46 |  2.75   67.16 |  4.50    2.92 |  6.25    1.46
                1.25    1.46 |  3.00   18.98 |  4.75    2.92 |
                1.50    8.76 |  3.25   18.98 |  5.00    1.46 |
                1.75    8.76 |  3.50   10.22 |  5.25    1.46 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    8.76 | 3.250   18.98 |  4.83    1.46
               0.167    0.00 | 1.750    8.76 | 3.333   10.22 |  4.92    1.46
               0.250    0.00 | 1.833   24.82 | 3.417   10.22 |  5.00    1.46
               0.333    1.46 | 1.917   24.82 | 3.500   10.22 |  5.08    1.46
               0.417    1.46 | 2.000   24.82 | 3.583   10.22 |  5.17    1.46
               0.500    1.46 | 2.083   24.82 | 3.667   10.22 |  5.25    1.46
               0.583    1.46 | 2.167   24.82 | 3.750   10.22 |  5.33    1.46
               0.667    1.46 | 2.250   24.82 | 3.833    5.84 |  5.42    1.46
               0.750    1.46 | 2.333   67.16 | 3.917    5.84 |  5.50    1.46
               0.833    1.46 | 2.417   67.16 | 4.000    5.84 |  5.58    1.46
               0.917    1.46 | 2.500   67.16 | 4.083    5.84 |  5.67    1.46
               1.000    1.46 | 2.583   67.16 | 4.167    5.84 |  5.75    1.46
               1.083    1.46 | 2.667   67.16 | 4.250    5.84 |  5.83    1.46
               1.167    1.46 | 2.750   67.16 | 4.333    2.92 |  5.92    1.46
               1.250    1.46 | 2.833   18.98 | 4.417    2.92 |  6.00    1.46
               1.333    8.76 | 2.917   18.98 | 4.500    2.92 |  6.08    1.46
               1.417    8.76 | 3.000   18.98 | 4.583    2.92 |  6.17    1.46
               1.500    8.76 | 3.083   18.98 | 4.667    2.92 |  6.25    1.46
               1.583    8.76 | 3.167   18.98 | 4.750    2.92 |

     Max.Eff.Inten.(mm/hr)=      67.16        44.89
                over (min)        5.00         5.00
     Storage Coeff.  (min)=       2.75 (ii)    4.06 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.28         0.24
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.21         0.00          0.209 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      72.00        37.36          71.65
     TOTAL RAINFALL   (mm)=      73.00        73.00          73.00
     RUNOFF COEFFICIENT   =       0.99         0.51           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470     0.0750

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)      1.125     0.209      2.75      71.65
   OUTFLOW: ID= 1 (  0256)      1.125     0.035      3.33      71.30

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.71
                 TIME SHIFT OF PEAK FLOW         (min)= 35.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0558

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\d42f3a3a
| Ptotal= 73.00 mm |    Comments: 50 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   24.82 |  3.75   10.22 |  5.50    1.46
                0.50    1.46 |  2.25   24.82 |  4.00    5.84 |  5.75    1.46
                0.75    1.46 |  2.50   67.16 |  4.25    5.84 |  6.00    1.46
                1.00    1.46 |  2.75   67.16 |  4.50    2.92 |  6.25    1.46
                1.25    1.46 |  3.00   18.98 |  4.75    2.92 |
                1.50    8.76 |  3.25   18.98 |  5.00    1.46 |
                1.75    8.76 |  3.50   10.22 |  5.25    1.46 |

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
```

```
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

```
     Max.Eff.Inten.(mm/hr)=      67.16        44.89
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.31 (ii)    8.06 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.31         0.05          0.359 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=      72.00        37.36          65.07
     TOTAL RAINFALL   (mm)=      73.00        73.00          73.00
     RUNOFF COEFFICIENT   =       0.99         0.51           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.359     2.75    65.07
     + ID2= 2 (  0256):     1.12   0.035     3.33    71.30
       ================================================
       ID = 3 (  0260):     3.22   0.389     2.75    67.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\d42f3a3a
| Ptotal= 73.00 mm |    Comments: 50 Year 6 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	24.82	3.75	10.22	5.50	1.46
0.50	1.46	2.25	24.82	4.00	5.84	5.75	1.46
0.75	1.46	2.50	67.16	4.25	5.84	6.00	1.46
1.00	1.46	2.75	67.16	4.50	2.92	6.25	1.46
1.25	1.46	3.00	18.98	4.75	2.92		
1.50	8.76	3.25	18.98	5.00	1.46		
1.75	8.76	3.50	10.22	5.25	1.46		

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--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

```
     Max.Eff.Inten.(mm/hr)=      67.16        44.89
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.97 (ii)    7.72 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.28         0.13
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.22         0.03          0.249 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75           2.75
```

```
     RUNOFF VOLUME    (mm)=      72.00        37.36          65.07
     TOTAL RAINFALL   (mm)=      73.00        73.00          73.00
     RUNOFF COEFFICIENT   =       0.99         0.51           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.249     2.75    65.07
     + ID2= 2 (  0260):     3.22   0.389     2.75    67.25
       ================================================
       ID = 3 (  0259):     4.67   0.638     2.75    66.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\d42f3a3a
| Ptotal= 73.00 mm |    Comments: 50 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   24.82 |  3.75   10.22 |  5.50    1.46
                0.50    1.46 |  2.25   24.82 |  4.00    5.84 |  5.75    1.46
                0.75    1.46 |  2.50   67.16 |  4.25    5.84 |  6.00    1.46
                1.00    1.46 |  2.75   67.16 |  4.50    2.92 |  6.25    1.46
                1.25    1.46 |  3.00   18.98 |  4.75    2.92 |
                1.50    8.76 |  3.25   18.98 |  5.00    1.46 |
                1.75    8.76 |  3.50   10.22 |  5.25    1.46 |

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--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    8.76 | 3.250   18.98 |  4.83    1.46
               0.167    0.00 | 1.750    8.76 | 3.333   10.22 |  4.92    1.46
               0.250    0.00 | 1.833   24.82 | 3.417   10.22 |  5.00    1.46
               0.333    1.46 | 1.917   24.82 | 3.500   10.22 |  5.08    1.46
               0.417    1.46 | 2.000   24.82 | 3.583   10.22 |  5.17    1.46
               0.500    1.46 | 2.083   24.82 | 3.667   10.22 |  5.25    1.46
               0.583    1.46 | 2.167   24.82 | 3.750   10.22 |  5.33    1.46
               0.667    1.46 | 2.250   24.82 | 3.833    5.84 |  5.42    1.46
               0.750    1.46 | 2.333   67.16 | 3.917    5.84 |  5.50    1.46
               0.833    1.46 | 2.417   67.16 | 4.000    5.84 |  5.58    1.46
               0.917    1.46 | 2.500   67.16 | 4.083    5.84 |  5.67    1.46
               1.000    1.46 | 2.583   67.16 | 4.167    5.84 |  5.75    1.46
               1.083    1.46 | 2.667   67.16 | 4.250    5.84 |  5.83    1.46
               1.167    1.46 | 2.750   67.16 | 4.333    2.92 |  5.92    1.46
               1.250    1.46 | 2.833   18.98 | 4.417    2.92 |  6.00    1.46
               1.333    8.76 | 2.917   18.98 | 4.500    2.92 |  6.08    1.46
               1.417    8.76 | 3.000   18.98 | 4.583    2.92 |  6.17    1.46
               1.500    8.76 | 3.083   18.98 | 4.667    2.92 |  6.25    1.46
               1.583    8.76 | 3.167   18.98 | 4.750    2.92 |

     Max.Eff.Inten.(mm/hr)=      67.16        44.89
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      4.37 (ii)    5.68 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.23         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.97         0.01          0.979 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75           2.75
     RUNOFF VOLUME    (mm)=     72.00        37.36          71.65
     TOTAL RAINFALL   (mm)=     73.00        73.00          73.00
     RUNOFF COEFFICIENT   =      0.99         0.51           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.1959      0.1883
                          0.0980     0.0369   |  0.2939      0.4335

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270      0.979      2.75      71.65
   OUTFLOW: ID= 1 (  0268)      5.270      0.210      3.33      71.64

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.48
                TIME SHIFT OF PEAK FLOW         (min)= 35.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2245

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              532f9adf-2237-4159-99ad-dfda1740d167\d42f3a3a
| Ptotal= 73.00 mm |    Comments: 50 Year 6 Hour AES (Bloor, TRCA)
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	24.82	3.75	10.22	5.50	1.46
0.50	1.46	2.25	24.82	4.00	5.84	5.75	1.46
0.75	1.46	2.50	67.16	4.25	5.84	6.00	1.46
1.00	1.46	2.75	67.16	4.50	2.92	6.25	1.46
1.25	1.46	3.00	18.98	4.75	2.92		
1.50	8.76	3.25	18.98	5.00	1.46		
1.75	8.76	3.50	10.22	5.25	1.46		

CALIB / STANDHYD (0202) / ID= 1 DT= 5.0 min	Area (ha)= 6.57	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	8.76	3.250	18.98	4.83	1.46
0.167	0.00	1.750	8.76	3.333	10.22	4.92	1.46
0.250	0.00	1.833	24.82	3.417	10.22	5.00	1.46
0.333	1.46	1.917	24.82	3.500	10.22	5.08	1.46
0.417	1.46	2.000	24.82	3.583	10.22	5.17	1.46
0.500	1.46	2.083	24.82	3.667	10.22	5.25	1.46
0.583	1.46	2.167	24.82	3.750	10.22	5.33	1.46
0.667	1.46	2.250	24.82	3.833	5.84	5.42	1.46
0.750	1.46	2.333	67.16	3.917	5.84	5.50	1.46
0.833	1.46	2.417	67.16	4.000	5.84	5.58	1.46
0.917	1.46	2.500	67.16	4.083	5.84	5.67	1.46
1.000	1.46	2.583	67.16	4.167	5.84	5.75	1.46
1.083	1.46	2.667	67.16	4.250	5.84	5.83	1.46
1.167	1.46	2.750	67.16	4.333	2.92	5.92	1.46
1.250	1.46	2.833	18.98	4.417	2.92	6.00	1.46
1.333	8.76	2.917	18.98	4.500	2.92	6.08	1.46
1.417	8.76	3.000	18.98	4.583	2.92	6.17	1.46
1.500	8.76	3.083	18.98	4.667	2.92	6.25	1.46
1.583	8.76	3.167	18.98	4.750	2.92		

				TOTALS
Max.Eff.Inten.(mm/hr)=	67.16	44.89		
over (min)	5.00	10.00		
Storage Coeff. (min)=	4.67 (ii)	9.30 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.22	0.12		
PEAK FLOW (cms)=	0.99	0.14		1.127 (iii)
TIME TO PEAK (hrs)=	2.75	2.75		2.75
RUNOFF VOLUME (mm)=	72.00	37.36		65.42
TOTAL RAINFALL (mm)=	73.00	73.00		73.00
RUNOFF COEFFICIENT =	0.99	0.51		0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	6.57	1.127	2.75	65.42
+ ID2= 2 (0268):	5.27	0.210	3.33	71.64
ID = 3 (0262):	11.84	1.324	2.75	68.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):	4.67	0.638	2.75	66.57
+ ID2= 2 (0262):	11.84	1.324	2.75	68.19
ID = 3 (0266):	16.51	1.962	2.75	67.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0263) | IN= 2---> OUT= 1 | DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2130	0.6563
0.0190	0.1773	0.2520	0.6883
0.0220	0.2128	0.2890	0.7150
0.0260	0.2888	0.2980	0.7450
0.0300	0.3648	0.3060	0.7700
0.0650	0.4586	0.3150	0.8127
0.1100	0.5155	0.3320	0.9290
0.1680	0.5503	0.3390	0.9767
0.1930	0.5804	0.3520	1.0680
0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	1.962	2.75	67.73
OUTFLOW: ID= 1 (0263)	16.510	0.268	4.83	67.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.68
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.7002

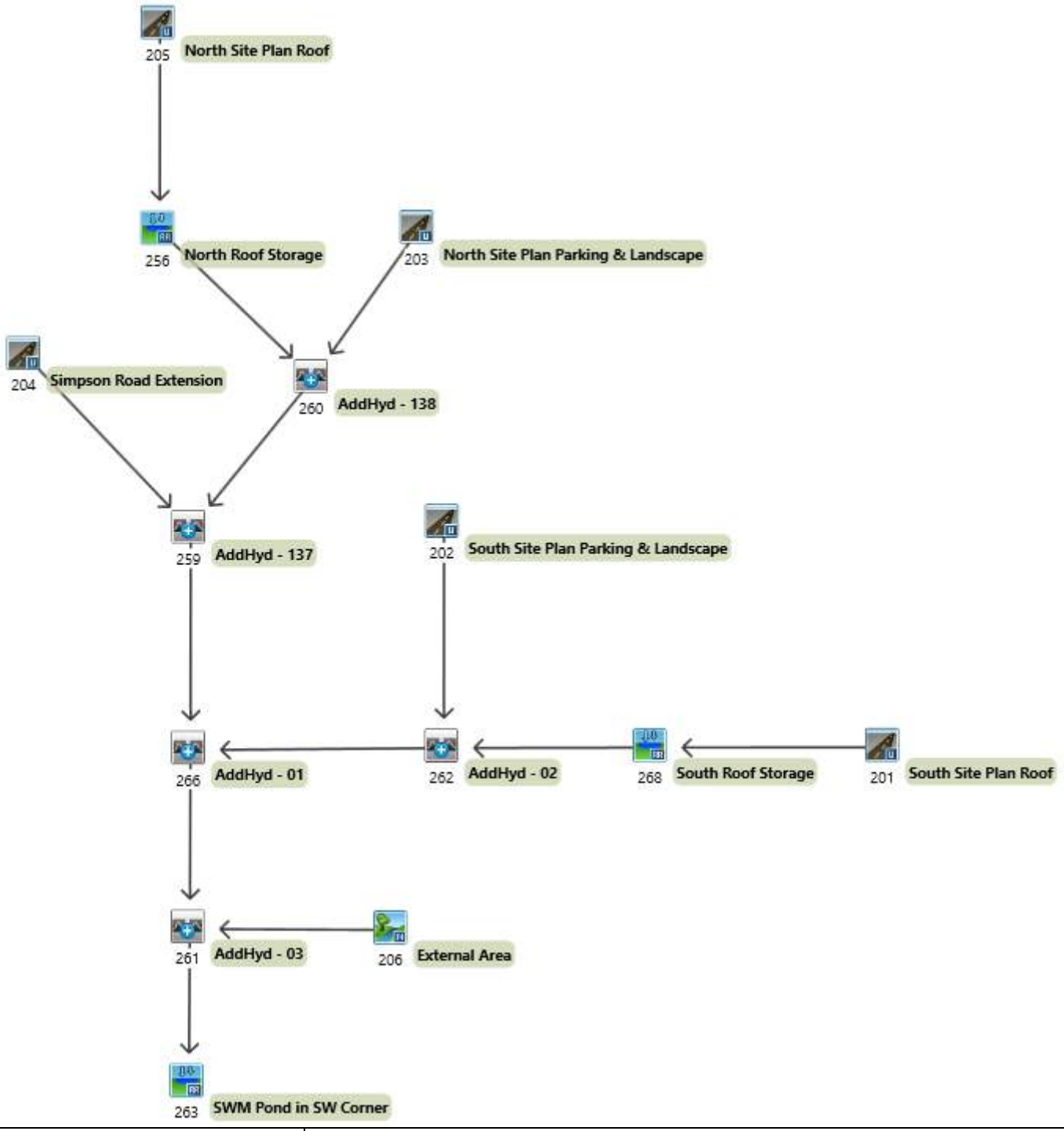
ADD HYD (0261) | 1 + 2 = 3 | AREA QPEAK TPEAK R.V.

```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0206):     0.12   0.012     2.83    37.33
      + ID2= 2 (  0263):    16.51   0.268     4.83    67.59
        ================================================
        ID = 3 (  0261):    16.64   0.269     4.83    67.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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SCHAEFFERS
CONSULTING ENGINEERS

Post-development Visual OTTHYMO™ Schematic
6 Hour SCS 2-100 Year

Job #: 2018-4841	**Date: July 2020**

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================================================================================
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       V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\9b85d30d-2754-49f0-a525-410ef2229a9d\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\9b85d30d-2754-49f0-a525-410ef2229a9d\s


DATE: 07/06/2020                          TIME: 04:32:57

USER:


COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 10 Year 6 Hour SCS           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\8c260ef9
| Ptotal= 61.75 mm |    Comments: 10yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    6.18 |  3.75   13.59 |  5.50    2.47
                0.50    2.47 |  2.25    6.18 |  4.00    6.18 |  5.75    2.47
                0.75    2.47 |  2.50    7.41 |  4.25    6.18 |  6.00    2.47
                1.00    3.70 |  2.75    7.41 |  4.50    4.94 |  6.25    2.47
                1.25    3.70 |  3.00   37.05 |  4.75    4.94 |
                1.50    3.70 |  3.25   96.33 |  5.00    3.70 |
                1.75    3.70 |  3.50   13.59 |  5.25    3.70 |

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    3.71 | 3.250   96.33 |  4.83    3.71
               0.167    0.00 | 1.750    3.71 | 3.333   13.59 |  4.92    3.71
               0.250    0.00 | 1.833    6.18 | 3.417   13.59 |  5.00    3.71
               0.333    2.47 | 1.917    6.18 | 3.500   13.59 |  5.08    3.71
               0.417    2.47 | 2.000    6.18 | 3.583   13.58 |  5.17    3.71
               0.500    2.47 | 2.083    6.18 | 3.667   13.59 |  5.25    3.71
               0.583    2.47 | 2.167    6.18 | 3.750   13.59 |  5.33    2.47
               0.667    2.47 | 2.250    6.18 | 3.833    6.18 |  5.42    2.47
               0.750    2.47 | 2.333    7.41 | 3.917    6.18 |  5.50    2.47
               0.833    3.70 | 2.417    7.41 | 4.000    6.18 |  5.58    2.47
               0.917    3.71 | 2.500    7.41 | 4.083    6.17 |  5.67    2.47
               1.000    3.71 | 2.583    7.41 | 4.167    6.18 |  5.75    2.47
               1.083    3.70 | 2.667    7.41 | 4.250    6.18 |  5.83    2.47
               1.167    3.71 | 2.750    7.41 | 4.333    4.94 |  5.92    2.47
               1.250    3.71 | 2.833   37.05 | 4.417    4.94 |  6.00    2.47
               1.333    3.71 | 2.917   37.05 | 4.500    4.94 |  6.08    2.47
               1.417    3.71 | 3.000   37.05 | 4.583    4.94 |  6.17    2.47
               1.500    3.71 | 3.083   96.33 | 4.667    4.94 |  6.25    2.47
               1.583    3.71 | 3.167   96.33 | 4.750    4.94 |

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.011 (i)
    TIME TO PEAK    (hrs)=   3.333
    RUNOFF VOLUME    (mm)=  28.598
    TOTAL RAINFALL   (mm)=  61.750
    RUNOFF COEFFICIENT   =   0.463

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\8c260ef9
| Ptotal= 61.75 mm |    Comments: 10yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    6.18 |  3.75   13.59 |  5.50    2.47
                0.50    2.47 |  2.25    6.18 |  4.00    6.18 |  5.75    2.47
                0.75    2.47 |  2.50    7.41 |  4.25    6.18 |  6.00    2.47
                1.00    3.70 |  2.75    7.41 |  4.50    4.94 |  6.25    2.47
                1.25    3.70 |  3.00   37.05 |  4.75    4.94 |
                1.50    3.70 |  3.25   96.33 |  5.00    3.70 |
                1.75    3.70 |  3.50   13.59 |  5.25    3.70 |

--------------------------------------------------------------------------------


--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
```

```
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.71	3.250	96.33	4.83	3.71
0.167	0.00	1.750	3.71	3.333	13.59	4.92	3.71
0.250	0.00	1.833	6.18	3.417	13.59	5.00	3.71
0.333	2.47	1.917	6.18	3.500	13.59	5.08	3.71
0.417	2.47	2.000	6.18	3.583	13.58	5.17	3.71
0.500	2.47	2.083	6.18	3.667	13.59	5.25	3.71
0.583	2.47	2.167	6.18	3.750	13.59	5.33	2.47
0.667	2.47	2.250	6.18	3.833	6.18	5.42	2.47
0.750	2.47	2.333	7.41	3.917	6.18	5.50	2.47
0.833	3.70	2.417	7.41	4.000	6.18	5.58	2.47
0.917	3.71	2.500	7.41	4.083	6.17	5.67	2.47
1.000	3.71	2.583	7.41	4.167	6.18	5.75	2.47
1.083	3.70	2.667	7.41	4.250	6.18	5.83	2.47
1.167	3.71	2.750	7.41	4.333	4.94	5.92	2.47
1.250	3.71	2.833	37.05	4.417	4.94	6.00	2.47
1.333	3.71	2.917	37.05	4.500	4.94	6.08	2.47
1.417	3.71	3.000	37.05	4.583	4.94	6.17	2.47
1.500	3.71	3.083	96.33	4.667	4.94	6.25	2.47
1.583	3.71	3.167	96.33	4.750	4.94		

```
     Max.Eff.Inten.(mm/hr)=      96.33        57.16
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      2.38 (ii)    3.52 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.30         0.26
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.30         0.00      0.300 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.25       3.25
     RUNOFF VOLUME    (mm)=     60.75        28.63      60.43
     TOTAL RAINFALL   (mm)=     61.75        61.75      61.75
     RUNOFF COEFFICIENT   =      0.98         0.46       0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   0.0470     0.0750

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)      1.125      0.300      3.25      60.43
   OUTFLOW: ID= 1 (  0256)      1.125      0.029      3.83      60.08

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.81
                    TIME SHIFT OF PEAK FLOW         (min)= 35.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0470

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\8c260ef9
| Ptotal= 61.75 mm |    Comments: 10yr 6hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	6.18	3.75	13.59	5.50	2.47
0.50	2.47	2.25	6.18	4.00	6.18	5.75	2.47
0.75	2.47	2.50	7.41	4.25	6.18	6.00	2.47
1.00	3.70	2.75	7.41	4.50	4.94	6.25	2.47
1.25	3.70	3.00	37.05	4.75	4.94		
1.50	3.70	3.25	96.33	5.00	3.70		
1.75	3.70	3.50	13.59	5.25	3.70		

```
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.71	3.250	96.33	4.83	3.71
0.167	0.00	1.750	3.71	3.333	13.59	4.92	3.71
0.250	0.00	1.833	6.18	3.417	13.59	5.00	3.71
0.333	2.47	1.917	6.18	3.500	13.59	5.08	3.71
0.417	2.47	2.000	6.18	3.583	13.58	5.17	3.71
0.500	2.47	2.083	6.18	3.667	13.59	5.25	3.71
0.583	2.47	2.167	6.18	3.750	13.59	5.33	2.47
0.667	2.47	2.250	6.18	3.833	6.18	5.42	2.47
0.750	2.47	2.333	7.41	3.917	6.18	5.50	2.47
0.833	3.70	2.417	7.41	4.000	6.18	5.58	2.47
0.917	3.71	2.500	7.41	4.083	6.17	5.67	2.47
1.000	3.71	2.583	7.41	4.167	6.18	5.75	2.47
1.083	3.70	2.667	7.41	4.250	6.18	5.83	2.47
1.167	3.71	2.750	7.41	4.333	4.94	5.92	2.47
1.250	3.71	2.833	37.05	4.417	4.94	6.00	2.47
1.333	3.71	2.917	37.05	4.500	4.94	6.08	2.47
1.417	3.71	3.000	37.05	4.583	4.94	6.17	2.47
1.500	3.71	3.083	96.33	4.667	4.94	6.25	2.47
1.583	3.71	3.167	96.33	4.750	4.94		

```
     Max.Eff.Inten.(mm/hr)=      96.33        57.16
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.87 (ii)    6.98 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.28         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.45         0.05       0.499 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.25        3.25
     RUNOFF VOLUME    (mm)=     60.75        28.63       54.32
     TOTAL RAINFALL   (mm)=     61.75        61.75       61.75
     RUNOFF COEFFICIENT   =      0.98         0.46        0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.499     3.25    54.32
     + ID2= 2 (  0256):     1.12   0.029     3.83    60.08
       ================================================
       ID = 3 (  0260):     3.22   0.524     3.25    56.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\8c260ef9
| Ptotal= 61.75 mm |    Comments: 10yr 6hr 15min SCS
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    6.18 |  3.75   13.59 |  5.50    2.47
                0.50    2.47 |  2.25    6.18 |  4.00    6.18 |  5.75    2.47
                0.75    2.47 |  2.50    7.41 |  4.25    6.18 |  6.00    2.47
                1.00    3.70 |  2.75    7.41 |  4.50    4.94 |  6.25    2.47
                1.25    3.70 |  3.00   37.05 |  4.75    4.94 |
                1.50    3.70 |  3.25   96.33 |  5.00    3.70 |
                1.75    3.70 |  3.50   13.59 |  5.25    3.70 |

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-------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 1.667    3.71 | 3.250   96.33 |  4.83    3.71
                0.167    0.00 | 1.750    3.71 | 3.333   13.59 |  4.92    3.71
                0.250    0.00 | 1.833    6.18 | 3.417   13.59 |  5.00    3.71
                0.333    2.47 | 1.917    6.18 | 3.500   13.59 |  5.08    3.71
                0.417    2.47 | 2.000    6.18 | 3.583   13.58 |  5.17    3.71
                0.500    2.47 | 2.083    6.18 | 3.667   13.59 |  5.25    3.71
                0.583    2.47 | 2.167    6.18 | 3.750   13.59 |  5.33    2.47
                0.667    2.47 | 2.250    6.18 | 3.833    6.18 |  5.42    2.47
                0.750    2.47 | 2.333    7.41 | 3.917    6.18 |  5.50    2.47
                0.833    3.70 | 2.417    7.41 | 4.000    6.18 |  5.58    2.47
                0.917    3.71 | 2.500    7.41 | 4.083    6.17 |  5.67    2.47
                1.000    3.71 | 2.583    7.41 | 4.167    6.18 |  5.75    2.47
                1.083    3.70 | 2.667    7.41 | 4.250    6.18 |  5.83    2.47
                1.167    3.71 | 2.750    7.41 | 4.333    4.94 |  5.92    2.47
                1.250    3.71 | 2.833   37.05 | 4.417    4.94 |  6.00    2.47
                1.333    3.71 | 2.917   37.05 | 4.500    4.94 |  6.08    2.47
                1.417    3.71 | 3.000   37.05 | 4.583    4.94 |  6.17    2.47
                1.500    3.71 | 3.083   96.33 | 4.667    4.94 |  6.25    2.47
                1.583    3.71 | 3.167   96.33 | 4.750    4.94 |

     Max.Eff.Inten.(mm/hr)=      96.33        57.16
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.57 (ii)    6.68 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.29         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.31         0.04       0.347 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.25        3.25
     RUNOFF VOLUME    (mm)=     60.75        28.63       54.32
     TOTAL RAINFALL   (mm)=     61.75        61.75       61.75
     RUNOFF COEFFICIENT   =      0.98         0.46        0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.347     3.25    54.32
     + ID2= 2 (  0260):     3.22   0.524     3.25    56.33
       ================================================
       ID = 3 (  0259):     4.67   0.871     3.25    55.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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```
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\8c260ef9
| Ptotal= 61.75 mm |    Comments: 10yr 6hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	6.18	3.75	13.59	5.50	2.47
0.50	2.47	2.25	6.18	4.00	6.18	5.75	2.47
0.75	2.47	2.50	7.41	4.25	6.18	6.00	2.47
1.00	3.70	2.75	7.41	4.50	4.94	6.25	2.47
1.25	3.70	3.00	37.05	4.75	4.94		
1.50	3.70	3.25	96.33	5.00	3.70		
1.75	3.70	3.50	13.59	5.25	3.70		

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--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.71	3.250	96.33	4.83	3.71
0.167	0.00	1.750	3.71	3.333	13.59	4.92	3.71
0.250	0.00	1.833	6.18	3.417	13.59	5.00	3.71
0.333	2.47	1.917	6.18	3.500	13.59	5.08	3.71
0.417	2.47	2.000	6.18	3.583	13.58	5.17	3.71
0.500	2.47	2.083	6.18	3.667	13.59	5.25	3.71
0.583	2.47	2.167	6.18	3.750	13.59	5.33	2.47
0.667	2.47	2.250	6.18	3.833	6.18	5.42	2.47
0.750	2.47	2.333	7.41	3.917	6.18	5.50	2.47
0.833	3.70	2.417	7.41	4.000	6.18	5.58	2.47
0.917	3.71	2.500	7.41	4.083	6.17	5.67	2.47
1.000	3.71	2.583	7.41	4.167	6.18	5.75	2.47
1.083	3.70	2.667	7.41	4.250	6.18	5.83	2.47
1.167	3.71	2.750	7.41	4.333	4.94	5.92	2.47
1.250	3.71	2.833	37.05	4.417	4.94	6.00	2.47
1.333	3.71	2.917	37.05	4.500	4.94	6.08	2.47
1.417	3.71	3.000	37.05	4.583	4.94	6.17	2.47
1.500	3.71	3.083	96.33	4.667	4.94	6.25	2.47
1.583	3.71	3.167	96.33	4.750	4.94		

Max.Eff.Inten.(mm/hr)	=	96.33	57.16	
over (min)		5.00	5.00	
Storage Coeff. (min)	=	3.78 (ii)	4.92 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	5.00	
Unit Hyd. peak (cms)	=	0.25	0.22	
				TOTALS
PEAK FLOW	(cms)=	1.38	0.01	1.388 (iii)
TIME TO PEAK	(hrs)=	3.25	3.25	3.25
RUNOFF VOLUME	(mm)=	60.75	28.63	60.43
TOTAL RAINFALL	(mm)=	61.75	61.75	61.75
RUNOFF COEFFICIENT	=	0.98	0.46	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |
--------------------
```

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1959	0.1883
0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	1.388	3.25	60.43
OUTFLOW: ID= 1 (0268)	5.270	0.191	3.75	60.41

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.77
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.1810

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\8c260ef9
| Ptotal= 61.75 mm |    Comments: 10yr 6hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	6.18	3.75	13.59	5.50	2.47
0.50	2.47	2.25	6.18	4.00	6.18	5.75	2.47
0.75	2.47	2.50	7.41	4.25	6.18	6.00	2.47
1.00	3.70	2.75	7.41	4.50	4.94	6.25	2.47
1.25	3.70	3.00	37.05	4.75	4.94		
1.50	3.70	3.25	96.33	5.00	3.70		
1.75	3.70	3.50	13.59	5.25	3.70		

```
--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.71	3.250	96.33	4.83	3.71
0.167	0.00	1.750	3.71	3.333	13.59	4.92	3.71
0.250	0.00	1.833	6.18	3.417	13.59	5.00	3.71
0.333	2.47	1.917	6.18	3.500	13.59	5.08	3.71
0.417	2.47	2.000	6.18	3.583	13.58	5.17	3.71
0.500	2.47	2.083	6.18	3.667	13.59	5.25	3.71
0.583	2.47	2.167	6.18	3.750	13.59	5.33	2.47
0.667	2.47	2.250	6.18	3.833	6.18	5.42	2.47
0.750	2.47	2.333	7.41	3.917	6.18	5.50	2.47
0.833	3.70	2.417	7.41	4.000	6.18	5.58	2.47
0.917	3.71	2.500	7.41	4.083	6.17	5.67	2.47
1.000	3.71	2.583	7.41	4.167	6.18	5.75	2.47
1.083	3.70	2.667	7.41	4.250	6.18	5.83	2.47
1.167	3.71	2.750	7.41	4.333	4.94	5.92	2.47
1.250	3.71	2.833	37.05	4.417	4.94	6.00	2.47
1.333	3.71	2.917	37.05	4.500	4.94	6.08	2.47
1.417	3.71	3.000	37.05	4.583	4.94	6.17	2.47
1.500	3.71	3.083	96.33	4.667	4.94	6.25	2.47
1.583	3.71	3.167	96.33	4.750	4.94		

			TOTALS
Max.Eff.Inten.(mm/hr)=	96.33	57.16	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.04 (ii)	8.05 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.24	0.13	
PEAK FLOW (cms)=	1.40	0.15	1.551 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	60.75	28.63	54.65
TOTAL RAINFALL (mm)=	61.75	61.75	61.75
RUNOFF COEFFICIENT =	0.98	0.46	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	6.57	1.551	3.25	54.65
+ ID2= 2 (0268):	5.27	0.191	3.75	60.41
ID = 3 (0262):	11.84	1.721	3.25	57.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):	4.67	0.871	3.25	55.71
+ ID2= 2 (0262):	11.84	1.721	3.25	57.21
ID = 3 (0266):	16.51	2.592	3.25	56.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0263)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2130	0.6563
0.0190	0.1773	0.2520	0.6883
0.0220	0.2128	0.2890	0.7150
0.0260	0.2888	0.2980	0.7450
0.0300	0.3648	0.3060	0.7700
0.0650	0.4586	0.3150	0.8127
0.1100	0.5155	0.3320	0.9290
0.1680	0.5503	0.3390	0.9767
0.1930	0.5804	0.3520	1.0680
0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	2.592	3.25	56.79
OUTFLOW: ID= 1 (0263)	16.510	0.204	6.25	56.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.86
TIME SHIFT OF PEAK FLOW (min)=180.00
MAXIMUM STORAGE USED (ha.m.)= 0.6198

ADD HYD (0261)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0206):	0.12	0.011	3.33	28.60
+ ID2= 2 (0263):	16.51	0.204	6.25	56.64
ID = 3 (0261):	16.64	0.204	6.25	56.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 5.0.2025)
V V I SS U U A A L
V V I SS U U AAAAA L
V V I SS U U A A L
VV I SSSSS UUUUU A A LLLLL

OOO TTTTT TTTTT H H Y Y M M OOO TM
O O T T H H Y Y MM MM O O
O O T T H H Y M M O O
OOO T T H H Y M M OOO

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***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\f78f660e-8d2f-4f33-a5c3-4a3d189c325c\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\f78f660e-8d2f-4f33-a5c3-4a3d189c325c\s

DATE: 07/06/2020                          TIME: 04:32:58

USER:


COMMENTS: _____________________________________________________________

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  **********************************************
  ** SIMULATION : 100 Year 6 Hour SCS          **
  **********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\92ca19b1
| Ptotal= 93.25 mm |    Comments: 100yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    9.32 |  3.75   20.51 |  5.50    3.73
                0.50    3.73 |  2.25    9.32 |  4.00    9.32 |  5.75    3.73
                0.75    3.73 |  2.50   11.19 |  4.25    9.32 |  6.00    3.73
                1.00    5.59 |  2.75   11.19 |  4.50    7.46 |  6.25    3.73
                1.25    5.59 |  3.00   55.95 |  4.75    7.46 |
                1.50    5.59 |  3.25  145.47 |  5.00    5.59 |
                1.75    5.59 |  3.50   20.51 |  5.25    5.59 |

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.59 | 3.250  145.47 |  4.83    5.60
               0.167    0.00 | 1.750    5.60 | 3.333   20.52 |  4.92    5.59
               0.250    0.00 | 1.833    9.32 | 3.417   20.51 |  5.00    5.59
               0.333    3.73 | 1.917    9.32 | 3.500   20.51 |  5.08    5.60
               0.417    3.73 | 2.000    9.33 | 3.583   20.51 |  5.17    5.59
               0.500    3.73 | 2.083    9.32 | 3.667   20.51 |  5.25    5.59
               0.583    3.73 | 2.167    9.32 | 3.750   20.51 |  5.33    3.73
               0.667    3.73 | 2.250    9.32 | 3.833    9.33 |  5.42    3.73
               0.750    3.73 | 2.333   11.19 | 3.917    9.32 |  5.50    3.73
               0.833    5.59 | 2.417   11.19 | 4.000    9.32 |  5.58    3.73
               0.917    5.59 | 2.500   11.19 | 4.083    9.32 |  5.67    3.73
               1.000    5.59 | 2.583   11.19 | 4.167    9.32 |  5.75    3.73
               1.083    5.59 | 2.667   11.19 | 4.250    9.32 |  5.83    3.73
               1.167    5.59 | 2.750   11.19 | 4.333    7.46 |  5.92    3.73
               1.250    5.59 | 2.833   55.95 | 4.417    7.46 |  6.00    3.73
               1.333    5.60 | 2.917   55.95 | 4.500    7.46 |  6.08    3.73
               1.417    5.59 | 3.000   55.95 | 4.583    7.46 |  6.17    3.73
               1.500    5.60 | 3.083  145.47 | 4.667    7.46 |  6.25    3.73
               1.583    5.59 | 3.167  145.47 | 4.750    7.46 |

     Unit Hyd Qpeak  (cms)=   0.019

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=   3.333
     RUNOFF VOLUME    (mm)=  54.034
     TOTAL RAINFALL   (mm)=  93.250
     RUNOFF COEFFICIENT   =   0.579

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\92ca19b1
| Ptotal= 93.25 mm |    Comments: 100yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    9.32 |  3.75   20.51 |  5.50    3.73
                0.50    3.73 |  2.25    9.32 |  4.00    9.32 |  5.75    3.73
                0.75    3.73 |  2.50   11.19 |  4.25    9.32 |  6.00    3.73
                1.00    5.59 |  2.75   11.19 |  4.50    7.46 |  6.25    3.73
                1.25    5.59 |  3.00   55.95 |  4.75    7.46 |
                1.50    5.59 |  3.25  145.47 |  5.00    5.59 |
                1.75    5.59 |  3.50   20.51 |  5.25    5.59 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.59 | 3.250  145.47 |  4.83    5.60
               0.167    0.00 | 1.750    5.60 | 3.333   20.52 |  4.92    5.59
               0.250    0.00 | 1.833    9.32 | 3.417   20.51 |  5.00    5.59
               0.333    3.73 | 1.917    9.32 | 3.500   20.51 |  5.08    5.60
               0.417    3.73 | 2.000    9.33 | 3.583   20.51 |  5.17    5.59
```

```
              0.500    3.73 | 2.083    9.32 | 3.667   20.51 |  5.25    5.59
              0.583    3.73 | 2.167    9.32 | 3.750   20.51 |  5.33    3.73
              0.667    3.73 | 2.250    9.32 | 3.833    9.33 |  5.42    3.73
              0.750    3.73 | 2.333   11.19 | 3.917    9.32 |  5.50    3.73
              0.833    5.59 | 2.417   11.19 | 4.000    9.32 |  5.58    3.73
              0.917    5.59 | 2.500   11.19 | 4.083    9.32 |  5.67    3.73
              1.000    5.59 | 2.583   11.19 | 4.167    9.32 |  5.75    3.73
              1.083    5.59 | 2.667   11.19 | 4.250    9.32 |  5.83    3.73
              1.167    5.59 | 2.750   11.19 | 4.333    7.46 |  5.92    3.73
              1.250    5.59 | 2.833   55.95 | 4.417    7.46 |  6.00    3.73
              1.333    5.60 | 2.917   55.95 | 4.500    7.46 |  6.08    3.73
              1.417    5.59 | 3.000   55.95 | 4.583    7.46 |  6.17    3.73
              1.500    5.60 | 3.083  145.47 | 4.667    7.46 |  6.25    3.73
              1.583    5.59 | 3.167  145.47 | 4.750    7.46 |

     Max.Eff.Inten.(mm/hr)=     145.47       105.23
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      2.02 (ii)    2.98 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.31         0.28
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.45         0.00       0.453 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.25        3.25
     RUNOFF VOLUME    (mm)=     92.25        54.08       91.87
     TOTAL RAINFALL   (mm)=     93.25        93.25       93.25
     RUNOFF COEFFICIENT   =      0.99         0.58        0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470     0.0750

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)     1.125      0.453      3.25      91.87
   OUTFLOW: ID= 1 (  0256)     1.125      0.045      3.83      91.51

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.84
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0714

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\92ca19b1
| Ptotal= 93.25 mm |    Comments: 100yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    9.32 |  3.75   20.51 |  5.50    3.73
                0.50    3.73 |  2.25    9.32 |  4.00    9.32 |  5.75    3.73
                0.75    3.73 |  2.50   11.19 |  4.25    9.32 |  6.00    3.73
                1.00    5.59 |  2.75   11.19 |  4.50    7.46 |  6.25    3.73
                1.25    5.59 |  3.00   55.95 |  4.75    7.46 |
                1.50    5.59 |  3.25  145.47 |  5.00    5.59 |
                1.75    5.59 |  3.50   20.51 |  5.25    5.59 |

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.59 | 3.250  145.47 |  4.83    5.60
               0.167    0.00 | 1.750    5.60 | 3.333   20.52 |  4.92    5.59
               0.250    0.00 | 1.833    9.32 | 3.417   20.51 |  5.00    5.59
               0.333    3.73 | 1.917    9.32 | 3.500   20.51 |  5.08    5.60
               0.417    3.73 | 2.000    9.33 | 3.583   20.51 |  5.17    5.59
               0.500    3.73 | 2.083    9.32 | 3.667   20.51 |  5.25    5.59
               0.583    3.73 | 2.167    9.32 | 3.750   20.51 |  5.33    3.73
               0.667    3.73 | 2.250    9.32 | 3.833    9.33 |  5.42    3.73
               0.750    3.73 | 2.333   11.19 | 3.917    9.32 |  5.50    3.73
               0.833    5.59 | 2.417   11.19 | 4.000    9.32 |  5.58    3.73
               0.917    5.59 | 2.500   11.19 | 4.083    9.32 |  5.67    3.73
               1.000    5.59 | 2.583   11.19 | 4.167    9.32 |  5.75    3.73
               1.083    5.59 | 2.667   11.19 | 4.250    9.32 |  5.83    3.73
               1.167    5.59 | 2.750   11.19 | 4.333    7.46 |  5.92    3.73
               1.250    5.59 | 2.833   55.95 | 4.417    7.46 |  6.00    3.73
               1.333    5.60 | 2.917   55.95 | 4.500    7.46 |  6.08    3.73
               1.417    5.59 | 3.000   55.95 | 4.583    7.46 |  6.17    3.73
               1.500    5.60 | 3.083  145.47 | 4.667    7.46 |  6.25    3.73
               1.583    5.59 | 3.167  145.47 | 4.750    7.46 |

     Max.Eff.Inten.(mm/hr)=     145.47       105.23
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.43 (ii)    5.92 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.30         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.68         0.10       0.780 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.25        3.25
     RUNOFF VOLUME    (mm)=     92.25        54.08       84.61
     TOTAL RAINFALL   (mm)=     93.25        93.25       93.25
     RUNOFF COEFFICIENT   =      0.99         0.58        0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

```
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.780     3.25    84.61
     + ID2= 2 (  0256):     1.12   0.045     3.83    91.51
       ================================================
       ID = 3 (  0260):     3.22   0.818     3.25    87.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\92ca19b1
| Ptotal= 93.25 mm |    Comments: 100yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    9.32 |  3.75   20.51 |  5.50    3.73
                0.50    3.73 |  2.25    9.32 |  4.00    9.32 |  5.75    3.73
                0.75    3.73 |  2.50   11.19 |  4.25    9.32 |  6.00    3.73
                1.00    5.59 |  2.75   11.19 |  4.50    7.46 |  6.25    3.73
                1.25    5.59 |  3.00   55.95 |  4.75    7.46 |
                1.50    5.59 |  3.25  145.47 |  5.00    5.59 |
                1.75    5.59 |  3.50   20.51 |  5.25    5.59 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.59 | 3.250  145.47 |  4.83    5.60
               0.167    0.00 | 1.750    5.60 | 3.333   20.52 |  4.92    5.59
               0.250    0.00 | 1.833    9.32 | 3.417   20.51 |  5.00    5.59
               0.333    3.73 | 1.917    9.32 | 3.500   20.51 |  5.08    5.60
               0.417    3.73 | 2.000    9.33 | 3.583   20.51 |  5.17    5.59
               0.500    3.73 | 2.083    9.32 | 3.667   20.51 |  5.25    5.59
               0.583    3.73 | 2.167    9.32 | 3.750   20.51 |  5.33    3.73
               0.667    3.73 | 2.250    9.32 | 3.833    9.33 |  5.42    3.73
               0.750    3.73 | 2.333   11.19 | 3.917    9.32 |  5.50    3.73
               0.833    5.59 | 2.417   11.19 | 4.000    9.32 |  5.58    3.73
               0.917    5.59 | 2.500   11.19 | 4.083    9.32 |  5.67    3.73
               1.000    5.59 | 2.583   11.19 | 4.167    9.32 |  5.75    3.73
               1.083    5.59 | 2.667   11.19 | 4.250    9.32 |  5.83    3.73
               1.167    5.59 | 2.750   11.19 | 4.333    7.46 |  5.92    3.73
               1.250    5.59 | 2.833   55.95 | 4.417    7.46 |  6.00    3.73
               1.333    5.60 | 2.917   55.95 | 4.500    7.46 |  6.08    3.73
               1.417    5.59 | 3.000   55.95 | 4.583    7.46 |  6.17    3.73
               1.500    5.60 | 3.083  145.47 | 4.667    7.46 |  6.25    3.73
               1.583    5.59 | 3.167  145.47 | 4.750    7.46 |

     Max.Eff.Inten.(mm/hr)=     145.47       105.23
               over (min)          5.00        10.00
     Storage Coeff.  (min)=        2.18 (ii)    5.67 (ii)
     Unit Hyd. Tpeak (min)=        5.00        10.00
     Unit Hyd. peak  (cms)=        0.31         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.47         0.07          0.541 (iii)
     TIME TO PEAK    (hrs)=        3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=       92.25        54.08          84.61
     TOTAL RAINFALL   (mm)=       93.25        93.25          93.25
     RUNOFF COEFFICIENT   =        0.99         0.58           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.541     3.25    84.61
     + ID2= 2 (  0260):     3.22   0.818     3.25    87.02
       ================================================
       ID = 3 (  0259):     4.67   1.359     3.25    86.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\92ca19b1
| Ptotal= 93.25 mm |    Comments: 100yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    9.32 |  3.75   20.51 |  5.50    3.73
                0.50    3.73 |  2.25    9.32 |  4.00    9.32 |  5.75    3.73
                0.75    3.73 |  2.50   11.19 |  4.25    9.32 |  6.00    3.73
                1.00    5.59 |  2.75   11.19 |  4.50    7.46 |  6.25    3.73
                1.25    5.59 |  3.00   55.95 |  4.75    7.46 |
                1.50    5.59 |  3.25  145.47 |  5.00    5.59 |
                1.75    5.59 |  3.50   20.51 |  5.25    5.59 |

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| CALIB            |
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```
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.59	3.250	145.47	4.83	5.60
0.167	0.00	1.750	5.60	3.333	20.52	4.92	5.59
0.250	0.00	1.833	9.32	3.417	20.51	5.00	5.59
0.333	3.73	1.917	9.32	3.500	20.51	5.08	5.60
0.417	3.73	2.000	9.33	3.583	20.51	5.17	5.59
0.500	3.73	2.083	9.32	3.667	20.51	5.25	5.59
0.583	3.73	2.167	9.32	3.750	20.51	5.33	3.73
0.667	3.73	2.250	9.32	3.833	9.33	5.42	3.73
0.750	3.73	2.333	11.19	3.917	9.32	5.50	3.73
0.833	5.59	2.417	11.19	4.000	9.32	5.58	3.73
0.917	5.59	2.500	11.19	4.083	9.32	5.67	3.73
1.000	5.59	2.583	11.19	4.167	9.32	5.75	3.73
1.083	5.59	2.667	11.19	4.250	9.32	5.83	3.73
1.167	5.59	2.750	11.19	4.333	7.46	5.92	3.73
1.250	5.59	2.833	55.95	4.417	7.46	6.00	3.73
1.333	5.60	2.917	55.95	4.500	7.46	6.08	3.73
1.417	5.59	3.000	55.95	4.583	7.46	6.17	3.73
1.500	5.60	3.083	145.47	4.667	7.46	6.25	3.73
1.583	5.59	3.167	145.47	4.750	7.46		

```
     Max.Eff.Inten.(mm/hr)=     145.47       105.23
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      3.21 (ii)    4.17 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.27         0.24
                                                  *TOTALS*
     PEAK FLOW       (cms)=      2.10         0.02          2.111 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=     92.25        54.08          91.87
     TOTAL RAINFALL   (mm)=     93.25        93.25          93.25
     RUNOFF COEFFICIENT   =      0.99         0.58           0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1959      0.1883
                         0.0980     0.0369   |   0.2939      0.4335
                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270     2.111      3.25      91.87
   OUTFLOW: ID= 1 (  0268)      5.270     0.237      3.75      91.85

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.20
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2908

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\92ca19b1
| Ptotal= 93.25 mm |    Comments: 100yr 6hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.32	3.75	20.51	5.50	3.73
0.50	3.73	2.25	9.32	4.00	9.32	5.75	3.73
0.75	3.73	2.50	11.19	4.25	9.32	6.00	3.73
1.00	5.59	2.75	11.19	4.50	7.46	6.25	3.73
1.25	5.59	3.00	55.95	4.75	7.46		
1.50	5.59	3.25	145.47	5.00	5.59		
1.75	5.59	3.50	20.51	5.25	5.59		

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--------------------
| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.59	3.250	145.47	4.83	5.60
0.167	0.00	1.750	5.60	3.333	20.52	4.92	5.59
0.250	0.00	1.833	9.32	3.417	20.51	5.00	5.59
0.333	3.73	1.917	9.32	3.500	20.51	5.08	5.60
0.417	3.73	2.000	9.33	3.583	20.51	5.17	5.59
0.500	3.73	2.083	9.32	3.667	20.51	5.25	5.59
0.583	3.73	2.167	9.32	3.750	20.51	5.33	3.73
0.667	3.73	2.250	9.32	3.833	9.33	5.42	3.73
0.750	3.73	2.333	11.19	3.917	9.32	5.50	3.73
0.833	5.59	2.417	11.19	4.000	9.32	5.58	3.73
0.917	5.59	2.500	11.19	4.083	9.32	5.67	3.73
1.000	5.59	2.583	11.19	4.167	9.32	5.75	3.73
1.083	5.59	2.667	11.19	4.250	9.32	5.83	3.73
1.167	5.59	2.750	11.19	4.333	7.46	5.92	3.73
1.250	5.59	2.833	55.95	4.417	7.46	6.00	3.73
1.333	5.60	2.917	55.95	4.500	7.46	6.08	3.73

```
               1.417    5.59 | 3.000   55.95 | 4.583    7.46 |  6.17    3.73
               1.500    5.60 | 3.083  145.47 | 4.667    7.46 |  6.25    3.73
               1.583    5.59 | 3.167  145.47 | 4.750    7.46 |

     Max.Eff.Inten.(mm/hr)=     145.47       105.23
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.43 (ii)    6.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.13         0.30         2.432 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25          3.25
     RUNOFF VOLUME    (mm)=      92.25        54.08         85.00
     TOTAL RAINFALL   (mm)=      93.25        93.25         93.25
     RUNOFF COEFFICIENT   =       0.99         0.58          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   2.432     3.25    85.00
     + ID2= 2 (  0268):     5.27   0.237     3.75    91.85
       ================================================
       ID = 3 (  0262):    11.84   2.647     3.25    88.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   1.359     3.25    86.28
     + ID2= 2 (  0262):    11.84   2.647     3.25    88.05
       ================================================
       ID = 3 (  0266):    16.51   4.006     3.25    87.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2130     0.6563
                         0.0190     0.1773    |   0.2520     0.6883
                         0.0220     0.2128    |   0.2890     0.7150
                         0.0260     0.2888    |   0.2980     0.7450
                         0.0300     0.3648    |   0.3060     0.7700
                         0.0650     0.4586    |   0.3150     0.8127
                         0.1100     0.5155    |   0.3320     0.9290
                         0.1680     0.5503    |   0.3390     0.9767
                         0.1930     0.5804    |   0.3520     1.0680
                         0.2000     0.6048    |   0.0000     0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      4.006      3.25      87.55
   OUTFLOW: ID= 1 (  0263)     16.510      0.322      6.25      87.40

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.05
                  TIME SHIFT OF PEAK FLOW         (min)=180.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8628

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.021     3.33    54.03
     + ID2= 2 (  0263):    16.51   0.322     6.25    87.40
       ================================================
       ID = 3 (  0261):    16.64   0.323     6.25    87.15

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\86996c1e-990a-4c25-80c0-de7180243855\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\86996c1e-990a-4c25-80c0-de7180243855\s


DATE: 07/06/2020                          TIME: 04:32:57

USER:
```

COMMENTS: _____

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  ***********************************************
  ** SIMULATION : 2 Year 6 Hour SCS             **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\4742e92a
| Ptotal= 36.33 mm |    Comments: 2yr 6hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	3.63	3.75	7.99	5.50	1.45
0.50	1.45	2.25	3.63	4.00	3.63	5.75	1.45
0.75	1.45	2.50	4.36	4.25	3.63	6.00	1.45
1.00	2.18	2.75	4.36	4.50	2.91	6.25	1.45
1.25	2.18	3.00	21.80	4.75	2.91		
1.50	2.18	3.25	56.67	5.00	2.18		
1.75	2.18	3.50	7.99	5.25	2.18		

```
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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.18	3.250	56.67	4.83	2.18
0.167	0.00	1.750	2.18	3.333	7.99	4.92	2.18
0.250	0.00	1.833	3.63	3.417	7.99	5.00	2.18
0.333	1.45	1.917	3.63	3.500	7.99	5.08	2.18
0.417	1.45	2.000	3.63	3.583	7.99	5.17	2.18
0.500	1.45	2.083	3.63	3.667	7.99	5.25	2.18
0.583	1.45	2.167	3.63	3.750	7.99	5.33	1.45
0.667	1.45	2.250	3.63	3.833	3.63	5.42	1.45
0.750	1.45	2.333	4.36	3.917	3.63	5.50	1.45
0.833	2.18	2.417	4.36	4.000	3.63	5.58	1.45
0.917	2.18	2.500	4.36	4.083	3.63	5.67	1.45
1.000	2.18	2.583	4.36	4.167	3.63	5.75	1.45
1.083	2.18	2.667	4.36	4.250	3.63	5.83	1.45
1.167	2.18	2.750	4.36	4.333	2.91	5.92	1.45
1.250	2.18	2.833	21.80	4.417	2.91	6.00	1.45
1.333	2.18	2.917	21.80	4.500	2.91	6.08	1.45
1.417	2.18	3.000	21.80	4.583	2.91	6.17	1.45
1.500	2.18	3.083	56.67	4.667	2.91	6.25	1.45
1.583	2.18	3.167	56.67	4.750	2.91		

```
    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.004 (i)
    TIME TO PEAK    (hrs)=   3.417
    RUNOFF VOLUME    (mm)=  11.257
    TOTAL RAINFALL   (mm)=  36.330
    RUNOFF COEFFICIENT   =   0.310

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\4742e92a
| Ptotal= 36.33 mm |    Comments: 2yr 6hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	3.63	3.75	7.99	5.50	1.45
0.50	1.45	2.25	3.63	4.00	3.63	5.75	1.45
0.75	1.45	2.50	4.36	4.25	3.63	6.00	1.45
1.00	2.18	2.75	4.36	4.50	2.91	6.25	1.45
1.25	2.18	3.00	21.80	4.75	2.91		
1.50	2.18	3.25	56.67	5.00	2.18		
1.75	2.18	3.50	7.99	5.25	2.18		

```
---------------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       1.11         0.01
    Dep. Storage     (mm)=       1.00         5.00
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      86.60        40.00
    Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.18	3.250	56.67	4.83	2.18
0.167	0.00	1.750	2.18	3.333	7.99	4.92	2.18
0.250	0.00	1.833	3.63	3.417	7.99	5.00	2.18
0.333	1.45	1.917	3.63	3.500	7.99	5.08	2.18
0.417	1.45	2.000	3.63	3.583	7.99	5.17	2.18
0.500	1.45	2.083	3.63	3.667	7.99	5.25	2.18
0.583	1.45	2.167	3.63	3.750	7.99	5.33	1.45
0.667	1.45	2.250	3.63	3.833	3.63	5.42	1.45
0.750	1.45	2.333	4.36	3.917	3.63	5.50	1.45
0.833	2.18	2.417	4.36	4.000	3.63	5.58	1.45
0.917	2.18	2.500	4.36	4.083	3.63	5.67	1.45
1.000	2.18	2.583	4.36	4.167	3.63	5.75	1.45
1.083	2.18	2.667	4.36	4.250	3.63	5.83	1.45
1.167	2.18	2.750	4.36	4.333	2.91	5.92	1.45
1.250	2.18	2.833	21.80	4.417	2.91	6.00	1.45
1.333	2.18	2.917	21.80	4.500	2.91	6.08	1.45
1.417	2.18	3.000	21.80	4.583	2.91	6.17	1.45
1.500	2.18	3.083	56.67	4.667	2.91	6.25	1.45
1.583	2.18	3.167	56.67	4.750	2.91		

```
     Max.Eff.Inten.(mm/hr)=      56.67        23.06
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       2.94 (ii)    4.35 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.28         0.23
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.17         0.00          0.175 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      35.33        11.27          35.09
     TOTAL RAINFALL   (mm)=      36.33        36.33          36.33
     RUNOFF COEFFICIENT   =       0.97         0.31           0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0470      0.0750

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)     1.125     0.175      3.25      35.09
   OUTFLOW: ID= 1 (  0256)     1.125     0.017      3.83      34.73

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.75
                 TIME SHIFT OF PEAK FLOW         (min)= 35.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0273

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\4742e92a
| Ptotal= 36.33 mm |    Comments: 2yr 6hr 15min SCS
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00    3.63 |  3.75    7.99 |  5.50    1.45
               0.50    1.45 |  2.25    3.63 |  4.00    3.63 |  5.75    1.45
               0.75    1.45 |  2.50    4.36 |  4.25    3.63 |  6.00    1.45
               1.00    2.18 |  2.75    4.36 |  4.50    2.91 |  6.25    1.45
               1.25    2.18 |  3.00   21.80 |  4.75    2.91 |
               1.50    2.18 |  3.25   56.67 |  5.00    2.18 |
               1.75    2.18 |  3.50    7.99 |  5.25    2.18 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                                ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    2.18 | 3.250   56.67 |  4.83    2.18
               0.167    0.00 | 1.750    2.18 | 3.333    7.99 |  4.92    2.18
               0.250    0.00 | 1.833    3.63 | 3.417    7.99 |  5.00    2.18
               0.333    1.45 | 1.917    3.63 | 3.500    7.99 |  5.08    2.18
               0.417    1.45 | 2.000    3.63 | 3.583    7.99 |  5.17    2.18
               0.500    1.45 | 2.083    3.63 | 3.667    7.99 |  5.25    2.18
               0.583    1.45 | 2.167    3.63 | 3.750    7.99 |  5.33    1.45
               0.667    1.45 | 2.250    3.63 | 3.833    3.63 |  5.42    1.45
               0.750    1.45 | 2.333    4.36 | 3.917    3.63 |  5.50    1.45
               0.833    2.18 | 2.417    4.36 | 4.000    3.63 |  5.58    1.45
               0.917    2.18 | 2.500    4.36 | 4.083    3.63 |  5.67    1.45
               1.000    2.18 | 2.583    4.36 | 4.167    3.63 |  5.75    1.45
               1.083    2.18 | 2.667    4.36 | 4.250    3.63 |  5.83    1.45
               1.167    2.18 | 2.750    4.36 | 4.333    2.91 |  5.92    1.45
               1.250    2.18 | 2.833   21.80 | 4.417    2.91 |  6.00    1.45
               1.333    2.18 | 2.917   21.80 | 4.500    2.91 |  6.08    1.45
               1.417    2.18 | 3.000   21.80 | 4.583    2.91 |  6.17    1.45
               1.500    2.18 | 3.083   56.67 | 4.667    2.91 |  6.25    1.45
               1.583    2.18 | 3.167   56.67 | 4.750    2.91 |

     Max.Eff.Inten.(mm/hr)=      56.67        20.55
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       3.54 (ii)   16.84 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.26         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.26         0.01          0.269 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.42           3.25
     RUNOFF VOLUME    (mm)=      35.33        11.27          30.51
     TOTAL RAINFALL   (mm)=      36.33        36.33          36.33
     RUNOFF COEFFICIENT   =       0.97         0.31           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0203):     2.10   0.269     3.25    30.51
      + ID2= 2 (  0256):     1.12   0.017     3.83    34.73
        ==========================================================
        ID = 3 (  0260):     3.22   0.283     3.25    31.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\4742e92a
| Ptotal= 36.33 mm |    Comments: 2yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    3.63 |  3.75    7.99 |  5.50    1.45
                0.50    1.45 |  2.25    3.63 |  4.00    3.63 |  5.75    1.45
                0.75    1.45 |  2.50    4.36 |  4.25    3.63 |  6.00    1.45
                1.00    2.18 |  2.75    4.36 |  4.50    2.91 |  6.25    1.45
                1.25    2.18 |  3.00   21.80 |  4.75    2.91 |
                1.50    2.18 |  3.25   56.67 |  5.00    2.18 |
                1.75    2.18 |  3.50    7.99 |  5.25    2.18 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    2.18 | 3.250   56.67 |  4.83    2.18
               0.167    0.00 | 1.750    2.18 | 3.333    7.99 |  4.92    2.18
               0.250    0.00 | 1.833    3.63 | 3.417    7.99 |  5.00    2.18
               0.333    1.45 | 1.917    3.63 | 3.500    7.99 |  5.08    2.18
               0.417    1.45 | 2.000    3.63 | 3.583    7.99 |  5.17    2.18
               0.500    1.45 | 2.083    3.63 | 3.667    7.99 |  5.25    2.18
               0.583    1.45 | 2.167    3.63 | 3.750    7.99 |  5.33    1.45
               0.667    1.45 | 2.250    3.63 | 3.833    3.63 |  5.42    1.45
               0.750    1.45 | 2.333    4.36 | 3.917    3.63 |  5.50    1.45
               0.833    2.18 | 2.417    4.36 | 4.000    3.63 |  5.58    1.45
               0.917    2.18 | 2.500    4.36 | 4.083    3.63 |  5.67    1.45
               1.000    2.18 | 2.583    4.36 | 4.167    3.63 |  5.75    1.45
               1.083    2.18 | 2.667    4.36 | 4.250    3.63 |  5.83    1.45
               1.167    2.18 | 2.750    4.36 | 4.333    2.91 |  5.92    1.45
               1.250    2.18 | 2.833   21.80 | 4.417    2.91 |  6.00    1.45
               1.333    2.18 | 2.917   21.80 | 4.500    2.91 |  6.08    1.45
               1.417    2.18 | 3.000   21.80 | 4.583    2.91 |  6.17    1.45
               1.500    2.18 | 3.083   56.67 | 4.667    2.91 |  6.25    1.45
               1.583    2.18 | 3.167   56.67 | 4.750    2.91 |

     Max.Eff.Inten.(mm/hr)=      56.67        20.55
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.17 (ii)   16.46 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.27         0.06
                                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.18         0.01          0.187 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.42           3.25
     RUNOFF VOLUME    (mm)=     35.33        11.27          30.51
     TOTAL RAINFALL   (mm)=     36.33        36.33          36.33
     RUNOFF COEFFICIENT   =      0.97         0.31           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.187     3.25    30.51
     + ID2= 2 (  0260):     3.22   0.283     3.25    31.99
       ==========================================================
       ID = 3 (  0259):     4.67   0.471     3.25    31.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\4742e92a
| Ptotal= 36.33 mm |    Comments: 2yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    3.63 |  3.75    7.99 |  5.50    1.45
                0.50    1.45 |  2.25    3.63 |  4.00    3.63 |  5.75    1.45
                0.75    1.45 |  2.50    4.36 |  4.25    3.63 |  6.00    1.45
                1.00    2.18 |  2.75    4.36 |  4.50    2.91 |  6.25    1.45
                1.25    2.18 |  3.00   21.80 |  4.75    2.91 |
                1.50    2.18 |  3.25   56.67 |  5.00    2.18 |
                1.75    2.18 |  3.50    7.99 |  5.25    2.18 |

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--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                               ---- TRANSFORMED HYETOGRAPH ----
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.18	3.250	56.67	4.83	2.18
0.167	0.00	1.750	2.18	3.333	7.99	4.92	2.18
0.250	0.00	1.833	3.63	3.417	7.99	5.00	2.18
0.333	1.45	1.917	3.63	3.500	7.99	5.08	2.18
0.417	1.45	2.000	3.63	3.583	7.99	5.17	2.18
0.500	1.45	2.083	3.63	3.667	7.99	5.25	2.18
0.583	1.45	2.167	3.63	3.750	7.99	5.33	1.45
0.667	1.45	2.250	3.63	3.833	3.63	5.42	1.45
0.750	1.45	2.333	4.36	3.917	3.63	5.50	1.45
0.833	2.18	2.417	4.36	4.000	3.63	5.58	1.45
0.917	2.18	2.500	4.36	4.083	3.63	5.67	1.45
1.000	2.18	2.583	4.36	4.167	3.63	5.75	1.45
1.083	2.18	2.667	4.36	4.250	3.63	5.83	1.45
1.167	2.18	2.750	4.36	4.333	2.91	5.92	1.45
1.250	2.18	2.833	21.80	4.417	2.91	6.00	1.45
1.333	2.18	2.917	21.80	4.500	2.91	6.08	1.45
1.417	2.18	3.000	21.80	4.583	2.91	6.17	1.45
1.500	2.18	3.083	56.67	4.667	2.91	6.25	1.45
1.583	2.18	3.167	56.67	4.750	2.91		

			TOTALS
Max.Eff.Inten.(mm/hr)=	56.67	23.06	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.67 (ii)	6.08 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.22	0.15	
PEAK FLOW (cms)=	0.80	0.00	0.803 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	35.33	11.27	35.09
TOTAL RAINFALL (mm)=	36.33	36.33	36.33
RUNOFF COEFFICIENT =	0.97	0.31	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)	
IN= 2---> OUT= 1	
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.803	3.25	35.09
OUTFLOW: ID= 1 (0268)	5.270	0.138	3.50	35.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.22
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0993

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\50f23b5e-2bda-4888-8f6a-fa41043db911\4742e92a
Ptotal= 36.33 mm	Comments: 2yr 6hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	3.63	3.75	7.99	5.50	1.45
0.50	1.45	2.25	3.63	4.00	3.63	5.75	1.45
0.75	1.45	2.50	4.36	4.25	3.63	6.00	1.45
1.00	2.18	2.75	4.36	4.50	2.91	6.25	1.45
1.25	2.18	3.00	21.80	4.75	2.91		
1.50	2.18	3.25	56.67	5.00	2.18		
1.75	2.18	3.50	7.99	5.25	2.18		

CALIB	
STANDHYD (0202)	Area (ha)= 6.57
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.18	3.250	56.67	4.83	2.18
0.167	0.00	1.750	2.18	3.333	7.99	4.92	2.18
0.250	0.00	1.833	3.63	3.417	7.99	5.00	2.18
0.333	1.45	1.917	3.63	3.500	7.99	5.08	2.18
0.417	1.45	2.000	3.63	3.583	7.99	5.17	2.18
0.500	1.45	2.083	3.63	3.667	7.99	5.25	2.18
0.583	1.45	2.167	3.63	3.750	7.99	5.33	1.45
0.667	1.45	2.250	3.63	3.833	3.63	5.42	1.45
0.750	1.45	2.333	4.36	3.917	3.63	5.50	1.45
0.833	2.18	2.417	4.36	4.000	3.63	5.58	1.45
0.917	2.18	2.500	4.36	4.083	3.63	5.67	1.45
1.000	2.18	2.583	4.36	4.167	3.63	5.75	1.45
1.083	2.18	2.667	4.36	4.250	3.63	5.83	1.45
1.167	2.18	2.750	4.36	4.333	2.91	5.92	1.45
1.250	2.18	2.833	21.80	4.417	2.91	6.00	1.45
1.333	2.18	2.917	21.80	4.500	2.91	6.08	1.45
1.417	2.18	3.000	21.80	4.583	2.91	6.17	1.45
1.500	2.18	3.083	56.67	4.667	2.91	6.25	1.45
1.583	2.18	3.167	56.67	4.750	2.91		

			TOTALS
Max.Eff.Inten.(mm/hr)=	56.67	23.06	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.99 (ii)	9.95 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.21	0.11	
PEAK FLOW (cms)=	0.81	0.05	0.864 (iii)
TIME TO PEAK (hrs)=	3.25	3.33	3.25
RUNOFF VOLUME (mm)=	35.33	11.27	30.76
TOTAL RAINFALL (mm)=	36.33	36.33	36.33

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     RUNOFF COEFFICIENT   =       0.97        0.31          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   0.864     3.25    30.76
     + ID2= 2 (  0268):     5.27   0.138     3.50    35.07
       ================================================
       ID = 3 (  0262):    11.84   0.990     3.25    32.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.471     3.25    31.53
     + ID2= 2 (  0262):    11.84   0.990     3.25    32.68
       ================================================
       ID = 3 (  0266):    16.51   1.460     3.25    32.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2130      0.6563
                         0.0190     0.1773   |   0.2520      0.6883
                         0.0220     0.2128   |   0.2890      0.7150
                         0.0260     0.2888   |   0.2980      0.7450
                         0.0300     0.3648   |   0.3060      0.7700
                         0.0650     0.4586   |   0.3150      0.8127
                         0.1100     0.5155   |   0.3320      0.9290
                         0.1680     0.5503   |   0.3390      0.9767
                         0.1930     0.5804   |   0.3520      1.0680
                         0.2000     0.6048   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)    16.510      1.460      3.25      32.35
   OUTFLOW: ID= 1 (  0263)    16.510      0.059      6.75      32.21

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.06
                 TIME SHIFT OF PEAK FLOW        (min)=210.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.4431

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--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.004     3.42    11.26
     + ID2= 2 (  0263):    16.51   0.059     6.75    32.21
       ================================================
       ID = 3 (  0261):    16.64   0.059     6.75    32.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\14bb4f57-bb41-4b04-a5d0-141afe47c089\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\14bb4f57-bb41-4b04-a5d0-141afe47c089\s


DATE: 07/06/2020                          TIME: 04:32:58

USER:



COMMENTS: _____________________________________________________________


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  *******************************************
  ** SIMULATION : 25 Year 6 Hour SCS       **
  *******************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\e49ef9f8
| Ptotal= 74.94 mm |    Comments: 25yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
```

0.25	0.00	2.00	7.49	3.75	16.49	5.50	3.00
0.50	3.00	2.25	7.49	4.00	7.49	5.75	3.00
0.75	3.00	2.50	8.99	4.25	7.49	6.00	3.00
1.00	4.50	2.75	8.99	4.50	6.00	6.25	3.00
1.25	4.50	3.00	44.96	4.75	6.00		
1.50	4.50	3.25	116.91	5.00	4.50		
1.75	4.50	3.50	16.49	5.25	4.50		

CALIB			
NASHYD (0206)	Area (ha)=	0.12	Curve Number (CN)= 82.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.25	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.50	3.250	116.91	4.83	4.50
0.167	0.00	1.750	4.50	3.333	16.49	4.92	4.50
0.250	0.00	1.833	7.49	3.417	16.49	5.00	4.50
0.333	3.00	1.917	7.49	3.500	16.49	5.08	4.50
0.417	3.00	2.000	7.49	3.583	16.49	5.17	4.50
0.500	3.00	2.083	7.49	3.667	16.49	5.25	4.50
0.583	3.00	2.167	7.49	3.750	16.49	5.33	3.00
0.667	3.00	2.250	7.49	3.833	7.49	5.42	3.00
0.750	3.00	2.333	8.99	3.917	7.49	5.50	3.00
0.833	4.50	2.417	8.99	4.000	7.49	5.58	3.00
0.917	4.50	2.500	8.99	4.083	7.49	5.67	3.00
1.000	4.50	2.583	8.99	4.167	7.49	5.75	3.00
1.083	4.50	2.667	8.99	4.250	7.49	5.83	3.00
1.167	4.50	2.750	8.99	4.333	6.00	5.92	3.00
1.250	4.50	2.833	44.96	4.417	6.00	6.00	3.00
1.333	4.50	2.917	44.96	4.500	6.00	6.08	3.00
1.417	4.50	3.000	44.96	4.583	6.00	6.17	3.00
1.500	4.50	3.083	116.91	4.667	6.00	6.25	3.00
1.583	4.50	3.167	116.91	4.750	6.00		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.015 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 38.880
TOTAL RAINFALL (mm)= 74.940
RUNOFF COEFFICIENT = 0.519

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\50f23b5e-2bda-4888-8f6a-fa41043db911\e49ef9f8
Ptotal= 74.94 mm	Comments: 25yr 6hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.49	3.75	16.49	5.50	3.00
0.50	3.00	2.25	7.49	4.00	7.49	5.75	3.00
0.75	3.00	2.50	8.99	4.25	7.49	6.00	3.00
1.00	4.50	2.75	8.99	4.50	6.00	6.25	3.00
1.25	4.50	3.00	44.96	4.75	6.00		
1.50	4.50	3.25	116.91	5.00	4.50		
1.75	4.50	3.50	16.49	5.25	4.50		

CALIB			
STANDHYD (0205)	Area (ha)=	1.12	
ID= 1 DT= 5.0 min	Total Imp(%)=	99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.50	3.250	116.91	4.83	4.50
0.167	0.00	1.750	4.50	3.333	16.49	4.92	4.50
0.250	0.00	1.833	7.49	3.417	16.49	5.00	4.50
0.333	3.00	1.917	7.49	3.500	16.49	5.08	4.50
0.417	3.00	2.000	7.49	3.583	16.49	5.17	4.50
0.500	3.00	2.083	7.49	3.667	16.49	5.25	4.50
0.583	3.00	2.167	7.49	3.750	16.49	5.33	3.00
0.667	3.00	2.250	7.49	3.833	7.49	5.42	3.00
0.750	3.00	2.333	8.99	3.917	7.49	5.50	3.00
0.833	4.50	2.417	8.99	4.000	7.49	5.58	3.00
0.917	4.50	2.500	8.99	4.083	7.49	5.67	3.00
1.000	4.50	2.583	8.99	4.167	7.49	5.75	3.00
1.083	4.50	2.667	8.99	4.250	7.49	5.83	3.00
1.167	4.50	2.750	8.99	4.333	6.00	5.92	3.00
1.250	4.50	2.833	44.96	4.417	6.00	6.00	3.00
1.333	4.50	2.917	44.96	4.500	6.00	6.08	3.00
1.417	4.50	3.000	44.96	4.583	6.00	6.17	3.00
1.500	4.50	3.083	116.91	4.667	6.00	6.25	3.00
1.583	4.50	3.167	116.91	4.750	6.00		

Max.Eff.Inten.(mm/hr)=		116.91	76.83	
over (min)		5.00	5.00	
Storage Coeff. (min)=		2.20 (ii)	3.26 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.30	0.27	
				TOTALS
PEAK FLOW	(cms)=	0.36	0.00	0.364 (iii)
TIME TO PEAK	(hrs)=	3.25	3.25	3.25
RUNOFF VOLUME	(mm)=	73.94	38.92	73.59
TOTAL RAINFALL	(mm)=	74.94	74.94	74.94
RUNOFF COEFFICIENT	=	0.99	0.52	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470      0.0750

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)     1.125      0.364      3.25      73.59
   OUTFLOW: ID= 1 (  0256)     1.125      0.036      3.83      73.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.83
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0572

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\e49ef9f8
| Ptotal= 74.94 mm |    Comments: 25yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    7.49 |  3.75   16.49 |  5.50    3.00
                0.50    3.00 |  2.25    7.49 |  4.00    7.49 |  5.75    3.00
                0.75    3.00 |  2.50    8.99 |  4.25    7.49 |  6.00    3.00
                1.00    4.50 |  2.75    8.99 |  4.50    6.00 |  6.25    3.00
                1.25    4.50 |  3.00   44.96 |  4.75    6.00 |
                1.50    4.50 |  3.25  116.91 |  5.00    4.50 |
                1.75    4.50 |  3.50   16.49 |  5.25    4.50 |

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    4.50 | 3.250  116.91 |  4.83    4.50
               0.167    0.00 | 1.750    4.50 | 3.333   16.49 |  4.92    4.50
               0.250    0.00 | 1.833    7.49 | 3.417   16.49 |  5.00    4.50
               0.333    3.00 | 1.917    7.49 | 3.500   16.49 |  5.08    4.50
               0.417    3.00 | 2.000    7.49 | 3.583   16.49 |  5.17    4.50
               0.500    3.00 | 2.083    7.49 | 3.667   16.49 |  5.25    4.50
               0.583    3.00 | 2.167    7.49 | 3.750   16.49 |  5.33    3.00
               0.667    3.00 | 2.250    7.49 | 3.833    7.49 |  5.42    3.00
               0.750    3.00 | 2.333    8.99 | 3.917    7.49 |  5.50    3.00
               0.833    4.50 | 2.417    8.99 | 4.000    7.49 |  5.58    3.00
               0.917    4.50 | 2.500    8.99 | 4.083    7.49 |  5.67    3.00
               1.000    4.50 | 2.583    8.99 | 4.167    7.49 |  5.75    3.00
               1.083    4.50 | 2.667    8.99 | 4.250    7.49 |  5.83    3.00
               1.167    4.50 | 2.750    8.99 | 4.333    6.00 |  5.92    3.00
               1.250    4.50 | 2.833   44.96 | 4.417    6.00 |  6.00    3.00
               1.333    4.50 | 2.917   44.96 | 4.500    6.00 |  6.08    3.00
               1.417    4.50 | 3.000   44.96 | 4.583    6.00 |  6.17    3.00
               1.500    4.50 | 3.083  116.91 | 4.667    6.00 |  6.25    3.00
               1.583    4.50 | 3.167  116.91 | 4.750    6.00 |

     Max.Eff.Inten.(mm/hr)=     116.91        76.83
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.65 (ii)    6.46 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.54         0.07          0.616 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      73.94        38.92          66.93
     TOTAL RAINFALL   (mm)=      74.94        74.94          74.94
     RUNOFF COEFFICIENT   =       0.99         0.52           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.616     3.25    66.93
     + ID2= 2 (  0256):     1.12   0.036     3.83    73.23
       ================================================
       ID = 3 (  0260):     3.22   0.646     3.25    69.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\e49ef9f8
| Ptotal= 74.94 mm |    Comments: 25yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    7.49 |  3.75   16.49 |  5.50    3.00
                0.50    3.00 |  2.25    7.49 |  4.00    7.49 |  5.75    3.00
                0.75    3.00 |  2.50    8.99 |  4.25    7.49 |  6.00    3.00
                1.00    4.50 |  2.75    8.99 |  4.50    6.00 |  6.25    3.00
                1.25    4.50 |  3.00   44.96 |  4.75    6.00 |
                1.50    4.50 |  3.25  116.91 |  5.00    4.50 |
                1.75    4.50 |  3.50   16.49 |  5.25    4.50 |
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| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    4.50 | 3.250  116.91 |  4.83    4.50
              0.167    0.00 | 1.750    4.50 | 3.333   16.49 |  4.92    4.50
              0.250    0.00 | 1.833    7.49 | 3.417   16.49 |  5.00    4.50
              0.333    3.00 | 1.917    7.49 | 3.500   16.49 |  5.08    4.50
              0.417    3.00 | 2.000    7.49 | 3.583   16.49 |  5.17    4.50
              0.500    3.00 | 2.083    7.49 | 3.667   16.49 |  5.25    4.50
              0.583    3.00 | 2.167    7.49 | 3.750   16.49 |  5.33    3.00
              0.667    3.00 | 2.250    7.49 | 3.833    7.49 |  5.42    3.00
              0.750    3.00 | 2.333    8.99 | 3.917    7.49 |  5.50    3.00
              0.833    4.50 | 2.417    8.99 | 4.000    7.49 |  5.58    3.00
              0.917    4.50 | 2.500    8.99 | 4.083    7.49 |  5.67    3.00
              1.000    4.50 | 2.583    8.99 | 4.167    7.49 |  5.75    3.00
              1.083    4.50 | 2.667    8.99 | 4.250    7.49 |  5.83    3.00
              1.167    4.50 | 2.750    8.99 | 4.333    6.00 |  5.92    3.00
              1.250    4.50 | 2.833   44.96 | 4.417    6.00 |  6.00    3.00
              1.333    4.50 | 2.917   44.96 | 4.500    6.00 |  6.08    3.00
              1.417    4.50 | 3.000   44.96 | 4.583    6.00 |  6.17    3.00
              1.500    4.50 | 3.083  116.91 | 4.667    6.00 |  6.25    3.00
              1.583    4.50 | 3.167  116.91 | 4.750    6.00 |

     Max.Eff.Inten.(mm/hr)=     116.91        76.83
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.38 (ii)    6.18 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.38         0.05          0.428 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      73.94        38.92          66.93
     TOTAL RAINFALL   (mm)=      74.94        74.94          74.94
     RUNOFF COEFFICIENT   =       0.99         0.52           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0259)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.428     3.25    66.93
     + ID2= 2 (  0260):     3.22   0.646     3.25    69.13
       ================================================
       ID = 3 (  0259):     4.67   1.074     3.25    68.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\e49ef9f8
| Ptotal= 74.94 mm |    Comments: 25yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    7.49 |  3.75   16.49 |  5.50    3.00
                0.50    3.00 |  2.25    7.49 |  4.00    7.49 |  5.75    3.00
                0.75    3.00 |  2.50    8.99 |  4.25    7.49 |  6.00    3.00
                1.00    4.50 |  2.75    8.99 |  4.50    6.00 |  6.25    3.00
                1.25    4.50 |  3.00   44.96 |  4.75    6.00 |
                1.50    4.50 |  3.25  116.91 |  5.00    4.50 |
                1.75    4.50 |  3.50   16.49 |  5.25    4.50 |

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--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    4.50 | 3.250  116.91 |  4.83    4.50
              0.167    0.00 | 1.750    4.50 | 3.333   16.49 |  4.92    4.50
              0.250    0.00 | 1.833    7.49 | 3.417   16.49 |  5.00    4.50
              0.333    3.00 | 1.917    7.49 | 3.500   16.49 |  5.08    4.50
              0.417    3.00 | 2.000    7.49 | 3.583   16.49 |  5.17    4.50
              0.500    3.00 | 2.083    7.49 | 3.667   16.49 |  5.25    4.50
              0.583    3.00 | 2.167    7.49 | 3.750   16.49 |  5.33    3.00
              0.667    3.00 | 2.250    7.49 | 3.833    7.49 |  5.42    3.00
              0.750    3.00 | 2.333    8.99 | 3.917    7.49 |  5.50    3.00
              0.833    4.50 | 2.417    8.99 | 4.000    7.49 |  5.58    3.00
              0.917    4.50 | 2.500    8.99 | 4.083    7.49 |  5.67    3.00
              1.000    4.50 | 2.583    8.99 | 4.167    7.49 |  5.75    3.00
              1.083    4.50 | 2.667    8.99 | 4.250    7.49 |  5.83    3.00
              1.167    4.50 | 2.750    8.99 | 4.333    6.00 |  5.92    3.00
              1.250    4.50 | 2.833   44.96 | 4.417    6.00 |  6.00    3.00
              1.333    4.50 | 2.917   44.96 | 4.500    6.00 |  6.08    3.00
              1.417    4.50 | 3.000   44.96 | 4.583    6.00 |  6.17    3.00
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              1.500    4.50 | 3.083  116.91 | 4.667    6.00 |  6.25    3.00
              1.583    4.50 | 3.167  116.91 | 4.750    6.00 |

     Max.Eff.Inten.(mm/hr)=     116.91        76.83
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       3.50 (ii)    4.55 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.26         0.23
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.68         0.01         1.691 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25          3.25
     RUNOFF VOLUME    (mm)=      73.94        38.92         73.59
     TOTAL RAINFALL   (mm)=      74.94        74.94         74.94
     RUNOFF COEFFICIENT   =       0.99         0.52          0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270      1.691      3.25      73.59
   OUTFLOW: ID= 1 (  0268)      5.270      0.211      3.75      73.57

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.47
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2263

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\e49ef9f8
| Ptotal= 74.94 mm |    Comments: 25yr 6hr 15min SCS
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00    7.49 |  3.75   16.49 |  5.50    3.00
               0.50    3.00 |  2.25    7.49 |  4.00    7.49 |  5.75    3.00
               0.75    3.00 |  2.50    8.99 |  4.25    7.49 |  6.00    3.00
               1.00    4.50 |  2.75    8.99 |  4.50    6.00 |  6.25    3.00
               1.25    4.50 |  3.00   44.96 |  4.75    6.00 |
               1.50    4.50 |  3.25  116.91 |  5.00    4.50 |
               1.75    4.50 |  3.50   16.49 |  5.25    4.50 |

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| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                                   IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           5.32          1.25
     Dep. Storage     (mm)=           1.00          5.00
     Average Slope     (%)=           1.00          2.00
     Length            (m)=         209.28         40.00
     Mannings n           =          0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    4.50 | 3.250  116.91 |  4.83    4.50
               0.167    0.00 | 1.750    4.50 | 3.333   16.49 |  4.92    4.50
               0.250    0.00 | 1.833    7.49 | 3.417   16.49 |  5.00    4.50
               0.333    3.00 | 1.917    7.49 | 3.500   16.49 |  5.08    4.50
               0.417    3.00 | 2.000    7.49 | 3.583   16.49 |  5.17    4.50
               0.500    3.00 | 2.083    7.49 | 3.667   16.49 |  5.25    4.50
               0.583    3.00 | 2.167    7.49 | 3.750   16.49 |  5.33    3.00
               0.667    3.00 | 2.250    7.49 | 3.833    7.49 |  5.42    3.00
               0.750    3.00 | 2.333    8.99 | 3.917    7.49 |  5.50    3.00
               0.833    4.50 | 2.417    8.99 | 4.000    7.49 |  5.58    3.00
               0.917    4.50 | 2.500    8.99 | 4.083    7.49 |  5.67    3.00
               1.000    4.50 | 2.583    8.99 | 4.167    7.49 |  5.75    3.00
               1.083    4.50 | 2.667    8.99 | 4.250    7.49 |  5.83    3.00
               1.167    4.50 | 2.750    8.99 | 4.333    6.00 |  5.92    3.00
               1.250    4.50 | 2.833   44.96 | 4.417    6.00 |  6.00    3.00
               1.333    4.50 | 2.917   44.96 | 4.500    6.00 |  6.08    3.00
               1.417    4.50 | 3.000   44.96 | 4.583    6.00 |  6.17    3.00
               1.500    4.50 | 3.083  116.91 | 4.667    6.00 |  6.25    3.00
               1.583    4.50 | 3.167  116.91 | 4.750    6.00 |

     Max.Eff.Inten.(mm/hr)=     116.91        76.83
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.74 (ii)    7.45 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.25         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.71         0.21         1.917 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25          3.25
     RUNOFF VOLUME    (mm)=      73.94        38.92         67.28
     TOTAL RAINFALL   (mm)=      74.94        74.94         74.94
     RUNOFF COEFFICIENT   =       0.99         0.52          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   1.917     3.25    67.28
     + ID2= 2 (  0268):     5.27   0.211     3.75    73.57
       ================================================
```

```
       ID = 3 (  0262):    11.84   2.111     3.25    70.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   1.074     3.25    68.45
     + ID2= 2 (  0262):    11.84   2.111     3.25    70.08
       ================================================
       ID = 3 (  0266):    16.51   3.185     3.25    69.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2130      0.6563
                         0.0190     0.1773    |   0.2520      0.6883
                         0.0220     0.2128    |   0.2890      0.7150
                         0.0260     0.2888    |   0.2980      0.7450
                         0.0300     0.3648    |   0.3060      0.7700
                         0.0650     0.4586    |   0.3150      0.8127
                         0.1100     0.5155    |   0.3320      0.9290
                         0.1680     0.5503    |   0.3390      0.9767
                         0.1930     0.5804    |   0.3520      1.0680
                         0.2000     0.6048    |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510     3.185      3.25      69.62
   OUTFLOW: ID= 1 (  0263)     16.510     0.283      5.67      69.48

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.88
                 TIME SHIFT OF PEAK FLOW         (min)=145.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.7105

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.015     3.33    38.88
     + ID2= 2 (  0263):    16.51   0.283     5.67    69.48
       ================================================
       ID = 3 (  0261):    16.64   0.284     5.58    69.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
============================

       V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L

         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\bafdda8d-8980-40ee-9629-9105450e132a\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\bafdda8d-8980-40ee-9629-9105450e132a\s


DATE: 07/06/2020                          TIME: 04:32:57

USER:



COMMENTS: _____________________________________________________________


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  **********************************************
  ** SIMULATION : 5 Year 6 Hour SCS            **
  **********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\f6b420c7
| Ptotal= 52.74 mm |    Comments: 5yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.27 |  3.75   11.60 |  5.50    2.11
                0.50    2.11 |  2.25    5.27 |  4.00    5.27 |  5.75    2.11
                0.75    2.11 |  2.50    6.33 |  4.25    5.27 |  6.00    2.11
                1.00    2.11 |  2.75    6.33 |  4.50    4.22 |  6.25    2.11
                1.25    3.16 |  3.00   31.64 |  4.75    4.22 |
                1.50    3.16 |  3.25   82.27 |  5.00    3.16 |
                1.75    3.16 |  3.50   11.60 |  5.25    3.16 |

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.16	3.250	82.27	4.83	3.16
0.167	0.00	1.750	3.16	3.333	11.60	4.92	3.16
0.250	0.00	1.833	5.27	3.417	11.60	5.00	3.16
0.333	2.11	1.917	5.27	3.500	11.60	5.08	3.16
0.417	2.11	2.000	5.27	3.583	11.60	5.17	3.16
0.500	2.11	2.083	5.27	3.667	11.60	5.25	3.16
0.583	2.11	2.167	5.27	3.750	11.60	5.33	2.11
0.667	2.11	2.250	5.27	3.833	5.27	5.42	2.11
0.750	2.11	2.333	6.33	3.917	5.27	5.50	2.11
0.833	3.16	2.417	6.33	4.000	5.27	5.58	2.11
0.917	3.16	2.500	6.33	4.083	5.27	5.67	2.11
1.000	3.16	2.583	6.33	4.167	5.27	5.75	2.11
1.083	3.16	2.667	6.33	4.250	5.27	5.83	2.11
1.167	3.16	2.750	6.33	4.333	4.22	5.92	2.11
1.250	3.16	2.833	31.64	4.417	4.22	6.00	2.11
1.333	3.16	2.917	31.64	4.500	4.22	6.08	2.11
1.417	3.16	3.000	31.64	4.583	4.22	6.17	2.11
1.500	3.16	3.083	82.27	4.667	4.22	6.25	2.11
1.583	3.16	3.167	82.27	4.750	4.22		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.008 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 21.998
TOTAL RAINFALL (mm)= 52.740
RUNOFF COEFFICIENT = 0.417

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\mventresca\AppData\Local\Temp\50f23b5e-2bda-4888-8f6a-fa41043db911\f6b420c7
Ptotal= 52.74 mm | Comments: 5yr 6hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.27	3.75	11.60	5.50	2.11
0.50	2.11	2.25	5.27	4.00	5.27	5.75	2.11
0.75	2.11	2.50	6.33	4.25	5.27	6.00	2.11
1.00	3.16	2.75	6.33	4.50	4.22	6.25	2.11
1.25	3.16	3.00	31.64	4.75	4.22		
1.50	3.16	3.25	82.27	5.00	3.16		
1.75	3.16	3.50	11.60	5.25	3.16		

CALIB
STANDHYD (0205)| Area (ha)= 1.12
ID= 1 DT= 5.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.11	0.01
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	86.60	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.16	3.250	82.27	4.83	3.16
0.167	0.00	1.750	3.16	3.333	11.60	4.92	3.16
0.250	0.00	1.833	5.27	3.417	11.60	5.00	3.16
0.333	2.11	1.917	5.27	3.500	11.60	5.08	3.16
0.417	2.11	2.000	5.27	3.583	11.60	5.17	3.16
0.500	2.11	2.083	5.27	3.667	11.60	5.25	3.16
0.583	2.11	2.167	5.27	3.750	11.60	5.33	2.11
0.667	2.11	2.250	5.27	3.833	5.27	5.42	2.11
0.750	2.11	2.333	6.33	3.917	5.27	5.50	2.11
0.833	3.16	2.417	6.33	4.000	5.27	5.58	2.11
0.917	3.16	2.500	6.33	4.083	5.27	5.67	2.11
1.000	3.16	2.583	6.33	4.167	5.27	5.75	2.11
1.083	3.16	2.667	6.33	4.250	5.27	5.83	2.11
1.167	3.16	2.750	6.33	4.333	4.22	5.92	2.11
1.250	3.16	2.833	31.64	4.417	4.22	6.00	2.11
1.333	3.16	2.917	31.64	4.500	4.22	6.08	2.11
1.417	3.16	3.000	31.64	4.583	4.22	6.17	2.11
1.500	3.16	3.083	82.27	4.667	4.22	6.25	2.11
1.583	3.16	3.167	82.27	4.750	4.22		

			TOTALS
Max.Eff.Inten.(mm/hr)=	82.27	44.34	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.53 (ii)	3.75 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.29	0.25	
PEAK FLOW (cms)=	0.25	0.00	0.256 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	51.74	22.02	51.44
TOTAL RAINFALL (mm)=	52.74	52.74	52.74
RUNOFF COEFFICIENT =	0.98	0.42	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)|
IN= 2---> OUT= 1 |
DT= 5.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.256	3.25	51.44
OUTFLOW: ID= 1 (0256)	1.125	0.025	3.83	51.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.80
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0400

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\f6b420c7
| Ptotal= 52.74 mm |    Comments: 5yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.27 |  3.75   11.60 |  5.50    2.11
                0.50    2.11 |  2.25    5.27 |  4.00    5.27 |  5.75    2.11
                0.75    2.11 |  2.50    6.33 |  4.25    5.27 |  6.00    2.11
                1.00    3.16 |  2.75    6.33 |  4.50    4.22 |  6.25    2.11
                1.25    3.16 |  3.00   31.64 |  4.75    4.22 |
                1.50    3.16 |  3.25   82.27 |  5.00    3.16 |
                1.75    3.16 |  3.50   11.60 |  5.25    3.16 |

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    3.16 | 3.250   82.27 |  4.83    3.16
               0.167    0.00 | 1.750    3.16 | 3.333   11.60 |  4.92    3.16
               0.250    0.00 | 1.833    5.27 | 3.417   11.60 |  5.00    3.16
               0.333    2.11 | 1.917    5.27 | 3.500   11.60 |  5.08    3.16
               0.417    2.11 | 2.000    5.27 | 3.583   11.60 |  5.17    3.16
               0.500    2.11 | 2.083    5.27 | 3.667   11.60 |  5.25    3.16
               0.583    2.11 | 2.167    5.27 | 3.750   11.60 |  5.33    2.11
               0.667    2.11 | 2.250    5.27 | 3.833    5.27 |  5.42    2.11
               0.750    2.11 | 2.333    6.33 | 3.917    5.27 |  5.50    2.11
               0.833    3.16 | 2.417    6.33 | 4.000    5.27 |  5.58    2.11
               0.917    3.16 | 2.500    6.33 | 4.083    5.27 |  5.67    2.11
               1.000    3.16 | 2.583    6.33 | 4.167    5.27 |  5.75    2.11
               1.083    3.16 | 2.667    6.33 | 4.250    5.27 |  5.83    2.11
               1.167    3.16 | 2.750    6.33 | 4.333    4.22 |  5.92    2.11
               1.250    3.16 | 2.833   31.64 | 4.417    4.22 |  6.00    2.11
               1.333    3.16 | 2.917   31.64 | 4.500    4.22 |  6.08    2.11
               1.417    3.16 | 3.000   31.64 | 4.583    4.22 |  6.17    2.11
               1.500    3.16 | 3.083   82.27 | 4.667    4.22 |  6.25    2.11
               1.583    3.16 | 3.167   82.27 | 4.750    4.22 |

     Max.Eff.Inten.(mm/hr)=      82.27        44.34
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.05 (ii)    7.44 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.27         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.38         0.04          0.421 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      51.74        22.02          45.79
     TOTAL RAINFALL   (mm)=      52.74        52.74          52.74
     RUNOFF COEFFICIENT   =       0.98         0.42           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.421     3.25    45.79
     + ID2= 2 (  0256):     1.12   0.025     3.83    51.09
       ================================================
       ID = 3 (  0260):     3.22   0.442     3.25    47.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\f6b420c7
| Ptotal= 52.74 mm |    Comments: 5yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.27 |  3.75   11.60 |  5.50    2.11
                0.50    2.11 |  2.25    5.27 |  4.00    5.27 |  5.75    2.11
                0.75    2.11 |  2.50    6.33 |  4.25    5.27 |  6.00    2.11
                1.00    3.16 |  2.75    6.33 |  4.50    4.22 |  6.25    2.11
                1.25    3.16 |  3.00   31.64 |  4.75    4.22 |
                1.50    3.16 |  3.25   82.27 |  5.00    3.16 |
                1.75    3.16 |  3.50   11.60 |  5.25    3.16 |

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--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
```

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	1.667	3.16	3.250	82.27	4.83	3.16
0.167	0.00	1.750	3.16	3.333	11.60	4.92	3.16
0.250	0.00	1.833	5.27	3.417	11.60	5.00	3.16
0.333	2.11	1.917	5.27	3.500	11.60	5.08	3.16
0.417	2.11	2.000	5.27	3.583	11.60	5.17	3.16
0.500	2.11	2.083	5.27	3.667	11.60	5.25	3.16
0.583	2.11	2.167	5.27	3.750	11.60	5.33	2.11
0.667	2.11	2.250	5.27	3.833	5.27	5.42	2.11
0.750	2.11	2.333	6.33	3.917	5.27	5.50	2.11
0.833	3.16	2.417	6.33	4.000	5.27	5.58	2.11
0.917	3.16	2.500	6.33	4.083	5.27	5.67	2.11
1.000	3.16	2.583	6.33	4.167	5.27	5.75	2.11
1.083	3.16	2.667	6.33	4.250	5.27	5.83	2.11
1.167	3.16	2.750	6.33	4.333	4.22	5.92	2.11
1.250	3.16	2.833	31.64	4.417	4.22	6.00	2.11
1.333	3.16	2.917	31.64	4.500	4.22	6.08	2.11
1.417	3.16	3.000	31.64	4.583	4.22	6.17	2.11
1.500	3.16	3.083	82.27	4.667	4.22	6.25	2.11
1.583	3.16	3.167	82.27	4.750	4.22		

Max.Eff.Inten.(mm/hr)=	82.27	44.34		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.73 (ii)	7.12 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.29	0.14		
			TOTALS	
PEAK FLOW (cms)=	0.26	0.03	0.292 (iii)	
TIME TO PEAK (hrs)=	3.25	3.25	3.25	
RUNOFF VOLUME (mm)=	51.74	22.02	45.79	
TOTAL RAINFALL (mm)=	52.74	52.74	52.74	
RUNOFF COEFFICIENT =	0.98	0.42	0.87	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0204):		1.45	0.292	3.25	45.79
+ ID2= 2 (0260):		3.22	0.442	3.25	47.64
ID = 3 (0259):		4.67	0.734	3.25	47.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\50f23b5e-2bda-4888-8f6a-fa41043db911\f6b420c7
Ptotal= 52.74 mm	Comments: 5yr 6hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.27	3.75	11.60	5.50	2.11
0.50	2.11	2.25	5.27	4.00	5.27	5.75	2.11
0.75	2.11	2.50	6.33	4.25	5.27	6.00	2.11
1.00	3.16	2.75	6.33	4.50	4.22	6.25	2.11
1.25	3.16	3.00	31.64	4.75	4.22		
1.50	3.16	3.25	82.27	5.00	3.16		
1.75	3.16	3.50	11.60	5.25	3.16		

CALIB	
STANDHYD (0201)	Area (ha)= 5.27
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.16	3.250	82.27	4.83	3.16
0.167	0.00	1.750	3.16	3.333	11.60	4.92	3.16
0.250	0.00	1.833	5.27	3.417	11.60	5.00	3.16
0.333	2.11	1.917	5.27	3.500	11.60	5.08	3.16
0.417	2.11	2.000	5.27	3.583	11.60	5.17	3.16
0.500	2.11	2.083	5.27	3.667	11.60	5.25	3.16
0.583	2.11	2.167	5.27	3.750	11.60	5.33	2.11
0.667	2.11	2.250	5.27	3.833	5.27	5.42	2.11
0.750	2.11	2.333	6.33	3.917	5.27	5.50	2.11
0.833	3.16	2.417	6.33	4.000	5.27	5.58	2.11
0.917	3.16	2.500	6.33	4.083	5.27	5.67	2.11
1.000	3.16	2.583	6.33	4.167	5.27	5.75	2.11
1.083	3.16	2.667	6.33	4.250	5.27	5.83	2.11
1.167	3.16	2.750	6.33	4.333	4.22	5.92	2.11
1.250	3.16	2.833	31.64	4.417	4.22	6.00	2.11
1.333	3.16	2.917	31.64	4.500	4.22	6.08	2.11
1.417	3.16	3.000	31.64	4.583	4.22	6.17	2.11
1.500	3.16	3.083	82.27	4.667	4.22	6.25	2.11
1.583	3.16	3.167	82.27	4.750	4.22		

Max.Eff.Inten.(mm/hr)=	82.27	44.34		
over (min)	5.00	10.00		
Storage Coeff. (min)=	4.03 (ii)	5.24 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.24	0.16		
			TOTALS	
PEAK FLOW (cms)=	1.17	0.01	1.180 (iii)	
TIME TO PEAK (hrs)=	3.25	3.25	3.25	
RUNOFF VOLUME (mm)=	51.74	22.02	51.44	
TOTAL RAINFALL (mm)=	52.74	52.74	52.74	
RUNOFF COEFFICIENT =	0.98	0.42	0.98	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)

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     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1959      0.1883
                         0.0980     0.0369   |   0.2939      0.4335

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)     5.270     1.180      3.25      51.44
   OUTFLOW: ID= 1 (  0268)     5.270     0.172      3.67      51.43

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.58
                  TIME SHIFT OF PEAK FLOW         (min)= 25.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1513

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\f6b420c7
| Ptotal= 52.74 mm |    Comments: 5yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.27 |  3.75   11.60 |  5.50    2.11
                0.50    2.11 |  2.25    5.27 |  4.00    5.27 |  5.75    2.11
                0.75    2.11 |  2.50    6.33 |  4.25    5.27 |  6.00    2.11
                1.00    3.16 |  2.75    6.33 |  4.50    4.22 |  6.25    2.11
                1.25    3.16 |  3.00   31.64 |  4.75    4.22 |
                1.50    3.16 |  3.25   82.27 |  5.00    3.16 |
                1.75    3.16 |  3.50   11.60 |  5.25    3.16 |

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| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    3.16 | 3.250   82.27 |  4.83    3.16
               0.167    0.00 | 1.750    3.16 | 3.333   11.60 |  4.92    3.16
               0.250    0.00 | 1.833    5.27 | 3.417   11.60 |  5.00    3.16
               0.333    2.11 | 1.917    5.27 | 3.500   11.60 |  5.08    3.16
               0.417    2.11 | 2.000    5.27 | 3.583   11.60 |  5.17    3.16
               0.500    2.11 | 2.083    5.27 | 3.667   11.60 |  5.25    3.16
               0.583    2.11 | 2.167    5.27 | 3.750   11.60 |  5.33    2.11
               0.667    2.11 | 2.250    5.27 | 3.833    5.27 |  5.42    2.11
               0.750    2.11 | 2.333    6.33 | 3.917    5.27 |  5.50    2.11
               0.833    3.16 | 2.417    6.33 | 4.000    5.27 |  5.58    2.11
               0.917    3.16 | 2.500    6.33 | 4.083    5.27 |  5.67    2.11
               1.000    3.16 | 2.583    6.33 | 4.167    5.27 |  5.75    2.11
               1.083    3.16 | 2.667    6.33 | 4.250    5.27 |  5.83    2.11
               1.167    3.16 | 2.750    6.33 | 4.333    4.22 |  5.92    2.11
               1.250    3.16 | 2.833   31.64 | 4.417    4.22 |  6.00    2.11
               1.333    3.16 | 2.917   31.64 | 4.500    4.22 |  6.08    2.11
               1.417    3.16 | 3.000   31.64 | 4.583    4.22 |  6.17    2.11
               1.500    3.16 | 3.083   82.27 | 4.667    4.22 |  6.25    2.11
               1.583    3.16 | 3.167   82.27 | 4.750    4.22 |

     Max.Eff.Inten.(mm/hr)=      82.27        44.34
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       4.30 (ii)    8.57 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.19         0.11          1.304 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      51.74        22.02          46.09
     TOTAL RAINFALL   (mm)=      52.74        52.74          52.74
     RUNOFF COEFFICIENT   =       0.98         0.42           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  82.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   1.304     3.25    46.09
     + ID2= 2 (  0268):     5.27   0.172     3.67    51.43
       ==========================================================
       ID = 3 (  0262):    11.84   1.458     3.25    48.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.734     3.25    47.07
     + ID2= 2 (  0262):    11.84   1.458     3.25    48.47
       ==========================================================
       ID = 3 (  0266):    16.51   2.192     3.25    48.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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RESERVOIR(0263) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2130	0.6563
	0.0190	0.1773	0.2520	0.6883
	0.0220	0.2128	0.2890	0.7150
	0.0260	0.2888	0.2980	0.7450
	0.0300	0.3648	0.3060	0.7700
	0.0650	0.4586	0.3150	0.8127
	0.1100	0.5155	0.3320	0.9290
	0.1680	0.5503	0.3390	0.9767
	0.1930	0.5804	0.3520	1.0680
	0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	2.192	3.25	48.07
OUTFLOW: ID= 1 (0263)	16.510	0.176	6.25	47.93

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.01
TIME SHIFT OF PEAK FLOW (min)=180.00
MAXIMUM STORAGE USED (ha.m.)= 0.5598

ADD HYD (0261) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0206):	0.12	0.008	3.33	22.00
+ ID2= 2 (0263):	16.51	0.176	6.25	47.93
ID = 3 (0261):	16.64	0.176	6.25	47.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-4bf8-aeac-18a29a864848\e2d4dd80-e614-4671-86a4-eb0c49addd38\s
Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-4bf8-aeac-18a29a864848\e2d4dd80-e614-4671-86a4-eb0c49addd38\s

DATE: 07/06/2020 TIME: 04:32:58

USER:

COMMENTS: _____

** SIMULATION : 50 Year 6 Hour SCS **

READ STORM Ptotal= 83.66 mm	Filename: C:\Users\mventresca\AppData\Local\Temp\50f23b5e-2bda-4888-8f6a-fa41043db911\b0f030db Comments: 50yr 6hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.37	3.75	18.41	5.50	3.35
0.50	3.35	2.25	8.37	4.00	8.37	5.75	3.35
0.75	3.35	2.50	10.04	4.25	8.37	6.00	3.35
1.00	5.02	2.75	10.04	4.50	6.69	6.25	3.35
1.25	5.02	3.00	50.20	4.75	6.69		
1.50	5.02	3.25	130.51	5.00	5.02		
1.75	5.02	3.50	18.41	5.25	5.02		

CALIB NASHYD (0206) ID= 1 DT= 5.0 min	Area (ha)= 0.12	Curve Number (CN)= 82.0
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.25	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.02	3.250	130.51	4.83	5.02
0.167	0.00	1.750	5.02	3.333	18.41	4.92	5.02
0.250	0.00	1.833	8.37	3.417	18.41	5.00	5.02
0.333	3.35	1.917	8.37	3.500	18.41	5.08	5.02
0.417	3.35	2.000	8.37	3.583	18.41	5.17	5.02
0.500	3.35	2.083	8.37	3.667	18.41	5.25	5.02
0.583	3.35	2.167	8.37	3.750	18.41	5.33	3.35
0.667	3.35	2.250	8.37	3.833	8.37	5.42	3.35
0.750	3.35	2.333	10.04	3.917	8.37	5.50	3.35
0.833	5.02	2.417	10.04	4.000	8.37	5.58	3.35
0.917	5.02	2.500	10.04	4.083	8.37	5.67	3.35
1.000	5.02	2.583	10.04	4.167	8.37	5.75	3.35
1.083	5.02	2.667	10.04	4.250	8.37	5.83	3.35
1.167	5.02	2.750	10.04	4.333	6.69	5.92	3.35
1.250	5.02	2.833	50.20	4.417	6.69	6.00	3.35
1.333	5.02	2.917	50.20	4.500	6.69	6.08	3.35

```
               1.417    5.02 | 3.000   50.20 | 4.583    6.69 |  6.17    3.35
               1.500    5.02 | 3.083  130.51 | 4.667    6.69 |  6.25    3.35
               1.583    5.02 | 3.167  130.51 | 4.750    6.69 |

     Unit Hyd Qpeak  (cms)=   0.019

     PEAK FLOW       (cms)=   0.017 (i)
     TIME TO PEAK    (hrs)=   3.333
     RUNOFF VOLUME    (mm)=  45.991
     TOTAL RAINFALL   (mm)=  83.660
     RUNOFF COEFFICIENT   =   0.550

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\b0f030db
| Ptotal= 83.66 mm |    Comments: 50yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    8.37 |  3.75   18.41 |  5.50    3.35
                0.50    3.35 |  2.25    8.37 |  4.00    8.37 |  5.75    3.35
                0.75    3.35 |  2.50   10.04 |  4.25    8.37 |  6.00    3.35
                1.00    5.02 |  2.75   10.04 |  4.50    6.69 |  6.25    3.35
                1.25    5.02 |  3.00   50.20 |  4.75    6.69 |
                1.50    5.02 |  3.25  130.51 |  5.00    5.02 |
                1.75    5.02 |  3.50   18.41 |  5.25    5.02 |

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| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.02 | 3.250  130.51 |  4.83    5.02
               0.167    0.00 | 1.750    5.02 | 3.333   18.41 |  4.92    5.02
               0.250    0.00 | 1.833    8.37 | 3.417   18.41 |  5.00    5.02
               0.333    3.35 | 1.917    8.37 | 3.500   18.41 |  5.08    5.02
               0.417    3.35 | 2.000    8.37 | 3.583   18.41 |  5.17    5.02
               0.500    3.35 | 2.083    8.37 | 3.667   18.41 |  5.25    5.02
               0.583    3.35 | 2.167    8.37 | 3.750   18.41 |  5.33    3.35
               0.667    3.35 | 2.250    8.37 | 3.833    8.37 |  5.42    3.35
               0.750    3.35 | 2.333   10.04 | 3.917    8.37 |  5.50    3.35
               0.833    5.02 | 2.417   10.04 | 4.000    8.37 |  5.58    3.35
               0.917    5.02 | 2.500   10.04 | 4.083    8.37 |  5.67    3.35
               1.000    5.02 | 2.583   10.04 | 4.167    8.37 |  5.75    3.35
               1.083    5.02 | 2.667   10.04 | 4.250    8.37 |  5.83    3.35
               1.167    5.02 | 2.750   10.04 | 4.333    6.69 |  5.92    3.35
               1.250    5.02 | 2.833   50.20 | 4.417    6.69 |  6.00    3.35
               1.333    5.02 | 2.917   50.20 | 4.500    6.69 |  6.08    3.35
               1.417    5.02 | 3.000   50.20 | 4.583    6.69 |  6.17    3.35
               1.500    5.02 | 3.083  130.51 | 4.667    6.69 |  6.25    3.35
               1.583    5.02 | 3.167  130.51 | 4.750    6.69 |

     Max.Eff.Inten.(mm/hr)=     130.51        90.23
               over (min)          5.00         5.00
     Storage Coeff.  (min)=        2.11 (ii)    3.12 (ii)
     Unit Hyd. Tpeak (min)=        5.00         5.00
     Unit Hyd. peak  (cms)=        0.31         0.27
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.40         0.00          0.406 (iii)
     TIME TO PEAK    (hrs)=        3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=       82.66        46.03          82.29
     TOTAL RAINFALL   (mm)=       83.66        83.66          83.66
     RUNOFF COEFFICIENT   =        0.99         0.55           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470     0.0750

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (  0205)      1.125     0.406      3.25      82.29
     OUTFLOW: ID= 1 (  0256)      1.125     0.040      3.83      81.94

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.83
                   TIME SHIFT OF PEAK FLOW         (min)= 35.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0639

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\b0f030db
| Ptotal= 83.66 mm |    Comments: 50yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    8.37 |  3.75   18.41 |  5.50    3.35
                0.50    3.35 |  2.25    8.37 |  4.00    8.37 |  5.75    3.35
                0.75    3.35 |  2.50   10.04 |  4.25    8.37 |  6.00    3.35
                1.00    5.02 |  2.75   10.04 |  4.50    6.69 |  6.25    3.35
                1.25    5.02 |  3.00   50.20 |  4.75    6.69 |
                1.50    5.02 |  3.25  130.51 |  5.00    5.02 |
                1.75    5.02 |  3.50   18.41 |  5.25    5.02 |

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    5.02 | 3.250  130.51 |  4.83    5.02
              0.167    0.00 | 1.750    5.02 | 3.333   18.41 |  4.92    5.02
              0.250    0.00 | 1.833    8.37 | 3.417   18.41 |  5.00    5.02
              0.333    3.35 | 1.917    8.37 | 3.500   18.41 |  5.08    5.02
              0.417    3.35 | 2.000    8.37 | 3.583   18.41 |  5.17    5.02
              0.500    3.35 | 2.083    8.37 | 3.667   18.41 |  5.25    5.02
              0.583    3.35 | 2.167    8.37 | 3.750   18.41 |  5.33    3.35
              0.667    3.35 | 2.250    8.37 | 3.833    8.37 |  5.42    3.35
              0.750    3.35 | 2.333   10.04 | 3.917    8.37 |  5.50    3.35
              0.833    5.02 | 2.417   10.04 | 4.000    8.37 |  5.58    3.35
              0.917    5.02 | 2.500   10.04 | 4.083    8.37 |  5.67    3.35
              1.000    5.02 | 2.583   10.04 | 4.167    8.37 |  5.75    3.35
              1.083    5.02 | 2.667   10.04 | 4.250    8.37 |  5.83    3.35
              1.167    5.02 | 2.750   10.04 | 4.333    6.69 |  5.92    3.35
              1.250    5.02 | 2.833   50.20 | 4.417    6.69 |  6.00    3.35
              1.333    5.02 | 2.917   50.20 | 4.500    6.69 |  6.08    3.35
              1.417    5.02 | 3.000   50.20 | 4.583    6.69 |  6.17    3.35
              1.500    5.02 | 3.083  130.51 | 4.667    6.69 |  6.25    3.35
              1.583    5.02 | 3.167  130.51 | 4.750    6.69 |

     Max.Eff.Inten.(mm/hr)=     130.51        90.23
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.54 (ii)    6.18 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.61         0.09         0.694 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25          3.25
     RUNOFF VOLUME    (mm)=      82.66        46.03         75.33
     TOTAL RAINFALL   (mm)=      83.66        83.66         83.66
     RUNOFF COEFFICIENT   =       0.99         0.55          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.694     3.25    75.33
     + ID2= 2 (  0256):     1.12   0.040     3.83    81.94
       ==========================================================
       ID = 3 (  0260):     3.22   0.728     3.25    77.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\b0f030db
| Ptotal= 83.66 mm |    Comments: 50yr 6hr 15min SCS
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00    8.37 |  3.75   18.41 |  5.50    3.35
               0.50    3.35 |  2.25    8.37 |  4.00    8.37 |  5.75    3.35
               0.75    3.35 |  2.50   10.04 |  4.25    8.37 |  6.00    3.35
               1.00    5.02 |  2.75   10.04 |  4.50    6.69 |  6.25    3.35
               1.25    5.02 |  3.00   50.20 |  4.75    6.69 |
               1.50    5.02 |  3.25  130.51 |  5.00    5.02 |
               1.75    5.02 |  3.50   18.41 |  5.25    5.02 |

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| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    5.02 | 3.250  130.51 |  4.83    5.02
              0.167    0.00 | 1.750    5.02 | 3.333   18.41 |  4.92    5.02
              0.250    0.00 | 1.833    8.37 | 3.417   18.41 |  5.00    5.02
              0.333    3.35 | 1.917    8.37 | 3.500   18.41 |  5.08    5.02
              0.417    3.35 | 2.000    8.37 | 3.583   18.41 |  5.17    5.02
              0.500    3.35 | 2.083    8.37 | 3.667   18.41 |  5.25    5.02
              0.583    3.35 | 2.167    8.37 | 3.750   18.41 |  5.33    3.35
              0.667    3.35 | 2.250    8.37 | 3.833    8.37 |  5.42    3.35
              0.750    3.35 | 2.333   10.04 | 3.917    8.37 |  5.50    3.35
              0.833    5.02 | 2.417   10.04 | 4.000    8.37 |  5.58    3.35
              0.917    5.02 | 2.500   10.04 | 4.083    8.37 |  5.67    3.35
              1.000    5.02 | 2.583   10.04 | 4.167    8.37 |  5.75    3.35
              1.083    5.02 | 2.667   10.04 | 4.250    8.37 |  5.83    3.35
              1.167    5.02 | 2.750   10.04 | 4.333    6.69 |  5.92    3.35
              1.250    5.02 | 2.833   50.20 | 4.417    6.69 |  6.00    3.35
              1.333    5.02 | 2.917   50.20 | 4.500    6.69 |  6.08    3.35
              1.417    5.02 | 3.000   50.20 | 4.583    6.69 |  6.17    3.35
              1.500    5.02 | 3.083  130.51 | 4.667    6.69 |  6.25    3.35
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               1.583    5.02 | 3.167  130.51 | 4.750    6.69 |

     Max.Eff.Inten.(mm/hr)=     130.51        90.23
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.27 (ii)    5.92 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.42         0.06        0.482 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25         3.25
     RUNOFF VOLUME    (mm)=      82.66        46.03        75.33
     TOTAL RAINFALL   (mm)=      83.66        83.66        83.66
     RUNOFF COEFFICIENT   =       0.99         0.55         0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.482     3.25    75.33
     + ID2= 2 (  0260):     3.22   0.728     3.25    77.64
       ================================================
       ID = 3 (  0259):     4.67   1.210     3.25    76.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\b0f030db
| Ptotal= 83.66 mm |    Comments: 50yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    8.37 |  3.75   18.41 |  5.50    3.35
                0.50    3.35 |  2.25    8.37 |  4.00    8.37 |  5.75    3.35
                0.75    3.35 |  2.50   10.04 |  4.25    8.37 |  6.00    3.35
                1.00    5.02 |  2.75   10.04 |  4.50    6.69 |  6.25    3.35
                1.25    5.02 |  3.00   50.20 |  4.75    6.69 |
                1.50    5.02 |  3.25  130.51 |  5.00    5.02 |
                1.75    5.02 |  3.50   18.41 |  5.25    5.02 |

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| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.02 | 3.250  130.51 |  4.83    5.02
               0.167    0.00 | 1.750    5.02 | 3.333   18.41 |  4.92    5.02
               0.250    0.00 | 1.833    8.37 | 3.417   18.41 |  5.00    5.02
               0.333    3.35 | 1.917    8.37 | 3.500   18.41 |  5.08    5.02
               0.417    3.35 | 2.000    8.37 | 3.583   18.41 |  5.17    5.02
               0.500    3.35 | 2.083    8.37 | 3.667   18.41 |  5.25    5.02
               0.583    3.35 | 2.167    8.37 | 3.750   18.41 |  5.33    3.35
               0.667    3.35 | 2.250    8.37 | 3.833    8.37 |  5.42    3.35
               0.750    3.35 | 2.333   10.04 | 3.917    8.37 |  5.50    3.35
               0.833    5.02 | 2.417   10.04 | 4.000    8.37 |  5.58    3.35
               0.917    5.02 | 2.500   10.04 | 4.083    8.37 |  5.67    3.35
               1.000    5.02 | 2.583   10.04 | 4.167    8.37 |  5.75    3.35
               1.083    5.02 | 2.667   10.04 | 4.250    8.37 |  5.83    3.35
               1.167    5.02 | 2.750   10.04 | 4.333    6.69 |  5.92    3.35
               1.250    5.02 | 2.833   50.20 | 4.417    6.69 |  6.00    3.35
               1.333    5.02 | 2.917   50.20 | 4.500    6.69 |  6.08    3.35
               1.417    5.02 | 3.000   50.20 | 4.583    6.69 |  6.17    3.35
               1.500    5.02 | 3.083  130.51 | 4.667    6.69 |  6.25    3.35
               1.583    5.02 | 3.167  130.51 | 4.750    6.69 |

     Max.Eff.Inten.(mm/hr)=     130.51        90.23
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       3.35 (ii)    4.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.26         0.23
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.88         0.01        1.891 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25         3.25
     RUNOFF VOLUME    (mm)=      82.66        46.03        82.29
     TOTAL RAINFALL   (mm)=      83.66        83.66        83.66
     RUNOFF COEFFICIENT   =       0.99         0.55         0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1959     0.1883
                         0.0980     0.0369   |   0.2939     0.4335

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)      5.270      1.891      3.25      82.29
   OUTFLOW: ID= 1 (  0268)      5.270      0.223      3.75      82.28

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.79
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                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2568

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              50f23b5e-2bda-4888-8f6a-fa41043db911\b0f030db
| Ptotal= 83.66 mm |    Comments: 50yr 6hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    8.37 |  3.75   18.41 |  5.50    3.35
                0.50    3.35 |  2.25    8.37 |  4.00    8.37 |  5.75    3.35
                0.75    3.35 |  2.50   10.04 |  4.25    8.37 |  6.00    3.35
                1.00    5.02 |  2.75   10.04 |  4.50    6.69 |  6.25    3.35
                1.25    5.02 |  3.00   50.20 |  4.75    6.69 |
                1.50    5.02 |  3.25  130.51 |  5.00    5.02 |
                1.75    5.02 |  3.50   18.41 |  5.25    5.02 |

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| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.02 | 3.250  130.51 |  4.83    5.02
               0.167    0.00 | 1.750    5.02 | 3.333   18.41 |  4.92    5.02
               0.250    0.00 | 1.833    8.37 | 3.417   18.41 |  5.00    5.02
               0.333    3.35 | 1.917    8.37 | 3.500   18.41 |  5.08    5.02
               0.417    3.35 | 2.000    8.37 | 3.583   18.41 |  5.17    5.02
               0.500    3.35 | 2.083    8.37 | 3.667   18.41 |  5.25    5.02
               0.583    3.35 | 2.167    8.37 | 3.750   18.41 |  5.33    3.35
               0.667    3.35 | 2.250    8.37 | 3.833    8.37 |  5.42    3.35
               0.750    3.35 | 2.333   10.04 | 3.917    8.37 |  5.50    3.35
               0.833    5.02 | 2.417   10.04 | 4.000    8.37 |  5.58    3.35
               0.917    5.02 | 2.500   10.04 | 4.083    8.37 |  5.67    3.35
               1.000    5.02 | 2.583   10.04 | 4.167    8.37 |  5.75    3.35
               1.083    5.02 | 2.667   10.04 | 4.250    8.37 |  5.83    3.35
               1.167    5.02 | 2.750   10.04 | 4.333    6.69 |  5.92    3.35
               1.250    5.02 | 2.833   50.20 | 4.417    6.69 |  6.00    3.35
               1.333    5.02 | 2.917   50.20 | 4.500    6.69 |  6.08    3.35
               1.417    5.02 | 3.000   50.20 | 4.583    6.69 |  6.17    3.35
               1.500    5.02 | 3.083  130.51 | 4.667    6.69 |  6.25    3.35
               1.583    5.02 | 3.167  130.51 | 4.750    6.69 |

     Max.Eff.Inten.(mm/hr)=     130.51        90.23
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.58 (ii)    7.13 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.91         0.25          2.162 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      82.66        46.03          75.70
     TOTAL RAINFALL   (mm)=      83.66        83.66          83.66
     RUNOFF COEFFICIENT   =       0.99         0.55           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   2.162     3.25    75.70
     + ID2= 2 (  0268):     5.27   0.223     3.75    82.28
       ================================================
       ID = 3 (  0262):    11.84   2.366     3.25    78.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   1.210     3.25    76.92
     + ID2= 2 (  0262):    11.84   2.366     3.25    78.63
       ================================================
       ID = 3 (  0266):    16.51   3.575     3.25    78.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2130     0.6563
                         0.0190     0.1773    |   0.2520     0.6883
                         0.0220     0.2128    |   0.2890     0.7150
                         0.0260     0.2888    |   0.2980     0.7450
                         0.0300     0.3648    |   0.3060     0.7700
                         0.0650     0.4586    |   0.3150     0.8127
                         0.1100     0.5155    |   0.3320     0.9290
                         0.1680     0.5503    |   0.3390     0.9767
                         0.1930     0.5804    |   0.3520     1.0680
                         0.2000     0.6048    |   0.0000     0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      3.575      3.25      78.15
   OUTFLOW: ID= 1 (  0263)     16.510      0.307      5.83      78.00
```

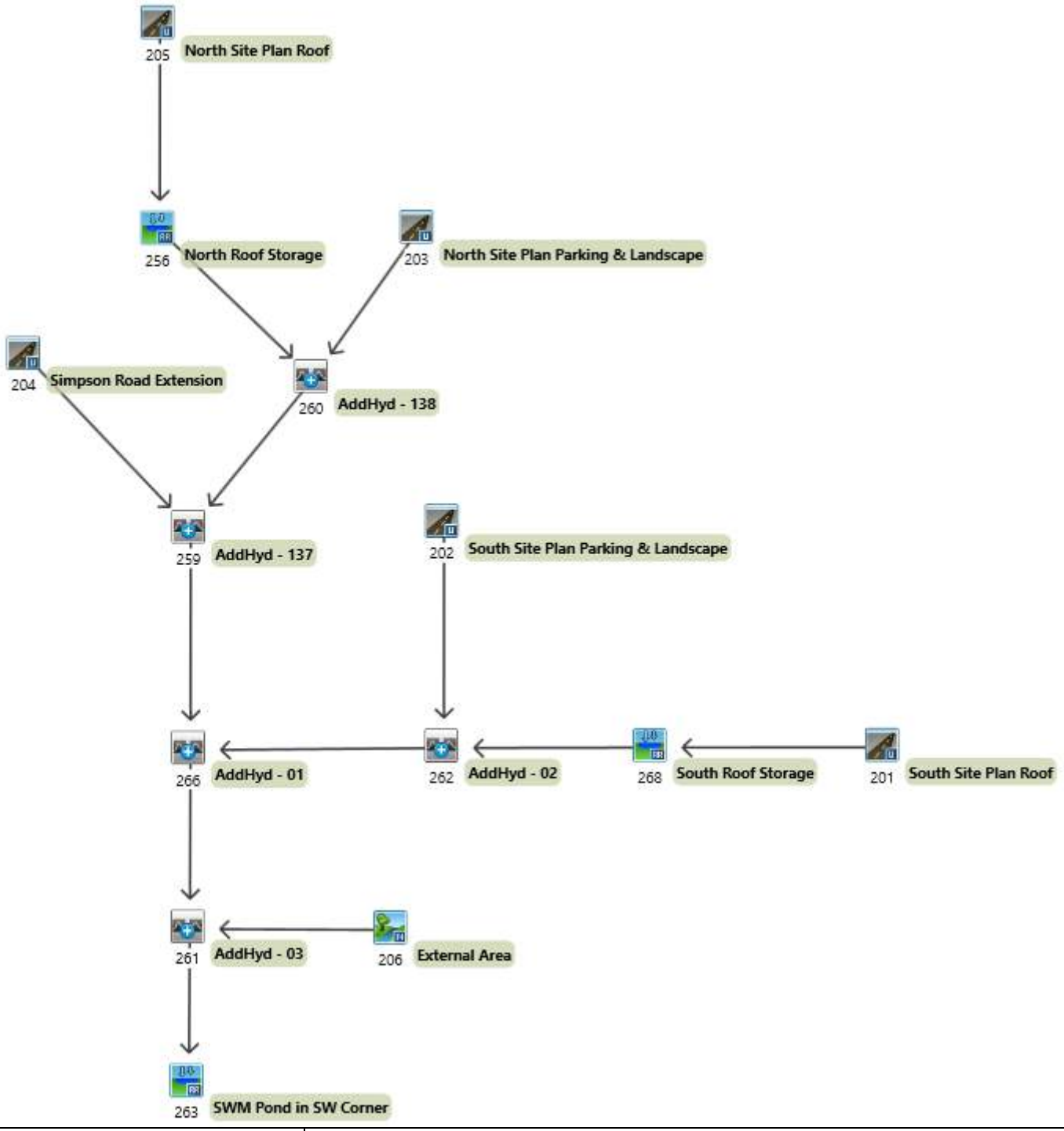
```
                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.58
                  TIME SHIFT OF PEAK FLOW         (min)=155.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7739

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.017     3.33    45.99
     + ID2= 2 (  0263):    16.51   0.307     5.83    78.00
       ================================================
       ID = 3 (  0261):    16.64   0.308     5.50    77.76

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
```



SCHAEFFERS
CONSULTING ENGINEERS

Post-development Visual OTTHYMO™ Schematic
12 Hour AES 2-100 Year

Job #: 2018-4841	**Date: July 2020**

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================================================================================
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       V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\47c1cdd8-9c04-44a5-b689-6ea6b6860b77\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\47c1cdd8-9c04-44a5-b689-6ea6b6860b77\s


DATE: 07/06/2020                          TIME: 04:35:19

USER:



COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 10 Year 12 Hour AES           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\f285344e
| Ptotal= 62.71 mm |    Comments: 10 Year 12 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63
2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

```
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

```
    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.006 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  29.323
    TOTAL RAINFALL   (mm)=  62.710
    RUNOFF COEFFICIENT   =   0.468

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63
2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

CALIB STANDHYD (0205) ID= 1 DT= 5.0 min

Area (ha)= 1.12
Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

				TOTALS
Max.Eff.Inten.(mm/hr)=		28.84	18.44	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.85 (ii)	5.70 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.25	0.15	
PEAK FLOW	(cms)=	0.09	0.00	0.090 (iii)
TIME TO PEAK	(hrs)=	5.17	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	29.35	61.38
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.47	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256) IN= 2---> OUT= 1 DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.090	5.25	61.38
OUTFLOW: ID= 1 (0256)	1.125	0.025	6.25	61.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.95
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0400

READ STORM | Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\f285344e
Ptotal= 62.71 mm | Comments: 10 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63
2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

```
--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

				TOTALS
Max.Eff.Inten.(mm/hr)=		28.84	18.15	
over (min)		5.00	20.00	
Storage Coeff. (min)=		4.64 (ii)	18.61 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.22	0.06	
PEAK FLOW	(cms)=	0.13	0.02	0.152 (iii)
TIME TO PEAK	(hrs)=	5.25	5.33	5.25
RUNOFF VOLUME	(mm)=	61.71	29.35	55.23
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.47	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |
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		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0203):		2.10	0.152	5.25	55.23
+ ID2= 2 (0256):		1.12	0.025	6.25	61.03
ID = 3 (0260):		3.22	0.176	5.25	57.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\f285344e
| Ptotal= 62.71 mm |    Comments: 10 Year 12 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63
2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		

```
                3.25    3.76 |  6.50    4.39 |  9.75    0.63 |

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| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    0.00 | 3.167    3.76 | 6.250    8.15 |  9.33    0.63
             0.167    0.00 | 3.250    3.76 | 6.333    4.39 |  9.42    0.63
             0.250    0.00 | 3.333   10.66 | 6.417    4.39 |  9.50    0.63
             0.333    0.63 | 3.417   10.66 | 6.500    4.39 |  9.58    0.63
             0.417    0.63 | 3.500   10.66 | 6.583    4.39 |  9.67    0.63
             0.500    0.63 | 3.583   10.66 | 6.667    4.39 |  9.75    0.63
             0.583    0.63 | 3.667   10.66 | 6.750    4.39 |  9.83    0.63
             0.667    0.63 | 3.750   10.66 | 6.833    4.39 |  9.92    0.63
             0.750    0.63 | 3.833   10.66 | 6.917    4.39 | 10.00    0.63
             0.833    0.63 | 3.917   10.66 | 7.000    4.39 | 10.08    0.63
             0.917    0.63 | 4.000   10.66 | 7.083    4.39 | 10.17    0.63
             1.000    0.63 | 4.083   10.66 | 7.167    4.39 | 10.25    0.63
             1.083    0.63 | 4.167   10.66 | 7.250    4.39 | 10.33    0.63
             1.167    0.63 | 4.250   10.66 | 7.333    2.51 | 10.42    0.63
             1.250    0.63 | 4.333   28.84 | 7.417    2.51 | 10.50    0.63
             1.333    0.63 | 4.417   28.84 | 7.500    2.51 | 10.58    0.63
             1.417    0.63 | 4.500   28.84 | 7.583    2.51 | 10.67    0.63
             1.500    0.63 | 4.583   28.84 | 7.667    2.51 | 10.75    0.63
             1.583    0.63 | 4.667   28.84 | 7.750    2.51 | 10.83    0.63
             1.667    0.63 | 4.750   28.84 | 7.833    2.51 | 10.92    0.63
             1.750    0.63 | 4.833   28.84 | 7.917    2.51 | 11.00    0.63
             1.833    0.63 | 4.917   28.84 | 8.000    2.51 | 11.08    0.63
             1.917    0.63 | 5.000   28.84 | 8.083    2.51 | 11.17    0.63
             2.000    0.63 | 5.083   28.84 | 8.167    2.51 | 11.25    0.63
             2.083    0.63 | 5.167   28.84 | 8.250    2.51 | 11.33    0.63
             2.167    0.63 | 5.250   28.84 | 8.333    1.25 | 11.42    0.63
             2.250    0.63 | 5.333    8.15 | 8.417    1.25 | 11.50    0.63
             2.333    3.76 | 5.417    8.15 | 8.500    1.25 | 11.58    0.63
             2.417    3.76 | 5.500    8.15 | 8.583    1.25 | 11.67    0.63
             2.500    3.76 | 5.583    8.15 | 8.667    1.25 | 11.75    0.63
             2.583    3.76 | 5.667    8.15 | 8.750    1.25 | 11.83    0.63
             2.667    3.76 | 5.750    8.15 | 8.833    1.25 | 11.92    0.63
             2.750    3.76 | 5.833    8.15 | 8.917    1.25 | 12.00    0.63
             2.833    3.76 | 5.917    8.15 | 9.000    1.25 | 12.08    0.63
             2.917    3.76 | 6.000    8.15 | 9.083    1.25 | 12.17    0.63
             3.000    3.76 | 6.083    8.15 | 9.167    1.25 | 12.25    0.63
             3.083    3.76 | 6.167    8.15 | 9.250    1.25 |

     Max.Eff.Inten.(mm/hr)=      28.84        18.15
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       4.16 (ii)   18.12 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.24         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.01          0.105 (iii)
     TIME TO PEAK    (hrs)=       5.17         5.33           5.25
     RUNOFF VOLUME    (mm)=      61.71        29.35          55.23
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.47           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0259)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.105     5.25    55.23
     + ID2= 2 (  0260):     3.22   0.176     5.25    57.26
       ================================================
       ID = 3 (  0259):     4.67   0.281     5.25    56.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\f285344e
| Ptotal= 62.71 mm |    Comments: 10 Year 12 Hour AES (Bloor, TRCA)
--------------------
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.25    0.00 |  3.50   10.66 |  6.75    4.39 | 10.00    0.63
             0.50    0.63 |  3.75   10.66 |  7.00    4.39 | 10.25    0.63
             0.75    0.63 |  4.00   10.66 |  7.25    4.39 | 10.50    0.63
             1.00    0.63 |  4.25   10.66 |  7.50    2.51 | 10.75    0.63
             1.25    0.63 |  4.50   28.84 |  7.75    2.51 | 11.00    0.63
             1.50    0.63 |  4.75   28.84 |  8.00    2.51 | 11.25    0.63
             1.75    0.63 |  5.00   28.84 |  8.25    2.51 | 11.50    0.63
             2.00    0.63 |  5.25   28.84 |  8.50    1.25 | 11.75    0.63
             2.25    0.63 |  5.50    8.15 |  8.75    1.25 | 12.00    0.63
             2.50    3.76 |  5.75    8.15 |  9.00    1.25 | 12.25    0.63
             2.75    3.76 |  6.00    8.15 |  9.25    1.25 |
             3.00    3.76 |  6.25    8.15 |  9.50    0.63 |
             3.25    3.76 |  6.50    4.39 |  9.75    0.63 |

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--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
```

Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

Max.Eff.Inten.(mm/hr)=		28.84	18.44	
over (min)		5.00	10.00	
Storage Coeff. (min)=		6.12 (ii)	7.97 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.19	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.42	0.00	0.421 (iii)
TIME TO PEAK	(hrs)=	5.25	5.25	5.25
RUNOFF VOLUME	(mm)=	61.71	29.35	61.39
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.47	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268) / IN= 2---> OUT= 1 / DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.421	5.25	61.39
OUTFLOW: ID= 1 (0268)	5.270	0.165	5.42	61.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 39.22
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1406

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\f285344e
Ptotal= 62.71 mm	Comments: 10 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	4.39	10.50	0.63
1.00	0.63	4.25	10.66	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	2.51	11.50	0.63
2.00	0.63	5.25	28.84	8.50	1.25	11.75	0.63
2.25	0.63	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25	12.25	0.63
2.75	3.76	6.00	8.15	9.25	1.25		
3.00	3.76	6.25	8.15	9.50	0.63		
3.25	3.76	6.50	4.39	9.75	0.63		

CALIB / STANDHYD (0202) / ID= 1 DT= 5.0 min	Area (ha)= 6.57	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.083	0.00	3.167	3.76	6.250	8.15	9.33	0.63
0.167	0.00	3.250	3.76	6.333	4.39	9.42	0.63
0.250	0.00	3.333	10.66	6.417	4.39	9.50	0.63
0.333	0.63	3.417	10.66	6.500	4.39	9.58	0.63
0.417	0.63	3.500	10.66	6.583	4.39	9.67	0.63
0.500	0.63	3.583	10.66	6.667	4.39	9.75	0.63
0.583	0.63	3.667	10.66	6.750	4.39	9.83	0.63
0.667	0.63	3.750	10.66	6.833	4.39	9.92	0.63
0.750	0.63	3.833	10.66	6.917	4.39	10.00	0.63
0.833	0.63	3.917	10.66	7.000	4.39	10.08	0.63
0.917	0.63	4.000	10.66	7.083	4.39	10.17	0.63
1.000	0.63	4.083	10.66	7.167	4.39	10.25	0.63
1.083	0.63	4.167	10.66	7.250	4.39	10.33	0.63
1.167	0.63	4.250	10.66	7.333	2.51	10.42	0.63
1.250	0.63	4.333	28.84	7.417	2.51	10.50	0.63
1.333	0.63	4.417	28.84	7.500	2.51	10.58	0.63
1.417	0.63	4.500	28.84	7.583	2.51	10.67	0.63
1.500	0.63	4.583	28.84	7.667	2.51	10.75	0.63
1.583	0.63	4.667	28.84	7.750	2.51	10.83	0.63
1.667	0.63	4.750	28.84	7.833	2.51	10.92	0.63
1.750	0.63	4.833	28.84	7.917	2.51	11.00	0.63
1.833	0.63	4.917	28.84	8.000	2.51	11.08	0.63
1.917	0.63	5.000	28.84	8.083	2.51	11.17	0.63
2.000	0.63	5.083	28.84	8.167	2.51	11.25	0.63
2.083	0.63	5.167	28.84	8.250	2.51	11.33	0.63
2.167	0.63	5.250	28.84	8.333	1.25	11.42	0.63
2.250	0.63	5.333	8.15	8.417	1.25	11.50	0.63
2.333	3.76	5.417	8.15	8.500	1.25	11.58	0.63
2.417	3.76	5.500	8.15	8.583	1.25	11.67	0.63
2.500	3.76	5.583	8.15	8.667	1.25	11.75	0.63
2.583	3.76	5.667	8.15	8.750	1.25	11.83	0.63
2.667	3.76	5.750	8.15	8.833	1.25	11.92	0.63
2.750	3.76	5.833	8.15	8.917	1.25	12.00	0.63
2.833	3.76	5.917	8.15	9.000	1.25	12.08	0.63
2.917	3.76	6.000	8.15	9.083	1.25	12.17	0.63
3.000	3.76	6.083	8.15	9.167	1.25	12.25	0.63
3.083	3.76	6.167	8.15	9.250	1.25		

			TOTALS
Max.Eff.Inten.(mm/hr)=	28.84	18.15	
over (min)	5.00	25.00	
Storage Coeff. (min)=	6.54 (ii)	20.51 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.18	0.05	
PEAK FLOW (cms)=	0.43	0.05	0.475 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	61.71	29.35	55.56
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.47	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	6.57	0.475	5.25	55.56
+ ID2= 2 (0268):	5.27	0.165	5.42	61.37
ID = 3 (0262):	11.84	0.636	5.25	58.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):	4.67	0.281	5.25	56.63
+ ID2= 2 (0262):	11.84	0.636	5.25	58.15
ID = 3 (0266):	16.51	0.916	5.25	57.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0263)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2130	0.6563
0.0190	0.1773	0.2520	0.6883
0.0220	0.2128	0.2890	0.7150
0.0260	0.2888	0.2980	0.7450
0.0300	0.3648	0.3060	0.7700
0.0650	0.4586	0.3150	0.8127
0.1100	0.5155	0.3320	0.9290
0.1680	0.5503	0.3390	0.9767
0.1930	0.5804	0.3520	1.0680
0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	0.916	5.25	57.72
OUTFLOW: ID= 1 (0263)	16.510	0.200	8.25	57.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.85
TIME SHIFT OF PEAK FLOW (min)=180.00
MAXIMUM STORAGE USED (ha.m.)= 0.6056

ADD HYD (0261)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0206):	0.12	0.006	5.25	29.32
+ ID2= 2 (0263):	16.51	0.200	8.25	57.57
ID = 3 (0261):	16.64	0.201	8.25	57.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L (v 5.0.2025)
V V I SS U U A A L

```
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-4bf8-aeac-18a29a864848\8a2b4d64-ec88-448e-b40e-f567ac5f7182\s
Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-4bf8-aeac-18a29a864848\8a2b4d64-ec88-448e-b40e-f567ac5f7182\s

DATE: 07/06/2020 TIME: 04:35:20

USER:

COMMENTS: _____

** SIMULATION : 100 Year 12 Hour AES **

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\f0c69930
Ptotal= 88.54 mm	Comments: 100 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

CALIB	
NASHYD (0206)	Area (ha)= 0.12 Curve Number (CN)= 82.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.25

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.010 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 50.056
TOTAL RAINFALL (mm)= 88.540
RUNOFF COEFFICIENT = 0.565

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\

		fc9a518d-4e80-47e2-ab56-8ded57ffff68\f0c69930
Ptotal= 88.54 mm	Comments: 100 Year 12 Hour AES (Bloor, TRCA)	

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

CALIB	
STANDHYD (0205)	Area (ha)= 1.12
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

			TOTALS
Max.Eff.Inten.(mm/hr)=	40.71	30.28	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.36 (ii)	4.97 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.26	0.22	
PEAK FLOW (cms)=	0.13	0.00	0.127 (iii)
TIME TO PEAK (hrs)=	5.08	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	50.10	87.16
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.57	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.127	5.25	87.16
OUTFLOW: ID= 1 (0256)	1.125	0.036	6.25	86.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.03
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0568

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\f0c69930
Ptotal= 88.54 mm	Comments: 100 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89

1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

CALIB	
STANDHYD (0203)	Area (ha)= 2.10
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

			TOTALS
Max.Eff.Inten.(mm/hr)=	40.71	29.94	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.05 (ii)	15.48 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.24	0.07	
PEAK FLOW (cms)=	0.19	0.03	0.220 (iii)
TIME TO PEAK (hrs)=	5.17	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	50.10	80.05
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.57	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0203):	2.10	0.220	5.25	80.05
	+ ID2= 2 (0256):	1.12	0.036	6.25	86.81
	ID = 3 (0260):	3.22	0.254	5.25	82.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\f0c69930
Ptotal= 88.54 mm	Comments: 100 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

```
| CALIB           |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.16         0.29
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     98.32        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

```
     Max.Eff.Inten.(mm/hr)=      40.71        29.94
               over (min)        5.00        20.00
     Storage Coeff.  (min)=     3.62 (ii)   15.06 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.25         0.07
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.13         0.02      0.153 (iii)
     TIME TO PEAK    (hrs)=      5.08         5.25       5.25
     RUNOFF VOLUME    (mm)=     87.54        50.10      80.05
     TOTAL RAINFALL   (mm)=     88.54        88.54      88.54
     RUNOFF COEFFICIENT   =      0.99         0.57       0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.153     5.25    80.05
     + ID2= 2 (  0260):     3.22   0.254     5.25    82.41
       ==========================================================
       ID = 3 (  0259):     4.67   0.407     5.25    81.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\f0c69930
| Ptotal= 88.54 mm |    Comments: 100 Year 12 Hour AES (Bloor, TRCA)
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

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| CALIB           |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      5.22         0.05
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    187.44        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89
0.500	0.89	3.583	15.05	6.667	6.20	9.75	0.89
0.583	0.89	3.667	15.05	6.750	6.20	9.83	0.89
0.667	0.89	3.750	15.05	6.833	6.20	9.92	0.89
0.750	0.89	3.833	15.05	6.917	6.20	10.00	0.89
0.833	0.89	3.917	15.05	7.000	6.20	10.08	0.89
0.917	0.89	4.000	15.05	7.083	6.20	10.17	0.89
1.000	0.89	4.083	15.05	7.167	6.20	10.25	0.89
1.083	0.89	4.167	15.05	7.250	6.20	10.33	0.89
1.167	0.89	4.250	15.05	7.333	3.54	10.42	0.89
1.250	0.89	4.333	40.71	7.417	3.54	10.50	0.89
1.333	0.89	4.417	40.71	7.500	3.54	10.58	0.89
1.417	0.89	4.500	40.71	7.583	3.54	10.67	0.89
1.500	0.89	4.583	40.71	7.667	3.54	10.75	0.89
1.583	0.89	4.667	40.71	7.750	3.54	10.83	0.89
1.667	0.89	4.750	40.71	7.833	3.54	10.92	0.89
1.750	0.89	4.833	40.71	7.917	3.54	11.00	0.89
1.833	0.89	4.917	40.71	8.000	3.54	11.08	0.89
1.917	0.89	5.000	40.71	8.083	3.54	11.17	0.89
2.000	0.89	5.083	40.71	8.167	3.54	11.25	0.89
2.083	0.89	5.167	40.71	8.250	3.54	11.33	0.89
2.167	0.89	5.250	40.71	8.333	1.77	11.42	0.89
2.250	0.89	5.333	11.51	8.417	1.77	11.50	0.89
2.333	5.31	5.417	11.51	8.500	1.77	11.58	0.89
2.417	5.31	5.500	11.51	8.583	1.77	11.67	0.89
2.500	5.31	5.583	11.51	8.667	1.77	11.75	0.89
2.583	5.31	5.667	11.51	8.750	1.77	11.83	0.89
2.667	5.31	5.750	11.51	8.833	1.77	11.92	0.89
2.750	5.31	5.833	11.51	8.917	1.77	12.00	0.89
2.833	5.31	5.917	11.51	9.000	1.77	12.08	0.89
2.917	5.31	6.000	11.51	9.083	1.77	12.17	0.89
3.000	5.31	6.083	11.51	9.167	1.77	12.25	0.89
3.083	5.31	6.167	11.51	9.250	1.77		

			TOTALS
Max.Eff.Inten.(mm/hr)=	40.71	30.28	
over (min)	5.00	10.00	
Storage Coeff. (min)=	5.34 (ii)	6.94 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.21	0.14	
PEAK FLOW (cms)=	0.59	0.00	0.594 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	50.10	87.17
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.57	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)		IN= 2---> OUT= 1					
	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)		
		0.0000	0.0000	0.1959	0.1883		
		0.0980	0.0369	0.2939	0.4335		

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.594	5.25	87.17
OUTFLOW: ID= 1 (0268)	5.270	0.206	5.50	87.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.70
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.2142

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\f0c69930
Ptotal= 88.54 mm	Comments: 100 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	6.20	10.50	0.89
1.00	0.89	4.25	15.05	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	3.54	11.50	0.89
2.00	0.89	5.25	40.71	8.50	1.77	11.75	0.89
2.25	0.89	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77	12.25	0.89
2.75	5.31	6.00	11.51	9.25	1.77		
3.00	5.31	6.25	11.51	9.50	0.89		
3.25	5.31	6.50	6.20	9.75	0.89		

CALIB				
STANDHYD (0202)	Area (ha)= 6.57			
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00		

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	5.31	6.250	11.51	9.33	0.89
0.167	0.00	3.250	5.31	6.333	6.20	9.42	0.89
0.250	0.00	3.333	15.05	6.417	6.20	9.50	0.89
0.333	0.89	3.417	15.05	6.500	6.20	9.58	0.89
0.417	0.89	3.500	15.05	6.583	6.20	9.67	0.89

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              0.500    0.89 | 3.583   15.05 | 6.667    6.20 |  9.75    0.89
              0.583    0.89 | 3.667   15.05 | 6.750    6.20 |  9.83    0.89
              0.667    0.89 | 3.750   15.05 | 6.833    6.20 |  9.92    0.89
              0.750    0.89 | 3.833   15.05 | 6.917    6.20 | 10.00    0.89
              0.833    0.89 | 3.917   15.05 | 7.000    6.20 | 10.08    0.89
              0.917    0.89 | 4.000   15.05 | 7.083    6.20 | 10.17    0.89
              1.000    0.89 | 4.083   15.05 | 7.167    6.20 | 10.25    0.89
              1.083    0.89 | 4.167   15.05 | 7.250    6.20 | 10.33    0.89
              1.167    0.89 | 4.250   15.05 | 7.333    3.54 | 10.42    0.89
              1.250    0.89 | 4.333   40.71 | 7.417    3.54 | 10.50    0.89
              1.333    0.89 | 4.417   40.71 | 7.500    3.54 | 10.58    0.89
              1.417    0.89 | 4.500   40.71 | 7.583    3.54 | 10.67    0.89
              1.500    0.89 | 4.583   40.71 | 7.667    3.54 | 10.75    0.89
              1.583    0.89 | 4.667   40.71 | 7.750    3.54 | 10.83    0.89
              1.667    0.89 | 4.750   40.71 | 7.833    3.54 | 10.92    0.89
              1.750    0.89 | 4.833   40.71 | 7.917    3.54 | 11.00    0.89
              1.833    0.89 | 4.917   40.71 | 8.000    3.54 | 11.08    0.89
              1.917    0.89 | 5.000   40.71 | 8.083    3.54 | 11.17    0.89
              2.000    0.89 | 5.083   40.71 | 8.167    3.54 | 11.25    0.89
              2.083    0.89 | 5.167   40.71 | 8.250    3.54 | 11.33    0.89
              2.167    0.89 | 5.250   40.71 | 8.333    1.77 | 11.42    0.89
              2.250    0.89 | 5.333   11.51 | 8.417    1.77 | 11.50    0.89
              2.333    5.31 | 5.417   11.51 | 8.500    1.77 | 11.58    0.89
              2.417    5.31 | 5.500   11.51 | 8.583    1.77 | 11.67    0.89
              2.500    5.31 | 5.583   11.51 | 8.667    1.77 | 11.75    0.89
              2.583    5.31 | 5.667   11.51 | 8.750    1.77 | 11.83    0.89
              2.667    5.31 | 5.750   11.51 | 8.833    1.77 | 11.92    0.89
              2.750    5.31 | 5.833   11.51 | 8.917    1.77 | 12.00    0.89
              2.833    5.31 | 5.917   11.51 | 9.000    1.77 | 12.08    0.89
              2.917    5.31 | 6.000   11.51 | 9.083    1.77 | 12.17    0.89
              3.000    5.31 | 6.083   11.51 | 9.167    1.77 | 12.25    0.89
              3.083    5.31 | 6.167   11.51 | 9.250    1.77 |

    Max.Eff.Inten.(mm/hr)=      40.71        29.94
              over (min)         5.00        20.00
    Storage Coeff.  (min)=       5.70 (ii)   17.13 (ii)
    Unit Hyd. Tpeak (min)=       5.00        20.00
    Unit Hyd. peak  (cms)=       0.20         0.06
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.60         0.09          0.692 (iii)
    TIME TO PEAK    (hrs)=       5.25         5.33           5.25
    RUNOFF VOLUME    (mm)=      87.54        50.10          80.43
    TOTAL RAINFALL   (mm)=      88.54        88.54          88.54
    RUNOFF COEFFICIENT   =       0.99         0.57           0.91

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   0.692     5.25    80.43
     + ID2= 2 (  0268):     5.27   0.206     5.50    87.15
       ====================================================
       ID = 3 (  0262):    11.84   0.894     5.25    83.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.407     5.25    81.68
     + ID2= 2 (  0262):    11.84   0.894     5.25    83.42
       ====================================================
       ID = 3 (  0266):    16.51   1.301     5.25    82.93

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2130     0.6563
                         0.0190     0.1773   |   0.2520     0.6883
                         0.0220     0.2128   |   0.2890     0.7150
                         0.0260     0.2888   |   0.2980     0.7450
                         0.0300     0.3648   |   0.3060     0.7700
                         0.0650     0.4586   |   0.3150     0.8127
                         0.1100     0.5155   |   0.3320     0.9290
                         0.1680     0.5503   |   0.3390     0.9767
                         0.1930     0.5804   |   0.3520     1.0680
                         0.2000     0.6048   |   0.0000     0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      1.301      5.25      82.93
   OUTFLOW: ID= 1 (  0263)     16.510      0.308      7.58      82.78

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.70
                TIME SHIFT OF PEAK FLOW         (min)=140.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.7812

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-------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.010     5.25    50.06
     + ID2= 2 (  0263):    16.51   0.308     7.58    82.78
       ====================================================
       ID = 3 (  0261):    16.64   0.310     7.42    82.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
```

```
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
```

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-4bf8-aeac-18a29a864848\aebde6ec-2b9b-4a5c-b60c-f7f2472b05a5\s
Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-4bf8-aeac-18a29a864848\aebde6ec-2b9b-4a5c-b60c-f7f2472b05a5\s

DATE: 07/06/2020 TIME: 04:35:19

USER:

COMMENTS: _____

** SIMULATION : 2 Year 12 Hour AES **

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\21ac65b6
Ptotal= 42.00 mm	Comments: 2 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	2.94	10.50	0.42
1.00	0.42	4.25	7.14	7.50	1.68	10.75	0.42
1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

CALIB	
NASHYD (0206)	Area (ha)= 0.12 Curve Number (CN)= 82.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.25

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.003 (i)
TIME TO PEAK (hrs)= 5.250
RUNOFF VOLUME (mm)= 14.742
TOTAL RAINFALL (mm)= 42.000
RUNOFF COEFFICIENT = 0.351

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\

	fc9a518d-4e80-47e2-ab56-8ded57ffff68\21ac65b6
Ptotal= 42.00 mm	Comments: 2 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	2.94	10.50	0.42
1.00	0.42	4.25	7.14	7.50	1.68	10.75	0.42
1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

CALIB
STANDHYD (0205)
ID= 1 DT= 5.0 min

Area (ha)= 1.12
Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

			TOTALS
Max.Eff.Inten.(mm/hr)=	19.32	9.68	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.52 (ii)	6.69 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.23	0.14	
PEAK FLOW (cms)=	0.06	0.00	0.060 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	14.76	40.74
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.35	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.060	5.25	40.74
OUTFLOW: ID= 1 (0256)	1.125	0.017	6.25	40.38

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.79
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0266

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\21ac65b6
Ptotal= 42.00 mm	Comments: 2 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	2.94	10.50	0.42
1.00	0.42	4.25	7.14	7.50	1.68	10.75	0.42

1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

CALIB
STANDHYD (0203)
ID= 1 DT= 5.0 min

Area (ha)= 2.10
Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

			TOTALS
Max.Eff.Inten.(mm/hr)=	19.32	9.27	
over (min)	5.00	25.00	
Storage Coeff. (min)=	5.45 (ii)	23.73 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.20	0.05	
PEAK FLOW (cms)=	0.09	0.01	0.098 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	41.00	14.76	35.74
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.35	0.85

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0203):	2.10	0.098	5.25	35.74
	+ ID2= 2 (0256):	1.12	0.017	6.25	40.38
	ID = 3 (0260):	3.22	0.113	5.25	37.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\21ac65b6
Ptotal= 42.00 mm	Comments: 2 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	2.94	10.50	0.42
1.00	0.42	4.25	7.14	7.50	1.68	10.75	0.42
1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

CALIB

```
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

```
     Max.Eff.Inten.(mm/hr)=      19.32         9.27
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      4.88 (ii)   23.16 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.22         0.05
                                                  *TOTALS*
     PEAK FLOW       (cms)=      0.06         0.01          0.068 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.42           5.25
     RUNOFF VOLUME    (mm)=     41.00        14.76          35.74
     TOTAL RAINFALL   (mm)=     42.00        42.00          42.00

          RUNOFF COEFFICIENT   =       0.98         0.35          0.85

     ***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

           (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
                CN*  =  82.0    Ia = Dep. Storage  (Above)
          (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
               THAN THE STORAGE COEFFICIENT.
         (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

     ------------------------------------------------------------------------------

     --------------------
     | ADD HYD  (  0259)|
     |   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
     -------------------          (ha)    (cms)    (hrs)     (mm)
            ID1= 1 (  0204):      1.45   0.068     5.25    35.74
          + ID2= 2 (  0260):      3.22   0.113     5.25    37.36
            ================================================
            ID = 3 (  0259):      4.67   0.181     5.25    36.86

         NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     ------------------------------------------------------------------------------

     --------------------
     |    READ STORM    |    Filename: C:\Users\mventresca\AppD
     |                  |              ata\Local\Temp\
     |                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\21ac65b6
     | Ptotal= 42.00 mm |    Comments: 2 Year 12 Hour AES (Bloor, TRCA)
     --------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	2.94	10.50	0.42
1.00	0.42	4.25	7.14	7.50	1.68	10.75	0.42
1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

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     ------------------------------------------------------------------------------

     --------------------
     | CALIB            |
     | STANDHYD (  0201)|   Area    (ha)=   5.27
     |ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
     --------------------
                               IMPERVIOUS    PERVIOUS (i)
          Surface Area     (ha)=       5.22         0.05
          Dep. Storage     (mm)=       1.00         5.00
          Average Slope     (%)=       1.00         2.00
          Length            (m)=     187.44        40.00
          Mannings n             =     0.013        0.250

              NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42
0.583	0.42	3.667	7.14	6.750	2.94	9.83	0.42
0.667	0.42	3.750	7.14	6.833	2.94	9.92	0.42
0.750	0.42	3.833	7.14	6.917	2.94	10.00	0.42
0.833	0.42	3.917	7.14	7.000	2.94	10.08	0.42
0.917	0.42	4.000	7.14	7.083	2.94	10.17	0.42
1.000	0.42	4.083	7.14	7.167	2.94	10.25	0.42
1.083	0.42	4.167	7.14	7.250	2.94	10.33	0.42
1.167	0.42	4.250	7.14	7.333	1.68	10.42	0.42
1.250	0.42	4.333	19.32	7.417	1.68	10.50	0.42
1.333	0.42	4.417	19.32	7.500	1.68	10.58	0.42
1.417	0.42	4.500	19.32	7.583	1.68	10.67	0.42
1.500	0.42	4.583	19.32	7.667	1.68	10.75	0.42
1.583	0.42	4.667	19.32	7.750	1.68	10.83	0.42
1.667	0.42	4.750	19.32	7.833	1.68	10.92	0.42
1.750	0.42	4.833	19.32	7.917	1.68	11.00	0.42
1.833	0.42	4.917	19.32	8.000	1.68	11.08	0.42
1.917	0.42	5.000	19.32	8.083	1.68	11.17	0.42
2.000	0.42	5.083	19.32	8.167	1.68	11.25	0.42
2.083	0.42	5.167	19.32	8.250	1.68	11.33	0.42
2.167	0.42	5.250	19.32	8.333	0.84	11.42	0.42
2.250	0.42	5.333	5.46	8.417	0.84	11.50	0.42
2.333	2.52	5.417	5.46	8.500	0.84	11.58	0.42
2.417	2.52	5.500	5.46	8.583	0.84	11.67	0.42
2.500	2.52	5.583	5.46	8.667	0.84	11.75	0.42
2.583	2.52	5.667	5.46	8.750	0.84	11.83	0.42
2.667	2.52	5.750	5.46	8.833	0.84	11.92	0.42
2.750	2.52	5.833	5.46	8.917	0.84	12.00	0.42
2.833	2.52	5.917	5.46	9.000	0.84	12.08	0.42
2.917	2.52	6.000	5.46	9.083	0.84	12.17	0.42
3.000	2.52	6.083	5.46	9.167	0.84	12.25	0.42
3.083	2.52	6.167	5.46	9.250	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	9.68	
over (min)	5.00	10.00	
Storage Coeff. (min)=	7.19 (ii)	9.36 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.17	0.12	
			TOTALS
PEAK FLOW (cms)=	0.28	0.00	0.281 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	14.76	40.74
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.35	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(0268)|
| IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.281	5.25	40.74
OUTFLOW: ID= 1 (0268)	5.270	0.129	5.42	40.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 45.90
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0850

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\21ac65b6
Ptotal= 42.00 mm	Comments: 2 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	2.94	10.50	0.42
1.00	0.42	4.25	7.14	7.50	1.68	10.75	0.42
1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	1.68	11.50	0.42
2.00	0.42	5.25	19.32	8.50	0.84	11.75	0.42
2.25	0.42	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84	12.25	0.42
2.75	2.52	6.00	5.46	9.25	0.84		
3.00	2.52	6.25	5.46	9.50	0.42		
3.25	2.52	6.50	2.94	9.75	0.42		

CALIB
STANDHYD (0202)
ID= 1 DT= 5.0 min

Area (ha)= 6.57
Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	5.32	1.25
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	209.28	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.52	6.250	5.46	9.33	0.42
0.167	0.00	3.250	2.52	6.333	2.94	9.42	0.42
0.250	0.00	3.333	7.14	6.417	2.94	9.50	0.42
0.333	0.42	3.417	7.14	6.500	2.94	9.58	0.42
0.417	0.42	3.500	7.14	6.583	2.94	9.67	0.42
0.500	0.42	3.583	7.14	6.667	2.94	9.75	0.42

```
               0.583    0.42 | 3.667    7.14 | 6.750    2.94 |  9.83    0.42
               0.667    0.42 | 3.750    7.14 | 6.833    2.94 |  9.92    0.42
               0.750    0.42 | 3.833    7.14 | 6.917    2.94 | 10.00    0.42
               0.833    0.42 | 3.917    7.14 | 7.000    2.94 | 10.08    0.42
               0.917    0.42 | 4.000    7.14 | 7.083    2.94 | 10.17    0.42
               1.000    0.42 | 4.083    7.14 | 7.167    2.94 | 10.25    0.42
               1.083    0.42 | 4.167    7.14 | 7.250    2.94 | 10.33    0.42
               1.167    0.42 | 4.250    7.14 | 7.333    1.68 | 10.42    0.42
               1.250    0.42 | 4.333   19.32 | 7.417    1.68 | 10.50    0.42
               1.333    0.42 | 4.417   19.32 | 7.500    1.68 | 10.58    0.42
               1.417    0.42 | 4.500   19.32 | 7.583    1.68 | 10.67    0.42
               1.500    0.42 | 4.583   19.32 | 7.667    1.68 | 10.75    0.42
               1.583    0.42 | 4.667   19.32 | 7.750    1.68 | 10.83    0.42
               1.667    0.42 | 4.750   19.32 | 7.833    1.68 | 10.92    0.42
               1.750    0.42 | 4.833   19.32 | 7.917    1.68 | 11.00    0.42
               1.833    0.42 | 4.917   19.32 | 8.000    1.68 | 11.08    0.42
               1.917    0.42 | 5.000   19.32 | 8.083    1.68 | 11.17    0.42
               2.000    0.42 | 5.083   19.32 | 8.167    1.68 | 11.25    0.42
               2.083    0.42 | 5.167   19.32 | 8.250    1.68 | 11.33    0.42
               2.167    0.42 | 5.250   19.32 | 8.333    0.84 | 11.42    0.42
               2.250    0.42 | 5.333    5.46 | 8.417    0.84 | 11.50    0.42
               2.333    2.52 | 5.417    5.46 | 8.500    0.84 | 11.58    0.42
               2.417    2.52 | 5.500    5.46 | 8.583    0.84 | 11.67    0.42
               2.500    2.52 | 5.583    5.46 | 8.667    0.84 | 11.75    0.42
               2.583    2.52 | 5.667    5.46 | 8.750    0.84 | 11.83    0.42
               2.667    2.52 | 5.750    5.46 | 8.833    0.84 | 11.92    0.42
               2.750    2.52 | 5.833    5.46 | 8.917    0.84 | 12.00    0.42
               2.833    2.52 | 5.917    5.46 | 9.000    0.84 | 12.08    0.42
               2.917    2.52 | 6.000    5.46 | 9.083    0.84 | 12.17    0.42
               3.000    2.52 | 6.083    5.46 | 9.167    0.84 | 12.25    0.42
               3.083    2.52 | 6.167    5.46 | 9.250    0.84 |

     Max.Eff.Inten.(mm/hr)=      19.32         9.27
               over (min)        10.00        30.00
     Storage Coeff.  (min)=       7.68 (ii)   25.96 (ii)
     Unit Hyd. Tpeak (min)=      10.00        30.00
     Unit Hyd. peak  (cms)=       0.13         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.29         0.02          0.306 (iii)
     TIME TO PEAK    (hrs)=       5.25         5.50           5.25
     RUNOFF VOLUME    (mm)=      41.00        14.76          36.01
     TOTAL RAINFALL   (mm)=      42.00        42.00          42.00
     RUNOFF COEFFICIENT   =       0.98         0.35           0.86


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
        (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   0.306     5.25    36.01
     + ID2= 2 (  0268):     5.27   0.129     5.42    40.72
       ================================================
       ID = 3 (  0262):    11.84   0.433     5.25    38.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.181     5.25    36.86
     + ID2= 2 (  0262):    11.84   0.433     5.25    38.11
       ================================================
       ID = 3 (  0266):    16.51   0.614     5.25    37.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2130      0.6563
                         0.0190     0.1773    |   0.2520      0.6883
                         0.0220     0.2128    |   0.2890      0.7150
                         0.0260     0.2888    |   0.2980      0.7450
                         0.0300     0.3648    |   0.3060      0.7700
                         0.0650     0.4586    |   0.3150      0.8127
                         0.1100     0.5155    |   0.3320      0.9290
                         0.1680     0.5503    |   0.3390      0.9767
                         0.1930     0.5804    |   0.3520      1.0680
                         0.2000     0.6048    |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (  0266)     16.510      0.614      5.25      37.75
     OUTFLOW: ID= 1 (  0263)     16.510      0.082      8.83      37.61

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.39
                   TIME SHIFT OF PEAK FLOW         (min)=215.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.4804

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.003     5.25    14.74
     + ID2= 2 (  0263):    16.51   0.082     8.83    37.61
       ================================================
       ID = 3 (  0261):    16.64   0.082     8.83    37.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
```

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       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\23e1e48a-3d74-4ac3-9aa3-794302a65b1a\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\23e1e48a-3d74-4ac3-9aa3-794302a65b1a\s


DATE: 07/06/2020                          TIME: 04:35:19

USER:



COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 25 Year 12 Hour AES           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\553ce99a
| Ptotal= 73.10 mm |    Comments: 25 Year 12 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50   12.43 |  6.75    5.12 | 10.00    0.73
                0.50    0.73 |  3.75   12.43 |  7.00    5.12 | 10.25    0.73
                0.75    0.73 |  4.00   12.43 |  7.25    5.12 | 10.50    0.73
                1.00    0.73 |  4.25   12.43 |  7.50    2.92 | 10.75    0.73
                1.25    0.73 |  4.50   33.63 |  7.75    2.92 | 11.00    0.73
                1.50    0.73 |  4.75   33.63 |  8.00    2.92 | 11.25    0.73
                1.75    0.73 |  5.00   33.63 |  8.25    2.92 | 11.50    0.73
                2.00    0.73 |  5.25   33.63 |  8.50    1.46 | 11.75    0.73
                2.25    0.73 |  5.50    9.50 |  8.75    1.46 | 12.00    0.73
                2.50    4.39 |  5.75    9.50 |  9.00    1.46 | 12.25    0.73
                2.75    4.39 |  6.00    9.50 |  9.25    1.46 |
                3.00    4.39 |  6.25    9.50 |  9.50    0.73 |
                3.25    4.39 |  6.50    5.12 |  9.75    0.73 |

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                    ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 3.167    4.39 | 6.250    9.50 |  9.33    0.73
0.167    0.00 | 3.250    4.39 | 6.333    5.12 |  9.42    0.73
0.250    0.00 | 3.333   12.43 | 6.417    5.12 |  9.50    0.73
0.333    0.73 | 3.417   12.43 | 6.500    5.12 |  9.58    0.73
0.417    0.73 | 3.500   12.43 | 6.583    5.12 |  9.67    0.73
0.500    0.73 | 3.583   12.43 | 6.667    5.12 |  9.75    0.73
0.583    0.73 | 3.667   12.43 | 6.750    5.12 |  9.83    0.73
0.667    0.73 | 3.750   12.43 | 6.833    5.12 |  9.92    0.73
0.750    0.73 | 3.833   12.43 | 6.917    5.12 | 10.00    0.73
0.833    0.73 | 3.917   12.43 | 7.000    5.12 | 10.08    0.73
0.917    0.73 | 4.000   12.43 | 7.083    5.12 | 10.17    0.73
1.000    0.73 | 4.083   12.43 | 7.167    5.12 | 10.25    0.73
1.083    0.73 | 4.167   12.43 | 7.250    5.12 | 10.33    0.73
1.167    0.73 | 4.250   12.43 | 7.333    2.92 | 10.42    0.73
1.250    0.73 | 4.333   33.63 | 7.417    2.92 | 10.50    0.73
1.333    0.73 | 4.417   33.63 | 7.500    2.92 | 10.58    0.73
1.417    0.73 | 4.500   33.63 | 7.583    2.92 | 10.67    0.73
1.500    0.73 | 4.583   33.63 | 7.667    2.92 | 10.75    0.73
1.583    0.73 | 4.667   33.63 | 7.750    2.92 | 10.83    0.73
1.667    0.73 | 4.750   33.63 | 7.833    2.92 | 10.92    0.73
1.750    0.73 | 4.833   33.63 | 7.917    2.92 | 11.00    0.73
1.833    0.73 | 4.917   33.63 | 8.000    2.92 | 11.08    0.73
1.917    0.73 | 5.000   33.63 | 8.083    2.92 | 11.17    0.73
2.000    0.73 | 5.083   33.63 | 8.167    2.92 | 11.25    0.73
2.083    0.73 | 5.167   33.63 | 8.250    2.92 | 11.33    0.73
2.167    0.73 | 5.250   33.63 | 8.333    1.46 | 11.42    0.73
2.250    0.73 | 5.333    9.50 | 8.417    1.46 | 11.50    0.73
2.333    4.39 | 5.417    9.50 | 8.500    1.46 | 11.58    0.73
2.417    4.39 | 5.500    9.50 | 8.583    1.46 | 11.67    0.73
2.500    4.39 | 5.583    9.50 | 8.667    1.46 | 11.75    0.73
2.583    4.39 | 5.667    9.50 | 8.750    1.46 | 11.83    0.73
2.667    4.39 | 5.750    9.50 | 8.833    1.46 | 11.92    0.73
2.750    4.39 | 5.833    9.50 | 8.917    1.46 | 12.00    0.73
2.833    4.39 | 5.917    9.50 | 9.000    1.46 | 12.08    0.73
2.917    4.39 | 6.000    9.50 | 9.083    1.46 | 12.17    0.73
3.000    4.39 | 6.083    9.50 | 9.167    1.46 | 12.25    0.73
3.083    4.39 | 6.167    9.50 | 9.250    1.46 |

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.007 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  37.407
    TOTAL RAINFALL   (mm)=  73.100
    RUNOFF COEFFICIENT   =   0.512

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\553ce99a
| Ptotal= 73.10 mm |    Comments: 25 Year 12 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50   12.43 |  6.75    5.12 | 10.00    0.73
```

0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB	
STANDHYD (0205)	Area (ha)= 1.12
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

			TOTALS
Max.Eff.Inten.(mm/hr)=	33.63	23.14	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.62 (ii)	5.36 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.25	0.16	
PEAK FLOW (cms)=	0.10	0.00	0.105 (iii)
TIME TO PEAK (hrs)=	5.08	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	37.44	71.75
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.51	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.105	5.25	71.75
OUTFLOW: ID= 1 (0256)	1.125	0.029	6.25	71.39

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.98
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0468

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\553ce99a
Ptotal= 73.10 mm	Comments: 25 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73

2.75	4.39	6.00	9.50	9.25	1.46
3.00	4.39	6.25	9.50	9.50	0.73
3.25	4.39	6.50	5.12	9.75	0.73

CALIB			
STANDHYD (0203)	Area (ha)=	2.10	
ID= 1 DT= 5.0 min	Total Imp(%)=	80.00	Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	22.83	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.37 (ii)	17.11 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.23	0.06	
			TOTALS
PEAK FLOW (cms)=	0.16	0.02	0.179 (iii)
TIME TO PEAK (hrs)=	5.17	5.33	5.25
RUNOFF VOLUME (mm)=	72.10	37.44	65.16
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.51	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0203):	2.10	0.179	5.25	65.16
	+ ID2= 2 (0256):	1.12	0.029	6.25	71.39
	ID = 3 (0260):	3.22	0.207	5.25	67.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\553ce99a
Ptotal= 73.10 mm	Comments: 25 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB			
STANDHYD (0204)	Area (ha)=	1.45	
ID= 1 DT= 5.0 min	Total Imp(%)=	80.00	Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29

Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

Max.Eff.Inten.(mm/hr)=		33.63	22.83	
over (min)		5.00	20.00	
Storage Coeff. (min)=		3.91 (ii)	16.65 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.25	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.11	0.02	0.124 (iii)
TIME TO PEAK	(hrs)=	5.17	5.33	5.25
RUNOFF VOLUME	(mm)=	72.10	37.44	65.16
TOTAL RAINFALL	(mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT	=	0.99	0.51	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.45	0.124	5.25	65.16
	+ ID2= 2 (0260):	3.22	0.207	5.25	67.34
	ID = 3 (0259):	4.67	0.331	5.25	66.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\553ce99a
Ptotal= 73.10 mm	Comments: 25 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB			
STANDHYD (0201)	Area (ha)= 5.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73

0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73
1.000	0.73	4.083	12.43	7.167	5.12	10.25	0.73
1.083	0.73	4.167	12.43	7.250	5.12	10.33	0.73
1.167	0.73	4.250	12.43	7.333	2.92	10.42	0.73
1.250	0.73	4.333	33.63	7.417	2.92	10.50	0.73
1.333	0.73	4.417	33.63	7.500	2.92	10.58	0.73
1.417	0.73	4.500	33.63	7.583	2.92	10.67	0.73
1.500	0.73	4.583	33.63	7.667	2.92	10.75	0.73
1.583	0.73	4.667	33.63	7.750	2.92	10.83	0.73
1.667	0.73	4.750	33.63	7.833	2.92	10.92	0.73
1.750	0.73	4.833	33.63	7.917	2.92	11.00	0.73
1.833	0.73	4.917	33.63	8.000	2.92	11.08	0.73
1.917	0.73	5.000	33.63	8.083	2.92	11.17	0.73
2.000	0.73	5.083	33.63	8.167	2.92	11.25	0.73
2.083	0.73	5.167	33.63	8.250	2.92	11.33	0.73
2.167	0.73	5.250	33.63	8.333	1.46	11.42	0.73
2.250	0.73	5.333	9.50	8.417	1.46	11.50	0.73
2.333	4.39	5.417	9.50	8.500	1.46	11.58	0.73
2.417	4.39	5.500	9.50	8.583	1.46	11.67	0.73
2.500	4.39	5.583	9.50	8.667	1.46	11.75	0.73
2.583	4.39	5.667	9.50	8.750	1.46	11.83	0.73
2.667	4.39	5.750	9.50	8.833	1.46	11.92	0.73
2.750	4.39	5.833	9.50	8.917	1.46	12.00	0.73
2.833	4.39	5.917	9.50	9.000	1.46	12.08	0.73
2.917	4.39	6.000	9.50	9.083	1.46	12.17	0.73
3.000	4.39	6.083	9.50	9.167	1.46	12.25	0.73
3.083	4.39	6.167	9.50	9.250	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	23.14	
over (min)	5.00	10.00	
Storage Coeff. (min)=	5.76 (ii)	7.50 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.20	0.13	
			TOTALS
PEAK FLOW (cms)=	0.49	0.00	0.491 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	37.44	71.75
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.51	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.491	5.25	71.75
OUTFLOW: ID= 1 (0268)	5.270	0.184	5.42	71.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 37.45
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1697

READ STORM Ptotal= 73.10 mm	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\553ce99a Comments: 25 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	12.43	6.75	5.12	10.00	0.73
0.50	0.73	3.75	12.43	7.00	5.12	10.25	0.73
0.75	0.73	4.00	12.43	7.25	5.12	10.50	0.73
1.00	0.73	4.25	12.43	7.50	2.92	10.75	0.73
1.25	0.73	4.50	33.63	7.75	2.92	11.00	0.73
1.50	0.73	4.75	33.63	8.00	2.92	11.25	0.73
1.75	0.73	5.00	33.63	8.25	2.92	11.50	0.73
2.00	0.73	5.25	33.63	8.50	1.46	11.75	0.73
2.25	0.73	5.50	9.50	8.75	1.46	12.00	0.73
2.50	4.39	5.75	9.50	9.00	1.46	12.25	0.73
2.75	4.39	6.00	9.50	9.25	1.46		
3.00	4.39	6.25	9.50	9.50	0.73		
3.25	4.39	6.50	5.12	9.75	0.73		

CALIB STANDHYD (0202) ID= 1 DT= 5.0 min	Area (ha)= 6.57 Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.39	6.250	9.50	9.33	0.73
0.167	0.00	3.250	4.39	6.333	5.12	9.42	0.73
0.250	0.00	3.333	12.43	6.417	5.12	9.50	0.73
0.333	0.73	3.417	12.43	6.500	5.12	9.58	0.73
0.417	0.73	3.500	12.43	6.583	5.12	9.67	0.73
0.500	0.73	3.583	12.43	6.667	5.12	9.75	0.73
0.583	0.73	3.667	12.43	6.750	5.12	9.83	0.73
0.667	0.73	3.750	12.43	6.833	5.12	9.92	0.73
0.750	0.73	3.833	12.43	6.917	5.12	10.00	0.73
0.833	0.73	3.917	12.43	7.000	5.12	10.08	0.73
0.917	0.73	4.000	12.43	7.083	5.12	10.17	0.73

```
                1.000    0.73 | 4.083   12.43 | 7.167    5.12 | 10.25    0.73
                1.083    0.73 | 4.167   12.43 | 7.250    5.12 | 10.33    0.73
                1.167    0.73 | 4.250   12.43 | 7.333    2.92 | 10.42    0.73
                1.250    0.73 | 4.333   33.63 | 7.417    2.92 | 10.50    0.73
                1.333    0.73 | 4.417   33.63 | 7.500    2.92 | 10.58    0.73
                1.417    0.73 | 4.500   33.63 | 7.583    2.92 | 10.67    0.73
                1.500    0.73 | 4.583   33.63 | 7.667    2.92 | 10.75    0.73
                1.583    0.73 | 4.667   33.63 | 7.750    2.92 | 10.83    0.73
                1.667    0.73 | 4.750   33.63 | 7.833    2.92 | 10.92    0.73
                1.750    0.73 | 4.833   33.63 | 7.917    2.92 | 11.00    0.73
                1.833    0.73 | 4.917   33.63 | 8.000    2.92 | 11.08    0.73
                1.917    0.73 | 5.000   33.63 | 8.083    2.92 | 11.17    0.73
                2.000    0.73 | 5.083   33.63 | 8.167    2.92 | 11.25    0.73
                2.083    0.73 | 5.167   33.63 | 8.250    2.92 | 11.33    0.73
                2.167    0.73 | 5.250   33.63 | 8.333    1.46 | 11.42    0.73
                2.250    0.73 | 5.333    9.50 | 8.417    1.46 | 11.50    0.73
                2.333    4.39 | 5.417    9.50 | 8.500    1.46 | 11.58    0.73
                2.417    4.39 | 5.500    9.50 | 8.583    1.46 | 11.67    0.73
                2.500    4.39 | 5.583    9.50 | 8.667    1.46 | 11.75    0.73
                2.583    4.39 | 5.667    9.50 | 8.750    1.46 | 11.83    0.73
                2.667    4.39 | 5.750    9.50 | 8.833    1.46 | 11.92    0.73
                2.750    4.39 | 5.833    9.50 | 8.917    1.46 | 12.00    0.73
                2.833    4.39 | 5.917    9.50 | 9.000    1.46 | 12.08    0.73
                2.917    4.39 | 6.000    9.50 | 9.083    1.46 | 12.17    0.73
                3.000    4.39 | 6.083    9.50 | 9.167    1.46 | 12.25    0.73
                3.083    4.39 | 6.167    9.50 | 9.250    1.46 |

     Max.Eff.Inten.(mm/hr)=      33.63        22.83
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      6.15 (ii)   18.90 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.19         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.50         0.07         0.563 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.33         5.25
     RUNOFF VOLUME    (mm)=     72.10        37.44        65.51
     TOTAL RAINFALL   (mm)=     73.10        73.10        73.10
     RUNOFF COEFFICIENT   =      0.99         0.51         0.90


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   0.563     5.25    65.51
     + ID2= 2 (  0268):     5.27   0.184     5.42    71.74
       ================================================
       ID = 3 (  0262):    11.84   0.742     5.25    68.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.331     5.25    66.66
     + ID2= 2 (  0262):    11.84   0.742     5.25    68.28
       ================================================
       ID = 3 (  0266):    16.51   1.073     5.25    67.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2130      0.6563
                          0.0190     0.1773   |   0.2520      0.6883
                          0.0220     0.2128   |   0.2890      0.7150
                          0.0260     0.2888   |   0.2980      0.7450
                          0.0300     0.3648   |   0.3060      0.7700
                          0.0650     0.4586   |   0.3150      0.8127
                          0.1100     0.5155   |   0.3320      0.9290
                          0.1680     0.5503   |   0.3390      0.9767
                          0.1930     0.5804   |   0.3520      1.0680
                          0.2000     0.6048   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (  0266)     16.510      1.073      5.25      67.83
     OUTFLOW: ID= 1 (  0263)     16.510      0.243      8.00      67.68

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.61
                    TIME SHIFT OF PEAK FLOW         (min)=165.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6807

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--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.007     5.25    37.41
     + ID2= 2 (  0263):    16.51   0.243     8.00    67.68
       ================================================
       ID = 3 (  0261):    16.64   0.243     8.00    67.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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```

***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\208d1966-0d70-4edf-ac22-23cdaa7e0210\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\208d1966-0d70-4edf-ac22-23cdaa7e0210\s

DATE: 07/06/2020                          TIME: 04:35:19

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 5 Year 12 Hour AES           **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\bee6f002
| Ptotal= 54.38 mm |    Comments: 5 Year 12 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

```
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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

```
    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.004 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  23.169
    TOTAL RAINFALL   (mm)=  54.380
    RUNOFF COEFFICIENT   =   0.426

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\bee6f002
| Ptotal= 54.38 mm |    Comments: 5 Year 12 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54

1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB	
STANDHYD (0205)	Area (ha)= 1.12
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

			TOTALS
Max.Eff.Inten.(mm/hr)=	25.02	14.80	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.08 (ii)	6.03 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.24	0.15	
PEAK FLOW (cms)=	0.08	0.00	0.078 (iii)
TIME TO PEAK (hrs)=	5.17	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	23.19	53.08
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.43	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.078	5.25	53.08
OUTFLOW: ID= 1 (0256)	1.125	0.022	6.25	52.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.90
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0347

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\bee6f002
Ptotal= 54.38 mm	Comments: 5 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.68         0.42
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    118.18        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

```
     Max.Eff.Inten.(mm/hr)=      25.02        14.28
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      4.92 (ii)   20.29 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.22         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.12         0.01         0.129 (iii)
     TIME TO PEAK    (hrs)=      5.25         5.33          5.25
     RUNOFF VOLUME    (mm)=     53.38        23.19         47.34
     TOTAL RAINFALL   (mm)=     54.38        54.38         54.38
     RUNOFF COEFFICIENT   =      0.98         0.43          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.129     5.25    47.34
     + ID2= 2 (  0256):     1.12   0.022     6.25    52.72
       ================================================
       ID = 3 (  0260):     3.22   0.150     5.25    49.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\bee6f002
| Ptotal= 54.38 mm |    Comments: 5 Year 12 Hour AES (Bloor, TRCA)
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

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--------------------------------------------------------------------------------

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| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.16         0.29
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     98.32        40.00
     Mannings n           =     0.013        0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	14.28		
over (min)	5.00	20.00		
Storage Coeff. (min)=	4.40 (ii)	19.78 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.23	0.06		
			TOTALS	
PEAK FLOW (cms)=	0.08	0.01	0.090 (iii)	
TIME TO PEAK (hrs)=	5.17	5.33	5.25	
RUNOFF VOLUME (mm)=	53.38	23.19	47.33	
TOTAL RAINFALL (mm)=	54.38	54.38	54.38	
RUNOFF COEFFICIENT =	0.98	0.43	0.87	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	1.45	0.090	5.25	47.33
+ ID2= 2 (0260):	3.22	0.150	5.25	49.22
ID = 3 (0259):	4.67	0.240	5.25	48.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\bee6f002
Ptotal= 54.38 mm	Comments: 5 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB		
STANDHYD (0201)	Area (ha)=	5.27
ID= 1 DT= 5.0 min	Total Imp(%)=	99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54

0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54
1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	14.80	
over (min)	5.00	10.00	
Storage Coeff. (min)=	6.48 (ii)	8.44 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.18	0.12	
			TOTALS
PEAK FLOW (cms)=	0.36	0.00	0.365 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	23.19	53.08
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.43	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.365	5.25	53.08
OUTFLOW: ID= 1 (0268)	5.270	0.150	5.42	53.06

PEAK FLOW REDUCTION [Qout/Qin](%)= 41.23
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.1180

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\bee6f002
Ptotal= 54.38 mm	Comments: 5 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	3.81	10.50	0.54
1.00	0.54	4.25	9.25	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	2.18	11.50	0.54
2.00	0.54	5.25	25.02	8.50	1.09	11.75	0.54
2.25	0.54	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09	12.25	0.54
2.75	3.26	6.00	7.07	9.25	1.09		
3.00	3.26	6.25	7.07	9.50	0.54		
3.25	3.26	6.50	3.81	9.75	0.54		

CALIB			
STANDHYD (0202)	Area (ha)= 6.57		
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	5.32	1.25	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	209.28	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.26	6.250	7.07	9.33	0.54
0.167	0.00	3.250	3.26	6.333	3.81	9.42	0.54
0.250	0.00	3.333	9.25	6.417	3.81	9.50	0.54
0.333	0.54	3.417	9.25	6.500	3.81	9.58	0.54
0.417	0.54	3.500	9.25	6.583	3.81	9.67	0.54
0.500	0.54	3.583	9.25	6.667	3.81	9.75	0.54
0.583	0.54	3.667	9.25	6.750	3.81	9.83	0.54
0.667	0.54	3.750	9.25	6.833	3.81	9.92	0.54
0.750	0.54	3.833	9.25	6.917	3.81	10.00	0.54
0.833	0.54	3.917	9.25	7.000	3.81	10.08	0.54
0.917	0.54	4.000	9.25	7.083	3.81	10.17	0.54
1.000	0.54	4.083	9.25	7.167	3.81	10.25	0.54
1.083	0.54	4.167	9.25	7.250	3.81	10.33	0.54
1.167	0.54	4.250	9.25	7.333	2.18	10.42	0.54
1.250	0.54	4.333	25.02	7.417	2.18	10.50	0.54
1.333	0.54	4.417	25.02	7.500	2.18	10.58	0.54

1.417	0.54	4.500	25.02	7.583	2.18	10.67	0.54
1.500	0.54	4.583	25.02	7.667	2.18	10.75	0.54
1.583	0.54	4.667	25.02	7.750	2.18	10.83	0.54
1.667	0.54	4.750	25.02	7.833	2.18	10.92	0.54
1.750	0.54	4.833	25.02	7.917	2.18	11.00	0.54
1.833	0.54	4.917	25.02	8.000	2.18	11.08	0.54
1.917	0.54	5.000	25.02	8.083	2.18	11.17	0.54
2.000	0.54	5.083	25.02	8.167	2.18	11.25	0.54
2.083	0.54	5.167	25.02	8.250	2.18	11.33	0.54
2.167	0.54	5.250	25.02	8.333	1.09	11.42	0.54
2.250	0.54	5.333	7.07	8.417	1.09	11.50	0.54
2.333	3.26	5.417	7.07	8.500	1.09	11.58	0.54
2.417	3.26	5.500	7.07	8.583	1.09	11.67	0.54
2.500	3.26	5.583	7.07	8.667	1.09	11.75	0.54
2.583	3.26	5.667	7.07	8.750	1.09	11.83	0.54
2.667	3.26	5.750	7.07	8.833	1.09	11.92	0.54
2.750	3.26	5.833	7.07	8.917	1.09	12.00	0.54
2.833	3.26	5.917	7.07	9.000	1.09	12.08	0.54
2.917	3.26	6.000	7.07	9.083	1.09	12.17	0.54
3.000	3.26	6.083	7.07	9.167	1.09	12.25	0.54
3.083	3.26	6.167	7.07	9.250	1.09		

			TOTALS
Max.Eff.Inten.(mm/hr)=	25.02	14.28	
over (min)	5.00	25.00	
Storage Coeff. (min)=	6.93 (ii)	22.30 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.17	0.05	
PEAK FLOW (cms)=	0.37	0.04	0.407 (iii)
TIME TO PEAK (hrs)=	5.25	5.42	5.25
RUNOFF VOLUME (mm)=	53.38	23.19	47.64
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.43	0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0202):		6.57	0.407	5.25	47.64
+ ID2= 2 (0268):		5.27	0.150	5.42	53.06
ID = 3 (0262):		11.84	0.554	5.25	50.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0259):		4.67	0.240	5.25	48.63
+ ID2= 2 (0262):		11.84	0.554	5.25	50.05
ID = 3 (0266):		16.51	0.794	5.25	49.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0263)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2130	0.6563
	0.0190	0.1773	0.2520	0.6883
	0.0220	0.2128	0.2890	0.7150
	0.0260	0.2888	0.2980	0.7450
	0.0300	0.3648	0.3060	0.7700
	0.0650	0.4586	0.3150	0.8127
	0.1100	0.5155	0.3320	0.9290
	0.1680	0.5503	0.3390	0.9767
	0.1930	0.5804	0.3520	1.0680
	0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	0.794	5.25	49.65
OUTFLOW: ID= 1 (0263)	16.510	0.173	8.33	49.51

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.73
TIME SHIFT OF PEAK FLOW (min)=185.00
MAXIMUM STORAGE USED (ha.m.)= 0.5558

ADD HYD (0261)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0206):		0.12	0.004	5.25	23.17
+ ID2= 2 (0263):		16.51	0.173	8.33	49.51
ID = 3 (0261):		16.64	0.173	8.33	49.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
V    V   I    SS     U   U   A A   L
 V  V    I     SS    U   U  AAAAA  L
 V  V    I      SS   U   U  A   A  L
  VV     I    SSSSS  UUUUU  A   A  LLLLL

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M   M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
```

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***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\0a31cd5a-f140-4f20-b904-fa734fce65d0\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\0a31cd5a-f140-4f20-b904-fa734fce65d0\s


DATE: 07/06/2020                          TIME: 04:35:19

USER:



COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
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  ********************************************
  ** SIMULATION : 50 Year 12 Hour AES           **
  ********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\5897a01a
| Ptotal= 80.82 mm |    Comments: 50 Year 12 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50   13.74 |  6.75    5.66 | 10.00    0.81
               0.50    0.81 |  3.75   13.74 |  7.00    5.66 | 10.25    0.81
               0.75    0.81 |  4.00   13.74 |  7.25    5.66 | 10.50    0.81
               1.00    0.81 |  4.25   13.74 |  7.50    3.23 | 10.75    0.81
               1.25    0.81 |  4.50   37.17 |  7.75    3.23 | 11.00    0.81
               1.50    0.81 |  4.75   37.17 |  8.00    3.23 | 11.25    0.81
               1.75    0.81 |  5.00   37.17 |  8.25    3.23 | 11.50    0.81
               2.00    0.81 |  5.25   37.17 |  8.50    1.62 | 11.75    0.81
               2.25    0.81 |  5.50   10.50 |  8.75    1.62 | 12.00    0.81
               2.50    4.85 |  5.75   10.50 |  9.00    1.62 | 12.25    0.81
               2.75    4.85 |  6.00   10.50 |  9.25    1.62 |
               3.00    4.85 |  6.25   10.50 |  9.50    0.81 |
               3.25    4.85 |  6.50    5.66 |  9.75    0.81 |

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    4.85 | 6.250   10.50 |  9.33    0.81
               0.167    0.00 | 3.250    4.85 | 6.333    5.66 |  9.42    0.81
               0.250    0.00 | 3.333   13.74 | 6.417    5.66 |  9.50    0.81
               0.333    0.81 | 3.417   13.74 | 6.500    5.66 |  9.58    0.81
               0.417    0.81 | 3.500   13.74 | 6.583    5.66 |  9.67    0.81
               0.500    0.81 | 3.583   13.74 | 6.667    5.66 |  9.75    0.81
               0.583    0.81 | 3.667   13.74 | 6.750    5.66 |  9.83    0.81
               0.667    0.81 | 3.750   13.74 | 6.833    5.66 |  9.92    0.81
               0.750    0.81 | 3.833   13.74 | 6.917    5.66 | 10.00    0.81
               0.833    0.81 | 3.917   13.74 | 7.000    5.66 | 10.08    0.81
               0.917    0.81 | 4.000   13.74 | 7.083    5.66 | 10.17    0.81
               1.000    0.81 | 4.083   13.74 | 7.167    5.66 | 10.25    0.81
               1.083    0.81 | 4.167   13.74 | 7.250    5.66 | 10.33    0.81
               1.167    0.81 | 4.250   13.74 | 7.333    3.23 | 10.42    0.81
               1.250    0.81 | 4.333   37.17 | 7.417    3.23 | 10.50    0.81
               1.333    0.81 | 4.417   37.17 | 7.500    3.23 | 10.58    0.81
               1.417    0.81 | 4.500   37.17 | 7.583    3.23 | 10.67    0.81
               1.500    0.81 | 4.583   37.17 | 7.667    3.23 | 10.75    0.81
               1.583    0.81 | 4.667   37.17 | 7.750    3.23 | 10.83    0.81
               1.667    0.81 | 4.750   37.17 | 7.833    3.23 | 10.92    0.81
               1.750    0.81 | 4.833   37.17 | 7.917    3.23 | 11.00    0.81
               1.833    0.81 | 4.917   37.17 | 8.000    3.23 | 11.08    0.81
               1.917    0.81 | 5.000   37.17 | 8.083    3.23 | 11.17    0.81
               2.000    0.81 | 5.083   37.17 | 8.167    3.23 | 11.25    0.81
               2.083    0.81 | 5.167   37.17 | 8.250    3.23 | 11.33    0.81
               2.167    0.81 | 5.250   37.17 | 8.333    1.62 | 11.42    0.81
               2.250    0.81 | 5.333   10.50 | 8.417    1.62 | 11.50    0.81
               2.333    4.85 | 5.417   10.50 | 8.500    1.62 | 11.58    0.81
               2.417    4.85 | 5.500   10.50 | 8.583    1.62 | 11.67    0.81
               2.500    4.85 | 5.583   10.50 | 8.667    1.62 | 11.75    0.81
               2.583    4.85 | 5.667   10.50 | 8.750    1.62 | 11.83    0.81
               2.667    4.85 | 5.750   10.50 | 8.833    1.62 | 11.92    0.81
               2.750    4.85 | 5.833   10.50 | 8.917    1.62 | 12.00    0.81
               2.833    4.85 | 5.917   10.50 | 9.000    1.62 | 12.08    0.81
               2.917    4.85 | 6.000   10.50 | 9.083    1.62 | 12.17    0.81
               3.000    4.85 | 6.083   10.50 | 9.167    1.62 | 12.25    0.81
               3.083    4.85 | 6.167   10.50 | 9.250    1.62 |

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.008 (i)
    TIME TO PEAK    (hrs)=   5.250
    RUNOFF VOLUME    (mm)=  43.651
    TOTAL RAINFALL   (mm)=  80.820
    RUNOFF COEFFICIENT   =   0.540

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\5897a01a
| Ptotal= 80.82 mm |    Comments: 50 Year 12 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50   13.74 |  6.75    5.66 | 10.00    0.81
               0.50    0.81 |  3.75   13.74 |  7.00    5.66 | 10.25    0.81
               0.75    0.81 |  4.00   13.74 |  7.25    5.66 | 10.50    0.81
               1.00    0.81 |  4.25   13.74 |  7.50    3.23 | 10.75    0.81
               1.25    0.81 |  4.50   37.17 |  7.75    3.23 | 11.00    0.81
               1.50    0.81 |  4.75   37.17 |  8.00    3.23 | 11.25    0.81
               1.75    0.81 |  5.00   37.17 |  8.25    3.23 | 11.50    0.81
               2.00    0.81 |  5.25   37.17 |  8.50    1.62 | 11.75    0.81
               2.25    0.81 |  5.50   10.50 |  8.75    1.62 | 12.00    0.81
               2.50    4.85 |  5.75   10.50 |  9.00    1.62 | 12.25    0.81
               2.75    4.85 |  6.00   10.50 |  9.25    1.62 |
```

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               3.00    4.85 |  6.25   10.50 |  9.50    0.81 |
               3.25    4.85 |  6.50    5.66 |  9.75    0.81 |

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--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                         ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    4.85 | 6.250   10.50 |  9.33    0.81
               0.167    0.00 | 3.250    4.85 | 6.333    5.66 |  9.42    0.81
               0.250    0.00 | 3.333   13.74 | 6.417    5.66 |  9.50    0.81
               0.333    0.81 | 3.417   13.74 | 6.500    5.66 |  9.58    0.81
               0.417    0.81 | 3.500   13.74 | 6.583    5.66 |  9.67    0.81
               0.500    0.81 | 3.583   13.74 | 6.667    5.66 |  9.75    0.81
               0.583    0.81 | 3.667   13.74 | 6.750    5.66 |  9.83    0.81
               0.667    0.81 | 3.750   13.74 | 6.833    5.66 |  9.92    0.81
               0.750    0.81 | 3.833   13.74 | 6.917    5.66 | 10.00    0.81
               0.833    0.81 | 3.917   13.74 | 7.000    5.66 | 10.08    0.81
               0.917    0.81 | 4.000   13.74 | 7.083    5.66 | 10.17    0.81
               1.000    0.81 | 4.083   13.74 | 7.167    5.66 | 10.25    0.81
               1.083    0.81 | 4.167   13.74 | 7.250    5.66 | 10.33    0.81
               1.167    0.81 | 4.250   13.74 | 7.333    3.23 | 10.42    0.81
               1.250    0.81 | 4.333   37.17 | 7.417    3.23 | 10.50    0.81
               1.333    0.81 | 4.417   37.17 | 7.500    3.23 | 10.58    0.81
               1.417    0.81 | 4.500   37.17 | 7.583    3.23 | 10.67    0.81
               1.500    0.81 | 4.583   37.17 | 7.667    3.23 | 10.75    0.81
               1.583    0.81 | 4.667   37.17 | 7.750    3.23 | 10.83    0.81
               1.667    0.81 | 4.750   37.17 | 7.833    3.23 | 10.92    0.81
               1.750    0.81 | 4.833   37.17 | 7.917    3.23 | 11.00    0.81
               1.833    0.81 | 4.917   37.17 | 8.000    3.23 | 11.08    0.81
               1.917    0.81 | 5.000   37.17 | 8.083    3.23 | 11.17    0.81
               2.000    0.81 | 5.083   37.17 | 8.167    3.23 | 11.25    0.81
               2.083    0.81 | 5.167   37.17 | 8.250    3.23 | 11.33    0.81
               2.167    0.81 | 5.250   37.17 | 8.333    1.62 | 11.42    0.81
               2.250    0.81 | 5.333   10.50 | 8.417    1.62 | 11.50    0.81
               2.333    4.85 | 5.417   10.50 | 8.500    1.62 | 11.58    0.81
               2.417    4.85 | 5.500   10.50 | 8.583    1.62 | 11.67    0.81
               2.500    4.85 | 5.583   10.50 | 8.667    1.62 | 11.75    0.81
               2.583    4.85 | 5.667   10.50 | 8.750    1.62 | 11.83    0.81
               2.667    4.85 | 5.750   10.50 | 8.833    1.62 | 11.92    0.81
               2.750    4.85 | 5.833   10.50 | 8.917    1.62 | 12.00    0.81
               2.833    4.85 | 5.917   10.50 | 9.000    1.62 | 12.08    0.81
               2.917    4.85 | 6.000   10.50 | 9.083    1.62 | 12.17    0.81
               3.000    4.85 | 6.083   10.50 | 9.167    1.62 | 12.25    0.81
               3.083    4.85 | 6.167   10.50 | 9.250    1.62 |

     Max.Eff.Inten.(mm/hr)=      37.17        26.69
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.48 (ii)    5.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.00          0.116 (iii)
     TIME TO PEAK    (hrs)=       5.08         5.25           5.25
     RUNOFF VOLUME    (mm)=      79.82        43.69          79.46
     TOTAL RAINFALL   (mm)=      80.82        80.82          80.82
     RUNOFF COEFFICIENT   =       0.99         0.54           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.0470      0.0750

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (  0205)      1.125     0.116      5.25      79.46
     OUTFLOW: ID= 1 (  0256)      1.125     0.032      6.25      79.10

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.01
                   TIME SHIFT OF PEAK FLOW         (min)= 60.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.0518

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\5897a01a
| Ptotal= 80.82 mm |    Comments: 50 Year 12 Hour AES (Bloor, TRCA)
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50   13.74 |  6.75    5.66 | 10.00    0.81
               0.50    0.81 |  3.75   13.74 |  7.00    5.66 | 10.25    0.81
               0.75    0.81 |  4.00   13.74 |  7.25    5.66 | 10.50    0.81
               1.00    0.81 |  4.25   13.74 |  7.50    3.23 | 10.75    0.81
               1.25    0.81 |  4.50   37.17 |  7.75    3.23 | 11.00    0.81
               1.50    0.81 |  4.75   37.17 |  8.00    3.23 | 11.25    0.81
               1.75    0.81 |  5.00   37.17 |  8.25    3.23 | 11.50    0.81
               2.00    0.81 |  5.25   37.17 |  8.50    1.62 | 11.75    0.81
               2.25    0.81 |  5.50   10.50 |  8.75    1.62 | 12.00    0.81
               2.50    4.85 |  5.75   10.50 |  9.00    1.62 | 12.25    0.81
               2.75    4.85 |  6.00   10.50 |  9.25    1.62 |
               3.00    4.85 |  6.25   10.50 |  9.50    0.81 |
               3.25    4.85 |  6.50    5.66 |  9.75    0.81 |

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
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--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

```
     Max.Eff.Inten.(mm/hr)=      37.17        26.36
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      4.20 (ii)   16.23 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.24         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.17         0.03         0.200 (iii)
     TIME TO PEAK    (hrs)=      5.17         5.33          5.25
     RUNOFF VOLUME    (mm)=     79.82        43.69         72.59
     TOTAL RAINFALL   (mm)=     80.82        80.82         80.82
     RUNOFF COEFFICIENT   =      0.99         0.54          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.200     5.25    72.59
     + ID2= 2 (  0256):     1.12   0.032     6.25    79.10
       ================================================
       ID = 3 (  0260):     3.22   0.231     5.25    74.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              fc9a518d-4e80-47e2-ab56-8ded57ffff68\5897a01a
| Ptotal= 80.82 mm |    Comments: 50 Year 12 Hour AES (Bloor, TRCA)
--------------------
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	13.74	6.75	5.66	10.00	0.81
0.50	0.81	3.75	13.74	7.00	5.66	10.25	0.81
0.75	0.81	4.00	13.74	7.25	5.66	10.50	0.81
1.00	0.81	4.25	13.74	7.50	3.23	10.75	0.81
1.25	0.81	4.50	37.17	7.75	3.23	11.00	0.81
1.50	0.81	4.75	37.17	8.00	3.23	11.25	0.81
1.75	0.81	5.00	37.17	8.25	3.23	11.50	0.81
2.00	0.81	5.25	37.17	8.50	1.62	11.75	0.81
2.25	0.81	5.50	10.50	8.75	1.62	12.00	0.81
2.50	4.85	5.75	10.50	9.00	1.62	12.25	0.81
2.75	4.85	6.00	10.50	9.25	1.62		
3.00	4.85	6.25	10.50	9.50	0.81		
3.25	4.85	6.50	5.66	9.75	0.81		

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| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	26.36	
over (min)	5.00	20.00	
Storage Coeff. (min)=	3.76 (ii)	15.79 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.25	0.07	
			TOTALS
PEAK FLOW (cms)=	0.12	0.02	0.138 (iii)
TIME TO PEAK (hrs)=	5.08	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	43.69	72.59
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.54	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3	ID1= 1 (0204):	1.45	0.138	5.25	72.59
	+ ID2= 2 (0260):	3.22	0.231	5.25	74.87
	ID = 3 (0259):	4.67	0.369	5.25	74.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\5897a01a
Ptotal= 80.82 mm	Comments: 50 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	13.74	6.75	5.66	10.00	0.81
0.50	0.81	3.75	13.74	7.00	5.66	10.25	0.81
0.75	0.81	4.00	13.74	7.25	5.66	10.50	0.81
1.00	0.81	4.25	13.74	7.50	3.23	10.75	0.81
1.25	0.81	4.50	37.17	7.75	3.23	11.00	0.81
1.50	0.81	4.75	37.17	8.00	3.23	11.25	0.81
1.75	0.81	5.00	37.17	8.25	3.23	11.50	0.81
2.00	0.81	5.25	37.17	8.50	1.62	11.75	0.81
2.25	0.81	5.50	10.50	8.75	1.62	12.00	0.81
2.50	4.85	5.75	10.50	9.00	1.62	12.25	0.81
2.75	4.85	6.00	10.50	9.25	1.62		
3.00	4.85	6.25	10.50	9.50	0.81		
3.25	4.85	6.50	5.66	9.75	0.81		

CALIB		
STANDHYD (0201)	Area (ha)=	5.27
ID= 1 DT= 5.0 min	Total Imp(%)=	99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81

1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81
1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

			TOTALS
Max.Eff.Inten.(mm/hr)=	37.17	26.69	
over (min)	5.00	10.00	
Storage Coeff. (min)=	5.53 (ii)	7.20 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.20	0.14	
PEAK FLOW (cms)=	0.54	0.00	0.542 (iii)
TIME TO PEAK (hrs)=	5.25	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	43.69	79.46
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.54	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.542	5.25	79.46
OUTFLOW: ID= 1 (0268)	5.270	0.197	5.50	79.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 36.34
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.1916

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\fc9a518d-4e80-47e2-ab56-8ded57ffff68\5897a01a
Ptotal= 80.82 mm	Comments: 50 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	13.74	6.75	5.66	10.00	0.81
0.50	0.81	3.75	13.74	7.00	5.66	10.25	0.81
0.75	0.81	4.00	13.74	7.25	5.66	10.50	0.81
1.00	0.81	4.25	13.74	7.50	3.23	10.75	0.81
1.25	0.81	4.50	37.17	7.75	3.23	11.00	0.81
1.50	0.81	4.75	37.17	8.00	3.23	11.25	0.81
1.75	0.81	5.00	37.17	8.25	3.23	11.50	0.81
2.00	0.81	5.25	37.17	8.50	1.62	11.75	0.81
2.25	0.81	5.50	10.50	8.75	1.62	12.00	0.81
2.50	4.85	5.75	10.50	9.00	1.62	12.25	0.81
2.75	4.85	6.00	10.50	9.25	1.62		
3.00	4.85	6.25	10.50	9.50	0.81		
3.25	4.85	6.50	5.66	9.75	0.81		

CALIB			
STANDHYD (0202)	Area (ha)= 6.57		
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	5.32	1.25	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	209.28	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	4.85	6.250	10.50	9.33	0.81
0.167	0.00	3.250	4.85	6.333	5.66	9.42	0.81
0.250	0.00	3.333	13.74	6.417	5.66	9.50	0.81
0.333	0.81	3.417	13.74	6.500	5.66	9.58	0.81
0.417	0.81	3.500	13.74	6.583	5.66	9.67	0.81
0.500	0.81	3.583	13.74	6.667	5.66	9.75	0.81
0.583	0.81	3.667	13.74	6.750	5.66	9.83	0.81
0.667	0.81	3.750	13.74	6.833	5.66	9.92	0.81
0.750	0.81	3.833	13.74	6.917	5.66	10.00	0.81
0.833	0.81	3.917	13.74	7.000	5.66	10.08	0.81
0.917	0.81	4.000	13.74	7.083	5.66	10.17	0.81
1.000	0.81	4.083	13.74	7.167	5.66	10.25	0.81
1.083	0.81	4.167	13.74	7.250	5.66	10.33	0.81
1.167	0.81	4.250	13.74	7.333	3.23	10.42	0.81
1.250	0.81	4.333	37.17	7.417	3.23	10.50	0.81
1.333	0.81	4.417	37.17	7.500	3.23	10.58	0.81
1.417	0.81	4.500	37.17	7.583	3.23	10.67	0.81
1.500	0.81	4.583	37.17	7.667	3.23	10.75	0.81
1.583	0.81	4.667	37.17	7.750	3.23	10.83	0.81
1.667	0.81	4.750	37.17	7.833	3.23	10.92	0.81
1.750	0.81	4.833	37.17	7.917	3.23	11.00	0.81

1.833	0.81	4.917	37.17	8.000	3.23	11.08	0.81
1.917	0.81	5.000	37.17	8.083	3.23	11.17	0.81
2.000	0.81	5.083	37.17	8.167	3.23	11.25	0.81
2.083	0.81	5.167	37.17	8.250	3.23	11.33	0.81
2.167	0.81	5.250	37.17	8.333	1.62	11.42	0.81
2.250	0.81	5.333	10.50	8.417	1.62	11.50	0.81
2.333	4.85	5.417	10.50	8.500	1.62	11.58	0.81
2.417	4.85	5.500	10.50	8.583	1.62	11.67	0.81
2.500	4.85	5.583	10.50	8.667	1.62	11.75	0.81
2.583	4.85	5.667	10.50	8.750	1.62	11.83	0.81
2.667	4.85	5.750	10.50	8.833	1.62	11.92	0.81
2.750	4.85	5.833	10.50	8.917	1.62	12.00	0.81
2.833	4.85	5.917	10.50	9.000	1.62	12.08	0.81
2.917	4.85	6.000	10.50	9.083	1.62	12.17	0.81
3.000	4.85	6.083	10.50	9.167	1.62	12.25	0.81
3.083	4.85	6.167	10.50	9.250	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	26.36	
over (min)	5.00	20.00	
Storage Coeff. (min)=	5.91 (ii)	17.94 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.19	0.06	
			TOTALS
PEAK FLOW (cms)=	0.55	0.08	0.627 (iii)
TIME TO PEAK (hrs)=	5.25	5.33	5.25
RUNOFF VOLUME (mm)=	79.82	43.69	72.95
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.54	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	6.57	0.627	5.25	72.95
+ ID2= 2 (0268):	5.27	0.197	5.50	79.44
ID = 3 (0262):	11.84	0.819	5.25	75.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):	4.67	0.369	5.25	74.16
+ ID2= 2 (0262):	11.84	0.819	5.25	75.84
ID = 3 (0266):	16.51	1.189	5.25	75.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

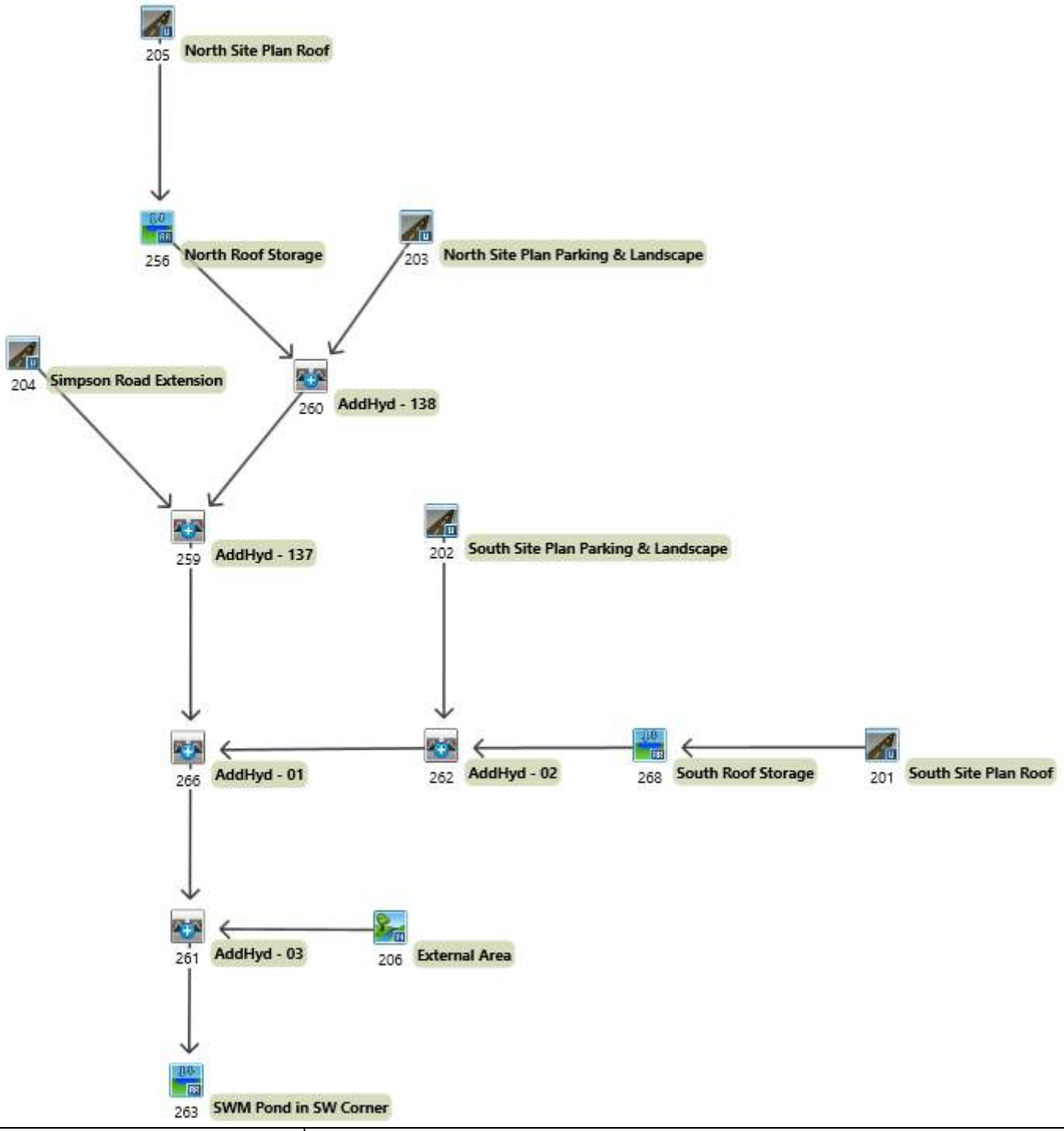
RESERVOIR(0263)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2130	0.6563
	0.0190	0.1773	0.2520	0.6883
	0.0220	0.2128	0.2890	0.7150
	0.0260	0.2888	0.2980	0.7450
	0.0300	0.3648	0.3060	0.7700
	0.0650	0.4586	0.3150	0.8127
	0.1100	0.5155	0.3320	0.9290
	0.1680	0.5503	0.3390	0.9767
	0.1930	0.5804	0.3520	1.0680
	0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	1.189	5.25	75.37
OUTFLOW: ID= 1 (0263)	16.510	0.292	7.50	75.22

PEAK FLOW REDUCTION [Qout/Qin](%)= 24.56
TIME SHIFT OF PEAK FLOW (min)=135.00
MAXIMUM STORAGE USED (ha.m.)= 0.7248

ADD HYD (0261)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0206):	0.12	0.008	5.25	43.65
+ ID2= 2 (0263):	16.51	0.292	7.50	75.22
ID = 3 (0261):	16.64	0.293	7.42	74.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.



SCHAEFFERS
CONSULTING ENGINEERS

Post-development Visual OTTHYMO™ Schematic
12 Hour SCS 2-100 Year

Job #: 2018-4841	**Date: July 2020**

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================================================================================
============================

       V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\15d8f3be-1022-40cf-9470-2dc809347b64\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\15d8f3be-1022-40cf-9470-2dc809347b64\s


DATE: 07/06/2020                          TIME: 04:36:54

USER:



COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 10 Year 12 Hour SCS           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\596d80c2
| Ptotal= 66.80 mm |    Comments: 10yr 12hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.67	6.75	12.02	10.00	2.34
0.50	1.67	3.75	2.67	7.00	5.34	10.25	2.34
0.75	1.67	4.00	2.67	7.25	5.34	10.50	1.34
1.00	1.67	4.25	2.67	7.50	4.01	10.75	1.34
1.25	1.67	4.50	4.01	7.75	4.01	11.00	1.34
1.50	1.67	4.75	4.01	8.00	4.01	11.25	1.34
1.75	1.67	5.00	5.34	8.25	4.01	11.50	1.34
2.00	1.67	5.25	5.34	8.50	2.34	11.75	1.34
2.25	1.67	5.50	8.02	8.75	2.34	12.00	1.34
2.50	2.00	5.75	8.02	9.00	2.34	12.25	1.34
2.75	2.00	6.00	32.06	9.25	2.34		
3.00	2.00	6.25	88.18	9.50	2.34		
3.25	2.00	6.50	12.02	9.75	2.34		

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.00	6.250	88.17	9.33	2.34
0.167	0.00	3.250	2.00	6.333	12.02	9.42	2.34
0.250	0.00	3.333	2.67	6.417	12.02	9.50	2.34
0.333	1.67	3.417	2.67	6.500	12.02	9.58	2.34
0.417	1.67	3.500	2.67	6.583	12.02	9.67	2.34
0.500	1.67	3.583	2.67	6.667	12.02	9.75	2.34
0.583	1.67	3.667	2.67	6.750	12.02	9.83	2.34
0.667	1.67	3.750	2.67	6.833	5.34	9.92	2.34
0.750	1.67	3.833	2.67	6.917	5.34	10.00	2.34
0.833	1.67	3.917	2.67	7.000	5.34	10.08	2.34
0.917	1.67	4.000	2.67	7.083	5.34	10.17	2.34
1.000	1.67	4.083	2.67	7.167	5.34	10.25	2.34
1.083	1.67	4.167	2.67	7.250	5.34	10.33	1.34
1.167	1.67	4.250	2.67	7.333	4.01	10.42	1.34
1.250	1.67	4.333	4.01	7.417	4.01	10.50	1.34
1.333	1.67	4.417	4.01	7.500	4.01	10.58	1.34
1.417	1.67	4.500	4.01	7.583	4.01	10.67	1.34
1.500	1.67	4.583	4.01	7.667	4.01	10.75	1.34
1.583	1.67	4.667	4.01	7.750	4.01	10.83	1.34
1.667	1.67	4.750	4.01	7.833	4.01	10.92	1.34
1.750	1.67	4.833	5.34	7.917	4.01	11.00	1.34
1.833	1.67	4.917	5.34	8.000	4.01	11.08	1.34
1.917	1.67	5.000	5.34	8.083	4.01	11.17	1.34
2.000	1.67	5.083	5.34	8.167	4.01	11.25	1.34
2.083	1.67	5.167	5.34	8.250	4.01	11.33	1.34
2.167	1.67	5.250	5.34	8.333	2.34	11.42	1.34
2.250	1.67	5.333	8.02	8.417	2.34	11.50	1.34
2.333	2.00	5.417	8.02	8.500	2.34	11.58	1.34
2.417	2.00	5.500	8.02	8.583	2.34	11.67	1.34
2.500	2.00	5.583	8.02	8.667	2.34	11.75	1.34
2.583	2.00	5.667	8.02	8.750	2.34	11.83	1.34
2.667	2.00	5.750	8.02	8.833	2.34	11.92	1.34
2.750	2.00	5.833	32.06	8.917	2.34	12.00	1.34
2.833	2.00	5.917	32.06	9.000	2.34	12.08	1.34
2.917	2.00	6.000	32.07	9.083	2.34	12.17	1.34
3.000	2.00	6.083	88.18	9.167	2.34	12.25	1.34
3.083	2.00	6.167	88.18	9.250	2.34		

```
    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.010 (i)
    TIME TO PEAK    (hrs)=   6.333
    RUNOFF VOLUME    (mm)=  32.459
    TOTAL RAINFALL   (mm)=  66.800
    RUNOFF COEFFICIENT   =   0.486

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\596d80c2
| Ptotal= 66.80 mm |    Comments: 10yr 12hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    2.67 |  6.75   12.02 | 10.00    2.34
                0.50    1.67 |  3.75    2.67 |  7.00    5.34 | 10.25    2.34
                0.75    1.67 |  4.00    2.67 |  7.25    5.34 | 10.50    1.34
                1.00    1.67 |  4.25    2.67 |  7.50    4.01 | 10.75    1.34
                1.25    1.67 |  4.50    4.01 |  7.75    4.01 | 11.00    1.34
                1.50    1.67 |  4.75    4.01 |  8.00    4.01 | 11.25    1.34
                1.75    1.67 |  5.00    5.34 |  8.25    4.01 | 11.50    1.34
                2.00    1.67 |  5.25    5.34 |  8.50    2.34 | 11.75    1.34
                2.25    1.67 |  5.50    8.02 |  8.75    2.34 | 12.00    1.34
                2.50    2.00 |  5.75    8.02 |  9.00    2.34 | 12.25    1.34
                2.75    2.00 |  6.00   32.06 |  9.25    2.34 |
                3.00    2.00 |  6.25   88.18 |  9.50    2.34 |
                3.25    2.00 |  6.50   12.02 |  9.75    2.34 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.11         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      86.60        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    2.00 | 6.250   88.17 |  9.33    2.34
               0.167    0.00 | 3.250    2.00 | 6.333   12.02 |  9.42    2.34
               0.250    0.00 | 3.333    2.67 | 6.417   12.02 |  9.50    2.34
               0.333    1.67 | 3.417    2.67 | 6.500   12.02 |  9.58    2.34
               0.417    1.67 | 3.500    2.67 | 6.583   12.02 |  9.67    2.34
               0.500    1.67 | 3.583    2.67 | 6.667   12.02 |  9.75    2.34
               0.583    1.67 | 3.667    2.67 | 6.750   12.02 |  9.83    2.34
               0.667    1.67 | 3.750    2.67 | 6.833    5.34 |  9.92    2.34
               0.750    1.67 | 3.833    2.67 | 6.917    5.34 | 10.00    2.34
               0.833    1.67 | 3.917    2.67 | 7.000    5.34 | 10.08    2.34
               0.917    1.67 | 4.000    2.67 | 7.083    5.34 | 10.17    2.34
               1.000    1.67 | 4.083    2.67 | 7.167    5.34 | 10.25    2.34
               1.083    1.67 | 4.167    2.67 | 7.250    5.34 | 10.33    1.34
               1.167    1.67 | 4.250    2.67 | 7.333    4.01 | 10.42    1.34
               1.250    1.67 | 4.333    4.01 | 7.417    4.01 | 10.50    1.34
               1.333    1.67 | 4.417    4.01 | 7.500    4.01 | 10.58    1.34
               1.417    1.67 | 4.500    4.01 | 7.583    4.01 | 10.67    1.34
               1.500    1.67 | 4.583    4.01 | 7.667    4.01 | 10.75    1.34
               1.583    1.67 | 4.667    4.01 | 7.750    4.01 | 10.83    1.34
               1.667    1.67 | 4.750    4.01 | 7.833    4.01 | 10.92    1.34
               1.750    1.67 | 4.833    5.34 | 7.917    4.01 | 11.00    1.34
               1.833    1.67 | 4.917    5.34 | 8.000    4.01 | 11.08    1.34
               1.917    1.67 | 5.000    5.34 | 8.083    4.01 | 11.17    1.34
               2.000    1.67 | 5.083    5.34 | 8.167    4.01 | 11.25    1.34
               2.083    1.67 | 5.167    5.34 | 8.250    4.01 | 11.33    1.34
               2.167    1.67 | 5.250    5.34 | 8.333    2.34 | 11.42    1.34
               2.250    1.67 | 5.333    8.02 | 8.417    2.34 | 11.50    1.34
               2.333    2.00 | 5.417    8.02 | 8.500    2.34 | 11.58    1.34
               2.417    2.00 | 5.500    8.02 | 8.583    2.34 | 11.67    1.34
               2.500    2.00 | 5.583    8.02 | 8.667    2.34 | 11.75    1.34
               2.583    2.00 | 5.667    8.02 | 8.750    2.34 | 11.83    1.34
               2.667    2.00 | 5.750    8.02 | 8.833    2.34 | 11.92    1.34
               2.750    2.00 | 5.833   32.06 | 8.917    2.34 | 12.00    1.34
               2.833    2.00 | 5.917   32.06 | 9.000    2.34 | 12.08    1.34
               2.917    2.00 | 6.000   32.07 | 9.083    2.34 | 12.17    1.34
               3.000    2.00 | 6.083   88.18 | 9.167    2.34 | 12.25    1.34
               3.083    2.00 | 6.167   88.18 | 9.250    2.34 |

     Max.Eff.Inten.(mm/hr)=      88.18        54.23
               over (min)         5.00         5.00
     Storage Coeff.  (min)=       2.46 (ii)    3.65 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.30         0.25
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.27         0.00          0.274 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=      65.80        32.49          65.46
     TOTAL RAINFALL   (mm)=      66.80        66.80          66.80
     RUNOFF COEFFICIENT   =       0.99         0.49           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470     0.0750

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)      1.125      0.274      6.25      65.46
   OUTFLOW: ID= 1 (  0256)      1.125      0.028      6.83      65.11

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.28
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0451

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\596d80c2
| Ptotal= 66.80 mm |    Comments: 10yr 12hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
```

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.25	0.00	3.50	2.67	6.75	12.02	10.00	2.34
0.50	1.67	3.75	2.67	7.00	5.34	10.25	2.34
0.75	1.67	4.00	2.67	7.25	5.34	10.50	1.34
1.00	1.67	4.25	2.67	7.50	4.01	10.75	1.34
1.25	1.67	4.50	4.01	7.75	4.01	11.00	1.34
1.50	1.67	4.75	4.01	8.00	4.01	11.25	1.34
1.75	1.67	5.00	5.34	8.25	4.01	11.50	1.34
2.00	1.67	5.25	5.34	8.50	2.34	11.75	1.34
2.25	1.67	5.50	8.02	8.75	2.34	12.00	1.34
2.50	2.00	5.75	8.02	9.00	2.34	12.25	1.34
2.75	2.00	6.00	32.06	9.25	2.34		
3.00	2.00	6.25	88.18	9.50	2.34		
3.25	2.00	6.50	12.02	9.75	2.34		

CALIB
STANDHYD (0203)
ID= 1 DT= 5.0 min

Area (ha)= 2.10
Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.00	6.250	88.17	9.33	2.34
0.167	0.00	3.250	2.00	6.333	12.02	9.42	2.34
0.250	0.00	3.333	2.67	6.417	12.02	9.50	2.34
0.333	1.67	3.417	2.67	6.500	12.02	9.58	2.34
0.417	1.67	3.500	2.67	6.583	12.02	9.67	2.34
0.500	1.67	3.583	2.67	6.667	12.02	9.75	2.34
0.583	1.67	3.667	2.67	6.750	12.02	9.83	2.34
0.667	1.67	3.750	2.67	6.833	5.34	9.92	2.34
0.750	1.67	3.833	2.67	6.917	5.34	10.00	2.34
0.833	1.67	3.917	2.67	7.000	5.34	10.08	2.34
0.917	1.67	4.000	2.67	7.083	5.34	10.17	2.34
1.000	1.67	4.083	2.67	7.167	5.34	10.25	2.34
1.083	1.67	4.167	2.67	7.250	5.34	10.33	1.34
1.167	1.67	4.250	2.67	7.333	4.01	10.42	1.34
1.250	1.67	4.333	4.01	7.417	4.01	10.50	1.34
1.333	1.67	4.417	4.01	7.500	4.01	10.58	1.34
1.417	1.67	4.500	4.01	7.583	4.01	10.67	1.34
1.500	1.67	4.583	4.01	7.667	4.01	10.75	1.34
1.583	1.67	4.667	4.01	7.750	4.01	10.83	1.34
1.667	1.67	4.750	4.01	7.833	4.01	10.92	1.34
1.750	1.67	4.833	5.34	7.917	4.01	11.00	1.34
1.833	1.67	4.917	5.34	8.000	4.01	11.08	1.34
1.917	1.67	5.000	5.34	8.083	4.01	11.17	1.34
2.000	1.67	5.083	5.34	8.167	4.01	11.25	1.34
2.083	1.67	5.167	5.34	8.250	4.01	11.33	1.34
2.167	1.67	5.250	5.34	8.333	2.34	11.42	1.34
2.250	1.67	5.333	8.02	8.417	2.34	11.50	1.34
2.333	2.00	5.417	8.02	8.500	2.34	11.58	1.34
2.417	2.00	5.500	8.02	8.583	2.34	11.67	1.34
2.500	2.00	5.583	8.02	8.667	2.34	11.75	1.34
2.583	2.00	5.667	8.02	8.750	2.34	11.83	1.34
2.667	2.00	5.750	8.02	8.833	2.34	11.92	1.34
2.750	2.00	5.833	32.06	8.917	2.34	12.00	1.34
2.833	2.00	5.917	32.06	9.000	2.34	12.08	1.34
2.917	2.00	6.000	32.07	9.083	2.34	12.17	1.34
3.000	2.00	6.083	88.18	9.167	2.34	12.25	1.34
3.083	2.00	6.167	88.18	9.250	2.34		

			TOTALS
Max.Eff.Inten.(mm/hr)=	88.18	54.23	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.97 (ii)	7.23 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.28	0.14	
PEAK FLOW (cms)=	0.41	0.05	0.459 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	65.80	32.49	59.14
TOTAL RAINFALL (mm)=	66.80	66.80	66.80
RUNOFF COEFFICIENT =	0.99	0.49	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0203):	2.10	0.459	6.25	59.14
+ ID2= 2 (0256):	1.12	0.028	6.83	65.11
ID = 3 (0260):	3.22	0.483	6.25	61.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM
Ptotal= 66.80 mm

Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\596d80c2
Comments: 10yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.67	6.75	12.02	10.00	2.34
0.50	1.67	3.75	2.67	7.00	5.34	10.25	2.34
0.75	1.67	4.00	2.67	7.25	5.34	10.50	1.34
1.00	1.67	4.25	2.67	7.50	4.01	10.75	1.34
1.25	1.67	4.50	4.01	7.75	4.01	11.00	1.34
1.50	1.67	4.75	4.01	8.00	4.01	11.25	1.34
1.75	1.67	5.00	5.34	8.25	4.01	11.50	1.34
2.00	1.67	5.25	5.34	8.50	2.34	11.75	1.34
2.25	1.67	5.50	8.02	8.75	2.34	12.00	1.34
2.50	2.00	5.75	8.02	9.00	2.34	12.25	1.34
2.75	2.00	6.00	32.06	9.25	2.34		
3.00	2.00	6.25	88.18	9.50	2.34		

```
                3.25    2.00 |  6.50   12.02 |  9.75    2.34 |

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| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    0.00 | 3.167    2.00 | 6.250   88.17 |  9.33    2.34
             0.167    0.00 | 3.250    2.00 | 6.333   12.02 |  9.42    2.34
             0.250    0.00 | 3.333    2.67 | 6.417   12.02 |  9.50    2.34
             0.333    1.67 | 3.417    2.67 | 6.500   12.02 |  9.58    2.34
             0.417    1.67 | 3.500    2.67 | 6.583   12.02 |  9.67    2.34
             0.500    1.67 | 3.583    2.67 | 6.667   12.02 |  9.75    2.34
             0.583    1.67 | 3.667    2.67 | 6.750   12.02 |  9.83    2.34
             0.667    1.67 | 3.750    2.67 | 6.833    5.34 |  9.92    2.34
             0.750    1.67 | 3.833    2.67 | 6.917    5.34 | 10.00    2.34
             0.833    1.67 | 3.917    2.67 | 7.000    5.34 | 10.08    2.34
             0.917    1.67 | 4.000    2.67 | 7.083    5.34 | 10.17    2.34
             1.000    1.67 | 4.083    2.67 | 7.167    5.34 | 10.25    2.34
             1.083    1.67 | 4.167    2.67 | 7.250    5.34 | 10.33    1.34
             1.167    1.67 | 4.250    2.67 | 7.333    4.01 | 10.42    1.34
             1.250    1.67 | 4.333    4.01 | 7.417    4.01 | 10.50    1.34
             1.333    1.67 | 4.417    4.01 | 7.500    4.01 | 10.58    1.34
             1.417    1.67 | 4.500    4.01 | 7.583    4.01 | 10.67    1.34
             1.500    1.67 | 4.583    4.01 | 7.667    4.01 | 10.75    1.34
             1.583    1.67 | 4.667    4.01 | 7.750    4.01 | 10.83    1.34
             1.667    1.67 | 4.750    4.01 | 7.833    4.01 | 10.92    1.34
             1.750    1.67 | 4.833    5.34 | 7.917    4.01 | 11.00    1.34
             1.833    1.67 | 4.917    5.34 | 8.000    4.01 | 11.08    1.34
             1.917    1.67 | 5.000    5.34 | 8.083    4.01 | 11.17    1.34
             2.000    1.67 | 5.083    5.34 | 8.167    4.01 | 11.25    1.34
             2.083    1.67 | 5.167    5.34 | 8.250    4.01 | 11.33    1.34
             2.167    1.67 | 5.250    5.34 | 8.333    2.34 | 11.42    1.34
             2.250    1.67 | 5.333    8.02 | 8.417    2.34 | 11.50    1.34
             2.333    2.00 | 5.417    8.02 | 8.500    2.34 | 11.58    1.34
             2.417    2.00 | 5.500    8.02 | 8.583    2.34 | 11.67    1.34
             2.500    2.00 | 5.583    8.02 | 8.667    2.34 | 11.75    1.34
             2.583    2.00 | 5.667    8.02 | 8.750    2.34 | 11.83    1.34
             2.667    2.00 | 5.750    8.02 | 8.833    2.34 | 11.92    1.34
             2.750    2.00 | 5.833   32.06 | 8.917    2.34 | 12.00    1.34
             2.833    2.00 | 5.917   32.06 | 9.000    2.34 | 12.08    1.34
             2.917    2.00 | 6.000   32.07 | 9.083    2.34 | 12.17    1.34
             3.000    2.00 | 6.083   88.18 | 9.167    2.34 | 12.25    1.34
             3.083    2.00 | 6.167   88.18 | 9.250    2.34 |

     Max.Eff.Inten.(mm/hr)=      88.18        54.23
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.66 (ii)    6.92 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.04          0.319 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=      65.80        32.49          59.13
     TOTAL RAINFALL   (mm)=      66.80        66.80          66.80
     RUNOFF COEFFICIENT   =       0.99         0.49           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.319     6.25    59.13
     + ID2= 2 (  0260):     3.22   0.483     6.25    61.22
       ================================================
       ID = 3 (  0259):     4.67   0.802     6.25    60.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\596d80c2
| Ptotal= 66.80 mm |    Comments: 10yr 12hr 15min SCS
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.25    0.00 |  3.50    2.67 |  6.75   12.02 | 10.00    2.34
              0.50    1.67 |  3.75    2.67 |  7.00    5.34 | 10.25    2.34
              0.75    1.67 |  4.00    2.67 |  7.25    5.34 | 10.50    1.34
              1.00    1.67 |  4.25    2.67 |  7.50    4.01 | 10.75    1.34
              1.25    1.67 |  4.50    4.01 |  7.75    4.01 | 11.00    1.34
              1.50    1.67 |  4.75    4.01 |  8.00    4.01 | 11.25    1.34
              1.75    1.67 |  5.00    5.34 |  8.25    4.01 | 11.50    1.34
              2.00    1.67 |  5.25    5.34 |  8.50    2.34 | 11.75    1.34
              2.25    1.67 |  5.50    8.02 |  8.75    2.34 | 12.00    1.34
              2.50    2.00 |  5.75    8.02 |  9.00    2.34 | 12.25    1.34
              2.75    2.00 |  6.00   32.06 |  9.25    2.34 |
              3.00    2.00 |  6.25   88.18 |  9.50    2.34 |
              3.25    2.00 |  6.50   12.02 |  9.75    2.34 |

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| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
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     Length            (m)=     187.44        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.00	6.250	88.17	9.33	2.34
0.167	0.00	3.250	2.00	6.333	12.02	9.42	2.34
0.250	0.00	3.333	2.67	6.417	12.02	9.50	2.34
0.333	1.67	3.417	2.67	6.500	12.02	9.58	2.34
0.417	1.67	3.500	2.67	6.583	12.02	9.67	2.34
0.500	1.67	3.583	2.67	6.667	12.02	9.75	2.34
0.583	1.67	3.667	2.67	6.750	12.02	9.83	2.34
0.667	1.67	3.750	2.67	6.833	5.34	9.92	2.34
0.750	1.67	3.833	2.67	6.917	5.34	10.00	2.34
0.833	1.67	3.917	2.67	7.000	5.34	10.08	2.34
0.917	1.67	4.000	2.67	7.083	5.34	10.17	2.34
1.000	1.67	4.083	2.67	7.167	5.34	10.25	2.34
1.083	1.67	4.167	2.67	7.250	5.34	10.33	1.34
1.167	1.67	4.250	2.67	7.333	4.01	10.42	1.34
1.250	1.67	4.333	4.01	7.417	4.01	10.50	1.34
1.333	1.67	4.417	4.01	7.500	4.01	10.58	1.34
1.417	1.67	4.500	4.01	7.583	4.01	10.67	1.34
1.500	1.67	4.583	4.01	7.667	4.01	10.75	1.34
1.583	1.67	4.667	4.01	7.750	4.01	10.83	1.34
1.667	1.67	4.750	4.01	7.833	4.01	10.92	1.34
1.750	1.67	4.833	5.34	7.917	4.01	11.00	1.34
1.833	1.67	4.917	5.34	8.000	4.01	11.08	1.34
1.917	1.67	5.000	5.34	8.083	4.01	11.17	1.34
2.000	1.67	5.083	5.34	8.167	4.01	11.25	1.34
2.083	1.67	5.167	5.34	8.250	4.01	11.33	1.34
2.167	1.67	5.250	5.34	8.333	2.34	11.42	1.34
2.250	1.67	5.333	8.02	8.417	2.34	11.50	1.34
2.333	2.00	5.417	8.02	8.500	2.34	11.58	1.34
2.417	2.00	5.500	8.02	8.583	2.34	11.67	1.34
2.500	2.00	5.583	8.02	8.667	2.34	11.75	1.34
2.583	2.00	5.667	8.02	8.750	2.34	11.83	1.34
2.667	2.00	5.750	8.02	8.833	2.34	11.92	1.34
2.750	2.00	5.833	32.06	8.917	2.34	12.00	1.34
2.833	2.00	5.917	32.06	9.000	2.34	12.08	1.34
2.917	2.00	6.000	32.07	9.083	2.34	12.17	1.34
3.000	2.00	6.083	88.18	9.167	2.34	12.25	1.34
3.083	2.00	6.167	88.18	9.250	2.34		

```
     Max.Eff.Inten.(mm/hr)=      88.18        54.23
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.92 (ii)    5.10 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.25         0.16
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.26         0.01      1.267 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.25       6.25
     RUNOFF VOLUME    (mm)=     65.80        32.49      65.47
     TOTAL RAINFALL   (mm)=     66.80        66.80      66.80
     RUNOFF COEFFICIENT   =      0.99         0.49       0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (  0201)      5.270      1.267      6.25      65.47
     OUTFLOW: ID= 1 (  0268)      5.270      0.180      6.58      65.45

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.23
                    TIME SHIFT OF PEAK FLOW         (min)= 20.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1641

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\596d80c2
| Ptotal= 66.80 mm |    Comments: 10yr 12hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.67	6.75	12.02	10.00	2.34
0.50	1.67	3.75	2.67	7.00	5.34	10.25	2.34
0.75	1.67	4.00	2.67	7.25	5.34	10.50	1.34
1.00	1.67	4.25	2.67	7.50	4.01	10.75	1.34
1.25	1.67	4.50	4.01	7.75	4.01	11.00	1.34
1.50	1.67	4.75	4.01	8.00	4.01	11.25	1.34
1.75	1.67	5.00	5.34	8.25	4.01	11.50	1.34
2.00	1.67	5.25	5.34	8.50	2.34	11.75	1.34
2.25	1.67	5.50	8.02	8.75	2.34	12.00	1.34
2.50	2.00	5.75	8.02	9.00	2.34	12.25	1.34
2.75	2.00	6.00	32.06	9.25	2.34		
3.00	2.00	6.25	88.18	9.50	2.34		
3.25	2.00	6.50	12.02	9.75	2.34		

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| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	2.00	6.250	88.17	9.33	2.34
0.167	0.00	3.250	2.00	6.333	12.02	9.42	2.34
0.250	0.00	3.333	2.67	6.417	12.02	9.50	2.34
0.333	1.67	3.417	2.67	6.500	12.02	9.58	2.34
0.417	1.67	3.500	2.67	6.583	12.02	9.67	2.34
0.500	1.67	3.583	2.67	6.667	12.02	9.75	2.34
0.583	1.67	3.667	2.67	6.750	12.02	9.83	2.34
0.667	1.67	3.750	2.67	6.833	5.34	9.92	2.34
0.750	1.67	3.833	2.67	6.917	5.34	10.00	2.34
0.833	1.67	3.917	2.67	7.000	5.34	10.08	2.34
0.917	1.67	4.000	2.67	7.083	5.34	10.17	2.34
1.000	1.67	4.083	2.67	7.167	5.34	10.25	2.34
1.083	1.67	4.167	2.67	7.250	5.34	10.33	1.34
1.167	1.67	4.250	2.67	7.333	4.01	10.42	1.34
1.250	1.67	4.333	4.01	7.417	4.01	10.50	1.34
1.333	1.67	4.417	4.01	7.500	4.01	10.58	1.34
1.417	1.67	4.500	4.01	7.583	4.01	10.67	1.34
1.500	1.67	4.583	4.01	7.667	4.01	10.75	1.34
1.583	1.67	4.667	4.01	7.750	4.01	10.83	1.34
1.667	1.67	4.750	4.01	7.833	4.01	10.92	1.34
1.750	1.67	4.833	5.34	7.917	4.01	11.00	1.34
1.833	1.67	4.917	5.34	8.000	4.01	11.08	1.34
1.917	1.67	5.000	5.34	8.083	4.01	11.17	1.34
2.000	1.67	5.083	5.34	8.167	4.01	11.25	1.34
2.083	1.67	5.167	5.34	8.250	4.01	11.33	1.34
2.167	1.67	5.250	5.34	8.333	2.34	11.42	1.34
2.250	1.67	5.333	8.02	8.417	2.34	11.50	1.34
2.333	2.00	5.417	8.02	8.500	2.34	11.58	1.34
2.417	2.00	5.500	8.02	8.583	2.34	11.67	1.34
2.500	2.00	5.583	8.02	8.667	2.34	11.75	1.34
2.583	2.00	5.667	8.02	8.750	2.34	11.83	1.34
2.667	2.00	5.750	8.02	8.833	2.34	11.92	1.34
2.750	2.00	5.833	32.06	8.917	2.34	12.00	1.34
2.833	2.00	5.917	32.06	9.000	2.34	12.08	1.34
2.917	2.00	6.000	32.07	9.083	2.34	12.17	1.34
3.000	2.00	6.083	88.18	9.167	2.34	12.25	1.34
3.083	2.00	6.167	88.18	9.250	2.34		

			TOTALS
Max.Eff.Inten.(mm/hr)=	88.18	54.23	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.18 (ii)	8.34 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.24	0.13	
PEAK FLOW (cms)=	1.28	0.14	1.423 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	65.80	32.49	59.47
TOTAL RAINFALL (mm)=	66.80	66.80	66.80
RUNOFF COEFFICIENT =	0.99	0.49	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262) |				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	6.57	1.423	6.25	59.47
+ ID2= 2 (0268):	5.27	0.180	6.58	65.45
ID = 3 (0262):	11.84	1.584	6.25	62.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266) |				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):	4.67	0.802	6.25	60.57
+ ID2= 2 (0262):	11.84	1.584	6.25	62.13
ID = 3 (0266):	16.51	2.386	6.25	61.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR (0263)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2130	0.6563
0.0190	0.1773	0.2520	0.6883
0.0220	0.2128	0.2890	0.7150
0.0260	0.2888	0.2980	0.7450
0.0300	0.3648	0.3060	0.7700
0.0650	0.4586	0.3150	0.8127
0.1100	0.5155	0.3320	0.9290
0.1680	0.5503	0.3390	0.9767
0.1930	0.5804	0.3520	1.0680
0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	2.386	6.25	61.69
OUTFLOW: ID= 1 (0263)	16.510	0.203	9.42	61.55

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.52
TIME SHIFT OF PEAK FLOW (min)=190.00
MAXIMUM STORAGE USED (ha.m.)= 0.6175

ADD HYD (0261) |				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0206):	0.12	0.010	6.33	32.46
+ ID2= 2 (0263):	16.51	0.203	9.42	61.55
ID = 3 (0261):	16.64	0.204	9.42	61.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
       V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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```

***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\1cc89fab-9bd0-4235-ba94-d830ceaba698\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\1cc89fab-9bd0-4235-ba94-d830ceaba698\s

DATE: 07/06/2020                          TIME: 04:36:54

USER:

COMMENTS: _____
```

```
  ***********************************************
  ** SIMULATION : 100 Year 12 Hour SCS          **
  ***********************************************
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\1562c14f
| Ptotal= 97.84 mm |    Comments: 100yr 12hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.91	6.75	17.61	10.00	3.42
0.50	2.45	3.75	3.91	7.00	7.83	10.25	3.42
0.75	2.45	4.00	3.91	7.25	7.83	10.50	1.96
1.00	2.45	4.25	3.91	7.50	5.87	10.75	1.96
1.25	2.45	4.50	5.87	7.75	5.87	11.00	1.96
1.50	2.45	4.75	5.87	8.00	5.87	11.25	1.96
1.75	2.45	5.00	7.83	8.25	5.87	11.50	1.96
2.00	2.45	5.25	7.83	8.50	3.42	11.75	1.96
2.25	2.45	5.50	11.74	8.75	3.42	12.00	1.96
2.50	2.94	5.75	11.74	9.00	3.42	12.25	1.96
2.75	2.94	6.00	46.96	9.25	3.42		
3.00	2.94	6.25	129.15	9.50	3.42		
3.25	2.94	6.50	17.61	9.75	3.42		

```
--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.94	6.250	129.15	9.33	3.42
0.167	0.00	3.250	2.94	6.333	17.61	9.42	3.42
0.250	0.00	3.333	3.91	6.417	17.61	9.50	3.42
0.333	2.45	3.417	3.91	6.500	17.61	9.58	3.42
0.417	2.45	3.500	3.91	6.583	17.61	9.67	3.42
0.500	2.45	3.583	3.91	6.667	17.61	9.75	3.42
0.583	2.45	3.667	3.91	6.750	17.61	9.83	3.42
0.667	2.45	3.750	3.91	6.833	7.83	9.92	3.42
0.750	2.45	3.833	3.91	6.917	7.83	10.00	3.42
0.833	2.45	3.917	3.91	7.000	7.83	10.08	3.42
0.917	2.45	4.000	3.91	7.083	7.83	10.17	3.42
1.000	2.45	4.083	3.91	7.167	7.83	10.25	3.42
1.083	2.45	4.167	3.91	7.250	7.83	10.33	1.96
1.167	2.45	4.250	3.91	7.333	5.87	10.42	1.96
1.250	2.45	4.333	5.87	7.417	5.87	10.50	1.96
1.333	2.45	4.417	5.87	7.500	5.87	10.58	1.96
1.417	2.45	4.500	5.87	7.583	5.87	10.67	1.96
1.500	2.45	4.583	5.87	7.667	5.87	10.75	1.96
1.583	2.45	4.667	5.87	7.750	5.87	10.83	1.96
1.667	2.45	4.750	5.87	7.833	5.87	10.92	1.96
1.750	2.45	4.833	7.83	7.917	5.87	11.00	1.96
1.833	2.45	4.917	7.83	8.000	5.87	11.08	1.96
1.917	2.45	5.000	7.83	8.083	5.87	11.17	1.96
2.000	2.45	5.083	7.83	8.167	5.87	11.25	1.96
2.083	2.45	5.167	7.83	8.250	5.87	11.33	1.96
2.167	2.45	5.250	7.83	8.333	3.42	11.42	1.96
2.250	2.45	5.333	11.74	8.417	3.42	11.50	1.96
2.333	2.94	5.417	11.74	8.500	3.42	11.58	1.96
2.417	2.94	5.500	11.74	8.583	3.42	11.67	1.96
2.500	2.94	5.583	11.74	8.667	3.42	11.75	1.96
2.583	2.94	5.667	11.74	8.750	3.42	11.83	1.96
2.667	2.94	5.750	11.74	8.833	3.42	11.92	1.96
2.750	2.94	5.833	46.96	8.917	3.42	12.00	1.96
2.833	2.94	5.917	46.96	9.000	3.42	12.08	1.96
2.917	2.94	6.000	46.97	9.083	3.42	12.17	1.96
3.000	2.94	6.083	129.15	9.167	3.42	12.25	1.96
3.083	2.94	6.167	129.15	9.250	3.42		

```
    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.019 (i)
    TIME TO PEAK    (hrs)=   6.333
    RUNOFF VOLUME    (mm)=  57.955
    TOTAL RAINFALL   (mm)=  97.840
    RUNOFF COEFFICIENT   =   0.592

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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```
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\1562c14f
| Ptotal= 97.84 mm |    Comments: 100yr 12hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.91	6.75	17.61	10.00	3.42
0.50	2.45	3.75	3.91	7.00	7.83	10.25	3.42
0.75	2.45	4.00	3.91	7.25	7.83	10.50	1.96
1.00	2.45	4.25	3.91	7.50	5.87	10.75	1.96
1.25	2.45	4.50	5.87	7.75	5.87	11.00	1.96
1.50	2.45	4.75	5.87	8.00	5.87	11.25	1.96
1.75	2.45	5.00	7.83	8.25	5.87	11.50	1.96
2.00	2.45	5.25	7.83	8.50	3.42	11.75	1.96
2.25	2.45	5.50	11.74	8.75	3.42	12.00	1.96
2.50	2.94	5.75	11.74	9.00	3.42	12.25	1.96
2.75	2.94	6.00	46.96	9.25	3.42		
3.00	2.94	6.25	129.15	9.50	3.42		
3.25	2.94	6.50	17.61	9.75	3.42		

```
--------------------
| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.94	6.250	129.15	9.33	3.42
0.167	0.00	3.250	2.94	6.333	17.61	9.42	3.42
0.250	0.00	3.333	3.91	6.417	17.61	9.50	3.42
0.333	2.45	3.417	3.91	6.500	17.61	9.58	3.42
0.417	2.45	3.500	3.91	6.583	17.61	9.67	3.42
0.500	2.45	3.583	3.91	6.667	17.61	9.75	3.42
0.583	2.45	3.667	3.91	6.750	17.61	9.83	3.42
0.667	2.45	3.750	3.91	6.833	7.83	9.92	3.42
0.750	2.45	3.833	3.91	6.917	7.83	10.00	3.42
0.833	2.45	3.917	3.91	7.000	7.83	10.08	3.42
0.917	2.45	4.000	3.91	7.083	7.83	10.17	3.42
1.000	2.45	4.083	3.91	7.167	7.83	10.25	3.42
1.083	2.45	4.167	3.91	7.250	7.83	10.33	1.96
1.167	2.45	4.250	3.91	7.333	5.87	10.42	1.96
1.250	2.45	4.333	5.87	7.417	5.87	10.50	1.96
1.333	2.45	4.417	5.87	7.500	5.87	10.58	1.96
1.417	2.45	4.500	5.87	7.583	5.87	10.67	1.96
1.500	2.45	4.583	5.87	7.667	5.87	10.75	1.96
1.583	2.45	4.667	5.87	7.750	5.87	10.83	1.96
1.667	2.45	4.750	5.87	7.833	5.87	10.92	1.96
1.750	2.45	4.833	7.83	7.917	5.87	11.00	1.96
1.833	2.45	4.917	7.83	8.000	5.87	11.08	1.96
1.917	2.45	5.000	7.83	8.083	5.87	11.17	1.96
2.000	2.45	5.083	7.83	8.167	5.87	11.25	1.96
2.083	2.45	5.167	7.83	8.250	5.87	11.33	1.96
2.167	2.45	5.250	7.83	8.333	3.42	11.42	1.96
2.250	2.45	5.333	11.74	8.417	3.42	11.50	1.96
2.333	2.94	5.417	11.74	8.500	3.42	11.58	1.96
2.417	2.94	5.500	11.74	8.583	3.42	11.67	1.96
2.500	2.94	5.583	11.74	8.667	3.42	11.75	1.96
2.583	2.94	5.667	11.74	8.750	3.42	11.83	1.96
2.667	2.94	5.750	11.74	8.833	3.42	11.92	1.96
2.750	2.94	5.833	46.96	8.917	3.42	12.00	1.96
2.833	2.94	5.917	46.96	9.000	3.42	12.08	1.96
2.917	2.94	6.000	46.97	9.083	3.42	12.17	1.96
3.000	2.94	6.083	129.15	9.167	3.42	12.25	1.96
3.083	2.94	6.167	129.15	9.250	3.42		

				TOTALS
Max.Eff.Inten.(mm/hr)=		129.15	94.69	
over (min)		5.00	5.00	
Storage Coeff. (min)=		2.12 (ii)	3.13 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.31	0.27	
PEAK FLOW	(cms)=	0.40	0.00	0.402 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	96.84	58.00	96.45
TOTAL RAINFALL	(mm)=	97.84	97.84	97.84
RUNOFF COEFFICIENT	=	0.99	0.59	0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470     0.0750
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.402	6.25	96.45
OUTFLOW: ID= 1 (0256)	1.125	0.041	6.75	96.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.30
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0663

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\1562c14f
| Ptotal= 97.84 mm |    Comments: 100yr 12hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.91	6.75	17.61	10.00	3.42
0.50	2.45	3.75	3.91	7.00	7.83	10.25	3.42

0.75	2.45	4.00	3.91	7.25	7.83	10.50	1.96
1.00	2.45	4.25	3.91	7.50	5.87	10.75	1.96
1.25	2.45	4.50	5.87	7.75	5.87	11.00	1.96
1.50	2.45	4.75	5.87	8.00	5.87	11.25	1.96
1.75	2.45	5.00	7.83	8.25	5.87	11.50	1.96
2.00	2.45	5.25	7.83	8.50	3.42	11.75	1.96
2.25	2.45	5.50	11.74	8.75	3.42	12.00	1.96
2.50	2.94	5.75	11.74	9.00	3.42	12.25	1.96
2.75	2.94	6.00	46.96	9.25	3.42		
3.00	2.94	6.25	129.15	9.50	3.42		
3.25	2.94	6.50	17.61	9.75	3.42		

CALIB			
STANDHYD (0203)	Area (ha)=	2.10	
ID= 1 DT= 5.0 min	Total Imp(%)=	80.00	Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.94	6.250	129.15	9.33	3.42
0.167	0.00	3.250	2.94	6.333	17.61	9.42	3.42
0.250	0.00	3.333	3.91	6.417	17.61	9.50	3.42
0.333	2.45	3.417	3.91	6.500	17.61	9.58	3.42
0.417	2.45	3.500	3.91	6.583	17.61	9.67	3.42
0.500	2.45	3.583	3.91	6.667	17.61	9.75	3.42
0.583	2.45	3.667	3.91	6.750	17.61	9.83	3.42
0.667	2.45	3.750	3.91	6.833	7.83	9.92	3.42
0.750	2.45	3.833	3.91	6.917	7.83	10.00	3.42
0.833	2.45	3.917	3.91	7.000	7.83	10.08	3.42
0.917	2.45	4.000	3.91	7.083	7.83	10.17	3.42
1.000	2.45	4.083	3.91	7.167	7.83	10.25	3.42
1.083	2.45	4.167	3.91	7.250	7.83	10.33	1.96
1.167	2.45	4.250	3.91	7.333	5.87	10.42	1.96
1.250	2.45	4.333	5.87	7.417	5.87	10.50	1.96
1.333	2.45	4.417	5.87	7.500	5.87	10.58	1.96
1.417	2.45	4.500	5.87	7.583	5.87	10.67	1.96
1.500	2.45	4.583	5.87	7.667	5.87	10.75	1.96
1.583	2.45	4.667	5.87	7.750	5.87	10.83	1.96
1.667	2.45	4.750	5.87	7.833	5.87	10.92	1.96
1.750	2.45	4.833	7.83	7.917	5.87	11.00	1.96
1.833	2.45	4.917	7.83	8.000	5.87	11.08	1.96
1.917	2.45	5.000	7.83	8.083	5.87	11.17	1.96
2.000	2.45	5.083	7.83	8.167	5.87	11.25	1.96
2.083	2.45	5.167	7.83	8.250	5.87	11.33	1.96
2.167	2.45	5.250	7.83	8.333	3.42	11.42	1.96
2.250	2.45	5.333	11.74	8.417	3.42	11.50	1.96
2.333	2.94	5.417	11.74	8.500	3.42	11.58	1.96
2.417	2.94	5.500	11.74	8.583	3.42	11.67	1.96
2.500	2.94	5.583	11.74	8.667	3.42	11.75	1.96
2.583	2.94	5.667	11.74	8.750	3.42	11.83	1.96
2.667	2.94	5.750	11.74	8.833	3.42	11.92	1.96
2.750	2.94	5.833	46.96	8.917	3.42	12.00	1.96
2.833	2.94	5.917	46.96	9.000	3.42	12.08	1.96
2.917	2.94	6.000	46.97	9.083	3.42	12.17	1.96
3.000	2.94	6.083	129.15	9.167	3.42	12.25	1.96
3.083	2.94	6.167	129.15	9.250	3.42		

Max.Eff.Inten.(mm/hr)=	129.15	94.69		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.55 (ii)	6.21 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.29	0.15		
			TOTALS	
PEAK FLOW (cms)=	0.60	0.09	0.694 (iii)	
TIME TO PEAK (hrs)=	6.25	6.25	6.25	
RUNOFF VOLUME (mm)=	96.84	58.00	89.07	
TOTAL RAINFALL (mm)=	97.84	97.84	97.84	
RUNOFF COEFFICIENT =	0.99	0.59	0.91	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0203):	2.10	0.694	6.25	89.07
	+ ID2= 2 (0256):	1.12	0.041	6.75	96.10
	ID = 3 (0260):	3.22	0.730	6.25	91.53

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppD ata\Local\Temp\ c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\1562c14f
Ptotal= 97.84 mm	Comments: 100yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.91	6.75	17.61	10.00	3.42
0.50	2.45	3.75	3.91	7.00	7.83	10.25	3.42
0.75	2.45	4.00	3.91	7.25	7.83	10.50	1.96
1.00	2.45	4.25	3.91	7.50	5.87	10.75	1.96
1.25	2.45	4.50	5.87	7.75	5.87	11.00	1.96
1.50	2.45	4.75	5.87	8.00	5.87	11.25	1.96
1.75	2.45	5.00	7.83	8.25	5.87	11.50	1.96
2.00	2.45	5.25	7.83	8.50	3.42	11.75	1.96
2.25	2.45	5.50	11.74	8.75	3.42	12.00	1.96
2.50	2.94	5.75	11.74	9.00	3.42	12.25	1.96
2.75	2.94	6.00	46.96	9.25	3.42		
3.00	2.94	6.25	129.15	9.50	3.42		
3.25	2.94	6.50	17.61	9.75	3.42		

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| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.16         0.29
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     98.32        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.94	6.250	129.15	9.33	3.42
0.167	0.00	3.250	2.94	6.333	17.61	9.42	3.42
0.250	0.00	3.333	3.91	6.417	17.61	9.50	3.42
0.333	2.45	3.417	3.91	6.500	17.61	9.58	3.42
0.417	2.45	3.500	3.91	6.583	17.61	9.67	3.42
0.500	2.45	3.583	3.91	6.667	17.61	9.75	3.42
0.583	2.45	3.667	3.91	6.750	17.61	9.83	3.42
0.667	2.45	3.750	3.91	6.833	7.83	9.92	3.42
0.750	2.45	3.833	3.91	6.917	7.83	10.00	3.42
0.833	2.45	3.917	3.91	7.000	7.83	10.08	3.42
0.917	2.45	4.000	3.91	7.083	7.83	10.17	3.42
1.000	2.45	4.083	3.91	7.167	7.83	10.25	3.42
1.083	2.45	4.167	3.91	7.250	7.83	10.33	1.96
1.167	2.45	4.250	3.91	7.333	5.87	10.42	1.96
1.250	2.45	4.333	5.87	7.417	5.87	10.50	1.96
1.333	2.45	4.417	5.87	7.500	5.87	10.58	1.96
1.417	2.45	4.500	5.87	7.583	5.87	10.67	1.96
1.500	2.45	4.583	5.87	7.667	5.87	10.75	1.96
1.583	2.45	4.667	5.87	7.750	5.87	10.83	1.96
1.667	2.45	4.750	5.87	7.833	5.87	10.92	1.96
1.750	2.45	4.833	7.83	7.917	5.87	11.00	1.96
1.833	2.45	4.917	7.83	8.000	5.87	11.08	1.96
1.917	2.45	5.000	7.83	8.083	5.87	11.17	1.96
2.000	2.45	5.083	7.83	8.167	5.87	11.25	1.96
2.083	2.45	5.167	7.83	8.250	5.87	11.33	1.96
2.167	2.45	5.250	7.83	8.333	3.42	11.42	1.96
2.250	2.45	5.333	11.74	8.417	3.42	11.50	1.96
2.333	2.94	5.417	11.74	8.500	3.42	11.58	1.96
2.417	2.94	5.500	11.74	8.583	3.42	11.67	1.96
2.500	2.94	5.583	11.74	8.667	3.42	11.75	1.96
2.583	2.94	5.667	11.74	8.750	3.42	11.83	1.96
2.667	2.94	5.750	11.74	8.833	3.42	11.92	1.96
2.750	2.94	5.833	46.96	8.917	3.42	12.00	1.96
2.833	2.94	5.917	46.96	9.000	3.42	12.08	1.96
2.917	2.94	6.000	46.97	9.083	3.42	12.17	1.96
3.000	2.94	6.083	129.15	9.167	3.42	12.25	1.96
3.083	2.94	6.167	129.15	9.250	3.42		

```
     Max.Eff.Inten.(mm/hr)=     129.15        94.69
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.28 (ii)    5.94 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.42         0.07         0.481 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25          6.25
     RUNOFF VOLUME    (mm)=      96.84        58.00         89.07
     TOTAL RAINFALL   (mm)=      97.84        97.84         97.84
     RUNOFF COEFFICIENT   =       0.99         0.59          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.481     6.25    89.07
     + ID2= 2 (  0260):     3.22   0.730     6.25    91.53
       ================================================
       ID = 3 (  0259):     4.67   1.211     6.25    90.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\1562c14f
| Ptotal= 97.84 mm |    Comments: 100yr 12hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.91	6.75	17.61	10.00	3.42
0.50	2.45	3.75	3.91	7.00	7.83	10.25	3.42
0.75	2.45	4.00	3.91	7.25	7.83	10.50	1.96
1.00	2.45	4.25	3.91	7.50	5.87	10.75	1.96
1.25	2.45	4.50	5.87	7.75	5.87	11.00	1.96
1.50	2.45	4.75	5.87	8.00	5.87	11.25	1.96
1.75	2.45	5.00	7.83	8.25	5.87	11.50	1.96
2.00	2.45	5.25	7.83	8.50	3.42	11.75	1.96
2.25	2.45	5.50	11.74	8.75	3.42	12.00	1.96
2.50	2.94	5.75	11.74	9.00	3.42	12.25	1.96
2.75	2.94	6.00	46.96	9.25	3.42		
3.00	2.94	6.25	129.15	9.50	3.42		
3.25	2.94	6.50	17.61	9.75	3.42		

```
--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      5.22         0.05
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    187.44        40.00
     Mannings n           =     0.013        0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.94	6.250	129.15	9.33	3.42
0.167	0.00	3.250	2.94	6.333	17.61	9.42	3.42
0.250	0.00	3.333	3.91	6.417	17.61	9.50	3.42
0.333	2.45	3.417	3.91	6.500	17.61	9.58	3.42
0.417	2.45	3.500	3.91	6.583	17.61	9.67	3.42
0.500	2.45	3.583	3.91	6.667	17.61	9.75	3.42
0.583	2.45	3.667	3.91	6.750	17.61	9.83	3.42
0.667	2.45	3.750	3.91	6.833	7.83	9.92	3.42
0.750	2.45	3.833	3.91	6.917	7.83	10.00	3.42
0.833	2.45	3.917	3.91	7.000	7.83	10.08	3.42
0.917	2.45	4.000	3.91	7.083	7.83	10.17	3.42
1.000	2.45	4.083	3.91	7.167	7.83	10.25	3.42
1.083	2.45	4.167	3.91	7.250	7.83	10.33	1.96
1.167	2.45	4.250	3.91	7.333	5.87	10.42	1.96
1.250	2.45	4.333	5.87	7.417	5.87	10.50	1.96
1.333	2.45	4.417	5.87	7.500	5.87	10.58	1.96
1.417	2.45	4.500	5.87	7.583	5.87	10.67	1.96
1.500	2.45	4.583	5.87	7.667	5.87	10.75	1.96
1.583	2.45	4.667	5.87	7.750	5.87	10.83	1.96
1.667	2.45	4.750	5.87	7.833	5.87	10.92	1.96
1.750	2.45	4.833	7.83	7.917	5.87	11.00	1.96
1.833	2.45	4.917	7.83	8.000	5.87	11.08	1.96
1.917	2.45	5.000	7.83	8.083	5.87	11.17	1.96
2.000	2.45	5.083	7.83	8.167	5.87	11.25	1.96
2.083	2.45	5.167	7.83	8.250	5.87	11.33	1.96
2.167	2.45	5.250	7.83	8.333	3.42	11.42	1.96
2.250	2.45	5.333	11.74	8.417	3.42	11.50	1.96
2.333	2.94	5.417	11.74	8.500	3.42	11.58	1.96
2.417	2.94	5.500	11.74	8.583	3.42	11.67	1.96
2.500	2.94	5.583	11.74	8.667	3.42	11.75	1.96
2.583	2.94	5.667	11.74	8.750	3.42	11.83	1.96
2.667	2.94	5.750	11.74	8.833	3.42	11.92	1.96
2.750	2.94	5.833	46.96	8.917	3.42	12.00	1.96
2.833	2.94	5.917	46.96	9.000	3.42	12.08	1.96
2.917	2.94	6.000	46.97	9.083	3.42	12.17	1.96
3.000	2.94	6.083	129.15	9.167	3.42	12.25	1.96
3.083	2.94	6.167	129.15	9.250	3.42		

			TOTALS
Max.Eff.Inten.(mm/hr)=	129.15	94.69	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.36 (ii)	4.38 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.26	0.23	
PEAK FLOW (cms)=	1.86	0.01	1.871 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	96.84	58.00	96.45
TOTAL RAINFALL (mm)=	97.84	97.84	97.84
RUNOFF COEFFICIENT =	0.99	0.59	0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 5.0 min	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	1.871	6.25	96.45
OUTFLOW: ID= 1 (0268)	5.270	0.222	6.75	96.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.87
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.2545

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\1562c14f
Ptotal= 97.84 mm	Comments: 100yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.91	6.75	17.61	10.00	3.42
0.50	2.45	3.75	3.91	7.00	7.83	10.25	3.42
0.75	2.45	4.00	3.91	7.25	7.83	10.50	1.96
1.00	2.45	4.25	3.91	7.50	5.87	10.75	1.96
1.25	2.45	4.50	5.87	7.75	5.87	11.00	1.96
1.50	2.45	4.75	5.87	8.00	5.87	11.25	1.96
1.75	2.45	5.00	7.83	8.25	5.87	11.50	1.96
2.00	2.45	5.25	7.83	8.50	3.42	11.75	1.96
2.25	2.45	5.50	11.74	8.75	3.42	12.00	1.96
2.50	2.94	5.75	11.74	9.00	3.42	12.25	1.96
2.75	2.94	6.00	46.96	9.25	3.42		
3.00	2.94	6.25	129.15	9.50	3.42		
3.25	2.94	6.50	17.61	9.75	3.42		

CALIB / STANDHYD (0202) / ID= 1 DT= 5.0 min	Area (ha)= 6.57	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.94	6.250	129.15	9.33	3.42
0.167	0.00	3.250	2.94	6.333	17.61	9.42	3.42

```
              0.250    0.00 | 3.333    3.91 | 6.417   17.61 |  9.50    3.42
              0.333    2.45 | 3.417    3.91 | 6.500   17.61 |  9.58    3.42
              0.417    2.45 | 3.500    3.91 | 6.583   17.61 |  9.67    3.42
              0.500    2.45 | 3.583    3.91 | 6.667   17.61 |  9.75    3.42
              0.583    2.45 | 3.667    3.91 | 6.750   17.61 |  9.83    3.42
              0.667    2.45 | 3.750    3.91 | 6.833    7.83 |  9.92    3.42
              0.750    2.45 | 3.833    3.91 | 6.917    7.83 | 10.00    3.42
              0.833    2.45 | 3.917    3.91 | 7.000    7.83 | 10.08    3.42
              0.917    2.45 | 4.000    3.91 | 7.083    7.83 | 10.17    3.42
              1.000    2.45 | 4.083    3.91 | 7.167    7.83 | 10.25    3.42
              1.083    2.45 | 4.167    3.91 | 7.250    7.83 | 10.33    1.96
              1.167    2.45 | 4.250    3.91 | 7.333    5.87 | 10.42    1.96
              1.250    2.45 | 4.333    5.87 | 7.417    5.87 | 10.50    1.96
              1.333    2.45 | 4.417    5.87 | 7.500    5.87 | 10.58    1.96
              1.417    2.45 | 4.500    5.87 | 7.583    5.87 | 10.67    1.96
              1.500    2.45 | 4.583    5.87 | 7.667    5.87 | 10.75    1.96
              1.583    2.45 | 4.667    5.87 | 7.750    5.87 | 10.83    1.96
              1.667    2.45 | 4.750    5.87 | 7.833    5.87 | 10.92    1.96
              1.750    2.45 | 4.833    7.83 | 7.917    5.87 | 11.00    1.96
              1.833    2.45 | 4.917    7.83 | 8.000    5.87 | 11.08    1.96
              1.917    2.45 | 5.000    7.83 | 8.083    5.87 | 11.17    1.96
              2.000    2.45 | 5.083    7.83 | 8.167    5.87 | 11.25    1.96
              2.083    2.45 | 5.167    7.83 | 8.250    5.87 | 11.33    1.96
              2.167    2.45 | 5.250    7.83 | 8.333    3.42 | 11.42    1.96
              2.250    2.45 | 5.333   11.74 | 8.417    3.42 | 11.50    1.96
              2.333    2.94 | 5.417   11.74 | 8.500    3.42 | 11.58    1.96
              2.417    2.94 | 5.500   11.74 | 8.583    3.42 | 11.67    1.96
              2.500    2.94 | 5.583   11.74 | 8.667    3.42 | 11.75    1.96
              2.583    2.94 | 5.667   11.74 | 8.750    3.42 | 11.83    1.96
              2.667    2.94 | 5.750   11.74 | 8.833    3.42 | 11.92    1.96
              2.750    2.94 | 5.833   46.96 | 8.917    3.42 | 12.00    1.96
              2.833    2.94 | 5.917   46.96 | 9.000    3.42 | 12.08    1.96
              2.917    2.94 | 6.000   46.97 | 9.083    3.42 | 12.17    1.96
              3.000    2.94 | 6.083  129.15 | 9.167    3.42 | 12.25    1.96
              3.083    2.94 | 6.167  129.15 | 9.250    3.42 |

     Max.Eff.Inten.(mm/hr)=     129.15        94.69
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       3.59 (ii)    7.16 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.89         0.27       2.158 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25        6.25
     RUNOFF VOLUME    (mm)=      96.84        58.00       89.46
     TOTAL RAINFALL   (mm)=      97.84        97.84       97.84
     RUNOFF COEFFICIENT   =       0.99         0.59        0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0202):     6.57   2.158     6.25    89.46
      + ID2= 2 (  0268):     5.27   0.222     6.75    96.43
        ==================================================
        ID = 3 (  0262):    11.84   2.362     6.25    92.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0259):     4.67   1.211     6.25    90.76
      + ID2= 2 (  0262):    11.84   2.362     6.25    92.56
        ==================================================
        ID = 3 (  0266):    16.51   3.573     6.25    92.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2130      0.6563
                          0.0190     0.1773   |   0.2520      0.6883
                          0.0220     0.2128   |   0.2890      0.7150
                          0.0260     0.2888   |   0.2980      0.7450
                          0.0300     0.3648   |   0.3060      0.7700
                          0.0650     0.4586   |   0.3150      0.8127
                          0.1100     0.5155   |   0.3320      0.9290
                          0.1680     0.5503   |   0.3390      0.9767
                          0.1930     0.5804   |   0.3520      1.0680
                          0.2000     0.6048   |   0.0000      0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      3.573      6.25      92.05
   OUTFLOW: ID= 1 (  0263)     16.510      0.319      8.58      91.91

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.94
                TIME SHIFT OF PEAK FLOW         (min)=140.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.8420

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0206):     0.12   0.019     6.33    57.95
      + ID2= 2 (  0263):    16.51   0.319     8.58    91.91
        ==================================================
        ID = 3 (  0261):    16.64   0.321     8.33    91.66

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
```

```
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\af190106-1645-402c-8cb0-49b261e9ae79\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\af190106-1645-402c-8cb0-49b261e9ae79\s


DATE: 07/06/2020                          TIME: 04:36:53

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 2 Year 12 Hour SCS            **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\aea093e4
| Ptotal= 39.97 mm |    Comments: 2yr 12hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50    1.60 |  6.75    7.19 | 10.00    1.40
               0.50    1.00 |  3.75    1.60 |  7.00    3.20 | 10.25    1.40
               0.75    1.00 |  4.00    1.60 |  7.25    3.20 | 10.50    0.80
               1.00    1.00 |  4.25    1.60 |  7.50    2.40 | 10.75    0.80
               1.25    1.00 |  4.50    2.40 |  7.75    2.40 | 11.00    0.80
               1.50    1.00 |  4.75    2.40 |  8.00    2.40 | 11.25    0.80
               1.75    1.00 |  5.00    3.20 |  8.25    2.40 | 11.50    0.80
               2.00    1.00 |  5.25    3.20 |  8.50    1.40 | 11.75    0.80
               2.25    1.00 |  5.50    4.80 |  8.75    1.40 | 12.00    0.80
               2.50    1.20 |  5.75    4.80 |  9.00    1.40 | 12.25    0.80
               2.75    1.20 |  6.00   19.19 |  9.25    1.40 |
               3.00    1.20 |  6.25   52.76 |  9.50    1.40 |
               3.25    1.20 |  6.50    7.19 |  9.75    1.40 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    1.20 | 6.250   52.76 |  9.33    1.40
               0.167    0.00 | 3.250    1.20 | 6.333    7.19 |  9.42    1.40
               0.250    0.00 | 3.333    1.60 | 6.417    7.19 |  9.50    1.40
               0.333    1.00 | 3.417    1.60 | 6.500    7.19 |  9.58    1.40
               0.417    1.00 | 3.500    1.60 | 6.583    7.19 |  9.67    1.40
               0.500    1.00 | 3.583    1.60 | 6.667    7.19 |  9.75    1.40
               0.583    1.00 | 3.667    1.60 | 6.750    7.19 |  9.83    1.40
               0.667    1.00 | 3.750    1.60 | 6.833    3.20 |  9.92    1.40
               0.750    1.00 | 3.833    1.60 | 6.917    3.20 | 10.00    1.40
               0.833    1.00 | 3.917    1.60 | 7.000    3.20 | 10.08    1.40
               0.917    1.00 | 4.000    1.60 | 7.083    3.20 | 10.17    1.40
               1.000    1.00 | 4.083    1.60 | 7.167    3.20 | 10.25    1.40
               1.083    1.00 | 4.167    1.60 | 7.250    3.20 | 10.33    0.80
               1.167    1.00 | 4.250    1.60 | 7.333    2.40 | 10.42    0.80
               1.250    1.00 | 4.333    2.40 | 7.417    2.40 | 10.50    0.80
               1.333    1.00 | 4.417    2.40 | 7.500    2.40 | 10.58    0.80
               1.417    1.00 | 4.500    2.40 | 7.583    2.40 | 10.67    0.80
               1.500    1.00 | 4.583    2.40 | 7.667    2.40 | 10.75    0.80
               1.583    1.00 | 4.667    2.40 | 7.750    2.40 | 10.83    0.80
               1.667    1.00 | 4.750    2.40 | 7.833    2.40 | 10.92    0.80
               1.750    1.00 | 4.833    3.20 | 7.917    2.40 | 11.00    0.80
               1.833    1.00 | 4.917    3.20 | 8.000    2.40 | 11.08    0.80
               1.917    1.00 | 5.000    3.20 | 8.083    2.40 | 11.17    0.80
               2.000    1.00 | 5.083    3.20 | 8.167    2.40 | 11.25    0.80
               2.083    1.00 | 5.167    3.20 | 8.250    2.40 | 11.33    0.80
               2.167    1.00 | 5.250    3.20 | 8.333    1.40 | 11.42    0.80
               2.250    1.00 | 5.333    4.80 | 8.417    1.40 | 11.50    0.80
               2.333    1.20 | 5.417    4.80 | 8.500    1.40 | 11.58    0.80
               2.417    1.20 | 5.500    4.80 | 8.583    1.40 | 11.67    0.80
               2.500    1.20 | 5.583    4.80 | 8.667    1.40 | 11.75    0.80
               2.583    1.20 | 5.667    4.80 | 8.750    1.40 | 11.83    0.80
               2.667    1.20 | 5.750    4.80 | 8.833    1.40 | 11.92    0.80
               2.750    1.20 | 5.833   19.19 | 8.917    1.40 | 12.00    0.80
               2.833    1.20 | 5.917   19.19 | 9.000    1.40 | 12.08    0.80
               2.917    1.20 | 6.000   19.19 | 9.083    1.40 | 12.17    0.80
               3.000    1.20 | 6.083   52.76 | 9.167    1.40 | 12.25    0.80
               3.083    1.20 | 6.167   52.76 | 9.250    1.40 |

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.004 (i)
    TIME TO PEAK    (hrs)=   6.333
    RUNOFF VOLUME    (mm)=  13.463
    TOTAL RAINFALL   (mm)=  39.970
    RUNOFF COEFFICIENT   =   0.337

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\aea093e4
```

| Ptotal= 39.97 mm | Comments: 2yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.60	6.75	7.19	10.00	1.40
0.50	1.00	3.75	1.60	7.00	3.20	10.25	1.40
0.75	1.00	4.00	1.60	7.25	3.20	10.50	0.80
1.00	1.00	4.25	1.60	7.50	2.40	10.75	0.80
1.25	1.00	4.50	2.40	7.75	2.40	11.00	0.80
1.50	1.00	4.75	2.40	8.00	2.40	11.25	0.80
1.75	1.00	5.00	3.20	8.25	2.40	11.50	0.80
2.00	1.00	5.25	3.20	8.50	1.40	11.75	0.80
2.25	1.00	5.50	4.80	8.75	1.40	12.00	0.80
2.50	1.20	5.75	4.80	9.00	1.40	12.25	0.80
2.75	1.20	6.00	19.19	9.25	1.40		
3.00	1.20	6.25	52.76	9.50	1.40		
3.25	1.20	6.50	7.19	9.75	1.40		

| CALIB |
| STANDHYD (0205)|
|ID= 1 DT= 5.0 min |

Area (ha)= 1.12
Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.20	6.250	52.76	9.33	1.40
0.167	0.00	3.250	1.20	6.333	7.19	9.42	1.40
0.250	0.00	3.333	1.60	6.417	7.19	9.50	1.40
0.333	1.00	3.417	1.60	6.500	7.19	9.58	1.40
0.417	1.00	3.500	1.60	6.583	7.19	9.67	1.40
0.500	1.00	3.583	1.60	6.667	7.19	9.75	1.40
0.583	1.00	3.667	1.60	6.750	7.19	9.83	1.40
0.667	1.00	3.750	1.60	6.833	3.20	9.92	1.40
0.750	1.00	3.833	1.60	6.917	3.20	10.00	1.40
0.833	1.00	3.917	1.60	7.000	3.20	10.08	1.40
0.917	1.00	4.000	1.60	7.083	3.20	10.17	1.40
1.000	1.00	4.083	1.60	7.167	3.20	10.25	1.40
1.083	1.00	4.167	1.60	7.250	3.20	10.33	0.80
1.167	1.00	4.250	1.60	7.333	2.40	10.42	0.80
1.250	1.00	4.333	2.40	7.417	2.40	10.50	0.80
1.333	1.00	4.417	2.40	7.500	2.40	10.58	0.80
1.417	1.00	4.500	2.40	7.583	2.40	10.67	0.80
1.500	1.00	4.583	2.40	7.667	2.40	10.75	0.80
1.583	1.00	4.667	2.40	7.750	2.40	10.83	0.80
1.667	1.00	4.750	2.40	7.833	2.40	10.92	0.80
1.750	1.00	4.833	3.20	7.917	2.40	11.00	0.80
1.833	1.00	4.917	3.20	8.000	2.40	11.08	0.80
1.917	1.00	5.000	3.20	8.083	2.40	11.17	0.80
2.000	1.00	5.083	3.20	8.167	2.40	11.25	0.80
2.083	1.00	5.167	3.20	8.250	2.40	11.33	0.80
2.167	1.00	5.250	3.20	8.333	1.40	11.42	0.80
2.250	1.00	5.333	4.80	8.417	1.40	11.50	0.80
2.333	1.20	5.417	4.80	8.500	1.40	11.58	0.80
2.417	1.20	5.500	4.80	8.583	1.40	11.67	0.80
2.500	1.20	5.583	4.80	8.667	1.40	11.75	0.80
2.583	1.20	5.667	4.80	8.750	1.40	11.83	0.80
2.667	1.20	5.750	4.80	8.833	1.40	11.92	0.80
2.750	1.20	5.833	19.19	8.917	1.40	12.00	0.80
2.833	1.20	5.917	19.19	9.000	1.40	12.08	0.80
2.917	1.20	6.000	19.19	9.083	1.40	12.17	0.80
3.000	1.20	6.083	52.76	9.167	1.40	12.25	0.80
3.083	1.20	6.167	52.76	9.250	1.40		

			TOTALS
Max.Eff.Inten.(mm/hr)=	52.76	22.98	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.03 (ii)	4.48 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.27	0.23	
PEAK FLOW (cms)=	0.16	0.00	0.163 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	38.97	13.48	38.71
TOTAL RAINFALL (mm)=	39.97	39.97	39.97
RUNOFF COEFFICIENT =	0.97	0.34	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(0256)|
| IN= 2---> OUT= 1 |
| DT= 5.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.163	6.25	38.71
OUTFLOW: ID= 1 (0256)	1.125	0.017	6.83	38.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.27
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0268

READ STORM

Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\aea093e4

| Ptotal= 39.97 mm | Comments: 2yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.60	6.75	7.19	10.00	1.40
0.50	1.00	3.75	1.60	7.00	3.20	10.25	1.40
0.75	1.00	4.00	1.60	7.25	3.20	10.50	0.80
1.00	1.00	4.25	1.60	7.50	2.40	10.75	0.80
1.25	1.00	4.50	2.40	7.75	2.40	11.00	0.80

1.50	1.00	4.75	2.40	8.00	2.40	11.25	0.80
1.75	1.00	5.00	3.20	8.25	2.40	11.50	0.80
2.00	1.00	5.25	3.20	8.50	1.40	11.75	0.80
2.25	1.00	5.50	4.80	8.75	1.40	12.00	0.80
2.50	1.20	5.75	4.80	9.00	1.40	12.25	0.80
2.75	1.20	6.00	19.19	9.25	1.40		
3.00	1.20	6.25	52.76	9.50	1.40		
3.25	1.20	6.50	7.19	9.75	1.40		

CALIB	
STANDHYD (0203)	Area (ha)= 2.10
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.20	6.250	52.76	9.33	1.40
0.167	0.00	3.250	1.20	6.333	7.19	9.42	1.40
0.250	0.00	3.333	1.60	6.417	7.19	9.50	1.40
0.333	1.00	3.417	1.60	6.500	7.19	9.58	1.40
0.417	1.00	3.500	1.60	6.583	7.19	9.67	1.40
0.500	1.00	3.583	1.60	6.667	7.19	9.75	1.40
0.583	1.00	3.667	1.60	6.750	7.19	9.83	1.40
0.667	1.00	3.750	1.60	6.833	3.20	9.92	1.40
0.750	1.00	3.833	1.60	6.917	3.20	10.00	1.40
0.833	1.00	3.917	1.60	7.000	3.20	10.08	1.40
0.917	1.00	4.000	1.60	7.083	3.20	10.17	1.40
1.000	1.00	4.083	1.60	7.167	3.20	10.25	1.40
1.083	1.00	4.167	1.60	7.250	3.20	10.33	0.80
1.167	1.00	4.250	1.60	7.333	2.40	10.42	0.80
1.250	1.00	4.333	2.40	7.417	2.40	10.50	0.80
1.333	1.00	4.417	2.40	7.500	2.40	10.58	0.80
1.417	1.00	4.500	2.40	7.583	2.40	10.67	0.80
1.500	1.00	4.583	2.40	7.667	2.40	10.75	0.80
1.583	1.00	4.667	2.40	7.750	2.40	10.83	0.80
1.667	1.00	4.750	2.40	7.833	2.40	10.92	0.80
1.750	1.00	4.833	3.20	7.917	2.40	11.00	0.80
1.833	1.00	4.917	3.20	8.000	2.40	11.08	0.80
1.917	1.00	5.000	3.20	8.083	2.40	11.17	0.80
2.000	1.00	5.083	3.20	8.167	2.40	11.25	0.80
2.083	1.00	5.167	3.20	8.250	2.40	11.33	0.80
2.167	1.00	5.250	3.20	8.333	1.40	11.42	0.80
2.250	1.00	5.333	4.80	8.417	1.40	11.50	0.80
2.333	1.20	5.417	4.80	8.500	1.40	11.58	0.80
2.417	1.20	5.500	4.80	8.583	1.40	11.67	0.80
2.500	1.20	5.583	4.80	8.667	1.40	11.75	0.80
2.583	1.20	5.667	4.80	8.750	1.40	11.83	0.80
2.667	1.20	5.750	4.80	8.833	1.40	11.92	0.80
2.750	1.20	5.833	19.19	8.917	1.40	12.00	0.80
2.833	1.20	5.917	19.19	9.000	1.40	12.08	0.80
2.917	1.20	6.000	19.19	9.083	1.40	12.17	0.80
3.000	1.20	6.083	52.76	9.167	1.40	12.25	0.80
3.083	1.20	6.167	52.76	9.250	1.40		

			TOTALS
Max.Eff.Inten.(mm/hr)=	52.76	20.98	
over (min)	5.00	20.00	
Storage Coeff. (min)=	3.65 (ii)	16.83 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.25	0.06	
PEAK FLOW (cms)=	0.24	0.01	0.252 (iii)
TIME TO PEAK (hrs)=	6.25	6.42	6.25
RUNOFF VOLUME (mm)=	38.97	13.48	33.87
TOTAL RAINFALL (mm)=	39.97	39.97	39.97
RUNOFF COEFFICIENT =	0.97	0.34	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
1 + 2 = 3	ID1= 1 (0203):	2.10	0.252	6.25	33.87
	+ ID2= 2 (0256):	1.12	0.017	6.83	38.36
	ID = 3 (0260):	3.22	0.266	6.25	35.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\aea093e4
Ptotal= 39.97 mm	Comments: 2yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.60	6.75	7.19	10.00	1.40
0.50	1.00	3.75	1.60	7.00	3.20	10.25	1.40
0.75	1.00	4.00	1.60	7.25	3.20	10.50	0.80
1.00	1.00	4.25	1.60	7.50	2.40	10.75	0.80
1.25	1.00	4.50	2.40	7.75	2.40	11.00	0.80
1.50	1.00	4.75	2.40	8.00	2.40	11.25	0.80
1.75	1.00	5.00	3.20	8.25	2.40	11.50	0.80
2.00	1.00	5.25	3.20	8.50	1.40	11.75	0.80
2.25	1.00	5.50	4.80	8.75	1.40	12.00	0.80
2.50	1.20	5.75	4.80	9.00	1.40	12.25	0.80
2.75	1.20	6.00	19.19	9.25	1.40		
3.00	1.20	6.25	52.76	9.50	1.40		
3.25	1.20	6.50	7.19	9.75	1.40		

CALIB

```
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      98.32        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.20	6.250	52.76	9.33	1.40
0.167	0.00	3.250	1.20	6.333	7.19	9.42	1.40
0.250	0.00	3.333	1.60	6.417	7.19	9.50	1.40
0.333	1.00	3.417	1.60	6.500	7.19	9.58	1.40
0.417	1.00	3.500	1.60	6.583	7.19	9.67	1.40
0.500	1.00	3.583	1.60	6.667	7.19	9.75	1.40
0.583	1.00	3.667	1.60	6.750	7.19	9.83	1.40
0.667	1.00	3.750	1.60	6.833	3.20	9.92	1.40
0.750	1.00	3.833	1.60	6.917	3.20	10.00	1.40
0.833	1.00	3.917	1.60	7.000	3.20	10.08	1.40
0.917	1.00	4.000	1.60	7.083	3.20	10.17	1.40
1.000	1.00	4.083	1.60	7.167	3.20	10.25	1.40
1.083	1.00	4.167	1.60	7.250	3.20	10.33	0.80
1.167	1.00	4.250	1.60	7.333	2.40	10.42	0.80
1.250	1.00	4.333	2.40	7.417	2.40	10.50	0.80
1.333	1.00	4.417	2.40	7.500	2.40	10.58	0.80
1.417	1.00	4.500	2.40	7.583	2.40	10.67	0.80
1.500	1.00	4.583	2.40	7.667	2.40	10.75	0.80
1.583	1.00	4.667	2.40	7.750	2.40	10.83	0.80
1.667	1.00	4.750	2.40	7.833	2.40	10.92	0.80
1.750	1.00	4.833	3.20	7.917	2.40	11.00	0.80
1.833	1.00	4.917	3.20	8.000	2.40	11.08	0.80
1.917	1.00	5.000	3.20	8.083	2.40	11.17	0.80
2.000	1.00	5.083	3.20	8.167	2.40	11.25	0.80
2.083	1.00	5.167	3.20	8.250	2.40	11.33	0.80
2.167	1.00	5.250	3.20	8.333	1.40	11.42	0.80
2.250	1.00	5.333	4.80	8.417	1.40	11.50	0.80
2.333	1.20	5.417	4.80	8.500	1.40	11.58	0.80
2.417	1.20	5.500	4.80	8.583	1.40	11.67	0.80
2.500	1.20	5.583	4.80	8.667	1.40	11.75	0.80
2.583	1.20	5.667	4.80	8.750	1.40	11.83	0.80
2.667	1.20	5.750	4.80	8.833	1.40	11.92	0.80
2.750	1.20	5.833	19.19	8.917	1.40	12.00	0.80
2.833	1.20	5.917	19.19	9.000	1.40	12.08	0.80
2.917	1.20	6.000	19.19	9.083	1.40	12.17	0.80
3.000	1.20	6.083	52.76	9.167	1.40	12.25	0.80
3.083	1.20	6.167	52.76	9.250	1.40		

```
     Max.Eff.Inten.(mm/hr)=      52.76        20.98
               over (min)        5.00        20.00
     Storage Coeff.  (min)=      3.27 (ii)   16.45 (ii)
     Unit Hyd. Tpeak (min)=      5.00        20.00
     Unit Hyd. peak  (cms)=      0.27         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.17         0.01          0.175 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.42           6.25
     RUNOFF VOLUME    (mm)=     38.97        13.48          33.87
     TOTAL RAINFALL   (mm)=     39.97        39.97          39.97

          RUNOFF COEFFICIENT   =       0.97         0.34           0.85

     ***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

           (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
                CN*  =  82.0    Ia = Dep. Storage  (Above)
          (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
               THAN THE STORAGE COEFFICIENT.
         (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

     ---------------------------------------------------------------------------

     --------------------
     | ADD HYD  (  0259)|
     |   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
     --------------------          (ha)    (cms)    (hrs)     (mm)
            ID1= 1 (  0204):      1.45   0.175     6.25    33.87
          + ID2= 2 (  0260):      3.22   0.266     6.25    35.44
            ================================================
            ID = 3 (  0259):      4.67   0.441     6.25    34.95

         NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

     ---------------------------------------------------------------------------

     --------------------
     |    READ STORM    |    Filename: C:\Users\mventresca\AppD
     |                  |              ata\Local\Temp\
     |                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\aea093e4
     | Ptotal= 39.97 mm |    Comments: 2yr 12hr 15min SCS
     --------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.60	6.75	7.19	10.00	1.40
0.50	1.00	3.75	1.60	7.00	3.20	10.25	1.40
0.75	1.00	4.00	1.60	7.25	3.20	10.50	0.80
1.00	1.00	4.25	1.60	7.50	2.40	10.75	0.80
1.25	1.00	4.50	2.40	7.75	2.40	11.00	0.80
1.50	1.00	4.75	2.40	8.00	2.40	11.25	0.80
1.75	1.00	5.00	3.20	8.25	2.40	11.50	0.80
2.00	1.00	5.25	3.20	8.50	1.40	11.75	0.80
2.25	1.00	5.50	4.80	8.75	1.40	12.00	0.80
2.50	1.20	5.75	4.80	9.00	1.40	12.25	0.80
2.75	1.20	6.00	19.19	9.25	1.40		
3.00	1.20	6.25	52.76	9.50	1.40		
3.25	1.20	6.50	7.19	9.75	1.40		

```
     ---------------------------------------------------------------------------

     --------------------
     | CALIB            |
     | STANDHYD (  0201)|   Area    (ha)=   5.27
     |ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
     --------------------
                               IMPERVIOUS    PERVIOUS (i)
          Surface Area     (ha)=       5.22         0.05
          Dep. Storage     (mm)=       1.00         5.00
          Average Slope     (%)=       1.00         2.00
          Length            (m)=     187.44        40.00
          Mannings n            =      0.013        0.250

              NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.20	6.250	52.76	9.33	1.40
0.167	0.00	3.250	1.20	6.333	7.19	9.42	1.40
0.250	0.00	3.333	1.60	6.417	7.19	9.50	1.40
0.333	1.00	3.417	1.60	6.500	7.19	9.58	1.40
0.417	1.00	3.500	1.60	6.583	7.19	9.67	1.40
0.500	1.00	3.583	1.60	6.667	7.19	9.75	1.40
0.583	1.00	3.667	1.60	6.750	7.19	9.83	1.40
0.667	1.00	3.750	1.60	6.833	3.20	9.92	1.40
0.750	1.00	3.833	1.60	6.917	3.20	10.00	1.40
0.833	1.00	3.917	1.60	7.000	3.20	10.08	1.40
0.917	1.00	4.000	1.60	7.083	3.20	10.17	1.40
1.000	1.00	4.083	1.60	7.167	3.20	10.25	1.40
1.083	1.00	4.167	1.60	7.250	3.20	10.33	0.80
1.167	1.00	4.250	1.60	7.333	2.40	10.42	0.80
1.250	1.00	4.333	2.40	7.417	2.40	10.50	0.80
1.333	1.00	4.417	2.40	7.500	2.40	10.58	0.80
1.417	1.00	4.500	2.40	7.583	2.40	10.67	0.80
1.500	1.00	4.583	2.40	7.667	2.40	10.75	0.80
1.583	1.00	4.667	2.40	7.750	2.40	10.83	0.80
1.667	1.00	4.750	2.40	7.833	2.40	10.92	0.80
1.750	1.00	4.833	3.20	7.917	2.40	11.00	0.80
1.833	1.00	4.917	3.20	8.000	2.40	11.08	0.80
1.917	1.00	5.000	3.20	8.083	2.40	11.17	0.80
2.000	1.00	5.083	3.20	8.167	2.40	11.25	0.80
2.083	1.00	5.167	3.20	8.250	2.40	11.33	0.80
2.167	1.00	5.250	3.20	8.333	1.40	11.42	0.80
2.250	1.00	5.333	4.80	8.417	1.40	11.50	0.80
2.333	1.20	5.417	4.80	8.500	1.40	11.58	0.80
2.417	1.20	5.500	4.80	8.583	1.40	11.67	0.80
2.500	1.20	5.583	4.80	8.667	1.40	11.75	0.80
2.583	1.20	5.667	4.80	8.750	1.40	11.83	0.80
2.667	1.20	5.750	4.80	8.833	1.40	11.92	0.80
2.750	1.20	5.833	19.19	8.917	1.40	12.00	0.80
2.833	1.20	5.917	19.19	9.000	1.40	12.08	0.80
2.917	1.20	6.000	19.19	9.083	1.40	12.17	0.80
3.000	1.20	6.083	52.76	9.167	1.40	12.25	0.80
3.083	1.20	6.167	52.76	9.250	1.40		

			TOTALS
Max.Eff.Inten.(mm/hr)=	52.76	22.98	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.81 (ii)	6.26 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.22	0.15	
PEAK FLOW (cms)=	0.74	0.00	0.745 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	38.97	13.48	38.71
TOTAL RAINFALL (mm)=	39.97	39.97	39.97
RUNOFF COEFFICIENT =	0.97	0.34	0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)		IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)		
	0.0000	0.0000	0.1959	0.1883		
	0.0980	0.0369	0.2939	0.4335		

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.745	6.25	38.71
OUTFLOW: ID= 1 (0268)	5.270	0.134	6.50	38.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.93
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0920

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\aea093e4
Ptotal= 39.97 mm	Comments: 2yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.60	6.75	7.19	10.00	1.40
0.50	1.00	3.75	1.60	7.00	3.20	10.25	1.40
0.75	1.00	4.00	1.60	7.25	3.20	10.50	0.80
1.00	1.00	4.25	1.60	7.50	2.40	10.75	0.80
1.25	1.00	4.50	2.40	7.75	2.40	11.00	0.80
1.50	1.00	4.75	2.40	8.00	2.40	11.25	0.80
1.75	1.00	5.00	3.20	8.25	2.40	11.50	0.80
2.00	1.00	5.25	3.20	8.50	1.40	11.75	0.80
2.25	1.00	5.50	4.80	8.75	1.40	12.00	0.80
2.50	1.20	5.75	4.80	9.00	1.40	12.25	0.80
2.75	1.20	6.00	19.19	9.25	1.40		
3.00	1.20	6.25	52.76	9.50	1.40		
3.25	1.20	6.50	7.19	9.75	1.40		

CALIB	
STANDHYD (0202)	Area (ha)= 6.57
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.20	6.250	52.76	9.33	1.40
0.167	0.00	3.250	1.20	6.333	7.19	9.42	1.40
0.250	0.00	3.333	1.60	6.417	7.19	9.50	1.40
0.333	1.00	3.417	1.60	6.500	7.19	9.58	1.40
0.417	1.00	3.500	1.60	6.583	7.19	9.67	1.40

```
              0.500    1.00 | 3.583    1.60 | 6.667    7.19 |  9.75    1.40
              0.583    1.00 | 3.667    1.60 | 6.750    7.19 |  9.83    1.40
              0.667    1.00 | 3.750    1.60 | 6.833    3.20 |  9.92    1.40
              0.750    1.00 | 3.833    1.60 | 6.917    3.20 | 10.00    1.40
              0.833    1.00 | 3.917    1.60 | 7.000    3.20 | 10.08    1.40
              0.917    1.00 | 4.000    1.60 | 7.083    3.20 | 10.17    1.40
              1.000    1.00 | 4.083    1.60 | 7.167    3.20 | 10.25    1.40
              1.083    1.00 | 4.167    1.60 | 7.250    3.20 | 10.33    0.80
              1.167    1.00 | 4.250    1.60 | 7.333    2.40 | 10.42    0.80
              1.250    1.00 | 4.333    2.40 | 7.417    2.40 | 10.50    0.80
              1.333    1.00 | 4.417    2.40 | 7.500    2.40 | 10.58    0.80
              1.417    1.00 | 4.500    2.40 | 7.583    2.40 | 10.67    0.80
              1.500    1.00 | 4.583    2.40 | 7.667    2.40 | 10.75    0.80
              1.583    1.00 | 4.667    2.40 | 7.750    2.40 | 10.83    0.80
              1.667    1.00 | 4.750    2.40 | 7.833    2.40 | 10.92    0.80
              1.750    1.00 | 4.833    3.20 | 7.917    2.40 | 11.00    0.80
              1.833    1.00 | 4.917    3.20 | 8.000    2.40 | 11.08    0.80
              1.917    1.00 | 5.000    3.20 | 8.083    2.40 | 11.17    0.80
              2.000    1.00 | 5.083    3.20 | 8.167    2.40 | 11.25    0.80
              2.083    1.00 | 5.167    3.20 | 8.250    2.40 | 11.33    0.80
              2.167    1.00 | 5.250    3.20 | 8.333    1.40 | 11.42    0.80
              2.250    1.00 | 5.333    4.80 | 8.417    1.40 | 11.50    0.80
              2.333    1.20 | 5.417    4.80 | 8.500    1.40 | 11.58    0.80
              2.417    1.20 | 5.500    4.80 | 8.583    1.40 | 11.67    0.80
              2.500    1.20 | 5.583    4.80 | 8.667    1.40 | 11.75    0.80
              2.583    1.20 | 5.667    4.80 | 8.750    1.40 | 11.83    0.80
              2.667    1.20 | 5.750    4.80 | 8.833    1.40 | 11.92    0.80
              2.750    1.20 | 5.833   19.19 | 8.917    1.40 | 12.00    0.80
              2.833    1.20 | 5.917   19.19 | 9.000    1.40 | 12.08    0.80
              2.917    1.20 | 6.000   19.19 | 9.083    1.40 | 12.17    0.80
              3.000    1.20 | 6.083   52.76 | 9.167    1.40 | 12.25    0.80
              3.083    1.20 | 6.167   52.76 | 9.250    1.40 |

    Max.Eff.Inten.(mm/hr)=      52.76        20.98
              over (min)        5.00        20.00
    Storage Coeff.  (min)=      5.14 (ii)   18.32 (ii)
    Unit Hyd. Tpeak (min)=      5.00        20.00
    Unit Hyd. peak  (cms)=      0.21         0.06
                                                      *TOTALS*
    PEAK FLOW       (cms)=      0.75         0.04          0.777 (iii)
    TIME TO PEAK    (hrs)=      6.25         6.42           6.25
    RUNOFF VOLUME    (mm)=     38.97        13.48          34.13
    TOTAL RAINFALL   (mm)=     39.97        39.97          39.97
    RUNOFF COEFFICIENT   =      0.97         0.34           0.85

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   0.777     6.25    34.13
     + ID2= 2 (  0268):     5.27   0.134     6.50    38.70
       ================================================
       ID = 3 (  0262):    11.84   0.900     6.25    36.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.441     6.25    34.95
     + ID2= 2 (  0262):    11.84   0.900     6.25    36.16
       ================================================
       ID = 3 (  0266):    16.51   1.341     6.25    35.82

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2130      0.6563
                          0.0190     0.1773   |   0.2520      0.6883
                          0.0220     0.2128   |   0.2890      0.7150
                          0.0260     0.2888   |   0.2980      0.7450
                          0.0300     0.3648   |   0.3060      0.7700
                          0.0650     0.4586   |   0.3150      0.8127
                          0.1100     0.5155   |   0.3320      0.9290
                          0.1680     0.5503   |   0.3390      0.9767
                          0.1930     0.5804   |   0.3520      1.0680
                          0.2000     0.6048   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      1.341      6.25      35.82
   OUTFLOW: ID= 1 (  0263)     16.510      0.065     10.50      35.67

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.87
                TIME SHIFT OF PEAK FLOW         (min)=255.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.4590
```

```
--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.004     6.33    13.46
     + ID2= 2 (  0263):    16.51   0.065    10.50    35.67
       ================================================
       ID = 3 (  0261):    16.64   0.066    10.50    35.51

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

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================================================================================
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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
```

```
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\5f59d96d-7096-46e3-b930-2e76d203d112\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\5f59d96d-7096-46e3-b930-2e76d203d112\s


DATE: 07/06/2020                          TIME: 04:36:54

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 25 Year 12 Hour SCS           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\e3311969
| Ptotal= 79.97 mm |    Comments: 25yr 12hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    3.20 |  6.75   14.39 | 10.00    2.80
                0.50    2.00 |  3.75    3.20 |  7.00    6.40 | 10.25    2.80
                0.75    2.00 |  4.00    3.20 |  7.25    6.40 | 10.50    1.60
                1.00    2.00 |  4.25    3.20 |  7.50    4.80 | 10.75    1.60
                1.25    2.00 |  4.50    4.80 |  7.75    4.80 | 11.00    1.60
                1.50    2.00 |  4.75    4.80 |  8.00    4.80 | 11.25    1.60
                1.75    2.00 |  5.00    6.40 |  8.25    4.80 | 11.50    1.60
                2.00    2.00 |  5.25    6.40 |  8.50    2.80 | 11.75    1.60
                2.25    2.00 |  5.50    9.60 |  8.75    2.80 | 12.00    1.60
                2.50    2.40 |  5.75    9.60 |  9.00    2.80 | 12.25    1.60
                2.75    2.40 |  6.00   38.39 |  9.25    2.80 |
                3.00    2.40 |  6.25  105.56 |  9.50    2.80 |
                3.25    2.40 |  6.50   14.39 |  9.75    2.80 |

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 3.167    2.40 | 6.250  105.56 |  9.33    2.80
0.167    0.00 | 3.250    2.40 | 6.333   14.39 |  9.42    2.80
0.250    0.00 | 3.333    3.20 | 6.417   14.39 |  9.50    2.80
0.333    2.00 | 3.417    3.20 | 6.500   14.39 |  9.58    2.80
0.417    2.00 | 3.500    3.20 | 6.583   14.39 |  9.67    2.80
0.500    2.00 | 3.583    3.20 | 6.667   14.39 |  9.75    2.80
0.583    2.00 | 3.667    3.20 | 6.750   14.39 |  9.83    2.80
0.667    2.00 | 3.750    3.20 | 6.833    6.40 |  9.92    2.80
0.750    2.00 | 3.833    3.20 | 6.917    6.40 | 10.00    2.80
0.833    2.00 | 3.917    3.20 | 7.000    6.40 | 10.08    2.80
0.917    2.00 | 4.000    3.20 | 7.083    6.40 | 10.17    2.80
1.000    2.00 | 4.083    3.20 | 7.167    6.40 | 10.25    2.80
1.083    2.00 | 4.167    3.20 | 7.250    6.40 | 10.33    1.60
1.167    2.00 | 4.250    3.20 | 7.333    4.80 | 10.42    1.60
1.250    2.00 | 4.333    4.80 | 7.417    4.80 | 10.50    1.60
1.333    2.00 | 4.417    4.80 | 7.500    4.80 | 10.58    1.60
1.417    2.00 | 4.500    4.80 | 7.583    4.80 | 10.67    1.60
1.500    2.00 | 4.583    4.80 | 7.667    4.80 | 10.75    1.60
1.583    2.00 | 4.667    4.80 | 7.750    4.80 | 10.83    1.60
1.667    2.00 | 4.750    4.80 | 7.833    4.80 | 10.92    1.60
1.750    2.00 | 4.833    6.40 | 7.917    4.80 | 11.00    1.60
1.833    2.00 | 4.917    6.40 | 8.000    4.80 | 11.08    1.60
1.917    2.00 | 5.000    6.40 | 8.083    4.80 | 11.17    1.60
2.000    2.00 | 5.083    6.40 | 8.167    4.80 | 11.25    1.60
2.083    2.00 | 5.167    6.40 | 8.250    4.80 | 11.33    1.60
2.167    2.00 | 5.250    6.40 | 8.333    2.80 | 11.42    1.60
2.250    2.00 | 5.333    9.60 | 8.417    2.80 | 11.50    1.60
2.333    2.40 | 5.417    9.60 | 8.500    2.80 | 11.58    1.60
2.417    2.40 | 5.500    9.60 | 8.583    2.80 | 11.67    1.60
2.500    2.40 | 5.583    9.60 | 8.667    2.80 | 11.75    1.60
2.583    2.40 | 5.667    9.60 | 8.750    2.80 | 11.83    1.60
2.667    2.40 | 5.750    9.60 | 8.833    2.80 | 11.92    1.60
2.750    2.40 | 5.833   38.39 | 8.917    2.80 | 12.00    1.60
2.833    2.40 | 5.917   38.39 | 9.000    2.80 | 12.08    1.60
2.917    2.40 | 6.000   38.39 | 9.083    2.80 | 12.17    1.60
3.000    2.40 | 6.083  105.56 | 9.167    2.80 | 12.25    1.60
3.083    2.40 | 6.167  105.56 | 9.250    2.80 |

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.014 (i)
    TIME TO PEAK    (hrs)=   6.333
    RUNOFF VOLUME    (mm)=  42.955
    TOTAL RAINFALL   (mm)=  79.970
    RUNOFF COEFFICIENT   =   0.537

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\e3311969
| Ptotal= 79.97 mm |    Comments: 25yr 12hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
```

0.25	0.00	3.50	3.20	6.75	14.39	10.00	2.80
0.50	2.00	3.75	3.20	7.00	6.40	10.25	2.80
0.75	2.00	4.00	3.20	7.25	6.40	10.50	1.60
1.00	2.00	4.25	3.20	7.50	4.80	10.75	1.60
1.25	2.00	4.50	4.80	7.75	4.80	11.00	1.60
1.50	2.00	4.75	4.80	8.00	4.80	11.25	1.60
1.75	2.00	5.00	6.40	8.25	4.80	11.50	1.60
2.00	2.00	5.25	6.40	8.50	2.80	11.75	1.60
2.25	2.00	5.50	9.60	8.75	2.80	12.00	1.60
2.50	2.40	5.75	9.60	9.00	2.80	12.25	1.60
2.75	2.40	6.00	38.39	9.25	2.80		
3.00	2.40	6.25	105.56	9.50	2.80		
3.25	2.40	6.50	14.39	9.75	2.80		

CALIB	
STANDHYD (0205)	Area (ha)= 1.12
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.40	6.250	105.56	9.33	2.80
0.167	0.00	3.250	2.40	6.333	14.39	9.42	2.80
0.250	0.00	3.333	3.20	6.417	14.39	9.50	2.80
0.333	2.00	3.417	3.20	6.500	14.39	9.58	2.80
0.417	2.00	3.500	3.20	6.583	14.39	9.67	2.80
0.500	2.00	3.583	3.20	6.667	14.39	9.75	2.80
0.583	2.00	3.667	3.20	6.750	14.39	9.83	2.80
0.667	2.00	3.750	3.20	6.833	6.40	9.92	2.80
0.750	2.00	3.833	3.20	6.917	6.40	10.00	2.80
0.833	2.00	3.917	3.20	7.000	6.40	10.08	2.80
0.917	2.00	4.000	3.20	7.083	6.40	10.17	2.80
1.000	2.00	4.083	3.20	7.167	6.40	10.25	2.80
1.083	2.00	4.167	3.20	7.250	6.40	10.33	1.60
1.167	2.00	4.250	3.20	7.333	4.80	10.42	1.60
1.250	2.00	4.333	4.80	7.417	4.80	10.50	1.60
1.333	2.00	4.417	4.80	7.500	4.80	10.58	1.60
1.417	2.00	4.500	4.80	7.583	4.80	10.67	1.60
1.500	2.00	4.583	4.80	7.667	4.80	10.75	1.60
1.583	2.00	4.667	4.80	7.750	4.80	10.83	1.60
1.667	2.00	4.750	4.80	7.833	4.80	10.92	1.60
1.750	2.00	4.833	6.40	7.917	4.80	11.00	1.60
1.833	2.00	4.917	6.40	8.000	4.80	11.08	1.60
1.917	2.00	5.000	6.40	8.083	4.80	11.17	1.60
2.000	2.00	5.083	6.40	8.167	4.80	11.25	1.60
2.083	2.00	5.167	6.40	8.250	4.80	11.33	1.60
2.167	2.00	5.250	6.40	8.333	2.80	11.42	1.60
2.250	2.00	5.333	9.60	8.417	2.80	11.50	1.60
2.333	2.40	5.417	9.60	8.500	2.80	11.58	1.60
2.417	2.40	5.500	9.60	8.583	2.80	11.67	1.60
2.500	2.40	5.583	9.60	8.667	2.80	11.75	1.60
2.583	2.40	5.667	9.60	8.750	2.80	11.83	1.60
2.667	2.40	5.750	9.60	8.833	2.80	11.92	1.60
2.750	2.40	5.833	38.39	8.917	2.80	12.00	1.60
2.833	2.40	5.917	38.39	9.000	2.80	12.08	1.60
2.917	2.40	6.000	38.39	9.083	2.80	12.17	1.60
3.000	2.40	6.083	105.56	9.167	2.80	12.25	1.60
3.083	2.40	6.167	105.56	9.250	2.80		

			TOTALS
Max.Eff.Inten.(mm/hr)=	105.56	71.07	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.29 (ii)	3.39 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.30	0.26	
PEAK FLOW (cms)=	0.33	0.00	0.329 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	78.97	42.99	78.61
TOTAL RAINFALL (mm)=	79.97	79.97	79.97
RUNOFF COEFFICIENT =	0.99	0.54	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.329	6.25	78.61
OUTFLOW: ID= 1 (0256)	1.125	0.034	6.83	78.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.29
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0541

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\e3311969
Ptotal= 79.97 mm	Comments: 25yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.20	6.75	14.39	10.00	2.80
0.50	2.00	3.75	3.20	7.00	6.40	10.25	2.80
0.75	2.00	4.00	3.20	7.25	6.40	10.50	1.60
1.00	2.00	4.25	3.20	7.50	4.80	10.75	1.60
1.25	2.00	4.50	4.80	7.75	4.80	11.00	1.60
1.50	2.00	4.75	4.80	8.00	4.80	11.25	1.60
1.75	2.00	5.00	6.40	8.25	4.80	11.50	1.60
2.00	2.00	5.25	6.40	8.50	2.80	11.75	1.60
2.25	2.00	5.50	9.60	8.75	2.80	12.00	1.60

2.50	2.40	5.75	9.60	9.00	2.80	12.25	1.60
2.75	2.40	6.00	38.39	9.25	2.80		
3.00	2.40	6.25	105.56	9.50	2.80		
3.25	2.40	6.50	14.39	9.75	2.80		

CALIB	
STANDHYD (0203)	Area (ha)= 2.10
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.40	6.250	105.56	9.33	2.80
0.167	0.00	3.250	2.40	6.333	14.39	9.42	2.80
0.250	0.00	3.333	3.20	6.417	14.39	9.50	2.80
0.333	2.00	3.417	3.20	6.500	14.39	9.58	2.80
0.417	2.00	3.500	3.20	6.583	14.39	9.67	2.80
0.500	2.00	3.583	3.20	6.667	14.39	9.75	2.80
0.583	2.00	3.667	3.20	6.750	14.39	9.83	2.80
0.667	2.00	3.750	3.20	6.833	6.40	9.92	2.80
0.750	2.00	3.833	3.20	6.917	6.40	10.00	2.80
0.833	2.00	3.917	3.20	7.000	6.40	10.08	2.80
0.917	2.00	4.000	3.20	7.083	6.40	10.17	2.80
1.000	2.00	4.083	3.20	7.167	6.40	10.25	2.80
1.083	2.00	4.167	3.20	7.250	6.40	10.33	1.60
1.167	2.00	4.250	3.20	7.333	4.80	10.42	1.60
1.250	2.00	4.333	4.80	7.417	4.80	10.50	1.60
1.333	2.00	4.417	4.80	7.500	4.80	10.58	1.60
1.417	2.00	4.500	4.80	7.583	4.80	10.67	1.60
1.500	2.00	4.583	4.80	7.667	4.80	10.75	1.60
1.583	2.00	4.667	4.80	7.750	4.80	10.83	1.60
1.667	2.00	4.750	4.80	7.833	4.80	10.92	1.60
1.750	2.00	4.833	6.40	7.917	4.80	11.00	1.60
1.833	2.00	4.917	6.40	8.000	4.80	11.08	1.60
1.917	2.00	5.000	6.40	8.083	4.80	11.17	1.60
2.000	2.00	5.083	6.40	8.167	4.80	11.25	1.60
2.083	2.00	5.167	6.40	8.250	4.80	11.33	1.60
2.167	2.00	5.250	6.40	8.333	2.80	11.42	1.60
2.250	2.00	5.333	9.60	8.417	2.80	11.50	1.60
2.333	2.40	5.417	9.60	8.500	2.80	11.58	1.60
2.417	2.40	5.500	9.60	8.583	2.80	11.67	1.60
2.500	2.40	5.583	9.60	8.667	2.80	11.75	1.60
2.583	2.40	5.667	9.60	8.750	2.80	11.83	1.60
2.667	2.40	5.750	9.60	8.833	2.80	11.92	1.60
2.750	2.40	5.833	38.39	8.917	2.80	12.00	1.60
2.833	2.40	5.917	38.39	9.000	2.80	12.08	1.60
2.917	2.40	6.000	38.39	9.083	2.80	12.17	1.60
3.000	2.40	6.083	105.56	9.167	2.80	12.25	1.60
3.083	2.40	6.167	105.56	9.250	2.80		

Max.Eff.Inten.(mm/hr)=		105.56	71.07
over (min)		5.00	10.00
Storage Coeff. (min)=		2.76 (ii)	6.73 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.28	0.14

				TOTALS
PEAK FLOW	(cms)=	0.49	0.07	0.558 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	78.97	42.99	71.77
TOTAL RAINFALL	(mm)=	79.97	79.97	79.97
RUNOFF COEFFICIENT	=	0.99	0.54	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0203):	2.10	0.558	6.25	71.77
+ ID2= 2 (0256):	1.12	0.034	6.83	78.25
ID = 3 (0260):	3.22	0.587	6.25	74.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\e3311969
Ptotal= 79.97 mm	Comments: 25yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.20	6.75	14.39	10.00	2.80
0.50	2.00	3.75	3.20	7.00	6.40	10.25	2.80
0.75	2.00	4.00	3.20	7.25	6.40	10.50	1.60
1.00	2.00	4.25	3.20	7.50	4.80	10.75	1.60
1.25	2.00	4.50	4.80	7.75	4.80	11.00	1.60
1.50	2.00	4.75	4.80	8.00	4.80	11.25	1.60
1.75	2.00	5.00	6.40	8.25	4.80	11.50	1.60
2.00	2.00	5.25	6.40	8.50	2.80	11.75	1.60
2.25	2.00	5.50	9.60	8.75	2.80	12.00	1.60
2.50	2.40	5.75	9.60	9.00	2.80	12.25	1.60
2.75	2.40	6.00	38.39	9.25	2.80		
3.00	2.40	6.25	105.56	9.50	2.80		
3.25	2.40	6.50	14.39	9.75	2.80		

CALIB	
STANDHYD (0204)	Area (ha)= 1.45
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.40	6.250	105.56	9.33	2.80
0.167	0.00	3.250	2.40	6.333	14.39	9.42	2.80
0.250	0.00	3.333	3.20	6.417	14.39	9.50	2.80
0.333	2.00	3.417	3.20	6.500	14.39	9.58	2.80
0.417	2.00	3.500	3.20	6.583	14.39	9.67	2.80
0.500	2.00	3.583	3.20	6.667	14.39	9.75	2.80
0.583	2.00	3.667	3.20	6.750	14.39	9.83	2.80
0.667	2.00	3.750	3.20	6.833	6.40	9.92	2.80
0.750	2.00	3.833	3.20	6.917	6.40	10.00	2.80
0.833	2.00	3.917	3.20	7.000	6.40	10.08	2.80
0.917	2.00	4.000	3.20	7.083	6.40	10.17	2.80
1.000	2.00	4.083	3.20	7.167	6.40	10.25	2.80
1.083	2.00	4.167	3.20	7.250	6.40	10.33	1.60
1.167	2.00	4.250	3.20	7.333	4.80	10.42	1.60
1.250	2.00	4.333	4.80	7.417	4.80	10.50	1.60
1.333	2.00	4.417	4.80	7.500	4.80	10.58	1.60
1.417	2.00	4.500	4.80	7.583	4.80	10.67	1.60
1.500	2.00	4.583	4.80	7.667	4.80	10.75	1.60
1.583	2.00	4.667	4.80	7.750	4.80	10.83	1.60
1.667	2.00	4.750	4.80	7.833	4.80	10.92	1.60
1.750	2.00	4.833	6.40	7.917	4.80	11.00	1.60
1.833	2.00	4.917	6.40	8.000	4.80	11.08	1.60
1.917	2.00	5.000	6.40	8.083	4.80	11.17	1.60
2.000	2.00	5.083	6.40	8.167	4.80	11.25	1.60
2.083	2.00	5.167	6.40	8.250	4.80	11.33	1.60
2.167	2.00	5.250	6.40	8.333	2.80	11.42	1.60
2.250	2.00	5.333	9.60	8.417	2.80	11.50	1.60
2.333	2.40	5.417	9.60	8.500	2.80	11.58	1.60
2.417	2.40	5.500	9.60	8.583	2.80	11.67	1.60
2.500	2.40	5.583	9.60	8.667	2.80	11.75	1.60
2.583	2.40	5.667	9.60	8.750	2.80	11.83	1.60
2.667	2.40	5.750	9.60	8.833	2.80	11.92	1.60
2.750	2.40	5.833	38.39	8.917	2.80	12.00	1.60
2.833	2.40	5.917	38.39	9.000	2.80	12.08	1.60
2.917	2.40	6.000	38.39	9.083	2.80	12.17	1.60
3.000	2.40	6.083	105.56	9.167	2.80	12.25	1.60
3.083	2.40	6.167	105.56	9.250	2.80		

Max.Eff.Inten.	(mm/hr)=	105.56	71.07	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	2.47 (ii)	6.44 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.29	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.34	0.05	0.387 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	78.97	42.99	71.77
TOTAL RAINFALL	(mm)=	79.97	79.97	79.97
RUNOFF COEFFICIENT	=	0.99	0.54	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	1.45	0.387	6.25	71.77
+ ID2= 2 (0260):	3.22	0.587	6.25	74.04
ID = 3 (0259):	4.67	0.974	6.25	73.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\e3311969
Ptotal= 79.97 mm	Comments: 25yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.20	6.75	14.39	10.00	2.80
0.50	2.00	3.75	3.20	7.00	6.40	10.25	2.80
0.75	2.00	4.00	3.20	7.25	6.40	10.50	1.60
1.00	2.00	4.25	3.20	7.50	4.80	10.75	1.60
1.25	2.00	4.50	4.80	7.75	4.80	11.00	1.60
1.50	2.00	4.75	4.80	8.00	4.80	11.25	1.60
1.75	2.00	5.00	6.40	8.25	4.80	11.50	1.60
2.00	2.00	5.25	6.40	8.50	2.80	11.75	1.60
2.25	2.00	5.50	9.60	8.75	2.80	12.00	1.60
2.50	2.40	5.75	9.60	9.00	2.80	12.25	1.60
2.75	2.40	6.00	38.39	9.25	2.80		
3.00	2.40	6.25	105.56	9.50	2.80		
3.25	2.40	6.50	14.39	9.75	2.80		

CALIB		
STANDHYD (0201)	Area (ha)= 5.27	
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.40	6.250	105.56	9.33	2.80

0.167	0.00	3.250	2.40	6.333	14.39	9.42	2.80
0.250	0.00	3.333	3.20	6.417	14.39	9.50	2.80
0.333	2.00	3.417	3.20	6.500	14.39	9.58	2.80
0.417	2.00	3.500	3.20	6.583	14.39	9.67	2.80
0.500	2.00	3.583	3.20	6.667	14.39	9.75	2.80
0.583	2.00	3.667	3.20	6.750	14.39	9.83	2.80
0.667	2.00	3.750	3.20	6.833	6.40	9.92	2.80
0.750	2.00	3.833	3.20	6.917	6.40	10.00	2.80
0.833	2.00	3.917	3.20	7.000	6.40	10.08	2.80
0.917	2.00	4.000	3.20	7.083	6.40	10.17	2.80
1.000	2.00	4.083	3.20	7.167	6.40	10.25	2.80
1.083	2.00	4.167	3.20	7.250	6.40	10.33	1.60
1.167	2.00	4.250	3.20	7.333	4.80	10.42	1.60
1.250	2.00	4.333	4.80	7.417	4.80	10.50	1.60
1.333	2.00	4.417	4.80	7.500	4.80	10.58	1.60
1.417	2.00	4.500	4.80	7.583	4.80	10.67	1.60
1.500	2.00	4.583	4.80	7.667	4.80	10.75	1.60
1.583	2.00	4.667	4.80	7.750	4.80	10.83	1.60
1.667	2.00	4.750	4.80	7.833	4.80	10.92	1.60
1.750	2.00	4.833	6.40	7.917	4.80	11.00	1.60
1.833	2.00	4.917	6.40	8.000	4.80	11.08	1.60
1.917	2.00	5.000	6.40	8.083	4.80	11.17	1.60
2.000	2.00	5.083	6.40	8.167	4.80	11.25	1.60
2.083	2.00	5.167	6.40	8.250	4.80	11.33	1.60
2.167	2.00	5.250	6.40	8.333	2.80	11.42	1.60
2.250	2.00	5.333	9.60	8.417	2.80	11.50	1.60
2.333	2.40	5.417	9.60	8.500	2.80	11.58	1.60
2.417	2.40	5.500	9.60	8.583	2.80	11.67	1.60
2.500	2.40	5.583	9.60	8.667	2.80	11.75	1.60
2.583	2.40	5.667	9.60	8.750	2.80	11.83	1.60
2.667	2.40	5.750	9.60	8.833	2.80	11.92	1.60
2.750	2.40	5.833	38.39	8.917	2.80	12.00	1.60
2.833	2.40	5.917	38.39	9.000	2.80	12.08	1.60
2.917	2.40	6.000	38.39	9.083	2.80	12.17	1.60
3.000	2.40	6.083	105.56	9.167	2.80	12.25	1.60
3.083	2.40	6.167	105.56	9.250	2.80		

Max.Eff.Inten.(mm/hr)=	105.56	71.07	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.64 (ii)	4.74 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.25	0.22	
			TOTALS
PEAK FLOW (cms)=	1.51	0.01	1.524 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	78.97	42.99	78.61
TOTAL RAINFALL (mm)=	79.97	79.97	79.97
RUNOFF COEFFICIENT =	0.99	0.54	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	1.524	6.25	78.61
OUTFLOW: ID= 1 (0268)	5.270	0.201	6.75	78.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.20
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.2013

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\e3311969
Ptotal= 79.97 mm	Comments: 25yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.20	6.75	14.39	10.00	2.80
0.50	2.00	3.75	3.20	7.00	6.40	10.25	2.80
0.75	2.00	4.00	3.20	7.25	6.40	10.50	1.60
1.00	2.00	4.25	3.20	7.50	4.80	10.75	1.60
1.25	2.00	4.50	4.80	7.75	4.80	11.00	1.60
1.50	2.00	4.75	4.80	8.00	4.80	11.25	1.60
1.75	2.00	5.00	6.40	8.25	4.80	11.50	1.60
2.00	2.00	5.25	6.40	8.50	2.80	11.75	1.60
2.25	2.00	5.50	9.60	8.75	2.80	12.00	1.60
2.50	2.40	5.75	9.60	9.00	2.80	12.25	1.60
2.75	2.40	6.00	38.39	9.25	2.80		
3.00	2.40	6.25	105.56	9.50	2.80		
3.25	2.40	6.50	14.39	9.75	2.80		

CALIB			
STANDHYD (0202)	Area (ha)= 6.57		
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	5.32	1.25	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	209.28	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.40	6.250	105.56	9.33	2.80
0.167	0.00	3.250	2.40	6.333	14.39	9.42	2.80
0.250	0.00	3.333	3.20	6.417	14.39	9.50	2.80
0.333	2.00	3.417	3.20	6.500	14.39	9.58	2.80
0.417	2.00	3.500	3.20	6.583	14.39	9.67	2.80
0.500	2.00	3.583	3.20	6.667	14.39	9.75	2.80
0.583	2.00	3.667	3.20	6.750	14.39	9.83	2.80
0.667	2.00	3.750	3.20	6.833	6.40	9.92	2.80
0.750	2.00	3.833	3.20	6.917	6.40	10.00	2.80

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               0.833    2.00 | 3.917    3.20 | 7.000    6.40 | 10.08    2.80
               0.917    2.00 | 4.000    3.20 | 7.083    6.40 | 10.17    2.80
               1.000    2.00 | 4.083    3.20 | 7.167    6.40 | 10.25    2.80
               1.083    2.00 | 4.167    3.20 | 7.250    6.40 | 10.33    1.60
               1.167    2.00 | 4.250    3.20 | 7.333    4.80 | 10.42    1.60
               1.250    2.00 | 4.333    4.80 | 7.417    4.80 | 10.50    1.60
               1.333    2.00 | 4.417    4.80 | 7.500    4.80 | 10.58    1.60
               1.417    2.00 | 4.500    4.80 | 7.583    4.80 | 10.67    1.60
               1.500    2.00 | 4.583    4.80 | 7.667    4.80 | 10.75    1.60
               1.583    2.00 | 4.667    4.80 | 7.750    4.80 | 10.83    1.60
               1.667    2.00 | 4.750    4.80 | 7.833    4.80 | 10.92    1.60
               1.750    2.00 | 4.833    6.40 | 7.917    4.80 | 11.00    1.60
               1.833    2.00 | 4.917    6.40 | 8.000    4.80 | 11.08    1.60
               1.917    2.00 | 5.000    6.40 | 8.083    4.80 | 11.17    1.60
               2.000    2.00 | 5.083    6.40 | 8.167    4.80 | 11.25    1.60
               2.083    2.00 | 5.167    6.40 | 8.250    4.80 | 11.33    1.60
               2.167    2.00 | 5.250    6.40 | 8.333    2.80 | 11.42    1.60
               2.250    2.00 | 5.333    9.60 | 8.417    2.80 | 11.50    1.60
               2.333    2.40 | 5.417    9.60 | 8.500    2.80 | 11.58    1.60
               2.417    2.40 | 5.500    9.60 | 8.583    2.80 | 11.67    1.60
               2.500    2.40 | 5.583    9.60 | 8.667    2.80 | 11.75    1.60
               2.583    2.40 | 5.667    9.60 | 8.750    2.80 | 11.83    1.60
               2.667    2.40 | 5.750    9.60 | 8.833    2.80 | 11.92    1.60
               2.750    2.40 | 5.833   38.39 | 8.917    2.80 | 12.00    1.60
               2.833    2.40 | 5.917   38.39 | 9.000    2.80 | 12.08    1.60
               2.917    2.40 | 6.000   38.39 | 9.083    2.80 | 12.17    1.60
               3.000    2.40 | 6.083  105.56 | 9.167    2.80 | 12.25    1.60
               3.083    2.40 | 6.167  105.56 | 9.250    2.80 |

     Max.Eff.Inten.(mm/hr)=     105.56        71.07
                  over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.89 (ii)    7.76 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.25         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.54         0.19          1.733 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25          6.25
     RUNOFF VOLUME    (mm)=      78.97        42.99         72.13
     TOTAL RAINFALL   (mm)=      79.97        79.97         79.97
     RUNOFF COEFFICIENT   =       0.99         0.54          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   1.733     6.25    72.13
     + ID2= 2 (  0268):     5.27   0.201     6.75    78.59
       ================================================
       ID = 3 (  0262):    11.84   1.915     6.25    75.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.974     6.25    73.33
     + ID2= 2 (  0262):    11.84   1.915     6.25    75.01
       ================================================
       ID = 3 (  0266):    16.51   2.889     6.25    74.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2130      0.6563
                         0.0190     0.1773   |   0.2520      0.6883
                         0.0220     0.2128   |   0.2890      0.7150
                         0.0260     0.2888   |   0.2980      0.7450
                         0.0300     0.3648   |   0.3060      0.7700
                         0.0650     0.4586   |   0.3150      0.8127
                         0.1100     0.5155   |   0.3320      0.9290
                         0.1680     0.5503   |   0.3390      0.9767
                         0.1930     0.5804   |   0.3520      1.0680
                         0.2000     0.6048   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      2.889      6.25      74.54
   OUTFLOW: ID= 1 (  0263)     16.510      0.277      8.42      74.39

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.61
                  TIME SHIFT OF PEAK FLOW         (min)=130.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7068

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-------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.014     6.33    42.96
     + ID2= 2 (  0263):    16.51   0.277     8.42    74.39
       ================================================
       ID = 3 (  0261):    16.64   0.279     8.42    74.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```

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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\976746f5-6ba2-4a30-9a66-f640c55a370b\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\976746f5-6ba2-4a30-9a66-f640c55a370b\s


DATE: 07/06/2020                          TIME: 04:36:53

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 5 Year 12 Hour SCS            **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\af98f35e
| Ptotal= 58.12 mm |    Comments: 5yr 12hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50    2.32 |  6.75   10.46 | 10.00    2.03
               0.50    1.45 |  3.75    2.32 |  7.00    4.65 | 10.25    2.03
               0.75    1.45 |  4.00    2.32 |  7.25    4.65 | 10.50    1.16
               1.00    1.45 |  4.25    2.32 |  7.50    3.49 | 10.75    1.16
               1.25    1.45 |  4.50    3.49 |  7.75    3.49 | 11.00    1.16
               1.50    1.45 |  4.75    3.49 |  8.00    3.49 | 11.25    1.16
               1.75    1.45 |  5.00    4.65 |  8.25    3.49 | 11.50    1.16
               2.00    1.45 |  5.25    4.65 |  8.50    2.03 | 11.75    1.16
               2.25    1.45 |  5.50    6.97 |  8.75    2.03 | 12.00    1.16
               2.50    1.74 |  5.75    6.97 |  9.00    2.03 | 12.25    1.16
               2.75    1.74 |  6.00   27.90 |  9.25    2.03 |
               3.00    1.74 |  6.25   76.72 |  9.50    2.03 |
               3.25    1.74 |  6.50   10.46 |  9.75    2.03 |

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.74	6.250	76.72	9.33	2.03
0.167	0.00	3.250	1.74	6.333	10.46	9.42	2.03
0.250	0.00	3.333	2.32	6.417	10.46	9.50	2.03
0.333	1.45	3.417	2.32	6.500	10.46	9.58	2.03
0.417	1.45	3.500	2.32	6.583	10.46	9.67	2.03
0.500	1.45	3.583	2.32	6.667	10.46	9.75	2.03
0.583	1.45	3.667	2.32	6.750	10.46	9.83	2.03
0.667	1.45	3.750	2.32	6.833	4.65	9.92	2.03
0.750	1.45	3.833	2.32	6.917	4.65	10.00	2.03
0.833	1.45	3.917	2.32	7.000	4.65	10.08	2.03
0.917	1.45	4.000	2.32	7.083	4.65	10.17	2.03
1.000	1.45	4.083	2.32	7.167	4.65	10.25	2.03
1.083	1.45	4.167	2.32	7.250	4.65	10.33	1.16
1.167	1.45	4.250	2.32	7.333	3.49	10.42	1.16
1.250	1.45	4.333	3.49	7.417	3.49	10.50	1.16
1.333	1.45	4.417	3.49	7.500	3.49	10.58	1.16
1.417	1.45	4.500	3.49	7.583	3.49	10.67	1.16
1.500	1.45	4.583	3.49	7.667	3.49	10.75	1.16
1.583	1.45	4.667	3.49	7.750	3.49	10.83	1.16
1.667	1.45	4.750	3.49	7.833	3.49	10.92	1.16
1.750	1.45	4.833	4.65	7.917	3.49	11.00	1.16
1.833	1.45	4.917	4.65	8.000	3.49	11.08	1.16
1.917	1.45	5.000	4.65	8.083	3.49	11.17	1.16
2.000	1.45	5.083	4.65	8.167	3.49	11.25	1.16
2.083	1.45	5.167	4.65	8.250	3.49	11.33	1.16
2.167	1.45	5.250	4.65	8.333	2.03	11.42	1.16
2.250	1.45	5.333	6.97	8.417	2.03	11.50	1.16
2.333	1.74	5.417	6.97	8.500	2.03	11.58	1.16
2.417	1.74	5.500	6.97	8.583	2.03	11.67	1.16
2.500	1.74	5.583	6.97	8.667	2.03	11.75	1.16
2.583	1.74	5.667	6.97	8.750	2.03	11.83	1.16
2.667	1.74	5.750	6.97	8.833	2.03	11.92	1.16
2.750	1.74	5.833	27.90	8.917	2.03	12.00	1.16
2.833	1.74	5.917	27.90	9.000	2.03	12.08	1.16
2.917	1.74	6.000	27.90	9.083	2.03	12.17	1.16
3.000	1.74	6.083	76.72	9.167	2.03	12.25	1.16
3.083	1.74	6.167	76.72	9.250	2.03		

```
    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.008 (i)
    TIME TO PEAK    (hrs)=   6.333
    RUNOFF VOLUME    (mm)=  25.891
    TOTAL RAINFALL   (mm)=  58.120
    RUNOFF COEFFICIENT   =   0.445

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\af98f35e
| Ptotal= 58.12 mm |    Comments: 5yr 12hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50    2.32 |  6.75   10.46 | 10.00    2.03
               0.50    1.45 |  3.75    2.32 |  7.00    4.65 | 10.25    2.03
               0.75    1.45 |  4.00    2.32 |  7.25    4.65 | 10.50    1.16
```

1.00	1.45	4.25	2.32	7.50	3.49	10.75	1.16
1.25	1.45	4.50	3.49	7.75	3.49	11.00	1.16
1.50	1.45	4.75	3.49	8.00	3.49	11.25	1.16
1.75	1.45	5.00	4.65	8.25	3.49	11.50	1.16
2.00	1.45	5.25	4.65	8.50	2.03	11.75	1.16
2.25	1.45	5.50	6.97	8.75	2.03	12.00	1.16
2.50	1.74	5.75	6.97	9.00	2.03	12.25	1.16
2.75	1.74	6.00	27.90	9.25	2.03		
3.00	1.74	6.25	76.72	9.50	2.03		
3.25	1.74	6.50	10.46	9.75	2.03		

CALIB STANDHYD (0205) ID= 1 DT= 5.0 min	Area (ha)= 1.12 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.74	6.250	76.72	9.33	2.03
0.167	0.00	3.250	1.74	6.333	10.46	9.42	2.03
0.250	0.00	3.333	2.32	6.417	10.46	9.50	2.03
0.333	1.45	3.417	2.32	6.500	10.46	9.58	2.03
0.417	1.45	3.500	2.32	6.583	10.46	9.67	2.03
0.500	1.45	3.583	2.32	6.667	10.46	9.75	2.03
0.583	1.45	3.667	2.32	6.750	10.46	9.83	2.03
0.667	1.45	3.750	2.32	6.833	4.65	9.92	2.03
0.750	1.45	3.833	2.32	6.917	4.65	10.00	2.03
0.833	1.45	3.917	2.32	7.000	4.65	10.08	2.03
0.917	1.45	4.000	2.32	7.083	4.65	10.17	2.03
1.000	1.45	4.083	2.32	7.167	4.65	10.25	2.03
1.083	1.45	4.167	2.32	7.250	4.65	10.33	1.16
1.167	1.45	4.250	2.32	7.333	3.49	10.42	1.16
1.250	1.45	4.333	3.49	7.417	3.49	10.50	1.16
1.333	1.45	4.417	3.49	7.500	3.49	10.58	1.16
1.417	1.45	4.500	3.49	7.583	3.49	10.67	1.16
1.500	1.45	4.583	3.49	7.667	3.49	10.75	1.16
1.583	1.45	4.667	3.49	7.750	3.49	10.83	1.16
1.667	1.45	4.750	3.49	7.833	3.49	10.92	1.16
1.750	1.45	4.833	4.65	7.917	3.49	11.00	1.16
1.833	1.45	4.917	4.65	8.000	3.49	11.08	1.16
1.917	1.45	5.000	4.65	8.083	3.49	11.17	1.16
2.000	1.45	5.083	4.65	8.167	3.49	11.25	1.16
2.083	1.45	5.167	4.65	8.250	3.49	11.33	1.16
2.167	1.45	5.250	4.65	8.333	2.03	11.42	1.16
2.250	1.45	5.333	6.97	8.417	2.03	11.50	1.16
2.333	1.74	5.417	6.97	8.500	2.03	11.58	1.16
2.417	1.74	5.500	6.97	8.583	2.03	11.67	1.16
2.500	1.74	5.583	6.97	8.667	2.03	11.75	1.16
2.583	1.74	5.667	6.97	8.750	2.03	11.83	1.16
2.667	1.74	5.750	6.97	8.833	2.03	11.92	1.16
2.750	1.74	5.833	27.90	8.917	2.03	12.00	1.16
2.833	1.74	5.917	27.90	9.000	2.03	12.08	1.16
2.917	1.74	6.000	27.90	9.083	2.03	12.17	1.16
3.000	1.74	6.083	76.72	9.167	2.03	12.25	1.16
3.083	1.74	6.167	76.72	9.250	2.03		

			TOTALS
Max.Eff.Inten.(mm/hr)=	76.72	43.56	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.61 (ii)	3.85 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.29	0.25	
PEAK FLOW (cms)=	0.24	0.00	0.238 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	57.12	25.92	56.81
TOTAL RAINFALL (mm)=	58.12	58.12	58.12
RUNOFF COEFFICIENT =	0.98	0.45	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.238	6.25	56.81
OUTFLOW: ID= 1 (0256)	1.125	0.024	6.83	56.45

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.28
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0392

READ STORM Ptotal= 58.12 mm	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\af98f35e Comments: 5yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.32	6.75	10.46	10.00	2.03
0.50	1.45	3.75	2.32	7.00	4.65	10.25	2.03
0.75	1.45	4.00	2.32	7.25	4.65	10.50	1.16
1.00	1.45	4.25	2.32	7.50	3.49	10.75	1.16
1.25	1.45	4.50	3.49	7.75	3.49	11.00	1.16
1.50	1.45	4.75	3.49	8.00	3.49	11.25	1.16
1.75	1.45	5.00	4.65	8.25	3.49	11.50	1.16
2.00	1.45	5.25	4.65	8.50	2.03	11.75	1.16
2.25	1.45	5.50	6.97	8.75	2.03	12.00	1.16
2.50	1.74	5.75	6.97	9.00	2.03	12.25	1.16
2.75	1.74	6.00	27.90	9.25	2.03		
3.00	1.74	6.25	76.72	9.50	2.03		

```
                3.25    1.74 |  6.50   10.46 |  9.75    2.03 |

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    0.00 | 3.167    1.74 | 6.250   76.72 |  9.33    2.03
             0.167    0.00 | 3.250    1.74 | 6.333   10.46 |  9.42    2.03
             0.250    0.00 | 3.333    2.32 | 6.417   10.46 |  9.50    2.03
             0.333    1.45 | 3.417    2.32 | 6.500   10.46 |  9.58    2.03
             0.417    1.45 | 3.500    2.32 | 6.583   10.46 |  9.67    2.03
             0.500    1.45 | 3.583    2.32 | 6.667   10.46 |  9.75    2.03
             0.583    1.45 | 3.667    2.32 | 6.750   10.46 |  9.83    2.03
             0.667    1.45 | 3.750    2.32 | 6.833    4.65 |  9.92    2.03
             0.750    1.45 | 3.833    2.32 | 6.917    4.65 | 10.00    2.03
             0.833    1.45 | 3.917    2.32 | 7.000    4.65 | 10.08    2.03
             0.917    1.45 | 4.000    2.32 | 7.083    4.65 | 10.17    2.03
             1.000    1.45 | 4.083    2.32 | 7.167    4.65 | 10.25    2.03
             1.083    1.45 | 4.167    2.32 | 7.250    4.65 | 10.33    1.16
             1.167    1.45 | 4.250    2.32 | 7.333    3.49 | 10.42    1.16
             1.250    1.45 | 4.333    3.49 | 7.417    3.49 | 10.50    1.16
             1.333    1.45 | 4.417    3.49 | 7.500    3.49 | 10.58    1.16
             1.417    1.45 | 4.500    3.49 | 7.583    3.49 | 10.67    1.16
             1.500    1.45 | 4.583    3.49 | 7.667    3.49 | 10.75    1.16
             1.583    1.45 | 4.667    3.49 | 7.750    3.49 | 10.83    1.16
             1.667    1.45 | 4.750    3.49 | 7.833    3.49 | 10.92    1.16
             1.750    1.45 | 4.833    4.65 | 7.917    3.49 | 11.00    1.16
             1.833    1.45 | 4.917    4.65 | 8.000    3.49 | 11.08    1.16
             1.917    1.45 | 5.000    4.65 | 8.083    3.49 | 11.17    1.16
             2.000    1.45 | 5.083    4.65 | 8.167    3.49 | 11.25    1.16
             2.083    1.45 | 5.167    4.65 | 8.250    3.49 | 11.33    1.16
             2.167    1.45 | 5.250    4.65 | 8.333    2.03 | 11.42    1.16
             2.250    1.45 | 5.333    6.97 | 8.417    2.03 | 11.50    1.16
             2.333    1.74 | 5.417    6.97 | 8.500    2.03 | 11.58    1.16
             2.417    1.74 | 5.500    6.97 | 8.583    2.03 | 11.67    1.16
             2.500    1.74 | 5.583    6.97 | 8.667    2.03 | 11.75    1.16
             2.583    1.74 | 5.667    6.97 | 8.750    2.03 | 11.83    1.16
             2.667    1.74 | 5.750    6.97 | 8.833    2.03 | 11.92    1.16
             2.750    1.74 | 5.833   27.90 | 8.917    2.03 | 12.00    1.16
             2.833    1.74 | 5.917   27.90 | 9.000    2.03 | 12.08    1.16
             2.917    1.74 | 6.000   27.90 | 9.083    2.03 | 12.17    1.16
             3.000    1.74 | 6.083   76.72 | 9.167    2.03 | 12.25    1.16
             3.083    1.74 | 6.167   76.72 | 9.250    2.03 |

     Max.Eff.Inten.(mm/hr)=      76.72        43.56
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.14 (ii)    7.65 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.27         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.36         0.04          0.395 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=     57.12        25.92          50.88
     TOTAL RAINFALL   (mm)=     58.12        58.12          58.12
     RUNOFF COEFFICIENT   =      0.98         0.45           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.395     6.25    50.88
     + ID2= 2 (  0256):     1.12   0.024     6.83    56.45
       ================================================
       ID = 3 (  0260):     3.22   0.415     6.25    52.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\af98f35e
| Ptotal= 58.12 mm |    Comments: 5yr 12hr 15min SCS
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.25    0.00 |  3.50    2.32 |  6.75   10.46 | 10.00    2.03
              0.50    1.45 |  3.75    2.32 |  7.00    4.65 | 10.25    2.03
              0.75    1.45 |  4.00    2.32 |  7.25    4.65 | 10.50    1.16
              1.00    1.45 |  4.25    2.32 |  7.50    3.49 | 10.75    1.16
              1.25    1.45 |  4.50    3.49 |  7.75    3.49 | 11.00    1.16
              1.50    1.45 |  4.75    3.49 |  8.00    3.49 | 11.25    1.16
              1.75    1.45 |  5.00    4.65 |  8.25    3.49 | 11.50    1.16
              2.00    1.45 |  5.25    4.65 |  8.50    2.03 | 11.75    1.16
              2.25    1.45 |  5.50    6.97 |  8.75    2.03 | 12.00    1.16
              2.50    1.74 |  5.75    6.97 |  9.00    2.03 | 12.25    1.16
              2.75    1.74 |  6.00   27.90 |  9.25    2.03 |
              3.00    1.74 |  6.25   76.72 |  9.50    2.03 |
              3.25    1.74 |  6.50   10.46 |  9.75    2.03 |

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--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
```

Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.74	6.250	76.72	9.33	2.03
0.167	0.00	3.250	1.74	6.333	10.46	9.42	2.03
0.250	0.00	3.333	2.32	6.417	10.46	9.50	2.03
0.333	1.45	3.417	2.32	6.500	10.46	9.58	2.03
0.417	1.45	3.500	2.32	6.583	10.46	9.67	2.03
0.500	1.45	3.583	2.32	6.667	10.46	9.75	2.03
0.583	1.45	3.667	2.32	6.750	10.46	9.83	2.03
0.667	1.45	3.750	2.32	6.833	4.65	9.92	2.03
0.750	1.45	3.833	2.32	6.917	4.65	10.00	2.03
0.833	1.45	3.917	2.32	7.000	4.65	10.08	2.03
0.917	1.45	4.000	2.32	7.083	4.65	10.17	2.03
1.000	1.45	4.083	2.32	7.167	4.65	10.25	2.03
1.083	1.45	4.167	2.32	7.250	4.65	10.33	1.16
1.167	1.45	4.250	2.32	7.333	3.49	10.42	1.16
1.250	1.45	4.333	3.49	7.417	3.49	10.50	1.16
1.333	1.45	4.417	3.49	7.500	3.49	10.58	1.16
1.417	1.45	4.500	3.49	7.583	3.49	10.67	1.16
1.500	1.45	4.583	3.49	7.667	3.49	10.75	1.16
1.583	1.45	4.667	3.49	7.750	3.49	10.83	1.16
1.667	1.45	4.750	3.49	7.833	3.49	10.92	1.16
1.750	1.45	4.833	4.65	7.917	3.49	11.00	1.16
1.833	1.45	4.917	4.65	8.000	3.49	11.08	1.16
1.917	1.45	5.000	4.65	8.083	3.49	11.17	1.16
2.000	1.45	5.083	4.65	8.167	3.49	11.25	1.16
2.083	1.45	5.167	4.65	8.250	3.49	11.33	1.16
2.167	1.45	5.250	4.65	8.333	2.03	11.42	1.16
2.250	1.45	5.333	6.97	8.417	2.03	11.50	1.16
2.333	1.74	5.417	6.97	8.500	2.03	11.58	1.16
2.417	1.74	5.500	6.97	8.583	2.03	11.67	1.16
2.500	1.74	5.583	6.97	8.667	2.03	11.75	1.16
2.583	1.74	5.667	6.97	8.750	2.03	11.83	1.16
2.667	1.74	5.750	6.97	8.833	2.03	11.92	1.16
2.750	1.74	5.833	27.90	8.917	2.03	12.00	1.16
2.833	1.74	5.917	27.90	9.000	2.03	12.08	1.16
2.917	1.74	6.000	27.90	9.083	2.03	12.17	1.16
3.000	1.74	6.083	76.72	9.167	2.03	12.25	1.16
3.083	1.74	6.167	76.72	9.250	2.03		

Max.Eff.Inten.(mm/hr)=		76.72	43.56	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.81 (ii)	7.32 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.28	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.25	0.03	0.274 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	57.12	25.92	50.88
TOTAL RAINFALL	(mm)=	58.12	58.12	58.12
RUNOFF COEFFICIENT	=	0.98	0.45	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.45	0.274	6.25	50.88
	+ ID2= 2 (0260):	3.22	0.415	6.25	52.83
	ID = 3 (0259):	4.67	0.689	6.25	52.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM | Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\af98f35e
Ptotal= 58.12 mm | Comments: 5yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.32	6.75	10.46	10.00	2.03
0.50	1.45	3.75	2.32	7.00	4.65	10.25	2.03
0.75	1.45	4.00	2.32	7.25	4.65	10.50	1.16
1.00	1.45	4.25	2.32	7.50	3.49	10.75	1.16
1.25	1.45	4.50	3.49	7.75	3.49	11.00	1.16
1.50	1.45	4.75	3.49	8.00	3.49	11.25	1.16
1.75	1.45	5.00	4.65	8.25	3.49	11.50	1.16
2.00	1.45	5.25	4.65	8.50	2.03	11.75	1.16
2.25	1.45	5.50	6.97	8.75	2.03	12.00	1.16
2.50	1.74	5.75	6.97	9.00	2.03	12.25	1.16
2.75	1.74	6.00	27.90	9.25	2.03		
3.00	1.74	6.25	76.72	9.50	2.03		
3.25	1.74	6.50	10.46	9.75	2.03		

CALIB | STANDHYD (0201) | ID= 1 DT= 5.0 min | Area (ha)= 5.27 | Total Imp(%)= 99.00 | Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.74	6.250	76.72	9.33	2.03
0.167	0.00	3.250	1.74	6.333	10.46	9.42	2.03
0.250	0.00	3.333	2.32	6.417	10.46	9.50	2.03
0.333	1.45	3.417	2.32	6.500	10.46	9.58	2.03

0.417	1.45	3.500	2.32	6.583	10.46	9.67	2.03
0.500	1.45	3.583	2.32	6.667	10.46	9.75	2.03
0.583	1.45	3.667	2.32	6.750	10.46	9.83	2.03
0.667	1.45	3.750	2.32	6.833	4.65	9.92	2.03
0.750	1.45	3.833	2.32	6.917	4.65	10.00	2.03
0.833	1.45	3.917	2.32	7.000	4.65	10.08	2.03
0.917	1.45	4.000	2.32	7.083	4.65	10.17	2.03
1.000	1.45	4.083	2.32	7.167	4.65	10.25	2.03
1.083	1.45	4.167	2.32	7.250	4.65	10.33	1.16
1.167	1.45	4.250	2.32	7.333	3.49	10.42	1.16
1.250	1.45	4.333	3.49	7.417	3.49	10.50	1.16
1.333	1.45	4.417	3.49	7.500	3.49	10.58	1.16
1.417	1.45	4.500	3.49	7.583	3.49	10.67	1.16
1.500	1.45	4.583	3.49	7.667	3.49	10.75	1.16
1.583	1.45	4.667	3.49	7.750	3.49	10.83	1.16
1.667	1.45	4.750	3.49	7.833	3.49	10.92	1.16
1.750	1.45	4.833	4.65	7.917	3.49	11.00	1.16
1.833	1.45	4.917	4.65	8.000	3.49	11.08	1.16
1.917	1.45	5.000	4.65	8.083	3.49	11.17	1.16
2.000	1.45	5.083	4.65	8.167	3.49	11.25	1.16
2.083	1.45	5.167	4.65	8.250	3.49	11.33	1.16
2.167	1.45	5.250	4.65	8.333	2.03	11.42	1.16
2.250	1.45	5.333	6.97	8.417	2.03	11.50	1.16
2.333	1.74	5.417	6.97	8.500	2.03	11.58	1.16
2.417	1.74	5.500	6.97	8.583	2.03	11.67	1.16
2.500	1.74	5.583	6.97	8.667	2.03	11.75	1.16
2.583	1.74	5.667	6.97	8.750	2.03	11.83	1.16
2.667	1.74	5.750	6.97	8.833	2.03	11.92	1.16
2.750	1.74	5.833	27.90	8.917	2.03	12.00	1.16
2.833	1.74	5.917	27.90	9.000	2.03	12.08	1.16
2.917	1.74	6.000	27.90	9.083	2.03	12.17	1.16
3.000	1.74	6.083	76.72	9.167	2.03	12.25	1.16
3.083	1.74	6.167	76.72	9.250	2.03		

Max.Eff.Inten.(mm/hr)=	76.72	43.56	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.14 (ii)	5.39 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.24	0.16	
			TOTALS
PEAK FLOW (cms)=	1.09	0.01	1.098 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	57.12	25.92	56.81
TOTAL RAINFALL (mm)=	58.12	58.12	58.12
RUNOFF COEFFICIENT =	0.98	0.45	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)| IN= 2---> OUT= 1 | DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0201)	5.270	1.098	6.25	56.81
OUTFLOW: ID= 1 (0268)	5.270	0.165	6.58	56.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.02
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.1404

READ STORM | Ptotal= 58.12 mm	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\af98f35e Comments: 5yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.32	6.75	10.46	10.00	2.03
0.50	1.45	3.75	2.32	7.00	4.65	10.25	2.03
0.75	1.45	4.00	2.32	7.25	4.65	10.50	1.16
1.00	1.45	4.25	2.32	7.50	3.49	10.75	1.16
1.25	1.45	4.50	3.49	7.75	3.49	11.00	1.16
1.50	1.45	4.75	3.49	8.00	3.49	11.25	1.16
1.75	1.45	5.00	4.65	8.25	3.49	11.50	1.16
2.00	1.45	5.25	4.65	8.50	2.03	11.75	1.16
2.25	1.45	5.50	6.97	8.75	2.03	12.00	1.16
2.50	1.74	5.75	6.97	9.00	2.03	12.25	1.16
2.75	1.74	6.00	27.90	9.25	2.03		
3.00	1.74	6.25	76.72	9.50	2.03		
3.25	1.74	6.50	10.46	9.75	2.03		

CALIB | STANDHYD (0202)| ID= 1 DT= 5.0 min	Area (ha)= 6.57 Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.74	6.250	76.72	9.33	2.03
0.167	0.00	3.250	1.74	6.333	10.46	9.42	2.03
0.250	0.00	3.333	2.32	6.417	10.46	9.50	2.03
0.333	1.45	3.417	2.32	6.500	10.46	9.58	2.03
0.417	1.45	3.500	2.32	6.583	10.46	9.67	2.03
0.500	1.45	3.583	2.32	6.667	10.46	9.75	2.03
0.583	1.45	3.667	2.32	6.750	10.46	9.83	2.03
0.667	1.45	3.750	2.32	6.833	4.65	9.92	2.03
0.750	1.45	3.833	2.32	6.917	4.65	10.00	2.03
0.833	1.45	3.917	2.32	7.000	4.65	10.08	2.03
0.917	1.45	4.000	2.32	7.083	4.65	10.17	2.03
1.000	1.45	4.083	2.32	7.167	4.65	10.25	2.03

```
               1.083    1.45 | 4.167    2.32 | 7.250    4.65 | 10.33    1.16
               1.167    1.45 | 4.250    2.32 | 7.333    3.49 | 10.42    1.16
               1.250    1.45 | 4.333    3.49 | 7.417    3.49 | 10.50    1.16
               1.333    1.45 | 4.417    3.49 | 7.500    3.49 | 10.58    1.16
               1.417    1.45 | 4.500    3.49 | 7.583    3.49 | 10.67    1.16
               1.500    1.45 | 4.583    3.49 | 7.667    3.49 | 10.75    1.16
               1.583    1.45 | 4.667    3.49 | 7.750    3.49 | 10.83    1.16
               1.667    1.45 | 4.750    3.49 | 7.833    3.49 | 10.92    1.16
               1.750    1.45 | 4.833    4.65 | 7.917    3.49 | 11.00    1.16
               1.833    1.45 | 4.917    4.65 | 8.000    3.49 | 11.08    1.16
               1.917    1.45 | 5.000    4.65 | 8.083    3.49 | 11.17    1.16
               2.000    1.45 | 5.083    4.65 | 8.167    3.49 | 11.25    1.16
               2.083    1.45 | 5.167    4.65 | 8.250    3.49 | 11.33    1.16
               2.167    1.45 | 5.250    4.65 | 8.333    2.03 | 11.42    1.16
               2.250    1.45 | 5.333    6.97 | 8.417    2.03 | 11.50    1.16
               2.333    1.74 | 5.417    6.97 | 8.500    2.03 | 11.58    1.16
               2.417    1.74 | 5.500    6.97 | 8.583    2.03 | 11.67    1.16
               2.500    1.74 | 5.583    6.97 | 8.667    2.03 | 11.75    1.16
               2.583    1.74 | 5.667    6.97 | 8.750    2.03 | 11.83    1.16
               2.667    1.74 | 5.750    6.97 | 8.833    2.03 | 11.92    1.16
               2.750    1.74 | 5.833   27.90 | 8.917    2.03 | 12.00    1.16
               2.833    1.74 | 5.917   27.90 | 9.000    2.03 | 12.08    1.16
               2.917    1.74 | 6.000   27.90 | 9.083    2.03 | 12.17    1.16
               3.000    1.74 | 6.083   76.72 | 9.167    2.03 | 12.25    1.16
               3.083    1.74 | 6.167   76.72 | 9.250    2.03 |

     Max.Eff.Inten.(mm/hr)=      76.72        43.56
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       4.42 (ii)    8.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.11         0.11          1.221 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=      57.12        25.92          51.19
     TOTAL RAINFALL   (mm)=      58.12        58.12          58.12
     RUNOFF COEFFICIENT   =       0.98         0.45           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   1.221     6.25    51.19
     + ID2= 2 (  0268):     5.27   0.165     6.58    56.79
       ================================================
       ID = 3 (  0262):    11.84   1.369     6.25    53.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.689     6.25    52.22
     + ID2= 2 (  0262):    11.84   1.369     6.25    53.68
       ================================================
       ID = 3 (  0266):    16.51   2.059     6.25    53.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2130      0.6563
                         0.0190     0.1773    |   0.2520      0.6883
                         0.0220     0.2128    |   0.2890      0.7150
                         0.0260     0.2888    |   0.2980      0.7450
                         0.0300     0.3648    |   0.3060      0.7700
                         0.0650     0.4586    |   0.3150      0.8127
                         0.1100     0.5155    |   0.3320      0.9290
                         0.1680     0.5503    |   0.3390      0.9767
                         0.1930     0.5804    |   0.3520      1.0680
                         0.2000     0.6048    |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      2.059      6.25      53.27
   OUTFLOW: ID= 1 (  0263)     16.510      0.179      9.50      53.13

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.71
                  TIME SHIFT OF PEAK FLOW         (min)=195.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5638

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.008     6.33    25.89
     + ID2= 2 (  0263):    16.51   0.179     9.50    53.13
       ================================================
       ID = 3 (  0261):    16.64   0.180     9.50    52.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                ***** D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\baa7ab68-465a-4a1d-a51c-be366902230d\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\baa7ab68-465a-4a1d-a51c-be366902230d\s


DATE: 07/06/2020                          TIME: 04:36:54

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 50 Year 12 Hour SCS           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\23d36382
| Ptotal= 88.43 mm |    Comments: 50yr 12hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    3.54 |  6.75   15.92 | 10.00    3.10
                0.50    2.21 |  3.75    3.54 |  7.00    7.07 | 10.25    3.10
                0.75    2.21 |  4.00    3.54 |  7.25    7.07 | 10.50    1.77
                1.00    2.21 |  4.25    3.54 |  7.50    5.31 | 10.75    1.77
                1.25    2.21 |  4.50    5.31 |  7.75    5.31 | 11.00    1.77
                1.50    2.21 |  4.75    5.31 |  8.00    5.31 | 11.25    1.77
                1.75    2.21 |  5.00    7.07 |  8.25    5.31 | 11.50    1.77
                2.00    2.21 |  5.25    7.07 |  8.50    3.10 | 11.75    1.77
                2.25    2.21 |  5.50   10.61 |  8.75    3.10 | 12.00    1.77
                2.50    2.65 |  5.75   10.61 |  9.00    3.10 | 12.25    1.77
                2.75    2.65 |  6.00   42.45 |  9.25    3.10 |
                3.00    2.65 |  6.25  116.73 |  9.50    3.10 |
                3.25    2.65 |  6.50   15.92 |  9.75    3.10 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                           ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   0.00 | 3.167    2.65 | 6.250  116.72 |  9.33    3.10
                0.167   0.00 | 3.250    2.65 | 6.333   15.92 |  9.42    3.10
                0.250   0.00 | 3.333    3.54 | 6.417   15.92 |  9.50    3.10
                0.333   2.21 | 3.417    3.54 | 6.500   15.92 |  9.58    3.10
                0.417   2.21 | 3.500    3.54 | 6.583   15.92 |  9.67    3.10
                0.500   2.21 | 3.583    3.54 | 6.667   15.92 |  9.75    3.10
                0.583   2.21 | 3.667    3.54 | 6.750   15.92 |  9.83    3.10
                0.667   2.21 | 3.750    3.54 | 6.833    7.07 |  9.92    3.10
                0.750   2.21 | 3.833    3.54 | 6.917    7.07 | 10.00    3.10
                0.833   2.21 | 3.917    3.54 | 7.000    7.07 | 10.08    3.10
                0.917   2.21 | 4.000    3.54 | 7.083    7.07 | 10.17    3.10
                1.000   2.21 | 4.083    3.54 | 7.167    7.07 | 10.25    3.10
                1.083   2.21 | 4.167    3.54 | 7.250    7.07 | 10.33    1.77
                1.167   2.21 | 4.250    3.54 | 7.333    5.31 | 10.42    1.77
                1.250   2.21 | 4.333    5.31 | 7.417    5.31 | 10.50    1.77
                1.333   2.21 | 4.417    5.31 | 7.500    5.31 | 10.58    1.77
                1.417   2.21 | 4.500    5.31 | 7.583    5.31 | 10.67    1.77
                1.500   2.21 | 4.583    5.31 | 7.667    5.31 | 10.75    1.77
                1.583   2.21 | 4.667    5.31 | 7.750    5.31 | 10.83    1.77
                1.667   2.21 | 4.750    5.31 | 7.833    5.31 | 10.92    1.77
                1.750   2.21 | 4.833    7.07 | 7.917    5.31 | 11.00    1.77
                1.833   2.21 | 4.917    7.07 | 8.000    5.31 | 11.08    1.77
                1.917   2.21 | 5.000    7.07 | 8.083    5.31 | 11.17    1.77
                2.000   2.21 | 5.083    7.07 | 8.167    5.31 | 11.25    1.77
                2.083   2.21 | 5.167    7.07 | 8.250    5.31 | 11.33    1.77
                2.167   2.21 | 5.250    7.07 | 8.333    3.10 | 11.42    1.77
                2.250   2.21 | 5.333   10.61 | 8.417    3.10 | 11.50    1.77
                2.333   2.65 | 5.417   10.61 | 8.500    3.10 | 11.58    1.77
                2.417   2.65 | 5.500   10.61 | 8.583    3.10 | 11.67    1.77
                2.500   2.65 | 5.583   10.61 | 8.667    3.10 | 11.75    1.77
                2.583   2.65 | 5.667   10.61 | 8.750    3.10 | 11.83    1.77
                2.667   2.65 | 5.750   10.61 | 8.833    3.10 | 11.92    1.77
                2.750   2.65 | 5.833   42.45 | 8.917    3.10 | 12.00    1.77
                2.833   2.65 | 5.917   42.45 | 9.000    3.10 | 12.08    1.77
                2.917   2.65 | 6.000   42.45 | 9.083    3.10 | 12.17    1.77
                3.000   2.65 | 6.083  116.73 | 9.167    3.10 | 12.25    1.77
                3.083   2.65 | 6.167  116.73 | 9.250    3.10 |

    Unit Hyd Qpeak  (cms)=   0.019

    PEAK FLOW       (cms)=   0.016 (i)
    TIME TO PEAK    (hrs)=   6.333
    RUNOFF VOLUME    (mm)=  49.964
    TOTAL RAINFALL   (mm)=  88.430
    RUNOFF COEFFICIENT   =   0.565

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\23d36382
| Ptotal= 88.43 mm |    Comments: 50yr 12hr 15min SCS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    3.54 |  6.75   15.92 | 10.00    3.10
                0.50    2.21 |  3.75    3.54 |  7.00    7.07 | 10.25    3.10
                0.75    2.21 |  4.00    3.54 |  7.25    7.07 | 10.50    1.77
                1.00    2.21 |  4.25    3.54 |  7.50    5.31 | 10.75    1.77
                1.25    2.21 |  4.50    5.31 |  7.75    5.31 | 11.00    1.77
                1.50    2.21 |  4.75    5.31 |  8.00    5.31 | 11.25    1.77
```

1.75	2.21	5.00	7.07	8.25	5.31	11.50	1.77
2.00	2.21	5.25	7.07	8.50	3.10	11.75	1.77
2.25	2.21	5.50	10.61	8.75	3.10	12.00	1.77
2.50	2.65	5.75	10.61	9.00	3.10	12.25	1.77
2.75	2.65	6.00	42.45	9.25	3.10		
3.00	2.65	6.25	116.73	9.50	3.10		
3.25	2.65	6.50	15.92	9.75	3.10		

CALIB	
STANDHYD (0205)	Area (ha)= 1.12
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.65	6.250	116.72	9.33	3.10
0.167	0.00	3.250	2.65	6.333	15.92	9.42	3.10
0.250	0.00	3.333	3.54	6.417	15.92	9.50	3.10
0.333	2.21	3.417	3.54	6.500	15.92	9.58	3.10
0.417	2.21	3.500	3.54	6.583	15.92	9.67	3.10
0.500	2.21	3.583	3.54	6.667	15.92	9.75	3.10
0.583	2.21	3.667	3.54	6.750	15.92	9.83	3.10
0.667	2.21	3.750	3.54	6.833	7.07	9.92	3.10
0.750	2.21	3.833	3.54	6.917	7.07	10.00	3.10
0.833	2.21	3.917	3.54	7.000	7.07	10.08	3.10
0.917	2.21	4.000	3.54	7.083	7.07	10.17	3.10
1.000	2.21	4.083	3.54	7.167	7.07	10.25	3.10
1.083	2.21	4.167	3.54	7.250	7.07	10.33	1.77
1.167	2.21	4.250	3.54	7.333	5.31	10.42	1.77
1.250	2.21	4.333	5.31	7.417	5.31	10.50	1.77
1.333	2.21	4.417	5.31	7.500	5.31	10.58	1.77
1.417	2.21	4.500	5.31	7.583	5.31	10.67	1.77
1.500	2.21	4.583	5.31	7.667	5.31	10.75	1.77
1.583	2.21	4.667	5.31	7.750	5.31	10.83	1.77
1.667	2.21	4.750	5.31	7.833	5.31	10.92	1.77
1.750	2.21	4.833	7.07	7.917	5.31	11.00	1.77
1.833	2.21	4.917	7.07	8.000	5.31	11.08	1.77
1.917	2.21	5.000	7.07	8.083	5.31	11.17	1.77
2.000	2.21	5.083	7.07	8.167	5.31	11.25	1.77
2.083	2.21	5.167	7.07	8.250	5.31	11.33	1.77
2.167	2.21	5.250	7.07	8.333	3.10	11.42	1.77
2.250	2.21	5.333	10.61	8.417	3.10	11.50	1.77
2.333	2.65	5.417	10.61	8.500	3.10	11.58	1.77
2.417	2.65	5.500	10.61	8.583	3.10	11.67	1.77
2.500	2.65	5.583	10.61	8.667	3.10	11.75	1.77
2.583	2.65	5.667	10.61	8.750	3.10	11.83	1.77
2.667	2.65	5.750	10.61	8.833	3.10	11.92	1.77
2.750	2.65	5.833	42.45	8.917	3.10	12.00	1.77
2.833	2.65	5.917	42.45	9.000	3.10	12.08	1.77
2.917	2.65	6.000	42.45	9.083	3.10	12.17	1.77
3.000	2.65	6.083	116.73	9.167	3.10	12.25	1.77
3.083	2.65	6.167	116.73	9.250	3.10		

			TOTALS
Max.Eff.Inten.(mm/hr)=	116.73	82.17	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.20 (ii)	3.26 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.30	0.27	
PEAK FLOW (cms)=	0.36	0.00	0.363 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	87.43	50.01	87.05
TOTAL RAINFALL (mm)=	88.43	88.43	88.43
RUNOFF COEFFICIENT =	0.99	0.57	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0470	0.0750	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.363	6.25	87.05
OUTFLOW: ID= 1 (0256)	1.125	0.037	6.75	86.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.29
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0599

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\23d36382
Ptotal= 88.43 mm	Comments: 50yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.54	6.75	15.92	10.00	3.10
0.50	2.21	3.75	3.54	7.00	7.07	10.25	3.10
0.75	2.21	4.00	3.54	7.25	7.07	10.50	1.77
1.00	2.21	4.25	3.54	7.50	5.31	10.75	1.77
1.25	2.21	4.50	5.31	7.75	5.31	11.00	1.77
1.50	2.21	4.75	5.31	8.00	5.31	11.25	1.77
1.75	2.21	5.00	7.07	8.25	5.31	11.50	1.77
2.00	2.21	5.25	7.07	8.50	3.10	11.75	1.77
2.25	2.21	5.50	10.61	8.75	3.10	12.00	1.77
2.50	2.65	5.75	10.61	9.00	3.10	12.25	1.77
2.75	2.65	6.00	42.45	9.25	3.10		
3.00	2.65	6.25	116.73	9.50	3.10		
3.25	2.65	6.50	15.92	9.75	3.10		

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.68         0.42
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    118.18        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.65	6.250	116.72	9.33	3.10
0.167	0.00	3.250	2.65	6.333	15.92	9.42	3.10
0.250	0.00	3.333	3.54	6.417	15.92	9.50	3.10
0.333	2.21	3.417	3.54	6.500	15.92	9.58	3.10
0.417	2.21	3.500	3.54	6.583	15.92	9.67	3.10
0.500	2.21	3.583	3.54	6.667	15.92	9.75	3.10
0.583	2.21	3.667	3.54	6.750	15.92	9.83	3.10
0.667	2.21	3.750	3.54	6.833	7.07	9.92	3.10
0.750	2.21	3.833	3.54	6.917	7.07	10.00	3.10
0.833	2.21	3.917	3.54	7.000	7.07	10.08	3.10
0.917	2.21	4.000	3.54	7.083	7.07	10.17	3.10
1.000	2.21	4.083	3.54	7.167	7.07	10.25	3.10
1.083	2.21	4.167	3.54	7.250	7.07	10.33	1.77
1.167	2.21	4.250	3.54	7.333	5.31	10.42	1.77
1.250	2.21	4.333	5.31	7.417	5.31	10.50	1.77
1.333	2.21	4.417	5.31	7.500	5.31	10.58	1.77
1.417	2.21	4.500	5.31	7.583	5.31	10.67	1.77
1.500	2.21	4.583	5.31	7.667	5.31	10.75	1.77
1.583	2.21	4.667	5.31	7.750	5.31	10.83	1.77
1.667	2.21	4.750	5.31	7.833	5.31	10.92	1.77
1.750	2.21	4.833	7.07	7.917	5.31	11.00	1.77
1.833	2.21	4.917	7.07	8.000	5.31	11.08	1.77
1.917	2.21	5.000	7.07	8.083	5.31	11.17	1.77
2.000	2.21	5.083	7.07	8.167	5.31	11.25	1.77
2.083	2.21	5.167	7.07	8.250	5.31	11.33	1.77
2.167	2.21	5.250	7.07	8.333	3.10	11.42	1.77
2.250	2.21	5.333	10.61	8.417	3.10	11.50	1.77
2.333	2.65	5.417	10.61	8.500	3.10	11.58	1.77
2.417	2.65	5.500	10.61	8.583	3.10	11.67	1.77
2.500	2.65	5.583	10.61	8.667	3.10	11.75	1.77
2.583	2.65	5.667	10.61	8.750	3.10	11.83	1.77
2.667	2.65	5.750	10.61	8.833	3.10	11.92	1.77
2.750	2.65	5.833	42.45	8.917	3.10	12.00	1.77
2.833	2.65	5.917	42.45	9.000	3.10	12.08	1.77
2.917	2.65	6.000	42.45	9.083	3.10	12.17	1.77
3.000	2.65	6.083	116.73	9.167	3.10	12.25	1.77
3.083	2.65	6.167	116.73	9.250	3.10		

```
     Max.Eff.Inten.(mm/hr)=     116.73        82.17
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.65 (ii)    6.47 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.54         0.08         0.622 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25          6.25
     RUNOFF VOLUME    (mm)=      87.43        50.01         79.94
     TOTAL RAINFALL   (mm)=      88.43        88.43         88.43
     RUNOFF COEFFICIENT   =       0.99         0.57          0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.622     6.25    79.94
     + ID2= 2 (  0256):     1.12   0.037     6.75    86.70
       ================================================
       ID = 3 (  0260):     3.22   0.654     6.25    82.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\23d36382
| Ptotal= 88.43 mm |    Comments: 50yr 12hr 15min SCS
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.54	6.75	15.92	10.00	3.10
0.50	2.21	3.75	3.54	7.00	7.07	10.25	3.10
0.75	2.21	4.00	3.54	7.25	7.07	10.50	1.77
1.00	2.21	4.25	3.54	7.50	5.31	10.75	1.77
1.25	2.21	4.50	5.31	7.75	5.31	11.00	1.77
1.50	2.21	4.75	5.31	8.00	5.31	11.25	1.77
1.75	2.21	5.00	7.07	8.25	5.31	11.50	1.77
2.00	2.21	5.25	7.07	8.50	3.10	11.75	1.77
2.25	2.21	5.50	10.61	8.75	3.10	12.00	1.77
2.50	2.65	5.75	10.61	9.00	3.10	12.25	1.77
2.75	2.65	6.00	42.45	9.25	3.10		
3.00	2.65	6.25	116.73	9.50	3.10		
3.25	2.65	6.50	15.92	9.75	3.10		

```
--------------------
| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      1.16         0.29
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     98.32        40.00
     Mannings n           =     0.013        0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.65	6.250	116.72	9.33	3.10
0.167	0.00	3.250	2.65	6.333	15.92	9.42	3.10
0.250	0.00	3.333	3.54	6.417	15.92	9.50	3.10
0.333	2.21	3.417	3.54	6.500	15.92	9.58	3.10
0.417	2.21	3.500	3.54	6.583	15.92	9.67	3.10
0.500	2.21	3.583	3.54	6.667	15.92	9.75	3.10
0.583	2.21	3.667	3.54	6.750	15.92	9.83	3.10
0.667	2.21	3.750	3.54	6.833	7.07	9.92	3.10
0.750	2.21	3.833	3.54	6.917	7.07	10.00	3.10
0.833	2.21	3.917	3.54	7.000	7.07	10.08	3.10
0.917	2.21	4.000	3.54	7.083	7.07	10.17	3.10
1.000	2.21	4.083	3.54	7.167	7.07	10.25	3.10
1.083	2.21	4.167	3.54	7.250	7.07	10.33	1.77
1.167	2.21	4.250	3.54	7.333	5.31	10.42	1.77
1.250	2.21	4.333	5.31	7.417	5.31	10.50	1.77
1.333	2.21	4.417	5.31	7.500	5.31	10.58	1.77
1.417	2.21	4.500	5.31	7.583	5.31	10.67	1.77
1.500	2.21	4.583	5.31	7.667	5.31	10.75	1.77
1.583	2.21	4.667	5.31	7.750	5.31	10.83	1.77
1.667	2.21	4.750	5.31	7.833	5.31	10.92	1.77
1.750	2.21	4.833	7.07	7.917	5.31	11.00	1.77
1.833	2.21	4.917	7.07	8.000	5.31	11.08	1.77
1.917	2.21	5.000	7.07	8.083	5.31	11.17	1.77
2.000	2.21	5.083	7.07	8.167	5.31	11.25	1.77
2.083	2.21	5.167	7.07	8.250	5.31	11.33	1.77
2.167	2.21	5.250	7.07	8.333	3.10	11.42	1.77
2.250	2.21	5.333	10.61	8.417	3.10	11.50	1.77
2.333	2.65	5.417	10.61	8.500	3.10	11.58	1.77
2.417	2.65	5.500	10.61	8.583	3.10	11.67	1.77
2.500	2.65	5.583	10.61	8.667	3.10	11.75	1.77
2.583	2.65	5.667	10.61	8.750	3.10	11.83	1.77
2.667	2.65	5.750	10.61	8.833	3.10	11.92	1.77
2.750	2.65	5.833	42.45	8.917	3.10	12.00	1.77
2.833	2.65	5.917	42.45	9.000	3.10	12.08	1.77
2.917	2.65	6.000	42.45	9.083	3.10	12.17	1.77
3.000	2.65	6.083	116.73	9.167	3.10	12.25	1.77
3.083	2.65	6.167	116.73	9.250	3.10		

Max.Eff.Inten.(mm/hr)=	116.73	82.17		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.38 (ii)	6.19 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.30	0.15		
			TOTALS	
PEAK FLOW (cms)=	0.38	0.06	0.432 (iii)	
TIME TO PEAK (hrs)=	6.25	6.25	6.25	
RUNOFF VOLUME (mm)=	87.43	50.01	79.94	
TOTAL RAINFALL (mm)=	88.43	88.43	88.43	
RUNOFF COEFFICIENT =	0.99	0.57	0.90	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.45	0.432	6.25	79.94
	+ ID2= 2 (0260):	3.22	0.654	6.25	82.30
	ID = 3 (0259):	4.67	1.086	6.25	81.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM | Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\23d36382
Ptotal= 88.43 mm | Comments: 50yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.54	6.75	15.92	10.00	3.10
0.50	2.21	3.75	3.54	7.00	7.07	10.25	3.10
0.75	2.21	4.00	3.54	7.25	7.07	10.50	1.77
1.00	2.21	4.25	3.54	7.50	5.31	10.75	1.77
1.25	2.21	4.50	5.31	7.75	5.31	11.00	1.77
1.50	2.21	4.75	5.31	8.00	5.31	11.25	1.77
1.75	2.21	5.00	7.07	8.25	5.31	11.50	1.77
2.00	2.21	5.25	7.07	8.50	3.10	11.75	1.77
2.25	2.21	5.50	10.61	8.75	3.10	12.00	1.77
2.50	2.65	5.75	10.61	9.00	3.10	12.25	1.77
2.75	2.65	6.00	42.45	9.25	3.10		
3.00	2.65	6.25	116.73	9.50	3.10		
3.25	2.65	6.50	15.92	9.75	3.10		

CALIB | STANDHYD (0201) | ID= 1 DT= 5.0 min | Area (ha)= 5.27 | Total Imp(%)= 99.00 | Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.65	6.250	116.72	9.33	3.10
0.167	0.00	3.250	2.65	6.333	15.92	9.42	3.10
0.250	0.00	3.333	3.54	6.417	15.92	9.50	3.10
0.333	2.21	3.417	3.54	6.500	15.92	9.58	3.10
0.417	2.21	3.500	3.54	6.583	15.92	9.67	3.10
0.500	2.21	3.583	3.54	6.667	15.92	9.75	3.10
0.583	2.21	3.667	3.54	6.750	15.92	9.83	3.10

0.667	2.21	3.750	3.54	6.833	7.07	9.92	3.10
0.750	2.21	3.833	3.54	6.917	7.07	10.00	3.10
0.833	2.21	3.917	3.54	7.000	7.07	10.08	3.10
0.917	2.21	4.000	3.54	7.083	7.07	10.17	3.10
1.000	2.21	4.083	3.54	7.167	7.07	10.25	3.10
1.083	2.21	4.167	3.54	7.250	7.07	10.33	1.77
1.167	2.21	4.250	3.54	7.333	5.31	10.42	1.77
1.250	2.21	4.333	5.31	7.417	5.31	10.50	1.77
1.333	2.21	4.417	5.31	7.500	5.31	10.58	1.77
1.417	2.21	4.500	5.31	7.583	5.31	10.67	1.77
1.500	2.21	4.583	5.31	7.667	5.31	10.75	1.77
1.583	2.21	4.667	5.31	7.750	5.31	10.83	1.77
1.667	2.21	4.750	5.31	7.833	5.31	10.92	1.77
1.750	2.21	4.833	7.07	7.917	5.31	11.00	1.77
1.833	2.21	4.917	7.07	8.000	5.31	11.08	1.77
1.917	2.21	5.000	7.07	8.083	5.31	11.17	1.77
2.000	2.21	5.083	7.07	8.167	5.31	11.25	1.77
2.083	2.21	5.167	7.07	8.250	5.31	11.33	1.77
2.167	2.21	5.250	7.07	8.333	3.10	11.42	1.77
2.250	2.21	5.333	10.61	8.417	3.10	11.50	1.77
2.333	2.65	5.417	10.61	8.500	3.10	11.58	1.77
2.417	2.65	5.500	10.61	8.583	3.10	11.67	1.77
2.500	2.65	5.583	10.61	8.667	3.10	11.75	1.77
2.583	2.65	5.667	10.61	8.750	3.10	11.83	1.77
2.667	2.65	5.750	10.61	8.833	3.10	11.92	1.77
2.750	2.65	5.833	42.45	8.917	3.10	12.00	1.77
2.833	2.65	5.917	42.45	9.000	3.10	12.08	1.77
2.917	2.65	6.000	42.45	9.083	3.10	12.17	1.77
3.000	2.65	6.083	116.73	9.167	3.10	12.25	1.77
3.083	2.65	6.167	116.73	9.250	3.10		

Max.Eff.Inten.(mm/hr)=	116.73	82.17	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.50 (ii)	4.56 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.26	0.23	
			TOTALS
PEAK FLOW (cms)=	1.68	0.01	1.689 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	87.43	50.01	87.06
TOTAL RAINFALL (mm)=	88.43	88.43	88.43
RUNOFF COEFFICIENT =	0.99	0.57	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	1.689	6.25	87.06
OUTFLOW: ID= 1 (0268)	5.270	0.211	6.75	87.04

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.49
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.2263

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\c8e2d12c-d60f-4bf5-a077-0320d6a0fe67\23d36382
Ptotal= 88.43 mm	Comments: 50yr 12hr 15min SCS

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.54	6.75	15.92	10.00	3.10
0.50	2.21	3.75	3.54	7.00	7.07	10.25	3.10
0.75	2.21	4.00	3.54	7.25	7.07	10.50	1.77
1.00	2.21	4.25	3.54	7.50	5.31	10.75	1.77
1.25	2.21	4.50	5.31	7.75	5.31	11.00	1.77
1.50	2.21	4.75	5.31	8.00	5.31	11.25	1.77
1.75	2.21	5.00	7.07	8.25	5.31	11.50	1.77
2.00	2.21	5.25	7.07	8.50	3.10	11.75	1.77
2.25	2.21	5.50	10.61	8.75	3.10	12.00	1.77
2.50	2.65	5.75	10.61	9.00	3.10	12.25	1.77
2.75	2.65	6.00	42.45	9.25	3.10		
3.00	2.65	6.25	116.73	9.50	3.10		
3.25	2.65	6.50	15.92	9.75	3.10		

CALIB		
STANDHYD (0202)	Area (ha)= 6.57	
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00	Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.65	6.250	116.72	9.33	3.10
0.167	0.00	3.250	2.65	6.333	15.92	9.42	3.10
0.250	0.00	3.333	3.54	6.417	15.92	9.50	3.10
0.333	2.21	3.417	3.54	6.500	15.92	9.58	3.10
0.417	2.21	3.500	3.54	6.583	15.92	9.67	3.10
0.500	2.21	3.583	3.54	6.667	15.92	9.75	3.10
0.583	2.21	3.667	3.54	6.750	15.92	9.83	3.10
0.667	2.21	3.750	3.54	6.833	7.07	9.92	3.10
0.750	2.21	3.833	3.54	6.917	7.07	10.00	3.10
0.833	2.21	3.917	3.54	7.000	7.07	10.08	3.10
0.917	2.21	4.000	3.54	7.083	7.07	10.17	3.10
1.000	2.21	4.083	3.54	7.167	7.07	10.25	3.10
1.083	2.21	4.167	3.54	7.250	7.07	10.33	1.77
1.167	2.21	4.250	3.54	7.333	5.31	10.42	1.77
1.250	2.21	4.333	5.31	7.417	5.31	10.50	1.77

```
                1.333    2.21 | 4.417    5.31 | 7.500    5.31 | 10.58    1.77
                1.417    2.21 | 4.500    5.31 | 7.583    5.31 | 10.67    1.77
                1.500    2.21 | 4.583    5.31 | 7.667    5.31 | 10.75    1.77
                1.583    2.21 | 4.667    5.31 | 7.750    5.31 | 10.83    1.77
                1.667    2.21 | 4.750    5.31 | 7.833    5.31 | 10.92    1.77
                1.750    2.21 | 4.833    7.07 | 7.917    5.31 | 11.00    1.77
                1.833    2.21 | 4.917    7.07 | 8.000    5.31 | 11.08    1.77
                1.917    2.21 | 5.000    7.07 | 8.083    5.31 | 11.17    1.77
                2.000    2.21 | 5.083    7.07 | 8.167    5.31 | 11.25    1.77
                2.083    2.21 | 5.167    7.07 | 8.250    5.31 | 11.33    1.77
                2.167    2.21 | 5.250    7.07 | 8.333    3.10 | 11.42    1.77
                2.250    2.21 | 5.333   10.61 | 8.417    3.10 | 11.50    1.77
                2.333    2.65 | 5.417   10.61 | 8.500    3.10 | 11.58    1.77
                2.417    2.65 | 5.500   10.61 | 8.583    3.10 | 11.67    1.77
                2.500    2.65 | 5.583   10.61 | 8.667    3.10 | 11.75    1.77
                2.583    2.65 | 5.667   10.61 | 8.750    3.10 | 11.83    1.77
                2.667    2.65 | 5.750   10.61 | 8.833    3.10 | 11.92    1.77
                2.750    2.65 | 5.833   42.45 | 8.917    3.10 | 12.00    1.77
                2.833    2.65 | 5.917   42.45 | 9.000    3.10 | 12.08    1.77
                2.917    2.65 | 6.000   42.45 | 9.083    3.10 | 12.17    1.77
                3.000    2.65 | 6.083  116.73 | 9.167    3.10 | 12.25    1.77
                3.083    2.65 | 6.167  116.73 | 9.250    3.10 |

     Max.Eff.Inten.(mm/hr)=     116.73        82.17
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.74 (ii)    7.45 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.25         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.71         0.23          1.934 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=      87.43        50.01          80.32
     TOTAL RAINFALL   (mm)=      88.43        88.43          88.43
     RUNOFF COEFFICIENT   =       0.99         0.57           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0202):     6.57   1.934     6.25    80.32
      + ID2= 2 (  0268):     5.27   0.211     6.75    87.04
        ================================================
        ID = 3 (  0262):    11.84   2.128     6.25    83.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0259):     4.67   1.086     6.25    81.57
      + ID2= 2 (  0262):    11.84   2.128     6.25    83.31
        ================================================
        ID = 3 (  0266):    16.51   3.214     6.25    82.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2130      0.6563
                          0.0190     0.1773   |   0.2520      0.6883
                          0.0220     0.2128   |   0.2890      0.7150
                          0.0260     0.2888   |   0.2980      0.7450
                          0.0300     0.3648   |   0.3060      0.7700
                          0.0650     0.4586   |   0.3150      0.8127
                          0.1100     0.5155   |   0.3320      0.9290
                          0.1680     0.5503   |   0.3390      0.9767
                          0.1930     0.5804   |   0.3520      1.0680
                          0.2000     0.6048   |   0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      3.214      6.25      82.82
   OUTFLOW: ID= 1 (  0263)     16.510      0.304      8.42      82.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.45
                  TIME SHIFT OF PEAK FLOW         (min)=130.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7629

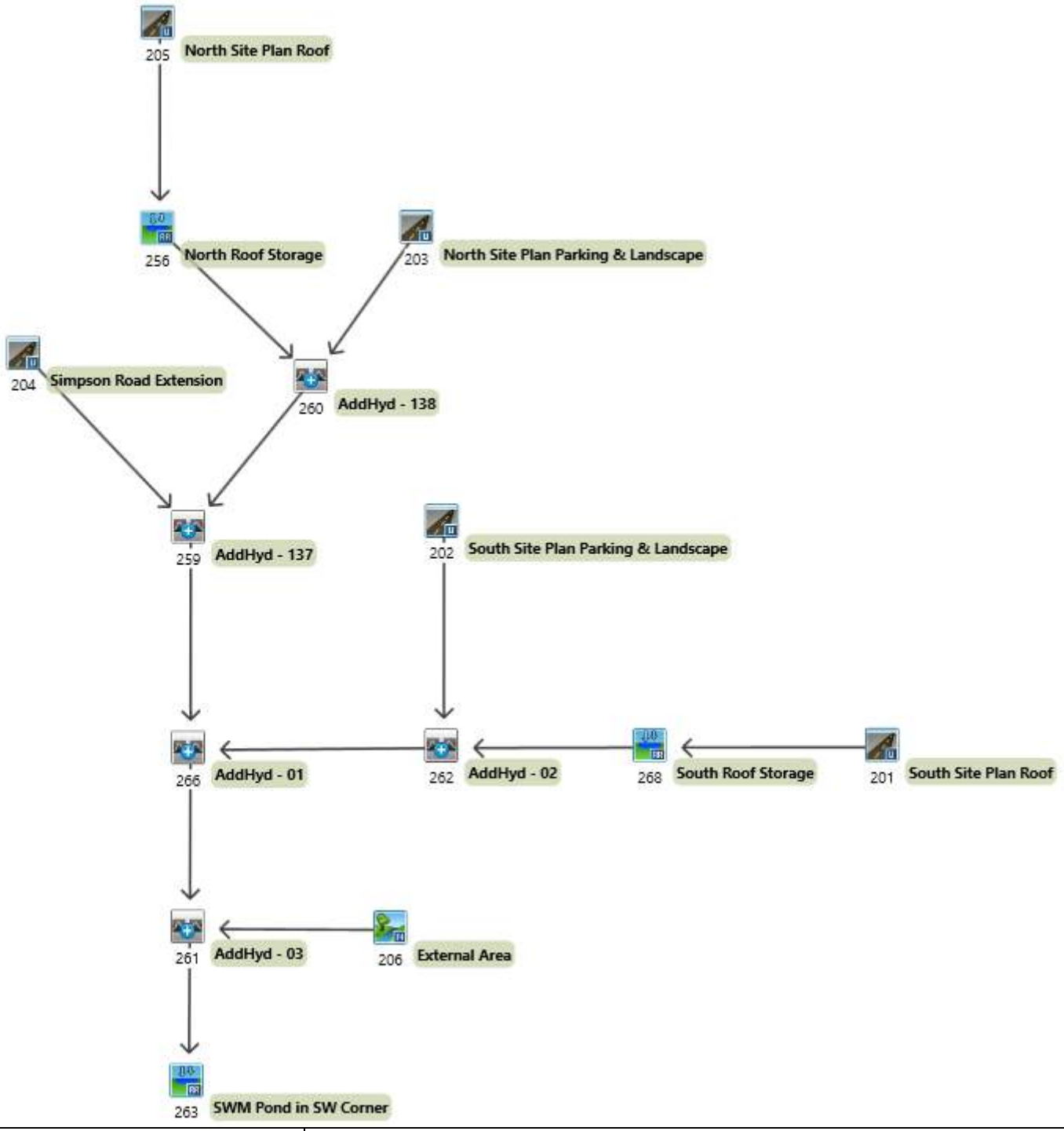
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0206):     0.12   0.016     6.33    49.96
      + ID2= 2 (  0263):    16.51   0.304     8.42    82.67
        ================================================
        ID = 3 (  0261):    16.64   0.305     8.33    82.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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SCHAEFFERS
CONSULTING ENGINEERS

Post-development Visual OTTHYMO™ Schematic
24 Hour AES 2-100 Year

Job #: 2018-4841	**Date: July 2020**

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      V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\1313ac71-b4c2-4367-bb2f-37e062c096dc\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\1313ac71-b4c2-4367-bb2f-37e062c096dc\s


DATE: 07/06/2020                          TIME: 04:38:41

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 10 Year 24 Hour AES           **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\9b653463
| Ptotal= 68.76 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.85	12.75	2.41	19.00	0.34
0.50	0.34	6.75	5.85	13.00	2.41	19.25	0.34
0.75	0.34	7.00	5.85	13.25	2.41	19.50	0.34
1.00	0.34	7.25	5.85	13.50	2.41	19.75	0.34
1.25	0.34	7.50	5.85	13.75	2.41	20.00	0.34
1.50	0.34	7.75	5.85	14.00	2.41	20.25	0.34
1.75	0.34	8.00	5.85	14.25	2.41	20.50	0.34
2.00	0.34	8.25	5.85	14.50	1.38	20.75	0.34
2.25	0.34	8.50	15.82	14.75	1.38	21.00	0.34
2.50	0.34	8.75	15.82	15.00	1.38	21.25	0.34
2.75	0.34	9.00	15.82	15.25	1.38	21.50	0.34
3.00	0.34	9.25	15.82	15.50	1.38	21.75	0.34
3.25	0.34	9.50	15.82	15.75	1.38	22.00	0.34
3.50	0.34	9.75	15.82	16.00	1.38	22.25	0.34
3.75	0.34	10.00	15.82	16.25	1.38	22.50	0.34
4.00	0.34	10.25	15.82	16.50	0.69	22.75	0.34
4.25	0.34	10.50	4.47	16.75	0.69	23.00	0.34
4.50	2.06	10.75	4.47	17.00	0.69	23.25	0.34
4.75	2.06	11.00	4.47	17.25	0.69	23.50	0.34
5.00	2.06	11.25	4.47	17.50	0.69	23.75	0.34
5.25	2.06	11.50	4.47	17.75	0.69	24.00	0.34
5.50	2.06	11.75	4.47	18.00	0.69	24.25	0.34
5.75	2.06	12.00	4.47	18.25	0.69		
6.00	2.06	12.25	4.47	18.50	0.34		
6.25	2.06	12.50	2.41	18.75	0.34		

```
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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.06	12.250	4.47	18.33	0.34
0.167	0.00	6.250	2.06	12.333	2.41	18.42	0.34
0.250	0.00	6.333	5.85	12.417	2.41	18.50	0.34
0.333	0.34	6.417	5.85	12.500	2.41	18.58	0.34
0.417	0.34	6.500	5.85	12.583	2.41	18.67	0.34
0.500	0.34	6.583	5.85	12.667	2.41	18.75	0.34
0.583	0.34	6.667	5.85	12.750	2.41	18.83	0.34
0.667	0.34	6.750	5.85	12.833	2.41	18.92	0.34
0.750	0.34	6.833	5.85	12.917	2.41	19.00	0.34
0.833	0.34	6.917	5.85	13.000	2.41	19.08	0.34
0.917	0.34	7.000	5.85	13.083	2.41	19.17	0.34
1.000	0.34	7.083	5.85	13.167	2.41	19.25	0.34
1.083	0.34	7.167	5.85	13.250	2.41	19.33	0.34
1.167	0.34	7.250	5.85	13.333	2.41	19.42	0.34
1.250	0.34	7.333	5.85	13.417	2.41	19.50	0.34
1.333	0.34	7.417	5.85	13.500	2.41	19.58	0.34
1.417	0.34	7.500	5.85	13.583	2.41	19.67	0.34
1.500	0.34	7.583	5.85	13.667	2.41	19.75	0.34
1.583	0.34	7.667	5.85	13.750	2.41	19.83	0.34
1.667	0.34	7.750	5.85	13.833	2.41	19.92	0.34
1.750	0.34	7.833	5.85	13.917	2.41	20.00	0.34
1.833	0.34	7.917	5.85	14.000	2.41	20.08	0.34
1.917	0.34	8.000	5.85	14.083	2.41	20.17	0.34
2.000	0.34	8.083	5.85	14.167	2.41	20.25	0.34
2.083	0.34	8.167	5.85	14.250	2.41	20.33	0.34
2.167	0.34	8.250	5.85	14.333	1.38	20.42	0.34
2.250	0.34	8.333	15.82	14.417	1.38	20.50	0.34
2.333	0.34	8.417	15.82	14.500	1.38	20.58	0.34
2.417	0.34	8.500	15.82	14.583	1.38	20.67	0.34
2.500	0.34	8.583	15.82	14.667	1.38	20.75	0.34
2.583	0.34	8.667	15.82	14.750	1.38	20.83	0.34
2.667	0.34	8.750	15.82	14.833	1.38	20.92	0.34
2.750	0.34	8.833	15.82	14.917	1.38	21.00	0.34
2.833	0.34	8.917	15.82	15.000	1.38	21.08	0.34
2.917	0.34	9.000	15.82	15.083	1.38	21.17	0.34
3.000	0.34	9.083	15.82	15.167	1.38	21.25	0.34

3.083	0.34	9.167	15.82	15.250	1.38	21.33	0.34
3.167	0.34	9.250	15.82	15.333	1.38	21.42	0.34
3.250	0.34	9.333	15.82	15.417	1.38	21.50	0.34
3.333	0.34	9.417	15.82	15.500	1.38	21.58	0.34
3.417	0.34	9.500	15.82	15.583	1.38	21.67	0.34
3.500	0.34	9.583	15.82	15.667	1.38	21.75	0.34
3.583	0.34	9.667	15.82	15.750	1.38	21.83	0.34
3.667	0.34	9.750	15.82	15.833	1.38	21.92	0.34
3.750	0.34	9.833	15.82	15.917	1.38	22.00	0.34
3.833	0.34	9.917	15.82	16.000	1.38	22.08	0.34
3.917	0.34	10.000	15.82	16.083	1.38	22.17	0.34
4.000	0.34	10.083	15.82	16.167	1.38	22.25	0.34
4.083	0.34	10.167	15.82	16.250	1.38	22.33	0.34
4.167	0.34	10.250	15.82	16.333	0.69	22.42	0.34
4.250	0.34	10.333	4.47	16.417	0.69	22.50	0.34
4.333	2.06	10.417	4.47	16.500	0.69	22.58	0.34
4.417	2.06	10.500	4.47	16.583	0.69	22.67	0.34
4.500	2.06	10.583	4.47	16.667	0.69	22.75	0.34
4.583	2.06	10.667	4.47	16.750	0.69	22.83	0.34
4.667	2.06	10.750	4.47	16.833	0.69	22.92	0.34
4.750	2.06	10.833	4.47	16.917	0.69	23.00	0.34
4.833	2.06	10.917	4.47	17.000	0.69	23.08	0.34
4.917	2.06	11.000	4.47	17.083	0.69	23.17	0.34
5.000	2.06	11.083	4.47	17.167	0.69	23.25	0.34
5.083	2.06	11.167	4.47	17.250	0.69	23.33	0.34
5.167	2.06	11.250	4.47	17.333	0.69	23.42	0.34
5.250	2.06	11.333	4.47	17.417	0.69	23.50	0.34
5.333	2.06	11.417	4.47	17.500	0.69	23.58	0.34
5.417	2.06	11.500	4.47	17.583	0.69	23.67	0.34
5.500	2.06	11.583	4.47	17.667	0.69	23.75	0.34
5.583	2.06	11.667	4.47	17.750	0.69	23.83	0.34
5.667	2.06	11.750	4.47	17.833	0.69	23.92	0.34
5.750	2.06	11.833	4.47	17.917	0.69	24.00	0.34
5.833	2.06	11.917	4.47	18.000	0.69	24.08	0.34
5.917	2.06	12.000	4.47	18.083	0.69	24.17	0.34
6.000	2.06	12.083	4.47	18.167	0.69	24.25	0.34
6.083	2.06	12.167	4.47	18.250	0.69		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.004 (i)
TIME TO PEAK (hrs)= 10.250
RUNOFF VOLUME (mm)= 33.983
TOTAL RAINFALL (mm)= 68.760
RUNOFF COEFFICIENT = 0.494

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\9b653463
Ptotal= 68.76 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.85	12.75	2.41	19.00	0.34
0.50	0.34	6.75	5.85	13.00	2.41	19.25	0.34
0.75	0.34	7.00	5.85	13.25	2.41	19.50	0.34
1.00	0.34	7.25	5.85	13.50	2.41	19.75	0.34
1.25	0.34	7.50	5.85	13.75	2.41	20.00	0.34
1.50	0.34	7.75	5.85	14.00	2.41	20.25	0.34
1.75	0.34	8.00	5.85	14.25	2.41	20.50	0.34
2.00	0.34	8.25	5.85	14.50	1.38	20.75	0.34
2.25	0.34	8.50	15.82	14.75	1.38	21.00	0.34
2.50	0.34	8.75	15.82	15.00	1.38	21.25	0.34
2.75	0.34	9.00	15.82	15.25	1.38	21.50	0.34
3.00	0.34	9.25	15.82	15.50	1.38	21.75	0.34
3.25	0.34	9.50	15.82	15.75	1.38	22.00	0.34
3.50	0.34	9.75	15.82	16.00	1.38	22.25	0.34
3.75	0.34	10.00	15.82	16.25	1.38	22.50	0.34
4.00	0.34	10.25	15.82	16.50	0.69	22.75	0.34
4.25	0.34	10.50	4.47	16.75	0.69	23.00	0.34
4.50	2.06	10.75	4.47	17.00	0.69	23.25	0.34
4.75	2.06	11.00	4.47	17.25	0.69	23.50	0.34
5.00	2.06	11.25	4.47	17.50	0.69	23.75	0.34
5.25	2.06	11.50	4.47	17.75	0.69	24.00	0.34
5.50	2.06	11.75	4.47	18.00	0.69	24.25	0.34
5.75	2.06	12.00	4.47	18.25	0.69		
6.00	2.06	12.25	4.47	18.50	0.34		
6.25	2.06	12.50	2.41	18.75	0.34		

CALIB	
STANDHYD (0205)	Area (ha)= 1.12
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.06	12.250	4.47	18.33	0.34
0.167	0.00	6.250	2.06	12.333	2.41	18.42	0.34
0.250	0.00	6.333	5.85	12.417	2.41	18.50	0.34
0.333	0.34	6.417	5.85	12.500	2.41	18.58	0.34
0.417	0.34	6.500	5.85	12.583	2.41	18.67	0.34
0.500	0.34	6.583	5.85	12.667	2.41	18.75	0.34
0.583	0.34	6.667	5.85	12.750	2.41	18.83	0.34
0.667	0.34	6.750	5.85	12.833	2.41	18.92	0.34
0.750	0.34	6.833	5.85	12.917	2.41	19.00	0.34
0.833	0.34	6.917	5.85	13.000	2.41	19.08	0.34
0.917	0.34	7.000	5.85	13.083	2.41	19.17	0.34
1.000	0.34	7.083	5.85	13.167	2.41	19.25	0.34
1.083	0.34	7.167	5.85	13.250	2.41	19.33	0.34
1.167	0.34	7.250	5.85	13.333	2.41	19.42	0.34
1.250	0.34	7.333	5.85	13.417	2.41	19.50	0.34
1.333	0.34	7.417	5.85	13.500	2.41	19.58	0.34
1.417	0.34	7.500	5.85	13.583	2.41	19.67	0.34
1.500	0.34	7.583	5.85	13.667	2.41	19.75	0.34
1.583	0.34	7.667	5.85	13.750	2.41	19.83	0.34
1.667	0.34	7.750	5.85	13.833	2.41	19.92	0.34
1.750	0.34	7.833	5.85	13.917	2.41	20.00	0.34
1.833	0.34	7.917	5.85	14.000	2.41	20.08	0.34
1.917	0.34	8.000	5.85	14.083	2.41	20.17	0.34
2.000	0.34	8.083	5.85	14.167	2.41	20.25	0.34

2.083	0.34	8.167	5.85	14.250	2.41	20.33	0.34
2.167	0.34	8.250	5.85	14.333	1.38	20.42	0.34
2.250	0.34	8.333	15.82	14.417	1.38	20.50	0.34
2.333	0.34	8.417	15.82	14.500	1.38	20.58	0.34
2.417	0.34	8.500	15.82	14.583	1.38	20.67	0.34
2.500	0.34	8.583	15.82	14.667	1.38	20.75	0.34
2.583	0.34	8.667	15.82	14.750	1.38	20.83	0.34
2.667	0.34	8.750	15.82	14.833	1.38	20.92	0.34
2.750	0.34	8.833	15.82	14.917	1.38	21.00	0.34
2.833	0.34	8.917	15.82	15.000	1.38	21.08	0.34
2.917	0.34	9.000	15.82	15.083	1.38	21.17	0.34
3.000	0.34	9.083	15.82	15.167	1.38	21.25	0.34
3.083	0.34	9.167	15.82	15.250	1.38	21.33	0.34
3.167	0.34	9.250	15.82	15.333	1.38	21.42	0.34
3.250	0.34	9.333	15.82	15.417	1.38	21.50	0.34
3.333	0.34	9.417	15.82	15.500	1.38	21.58	0.34
3.417	0.34	9.500	15.82	15.583	1.38	21.67	0.34
3.500	0.34	9.583	15.82	15.667	1.38	21.75	0.34
3.583	0.34	9.667	15.82	15.750	1.38	21.83	0.34
3.667	0.34	9.750	15.82	15.833	1.38	21.92	0.34
3.750	0.34	9.833	15.82	15.917	1.38	22.00	0.34
3.833	0.34	9.917	15.82	16.000	1.38	22.08	0.34
3.917	0.34	10.000	15.82	16.083	1.38	22.17	0.34
4.000	0.34	10.083	15.82	16.167	1.38	22.25	0.34
4.083	0.34	10.167	15.82	16.250	1.38	22.33	0.34
4.167	0.34	10.250	15.82	16.333	0.69	22.42	0.34
4.250	0.34	10.333	4.47	16.417	0.69	22.50	0.34
4.333	2.06	10.417	4.47	16.500	0.69	22.58	0.34
4.417	2.06	10.500	4.47	16.583	0.69	22.67	0.34
4.500	2.06	10.583	4.47	16.667	0.69	22.75	0.34
4.583	2.06	10.667	4.47	16.750	0.69	22.83	0.34
4.667	2.06	10.750	4.47	16.833	0.69	22.92	0.34
4.750	2.06	10.833	4.47	16.917	0.69	23.00	0.34
4.833	2.06	10.917	4.47	17.000	0.69	23.08	0.34
4.917	2.06	11.000	4.47	17.083	0.69	23.17	0.34
5.000	2.06	11.083	4.47	17.167	0.69	23.25	0.34
5.083	2.06	11.167	4.47	17.250	0.69	23.33	0.34
5.167	2.06	11.250	4.47	17.333	0.69	23.42	0.34
5.250	2.06	11.333	4.47	17.417	0.69	23.50	0.34
5.333	2.06	11.417	4.47	17.500	0.69	23.58	0.34
5.417	2.06	11.500	4.47	17.583	0.69	23.67	0.34
5.500	2.06	11.583	4.47	17.667	0.69	23.75	0.34
5.583	2.06	11.667	4.47	17.750	0.69	23.83	0.34
5.667	2.06	11.750	4.47	17.833	0.69	23.92	0.34
5.750	2.06	11.833	4.47	17.917	0.69	24.00	0.34
5.833	2.06	11.917	4.47	18.000	0.69	24.08	0.34
5.917	2.06	12.000	4.47	18.083	0.69	24.17	0.34
6.000	2.06	12.083	4.47	18.167	0.69	24.25	0.34
6.083	2.06	12.167	4.47	18.250	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	10.73	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.90 (ii)	7.25 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.22	0.14	
			TOTALS
PEAK FLOW (cms)=	0.05	0.00	0.049 (iii)
TIME TO PEAK (hrs)=	9.50	10.25	10.25
RUNOFF VOLUME (mm)=	67.76	34.02	67.42
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.49	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)|				
IN= 2---> OUT= 1 |				
DT= 5.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.049	10.25	67.42
OUTFLOW: ID= 1 (0256)	1.125	0.023	10.33	67.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.30
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0365

READ STORM |	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\9b653463
Ptotal= 68.76 mm |	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.85	12.75	2.41	19.00	0.34
0.50	0.34	6.75	5.85	13.00	2.41	19.25	0.34
0.75	0.34	7.00	5.85	13.25	2.41	19.50	0.34
1.00	0.34	7.25	5.85	13.50	2.41	19.75	0.34
1.25	0.34	7.50	5.85	13.75	2.41	20.00	0.34
1.50	0.34	7.75	5.85	14.00	2.41	20.25	0.34
1.75	0.34	8.00	5.85	14.25	2.41	20.50	0.34
2.00	0.34	8.25	5.85	14.50	1.38	20.75	0.34
2.25	0.34	8.50	15.82	14.75	1.38	21.00	0.34
2.50	0.34	8.75	15.82	15.00	1.38	21.25	0.34
2.75	0.34	9.00	15.82	15.25	1.38	21.50	0.34
3.00	0.34	9.25	15.82	15.50	1.38	21.75	0.34
3.25	0.34	9.50	15.82	15.75	1.38	22.00	0.34
3.50	0.34	9.75	15.82	16.00	1.38	22.25	0.34
3.75	0.34	10.00	15.82	16.25	1.38	22.50	0.34
4.00	0.34	10.25	15.82	16.50	0.69	22.75	0.34
4.25	0.34	10.50	4.47	16.75	0.69	23.00	0.34
4.50	2.06	10.75	4.47	17.00	0.69	23.25	0.34
4.75	2.06	11.00	4.47	17.25	0.69	23.50	0.34
5.00	2.06	11.25	4.47	17.50	0.69	23.75	0.34
5.25	2.06	11.50	4.47	17.75	0.69	24.00	0.34
5.50	2.06	11.75	4.47	18.00	0.69	24.25	0.34
5.75	2.06	12.00	4.47	18.25	0.69		
6.00	2.06	12.25	4.47	18.50	0.34		
6.25	2.06	12.50	2.41	18.75	0.34		

CALIB |		
STANDHYD (0203)|	Area	(ha)= 2.10

```
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.06	12.250	4.47	18.33	0.34
0.167	0.00	6.250	2.06	12.333	2.41	18.42	0.34
0.250	0.00	6.333	5.85	12.417	2.41	18.50	0.34
0.333	0.34	6.417	5.85	12.500	2.41	18.58	0.34
0.417	0.34	6.500	5.85	12.583	2.41	18.67	0.34
0.500	0.34	6.583	5.85	12.667	2.41	18.75	0.34
0.583	0.34	6.667	5.85	12.750	2.41	18.83	0.34
0.667	0.34	6.750	5.85	12.833	2.41	18.92	0.34
0.750	0.34	6.833	5.85	12.917	2.41	19.00	0.34
0.833	0.34	6.917	5.85	13.000	2.41	19.08	0.34
0.917	0.34	7.000	5.85	13.083	2.41	19.17	0.34
1.000	0.34	7.083	5.85	13.167	2.41	19.25	0.34
1.083	0.34	7.167	5.85	13.250	2.41	19.33	0.34
1.167	0.34	7.250	5.85	13.333	2.41	19.42	0.34
1.250	0.34	7.333	5.85	13.417	2.41	19.50	0.34
1.333	0.34	7.417	5.85	13.500	2.41	19.58	0.34
1.417	0.34	7.500	5.85	13.583	2.41	19.67	0.34
1.500	0.34	7.583	5.85	13.667	2.41	19.75	0.34
1.583	0.34	7.667	5.85	13.750	2.41	19.83	0.34
1.667	0.34	7.750	5.85	13.833	2.41	19.92	0.34
1.750	0.34	7.833	5.85	13.917	2.41	20.00	0.34
1.833	0.34	7.917	5.85	14.000	2.41	20.08	0.34
1.917	0.34	8.000	5.85	14.083	2.41	20.17	0.34
2.000	0.34	8.083	5.85	14.167	2.41	20.25	0.34
2.083	0.34	8.167	5.85	14.250	2.41	20.33	0.34
2.167	0.34	8.250	5.85	14.333	1.38	20.42	0.34
2.250	0.34	8.333	15.82	14.417	1.38	20.50	0.34
2.333	0.34	8.417	15.82	14.500	1.38	20.58	0.34
2.417	0.34	8.500	15.82	14.583	1.38	20.67	0.34
2.500	0.34	8.583	15.82	14.667	1.38	20.75	0.34
2.583	0.34	8.667	15.82	14.750	1.38	20.83	0.34
2.667	0.34	8.750	15.82	14.833	1.38	20.92	0.34
2.750	0.34	8.833	15.82	14.917	1.38	21.00	0.34
2.833	0.34	8.917	15.82	15.000	1.38	21.08	0.34
2.917	0.34	9.000	15.82	15.083	1.38	21.17	0.34
3.000	0.34	9.083	15.82	15.167	1.38	21.25	0.34
3.083	0.34	9.167	15.82	15.250	1.38	21.33	0.34
3.167	0.34	9.250	15.82	15.333	1.38	21.42	0.34
3.250	0.34	9.333	15.82	15.417	1.38	21.50	0.34
3.333	0.34	9.417	15.82	15.500	1.38	21.58	0.34
3.417	0.34	9.500	15.82	15.583	1.38	21.67	0.34
3.500	0.34	9.583	15.82	15.667	1.38	21.75	0.34
3.583	0.34	9.667	15.82	15.750	1.38	21.83	0.34
3.667	0.34	9.750	15.82	15.833	1.38	21.92	0.34
3.750	0.34	9.833	15.82	15.917	1.38	22.00	0.34
3.833	0.34	9.917	15.82	16.000	1.38	22.08	0.34
3.917	0.34	10.000	15.82	16.083	1.38	22.17	0.34
4.000	0.34	10.083	15.82	16.167	1.38	22.25	0.34
4.083	0.34	10.167	15.82	16.250	1.38	22.33	0.34
4.167	0.34	10.250	15.82	16.333	0.69	22.42	0.34
4.250	0.34	10.333	4.47	16.417	0.69	22.50	0.34
4.333	2.06	10.417	4.47	16.500	0.69	22.58	0.34
4.417	2.06	10.500	4.47	16.583	0.69	22.67	0.34
4.500	2.06	10.583	4.47	16.667	0.69	22.75	0.34
4.583	2.06	10.667	4.47	16.750	0.69	22.83	0.34
4.667	2.06	10.750	4.47	16.833	0.69	22.92	0.34
4.750	2.06	10.833	4.47	16.917	0.69	23.00	0.34
4.833	2.06	10.917	4.47	17.000	0.69	23.08	0.34
4.917	2.06	11.000	4.47	17.083	0.69	23.17	0.34
5.000	2.06	11.083	4.47	17.167	0.69	23.25	0.34
5.083	2.06	11.167	4.47	17.250	0.69	23.33	0.34
5.167	2.06	11.250	4.47	17.333	0.69	23.42	0.34
5.250	2.06	11.333	4.47	17.417	0.69	23.50	0.34
5.333	2.06	11.417	4.47	17.500	0.69	23.58	0.34
5.417	2.06	11.500	4.47	17.583	0.69	23.67	0.34
5.500	2.06	11.583	4.47	17.667	0.69	23.75	0.34
5.583	2.06	11.667	4.47	17.750	0.69	23.83	0.34
5.667	2.06	11.750	4.47	17.833	0.69	23.92	0.34
5.750	2.06	11.833	4.47	17.917	0.69	24.00	0.34
5.833	2.06	11.917	4.47	18.000	0.69	24.08	0.34
5.917	2.06	12.000	4.47	18.083	0.69	24.17	0.34
6.000	2.06	12.083	4.47	18.167	0.69	24.25	0.34
6.083	2.06	12.167	4.47	18.250	0.69		

```
     Max.Eff.Inten.(mm/hr)=      15.82        10.58
                 over (min)       5.00        25.00
     Storage Coeff.  (min)=      5.90 (ii)   23.24 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.19         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.07         0.01        0.085 (iii)
     TIME TO PEAK    (hrs)=      9.75        10.25       10.25
     RUNOFF VOLUME    (mm)=     67.76        34.02       61.00
     TOTAL RAINFALL   (mm)=     68.76        68.76       68.76
     RUNOFF COEFFICIENT   =      0.99         0.49        0.89


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0203):     2.10   0.085    10.25    61.00
      + ID2= 2 (  0256):     1.12   0.023    10.33    67.07
        ==========================================================
        ID = 3 (  0260):     3.22   0.107    10.25    63.12

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\9b653463
| Ptotal= 68.76 mm |    Comments:
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.85	12.75	2.41	19.00	0.34
0.50	0.34	6.75	5.85	13.00	2.41	19.25	0.34
0.75	0.34	7.00	5.85	13.25	2.41	19.50	0.34
1.00	0.34	7.25	5.85	13.50	2.41	19.75	0.34
1.25	0.34	7.50	5.85	13.75	2.41	20.00	0.34
1.50	0.34	7.75	5.85	14.00	2.41	20.25	0.34
1.75	0.34	8.00	5.85	14.25	2.41	20.50	0.34
2.00	0.34	8.25	5.85	14.50	1.38	20.75	0.34
2.25	0.34	8.50	15.82	14.75	1.38	21.00	0.34
2.50	0.34	8.75	15.82	15.00	1.38	21.25	0.34
2.75	0.34	9.00	15.82	15.25	1.38	21.50	0.34
3.00	0.34	9.25	15.82	15.50	1.38	21.75	0.34
3.25	0.34	9.50	15.82	15.75	1.38	22.00	0.34
3.50	0.34	9.75	15.82	16.00	1.38	22.25	0.34
3.75	0.34	10.00	15.82	16.25	1.38	22.50	0.34
4.00	0.34	10.25	15.82	16.50	0.69	22.75	0.34
4.25	0.34	10.50	4.47	16.75	0.69	23.00	0.34
4.50	2.06	10.75	4.47	17.00	0.69	23.25	0.34
4.75	2.06	11.00	4.47	17.25	0.69	23.50	0.34
5.00	2.06	11.25	4.47	17.50	0.69	23.75	0.34
5.25	2.06	11.50	4.47	17.75	0.69	24.00	0.34
5.50	2.06	11.75	4.47	18.00	0.69	24.25	0.34
5.75	2.06	12.00	4.47	18.25	0.69		
6.00	2.06	12.25	4.47	18.50	0.34		
6.25	2.06	12.50	2.41	18.75	0.34		

CALIB
STANDHYD (0204)
ID= 1 DT= 5.0 min

Area (ha)= 1.45
Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.06	12.250	4.47	18.33	0.34
0.167	0.00	6.250	2.06	12.333	2.41	18.42	0.34
0.250	0.00	6.333	5.85	12.417	2.41	18.50	0.34
0.333	0.34	6.417	5.85	12.500	2.41	18.58	0.34
0.417	0.34	6.500	5.85	12.583	2.41	18.67	0.34
0.500	0.34	6.583	5.85	12.667	2.41	18.75	0.34
0.583	0.34	6.667	5.85	12.750	2.41	18.83	0.34
0.667	0.34	6.750	5.85	12.833	2.41	18.92	0.34
0.750	0.34	6.833	5.85	12.917	2.41	19.00	0.34
0.833	0.34	6.917	5.85	13.000	2.41	19.08	0.34
0.917	0.34	7.000	5.85	13.083	2.41	19.17	0.34
1.000	0.34	7.083	5.85	13.167	2.41	19.25	0.34
1.083	0.34	7.167	5.85	13.250	2.41	19.33	0.34
1.167	0.34	7.250	5.85	13.333	2.41	19.42	0.34
1.250	0.34	7.333	5.85	13.417	2.41	19.50	0.34
1.333	0.34	7.417	5.85	13.500	2.41	19.58	0.34
1.417	0.34	7.500	5.85	13.583	2.41	19.67	0.34
1.500	0.34	7.583	5.85	13.667	2.41	19.75	0.34
1.583	0.34	7.667	5.85	13.750	2.41	19.83	0.34
1.667	0.34	7.750	5.85	13.833	2.41	19.92	0.34
1.750	0.34	7.833	5.85	13.917	2.41	20.00	0.34
1.833	0.34	7.917	5.85	14.000	2.41	20.08	0.34
1.917	0.34	8.000	5.85	14.083	2.41	20.17	0.34
2.000	0.34	8.083	5.85	14.167	2.41	20.25	0.34
2.083	0.34	8.167	5.85	14.250	2.41	20.33	0.34
2.167	0.34	8.250	5.85	14.333	1.38	20.42	0.34
2.250	0.34	8.333	15.82	14.417	1.38	20.50	0.34
2.333	0.34	8.417	15.82	14.500	1.38	20.58	0.34
2.417	0.34	8.500	15.82	14.583	1.38	20.67	0.34
2.500	0.34	8.583	15.82	14.667	1.38	20.75	0.34
2.583	0.34	8.667	15.82	14.750	1.38	20.83	0.34
2.667	0.34	8.750	15.82	14.833	1.38	20.92	0.34
2.750	0.34	8.833	15.82	14.917	1.38	21.00	0.34
2.833	0.34	8.917	15.82	15.000	1.38	21.08	0.34
2.917	0.34	9.000	15.82	15.083	1.38	21.17	0.34
3.000	0.34	9.083	15.82	15.167	1.38	21.25	0.34
3.083	0.34	9.167	15.82	15.250	1.38	21.33	0.34
3.167	0.34	9.250	15.82	15.333	1.38	21.42	0.34
3.250	0.34	9.333	15.82	15.417	1.38	21.50	0.34
3.333	0.34	9.417	15.82	15.500	1.38	21.58	0.34
3.417	0.34	9.500	15.82	15.583	1.38	21.67	0.34
3.500	0.34	9.583	15.82	15.667	1.38	21.75	0.34
3.583	0.34	9.667	15.82	15.750	1.38	21.83	0.34
3.667	0.34	9.750	15.82	15.833	1.38	21.92	0.34
3.750	0.34	9.833	15.82	15.917	1.38	22.00	0.34
3.833	0.34	9.917	15.82	16.000	1.38	22.08	0.34
3.917	0.34	10.000	15.82	16.083	1.38	22.17	0.34
4.000	0.34	10.083	15.82	16.167	1.38	22.25	0.34
4.083	0.34	10.167	15.82	16.250	1.38	22.33	0.34
4.167	0.34	10.250	15.82	16.333	0.69	22.42	0.34
4.250	0.34	10.333	4.47	16.417	0.69	22.50	0.34
4.333	2.06	10.417	4.47	16.500	0.69	22.58	0.34
4.417	2.06	10.500	4.47	16.583	0.69	22.67	0.34
4.500	2.06	10.583	4.47	16.667	0.69	22.75	0.34
4.583	2.06	10.667	4.47	16.750	0.69	22.83	0.34
4.667	2.06	10.750	4.47	16.833	0.69	22.92	0.34
4.750	2.06	10.833	4.47	16.917	0.69	23.00	0.34
4.833	2.06	10.917	4.47	17.000	0.69	23.08	0.34
4.917	2.06	11.000	4.47	17.083	0.69	23.17	0.34
5.000	2.06	11.083	4.47	17.167	0.69	23.25	0.34
5.083	2.06	11.167	4.47	17.250	0.69	23.33	0.34
5.167	2.06	11.250	4.47	17.333	0.69	23.42	0.34
5.250	2.06	11.333	4.47	17.417	0.69	23.50	0.34
5.333	2.06	11.417	4.47	17.500	0.69	23.58	0.34
5.417	2.06	11.500	4.47	17.583	0.69	23.67	0.34
5.500	2.06	11.583	4.47	17.667	0.69	23.75	0.34
5.583	2.06	11.667	4.47	17.750	0.69	23.83	0.34
5.667	2.06	11.750	4.47	17.833	0.69	23.92	0.34
5.750	2.06	11.833	4.47	17.917	0.69	24.00	0.34
5.833	2.06	11.917	4.47	18.000	0.69	24.08	0.34
5.917	2.06	12.000	4.47	18.083	0.69	24.17	0.34
6.000	2.06	12.083	4.47	18.167	0.69	24.25	0.34
6.083	2.06	12.167	4.47	18.250	0.69		

Max.Eff.Inten.(mm/hr)=		15.82	10.58
	over (min)	5.00	25.00
Storage Coeff. (min)=		5.29 (ii)	22.62 (ii)
Unit Hyd. Tpeak (min)=		5.00	25.00
Unit Hyd. peak (cms)=		0.21	0.05

			TOTALS
PEAK FLOW (cms)=	0.05	0.01	0.059 (iii)
TIME TO PEAK (hrs)=	9.50	10.25	10.25
RUNOFF VOLUME (mm)=	67.76	34.02	61.00
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.49	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0204):		1.45	0.059	10.25	61.00
+ ID2= 2 (0260):		3.22	0.107	10.25	63.12
ID = 3 (0259):		4.67	0.166	10.25	62.46

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\9b653463
Ptotal= 68.76 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.85	12.75	2.41	19.00	0.34
0.50	0.34	6.75	5.85	13.00	2.41	19.25	0.34
0.75	0.34	7.00	5.85	13.25	2.41	19.50	0.34
1.00	0.34	7.25	5.85	13.50	2.41	19.75	0.34
1.25	0.34	7.50	5.85	13.75	2.41	20.00	0.34
1.50	0.34	7.75	5.85	14.00	2.41	20.25	0.34
1.75	0.34	8.00	5.85	14.25	2.41	20.50	0.34
2.00	0.34	8.25	5.85	14.50	1.38	20.75	0.34
2.25	0.34	8.50	15.82	14.75	1.38	21.00	0.34
2.50	0.34	8.75	15.82	15.00	1.38	21.25	0.34
2.75	0.34	9.00	15.82	15.25	1.38	21.50	0.34
3.00	0.34	9.25	15.82	15.50	1.38	21.75	0.34
3.25	0.34	9.50	15.82	15.75	1.38	22.00	0.34
3.50	0.34	9.75	15.82	16.00	1.38	22.25	0.34
3.75	0.34	10.00	15.82	16.25	1.38	22.50	0.34
4.00	0.34	10.25	15.82	16.50	0.69	22.75	0.34
4.25	0.34	10.50	4.47	16.75	0.69	23.00	0.34
4.50	2.06	10.75	4.47	17.00	0.69	23.25	0.34
4.75	2.06	11.00	4.47	17.25	0.69	23.50	0.34
5.00	2.06	11.25	4.47	17.50	0.69	23.75	0.34
5.25	2.06	11.50	4.47	17.75	0.69	24.00	0.34
5.50	2.06	11.75	4.47	18.00	0.69	24.25	0.34
5.75	2.06	12.00	4.47	18.25	0.69		
6.00	2.06	12.25	4.47	18.50	0.34		
6.25	2.06	12.50	2.41	18.75	0.34		

CALIB / STANDHYD (0201)	Area (ha)= 5.27
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.06	12.250	4.47	18.33	0.34
0.167	0.00	6.250	2.06	12.333	2.41	18.42	0.34
0.250	0.00	6.333	5.85	12.417	2.41	18.50	0.34
0.333	0.34	6.417	5.85	12.500	2.41	18.58	0.34
0.417	0.34	6.500	5.85	12.583	2.41	18.67	0.34
0.500	0.34	6.583	5.85	12.667	2.41	18.75	0.34
0.583	0.34	6.667	5.85	12.750	2.41	18.83	0.34
0.667	0.34	6.750	5.85	12.833	2.41	18.92	0.34
0.750	0.34	6.833	5.85	12.917	2.41	19.00	0.34
0.833	0.34	6.917	5.85	13.000	2.41	19.08	0.34
0.917	0.34	7.000	5.85	13.083	2.41	19.17	0.34
1.000	0.34	7.083	5.85	13.167	2.41	19.25	0.34
1.083	0.34	7.167	5.85	13.250	2.41	19.33	0.34
1.167	0.34	7.250	5.85	13.333	2.41	19.42	0.34
1.250	0.34	7.333	5.85	13.417	2.41	19.50	0.34
1.333	0.34	7.417	5.85	13.500	2.41	19.58	0.34
1.417	0.34	7.500	5.85	13.583	2.41	19.67	0.34
1.500	0.34	7.583	5.85	13.667	2.41	19.75	0.34
1.583	0.34	7.667	5.85	13.750	2.41	19.83	0.34
1.667	0.34	7.750	5.85	13.833	2.41	19.92	0.34
1.750	0.34	7.833	5.85	13.917	2.41	20.00	0.34
1.833	0.34	7.917	5.85	14.000	2.41	20.08	0.34
1.917	0.34	8.000	5.85	14.083	2.41	20.17	0.34
2.000	0.34	8.083	5.85	14.167	2.41	20.25	0.34
2.083	0.34	8.167	5.85	14.250	2.41	20.33	0.34
2.167	0.34	8.250	5.85	14.333	1.38	20.42	0.34
2.250	0.34	8.333	15.82	14.417	1.38	20.50	0.34
2.333	0.34	8.417	15.82	14.500	1.38	20.58	0.34
2.417	0.34	8.500	15.82	14.583	1.38	20.67	0.34
2.500	0.34	8.583	15.82	14.667	1.38	20.75	0.34
2.583	0.34	8.667	15.82	14.750	1.38	20.83	0.34
2.667	0.34	8.750	15.82	14.833	1.38	20.92	0.34
2.750	0.34	8.833	15.82	14.917	1.38	21.00	0.34
2.833	0.34	8.917	15.82	15.000	1.38	21.08	0.34
2.917	0.34	9.000	15.82	15.083	1.38	21.17	0.34
3.000	0.34	9.083	15.82	15.167	1.38	21.25	0.34
3.083	0.34	9.167	15.82	15.250	1.38	21.33	0.34
3.167	0.34	9.250	15.82	15.333	1.38	21.42	0.34
3.250	0.34	9.333	15.82	15.417	1.38	21.50	0.34
3.333	0.34	9.417	15.82	15.500	1.38	21.58	0.34
3.417	0.34	9.500	15.82	15.583	1.38	21.67	0.34
3.500	0.34	9.583	15.82	15.667	1.38	21.75	0.34
3.583	0.34	9.667	15.82	15.750	1.38	21.83	0.34
3.667	0.34	9.750	15.82	15.833	1.38	21.92	0.34
3.750	0.34	9.833	15.82	15.917	1.38	22.00	0.34

3.833	0.34	9.917	15.82	16.000	1.38	22.08	0.34
3.917	0.34	10.000	15.82	16.083	1.38	22.17	0.34
4.000	0.34	10.083	15.82	16.167	1.38	22.25	0.34
4.083	0.34	10.167	15.82	16.250	1.38	22.33	0.34
4.167	0.34	10.250	15.82	16.333	0.69	22.42	0.34
4.250	0.34	10.333	4.47	16.417	0.69	22.50	0.34
4.333	2.06	10.417	4.47	16.500	0.69	22.58	0.34
4.417	2.06	10.500	4.47	16.583	0.69	22.67	0.34
4.500	2.06	10.583	4.47	16.667	0.69	22.75	0.34
4.583	2.06	10.667	4.47	16.750	0.69	22.83	0.34
4.667	2.06	10.750	4.47	16.833	0.69	22.92	0.34
4.750	2.06	10.833	4.47	16.917	0.69	23.00	0.34
4.833	2.06	10.917	4.47	17.000	0.69	23.08	0.34
4.917	2.06	11.000	4.47	17.083	0.69	23.17	0.34
5.000	2.06	11.083	4.47	17.167	0.69	23.25	0.34
5.083	2.06	11.167	4.47	17.250	0.69	23.33	0.34
5.167	2.06	11.250	4.47	17.333	0.69	23.42	0.34
5.250	2.06	11.333	4.47	17.417	0.69	23.50	0.34
5.333	2.06	11.417	4.47	17.500	0.69	23.58	0.34
5.417	2.06	11.500	4.47	17.583	0.69	23.67	0.34
5.500	2.06	11.583	4.47	17.667	0.69	23.75	0.34
5.583	2.06	11.667	4.47	17.750	0.69	23.83	0.34
5.667	2.06	11.750	4.47	17.833	0.69	23.92	0.34
5.750	2.06	11.833	4.47	17.917	0.69	24.00	0.34
5.833	2.06	11.917	4.47	18.000	0.69	24.08	0.34
5.917	2.06	12.000	4.47	18.083	0.69	24.17	0.34
6.000	2.06	12.083	4.47	18.167	0.69	24.25	0.34
6.083	2.06	12.167	4.47	18.250	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	10.73	
over (min)	10.00	15.00	
Storage Coeff. (min)=	7.79 (ii)	10.14 (ii)	
Unit Hyd. Tpeak (min)=	10.00	15.00	
Unit Hyd. peak (cms)=	0.13	0.10	
			TOTALS
PEAK FLOW (cms)=	0.23	0.00	0.231 (iii)
TIME TO PEAK (hrs)=	10.25	10.25	10.25
RUNOFF VOLUME (mm)=	67.76	34.02	67.42
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.49	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.231	10.25	67.42
OUTFLOW: ID= 1 (0268)	5.270	0.142	10.42	67.40

PEAK FLOW REDUCTION [Qout/Qin](%)= 61.60
TIME SHIFT OF PEAK FLOW (min)= 10.00

MAXIMUM STORAGE USED (ha.m.)= 0.1053

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\9b653463
Ptotal= 68.76 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.85	12.75	2.41	19.00	0.34
0.50	0.34	6.75	5.85	13.00	2.41	19.25	0.34
0.75	0.34	7.00	5.85	13.25	2.41	19.50	0.34
1.00	0.34	7.25	5.85	13.50	2.41	19.75	0.34
1.25	0.34	7.50	5.85	13.75	2.41	20.00	0.34
1.50	0.34	7.75	5.85	14.00	2.41	20.25	0.34
1.75	0.34	8.00	5.85	14.25	2.41	20.50	0.34
2.00	0.34	8.25	5.85	14.50	1.38	20.75	0.34
2.25	0.34	8.50	15.82	14.75	1.38	21.00	0.34
2.50	0.34	8.75	15.82	15.00	1.38	21.25	0.34
2.75	0.34	9.00	15.82	15.25	1.38	21.50	0.34
3.00	0.34	9.25	15.82	15.50	1.38	21.75	0.34
3.25	0.34	9.50	15.82	15.75	1.38	22.00	0.34
3.50	0.34	9.75	15.82	16.00	1.38	22.25	0.34
3.75	0.34	10.00	15.82	16.25	1.38	22.50	0.34
4.00	0.34	10.25	15.82	16.50	0.69	22.75	0.34
4.25	0.34	10.50	4.47	16.75	0.69	23.00	0.34
4.50	2.06	10.75	4.47	17.00	0.69	23.25	0.34
4.75	2.06	11.00	4.47	17.25	0.69	23.50	0.34
5.00	2.06	11.25	4.47	17.50	0.69	23.75	0.34
5.25	2.06	11.50	4.47	17.75	0.69	24.00	0.34
5.50	2.06	11.75	4.47	18.00	0.69	24.25	0.34
5.75	2.06	12.00	4.47	18.25	0.69		
6.00	2.06	12.25	4.47	18.50	0.34		
6.25	2.06	12.50	2.41	18.75	0.34		

CALIB	
STANDHYD (0202)	Area (ha)= 6.57
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.06	12.250	4.47	18.33	0.34
0.167	0.00	6.250	2.06	12.333	2.41	18.42	0.34
0.250	0.00	6.333	5.85	12.417	2.41	18.50	0.34
0.333	0.34	6.417	5.85	12.500	2.41	18.58	0.34
0.417	0.34	6.500	5.85	12.583	2.41	18.67	0.34
0.500	0.34	6.583	5.85	12.667	2.41	18.75	0.34

0.583	0.34	6.667	5.85	12.750	2.41	18.83	0.34
0.667	0.34	6.750	5.85	12.833	2.41	18.92	0.34
0.750	0.34	6.833	5.85	12.917	2.41	19.00	0.34
0.833	0.34	6.917	5.85	13.000	2.41	19.08	0.34
0.917	0.34	7.000	5.85	13.083	2.41	19.17	0.34
1.000	0.34	7.083	5.85	13.167	2.41	19.25	0.34
1.083	0.34	7.167	5.85	13.250	2.41	19.33	0.34
1.167	0.34	7.250	5.85	13.333	2.41	19.42	0.34
1.250	0.34	7.333	5.85	13.417	2.41	19.50	0.34
1.333	0.34	7.417	5.85	13.500	2.41	19.58	0.34
1.417	0.34	7.500	5.85	13.583	2.41	19.67	0.34
1.500	0.34	7.583	5.85	13.667	2.41	19.75	0.34
1.583	0.34	7.667	5.85	13.750	2.41	19.83	0.34
1.667	0.34	7.750	5.85	13.833	2.41	19.92	0.34
1.750	0.34	7.833	5.85	13.917	2.41	20.00	0.34
1.833	0.34	7.917	5.85	14.000	2.41	20.08	0.34
1.917	0.34	8.000	5.85	14.083	2.41	20.17	0.34
2.000	0.34	8.083	5.85	14.167	2.41	20.25	0.34
2.083	0.34	8.167	5.85	14.250	2.41	20.33	0.34
2.167	0.34	8.250	5.85	14.333	1.38	20.42	0.34
2.250	0.34	8.333	15.82	14.417	1.38	20.50	0.34
2.333	0.34	8.417	15.82	14.500	1.38	20.58	0.34
2.417	0.34	8.500	15.82	14.583	1.38	20.67	0.34
2.500	0.34	8.583	15.82	14.667	1.38	20.75	0.34
2.583	0.34	8.667	15.82	14.750	1.38	20.83	0.34
2.667	0.34	8.750	15.82	14.833	1.38	20.92	0.34
2.750	0.34	8.833	15.82	14.917	1.38	21.00	0.34
2.833	0.34	8.917	15.82	15.000	1.38	21.08	0.34
2.917	0.34	9.000	15.82	15.083	1.38	21.17	0.34
3.000	0.34	9.083	15.82	15.167	1.38	21.25	0.34
3.083	0.34	9.167	15.82	15.250	1.38	21.33	0.34
3.167	0.34	9.250	15.82	15.333	1.38	21.42	0.34
3.250	0.34	9.333	15.82	15.417	1.38	21.50	0.34
3.333	0.34	9.417	15.82	15.500	1.38	21.58	0.34
3.417	0.34	9.500	15.82	15.583	1.38	21.67	0.34
3.500	0.34	9.583	15.82	15.667	1.38	21.75	0.34
3.583	0.34	9.667	15.82	15.750	1.38	21.83	0.34
3.667	0.34	9.750	15.82	15.833	1.38	21.92	0.34
3.750	0.34	9.833	15.82	15.917	1.38	22.00	0.34
3.833	0.34	9.917	15.82	16.000	1.38	22.08	0.34
3.917	0.34	10.000	15.82	16.083	1.38	22.17	0.34
4.000	0.34	10.083	15.82	16.167	1.38	22.25	0.34
4.083	0.34	10.167	15.82	16.250	1.38	22.33	0.34
4.167	0.34	10.250	15.82	16.333	0.69	22.42	0.34
4.250	0.34	10.333	4.47	16.417	0.69	22.50	0.34
4.333	2.06	10.417	4.47	16.500	0.69	22.58	0.34
4.417	2.06	10.500	4.47	16.583	0.69	22.67	0.34
4.500	2.06	10.583	4.47	16.667	0.69	22.75	0.34
4.583	2.06	10.667	4.47	16.750	0.69	22.83	0.34
4.667	2.06	10.750	4.47	16.833	0.69	22.92	0.34
4.750	2.06	10.833	4.47	16.917	0.69	23.00	0.34
4.833	2.06	10.917	4.47	17.000	0.69	23.08	0.34
4.917	2.06	11.000	4.47	17.083	0.69	23.17	0.34
5.000	2.06	11.083	4.47	17.167	0.69	23.25	0.34
5.083	2.06	11.167	4.47	17.250	0.69	23.33	0.34
5.167	2.06	11.250	4.47	17.333	0.69	23.42	0.34
5.250	2.06	11.333	4.47	17.417	0.69	23.50	0.34
5.333	2.06	11.417	4.47	17.500	0.69	23.58	0.34
5.417	2.06	11.500	4.47	17.583	0.69	23.67	0.34
5.500	2.06	11.583	4.47	17.667	0.69	23.75	0.34
5.583	2.06	11.667	4.47	17.750	0.69	23.83	0.34
5.667	2.06	11.750	4.47	17.833	0.69	23.92	0.34
5.750	2.06	11.833	4.47	17.917	0.69	24.00	0.34
5.833	2.06	11.917	4.47	18.000	0.69	24.08	0.34
5.917	2.06	12.000	4.47	18.083	0.69	24.17	0.34
6.000	2.06	12.083	4.47	18.167	0.69	24.25	0.34
6.083	2.06	12.167	4.47	18.250	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	10.58	
over (min)	10.00	30.00	
Storage Coeff. (min)=	8.32 (ii)	25.65 (ii)	
Unit Hyd. Tpeak (min)=	10.00	30.00	
Unit Hyd. peak (cms)=	0.13	0.04	
			TOTALS
PEAK FLOW (cms)=	0.23	0.03	0.267 (iii)
TIME TO PEAK (hrs)=	10.25	10.33	10.25
RUNOFF VOLUME (mm)=	67.76	34.01	61.35
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.49	0.89

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	6.57	0.267	10.25	61.35
+ ID2= 2 (0268):	5.27	0.142	10.42	67.40
ID = 3 (0262):	11.84	0.407	10.25	64.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):	4.67	0.166	10.25	62.46
+ ID2= 2 (0262):	11.84	0.407	10.25	64.04
ID = 3 (0266):	16.51	0.573	10.25	63.60

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0263)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2130	0.6563
0.0190	0.1773	0.2520	0.6883
0.0220	0.2128	0.2890	0.7150
0.0260	0.2888	0.2980	0.7450
0.0300	0.3648	0.3060	0.7700
0.0650	0.4586	0.3150	0.8127
0.1100	0.5155	0.3320	0.9290
0.1680	0.5503	0.3390	0.9767
0.1930	0.5804	0.3520	1.0680

```
                        0.2000     0.6048   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      0.573     10.25      63.60
   OUTFLOW: ID= 1 (  0263)     16.510      0.199     12.75      63.45

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.69
                  TIME SHIFT OF PEAK FLOW         (min)=150.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6006

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.004    10.25    33.98
     + ID2= 2 (  0263):    16.51   0.199    12.75    63.45
       ================================================
       ID = 3 (  0261):    16.64   0.200    12.58    63.23

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\cae6da14-d8a1-452b-8bcb-1bd55b199fae\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\cae6da14-d8a1-452b-8bcb-1bd55b199fae\s


DATE: 07/06/2020                          TIME: 04:38:42

USER:



COMMENTS: _____________________________________________________________


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  ********************************************
  ** SIMULATION : 100 Year 24 Hour AES       **
  ********************************************


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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\9c617c21
| Ptotal= 95.92 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	8.15	12.75	3.36	19.00	0.48
0.50	0.48	6.75	8.15	13.00	3.36	19.25	0.48
0.75	0.48	7.00	8.15	13.25	3.36	19.50	0.48
1.00	0.48	7.25	8.15	13.50	3.36	19.75	0.48
1.25	0.48	7.50	8.15	13.75	3.36	20.00	0.48
1.50	0.48	7.75	8.15	14.00	3.36	20.25	0.48
1.75	0.48	8.00	8.15	14.25	3.36	20.50	0.48
2.00	0.48	8.25	8.15	14.50	1.92	20.75	0.48
2.25	0.48	8.50	22.06	14.75	1.92	21.00	0.48
2.50	0.48	8.75	22.06	15.00	1.92	21.25	0.48
2.75	0.48	9.00	22.06	15.25	1.92	21.50	0.48
3.00	0.48	9.25	22.06	15.50	1.92	21.75	0.48
3.25	0.48	9.50	22.06	15.75	1.92	22.00	0.48
3.50	0.48	9.75	22.06	16.00	1.92	22.25	0.48
3.75	0.48	10.00	22.06	16.25	1.92	22.50	0.48
4.00	0.48	10.25	22.06	16.50	0.96	22.75	0.48
4.25	0.48	10.50	6.23	16.75	0.96	23.00	0.48
4.50	2.88	10.75	6.23	17.00	0.96	23.25	0.48
4.75	2.88	11.00	6.23	17.25	0.96	23.50	0.48
5.00	2.88	11.25	6.23	17.50	0.96	23.75	0.48
5.25	2.88	11.50	6.23	17.75	0.96	24.00	0.48
5.50	2.88	11.75	6.23	18.00	0.96	24.25	0.48
5.75	2.88	12.00	6.23	18.25	0.96		
6.00	2.88	12.25	6.23	18.50	0.48		
6.25	2.88	12.50	3.36	18.75	0.48		

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.88	12.250	6.23	18.33	0.48
0.167	0.00	6.250	2.88	12.333	3.36	18.42	0.48
0.250	0.00	6.333	8.15	12.417	3.36	18.50	0.48
0.333	0.48	6.417	8.15	12.500	3.36	18.58	0.48
0.417	0.48	6.500	8.15	12.583	3.36	18.67	0.48
0.500	0.48	6.583	8.15	12.667	3.36	18.75	0.48
0.583	0.48	6.667	8.15	12.750	3.36	18.83	0.48
0.667	0.48	6.750	8.15	12.833	3.36	18.92	0.48
0.750	0.48	6.833	8.15	12.917	3.36	19.00	0.48
0.833	0.48	6.917	8.15	13.000	3.36	19.08	0.48
0.917	0.48	7.000	8.15	13.083	3.36	19.17	0.48

1.000	0.48	7.083	8.15	13.167	3.36	19.25	0.48
1.083	0.48	7.167	8.15	13.250	3.36	19.33	0.48
1.167	0.48	7.250	8.15	13.333	3.36	19.42	0.48
1.250	0.48	7.333	8.15	13.417	3.36	19.50	0.48
1.333	0.48	7.417	8.15	13.500	3.36	19.58	0.48
1.417	0.48	7.500	8.15	13.583	3.36	19.67	0.48
1.500	0.48	7.583	8.15	13.667	3.36	19.75	0.48
1.583	0.48	7.667	8.15	13.750	3.36	19.83	0.48
1.667	0.48	7.750	8.15	13.833	3.36	19.92	0.48
1.750	0.48	7.833	8.15	13.917	3.36	20.00	0.48
1.833	0.48	7.917	8.15	14.000	3.36	20.08	0.48
1.917	0.48	8.000	8.15	14.083	3.36	20.17	0.48
2.000	0.48	8.083	8.15	14.167	3.36	20.25	0.48
2.083	0.48	8.167	8.15	14.250	3.36	20.33	0.48
2.167	0.48	8.250	8.15	14.333	1.92	20.42	0.48
2.250	0.48	8.333	22.06	14.417	1.92	20.50	0.48
2.333	0.48	8.417	22.06	14.500	1.92	20.58	0.48
2.417	0.48	8.500	22.06	14.583	1.92	20.67	0.48
2.500	0.48	8.583	22.06	14.667	1.92	20.75	0.48
2.583	0.48	8.667	22.06	14.750	1.92	20.83	0.48
2.667	0.48	8.750	22.06	14.833	1.92	20.92	0.48
2.750	0.48	8.833	22.06	14.917	1.92	21.00	0.48
2.833	0.48	8.917	22.06	15.000	1.92	21.08	0.48
2.917	0.48	9.000	22.06	15.083	1.92	21.17	0.48
3.000	0.48	9.083	22.06	15.167	1.92	21.25	0.48
3.083	0.48	9.167	22.06	15.250	1.92	21.33	0.48
3.167	0.48	9.250	22.06	15.333	1.92	21.42	0.48
3.250	0.48	9.333	22.06	15.417	1.92	21.50	0.48
3.333	0.48	9.417	22.06	15.500	1.92	21.58	0.48
3.417	0.48	9.500	22.06	15.583	1.92	21.67	0.48
3.500	0.48	9.583	22.06	15.667	1.92	21.75	0.48
3.583	0.48	9.667	22.06	15.750	1.92	21.83	0.48
3.667	0.48	9.750	22.06	15.833	1.92	21.92	0.48
3.750	0.48	9.833	22.06	15.917	1.92	22.00	0.48
3.833	0.48	9.917	22.06	16.000	1.92	22.08	0.48
3.917	0.48	10.000	22.06	16.083	1.92	22.17	0.48
4.000	0.48	10.083	22.06	16.167	1.92	22.25	0.48
4.083	0.48	10.167	22.06	16.250	1.92	22.33	0.48
4.167	0.48	10.250	22.06	16.333	0.96	22.42	0.48
4.250	0.48	10.333	6.23	16.417	0.96	22.50	0.48
4.333	2.88	10.417	6.23	16.500	0.96	22.58	0.48
4.417	2.88	10.500	6.23	16.583	0.96	22.67	0.48
4.500	2.88	10.583	6.23	16.667	0.96	22.75	0.48
4.583	2.88	10.667	6.23	16.750	0.96	22.83	0.48
4.667	2.88	10.750	6.23	16.833	0.96	22.92	0.48
4.750	2.88	10.833	6.23	16.917	0.96	23.00	0.48
4.833	2.88	10.917	6.23	17.000	0.96	23.08	0.48
4.917	2.88	11.000	6.23	17.083	0.96	23.17	0.48
5.000	2.88	11.083	6.23	17.167	0.96	23.25	0.48
5.083	2.88	11.167	6.23	17.250	0.96	23.33	0.48
5.167	2.88	11.250	6.23	17.333	0.96	23.42	0.48
5.250	2.88	11.333	6.23	17.417	0.96	23.50	0.48
5.333	2.88	11.417	6.23	17.500	0.96	23.58	0.48
5.417	2.88	11.500	6.23	17.583	0.96	23.67	0.48
5.500	2.88	11.583	6.23	17.667	0.96	23.75	0.48
5.583	2.88	11.667	6.23	17.750	0.96	23.83	0.48
5.667	2.88	11.750	6.23	17.833	0.96	23.92	0.48
5.750	2.88	11.833	6.23	17.917	0.96	24.00	0.48
5.833	2.88	11.917	6.23	18.000	0.96	24.08	0.48
5.917	2.88	12.000	6.23	18.083	0.96	24.17	0.48
6.000	2.88	12.083	6.23	18.167	0.96	24.25	0.48
6.083	2.88	12.167	6.23	18.250	0.96		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.006 (i)
TIME TO PEAK (hrs)= 10.250
RUNOFF VOLUME (mm)= 56.308
TOTAL RAINFALL (mm)= 95.920
RUNOFF COEFFICIENT = 0.587

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\9c617c21
Ptotal= 95.92 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	8.15	12.75	3.36	19.00	0.48
0.50	0.48	6.75	8.15	13.00	3.36	19.25	0.48
0.75	0.48	7.00	8.15	13.25	3.36	19.50	0.48
1.00	0.48	7.25	8.15	13.50	3.36	19.75	0.48
1.25	0.48	7.50	8.15	13.75	3.36	20.00	0.48
1.50	0.48	7.75	8.15	14.00	3.36	20.25	0.48
1.75	0.48	8.00	8.15	14.25	3.36	20.50	0.48
2.00	0.48	8.25	8.15	14.50	1.92	20.75	0.48
2.25	0.48	8.50	22.06	14.75	1.92	21.00	0.48
2.50	0.48	8.75	22.06	15.00	1.92	21.25	0.48
2.75	0.48	9.00	22.06	15.25	1.92	21.50	0.48
3.00	0.48	9.25	22.06	15.50	1.92	21.75	0.48
3.25	0.48	9.50	22.06	15.75	1.92	22.00	0.48
3.50	0.48	9.75	22.06	16.00	1.92	22.25	0.48
3.75	0.48	10.00	22.06	16.25	1.92	22.50	0.48
4.00	0.48	10.25	22.06	16.50	0.96	22.75	0.48
4.25	0.48	10.50	6.23	16.75	0.96	23.00	0.48
4.50	2.88	10.75	6.23	17.00	0.96	23.25	0.48
4.75	2.88	11.00	6.23	17.25	0.96	23.50	0.48
5.00	2.88	11.25	6.23	17.50	0.96	23.75	0.48
5.25	2.88	11.50	6.23	17.75	0.96	24.00	0.48
5.50	2.88	11.75	6.23	18.00	0.96	24.25	0.48
5.75	2.88	12.00	6.23	18.25	0.96		
6.00	2.88	12.25	6.23	18.50	0.48		
6.25	2.88	12.50	3.36	18.75	0.48		

CALIB | STANDHYD (0205) | ID= 1 DT= 5.0 min | Area (ha)= 1.12 | Total Imp(%)= 99.00 | Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	2.88	12.250	6.23	18.33	0.48
0.167	0.00	6.250	2.88	12.333	3.36	18.42	0.48
0.250	0.00	6.333	8.15	12.417	3.36	18.50	0.48
0.333	0.48	6.417	8.15	12.500	3.36	18.58	0.48
0.417	0.48	6.500	8.15	12.583	3.36	18.67	0.48
0.500	0.48	6.583	8.15	12.667	3.36	18.75	0.48
0.583	0.48	6.667	8.15	12.750	3.36	18.83	0.48
0.667	0.48	6.750	8.15	12.833	3.36	18.92	0.48
0.750	0.48	6.833	8.15	12.917	3.36	19.00	0.48
0.833	0.48	6.917	8.15	13.000	3.36	19.08	0.48
0.917	0.48	7.000	8.15	13.083	3.36	19.17	0.48
1.000	0.48	7.083	8.15	13.167	3.36	19.25	0.48
1.083	0.48	7.167	8.15	13.250	3.36	19.33	0.48
1.167	0.48	7.250	8.15	13.333	3.36	19.42	0.48
1.250	0.48	7.333	8.15	13.417	3.36	19.50	0.48
1.333	0.48	7.417	8.15	13.500	3.36	19.58	0.48
1.417	0.48	7.500	8.15	13.583	3.36	19.67	0.48
1.500	0.48	7.583	8.15	13.667	3.36	19.75	0.48
1.583	0.48	7.667	8.15	13.750	3.36	19.83	0.48
1.667	0.48	7.750	8.15	13.833	3.36	19.92	0.48
1.750	0.48	7.833	8.15	13.917	3.36	20.00	0.48
1.833	0.48	7.917	8.15	14.000	3.36	20.08	0.48
1.917	0.48	8.000	8.15	14.083	3.36	20.17	0.48
2.000	0.48	8.083	8.15	14.167	3.36	20.25	0.48
2.083	0.48	8.167	8.15	14.250	3.36	20.33	0.48
2.167	0.48	8.250	8.15	14.333	1.92	20.42	0.48
2.250	0.48	8.333	22.06	14.417	1.92	20.50	0.48
2.333	0.48	8.417	22.06	14.500	1.92	20.58	0.48
2.417	0.48	8.500	22.06	14.583	1.92	20.67	0.48
2.500	0.48	8.583	22.06	14.667	1.92	20.75	0.48
2.583	0.48	8.667	22.06	14.750	1.92	20.83	0.48
2.667	0.48	8.750	22.06	14.833	1.92	20.92	0.48
2.750	0.48	8.833	22.06	14.917	1.92	21.00	0.48
2.833	0.48	8.917	22.06	15.000	1.92	21.08	0.48
2.917	0.48	9.000	22.06	15.083	1.92	21.17	0.48
3.000	0.48	9.083	22.06	15.167	1.92	21.25	0.48
3.083	0.48	9.167	22.06	15.250	1.92	21.33	0.48
3.167	0.48	9.250	22.06	15.333	1.92	21.42	0.48
3.250	0.48	9.333	22.06	15.417	1.92	21.50	0.48
3.333	0.48	9.417	22.06	15.500	1.92	21.58	0.48
3.417	0.48	9.500	22.06	15.583	1.92	21.67	0.48
3.500	0.48	9.583	22.06	15.667	1.92	21.75	0.48
3.583	0.48	9.667	22.06	15.750	1.92	21.83	0.48
3.667	0.48	9.750	22.06	15.833	1.92	21.92	0.48
3.750	0.48	9.833	22.06	15.917	1.92	22.00	0.48
3.833	0.48	9.917	22.06	16.000	1.92	22.08	0.48
3.917	0.48	10.000	22.06	16.083	1.92	22.17	0.48
4.000	0.48	10.083	22.06	16.167	1.92	22.25	0.48
4.083	0.48	10.167	22.06	16.250	1.92	22.33	0.48
4.167	0.48	10.250	22.06	16.333	0.96	22.42	0.48
4.250	0.48	10.333	6.23	16.417	0.96	22.50	0.48
4.333	2.88	10.417	6.23	16.500	0.96	22.58	0.48
4.417	2.88	10.500	6.23	16.583	0.96	22.67	0.48
4.500	2.88	10.583	6.23	16.667	0.96	22.75	0.48
4.583	2.88	10.667	6.23	16.750	0.96	22.83	0.48
4.667	2.88	10.750	6.23	16.833	0.96	22.92	0.48
4.750	2.88	10.833	6.23	16.917	0.96	23.00	0.48
4.833	2.88	10.917	6.23	17.000	0.96	23.08	0.48
4.917	2.88	11.000	6.23	17.083	0.96	23.17	0.48
5.000	2.88	11.083	6.23	17.167	0.96	23.25	0.48
5.083	2.88	11.167	6.23	17.250	0.96	23.33	0.48
5.167	2.88	11.250	6.23	17.333	0.96	23.42	0.48
5.250	2.88	11.333	6.23	17.417	0.96	23.50	0.48
5.333	2.88	11.417	6.23	17.500	0.96	23.58	0.48
5.417	2.88	11.500	6.23	17.583	0.96	23.67	0.48
5.500	2.88	11.583	6.23	17.667	0.96	23.75	0.48
5.583	2.88	11.667	6.23	17.750	0.96	23.83	0.48
5.667	2.88	11.750	6.23	17.833	0.96	23.92	0.48
5.750	2.88	11.833	6.23	17.917	0.96	24.00	0.48
5.833	2.88	11.917	6.23	18.000	0.96	24.08	0.48
5.917	2.88	12.000	6.23	18.083	0.96	24.17	0.48
6.000	2.88	12.083	6.23	18.167	0.96	24.25	0.48
6.083	2.88	12.167	6.23	18.250	0.96		

			TOTALS
Max.Eff.Inten.(mm/hr)=	22.06	17.05	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.29 (ii)	6.35 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.23	0.15	
PEAK FLOW (cms)=	0.07	0.00	0.069 (iii)
TIME TO PEAK (hrs)=	9.50	10.25	10.25
RUNOFF VOLUME (mm)=	94.92	56.36	94.53
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.99	0.59	0.99

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)|				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.069	10.25	94.53
OUTFLOW: ID= 1 (0256)	1.125	0.032	10.33	94.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.46
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0510

READ STORM |	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\9c617c21
Ptotal= 95.92 mm |	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	8.15	12.75	3.36	19.00	0.48
0.50	0.48	6.75	8.15	13.00	3.36	19.25	0.48
0.75	0.48	7.00	8.15	13.25	3.36	19.50	0.48
1.00	0.48	7.25	8.15	13.50	3.36	19.75	0.48
1.25	0.48	7.50	8.15	13.75	3.36	20.00	0.48
1.50	0.48	7.75	8.15	14.00	3.36	20.25	0.48

1.75	0.48	8.00	8.15	14.25	3.36	20.50	0.48
2.00	0.48	8.25	8.15	14.50	1.92	20.75	0.48
2.25	0.48	8.50	22.06	14.75	1.92	21.00	0.48
2.50	0.48	8.75	22.06	15.00	1.92	21.25	0.48
2.75	0.48	9.00	22.06	15.25	1.92	21.50	0.48
3.00	0.48	9.25	22.06	15.50	1.92	21.75	0.48
3.25	0.48	9.50	22.06	15.75	1.92	22.00	0.48
3.50	0.48	9.75	22.06	16.00	1.92	22.25	0.48
3.75	0.48	10.00	22.06	16.25	1.92	22.50	0.48
4.00	0.48	10.25	22.06	16.50	0.96	22.75	0.48
4.25	0.48	10.50	6.23	16.75	0.96	23.00	0.48
4.50	2.88	10.75	6.23	17.00	0.96	23.25	0.48
4.75	2.88	11.00	6.23	17.25	0.96	23.50	0.48
5.00	2.88	11.25	6.23	17.50	0.96	23.75	0.48
5.25	2.88	11.50	6.23	17.75	0.96	24.00	0.48
5.50	2.88	11.75	6.23	18.00	0.96	24.25	0.48
5.75	2.88	12.00	6.23	18.25	0.96		
6.00	2.88	12.25	6.23	18.50	0.48		
6.25	2.88	12.50	3.36	18.75	0.48		

CALIB			
STANDHYD (0203)	Area (ha)=	2.10	
ID= 1 DT= 5.0 min	Total Imp(%)=	80.00	Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.88	12.250	6.23	18.33	0.48
0.167	0.00	6.250	2.88	12.333	3.36	18.42	0.48
0.250	0.00	6.333	8.15	12.417	3.36	18.50	0.48
0.333	0.48	6.417	8.15	12.500	3.36	18.58	0.48
0.417	0.48	6.500	8.15	12.583	3.36	18.67	0.48
0.500	0.48	6.583	8.15	12.667	3.36	18.75	0.48
0.583	0.48	6.667	8.15	12.750	3.36	18.83	0.48
0.667	0.48	6.750	8.15	12.833	3.36	18.92	0.48
0.750	0.48	6.833	8.15	12.917	3.36	19.00	0.48
0.833	0.48	6.917	8.15	13.000	3.36	19.08	0.48
0.917	0.48	7.000	8.15	13.083	3.36	19.17	0.48
1.000	0.48	7.083	8.15	13.167	3.36	19.25	0.48
1.083	0.48	7.167	8.15	13.250	3.36	19.33	0.48
1.167	0.48	7.250	8.15	13.333	3.36	19.42	0.48
1.250	0.48	7.333	8.15	13.417	3.36	19.50	0.48
1.333	0.48	7.417	8.15	13.500	3.36	19.58	0.48
1.417	0.48	7.500	8.15	13.583	3.36	19.67	0.48
1.500	0.48	7.583	8.15	13.667	3.36	19.75	0.48
1.583	0.48	7.667	8.15	13.750	3.36	19.83	0.48
1.667	0.48	7.750	8.15	13.833	3.36	19.92	0.48
1.750	0.48	7.833	8.15	13.917	3.36	20.00	0.48
1.833	0.48	7.917	8.15	14.000	3.36	20.08	0.48
1.917	0.48	8.000	8.15	14.083	3.36	20.17	0.48
2.000	0.48	8.083	8.15	14.167	3.36	20.25	0.48
2.083	0.48	8.167	8.15	14.250	3.36	20.33	0.48
2.167	0.48	8.250	8.15	14.333	1.92	20.42	0.48
2.250	0.48	8.333	22.06	14.417	1.92	20.50	0.48
2.333	0.48	8.417	22.06	14.500	1.92	20.58	0.48
2.417	0.48	8.500	22.06	14.583	1.92	20.67	0.48
2.500	0.48	8.583	22.06	14.667	1.92	20.75	0.48
2.583	0.48	8.667	22.06	14.750	1.92	20.83	0.48
2.667	0.48	8.750	22.06	14.833	1.92	20.92	0.48
2.750	0.48	8.833	22.06	14.917	1.92	21.00	0.48
2.833	0.48	8.917	22.06	15.000	1.92	21.08	0.48
2.917	0.48	9.000	22.06	15.083	1.92	21.17	0.48
3.000	0.48	9.083	22.06	15.167	1.92	21.25	0.48
3.083	0.48	9.167	22.06	15.250	1.92	21.33	0.48
3.167	0.48	9.250	22.06	15.333	1.92	21.42	0.48
3.250	0.48	9.333	22.06	15.417	1.92	21.50	0.48
3.333	0.48	9.417	22.06	15.500	1.92	21.58	0.48
3.417	0.48	9.500	22.06	15.583	1.92	21.67	0.48
3.500	0.48	9.583	22.06	15.667	1.92	21.75	0.48
3.583	0.48	9.667	22.06	15.750	1.92	21.83	0.48
3.667	0.48	9.750	22.06	15.833	1.92	21.92	0.48
3.750	0.48	9.833	22.06	15.917	1.92	22.00	0.48
3.833	0.48	9.917	22.06	16.000	1.92	22.08	0.48
3.917	0.48	10.000	22.06	16.083	1.92	22.17	0.48
4.000	0.48	10.083	22.06	16.167	1.92	22.25	0.48
4.083	0.48	10.167	22.06	16.250	1.92	22.33	0.48
4.167	0.48	10.250	22.06	16.333	0.96	22.42	0.48
4.250	0.48	10.333	6.23	16.417	0.96	22.50	0.48
4.333	2.88	10.417	6.23	16.500	0.96	22.58	0.48
4.417	2.88	10.500	6.23	16.583	0.96	22.67	0.48
4.500	2.88	10.583	6.23	16.667	0.96	22.75	0.48
4.583	2.88	10.667	6.23	16.750	0.96	22.83	0.48
4.667	2.88	10.750	6.23	16.833	0.96	22.92	0.48
4.750	2.88	10.833	6.23	16.917	0.96	23.00	0.48
4.833	2.88	10.917	6.23	17.000	0.96	23.08	0.48
4.917	2.88	11.000	6.23	17.083	0.96	23.17	0.48
5.000	2.88	11.083	6.23	17.167	0.96	23.25	0.48
5.083	2.88	11.167	6.23	17.250	0.96	23.33	0.48
5.167	2.88	11.250	6.23	17.333	0.96	23.42	0.48
5.250	2.88	11.333	6.23	17.417	0.96	23.50	0.48
5.333	2.88	11.417	6.23	17.500	0.96	23.58	0.48
5.417	2.88	11.500	6.23	17.583	0.96	23.67	0.48
5.500	2.88	11.583	6.23	17.667	0.96	23.75	0.48
5.583	2.88	11.667	6.23	17.750	0.96	23.83	0.48
5.667	2.88	11.750	6.23	17.833	0.96	23.92	0.48
5.750	2.88	11.833	6.23	17.917	0.96	24.00	0.48
5.833	2.88	11.917	6.23	18.000	0.96	24.08	0.48
5.917	2.88	12.000	6.23	18.083	0.96	24.17	0.48
6.000	2.88	12.083	6.23	18.167	0.96	24.25	0.48
6.083	2.88	12.167	6.23	18.250	0.96		

Max.Eff.Inten.(mm/hr)=		22.06	16.97	
over (min)		5.00	20.00	
Storage Coeff. (min)=		5.17 (ii)	19.52 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.21	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.10	0.02	0.121 (iii)
TIME TO PEAK	(hrs)=	9.50	10.25	10.25
RUNOFF VOLUME	(mm)=	94.92	56.36	87.20
TOTAL RAINFALL	(mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT	=	0.99	0.59	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

```
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| ADD HYD  (  0260)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.121    10.25    87.20
     + ID2= 2 (  0256):     1.12   0.032    10.33    94.18
       ================================================
       ID = 3 (  0260):     3.22   0.153    10.25    89.64

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\9c617c21
| Ptotal= 95.92 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	8.15	12.75	3.36	19.00	0.48
0.50	0.48	6.75	8.15	13.00	3.36	19.25	0.48
0.75	0.48	7.00	8.15	13.25	3.36	19.50	0.48
1.00	0.48	7.25	8.15	13.50	3.36	19.75	0.48
1.25	0.48	7.50	8.15	13.75	3.36	20.00	0.48
1.50	0.48	7.75	8.15	14.00	3.36	20.25	0.48
1.75	0.48	8.00	8.15	14.25	3.36	20.50	0.48
2.00	0.48	8.25	8.15	14.50	1.92	20.75	0.48
2.25	0.48	8.50	22.06	14.75	1.92	21.00	0.48
2.50	0.48	8.75	22.06	15.00	1.92	21.25	0.48
2.75	0.48	9.00	22.06	15.25	1.92	21.50	0.48
3.00	0.48	9.25	22.06	15.50	1.92	21.75	0.48
3.25	0.48	9.50	22.06	15.75	1.92	22.00	0.48
3.50	0.48	9.75	22.06	16.00	1.92	22.25	0.48
3.75	0.48	10.00	22.06	16.25	1.92	22.50	0.48
4.00	0.48	10.25	22.06	16.50	0.96	22.75	0.48
4.25	0.48	10.50	6.23	16.75	0.96	23.00	0.48
4.50	2.88	10.75	6.23	17.00	0.96	23.25	0.48
4.75	2.88	11.00	6.23	17.25	0.96	23.50	0.48
5.00	2.88	11.25	6.23	17.50	0.96	23.75	0.48
5.25	2.88	11.50	6.23	17.75	0.96	24.00	0.48
5.50	2.88	11.75	6.23	18.00	0.96	24.25	0.48
5.75	2.88	12.00	6.23	18.25	0.96		
6.00	2.88	12.25	6.23	18.50	0.48		
6.25	2.88	12.50	3.36	18.75	0.48		

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| CALIB            |
| STANDHYD (  0204)|   Area    (ha)=   1.45
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.16         0.29
     Dep. Storage     (mm)=       1.00         5.00
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Average Slope     (%)=       1.00         2.00
Length            (m)=      98.32        40.00
Mannings n           =      0.013        0.250

    NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.88	12.250	6.23	18.33	0.48
0.167	0.00	6.250	2.88	12.333	3.36	18.42	0.48
0.250	0.00	6.333	8.15	12.417	3.36	18.50	0.48
0.333	0.48	6.417	8.15	12.500	3.36	18.58	0.48
0.417	0.48	6.500	8.15	12.583	3.36	18.67	0.48
0.500	0.48	6.583	8.15	12.667	3.36	18.75	0.48
0.583	0.48	6.667	8.15	12.750	3.36	18.83	0.48
0.667	0.48	6.750	8.15	12.833	3.36	18.92	0.48
0.750	0.48	6.833	8.15	12.917	3.36	19.00	0.48
0.833	0.48	6.917	8.15	13.000	3.36	19.08	0.48
0.917	0.48	7.000	8.15	13.083	3.36	19.17	0.48
1.000	0.48	7.083	8.15	13.167	3.36	19.25	0.48
1.083	0.48	7.167	8.15	13.250	3.36	19.33	0.48
1.167	0.48	7.250	8.15	13.333	3.36	19.42	0.48
1.250	0.48	7.333	8.15	13.417	3.36	19.50	0.48
1.333	0.48	7.417	8.15	13.500	3.36	19.58	0.48
1.417	0.48	7.500	8.15	13.583	3.36	19.67	0.48
1.500	0.48	7.583	8.15	13.667	3.36	19.75	0.48
1.583	0.48	7.667	8.15	13.750	3.36	19.83	0.48
1.667	0.48	7.750	8.15	13.833	3.36	19.92	0.48
1.750	0.48	7.833	8.15	13.917	3.36	20.00	0.48
1.833	0.48	7.917	8.15	14.000	3.36	20.08	0.48
1.917	0.48	8.000	8.15	14.083	3.36	20.17	0.48
2.000	0.48	8.083	8.15	14.167	3.36	20.25	0.48
2.083	0.48	8.167	8.15	14.250	3.36	20.33	0.48
2.167	0.48	8.250	8.15	14.333	1.92	20.42	0.48
2.250	0.48	8.333	22.06	14.417	1.92	20.50	0.48
2.333	0.48	8.417	22.06	14.500	1.92	20.58	0.48
2.417	0.48	8.500	22.06	14.583	1.92	20.67	0.48
2.500	0.48	8.583	22.06	14.667	1.92	20.75	0.48
2.583	0.48	8.667	22.06	14.750	1.92	20.83	0.48
2.667	0.48	8.750	22.06	14.833	1.92	20.92	0.48
2.750	0.48	8.833	22.06	14.917	1.92	21.00	0.48
2.833	0.48	8.917	22.06	15.000	1.92	21.08	0.48
2.917	0.48	9.000	22.06	15.083	1.92	21.17	0.48
3.000	0.48	9.083	22.06	15.167	1.92	21.25	0.48
3.083	0.48	9.167	22.06	15.250	1.92	21.33	0.48
3.167	0.48	9.250	22.06	15.333	1.92	21.42	0.48
3.250	0.48	9.333	22.06	15.417	1.92	21.50	0.48
3.333	0.48	9.417	22.06	15.500	1.92	21.58	0.48
3.417	0.48	9.500	22.06	15.583	1.92	21.67	0.48
3.500	0.48	9.583	22.06	15.667	1.92	21.75	0.48
3.583	0.48	9.667	22.06	15.750	1.92	21.83	0.48
3.667	0.48	9.750	22.06	15.833	1.92	21.92	0.48
3.750	0.48	9.833	22.06	15.917	1.92	22.00	0.48
3.833	0.48	9.917	22.06	16.000	1.92	22.08	0.48
3.917	0.48	10.000	22.06	16.083	1.92	22.17	0.48
4.000	0.48	10.083	22.06	16.167	1.92	22.25	0.48
4.083	0.48	10.167	22.06	16.250	1.92	22.33	0.48
4.167	0.48	10.250	22.06	16.333	0.96	22.42	0.48
4.250	0.48	10.333	6.23	16.417	0.96	22.50	0.48
4.333	2.88	10.417	6.23	16.500	0.96	22.58	0.48
4.417	2.88	10.500	6.23	16.583	0.96	22.67	0.48
4.500	2.88	10.583	6.23	16.667	0.96	22.75	0.48

4.583	2.88	10.667	6.23	16.750	0.96	22.83	0.48
4.667	2.88	10.750	6.23	16.833	0.96	22.92	0.48
4.750	2.88	10.833	6.23	16.917	0.96	23.00	0.48
4.833	2.88	10.917	6.23	17.000	0.96	23.08	0.48
4.917	2.88	11.000	6.23	17.083	0.96	23.17	0.48
5.000	2.88	11.083	6.23	17.167	0.96	23.25	0.48
5.083	2.88	11.167	6.23	17.250	0.96	23.33	0.48
5.167	2.88	11.250	6.23	17.333	0.96	23.42	0.48
5.250	2.88	11.333	6.23	17.417	0.96	23.50	0.48
5.333	2.88	11.417	6.23	17.500	0.96	23.58	0.48
5.417	2.88	11.500	6.23	17.583	0.96	23.67	0.48
5.500	2.88	11.583	6.23	17.667	0.96	23.75	0.48
5.583	2.88	11.667	6.23	17.750	0.96	23.83	0.48
5.667	2.88	11.750	6.23	17.833	0.96	23.92	0.48
5.750	2.88	11.833	6.23	17.917	0.96	24.00	0.48
5.833	2.88	11.917	6.23	18.000	0.96	24.08	0.48
5.917	2.88	12.000	6.23	18.083	0.96	24.17	0.48
6.000	2.88	12.083	6.23	18.167	0.96	24.25	0.48
6.083	2.88	12.167	6.23	18.250	0.96		

				TOTALS
Max.Eff.Inten.(mm/hr)=	22.06	16.97		
over (min)	5.00	20.00		
Storage Coeff. (min)=	4.63 (ii)	18.98 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.22	0.06		
PEAK FLOW (cms)=	0.07	0.01		0.084 (iii)
TIME TO PEAK (hrs)=	9.50	10.25		10.25
RUNOFF VOLUME (mm)=	94.92	56.36		87.20
TOTAL RAINFALL (mm)=	95.92	95.92		95.92
RUNOFF COEFFICIENT =	0.99	0.59		0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.45	0.084	10.25	87.20
	+ ID2= 2 (0260):	3.22	0.153	10.25	89.64
	ID = 3 (0259):	4.67	0.237	10.25	88.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\9c617c21
Ptotal= 95.92 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	8.15	12.75	3.36	19.00	0.48
0.50	0.48	6.75	8.15	13.00	3.36	19.25	0.48
0.75	0.48	7.00	8.15	13.25	3.36	19.50	0.48
1.00	0.48	7.25	8.15	13.50	3.36	19.75	0.48
1.25	0.48	7.50	8.15	13.75	3.36	20.00	0.48
1.50	0.48	7.75	8.15	14.00	3.36	20.25	0.48
1.75	0.48	8.00	8.15	14.25	3.36	20.50	0.48
2.00	0.48	8.25	8.15	14.50	1.92	20.75	0.48
2.25	0.48	8.50	22.06	14.75	1.92	21.00	0.48
2.50	0.48	8.75	22.06	15.00	1.92	21.25	0.48
2.75	0.48	9.00	22.06	15.25	1.92	21.50	0.48
3.00	0.48	9.25	22.06	15.50	1.92	21.75	0.48
3.25	0.48	9.50	22.06	15.75	1.92	22.00	0.48
3.50	0.48	9.75	22.06	16.00	1.92	22.25	0.48
3.75	0.48	10.00	22.06	16.25	1.92	22.50	0.48
4.00	0.48	10.25	22.06	16.50	0.96	22.75	0.48
4.25	0.48	10.50	6.23	16.75	0.96	23.00	0.48
4.50	2.88	10.75	6.23	17.00	0.96	23.25	0.48
4.75	2.88	11.00	6.23	17.25	0.96	23.50	0.48
5.00	2.88	11.25	6.23	17.50	0.96	23.75	0.48
5.25	2.88	11.50	6.23	17.75	0.96	24.00	0.48
5.50	2.88	11.75	6.23	18.00	0.96	24.25	0.48
5.75	2.88	12.00	6.23	18.25	0.96		
6.00	2.88	12.25	6.23	18.50	0.48		
6.25	2.88	12.50	3.36	18.75	0.48		

CALIB	STANDHYD (0201)	Area (ha)= 5.27
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.88	12.250	6.23	18.33	0.48
0.167	0.00	6.250	2.88	12.333	3.36	18.42	0.48
0.250	0.00	6.333	8.15	12.417	3.36	18.50	0.48
0.333	0.48	6.417	8.15	12.500	3.36	18.58	0.48
0.417	0.48	6.500	8.15	12.583	3.36	18.67	0.48
0.500	0.48	6.583	8.15	12.667	3.36	18.75	0.48
0.583	0.48	6.667	8.15	12.750	3.36	18.83	0.48
0.667	0.48	6.750	8.15	12.833	3.36	18.92	0.48
0.750	0.48	6.833	8.15	12.917	3.36	19.00	0.48
0.833	0.48	6.917	8.15	13.000	3.36	19.08	0.48
0.917	0.48	7.000	8.15	13.083	3.36	19.17	0.48
1.000	0.48	7.083	8.15	13.167	3.36	19.25	0.48
1.083	0.48	7.167	8.15	13.250	3.36	19.33	0.48
1.167	0.48	7.250	8.15	13.333	3.36	19.42	0.48
1.250	0.48	7.333	8.15	13.417	3.36	19.50	0.48
1.333	0.48	7.417	8.15	13.500	3.36	19.58	0.48
1.417	0.48	7.500	8.15	13.583	3.36	19.67	0.48
1.500	0.48	7.583	8.15	13.667	3.36	19.75	0.48
1.583	0.48	7.667	8.15	13.750	3.36	19.83	0.48

1.667	0.48	7.750	8.15	13.833	3.36	19.92	0.48
1.750	0.48	7.833	8.15	13.917	3.36	20.00	0.48
1.833	0.48	7.917	8.15	14.000	3.36	20.08	0.48
1.917	0.48	8.000	8.15	14.083	3.36	20.17	0.48
2.000	0.48	8.083	8.15	14.167	3.36	20.25	0.48
2.083	0.48	8.167	8.15	14.250	3.36	20.33	0.48
2.167	0.48	8.250	8.15	14.333	1.92	20.42	0.48
2.250	0.48	8.333	22.06	14.417	1.92	20.50	0.48
2.333	0.48	8.417	22.06	14.500	1.92	20.58	0.48
2.417	0.48	8.500	22.06	14.583	1.92	20.67	0.48
2.500	0.48	8.583	22.06	14.667	1.92	20.75	0.48
2.583	0.48	8.667	22.06	14.750	1.92	20.83	0.48
2.667	0.48	8.750	22.06	14.833	1.92	20.92	0.48
2.750	0.48	8.833	22.06	14.917	1.92	21.00	0.48
2.833	0.48	8.917	22.06	15.000	1.92	21.08	0.48
2.917	0.48	9.000	22.06	15.083	1.92	21.17	0.48
3.000	0.48	9.083	22.06	15.167	1.92	21.25	0.48
3.083	0.48	9.167	22.06	15.250	1.92	21.33	0.48
3.167	0.48	9.250	22.06	15.333	1.92	21.42	0.48
3.250	0.48	9.333	22.06	15.417	1.92	21.50	0.48
3.333	0.48	9.417	22.06	15.500	1.92	21.58	0.48
3.417	0.48	9.500	22.06	15.583	1.92	21.67	0.48
3.500	0.48	9.583	22.06	15.667	1.92	21.75	0.48
3.583	0.48	9.667	22.06	15.750	1.92	21.83	0.48
3.667	0.48	9.750	22.06	15.833	1.92	21.92	0.48
3.750	0.48	9.833	22.06	15.917	1.92	22.00	0.48
3.833	0.48	9.917	22.06	16.000	1.92	22.08	0.48
3.917	0.48	10.000	22.06	16.083	1.92	22.17	0.48
4.000	0.48	10.083	22.06	16.167	1.92	22.25	0.48
4.083	0.48	10.167	22.06	16.250	1.92	22.33	0.48
4.167	0.48	10.250	22.06	16.333	0.96	22.42	0.48
4.250	0.48	10.333	6.23	16.417	0.96	22.50	0.48
4.333	2.88	10.417	6.23	16.500	0.96	22.58	0.48
4.417	2.88	10.500	6.23	16.583	0.96	22.67	0.48
4.500	2.88	10.583	6.23	16.667	0.96	22.75	0.48
4.583	2.88	10.667	6.23	16.750	0.96	22.83	0.48
4.667	2.88	10.750	6.23	16.833	0.96	22.92	0.48
4.750	2.88	10.833	6.23	16.917	0.96	23.00	0.48
4.833	2.88	10.917	6.23	17.000	0.96	23.08	0.48
4.917	2.88	11.000	6.23	17.083	0.96	23.17	0.48
5.000	2.88	11.083	6.23	17.167	0.96	23.25	0.48
5.083	2.88	11.167	6.23	17.250	0.96	23.33	0.48
5.167	2.88	11.250	6.23	17.333	0.96	23.42	0.48
5.250	2.88	11.333	6.23	17.417	0.96	23.50	0.48
5.333	2.88	11.417	6.23	17.500	0.96	23.58	0.48
5.417	2.88	11.500	6.23	17.583	0.96	23.67	0.48
5.500	2.88	11.583	6.23	17.667	0.96	23.75	0.48
5.583	2.88	11.667	6.23	17.750	0.96	23.83	0.48
5.667	2.88	11.750	6.23	17.833	0.96	23.92	0.48
5.750	2.88	11.833	6.23	17.917	0.96	24.00	0.48
5.833	2.88	11.917	6.23	18.000	0.96	24.08	0.48
5.917	2.88	12.000	6.23	18.083	0.96	24.17	0.48
6.000	2.88	12.083	6.23	18.167	0.96	24.25	0.48
6.083	2.88	12.167	6.23	18.250	0.96		

Max.Eff.Inten.(mm/hr)=	22.06	17.05	
over (min)	5.00	10.00	
Storage Coeff. (min)=	6.82 (ii)	8.87 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.18	0.12	
			TOTALS
PEAK FLOW (cms)=	0.32	0.00	0.322 (iii)
TIME TO PEAK (hrs)=	10.00	10.25	10.25
RUNOFF VOLUME (mm)=	94.92	56.36	94.53
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.99	0.59	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.322	10.25	94.53
OUTFLOW: ID= 1 (0268)	5.270	0.181	10.33	94.52

PEAK FLOW REDUCTION [Qout/Qin](%)= 56.03
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.1648

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\9c617c21
Ptotal= 95.92 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	8.15	12.75	3.36	19.00	0.48
0.50	0.48	6.75	8.15	13.00	3.36	19.25	0.48
0.75	0.48	7.00	8.15	13.25	3.36	19.50	0.48
1.00	0.48	7.25	8.15	13.50	3.36	19.75	0.48
1.25	0.48	7.50	8.15	13.75	3.36	20.00	0.48
1.50	0.48	7.75	8.15	14.00	3.36	20.25	0.48
1.75	0.48	8.00	8.15	14.25	3.36	20.50	0.48
2.00	0.48	8.25	8.15	14.50	1.92	20.75	0.48
2.25	0.48	8.50	22.06	14.75	1.92	21.00	0.48
2.50	0.48	8.75	22.06	15.00	1.92	21.25	0.48
2.75	0.48	9.00	22.06	15.25	1.92	21.50	0.48
3.00	0.48	9.25	22.06	15.50	1.92	21.75	0.48
3.25	0.48	9.50	22.06	15.75	1.92	22.00	0.48
3.50	0.48	9.75	22.06	16.00	1.92	22.25	0.48
3.75	0.48	10.00	22.06	16.25	1.92	22.50	0.48
4.00	0.48	10.25	22.06	16.50	0.96	22.75	0.48
4.25	0.48	10.50	6.23	16.75	0.96	23.00	0.48
4.50	2.88	10.75	6.23	17.00	0.96	23.25	0.48
4.75	2.88	11.00	6.23	17.25	0.96	23.50	0.48
5.00	2.88	11.25	6.23	17.50	0.96	23.75	0.48
5.25	2.88	11.50	6.23	17.75	0.96	24.00	0.48
5.50	2.88	11.75	6.23	18.00	0.96	24.25	0.48
5.75	2.88	12.00	6.23	18.25	0.96		
6.00	2.88	12.25	6.23	18.50	0.48		
6.25	2.88	12.50	3.36	18.75	0.48		

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| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.88	12.250	6.23	18.33	0.48
0.167	0.00	6.250	2.88	12.333	3.36	18.42	0.48
0.250	0.00	6.333	8.15	12.417	3.36	18.50	0.48
0.333	0.48	6.417	8.15	12.500	3.36	18.58	0.48
0.417	0.48	6.500	8.15	12.583	3.36	18.67	0.48
0.500	0.48	6.583	8.15	12.667	3.36	18.75	0.48
0.583	0.48	6.667	8.15	12.750	3.36	18.83	0.48
0.667	0.48	6.750	8.15	12.833	3.36	18.92	0.48
0.750	0.48	6.833	8.15	12.917	3.36	19.00	0.48
0.833	0.48	6.917	8.15	13.000	3.36	19.08	0.48
0.917	0.48	7.000	8.15	13.083	3.36	19.17	0.48
1.000	0.48	7.083	8.15	13.167	3.36	19.25	0.48
1.083	0.48	7.167	8.15	13.250	3.36	19.33	0.48
1.167	0.48	7.250	8.15	13.333	3.36	19.42	0.48
1.250	0.48	7.333	8.15	13.417	3.36	19.50	0.48
1.333	0.48	7.417	8.15	13.500	3.36	19.58	0.48
1.417	0.48	7.500	8.15	13.583	3.36	19.67	0.48
1.500	0.48	7.583	8.15	13.667	3.36	19.75	0.48
1.583	0.48	7.667	8.15	13.750	3.36	19.83	0.48
1.667	0.48	7.750	8.15	13.833	3.36	19.92	0.48
1.750	0.48	7.833	8.15	13.917	3.36	20.00	0.48
1.833	0.48	7.917	8.15	14.000	3.36	20.08	0.48
1.917	0.48	8.000	8.15	14.083	3.36	20.17	0.48
2.000	0.48	8.083	8.15	14.167	3.36	20.25	0.48
2.083	0.48	8.167	8.15	14.250	3.36	20.33	0.48
2.167	0.48	8.250	8.15	14.333	1.92	20.42	0.48
2.250	0.48	8.333	22.06	14.417	1.92	20.50	0.48
2.333	0.48	8.417	22.06	14.500	1.92	20.58	0.48
2.417	0.48	8.500	22.06	14.583	1.92	20.67	0.48
2.500	0.48	8.583	22.06	14.667	1.92	20.75	0.48
2.583	0.48	8.667	22.06	14.750	1.92	20.83	0.48
2.667	0.48	8.750	22.06	14.833	1.92	20.92	0.48
2.750	0.48	8.833	22.06	14.917	1.92	21.00	0.48
2.833	0.48	8.917	22.06	15.000	1.92	21.08	0.48
2.917	0.48	9.000	22.06	15.083	1.92	21.17	0.48
3.000	0.48	9.083	22.06	15.167	1.92	21.25	0.48
3.083	0.48	9.167	22.06	15.250	1.92	21.33	0.48
3.167	0.48	9.250	22.06	15.333	1.92	21.42	0.48
3.250	0.48	9.333	22.06	15.417	1.92	21.50	0.48
3.333	0.48	9.417	22.06	15.500	1.92	21.58	0.48
3.417	0.48	9.500	22.06	15.583	1.92	21.67	0.48
3.500	0.48	9.583	22.06	15.667	1.92	21.75	0.48
3.583	0.48	9.667	22.06	15.750	1.92	21.83	0.48
3.667	0.48	9.750	22.06	15.833	1.92	21.92	0.48
3.750	0.48	9.833	22.06	15.917	1.92	22.00	0.48
3.833	0.48	9.917	22.06	16.000	1.92	22.08	0.48
3.917	0.48	10.000	22.06	16.083	1.92	22.17	0.48
4.000	0.48	10.083	22.06	16.167	1.92	22.25	0.48
4.083	0.48	10.167	22.06	16.250	1.92	22.33	0.48
4.167	0.48	10.250	22.06	16.333	0.96	22.42	0.48
4.250	0.48	10.333	6.23	16.417	0.96	22.50	0.48
4.333	2.88	10.417	6.23	16.500	0.96	22.58	0.48
4.417	2.88	10.500	6.23	16.583	0.96	22.67	0.48
4.500	2.88	10.583	6.23	16.667	0.96	22.75	0.48
4.583	2.88	10.667	6.23	16.750	0.96	22.83	0.48
4.667	2.88	10.750	6.23	16.833	0.96	22.92	0.48
4.750	2.88	10.833	6.23	16.917	0.96	23.00	0.48
4.833	2.88	10.917	6.23	17.000	0.96	23.08	0.48
4.917	2.88	11.000	6.23	17.083	0.96	23.17	0.48
5.000	2.88	11.083	6.23	17.167	0.96	23.25	0.48
5.083	2.88	11.167	6.23	17.250	0.96	23.33	0.48
5.167	2.88	11.250	6.23	17.333	0.96	23.42	0.48
5.250	2.88	11.333	6.23	17.417	0.96	23.50	0.48
5.333	2.88	11.417	6.23	17.500	0.96	23.58	0.48
5.417	2.88	11.500	6.23	17.583	0.96	23.67	0.48
5.500	2.88	11.583	6.23	17.667	0.96	23.75	0.48
5.583	2.88	11.667	6.23	17.750	0.96	23.83	0.48
5.667	2.88	11.750	6.23	17.833	0.96	23.92	0.48
5.750	2.88	11.833	6.23	17.917	0.96	24.00	0.48
5.833	2.88	11.917	6.23	18.000	0.96	24.08	0.48
5.917	2.88	12.000	6.23	18.083	0.96	24.17	0.48
6.000	2.88	12.083	6.23	18.167	0.96	24.25	0.48
6.083	2.88	12.167	6.23	18.250	0.96		

```
     Max.Eff.Inten.(mm/hr)=      22.06        16.97
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       7.28 (ii)   21.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.17         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.33         0.06          0.381 (iii)
     TIME TO PEAK    (hrs)=      10.00        10.25         10.25
     RUNOFF VOLUME    (mm)=      94.92        56.36         87.59
     TOTAL RAINFALL   (mm)=      95.92        95.92         95.92
     RUNOFF COEFFICIENT   =       0.99         0.59          0.91


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   0.381    10.25    87.59
     + ID2= 2 (  0268):     5.27   0.181    10.33    94.52
       ================================================
       ID = 3 (  0262):    11.84   0.560    10.25    90.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.237    10.25    88.88
     + ID2= 2 (  0262):    11.84   0.560    10.25    90.67
       ================================================
       ID = 3 (  0266):    16.51   0.797    10.25    90.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2130      0.6563
                         0.0190     0.1773   |   0.2520      0.6883
                         0.0220     0.2128   |   0.2890      0.7150
                         0.0260     0.2888   |   0.2980      0.7450
                         0.0300     0.3648   |   0.3060      0.7700
                         0.0650     0.4586   |   0.3150      0.8127
                         0.1100     0.5155   |   0.3320      0.9290
                         0.1680     0.5503   |   0.3390      0.9767
                         0.1930     0.5804   |   0.3520      1.0680
                         0.2000     0.6048   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)    16.510     0.797     10.25      90.17
   OUTFLOW: ID= 1 (  0263)    16.510     0.303     12.33      90.02

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 38.07
                  TIME SHIFT OF PEAK FLOW         (min)=125.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7622

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.006    10.25    56.31
     + ID2= 2 (  0263):    16.51   0.303    12.33    90.02
       ================================================
       ID = 3 (  0261):    16.64   0.305    12.33    89.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

 FINISH
================================================================================
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================================================================================
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       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL
```

```
        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\14017fa6-edfd-415a-a6ef-c707dd9bf4a6\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\14017fa6-edfd-415a-a6ef-c707dd9bf4a6\s


DATE: 07/06/2020                          TIME: 04:38:42

USER:



COMMENTS: _____________________________________________________

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  *******************************************
  ** SIMULATION : 2 Year 24 Hour AES       **
  *******************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\c1d06699
| Ptotal= 47.08 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    4.00 | 12.75    1.65 | 19.00    0.24
                0.50    0.24 |  6.75    4.00 | 13.00    1.65 | 19.25    0.24
                0.75    0.24 |  7.00    4.00 | 13.25    1.65 | 19.50    0.24
                1.00    0.24 |  7.25    4.00 | 13.50    1.65 | 19.75    0.24
                1.25    0.24 |  7.50    4.00 | 13.75    1.65 | 20.00    0.24
                1.50    0.24 |  7.75    4.00 | 14.00    1.65 | 20.25    0.24
                1.75    0.24 |  8.00    4.00 | 14.25    1.65 | 20.50    0.24
                2.00    0.24 |  8.25    4.00 | 14.50    0.94 | 20.75    0.24
                2.25    0.24 |  8.50   10.81 | 14.75    0.94 | 21.00    0.24
                2.50    0.24 |  8.75   10.81 | 15.00    0.94 | 21.25    0.24
                2.75    0.24 |  9.00   10.81 | 15.25    0.94 | 21.50    0.24
                3.00    0.24 |  9.25   10.81 | 15.50    0.94 | 21.75    0.24
                3.25    0.24 |  9.50   10.81 | 15.75    0.94 | 22.00    0.24
                3.50    0.24 |  9.75   10.81 | 16.00    0.94 | 22.25    0.24
                3.75    0.24 | 10.00   10.81 | 16.25    0.94 | 22.50    0.24
                4.00    0.24 | 10.25   10.81 | 16.50    0.47 | 22.75    0.24
                4.25    0.24 | 10.50    3.06 | 16.75    0.47 | 23.00    0.24
                4.50    1.41 | 10.75    3.06 | 17.00    0.47 | 23.25    0.24
                4.75    1.41 | 11.00    3.06 | 17.25    0.47 | 23.50    0.24
                5.00    1.41 | 11.25    3.06 | 17.50    0.47 | 23.75    0.24
```

5.25	1.41	11.50	3.06	17.75	0.47	24.00	0.24
5.50	1.41	11.75	3.06	18.00	0.47	24.25	0.24
5.75	1.41	12.00	3.06	18.25	0.47		
6.00	1.41	12.25	3.06	18.50	0.24		
6.25	1.41	12.50	1.65	18.75	0.24		

```
--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.41	12.250	3.06	18.33	0.24
0.167	0.00	6.250	1.41	12.333	1.65	18.42	0.24
0.250	0.00	6.333	4.00	12.417	1.65	18.50	0.24
0.333	0.24	6.417	4.00	12.500	1.65	18.58	0.24
0.417	0.24	6.500	4.00	12.583	1.65	18.67	0.24
0.500	0.24	6.583	4.00	12.667	1.65	18.75	0.24
0.583	0.24	6.667	4.00	12.750	1.65	18.83	0.24
0.667	0.24	6.750	4.00	12.833	1.65	18.92	0.24
0.750	0.24	6.833	4.00	12.917	1.65	19.00	0.24
0.833	0.24	6.917	4.00	13.000	1.65	19.08	0.24
0.917	0.24	7.000	4.00	13.083	1.65	19.17	0.24
1.000	0.24	7.083	4.00	13.167	1.65	19.25	0.24
1.083	0.24	7.167	4.00	13.250	1.65	19.33	0.24
1.167	0.24	7.250	4.00	13.333	1.65	19.42	0.24
1.250	0.24	7.333	4.00	13.417	1.65	19.50	0.24
1.333	0.24	7.417	4.00	13.500	1.65	19.58	0.24
1.417	0.24	7.500	4.00	13.583	1.65	19.67	0.24
1.500	0.24	7.583	4.00	13.667	1.65	19.75	0.24
1.583	0.24	7.667	4.00	13.750	1.65	19.83	0.24
1.667	0.24	7.750	4.00	13.833	1.65	19.92	0.24
1.750	0.24	7.833	4.00	13.917	1.65	20.00	0.24
1.833	0.24	7.917	4.00	14.000	1.65	20.08	0.24
1.917	0.24	8.000	4.00	14.083	1.65	20.17	0.24
2.000	0.24	8.083	4.00	14.167	1.65	20.25	0.24
2.083	0.24	8.167	4.00	14.250	1.65	20.33	0.24
2.167	0.24	8.250	4.00	14.333	0.94	20.42	0.24
2.250	0.24	8.333	10.81	14.417	0.94	20.50	0.24
2.333	0.24	8.417	10.81	14.500	0.94	20.58	0.24
2.417	0.24	8.500	10.81	14.583	0.94	20.67	0.24
2.500	0.24	8.583	10.81	14.667	0.94	20.75	0.24
2.583	0.24	8.667	10.81	14.750	0.94	20.83	0.24
2.667	0.24	8.750	10.81	14.833	0.94	20.92	0.24
2.750	0.24	8.833	10.81	14.917	0.94	21.00	0.24
2.833	0.24	8.917	10.81	15.000	0.94	21.08	0.24
2.917	0.24	9.000	10.81	15.083	0.94	21.17	0.24
3.000	0.24	9.083	10.81	15.167	0.94	21.25	0.24
3.083	0.24	9.167	10.81	15.250	0.94	21.33	0.24
3.167	0.24	9.250	10.81	15.333	0.94	21.42	0.24
3.250	0.24	9.333	10.81	15.417	0.94	21.50	0.24
3.333	0.24	9.417	10.81	15.500	0.94	21.58	0.24
3.417	0.24	9.500	10.81	15.583	0.94	21.67	0.24
3.500	0.24	9.583	10.81	15.667	0.94	21.75	0.24
3.583	0.24	9.667	10.81	15.750	0.94	21.83	0.24
3.667	0.24	9.750	10.81	15.833	0.94	21.92	0.24
3.750	0.24	9.833	10.81	15.917	0.94	22.00	0.24
3.833	0.24	9.917	10.81	16.000	0.94	22.08	0.24
3.917	0.24	10.000	10.81	16.083	0.94	22.17	0.24
4.000	0.24	10.083	10.81	16.167	0.94	22.25	0.24
4.083	0.24	10.167	10.81	16.250	0.94	22.33	0.24
4.167	0.24	10.250	10.81	16.333	0.47	22.42	0.24
4.250	0.24	10.333	3.06	16.417	0.47	22.50	0.24
4.333	1.41	10.417	3.06	16.500	0.47	22.58	0.24
4.417	1.41	10.500	3.06	16.583	0.47	22.67	0.24
4.500	1.41	10.583	3.06	16.667	0.47	22.75	0.24
4.583	1.41	10.667	3.06	16.750	0.47	22.83	0.24
4.667	1.41	10.750	3.06	16.833	0.47	22.92	0.24
4.750	1.41	10.833	3.06	16.917	0.47	23.00	0.24
4.833	1.41	10.917	3.06	17.000	0.47	23.08	0.24
4.917	1.41	11.000	3.06	17.083	0.47	23.17	0.24
5.000	1.41	11.083	3.06	17.167	0.47	23.25	0.24
5.083	1.41	11.167	3.06	17.250	0.47	23.33	0.24
5.167	1.41	11.250	3.06	17.333	0.47	23.42	0.24
5.250	1.41	11.333	3.06	17.417	0.47	23.50	0.24
5.333	1.41	11.417	3.06	17.500	0.47	23.58	0.24
5.417	1.41	11.500	3.06	17.583	0.47	23.67	0.24
5.500	1.41	11.583	3.06	17.667	0.47	23.75	0.24
5.583	1.41	11.667	3.06	17.750	0.47	23.83	0.24
5.667	1.41	11.750	3.06	17.833	0.47	23.92	0.24
5.750	1.41	11.833	3.06	17.917	0.47	24.00	0.24
5.833	1.41	11.917	3.06	18.000	0.47	24.08	0.24
5.917	1.41	12.000	3.06	18.083	0.47	24.17	0.24
6.000	1.41	12.083	3.06	18.167	0.47	24.25	0.24
6.083	1.41	12.167	3.06	18.250	0.47		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.002 (i)
TIME TO PEAK (hrs)= 10.250
RUNOFF VOLUME (mm)= 18.079
TOTAL RAINFALL (mm)= 47.080
RUNOFF COEFFICIENT = 0.384

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\c1d06699
| Ptotal= 47.08 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	4.00	12.75	1.65	19.00	0.24
0.50	0.24	6.75	4.00	13.00	1.65	19.25	0.24
0.75	0.24	7.00	4.00	13.25	1.65	19.50	0.24
1.00	0.24	7.25	4.00	13.50	1.65	19.75	0.24
1.25	0.24	7.50	4.00	13.75	1.65	20.00	0.24
1.50	0.24	7.75	4.00	14.00	1.65	20.25	0.24
1.75	0.24	8.00	4.00	14.25	1.65	20.50	0.24
2.00	0.24	8.25	4.00	14.50	0.94	20.75	0.24
2.25	0.24	8.50	10.81	14.75	0.94	21.00	0.24
2.50	0.24	8.75	10.81	15.00	0.94	21.25	0.24
2.75	0.24	9.00	10.81	15.25	0.94	21.50	0.24
3.00	0.24	9.25	10.81	15.50	0.94	21.75	0.24
3.25	0.24	9.50	10.81	15.75	0.94	22.00	0.24
3.50	0.24	9.75	10.81	16.00	0.94	22.25	0.24

3.75	0.24	10.00	10.81	16.25	0.94	22.50	0.24
4.00	0.24	10.25	10.81	16.50	0.47	22.75	0.24
4.25	0.24	10.50	3.06	16.75	0.47	23.00	0.24
4.50	1.41	10.75	3.06	17.00	0.47	23.25	0.24
4.75	1.41	11.00	3.06	17.25	0.47	23.50	0.24
5.00	1.41	11.25	3.06	17.50	0.47	23.75	0.24
5.25	1.41	11.50	3.06	17.75	0.47	24.00	0.24
5.50	1.41	11.75	3.06	18.00	0.47	24.25	0.24
5.75	1.41	12.00	3.06	18.25	0.47		
6.00	1.41	12.25	3.06	18.50	0.24		
6.25	1.41	12.50	1.65	18.75	0.24		

CALIB	
STANDHYD (0205)	Area (ha)= 1.12
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.41	12.250	3.06	18.33	0.24
0.167	0.00	6.250	1.41	12.333	1.65	18.42	0.24
0.250	0.00	6.333	4.00	12.417	1.65	18.50	0.24
0.333	0.24	6.417	4.00	12.500	1.65	18.58	0.24
0.417	0.24	6.500	4.00	12.583	1.65	18.67	0.24
0.500	0.24	6.583	4.00	12.667	1.65	18.75	0.24
0.583	0.24	6.667	4.00	12.750	1.65	18.83	0.24
0.667	0.24	6.750	4.00	12.833	1.65	18.92	0.24
0.750	0.24	6.833	4.00	12.917	1.65	19.00	0.24
0.833	0.24	6.917	4.00	13.000	1.65	19.08	0.24
0.917	0.24	7.000	4.00	13.083	1.65	19.17	0.24
1.000	0.24	7.083	4.00	13.167	1.65	19.25	0.24
1.083	0.24	7.167	4.00	13.250	1.65	19.33	0.24
1.167	0.24	7.250	4.00	13.333	1.65	19.42	0.24
1.250	0.24	7.333	4.00	13.417	1.65	19.50	0.24
1.333	0.24	7.417	4.00	13.500	1.65	19.58	0.24
1.417	0.24	7.500	4.00	13.583	1.65	19.67	0.24
1.500	0.24	7.583	4.00	13.667	1.65	19.75	0.24
1.583	0.24	7.667	4.00	13.750	1.65	19.83	0.24
1.667	0.24	7.750	4.00	13.833	1.65	19.92	0.24
1.750	0.24	7.833	4.00	13.917	1.65	20.00	0.24
1.833	0.24	7.917	4.00	14.000	1.65	20.08	0.24
1.917	0.24	8.000	4.00	14.083	1.65	20.17	0.24
2.000	0.24	8.083	4.00	14.167	1.65	20.25	0.24
2.083	0.24	8.167	4.00	14.250	1.65	20.33	0.24
2.167	0.24	8.250	4.00	14.333	0.94	20.42	0.24
2.250	0.24	8.333	10.81	14.417	0.94	20.50	0.24
2.333	0.24	8.417	10.81	14.500	0.94	20.58	0.24
2.417	0.24	8.500	10.81	14.583	0.94	20.67	0.24
2.500	0.24	8.583	10.81	14.667	0.94	20.75	0.24
2.583	0.24	8.667	10.81	14.750	0.94	20.83	0.24
2.667	0.24	8.750	10.81	14.833	0.94	20.92	0.24
2.750	0.24	8.833	10.81	14.917	0.94	21.00	0.24
2.833	0.24	8.917	10.81	15.000	0.94	21.08	0.24
2.917	0.24	9.000	10.81	15.083	0.94	21.17	0.24
3.000	0.24	9.083	10.81	15.167	0.94	21.25	0.24
3.083	0.24	9.167	10.81	15.250	0.94	21.33	0.24
3.167	0.24	9.250	10.81	15.333	0.94	21.42	0.24
3.250	0.24	9.333	10.81	15.417	0.94	21.50	0.24
3.333	0.24	9.417	10.81	15.500	0.94	21.58	0.24
3.417	0.24	9.500	10.81	15.583	0.94	21.67	0.24
3.500	0.24	9.583	10.81	15.667	0.94	21.75	0.24
3.583	0.24	9.667	10.81	15.750	0.94	21.83	0.24
3.667	0.24	9.750	10.81	15.833	0.94	21.92	0.24
3.750	0.24	9.833	10.81	15.917	0.94	22.00	0.24
3.833	0.24	9.917	10.81	16.000	0.94	22.08	0.24
3.917	0.24	10.000	10.81	16.083	0.94	22.17	0.24
4.000	0.24	10.083	10.81	16.167	0.94	22.25	0.24
4.083	0.24	10.167	10.81	16.250	0.94	22.33	0.24
4.167	0.24	10.250	10.81	16.333	0.47	22.42	0.24
4.250	0.24	10.333	3.06	16.417	0.47	22.50	0.24
4.333	1.41	10.417	3.06	16.500	0.47	22.58	0.24
4.417	1.41	10.500	3.06	16.583	0.47	22.67	0.24
4.500	1.41	10.583	3.06	16.667	0.47	22.75	0.24
4.583	1.41	10.667	3.06	16.750	0.47	22.83	0.24
4.667	1.41	10.750	3.06	16.833	0.47	22.92	0.24
4.750	1.41	10.833	3.06	16.917	0.47	23.00	0.24
4.833	1.41	10.917	3.06	17.000	0.47	23.08	0.24
4.917	1.41	11.000	3.06	17.083	0.47	23.17	0.24
5.000	1.41	11.083	3.06	17.167	0.47	23.25	0.24
5.083	1.41	11.167	3.06	17.250	0.47	23.33	0.24
5.167	1.41	11.250	3.06	17.333	0.47	23.42	0.24
5.250	1.41	11.333	3.06	17.417	0.47	23.50	0.24
5.333	1.41	11.417	3.06	17.500	0.47	23.58	0.24
5.417	1.41	11.500	3.06	17.583	0.47	23.67	0.24
5.500	1.41	11.583	3.06	17.667	0.47	23.75	0.24
5.583	1.41	11.667	3.06	17.750	0.47	23.83	0.24
5.667	1.41	11.750	3.06	17.833	0.47	23.92	0.24
5.750	1.41	11.833	3.06	17.917	0.47	24.00	0.24
5.833	1.41	11.917	3.06	18.000	0.47	24.08	0.24
5.917	1.41	12.000	3.06	18.083	0.47	24.17	0.24
6.000	1.41	12.083	3.06	18.167	0.47	24.25	0.24
6.083	1.41	12.167	3.06	18.250	0.47		

Max.Eff.Inten.(mm/hr)=		10.81	5.96	
over (min)		5.00	10.00	
Storage Coeff. (min)=		5.71 (ii)	8.44 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.20	0.12	
				TOTALS
PEAK FLOW	(cms)=	0.03	0.00	0.034 (iii)
TIME TO PEAK	(hrs)=	9.50	10.25	10.25
RUNOFF VOLUME	(mm)=	46.08	18.10	45.80
TOTAL RAINFALL	(mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT	=	0.98	0.38	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)

```
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470      0.0750

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)     1.125     0.034     10.25      45.80
   OUTFLOW: ID= 1 (  0256)     1.125     0.016     10.42      45.44

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.12
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0248
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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\c1d06699
| Ptotal= 47.08 mm |    Comments:
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	4.00	12.75	1.65	19.00	0.24
0.50	0.24	6.75	4.00	13.00	1.65	19.25	0.24
0.75	0.24	7.00	4.00	13.25	1.65	19.50	0.24
1.00	0.24	7.25	4.00	13.50	1.65	19.75	0.24
1.25	0.24	7.50	4.00	13.75	1.65	20.00	0.24
1.50	0.24	7.75	4.00	14.00	1.65	20.25	0.24
1.75	0.24	8.00	4.00	14.25	1.65	20.50	0.24
2.00	0.24	8.25	4.00	14.50	0.94	20.75	0.24
2.25	0.24	8.50	10.81	14.75	0.94	21.00	0.24
2.50	0.24	8.75	10.81	15.00	0.94	21.25	0.24
2.75	0.24	9.00	10.81	15.25	0.94	21.50	0.24
3.00	0.24	9.25	10.81	15.50	0.94	21.75	0.24
3.25	0.24	9.50	10.81	15.75	0.94	22.00	0.24
3.50	0.24	9.75	10.81	16.00	0.94	22.25	0.24
3.75	0.24	10.00	10.81	16.25	0.94	22.50	0.24
4.00	0.24	10.25	10.81	16.50	0.47	22.75	0.24
4.25	0.24	10.50	3.06	16.75	0.47	23.00	0.24
4.50	1.41	10.75	3.06	17.00	0.47	23.25	0.24
4.75	1.41	11.00	3.06	17.25	0.47	23.50	0.24
5.00	1.41	11.25	3.06	17.50	0.47	23.75	0.24
5.25	1.41	11.50	3.06	17.75	0.47	24.00	0.24
5.50	1.41	11.75	3.06	18.00	0.47	24.25	0.24
5.75	1.41	12.00	3.06	18.25	0.47		
6.00	1.41	12.25	3.06	18.50	0.24		
6.25	1.41	12.50	1.65	18.75	0.24		

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| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n           =      0.013        0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.41	12.250	3.06	18.33	0.24
0.167	0.00	6.250	1.41	12.333	1.65	18.42	0.24
0.250	0.00	6.333	4.00	12.417	1.65	18.50	0.24
0.333	0.24	6.417	4.00	12.500	1.65	18.58	0.24
0.417	0.24	6.500	4.00	12.583	1.65	18.67	0.24
0.500	0.24	6.583	4.00	12.667	1.65	18.75	0.24
0.583	0.24	6.667	4.00	12.750	1.65	18.83	0.24
0.667	0.24	6.750	4.00	12.833	1.65	18.92	0.24
0.750	0.24	6.833	4.00	12.917	1.65	19.00	0.24
0.833	0.24	6.917	4.00	13.000	1.65	19.08	0.24
0.917	0.24	7.000	4.00	13.083	1.65	19.17	0.24
1.000	0.24	7.083	4.00	13.167	1.65	19.25	0.24
1.083	0.24	7.167	4.00	13.250	1.65	19.33	0.24
1.167	0.24	7.250	4.00	13.333	1.65	19.42	0.24
1.250	0.24	7.333	4.00	13.417	1.65	19.50	0.24
1.333	0.24	7.417	4.00	13.500	1.65	19.58	0.24
1.417	0.24	7.500	4.00	13.583	1.65	19.67	0.24
1.500	0.24	7.583	4.00	13.667	1.65	19.75	0.24
1.583	0.24	7.667	4.00	13.750	1.65	19.83	0.24
1.667	0.24	7.750	4.00	13.833	1.65	19.92	0.24
1.750	0.24	7.833	4.00	13.917	1.65	20.00	0.24
1.833	0.24	7.917	4.00	14.000	1.65	20.08	0.24
1.917	0.24	8.000	4.00	14.083	1.65	20.17	0.24
2.000	0.24	8.083	4.00	14.167	1.65	20.25	0.24
2.083	0.24	8.167	4.00	14.250	1.65	20.33	0.24
2.167	0.24	8.250	4.00	14.333	0.94	20.42	0.24
2.250	0.24	8.333	10.81	14.417	0.94	20.50	0.24
2.333	0.24	8.417	10.81	14.500	0.94	20.58	0.24
2.417	0.24	8.500	10.81	14.583	0.94	20.67	0.24
2.500	0.24	8.583	10.81	14.667	0.94	20.75	0.24
2.583	0.24	8.667	10.81	14.750	0.94	20.83	0.24
2.667	0.24	8.750	10.81	14.833	0.94	20.92	0.24
2.750	0.24	8.833	10.81	14.917	0.94	21.00	0.24
2.833	0.24	8.917	10.81	15.000	0.94	21.08	0.24
2.917	0.24	9.000	10.81	15.083	0.94	21.17	0.24
3.000	0.24	9.083	10.81	15.167	0.94	21.25	0.24
3.083	0.24	9.167	10.81	15.250	0.94	21.33	0.24
3.167	0.24	9.250	10.81	15.333	0.94	21.42	0.24
3.250	0.24	9.333	10.81	15.417	0.94	21.50	0.24
3.333	0.24	9.417	10.81	15.500	0.94	21.58	0.24
3.417	0.24	9.500	10.81	15.583	0.94	21.67	0.24
3.500	0.24	9.583	10.81	15.667	0.94	21.75	0.24
3.583	0.24	9.667	10.81	15.750	0.94	21.83	0.24
3.667	0.24	9.750	10.81	15.833	0.94	21.92	0.24
3.750	0.24	9.833	10.81	15.917	0.94	22.00	0.24
3.833	0.24	9.917	10.81	16.000	0.94	22.08	0.24
3.917	0.24	10.000	10.81	16.083	0.94	22.17	0.24
4.000	0.24	10.083	10.81	16.167	0.94	22.25	0.24
4.083	0.24	10.167	10.81	16.250	0.94	22.33	0.24
4.167	0.24	10.250	10.81	16.333	0.47	22.42	0.24
4.250	0.24	10.333	3.06	16.417	0.47	22.50	0.24
4.333	1.41	10.417	3.06	16.500	0.47	22.58	0.24
4.417	1.41	10.500	3.06	16.583	0.47	22.67	0.24
4.500	1.41	10.583	3.06	16.667	0.47	22.75	0.24
4.583	1.41	10.667	3.06	16.750	0.47	22.83	0.24
4.667	1.41	10.750	3.06	16.833	0.47	22.92	0.24
4.750	1.41	10.833	3.06	16.917	0.47	23.00	0.24
4.833	1.41	10.917	3.06	17.000	0.47	23.08	0.24

4.917	1.41	11.000	3.06	17.083	0.47	23.17	0.24
5.000	1.41	11.083	3.06	17.167	0.47	23.25	0.24
5.083	1.41	11.167	3.06	17.250	0.47	23.33	0.24
5.167	1.41	11.250	3.06	17.333	0.47	23.42	0.24
5.250	1.41	11.333	3.06	17.417	0.47	23.50	0.24
5.333	1.41	11.417	3.06	17.500	0.47	23.58	0.24
5.417	1.41	11.500	3.06	17.583	0.47	23.67	0.24
5.500	1.41	11.583	3.06	17.667	0.47	23.75	0.24
5.583	1.41	11.667	3.06	17.750	0.47	23.83	0.24
5.667	1.41	11.750	3.06	17.833	0.47	23.92	0.24
5.750	1.41	11.833	3.06	17.917	0.47	24.00	0.24
5.833	1.41	11.917	3.06	18.000	0.47	24.08	0.24
5.917	1.41	12.000	3.06	18.083	0.47	24.17	0.24
6.000	1.41	12.083	3.06	18.167	0.47	24.25	0.24
6.083	1.41	12.167	3.06	18.250	0.47		

			TOTALS
Max.Eff.Inten.(mm/hr)=	10.81	5.80	
over (min)	5.00	30.00	
Storage Coeff. (min)=	6.88 (ii)	28.93 (ii)	
Unit Hyd. Tpeak (min)=	5.00	30.00	
Unit Hyd. peak (cms)=	0.18	0.04	
PEAK FLOW (cms)=	0.05	0.01	0.056 (iii)
TIME TO PEAK (hrs)=	9.75	10.33	10.25
RUNOFF VOLUME (mm)=	46.08	18.10	40.48
TOTAL RAINFALL (mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT =	0.98	0.38	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0203):		2.10	0.056	10.25	40.48
+ ID2= 2 (0256):		1.12	0.016	10.42	45.44
ID = 3 (0260):		3.22	0.071	10.25	42.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\c1d06699
Ptotal= 47.08 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	4.00	12.75	1.65	19.00	0.24
0.50	0.24	6.75	4.00	13.00	1.65	19.25	0.24
0.75	0.24	7.00	4.00	13.25	1.65	19.50	0.24
1.00	0.24	7.25	4.00	13.50	1.65	19.75	0.24
1.25	0.24	7.50	4.00	13.75	1.65	20.00	0.24
1.50	0.24	7.75	4.00	14.00	1.65	20.25	0.24
1.75	0.24	8.00	4.00	14.25	1.65	20.50	0.24
2.00	0.24	8.25	4.00	14.50	0.94	20.75	0.24
2.25	0.24	8.50	10.81	14.75	0.94	21.00	0.24
2.50	0.24	8.75	10.81	15.00	0.94	21.25	0.24
2.75	0.24	9.00	10.81	15.25	0.94	21.50	0.24
3.00	0.24	9.25	10.81	15.50	0.94	21.75	0.24
3.25	0.24	9.50	10.81	15.75	0.94	22.00	0.24
3.50	0.24	9.75	10.81	16.00	0.94	22.25	0.24
3.75	0.24	10.00	10.81	16.25	0.94	22.50	0.24
4.00	0.24	10.25	10.81	16.50	0.47	22.75	0.24
4.25	0.24	10.50	3.06	16.75	0.47	23.00	0.24
4.50	1.41	10.75	3.06	17.00	0.47	23.25	0.24
4.75	1.41	11.00	3.06	17.25	0.47	23.50	0.24
5.00	1.41	11.25	3.06	17.50	0.47	23.75	0.24
5.25	1.41	11.50	3.06	17.75	0.47	24.00	0.24
5.50	1.41	11.75	3.06	18.00	0.47	24.25	0.24
5.75	1.41	12.00	3.06	18.25	0.47		
6.00	1.41	12.25	3.06	18.50	0.24		
6.25	1.41	12.50	1.65	18.75	0.24		

CALIB	Area (ha)= 1.45
STANDHYD (0204) ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.41	12.250	3.06	18.33	0.24
0.167	0.00	6.250	1.41	12.333	1.65	18.42	0.24
0.250	0.00	6.333	4.00	12.417	1.65	18.50	0.24
0.333	0.24	6.417	4.00	12.500	1.65	18.58	0.24
0.417	0.24	6.500	4.00	12.583	1.65	18.67	0.24
0.500	0.24	6.583	4.00	12.667	1.65	18.75	0.24
0.583	0.24	6.667	4.00	12.750	1.65	18.83	0.24
0.667	0.24	6.750	4.00	12.833	1.65	18.92	0.24
0.750	0.24	6.833	4.00	12.917	1.65	19.00	0.24
0.833	0.24	6.917	4.00	13.000	1.65	19.08	0.24
0.917	0.24	7.000	4.00	13.083	1.65	19.17	0.24
1.000	0.24	7.083	4.00	13.167	1.65	19.25	0.24
1.083	0.24	7.167	4.00	13.250	1.65	19.33	0.24
1.167	0.24	7.250	4.00	13.333	1.65	19.42	0.24
1.250	0.24	7.333	4.00	13.417	1.65	19.50	0.24
1.333	0.24	7.417	4.00	13.500	1.65	19.58	0.24
1.417	0.24	7.500	4.00	13.583	1.65	19.67	0.24
1.500	0.24	7.583	4.00	13.667	1.65	19.75	0.24
1.583	0.24	7.667	4.00	13.750	1.65	19.83	0.24
1.667	0.24	7.750	4.00	13.833	1.65	19.92	0.24
1.750	0.24	7.833	4.00	13.917	1.65	20.00	0.24
1.833	0.24	7.917	4.00	14.000	1.65	20.08	0.24
1.917	0.24	8.000	4.00	14.083	1.65	20.17	0.24
2.000	0.24	8.083	4.00	14.167	1.65	20.25	0.24

2.083	0.24	8.167	4.00	14.250	1.65	20.33	0.24
2.167	0.24	8.250	4.00	14.333	0.94	20.42	0.24
2.250	0.24	8.333	10.81	14.417	0.94	20.50	0.24
2.333	0.24	8.417	10.81	14.500	0.94	20.58	0.24
2.417	0.24	8.500	10.81	14.583	0.94	20.67	0.24
2.500	0.24	8.583	10.81	14.667	0.94	20.75	0.24
2.583	0.24	8.667	10.81	14.750	0.94	20.83	0.24
2.667	0.24	8.750	10.81	14.833	0.94	20.92	0.24
2.750	0.24	8.833	10.81	14.917	0.94	21.00	0.24
2.833	0.24	8.917	10.81	15.000	0.94	21.08	0.24
2.917	0.24	9.000	10.81	15.083	0.94	21.17	0.24
3.000	0.24	9.083	10.81	15.167	0.94	21.25	0.24
3.083	0.24	9.167	10.81	15.250	0.94	21.33	0.24
3.167	0.24	9.250	10.81	15.333	0.94	21.42	0.24
3.250	0.24	9.333	10.81	15.417	0.94	21.50	0.24
3.333	0.24	9.417	10.81	15.500	0.94	21.58	0.24
3.417	0.24	9.500	10.81	15.583	0.94	21.67	0.24
3.500	0.24	9.583	10.81	15.667	0.94	21.75	0.24
3.583	0.24	9.667	10.81	15.750	0.94	21.83	0.24
3.667	0.24	9.750	10.81	15.833	0.94	21.92	0.24
3.750	0.24	9.833	10.81	15.917	0.94	22.00	0.24
3.833	0.24	9.917	10.81	16.000	0.94	22.08	0.24
3.917	0.24	10.000	10.81	16.083	0.94	22.17	0.24
4.000	0.24	10.083	10.81	16.167	0.94	22.25	0.24
4.083	0.24	10.167	10.81	16.250	0.94	22.33	0.24
4.167	0.24	10.250	10.81	16.333	0.47	22.42	0.24
4.250	0.24	10.333	3.06	16.417	0.47	22.50	0.24
4.333	1.41	10.417	3.06	16.500	0.47	22.58	0.24
4.417	1.41	10.500	3.06	16.583	0.47	22.67	0.24
4.500	1.41	10.583	3.06	16.667	0.47	22.75	0.24
4.583	1.41	10.667	3.06	16.750	0.47	22.83	0.24
4.667	1.41	10.750	3.06	16.833	0.47	22.92	0.24
4.750	1.41	10.833	3.06	16.917	0.47	23.00	0.24
4.833	1.41	10.917	3.06	17.000	0.47	23.08	0.24
4.917	1.41	11.000	3.06	17.083	0.47	23.17	0.24
5.000	1.41	11.083	3.06	17.167	0.47	23.25	0.24
5.083	1.41	11.167	3.06	17.250	0.47	23.33	0.24
5.167	1.41	11.250	3.06	17.333	0.47	23.42	0.24
5.250	1.41	11.333	3.06	17.417	0.47	23.50	0.24
5.333	1.41	11.417	3.06	17.500	0.47	23.58	0.24
5.417	1.41	11.500	3.06	17.583	0.47	23.67	0.24
5.500	1.41	11.583	3.06	17.667	0.47	23.75	0.24
5.583	1.41	11.667	3.06	17.750	0.47	23.83	0.24
5.667	1.41	11.750	3.06	17.833	0.47	23.92	0.24
5.750	1.41	11.833	3.06	17.917	0.47	24.00	0.24
5.833	1.41	11.917	3.06	18.000	0.47	24.08	0.24
5.917	1.41	12.000	3.06	18.083	0.47	24.17	0.24
6.000	1.41	12.083	3.06	18.167	0.47	24.25	0.24
6.083	1.41	12.167	3.06	18.250	0.47		

Max.Eff.Inten.(mm/hr)=	10.81	5.80	
over (min)	5.00	30.00	
Storage Coeff. (min)=	6.16 (ii)	28.21 (ii)	
Unit Hyd. Tpeak (min)=	5.00	30.00	
Unit Hyd. peak (cms)=	0.19	0.04	
			TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.039 (iii)
TIME TO PEAK (hrs)=	9.75	10.33	10.25
RUNOFF VOLUME (mm)=	46.08	18.10	40.47
TOTAL RAINFALL (mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT =	0.98	0.38	0.86

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.45	0.039	10.25	40.47
	+ ID2= 2 (0260):	3.22	0.071	10.25	42.21
	ID = 3 (0259):	4.67	0.110	10.25	41.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\c1d06699
Ptotal= 47.08 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	4.00	12.75	1.65	19.00	0.24
0.50	0.24	6.75	4.00	13.00	1.65	19.25	0.24
0.75	0.24	7.00	4.00	13.25	1.65	19.50	0.24
1.00	0.24	7.25	4.00	13.50	1.65	19.75	0.24
1.25	0.24	7.50	4.00	13.75	1.65	20.00	0.24
1.50	0.24	7.75	4.00	14.00	1.65	20.25	0.24
1.75	0.24	8.00	4.00	14.25	1.65	20.50	0.24
2.00	0.24	8.25	4.00	14.50	0.94	20.75	0.24
2.25	0.24	8.50	10.81	14.75	0.94	21.00	0.24
2.50	0.24	8.75	10.81	15.00	0.94	21.25	0.24
2.75	0.24	9.00	10.81	15.25	0.94	21.50	0.24
3.00	0.24	9.25	10.81	15.50	0.94	21.75	0.24
3.25	0.24	9.50	10.81	15.75	0.94	22.00	0.24
3.50	0.24	9.75	10.81	16.00	0.94	22.25	0.24
3.75	0.24	10.00	10.81	16.25	0.94	22.50	0.24
4.00	0.24	10.25	10.81	16.50	0.47	22.75	0.24
4.25	0.24	10.50	3.06	16.75	0.47	23.00	0.24
4.50	1.41	10.75	3.06	17.00	0.47	23.25	0.24
4.75	1.41	11.00	3.06	17.25	0.47	23.50	0.24
5.00	1.41	11.25	3.06	17.50	0.47	23.75	0.24
5.25	1.41	11.50	3.06	17.75	0.47	24.00	0.24
5.50	1.41	11.75	3.06	18.00	0.47	24.25	0.24
5.75	1.41	12.00	3.06	18.25	0.47		
6.00	1.41	12.25	3.06	18.50	0.24		
6.25	1.41	12.50	1.65	18.75	0.24		

CALIB / STANDHYD (0201)	Area (ha)= 5.27
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00

Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.41	12.250	3.06	18.33	0.24
0.167	0.00	6.250	1.41	12.333	1.65	18.42	0.24
0.250	0.00	6.333	4.00	12.417	1.65	18.50	0.24
0.333	0.24	6.417	4.00	12.500	1.65	18.58	0.24
0.417	0.24	6.500	4.00	12.583	1.65	18.67	0.24
0.500	0.24	6.583	4.00	12.667	1.65	18.75	0.24
0.583	0.24	6.667	4.00	12.750	1.65	18.83	0.24
0.667	0.24	6.750	4.00	12.833	1.65	18.92	0.24
0.750	0.24	6.833	4.00	12.917	1.65	19.00	0.24
0.833	0.24	6.917	4.00	13.000	1.65	19.08	0.24
0.917	0.24	7.000	4.00	13.083	1.65	19.17	0.24
1.000	0.24	7.083	4.00	13.167	1.65	19.25	0.24
1.083	0.24	7.167	4.00	13.250	1.65	19.33	0.24
1.167	0.24	7.250	4.00	13.333	1.65	19.42	0.24
1.250	0.24	7.333	4.00	13.417	1.65	19.50	0.24
1.333	0.24	7.417	4.00	13.500	1.65	19.58	0.24
1.417	0.24	7.500	4.00	13.583	1.65	19.67	0.24
1.500	0.24	7.583	4.00	13.667	1.65	19.75	0.24
1.583	0.24	7.667	4.00	13.750	1.65	19.83	0.24
1.667	0.24	7.750	4.00	13.833	1.65	19.92	0.24
1.750	0.24	7.833	4.00	13.917	1.65	20.00	0.24
1.833	0.24	7.917	4.00	14.000	1.65	20.08	0.24
1.917	0.24	8.000	4.00	14.083	1.65	20.17	0.24
2.000	0.24	8.083	4.00	14.167	1.65	20.25	0.24
2.083	0.24	8.167	4.00	14.250	1.65	20.33	0.24
2.167	0.24	8.250	4.00	14.333	0.94	20.42	0.24
2.250	0.24	8.333	10.81	14.417	0.94	20.50	0.24
2.333	0.24	8.417	10.81	14.500	0.94	20.58	0.24
2.417	0.24	8.500	10.81	14.583	0.94	20.67	0.24
2.500	0.24	8.583	10.81	14.667	0.94	20.75	0.24
2.583	0.24	8.667	10.81	14.750	0.94	20.83	0.24
2.667	0.24	8.750	10.81	14.833	0.94	20.92	0.24
2.750	0.24	8.833	10.81	14.917	0.94	21.00	0.24
2.833	0.24	8.917	10.81	15.000	0.94	21.08	0.24
2.917	0.24	9.000	10.81	15.083	0.94	21.17	0.24
3.000	0.24	9.083	10.81	15.167	0.94	21.25	0.24
3.083	0.24	9.167	10.81	15.250	0.94	21.33	0.24
3.167	0.24	9.250	10.81	15.333	0.94	21.42	0.24
3.250	0.24	9.333	10.81	15.417	0.94	21.50	0.24
3.333	0.24	9.417	10.81	15.500	0.94	21.58	0.24
3.417	0.24	9.500	10.81	15.583	0.94	21.67	0.24
3.500	0.24	9.583	10.81	15.667	0.94	21.75	0.24
3.583	0.24	9.667	10.81	15.750	0.94	21.83	0.24
3.667	0.24	9.750	10.81	15.833	0.94	21.92	0.24
3.750	0.24	9.833	10.81	15.917	0.94	22.00	0.24
3.833	0.24	9.917	10.81	16.000	0.94	22.08	0.24
3.917	0.24	10.000	10.81	16.083	0.94	22.17	0.24
4.000	0.24	10.083	10.81	16.167	0.94	22.25	0.24
4.083	0.24	10.167	10.81	16.250	0.94	22.33	0.24
4.167	0.24	10.250	10.81	16.333	0.47	22.42	0.24
4.250	0.24	10.333	3.06	16.417	0.47	22.50	0.24
4.333	1.41	10.417	3.06	16.500	0.47	22.58	0.24
4.417	1.41	10.500	3.06	16.583	0.47	22.67	0.24
4.500	1.41	10.583	3.06	16.667	0.47	22.75	0.24
4.583	1.41	10.667	3.06	16.750	0.47	22.83	0.24
4.667	1.41	10.750	3.06	16.833	0.47	22.92	0.24
4.750	1.41	10.833	3.06	16.917	0.47	23.00	0.24
4.833	1.41	10.917	3.06	17.000	0.47	23.08	0.24
4.917	1.41	11.000	3.06	17.083	0.47	23.17	0.24
5.000	1.41	11.083	3.06	17.167	0.47	23.25	0.24
5.083	1.41	11.167	3.06	17.250	0.47	23.33	0.24
5.167	1.41	11.250	3.06	17.333	0.47	23.42	0.24
5.250	1.41	11.333	3.06	17.417	0.47	23.50	0.24
5.333	1.41	11.417	3.06	17.500	0.47	23.58	0.24
5.417	1.41	11.500	3.06	17.583	0.47	23.67	0.24
5.500	1.41	11.583	3.06	17.667	0.47	23.75	0.24
5.583	1.41	11.667	3.06	17.750	0.47	23.83	0.24
5.667	1.41	11.750	3.06	17.833	0.47	23.92	0.24
5.750	1.41	11.833	3.06	17.917	0.47	24.00	0.24
5.833	1.41	11.917	3.06	18.000	0.47	24.08	0.24
5.917	1.41	12.000	3.06	18.083	0.47	24.17	0.24
6.000	1.41	12.083	3.06	18.167	0.47	24.25	0.24
6.083	1.41	12.167	3.06	18.250	0.47		

Max.Eff.Inten.(mm/hr)=		10.81	5.96	
	over (min)	10.00	15.00	
Storage Coeff. (min)=		9.07 (ii)	11.80 (ii)	
Unit Hyd. Tpeak (min)=		10.00	15.00	
Unit Hyd. peak (cms)=		0.12	0.09	
				TOTALS
PEAK FLOW	(cms)=	0.16	0.00	0.157 (iii)
TIME TO PEAK	(hrs)=	10.25	10.25	10.25
RUNOFF VOLUME	(mm)=	46.08	18.10	45.80
TOTAL RAINFALL	(mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT	=	0.98	0.38	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.157	10.25	45.80
OUTFLOW: ID= 1 (0268)	5.270	0.113	10.42	45.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 71.78
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0604

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\c1d06699
Ptotal= 47.08 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	4.00	12.75	1.65	19.00	0.24
0.50	0.24	6.75	4.00	13.00	1.65	19.25	0.24
0.75	0.24	7.00	4.00	13.25	1.65	19.50	0.24
1.00	0.24	7.25	4.00	13.50	1.65	19.75	0.24
1.25	0.24	7.50	4.00	13.75	1.65	20.00	0.24
1.50	0.24	7.75	4.00	14.00	1.65	20.25	0.24
1.75	0.24	8.00	4.00	14.25	1.65	20.50	0.24
2.00	0.24	8.25	4.00	14.50	0.94	20.75	0.24
2.25	0.24	8.50	10.81	14.75	0.94	21.00	0.24
2.50	0.24	8.75	10.81	15.00	0.94	21.25	0.24
2.75	0.24	9.00	10.81	15.25	0.94	21.50	0.24
3.00	0.24	9.25	10.81	15.50	0.94	21.75	0.24
3.25	0.24	9.50	10.81	15.75	0.94	22.00	0.24
3.50	0.24	9.75	10.81	16.00	0.94	22.25	0.24
3.75	0.24	10.00	10.81	16.25	0.94	22.50	0.24
4.00	0.24	10.25	10.81	16.50	0.47	22.75	0.24
4.25	0.24	10.50	3.06	16.75	0.47	23.00	0.24
4.50	1.41	10.75	3.06	17.00	0.47	23.25	0.24
4.75	1.41	11.00	3.06	17.25	0.47	23.50	0.24
5.00	1.41	11.25	3.06	17.50	0.47	23.75	0.24
5.25	1.41	11.50	3.06	17.75	0.47	24.00	0.24
5.50	1.41	11.75	3.06	18.00	0.47	24.25	0.24
5.75	1.41	12.00	3.06	18.25	0.47		
6.00	1.41	12.25	3.06	18.50	0.24		
6.25	1.41	12.50	1.65	18.75	0.24		

CALIB	
STANDHYD (0202)	Area (ha)= 6.57
ID= 1 DT= 5.0 min	Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.41	12.250	3.06	18.33	0.24
0.167	0.00	6.250	1.41	12.333	1.65	18.42	0.24
0.250	0.00	6.333	4.00	12.417	1.65	18.50	0.24
0.333	0.24	6.417	4.00	12.500	1.65	18.58	0.24
0.417	0.24	6.500	4.00	12.583	1.65	18.67	0.24
0.500	0.24	6.583	4.00	12.667	1.65	18.75	0.24
0.583	0.24	6.667	4.00	12.750	1.65	18.83	0.24
0.667	0.24	6.750	4.00	12.833	1.65	18.92	0.24
0.750	0.24	6.833	4.00	12.917	1.65	19.00	0.24
0.833	0.24	6.917	4.00	13.000	1.65	19.08	0.24
0.917	0.24	7.000	4.00	13.083	1.65	19.17	0.24
1.000	0.24	7.083	4.00	13.167	1.65	19.25	0.24
1.083	0.24	7.167	4.00	13.250	1.65	19.33	0.24
1.167	0.24	7.250	4.00	13.333	1.65	19.42	0.24
1.250	0.24	7.333	4.00	13.417	1.65	19.50	0.24
1.333	0.24	7.417	4.00	13.500	1.65	19.58	0.24
1.417	0.24	7.500	4.00	13.583	1.65	19.67	0.24
1.500	0.24	7.583	4.00	13.667	1.65	19.75	0.24
1.583	0.24	7.667	4.00	13.750	1.65	19.83	0.24
1.667	0.24	7.750	4.00	13.833	1.65	19.92	0.24
1.750	0.24	7.833	4.00	13.917	1.65	20.00	0.24
1.833	0.24	7.917	4.00	14.000	1.65	20.08	0.24
1.917	0.24	8.000	4.00	14.083	1.65	20.17	0.24
2.000	0.24	8.083	4.00	14.167	1.65	20.25	0.24
2.083	0.24	8.167	4.00	14.250	1.65	20.33	0.24
2.167	0.24	8.250	4.00	14.333	0.94	20.42	0.24
2.250	0.24	8.333	10.81	14.417	0.94	20.50	0.24
2.333	0.24	8.417	10.81	14.500	0.94	20.58	0.24
2.417	0.24	8.500	10.81	14.583	0.94	20.67	0.24
2.500	0.24	8.583	10.81	14.667	0.94	20.75	0.24
2.583	0.24	8.667	10.81	14.750	0.94	20.83	0.24
2.667	0.24	8.750	10.81	14.833	0.94	20.92	0.24
2.750	0.24	8.833	10.81	14.917	0.94	21.00	0.24
2.833	0.24	8.917	10.81	15.000	0.94	21.08	0.24
2.917	0.24	9.000	10.81	15.083	0.94	21.17	0.24
3.000	0.24	9.083	10.81	15.167	0.94	21.25	0.24
3.083	0.24	9.167	10.81	15.250	0.94	21.33	0.24
3.167	0.24	9.250	10.81	15.333	0.94	21.42	0.24
3.250	0.24	9.333	10.81	15.417	0.94	21.50	0.24
3.333	0.24	9.417	10.81	15.500	0.94	21.58	0.24
3.417	0.24	9.500	10.81	15.583	0.94	21.67	0.24
3.500	0.24	9.583	10.81	15.667	0.94	21.75	0.24
3.583	0.24	9.667	10.81	15.750	0.94	21.83	0.24
3.667	0.24	9.750	10.81	15.833	0.94	21.92	0.24
3.750	0.24	9.833	10.81	15.917	0.94	22.00	0.24
3.833	0.24	9.917	10.81	16.000	0.94	22.08	0.24
3.917	0.24	10.000	10.81	16.083	0.94	22.17	0.24
4.000	0.24	10.083	10.81	16.167	0.94	22.25	0.24
4.083	0.24	10.167	10.81	16.250	0.94	22.33	0.24
4.167	0.24	10.250	10.81	16.333	0.47	22.42	0.24
4.250	0.24	10.333	3.06	16.417	0.47	22.50	0.24
4.333	1.41	10.417	3.06	16.500	0.47	22.58	0.24
4.417	1.41	10.500	3.06	16.583	0.47	22.67	0.24
4.500	1.41	10.583	3.06	16.667	0.47	22.75	0.24
4.583	1.41	10.667	3.06	16.750	0.47	22.83	0.24
4.667	1.41	10.750	3.06	16.833	0.47	22.92	0.24
4.750	1.41	10.833	3.06	16.917	0.47	23.00	0.24
4.833	1.41	10.917	3.06	17.000	0.47	23.08	0.24
4.917	1.41	11.000	3.06	17.083	0.47	23.17	0.24
5.000	1.41	11.083	3.06	17.167	0.47	23.25	0.24
5.083	1.41	11.167	3.06	17.250	0.47	23.33	0.24
5.167	1.41	11.250	3.06	17.333	0.47	23.42	0.24
5.250	1.41	11.333	3.06	17.417	0.47	23.50	0.24
5.333	1.41	11.417	3.06	17.500	0.47	23.58	0.24
5.417	1.41	11.500	3.06	17.583	0.47	23.67	0.24
5.500	1.41	11.583	3.06	17.667	0.47	23.75	0.24
5.583	1.41	11.667	3.06	17.750	0.47	23.83	0.24
5.667	1.41	11.750	3.06	17.833	0.47	23.92	0.24
5.750	1.41	11.833	3.06	17.917	0.47	24.00	0.24
5.833	1.41	11.917	3.06	18.000	0.47	24.08	0.24
5.917	1.41	12.000	3.06	18.083	0.47	24.17	0.24
6.000	1.41	12.083	3.06	18.167	0.47	24.25	0.24
6.083	1.41	12.167	3.06	18.250	0.47		

Max.Eff.Inten.(mm/hr)=		10.81	5.80
	over (min)	10.00	35.00
Storage Coeff. (min)=		9.69 (ii)	31.74 (ii)
Unit Hyd. Tpeak (min)=		10.00	35.00
Unit Hyd. peak (cms)=		0.11	0.03

```
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.16         0.02          0.176 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.42          10.25
     RUNOFF VOLUME    (mm)=      46.08        18.10          40.76
     TOTAL RAINFALL   (mm)=      47.08        47.08          47.08
     RUNOFF COEFFICIENT   =       0.98         0.38           0.87


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   0.176    10.25    40.76
     + ID2= 2 (  0268):     5.27   0.113    10.42    45.78
       ================================================
       ID = 3 (  0262):    11.84   0.289    10.25    43.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.110    10.25    41.67
     + ID2= 2 (  0262):    11.84   0.289    10.25    43.00
       ================================================
       ID = 3 (  0266):    16.51   0.399    10.25    42.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2130      0.6563
                         0.0190     0.1773   |   0.2520      0.6883
                         0.0220     0.2128   |   0.2890      0.7150
                         0.0260     0.2888   |   0.2980      0.7450
                         0.0300     0.3648   |   0.3060      0.7700
                         0.0650     0.4586   |   0.3150      0.8127
                         0.1100     0.5155   |   0.3320      0.9290
                         0.1680     0.5503   |   0.3390      0.9767
                         0.1930     0.5804   |   0.3520      1.0680
                         0.2000     0.6048   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)    16.510     0.399     10.25      42.62
   OUTFLOW: ID= 1 (  0263)    16.510     0.086     14.25      42.48

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.54
                  TIME SHIFT OF PEAK FLOW         (min)=240.00

                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4850

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.002    10.25    18.08
     + ID2= 2 (  0263):    16.51   0.086    14.25    42.48
       ================================================
       ID = 3 (  0261):    16.64   0.086    14.25    42.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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       V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\61e07864-22a5-4338-85cf-b82e1abf1f36\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\61e07864-22a5-4338-85cf-b82e1abf1f36\s


DATE: 07/06/2020                          TIME: 04:38:42

USER:



COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
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  ********************************************
  ** SIMULATION : 25 Year 24 Hour AES        **
  ********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\6ffa8b7e
```

| Ptotal= 79.70 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	6.77	12.75	2.79	19.00	0.40
0.50	0.40	6.75	6.77	13.00	2.79	19.25	0.40
0.75	0.40	7.00	6.77	13.25	2.79	19.50	0.40
1.00	0.40	7.25	6.77	13.50	2.79	19.75	0.40
1.25	0.40	7.50	6.77	13.75	2.79	20.00	0.40
1.50	0.40	7.75	6.77	14.00	2.79	20.25	0.40
1.75	0.40	8.00	6.77	14.25	2.79	20.50	0.40
2.00	0.40	8.25	6.77	14.50	1.59	20.75	0.40
2.25	0.40	8.50	18.33	14.75	1.59	21.00	0.40
2.50	0.40	8.75	18.33	15.00	1.59	21.25	0.40
2.75	0.40	9.00	18.33	15.25	1.59	21.50	0.40
3.00	0.40	9.25	18.33	15.50	1.59	21.75	0.40
3.25	0.40	9.50	18.33	15.75	1.59	22.00	0.40
3.50	0.40	9.75	18.33	16.00	1.59	22.25	0.40
3.75	0.40	10.00	18.33	16.25	1.59	22.50	0.40
4.00	0.40	10.25	18.33	16.50	0.80	22.75	0.40
4.25	0.40	10.50	5.18	16.75	0.80	23.00	0.40
4.50	2.39	10.75	5.18	17.00	0.80	23.25	0.40
4.75	2.39	11.00	5.18	17.25	0.80	23.50	0.40
5.00	2.39	11.25	5.18	17.50	0.80	23.75	0.40
5.25	2.39	11.50	5.18	17.75	0.80	24.00	0.40
5.50	2.39	11.75	5.18	18.00	0.80	24.25	0.40
5.75	2.39	12.00	5.18	18.25	0.80		
6.00	2.39	12.25	5.18	18.50	0.40		
6.25	2.39	12.50	2.79	18.75	0.40		

CALIB	NASHYD (0206)	ID= 1 DT= 5.0 min

Area (ha)= 0.12 Curve Number (CN)= 82.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.25

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.39	12.250	5.18	18.33	0.40
0.167	0.00	6.250	2.39	12.333	2.79	18.42	0.40
0.250	0.00	6.333	6.77	12.417	2.79	18.50	0.40
0.333	0.40	6.417	6.77	12.500	2.79	18.58	0.40
0.417	0.40	6.500	6.77	12.583	2.79	18.67	0.40
0.500	0.40	6.583	6.77	12.667	2.79	18.75	0.40
0.583	0.40	6.667	6.77	12.750	2.79	18.83	0.40
0.667	0.40	6.750	6.77	12.833	2.79	18.92	0.40
0.750	0.40	6.833	6.77	12.917	2.79	19.00	0.40
0.833	0.40	6.917	6.77	13.000	2.79	19.08	0.40
0.917	0.40	7.000	6.77	13.083	2.79	19.17	0.40
1.000	0.40	7.083	6.77	13.167	2.79	19.25	0.40
1.083	0.40	7.167	6.77	13.250	2.79	19.33	0.40
1.167	0.40	7.250	6.77	13.333	2.79	19.42	0.40
1.250	0.40	7.333	6.77	13.417	2.79	19.50	0.40
1.333	0.40	7.417	6.77	13.500	2.79	19.58	0.40
1.417	0.40	7.500	6.77	13.583	2.79	19.67	0.40
1.500	0.40	7.583	6.77	13.667	2.79	19.75	0.40
1.583	0.40	7.667	6.77	13.750	2.79	19.83	0.40
1.667	0.40	7.750	6.77	13.833	2.79	19.92	0.40
1.750	0.40	7.833	6.77	13.917	2.79	20.00	0.40
1.833	0.40	7.917	6.77	14.000	2.79	20.08	0.40
1.917	0.40	8.000	6.77	14.083	2.79	20.17	0.40
2.000	0.40	8.083	6.77	14.167	2.79	20.25	0.40
2.083	0.40	8.167	6.77	14.250	2.79	20.33	0.40
2.167	0.40	8.250	6.77	14.333	1.59	20.42	0.40
2.250	0.40	8.333	18.33	14.417	1.59	20.50	0.40
2.333	0.40	8.417	18.33	14.500	1.59	20.58	0.40
2.417	0.40	8.500	18.33	14.583	1.59	20.67	0.40
2.500	0.40	8.583	18.33	14.667	1.59	20.75	0.40
2.583	0.40	8.667	18.33	14.750	1.59	20.83	0.40
2.667	0.40	8.750	18.33	14.833	1.59	20.92	0.40
2.750	0.40	8.833	18.33	14.917	1.59	21.00	0.40
2.833	0.40	8.917	18.33	15.000	1.59	21.08	0.40
2.917	0.40	9.000	18.33	15.083	1.59	21.17	0.40
3.000	0.40	9.083	18.33	15.167	1.59	21.25	0.40
3.083	0.40	9.167	18.33	15.250	1.59	21.33	0.40
3.167	0.40	9.250	18.33	15.333	1.59	21.42	0.40
3.250	0.40	9.333	18.33	15.417	1.59	21.50	0.40
3.333	0.40	9.417	18.33	15.500	1.59	21.58	0.40
3.417	0.40	9.500	18.33	15.583	1.59	21.67	0.40
3.500	0.40	9.583	18.33	15.667	1.59	21.75	0.40
3.583	0.40	9.667	18.33	15.750	1.59	21.83	0.40
3.667	0.40	9.750	18.33	15.833	1.59	21.92	0.40
3.750	0.40	9.833	18.33	15.917	1.59	22.00	0.40
3.833	0.40	9.917	18.33	16.000	1.59	22.08	0.40
3.917	0.40	10.000	18.33	16.083	1.59	22.17	0.40
4.000	0.40	10.083	18.33	16.167	1.59	22.25	0.40
4.083	0.40	10.167	18.33	16.250	1.59	22.33	0.40
4.167	0.40	10.250	18.33	16.333	0.80	22.42	0.40
4.250	0.40	10.333	5.18	16.417	0.80	22.50	0.40
4.333	2.39	10.417	5.18	16.500	0.80	22.58	0.40
4.417	2.39	10.500	5.18	16.583	0.80	22.67	0.40
4.500	2.39	10.583	5.18	16.667	0.80	22.75	0.40
4.583	2.39	10.667	5.18	16.750	0.80	22.83	0.40
4.667	2.39	10.750	5.18	16.833	0.80	22.92	0.40
4.750	2.39	10.833	5.18	16.917	0.80	23.00	0.40
4.833	2.39	10.917	5.18	17.000	0.80	23.08	0.40
4.917	2.39	11.000	5.18	17.083	0.80	23.17	0.40
5.000	2.39	11.083	5.18	17.167	0.80	23.25	0.40
5.083	2.39	11.167	5.18	17.250	0.80	23.33	0.40
5.167	2.39	11.250	5.18	17.333	0.80	23.42	0.40
5.250	2.39	11.333	5.18	17.417	0.80	23.50	0.40
5.333	2.39	11.417	5.18	17.500	0.80	23.58	0.40
5.417	2.39	11.500	5.18	17.583	0.80	23.67	0.40
5.500	2.39	11.583	5.18	17.667	0.80	23.75	0.40
5.583	2.39	11.667	5.18	17.750	0.80	23.83	0.40
5.667	2.39	11.750	5.18	17.833	0.80	23.92	0.40
5.750	2.39	11.833	5.18	17.917	0.80	24.00	0.40
5.833	2.39	11.917	5.18	18.000	0.80	24.08	0.40
5.917	2.39	12.000	5.18	18.083	0.80	24.17	0.40
6.000	2.39	12.083	5.18	18.167	0.80	24.25	0.40
6.083	2.39	12.167	5.18	18.250	0.80		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.004 (i)
TIME TO PEAK (hrs)= 10.250
RUNOFF VOLUME (mm)= 42.733
TOTAL RAINFALL (mm)= 79.700
RUNOFF COEFFICIENT = 0.536

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\6ffa8b7e
| Ptotal= 79.70 mm |    Comments:
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	6.77	12.75	2.79	19.00	0.40
0.50	0.40	6.75	6.77	13.00	2.79	19.25	0.40
0.75	0.40	7.00	6.77	13.25	2.79	19.50	0.40
1.00	0.40	7.25	6.77	13.50	2.79	19.75	0.40
1.25	0.40	7.50	6.77	13.75	2.79	20.00	0.40
1.50	0.40	7.75	6.77	14.00	2.79	20.25	0.40
1.75	0.40	8.00	6.77	14.25	2.79	20.50	0.40
2.00	0.40	8.25	6.77	14.50	1.59	20.75	0.40
2.25	0.40	8.50	18.33	14.75	1.59	21.00	0.40
2.50	0.40	8.75	18.33	15.00	1.59	21.25	0.40
2.75	0.40	9.00	18.33	15.25	1.59	21.50	0.40
3.00	0.40	9.25	18.33	15.50	1.59	21.75	0.40
3.25	0.40	9.50	18.33	15.75	1.59	22.00	0.40
3.50	0.40	9.75	18.33	16.00	1.59	22.25	0.40
3.75	0.40	10.00	18.33	16.25	1.59	22.50	0.40
4.00	0.40	10.25	18.33	16.50	0.80	22.75	0.40
4.25	0.40	10.50	5.18	16.75	0.80	23.00	0.40
4.50	2.39	10.75	5.18	17.00	0.80	23.25	0.40
4.75	2.39	11.00	5.18	17.25	0.80	23.50	0.40
5.00	2.39	11.25	5.18	17.50	0.80	23.75	0.40
5.25	2.39	11.50	5.18	17.75	0.80	24.00	0.40
5.50	2.39	11.75	5.18	18.00	0.80	24.25	0.40
5.75	2.39	12.00	5.18	18.25	0.80		
6.00	2.39	12.25	5.18	18.50	0.40		
6.25	2.39	12.50	2.79	18.75	0.40		

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| CALIB            |
| STANDHYD (  0205)|   Area    (ha)=   1.12
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

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        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.39	12.250	5.18	18.33	0.40
0.167	0.00	6.250	2.39	12.333	2.79	18.42	0.40
0.250	0.00	6.333	6.77	12.417	2.79	18.50	0.40
0.333	0.40	6.417	6.77	12.500	2.79	18.58	0.40
0.417	0.40	6.500	6.77	12.583	2.79	18.67	0.40
0.500	0.40	6.583	6.77	12.667	2.79	18.75	0.40
0.583	0.40	6.667	6.77	12.750	2.79	18.83	0.40
0.667	0.40	6.750	6.77	12.833	2.79	18.92	0.40
0.750	0.40	6.833	6.77	12.917	2.79	19.00	0.40
0.833	0.40	6.917	6.77	13.000	2.79	19.08	0.40
0.917	0.40	7.000	6.77	13.083	2.79	19.17	0.40
1.000	0.40	7.083	6.77	13.167	2.79	19.25	0.40
1.083	0.40	7.167	6.77	13.250	2.79	19.33	0.40
1.167	0.40	7.250	6.77	13.333	2.79	19.42	0.40
1.250	0.40	7.333	6.77	13.417	2.79	19.50	0.40
1.333	0.40	7.417	6.77	13.500	2.79	19.58	0.40
1.417	0.40	7.500	6.77	13.583	2.79	19.67	0.40
1.500	0.40	7.583	6.77	13.667	2.79	19.75	0.40
1.583	0.40	7.667	6.77	13.750	2.79	19.83	0.40
1.667	0.40	7.750	6.77	13.833	2.79	19.92	0.40
1.750	0.40	7.833	6.77	13.917	2.79	20.00	0.40
1.833	0.40	7.917	6.77	14.000	2.79	20.08	0.40
1.917	0.40	8.000	6.77	14.083	2.79	20.17	0.40
2.000	0.40	8.083	6.77	14.167	2.79	20.25	0.40
2.083	0.40	8.167	6.77	14.250	2.79	20.33	0.40
2.167	0.40	8.250	6.77	14.333	1.59	20.42	0.40
2.250	0.40	8.333	18.33	14.417	1.59	20.50	0.40
2.333	0.40	8.417	18.33	14.500	1.59	20.58	0.40
2.417	0.40	8.500	18.33	14.583	1.59	20.67	0.40
2.500	0.40	8.583	18.33	14.667	1.59	20.75	0.40
2.583	0.40	8.667	18.33	14.750	1.59	20.83	0.40
2.667	0.40	8.750	18.33	14.833	1.59	20.92	0.40
2.750	0.40	8.833	18.33	14.917	1.59	21.00	0.40
2.833	0.40	8.917	18.33	15.000	1.59	21.08	0.40
2.917	0.40	9.000	18.33	15.083	1.59	21.17	0.40
3.000	0.40	9.083	18.33	15.167	1.59	21.25	0.40
3.083	0.40	9.167	18.33	15.250	1.59	21.33	0.40
3.167	0.40	9.250	18.33	15.333	1.59	21.42	0.40
3.250	0.40	9.333	18.33	15.417	1.59	21.50	0.40
3.333	0.40	9.417	18.33	15.500	1.59	21.58	0.40
3.417	0.40	9.500	18.33	15.583	1.59	21.67	0.40
3.500	0.40	9.583	18.33	15.667	1.59	21.75	0.40
3.583	0.40	9.667	18.33	15.750	1.59	21.83	0.40
3.667	0.40	9.750	18.33	15.833	1.59	21.92	0.40
3.750	0.40	9.833	18.33	15.917	1.59	22.00	0.40
3.833	0.40	9.917	18.33	16.000	1.59	22.08	0.40
3.917	0.40	10.000	18.33	16.083	1.59	22.17	0.40
4.000	0.40	10.083	18.33	16.167	1.59	22.25	0.40
4.083	0.40	10.167	18.33	16.250	1.59	22.33	0.40
4.167	0.40	10.250	18.33	16.333	0.80	22.42	0.40
4.250	0.40	10.333	5.18	16.417	0.80	22.50	0.40
4.333	2.39	10.417	5.18	16.500	0.80	22.58	0.40
4.417	2.39	10.500	5.18	16.583	0.80	22.67	0.40
4.500	2.39	10.583	5.18	16.667	0.80	22.75	0.40
4.583	2.39	10.667	5.18	16.750	0.80	22.83	0.40
4.667	2.39	10.750	5.18	16.833	0.80	22.92	0.40
4.750	2.39	10.833	5.18	16.917	0.80	23.00	0.40
4.833	2.39	10.917	5.18	17.000	0.80	23.08	0.40
4.917	2.39	11.000	5.18	17.083	0.80	23.17	0.40
5.000	2.39	11.083	5.18	17.167	0.80	23.25	0.40
5.083	2.39	11.167	5.18	17.250	0.80	23.33	0.40
5.167	2.39	11.250	5.18	17.333	0.80	23.42	0.40
5.250	2.39	11.333	5.18	17.417	0.80	23.50	0.40
5.333	2.39	11.417	5.18	17.500	0.80	23.58	0.40
5.417	2.39	11.500	5.18	17.583	0.80	23.67	0.40
5.500	2.39	11.583	5.18	17.667	0.80	23.75	0.40
5.583	2.39	11.667	5.18	17.750	0.80	23.83	0.40
5.667	2.39	11.750	5.18	17.833	0.80	23.92	0.40
5.750	2.39	11.833	5.18	17.917	0.80	24.00	0.40
5.833	2.39	11.917	5.18	18.000	0.80	24.08	0.40
5.917	2.39	12.000	5.18	18.083	0.80	24.17	0.40
6.000	2.39	12.083	5.18	18.167	0.80	24.25	0.40

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               6.083    2.39 |12.167    5.18 |18.250    0.80 |

     Max.Eff.Inten.(mm/hr)=      18.33        13.24
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       4.62 (ii)    6.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.22         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.00          0.057 (iii)
     TIME TO PEAK    (hrs)=       9.50        10.25          10.25
     RUNOFF VOLUME    (mm)=      78.70        42.77          78.34
     TOTAL RAINFALL   (mm)=      79.70        79.70          79.70
     RUNOFF COEFFICIENT   =       0.99         0.54           0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0256)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0470      0.0750

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0205)     1.125      0.057     10.25      78.34
   OUTFLOW: ID= 1 (  0256)     1.125      0.026     10.33      77.98

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.37
                 TIME SHIFT OF PEAK FLOW         (min)=  5.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0423

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\6ffa8b7e
| Ptotal= 79.70 mm |    Comments:
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	6.77	12.75	2.79	19.00	0.40
0.50	0.40	6.75	6.77	13.00	2.79	19.25	0.40
0.75	0.40	7.00	6.77	13.25	2.79	19.50	0.40
1.00	0.40	7.25	6.77	13.50	2.79	19.75	0.40
1.25	0.40	7.50	6.77	13.75	2.79	20.00	0.40
1.50	0.40	7.75	6.77	14.00	2.79	20.25	0.40
1.75	0.40	8.00	6.77	14.25	2.79	20.50	0.40
2.00	0.40	8.25	6.77	14.50	1.59	20.75	0.40
2.25	0.40	8.50	18.33	14.75	1.59	21.00	0.40
2.50	0.40	8.75	18.33	15.00	1.59	21.25	0.40
2.75	0.40	9.00	18.33	15.25	1.59	21.50	0.40
3.00	0.40	9.25	18.33	15.50	1.59	21.75	0.40
3.25	0.40	9.50	18.33	15.75	1.59	22.00	0.40
3.50	0.40	9.75	18.33	16.00	1.59	22.25	0.40
3.75	0.40	10.00	18.33	16.25	1.59	22.50	0.40
4.00	0.40	10.25	18.33	16.50	0.80	22.75	0.40
4.25	0.40	10.50	5.18	16.75	0.80	23.00	0.40
4.50	2.39	10.75	5.18	17.00	0.80	23.25	0.40
4.75	2.39	11.00	5.18	17.25	0.80	23.50	0.40
5.00	2.39	11.25	5.18	17.50	0.80	23.75	0.40
5.25	2.39	11.50	5.18	17.75	0.80	24.00	0.40
5.50	2.39	11.75	5.18	18.00	0.80	24.25	0.40
5.75	2.39	12.00	5.18	18.25	0.80		
6.00	2.39	12.25	5.18	18.50	0.40		
6.25	2.39	12.50	2.79	18.75	0.40		

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| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
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                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68          0.42
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     118.18         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.39	12.250	5.18	18.33	0.40
0.167	0.00	6.250	2.39	12.333	2.79	18.42	0.40
0.250	0.00	6.333	6.77	12.417	2.79	18.50	0.40
0.333	0.40	6.417	6.77	12.500	2.79	18.58	0.40
0.417	0.40	6.500	6.77	12.583	2.79	18.67	0.40
0.500	0.40	6.583	6.77	12.667	2.79	18.75	0.40
0.583	0.40	6.667	6.77	12.750	2.79	18.83	0.40
0.667	0.40	6.750	6.77	12.833	2.79	18.92	0.40
0.750	0.40	6.833	6.77	12.917	2.79	19.00	0.40
0.833	0.40	6.917	6.77	13.000	2.79	19.08	0.40
0.917	0.40	7.000	6.77	13.083	2.79	19.17	0.40
1.000	0.40	7.083	6.77	13.167	2.79	19.25	0.40
1.083	0.40	7.167	6.77	13.250	2.79	19.33	0.40
1.167	0.40	7.250	6.77	13.333	2.79	19.42	0.40
1.250	0.40	7.333	6.77	13.417	2.79	19.50	0.40
1.333	0.40	7.417	6.77	13.500	2.79	19.58	0.40
1.417	0.40	7.500	6.77	13.583	2.79	19.67	0.40
1.500	0.40	7.583	6.77	13.667	2.79	19.75	0.40
1.583	0.40	7.667	6.77	13.750	2.79	19.83	0.40
1.667	0.40	7.750	6.77	13.833	2.79	19.92	0.40
1.750	0.40	7.833	6.77	13.917	2.79	20.00	0.40
1.833	0.40	7.917	6.77	14.000	2.79	20.08	0.40
1.917	0.40	8.000	6.77	14.083	2.79	20.17	0.40
2.000	0.40	8.083	6.77	14.167	2.79	20.25	0.40
2.083	0.40	8.167	6.77	14.250	2.79	20.33	0.40
2.167	0.40	8.250	6.77	14.333	1.59	20.42	0.40
2.250	0.40	8.333	18.33	14.417	1.59	20.50	0.40
2.333	0.40	8.417	18.33	14.500	1.59	20.58	0.40
2.417	0.40	8.500	18.33	14.583	1.59	20.67	0.40
2.500	0.40	8.583	18.33	14.667	1.59	20.75	0.40
2.583	0.40	8.667	18.33	14.750	1.59	20.83	0.40
2.667	0.40	8.750	18.33	14.833	1.59	20.92	0.40
2.750	0.40	8.833	18.33	14.917	1.59	21.00	0.40

2.833	0.40	8.917	18.33	15.000	1.59	21.08	0.40
2.917	0.40	9.000	18.33	15.083	1.59	21.17	0.40
3.000	0.40	9.083	18.33	15.167	1.59	21.25	0.40
3.083	0.40	9.167	18.33	15.250	1.59	21.33	0.40
3.167	0.40	9.250	18.33	15.333	1.59	21.42	0.40
3.250	0.40	9.333	18.33	15.417	1.59	21.50	0.40
3.333	0.40	9.417	18.33	15.500	1.59	21.58	0.40
3.417	0.40	9.500	18.33	15.583	1.59	21.67	0.40
3.500	0.40	9.583	18.33	15.667	1.59	21.75	0.40
3.583	0.40	9.667	18.33	15.750	1.59	21.83	0.40
3.667	0.40	9.750	18.33	15.833	1.59	21.92	0.40
3.750	0.40	9.833	18.33	15.917	1.59	22.00	0.40
3.833	0.40	9.917	18.33	16.000	1.59	22.08	0.40
3.917	0.40	10.000	18.33	16.083	1.59	22.17	0.40
4.000	0.40	10.083	18.33	16.167	1.59	22.25	0.40
4.083	0.40	10.167	18.33	16.250	1.59	22.33	0.40
4.167	0.40	10.250	18.33	16.333	0.80	22.42	0.40
4.250	0.40	10.333	5.18	16.417	0.80	22.50	0.40
4.333	2.39	10.417	5.18	16.500	0.80	22.58	0.40
4.417	2.39	10.500	5.18	16.583	0.80	22.67	0.40
4.500	2.39	10.583	5.18	16.667	0.80	22.75	0.40
4.583	2.39	10.667	5.18	16.750	0.80	22.83	0.40
4.667	2.39	10.750	5.18	16.833	0.80	22.92	0.40
4.750	2.39	10.833	5.18	16.917	0.80	23.00	0.40
4.833	2.39	10.917	5.18	17.000	0.80	23.08	0.40
4.917	2.39	11.000	5.18	17.083	0.80	23.17	0.40
5.000	2.39	11.083	5.18	17.167	0.80	23.25	0.40
5.083	2.39	11.167	5.18	17.250	0.80	23.33	0.40
5.167	2.39	11.250	5.18	17.333	0.80	23.42	0.40
5.250	2.39	11.333	5.18	17.417	0.80	23.50	0.40
5.333	2.39	11.417	5.18	17.500	0.80	23.58	0.40
5.417	2.39	11.500	5.18	17.583	0.80	23.67	0.40
5.500	2.39	11.583	5.18	17.667	0.80	23.75	0.40
5.583	2.39	11.667	5.18	17.750	0.80	23.83	0.40
5.667	2.39	11.750	5.18	17.833	0.80	23.92	0.40
5.750	2.39	11.833	5.18	17.917	0.80	24.00	0.40
5.833	2.39	11.917	5.18	18.000	0.80	24.08	0.40
5.917	2.39	12.000	5.18	18.083	0.80	24.17	0.40
6.000	2.39	12.083	5.18	18.167	0.80	24.25	0.40
6.083	2.39	12.167	5.18	18.250	0.80		

Max.Eff.Inten.(mm/hr)=	18.33	13.09	
over (min)	5.00	25.00	
Storage Coeff. (min)=	5.57 (ii)	21.49 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.20	0.05	
			TOTALS
PEAK FLOW (cms)=	0.09	0.01	0.100 (iii)
TIME TO PEAK (hrs)=	9.50	10.25	10.25
RUNOFF VOLUME (mm)=	78.70	42.77	71.51
TOTAL RAINFALL (mm)=	79.70	79.70	79.70
RUNOFF COEFFICIENT =	0.99	0.54	0.90

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0260)	

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0203):	2.10	0.100	10.25	71.51
+ ID2= 2 (0256):	1.12	0.026	10.33	77.98
ID = 3 (0260):	3.22	0.126	10.25	73.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\6ffa8b7e
Ptotal= 79.70 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	6.77	12.75	2.79	19.00	0.40
0.50	0.40	6.75	6.77	13.00	2.79	19.25	0.40
0.75	0.40	7.00	6.77	13.25	2.79	19.50	0.40
1.00	0.40	7.25	6.77	13.50	2.79	19.75	0.40
1.25	0.40	7.50	6.77	13.75	2.79	20.00	0.40
1.50	0.40	7.75	6.77	14.00	2.79	20.25	0.40
1.75	0.40	8.00	6.77	14.25	2.79	20.50	0.40
2.00	0.40	8.25	6.77	14.50	1.59	20.75	0.40
2.25	0.40	8.50	18.33	14.75	1.59	21.00	0.40
2.50	0.40	8.75	18.33	15.00	1.59	21.25	0.40
2.75	0.40	9.00	18.33	15.25	1.59	21.50	0.40
3.00	0.40	9.25	18.33	15.50	1.59	21.75	0.40
3.25	0.40	9.50	18.33	15.75	1.59	22.00	0.40
3.50	0.40	9.75	18.33	16.00	1.59	22.25	0.40
3.75	0.40	10.00	18.33	16.25	1.59	22.50	0.40
4.00	0.40	10.25	18.33	16.50	0.80	22.75	0.40
4.25	0.40	10.50	5.18	16.75	0.80	23.00	0.40
4.50	2.39	10.75	5.18	17.00	0.80	23.25	0.40
4.75	2.39	11.00	5.18	17.25	0.80	23.50	0.40
5.00	2.39	11.25	5.18	17.50	0.80	23.75	0.40
5.25	2.39	11.50	5.18	17.75	0.80	24.00	0.40
5.50	2.39	11.75	5.18	18.00	0.80	24.25	0.40
5.75	2.39	12.00	5.18	18.25	0.80		
6.00	2.39	12.25	5.18	18.50	0.40		
6.25	2.39	12.50	2.79	18.75	0.40		

CALIB	
STANDHYD (0204)	Area (ha)= 1.45
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	2.39	12.250	5.18	18.33	0.40
0.167	0.00	6.250	2.39	12.333	2.79	18.42	0.40
0.250	0.00	6.333	6.77	12.417	2.79	18.50	0.40
0.333	0.40	6.417	6.77	12.500	2.79	18.58	0.40
0.417	0.40	6.500	6.77	12.583	2.79	18.67	0.40
0.500	0.40	6.583	6.77	12.667	2.79	18.75	0.40
0.583	0.40	6.667	6.77	12.750	2.79	18.83	0.40
0.667	0.40	6.750	6.77	12.833	2.79	18.92	0.40
0.750	0.40	6.833	6.77	12.917	2.79	19.00	0.40
0.833	0.40	6.917	6.77	13.000	2.79	19.08	0.40
0.917	0.40	7.000	6.77	13.083	2.79	19.17	0.40
1.000	0.40	7.083	6.77	13.167	2.79	19.25	0.40
1.083	0.40	7.167	6.77	13.250	2.79	19.33	0.40
1.167	0.40	7.250	6.77	13.333	2.79	19.42	0.40
1.250	0.40	7.333	6.77	13.417	2.79	19.50	0.40
1.333	0.40	7.417	6.77	13.500	2.79	19.58	0.40
1.417	0.40	7.500	6.77	13.583	2.79	19.67	0.40
1.500	0.40	7.583	6.77	13.667	2.79	19.75	0.40
1.583	0.40	7.667	6.77	13.750	2.79	19.83	0.40
1.667	0.40	7.750	6.77	13.833	2.79	19.92	0.40
1.750	0.40	7.833	6.77	13.917	2.79	20.00	0.40
1.833	0.40	7.917	6.77	14.000	2.79	20.08	0.40
1.917	0.40	8.000	6.77	14.083	2.79	20.17	0.40
2.000	0.40	8.083	6.77	14.167	2.79	20.25	0.40
2.083	0.40	8.167	6.77	14.250	2.79	20.33	0.40
2.167	0.40	8.250	6.77	14.333	1.59	20.42	0.40
2.250	0.40	8.333	18.33	14.417	1.59	20.50	0.40
2.333	0.40	8.417	18.33	14.500	1.59	20.58	0.40
2.417	0.40	8.500	18.33	14.583	1.59	20.67	0.40
2.500	0.40	8.583	18.33	14.667	1.59	20.75	0.40
2.583	0.40	8.667	18.33	14.750	1.59	20.83	0.40
2.667	0.40	8.750	18.33	14.833	1.59	20.92	0.40
2.750	0.40	8.833	18.33	14.917	1.59	21.00	0.40
2.833	0.40	8.917	18.33	15.000	1.59	21.08	0.40
2.917	0.40	9.000	18.33	15.083	1.59	21.17	0.40
3.000	0.40	9.083	18.33	15.167	1.59	21.25	0.40
3.083	0.40	9.167	18.33	15.250	1.59	21.33	0.40
3.167	0.40	9.250	18.33	15.333	1.59	21.42	0.40
3.250	0.40	9.333	18.33	15.417	1.59	21.50	0.40
3.333	0.40	9.417	18.33	15.500	1.59	21.58	0.40
3.417	0.40	9.500	18.33	15.583	1.59	21.67	0.40
3.500	0.40	9.583	18.33	15.667	1.59	21.75	0.40
3.583	0.40	9.667	18.33	15.750	1.59	21.83	0.40
3.667	0.40	9.750	18.33	15.833	1.59	21.92	0.40
3.750	0.40	9.833	18.33	15.917	1.59	22.00	0.40
3.833	0.40	9.917	18.33	16.000	1.59	22.08	0.40
3.917	0.40	10.000	18.33	16.083	1.59	22.17	0.40
4.000	0.40	10.083	18.33	16.167	1.59	22.25	0.40
4.083	0.40	10.167	18.33	16.250	1.59	22.33	0.40
4.167	0.40	10.250	18.33	16.333	0.80	22.42	0.40
4.250	0.40	10.333	5.18	16.417	0.80	22.50	0.40
4.333	2.39	10.417	5.18	16.500	0.80	22.58	0.40
4.417	2.39	10.500	5.18	16.583	0.80	22.67	0.40
4.500	2.39	10.583	5.18	16.667	0.80	22.75	0.40
4.583	2.39	10.667	5.18	16.750	0.80	22.83	0.40
4.667	2.39	10.750	5.18	16.833	0.80	22.92	0.40
4.750	2.39	10.833	5.18	16.917	0.80	23.00	0.40
4.833	2.39	10.917	5.18	17.000	0.80	23.08	0.40
4.917	2.39	11.000	5.18	17.083	0.80	23.17	0.40
5.000	2.39	11.083	5.18	17.167	0.80	23.25	0.40
5.083	2.39	11.167	5.18	17.250	0.80	23.33	0.40
5.167	2.39	11.250	5.18	17.333	0.80	23.42	0.40
5.250	2.39	11.333	5.18	17.417	0.80	23.50	0.40
5.333	2.39	11.417	5.18	17.500	0.80	23.58	0.40
5.417	2.39	11.500	5.18	17.583	0.80	23.67	0.40
5.500	2.39	11.583	5.18	17.667	0.80	23.75	0.40
5.583	2.39	11.667	5.18	17.750	0.80	23.83	0.40
5.667	2.39	11.750	5.18	17.833	0.80	23.92	0.40
5.750	2.39	11.833	5.18	17.917	0.80	24.00	0.40
5.833	2.39	11.917	5.18	18.000	0.80	24.08	0.40
5.917	2.39	12.000	5.18	18.083	0.80	24.17	0.40
6.000	2.39	12.083	5.18	18.167	0.80	24.25	0.40
6.083	2.39	12.167	5.18	18.250	0.80		

Max.Eff.Inten.(mm/hr)=	18.33	13.09	
over (min)	5.00	25.00	
Storage Coeff. (min)=	4.98 (ii)	20.91 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.22	0.05	
			TOTALS
PEAK FLOW (cms)=	0.06	0.01	0.069 (iii)
TIME TO PEAK (hrs)=	9.50	10.25	10.25
RUNOFF VOLUME (mm)=	78.70	42.77	71.51
TOTAL RAINFALL (mm)=	79.70	79.70	79.70
RUNOFF COEFFICIENT =	0.99	0.54	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	1.45	0.069	10.25	71.51
+ ID2= 2 (0260):	3.22	0.126	10.25	73.77
ID = 3 (0259):	4.67	0.195	10.25	73.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\6ffa8b7e
Ptotal= 79.70 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	6.77	12.75	2.79	19.00	0.40
0.50	0.40	6.75	6.77	13.00	2.79	19.25	0.40
0.75	0.40	7.00	6.77	13.25	2.79	19.50	0.40
1.00	0.40	7.25	6.77	13.50	2.79	19.75	0.40
1.25	0.40	7.50	6.77	13.75	2.79	20.00	0.40
1.50	0.40	7.75	6.77	14.00	2.79	20.25	0.40
1.75	0.40	8.00	6.77	14.25	2.79	20.50	0.40
2.00	0.40	8.25	6.77	14.50	1.59	20.75	0.40
2.25	0.40	8.50	18.33	14.75	1.59	21.00	0.40
2.50	0.40	8.75	18.33	15.00	1.59	21.25	0.40

2.75	0.40	9.00	18.33	15.25	1.59	21.50	0.40
3.00	0.40	9.25	18.33	15.50	1.59	21.75	0.40
3.25	0.40	9.50	18.33	15.75	1.59	22.00	0.40
3.50	0.40	9.75	18.33	16.00	1.59	22.25	0.40
3.75	0.40	10.00	18.33	16.25	1.59	22.50	0.40
4.00	0.40	10.25	18.33	16.50	0.80	22.75	0.40
4.25	0.40	10.50	5.18	16.75	0.80	23.00	0.40
4.50	2.39	10.75	5.18	17.00	0.80	23.25	0.40
4.75	2.39	11.00	5.18	17.25	0.80	23.50	0.40
5.00	2.39	11.25	5.18	17.50	0.80	23.75	0.40
5.25	2.39	11.50	5.18	17.75	0.80	24.00	0.40
5.50	2.39	11.75	5.18	18.00	0.80	24.25	0.40
5.75	2.39	12.00	5.18	18.25	0.80		
6.00	2.39	12.25	5.18	18.50	0.40		
6.25	2.39	12.50	2.79	18.75	0.40		

CALIB		
STANDHYD (0201)	Area (ha)=	5.27
ID= 1 DT= 5.0 min	Total Imp(%)=	99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.39	12.250	5.18	18.33	0.40
0.167	0.00	6.250	2.39	12.333	2.79	18.42	0.40
0.250	0.00	6.333	6.77	12.417	2.79	18.50	0.40
0.333	0.40	6.417	6.77	12.500	2.79	18.58	0.40
0.417	0.40	6.500	6.77	12.583	2.79	18.67	0.40
0.500	0.40	6.583	6.77	12.667	2.79	18.75	0.40
0.583	0.40	6.667	6.77	12.750	2.79	18.83	0.40
0.667	0.40	6.750	6.77	12.833	2.79	18.92	0.40
0.750	0.40	6.833	6.77	12.917	2.79	19.00	0.40
0.833	0.40	6.917	6.77	13.000	2.79	19.08	0.40
0.917	0.40	7.000	6.77	13.083	2.79	19.17	0.40
1.000	0.40	7.083	6.77	13.167	2.79	19.25	0.40
1.083	0.40	7.167	6.77	13.250	2.79	19.33	0.40
1.167	0.40	7.250	6.77	13.333	2.79	19.42	0.40
1.250	0.40	7.333	6.77	13.417	2.79	19.50	0.40
1.333	0.40	7.417	6.77	13.500	2.79	19.58	0.40
1.417	0.40	7.500	6.77	13.583	2.79	19.67	0.40
1.500	0.40	7.583	6.77	13.667	2.79	19.75	0.40
1.583	0.40	7.667	6.77	13.750	2.79	19.83	0.40
1.667	0.40	7.750	6.77	13.833	2.79	19.92	0.40
1.750	0.40	7.833	6.77	13.917	2.79	20.00	0.40
1.833	0.40	7.917	6.77	14.000	2.79	20.08	0.40
1.917	0.40	8.000	6.77	14.083	2.79	20.17	0.40
2.000	0.40	8.083	6.77	14.167	2.79	20.25	0.40
2.083	0.40	8.167	6.77	14.250	2.79	20.33	0.40
2.167	0.40	8.250	6.77	14.333	1.59	20.42	0.40
2.250	0.40	8.333	18.33	14.417	1.59	20.50	0.40
2.333	0.40	8.417	18.33	14.500	1.59	20.58	0.40
2.417	0.40	8.500	18.33	14.583	1.59	20.67	0.40
2.500	0.40	8.583	18.33	14.667	1.59	20.75	0.40
2.583	0.40	8.667	18.33	14.750	1.59	20.83	0.40
2.667	0.40	8.750	18.33	14.833	1.59	20.92	0.40
2.750	0.40	8.833	18.33	14.917	1.59	21.00	0.40
2.833	0.40	8.917	18.33	15.000	1.59	21.08	0.40
2.917	0.40	9.000	18.33	15.083	1.59	21.17	0.40
3.000	0.40	9.083	18.33	15.167	1.59	21.25	0.40
3.083	0.40	9.167	18.33	15.250	1.59	21.33	0.40
3.167	0.40	9.250	18.33	15.333	1.59	21.42	0.40
3.250	0.40	9.333	18.33	15.417	1.59	21.50	0.40
3.333	0.40	9.417	18.33	15.500	1.59	21.58	0.40
3.417	0.40	9.500	18.33	15.583	1.59	21.67	0.40
3.500	0.40	9.583	18.33	15.667	1.59	21.75	0.40
3.583	0.40	9.667	18.33	15.750	1.59	21.83	0.40
3.667	0.40	9.750	18.33	15.833	1.59	21.92	0.40
3.750	0.40	9.833	18.33	15.917	1.59	22.00	0.40
3.833	0.40	9.917	18.33	16.000	1.59	22.08	0.40
3.917	0.40	10.000	18.33	16.083	1.59	22.17	0.40
4.000	0.40	10.083	18.33	16.167	1.59	22.25	0.40
4.083	0.40	10.167	18.33	16.250	1.59	22.33	0.40
4.167	0.40	10.250	18.33	16.333	0.80	22.42	0.40
4.250	0.40	10.333	5.18	16.417	0.80	22.50	0.40
4.333	2.39	10.417	5.18	16.500	0.80	22.58	0.40
4.417	2.39	10.500	5.18	16.583	0.80	22.67	0.40
4.500	2.39	10.583	5.18	16.667	0.80	22.75	0.40
4.583	2.39	10.667	5.18	16.750	0.80	22.83	0.40
4.667	2.39	10.750	5.18	16.833	0.80	22.92	0.40
4.750	2.39	10.833	5.18	16.917	0.80	23.00	0.40
4.833	2.39	10.917	5.18	17.000	0.80	23.08	0.40
4.917	2.39	11.000	5.18	17.083	0.80	23.17	0.40
5.000	2.39	11.083	5.18	17.167	0.80	23.25	0.40
5.083	2.39	11.167	5.18	17.250	0.80	23.33	0.40
5.167	2.39	11.250	5.18	17.333	0.80	23.42	0.40
5.250	2.39	11.333	5.18	17.417	0.80	23.50	0.40
5.333	2.39	11.417	5.18	17.500	0.80	23.58	0.40
5.417	2.39	11.500	5.18	17.583	0.80	23.67	0.40
5.500	2.39	11.583	5.18	17.667	0.80	23.75	0.40
5.583	2.39	11.667	5.18	17.750	0.80	23.83	0.40
5.667	2.39	11.750	5.18	17.833	0.80	23.92	0.40
5.750	2.39	11.833	5.18	17.917	0.80	24.00	0.40
5.833	2.39	11.917	5.18	18.000	0.80	24.08	0.40
5.917	2.39	12.000	5.18	18.083	0.80	24.17	0.40
6.000	2.39	12.083	5.18	18.167	0.80	24.25	0.40
6.083	2.39	12.167	5.18	18.250	0.80		

Max.Eff.Inten.(mm/hr)=	18.33	13.24	
over (min)	5.00	10.00	
Storage Coeff. (min)=	7.34 (ii)	9.56 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.17	0.12	
			TOTALS
PEAK FLOW (cms)=	0.27	0.00	0.268 (iii)
TIME TO PEAK (hrs)=	10.00	10.25	10.25
RUNOFF VOLUME (mm)=	78.70	42.77	78.34
TOTAL RAINFALL (mm)=	79.70	79.70	79.70
RUNOFF COEFFICIENT =	0.99	0.54	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)     5.270      0.268     10.25      78.34
   OUTFLOW: ID= 1 (  0268)     5.270      0.157     10.33      78.32

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.84
                 TIME SHIFT OF PEAK FLOW         (min)=  5.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.1290

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\6ffa8b7e
| Ptotal= 79.70 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    6.77 | 12.75    2.79 | 19.00    0.40
                0.50    0.40 |  6.75    6.77 | 13.00    2.79 | 19.25    0.40
                0.75    0.40 |  7.00    6.77 | 13.25    2.79 | 19.50    0.40
                1.00    0.40 |  7.25    6.77 | 13.50    2.79 | 19.75    0.40
                1.25    0.40 |  7.50    6.77 | 13.75    2.79 | 20.00    0.40
                1.50    0.40 |  7.75    6.77 | 14.00    2.79 | 20.25    0.40
                1.75    0.40 |  8.00    6.77 | 14.25    2.79 | 20.50    0.40
                2.00    0.40 |  8.25    6.77 | 14.50    1.59 | 20.75    0.40
                2.25    0.40 |  8.50   18.33 | 14.75    1.59 | 21.00    0.40
                2.50    0.40 |  8.75   18.33 | 15.00    1.59 | 21.25    0.40
                2.75    0.40 |  9.00   18.33 | 15.25    1.59 | 21.50    0.40
                3.00    0.40 |  9.25   18.33 | 15.50    1.59 | 21.75    0.40
                3.25    0.40 |  9.50   18.33 | 15.75    1.59 | 22.00    0.40
                3.50    0.40 |  9.75   18.33 | 16.00    1.59 | 22.25    0.40
                3.75    0.40 | 10.00   18.33 | 16.25    1.59 | 22.50    0.40
                4.00    0.40 | 10.25   18.33 | 16.50    0.80 | 22.75    0.40
                4.25    0.40 | 10.50    5.18 | 16.75    0.80 | 23.00    0.40
                4.50    2.39 | 10.75    5.18 | 17.00    0.80 | 23.25    0.40
                4.75    2.39 | 11.00    5.18 | 17.25    0.80 | 23.50    0.40
                5.00    2.39 | 11.25    5.18 | 17.50    0.80 | 23.75    0.40
                5.25    2.39 | 11.50    5.18 | 17.75    0.80 | 24.00    0.40
                5.50    2.39 | 11.75    5.18 | 18.00    0.80 | 24.25    0.40
                5.75    2.39 | 12.00    5.18 | 18.25    0.80 |
                6.00    2.39 | 12.25    5.18 | 18.50    0.40 |
                6.25    2.39 | 12.50    2.79 | 18.75    0.40 |

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| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.32         1.25
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     209.28        40.00
     Mannings n            =      0.013        0.250

    NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    2.39 |12.250    5.18 | 18.33    0.40
               0.167    0.00 | 6.250    2.39 |12.333    2.79 | 18.42    0.40
               0.250    0.00 | 6.333    6.77 |12.417    2.79 | 18.50    0.40
               0.333    0.40 | 6.417    6.77 |12.500    2.79 | 18.58    0.40
               0.417    0.40 | 6.500    6.77 |12.583    2.79 | 18.67    0.40
               0.500    0.40 | 6.583    6.77 |12.667    2.79 | 18.75    0.40
               0.583    0.40 | 6.667    6.77 |12.750    2.79 | 18.83    0.40
               0.667    0.40 | 6.750    6.77 |12.833    2.79 | 18.92    0.40
               0.750    0.40 | 6.833    6.77 |12.917    2.79 | 19.00    0.40
               0.833    0.40 | 6.917    6.77 |13.000    2.79 | 19.08    0.40
               0.917    0.40 | 7.000    6.77 |13.083    2.79 | 19.17    0.40
               1.000    0.40 | 7.083    6.77 |13.167    2.79 | 19.25    0.40
               1.083    0.40 | 7.167    6.77 |13.250    2.79 | 19.33    0.40
               1.167    0.40 | 7.250    6.77 |13.333    2.79 | 19.42    0.40
               1.250    0.40 | 7.333    6.77 |13.417    2.79 | 19.50    0.40
               1.333    0.40 | 7.417    6.77 |13.500    2.79 | 19.58    0.40
               1.417    0.40 | 7.500    6.77 |13.583    2.79 | 19.67    0.40
               1.500    0.40 | 7.583    6.77 |13.667    2.79 | 19.75    0.40
               1.583    0.40 | 7.667    6.77 |13.750    2.79 | 19.83    0.40
               1.667    0.40 | 7.750    6.77 |13.833    2.79 | 19.92    0.40
               1.750    0.40 | 7.833    6.77 |13.917    2.79 | 20.00    0.40
               1.833    0.40 | 7.917    6.77 |14.000    2.79 | 20.08    0.40
               1.917    0.40 | 8.000    6.77 |14.083    2.79 | 20.17    0.40
               2.000    0.40 | 8.083    6.77 |14.167    2.79 | 20.25    0.40
               2.083    0.40 | 8.167    6.77 |14.250    2.79 | 20.33    0.40
               2.167    0.40 | 8.250    6.77 |14.333    1.59 | 20.42    0.40
               2.250    0.40 | 8.333   18.33 |14.417    1.59 | 20.50    0.40
               2.333    0.40 | 8.417   18.33 |14.500    1.59 | 20.58    0.40
               2.417    0.40 | 8.500   18.33 |14.583    1.59 | 20.67    0.40
               2.500    0.40 | 8.583   18.33 |14.667    1.59 | 20.75    0.40
               2.583    0.40 | 8.667   18.33 |14.750    1.59 | 20.83    0.40
               2.667    0.40 | 8.750   18.33 |14.833    1.59 | 20.92    0.40
               2.750    0.40 | 8.833   18.33 |14.917    1.59 | 21.00    0.40
               2.833    0.40 | 8.917   18.33 |15.000    1.59 | 21.08    0.40
               2.917    0.40 | 9.000   18.33 |15.083    1.59 | 21.17    0.40
               3.000    0.40 | 9.083   18.33 |15.167    1.59 | 21.25    0.40
               3.083    0.40 | 9.167   18.33 |15.250    1.59 | 21.33    0.40
               3.167    0.40 | 9.250   18.33 |15.333    1.59 | 21.42    0.40
               3.250    0.40 | 9.333   18.33 |15.417    1.59 | 21.50    0.40
               3.333    0.40 | 9.417   18.33 |15.500    1.59 | 21.58    0.40
               3.417    0.40 | 9.500   18.33 |15.583    1.59 | 21.67    0.40
               3.500    0.40 | 9.583   18.33 |15.667    1.59 | 21.75    0.40
               3.583    0.40 | 9.667   18.33 |15.750    1.59 | 21.83    0.40
               3.667    0.40 | 9.750   18.33 |15.833    1.59 | 21.92    0.40
               3.750    0.40 | 9.833   18.33 |15.917    1.59 | 22.00    0.40
               3.833    0.40 | 9.917   18.33 |16.000    1.59 | 22.08    0.40
               3.917    0.40 |10.000   18.33 |16.083    1.59 | 22.17    0.40
               4.000    0.40 |10.083   18.33 |16.167    1.59 | 22.25    0.40
               4.083    0.40 |10.167   18.33 |16.250    1.59 | 22.33    0.40
               4.167    0.40 |10.250   18.33 |16.333    0.80 | 22.42    0.40
               4.250    0.40 |10.333    5.18 |16.417    0.80 | 22.50    0.40
               4.333    2.39 |10.417    5.18 |16.500    0.80 | 22.58    0.40
               4.417    2.39 |10.500    5.18 |16.583    0.80 | 22.67    0.40
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               4.500    2.39 |10.583    5.18 |16.667    0.80 |  22.75    0.40
               4.583    2.39 |10.667    5.18 |16.750    0.80 |  22.83    0.40
               4.667    2.39 |10.750    5.18 |16.833    0.80 |  22.92    0.40
               4.750    2.39 |10.833    5.18 |16.917    0.80 |  23.00    0.40
               4.833    2.39 |10.917    5.18 |17.000    0.80 |  23.08    0.40
               4.917    2.39 |11.000    5.18 |17.083    0.80 |  23.17    0.40
               5.000    2.39 |11.083    5.18 |17.167    0.80 |  23.25    0.40
               5.083    2.39 |11.167    5.18 |17.250    0.80 |  23.33    0.40
               5.167    2.39 |11.250    5.18 |17.333    0.80 |  23.42    0.40
               5.250    2.39 |11.333    5.18 |17.417    0.80 |  23.50    0.40
               5.333    2.39 |11.417    5.18 |17.500    0.80 |  23.58    0.40
               5.417    2.39 |11.500    5.18 |17.583    0.80 |  23.67    0.40
               5.500    2.39 |11.583    5.18 |17.667    0.80 |  23.75    0.40
               5.583    2.39 |11.667    5.18 |17.750    0.80 |  23.83    0.40
               5.667    2.39 |11.750    5.18 |17.833    0.80 |  23.92    0.40
               5.750    2.39 |11.833    5.18 |17.917    0.80 |  24.00    0.40
               5.833    2.39 |11.917    5.18 |18.000    0.80 |  24.08    0.40
               5.917    2.39 |12.000    5.18 |18.083    0.80 |  24.17    0.40
               6.000    2.39 |12.083    5.18 |18.167    0.80 |  24.25    0.40
               6.083    2.39 |12.167    5.18 |18.250    0.80 |

     Max.Eff.Inten.(mm/hr)=      18.33        13.09
               over (min)        10.00        25.00
     Storage Coeff.  (min)=       7.84 (ii)   23.76 (ii)
     Unit Hyd. Tpeak (min)=      10.00        25.00
     Unit Hyd. peak  (cms)=       0.13         0.05
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.27         0.04          0.313 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.25         10.25
     RUNOFF VOLUME    (mm)=      78.70        42.77         71.87
     TOTAL RAINFALL   (mm)=      79.70        79.70         79.70
     RUNOFF COEFFICIENT   =       0.99         0.54          0.90

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0262)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0202):     6.57   0.313    10.25    71.87
     + ID2= 2 (  0268):     5.27   0.157    10.33    78.32
       ================================================
       ID = 3 (  0262):    11.84   0.469    10.25    74.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0266)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0259):     4.67   0.195    10.25    73.07
     + ID2= 2 (  0262):    11.84   0.469    10.25    74.74
       ================================================
       ID = 3 (  0266):    16.51   0.664    10.25    74.27
```

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0263)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2130     0.6563
                          0.0190     0.1773   |   0.2520     0.6883
                          0.0220     0.2128   |   0.2890     0.7150
                          0.0260     0.2888   |   0.2980     0.7450
                          0.0300     0.3648   |   0.3060     0.7700
                          0.0650     0.4586   |   0.3150     0.8127
                          0.1100     0.5155   |   0.3320     0.9290
                          0.1680     0.5503   |   0.3390     0.9767
                          0.1930     0.5804   |   0.3520     1.0680
                          0.2000     0.6048   |   0.0000     0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (  0266)     16.510      0.664     10.25      74.27
     OUTFLOW: ID= 1 (  0263)     16.510      0.237     12.50      74.13

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 35.74
                    TIME SHIFT OF PEAK FLOW         (min)=135.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6762

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.004    10.25    42.73
     + ID2= 2 (  0263):    16.51   0.237    12.50    74.13
       ================================================
       ID = 3 (  0261):    16.64   0.238    12.50    73.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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      V    V   I    SSSSS  U   U    A    L              (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
```

```
  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\a52b752c-d053-4360-8934-d2b772b2c561\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\a52b752c-d053-4360-8934-d2b772b2c561\s


DATE: 07/06/2020                          TIME: 04:38:42

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 5 Year 24 Hour AES            **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\ab0cf43f
| Ptotal= 60.08 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    5.11 | 12.75    2.10 | 19.00    0.30
                0.50    0.30 |  6.75    5.11 | 13.00    2.10 | 19.25    0.30
                0.75    0.30 |  7.00    5.11 | 13.25    2.10 | 19.50    0.30
                1.00    0.30 |  7.25    5.11 | 13.50    2.10 | 19.75    0.30
                1.25    0.30 |  7.50    5.11 | 13.75    2.10 | 20.00    0.30
                1.50    0.30 |  7.75    5.11 | 14.00    2.10 | 20.25    0.30
                1.75    0.30 |  8.00    5.11 | 14.25    2.10 | 20.50    0.30
                2.00    0.30 |  8.25    5.11 | 14.50    1.20 | 20.75    0.30
                2.25    0.30 |  8.50   13.82 | 14.75    1.20 | 21.00    0.30
                2.50    0.30 |  8.75   13.82 | 15.00    1.20 | 21.25    0.30
                2.75    0.30 |  9.00   13.82 | 15.25    1.20 | 21.50    0.30
                3.00    0.30 |  9.25   13.82 | 15.50    1.20 | 21.75    0.30
                3.25    0.30 |  9.50   13.82 | 15.75    1.20 | 22.00    0.30
                3.50    0.30 |  9.75   13.82 | 16.00    1.20 | 22.25    0.30
                3.75    0.30 | 10.00   13.82 | 16.25    1.20 | 22.50    0.30
                4.00    0.30 | 10.25   13.82 | 16.50    0.60 | 22.75    0.30
                4.25    0.30 | 10.50    3.91 | 16.75    0.60 | 23.00    0.30
                4.50    1.80 | 10.75    3.91 | 17.00    0.60 | 23.25    0.30
                4.75    1.80 | 11.00    3.91 | 17.25    0.60 | 23.50    0.30
                5.00    1.80 | 11.25    3.91 | 17.50    0.60 | 23.75    0.30
                5.25    1.80 | 11.50    3.91 | 17.75    0.60 | 24.00    0.30
                5.50    1.80 | 11.75    3.91 | 18.00    0.60 | 24.25    0.30
                5.75    1.80 | 12.00    3.91 | 18.25    0.60 |
                6.00    1.80 | 12.25    3.91 | 18.50    0.30 |
                6.25    1.80 | 12.50    2.10 | 18.75    0.30 |

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--------------------
| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                    ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 6.167    1.80 |12.250    3.91 | 18.33    0.30
0.167    0.00 | 6.250    1.80 |12.333    2.10 | 18.42    0.30
0.250    0.00 | 6.333    5.11 |12.417    2.10 | 18.50    0.30
0.333    0.30 | 6.417    5.11 |12.500    2.10 | 18.58    0.30
0.417    0.30 | 6.500    5.11 |12.583    2.10 | 18.67    0.30
0.500    0.30 | 6.583    5.11 |12.667    2.10 | 18.75    0.30
0.583    0.30 | 6.667    5.11 |12.750    2.10 | 18.83    0.30
0.667    0.30 | 6.750    5.11 |12.833    2.10 | 18.92    0.30
0.750    0.30 | 6.833    5.11 |12.917    2.10 | 19.00    0.30
0.833    0.30 | 6.917    5.11 |13.000    2.10 | 19.08    0.30
0.917    0.30 | 7.000    5.11 |13.083    2.10 | 19.17    0.30
1.000    0.30 | 7.083    5.11 |13.167    2.10 | 19.25    0.30
1.083    0.30 | 7.167    5.11 |13.250    2.10 | 19.33    0.30
1.167    0.30 | 7.250    5.11 |13.333    2.10 | 19.42    0.30
1.250    0.30 | 7.333    5.11 |13.417    2.10 | 19.50    0.30
1.333    0.30 | 7.417    5.11 |13.500    2.10 | 19.58    0.30
1.417    0.30 | 7.500    5.11 |13.583    2.10 | 19.67    0.30
1.500    0.30 | 7.583    5.11 |13.667    2.10 | 19.75    0.30
1.583    0.30 | 7.667    5.11 |13.750    2.10 | 19.83    0.30
1.667    0.30 | 7.750    5.11 |13.833    2.10 | 19.92    0.30
1.750    0.30 | 7.833    5.11 |13.917    2.10 | 20.00    0.30
1.833    0.30 | 7.917    5.11 |14.000    2.10 | 20.08    0.30
1.917    0.30 | 8.000    5.11 |14.083    2.10 | 20.17    0.30
2.000    0.30 | 8.083    5.11 |14.167    2.10 | 20.25    0.30
2.083    0.30 | 8.167    5.11 |14.250    2.10 | 20.33    0.30
2.167    0.30 | 8.250    5.11 |14.333    1.20 | 20.42    0.30
2.250    0.30 | 8.333   13.82 |14.417    1.20 | 20.50    0.30
2.333    0.30 | 8.417   13.82 |14.500    1.20 | 20.58    0.30
2.417    0.30 | 8.500   13.82 |14.583    1.20 | 20.67    0.30
2.500    0.30 | 8.583   13.82 |14.667    1.20 | 20.75    0.30
2.583    0.30 | 8.667   13.82 |14.750    1.20 | 20.83    0.30
2.667    0.30 | 8.750   13.82 |14.833    1.20 | 20.92    0.30
2.750    0.30 | 8.833   13.82 |14.917    1.20 | 21.00    0.30
2.833    0.30 | 8.917   13.82 |15.000    1.20 | 21.08    0.30
2.917    0.30 | 9.000   13.82 |15.083    1.20 | 21.17    0.30
3.000    0.30 | 9.083   13.82 |15.167    1.20 | 21.25    0.30
3.083    0.30 | 9.167   13.82 |15.250    1.20 | 21.33    0.30
3.167    0.30 | 9.250   13.82 |15.333    1.20 | 21.42    0.30
3.250    0.30 | 9.333   13.82 |15.417    1.20 | 21.50    0.30
3.333    0.30 | 9.417   13.82 |15.500    1.20 | 21.58    0.30
3.417    0.30 | 9.500   13.82 |15.583    1.20 | 21.67    0.30
3.500    0.30 | 9.583   13.82 |15.667    1.20 | 21.75    0.30
3.583    0.30 | 9.667   13.82 |15.750    1.20 | 21.83    0.30
3.667    0.30 | 9.750   13.82 |15.833    1.20 | 21.92    0.30
3.750    0.30 | 9.833   13.82 |15.917    1.20 | 22.00    0.30
3.833    0.30 | 9.917   13.82 |16.000    1.20 | 22.08    0.30
3.917    0.30 |10.000   13.82 |16.083    1.20 | 22.17    0.30
4.000    0.30 |10.083   13.82 |16.167    1.20 | 22.25    0.30
4.083    0.30 |10.167   13.82 |16.250    1.20 | 22.33    0.30
4.167    0.30 |10.250   13.82 |16.333    0.60 | 22.42    0.30
4.250    0.30 |10.333    3.91 |16.417    0.60 | 22.50    0.30
4.333    1.80 |10.417    3.91 |16.500    0.60 | 22.58    0.30
4.417    1.80 |10.500    3.91 |16.583    0.60 | 22.67    0.30
4.500    1.80 |10.583    3.91 |16.667    0.60 | 22.75    0.30
4.583    1.80 |10.667    3.91 |16.750    0.60 | 22.83    0.30
4.667    1.80 |10.750    3.91 |16.833    0.60 | 22.92    0.30
4.750    1.80 |10.833    3.91 |16.917    0.60 | 23.00    0.30
4.833    1.80 |10.917    3.91 |17.000    0.60 | 23.08    0.30
```

4.917	1.80	11.000	3.91	17.083	0.60	23.17	0.30
5.000	1.80	11.083	3.91	17.167	0.60	23.25	0.30
5.083	1.80	11.167	3.91	17.250	0.60	23.33	0.30
5.167	1.80	11.250	3.91	17.333	0.60	23.42	0.30
5.250	1.80	11.333	3.91	17.417	0.60	23.50	0.30
5.333	1.80	11.417	3.91	17.500	0.60	23.58	0.30
5.417	1.80	11.500	3.91	17.583	0.60	23.67	0.30
5.500	1.80	11.583	3.91	17.667	0.60	23.75	0.30
5.583	1.80	11.667	3.91	17.750	0.60	23.83	0.30
5.667	1.80	11.750	3.91	17.833	0.60	23.92	0.30
5.750	1.80	11.833	3.91	17.917	0.60	24.00	0.30
5.833	1.80	11.917	3.91	18.000	0.60	24.08	0.30
5.917	1.80	12.000	3.91	18.083	0.60	24.17	0.30
6.000	1.80	12.083	3.91	18.167	0.60	24.25	0.30
6.083	1.80	12.167	3.91	18.250	0.60		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.003 (i)
TIME TO PEAK (hrs)= 10.250
RUNOFF VOLUME (mm)= 27.343
TOTAL RAINFALL (mm)= 60.080
RUNOFF COEFFICIENT = 0.455

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\ab0cf43f
Ptotal= 60.08 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.11	12.75	2.10	19.00	0.30
0.50	0.30	6.75	5.11	13.00	2.10	19.25	0.30
0.75	0.30	7.00	5.11	13.25	2.10	19.50	0.30
1.00	0.30	7.25	5.11	13.50	2.10	19.75	0.30
1.25	0.30	7.50	5.11	13.75	2.10	20.00	0.30
1.50	0.30	7.75	5.11	14.00	2.10	20.25	0.30
1.75	0.30	8.00	5.11	14.25	2.10	20.50	0.30
2.00	0.30	8.25	5.11	14.50	1.20	20.75	0.30
2.25	0.30	8.50	13.82	14.75	1.20	21.00	0.30
2.50	0.30	8.75	13.82	15.00	1.20	21.25	0.30
2.75	0.30	9.00	13.82	15.25	1.20	21.50	0.30
3.00	0.30	9.25	13.82	15.50	1.20	21.75	0.30
3.25	0.30	9.50	13.82	15.75	1.20	22.00	0.30
3.50	0.30	9.75	13.82	16.00	1.20	22.25	0.30
3.75	0.30	10.00	13.82	16.25	1.20	22.50	0.30
4.00	0.30	10.25	13.82	16.50	0.60	22.75	0.30
4.25	0.30	10.50	3.91	16.75	0.60	23.00	0.30
4.50	1.80	10.75	3.91	17.00	0.60	23.25	0.30
4.75	1.80	11.00	3.91	17.25	0.60	23.50	0.30
5.00	1.80	11.25	3.91	17.50	0.60	23.75	0.30
5.25	1.80	11.50	3.91	17.75	0.60	24.00	0.30
5.50	1.80	11.75	3.91	18.00	0.60	24.25	0.30
5.75	1.80	12.00	3.91	18.25	0.60		
6.00	1.80	12.25	3.91	18.50	0.30		
6.25	1.80	12.50	2.10	18.75	0.30		

CALIB | STANDHYD (0205) | ID= 1 DT= 5.0 min | Area (ha)= 1.12 | Total Imp(%)= 99.00 | Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.80	12.250	3.91	18.33	0.30
0.167	0.00	6.250	1.80	12.333	2.10	18.42	0.30
0.250	0.00	6.333	5.11	12.417	2.10	18.50	0.30
0.333	0.30	6.417	5.11	12.500	2.10	18.58	0.30
0.417	0.30	6.500	5.11	12.583	2.10	18.67	0.30
0.500	0.30	6.583	5.11	12.667	2.10	18.75	0.30
0.583	0.30	6.667	5.11	12.750	2.10	18.83	0.30
0.667	0.30	6.750	5.11	12.833	2.10	18.92	0.30
0.750	0.30	6.833	5.11	12.917	2.10	19.00	0.30
0.833	0.30	6.917	5.11	13.000	2.10	19.08	0.30
0.917	0.30	7.000	5.11	13.083	2.10	19.17	0.30
1.000	0.30	7.083	5.11	13.167	2.10	19.25	0.30
1.083	0.30	7.167	5.11	13.250	2.10	19.33	0.30
1.167	0.30	7.250	5.11	13.333	2.10	19.42	0.30
1.250	0.30	7.333	5.11	13.417	2.10	19.50	0.30
1.333	0.30	7.417	5.11	13.500	2.10	19.58	0.30
1.417	0.30	7.500	5.11	13.583	2.10	19.67	0.30
1.500	0.30	7.583	5.11	13.667	2.10	19.75	0.30
1.583	0.30	7.667	5.11	13.750	2.10	19.83	0.30
1.667	0.30	7.750	5.11	13.833	2.10	19.92	0.30
1.750	0.30	7.833	5.11	13.917	2.10	20.00	0.30
1.833	0.30	7.917	5.11	14.000	2.10	20.08	0.30
1.917	0.30	8.000	5.11	14.083	2.10	20.17	0.30
2.000	0.30	8.083	5.11	14.167	2.10	20.25	0.30
2.083	0.30	8.167	5.11	14.250	2.10	20.33	0.30
2.167	0.30	8.250	5.11	14.333	1.20	20.42	0.30
2.250	0.30	8.333	13.82	14.417	1.20	20.50	0.30
2.333	0.30	8.417	13.82	14.500	1.20	20.58	0.30
2.417	0.30	8.500	13.82	14.583	1.20	20.67	0.30
2.500	0.30	8.583	13.82	14.667	1.20	20.75	0.30
2.583	0.30	8.667	13.82	14.750	1.20	20.83	0.30
2.667	0.30	8.750	13.82	14.833	1.20	20.92	0.30
2.750	0.30	8.833	13.82	14.917	1.20	21.00	0.30
2.833	0.30	8.917	13.82	15.000	1.20	21.08	0.30
2.917	0.30	9.000	13.82	15.083	1.20	21.17	0.30
3.000	0.30	9.083	13.82	15.167	1.20	21.25	0.30
3.083	0.30	9.167	13.82	15.250	1.20	21.33	0.30
3.167	0.30	9.250	13.82	15.333	1.20	21.42	0.30
3.250	0.30	9.333	13.82	15.417	1.20	21.50	0.30
3.333	0.30	9.417	13.82	15.500	1.20	21.58	0.30
3.417	0.30	9.500	13.82	15.583	1.20	21.67	0.30
3.500	0.30	9.583	13.82	15.667	1.20	21.75	0.30
3.583	0.30	9.667	13.82	15.750	1.20	21.83	0.30
3.667	0.30	9.750	13.82	15.833	1.20	21.92	0.30
3.750	0.30	9.833	13.82	15.917	1.20	22.00	0.30
3.833	0.30	9.917	13.82	16.000	1.20	22.08	0.30

3.917	0.30	10.000	13.82	16.083	1.20	22.17	0.30
4.000	0.30	10.083	13.82	16.167	1.20	22.25	0.30
4.083	0.30	10.167	13.82	16.250	1.20	22.33	0.30
4.167	0.30	10.250	13.82	16.333	0.60	22.42	0.30
4.250	0.30	10.333	3.91	16.417	0.60	22.50	0.30
4.333	1.80	10.417	3.91	16.500	0.60	22.58	0.30
4.417	1.80	10.500	3.91	16.583	0.60	22.67	0.30
4.500	1.80	10.583	3.91	16.667	0.60	22.75	0.30
4.583	1.80	10.667	3.91	16.750	0.60	22.83	0.30
4.667	1.80	10.750	3.91	16.833	0.60	22.92	0.30
4.750	1.80	10.833	3.91	16.917	0.60	23.00	0.30
4.833	1.80	10.917	3.91	17.000	0.60	23.08	0.30
4.917	1.80	11.000	3.91	17.083	0.60	23.17	0.30
5.000	1.80	11.083	3.91	17.167	0.60	23.25	0.30
5.083	1.80	11.167	3.91	17.250	0.60	23.33	0.30
5.167	1.80	11.250	3.91	17.333	0.60	23.42	0.30
5.250	1.80	11.333	3.91	17.417	0.60	23.50	0.30
5.333	1.80	11.417	3.91	17.500	0.60	23.58	0.30
5.417	1.80	11.500	3.91	17.583	0.60	23.67	0.30
5.500	1.80	11.583	3.91	17.667	0.60	23.75	0.30
5.583	1.80	11.667	3.91	17.750	0.60	23.83	0.30
5.667	1.80	11.750	3.91	17.833	0.60	23.92	0.30
5.750	1.80	11.833	3.91	17.917	0.60	24.00	0.30
5.833	1.80	11.917	3.91	18.000	0.60	24.08	0.30
5.917	1.80	12.000	3.91	18.083	0.60	24.17	0.30
6.000	1.80	12.083	3.91	18.167	0.60	24.25	0.30
6.083	1.80	12.167	3.91	18.250	0.60		

Max.Eff.Inten.(mm/hr)=	13.82	8.77	
over (min)	5.00	10.00	
Storage Coeff. (min)=	5.17 (ii)	7.65 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.21	0.13	
			TOTALS
PEAK FLOW (cms)=	0.04	0.00	0.043 (iii)
TIME TO PEAK (hrs)=	9.50	10.25	10.25
RUNOFF VOLUME (mm)=	59.08	27.37	58.76
TOTAL RAINFALL (mm)=	60.08	60.08	60.08
RUNOFF COEFFICIENT =	0.98	0.46	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)|				
IN= 2---> OUT= 1 |				
DT= 5.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.043	10.25	58.76
OUTFLOW: ID= 1 (0256)	1.125	0.020	10.42	58.41

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.24
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0318

READ STORM |	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\ab0cf43f
Ptotal= 60.08 mm |	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.11	12.75	2.10	19.00	0.30
0.50	0.30	6.75	5.11	13.00	2.10	19.25	0.30
0.75	0.30	7.00	5.11	13.25	2.10	19.50	0.30
1.00	0.30	7.25	5.11	13.50	2.10	19.75	0.30
1.25	0.30	7.50	5.11	13.75	2.10	20.00	0.30
1.50	0.30	7.75	5.11	14.00	2.10	20.25	0.30
1.75	0.30	8.00	5.11	14.25	2.10	20.50	0.30
2.00	0.30	8.25	5.11	14.50	1.20	20.75	0.30
2.25	0.30	8.50	13.82	14.75	1.20	21.00	0.30
2.50	0.30	8.75	13.82	15.00	1.20	21.25	0.30
2.75	0.30	9.00	13.82	15.25	1.20	21.50	0.30
3.00	0.30	9.25	13.82	15.50	1.20	21.75	0.30
3.25	0.30	9.50	13.82	15.75	1.20	22.00	0.30
3.50	0.30	9.75	13.82	16.00	1.20	22.25	0.30
3.75	0.30	10.00	13.82	16.25	1.20	22.50	0.30
4.00	0.30	10.25	13.82	16.50	0.60	22.75	0.30
4.25	0.30	10.50	3.91	16.75	0.60	23.00	0.30
4.50	1.80	10.75	3.91	17.00	0.60	23.25	0.30
4.75	1.80	11.00	3.91	17.25	0.60	23.50	0.30
5.00	1.80	11.25	3.91	17.50	0.60	23.75	0.30
5.25	1.80	11.50	3.91	17.75	0.60	24.00	0.30
5.50	1.80	11.75	3.91	18.00	0.60	24.25	0.30
5.75	1.80	12.00	3.91	18.25	0.60		
6.00	1.80	12.25	3.91	18.50	0.30		
6.25	1.80	12.50	2.10	18.75	0.30		

CALIB |		
STANDHYD (0203)|	Area (ha)=	2.10
ID= 1 DT= 5.0 min |	Total Imp(%)=	80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.68	0.42
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	118.18	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.80	12.250	3.91	18.33	0.30
0.167	0.00	6.250	1.80	12.333	2.10	18.42	0.30
0.250	0.00	6.333	5.11	12.417	2.10	18.50	0.30
0.333	0.30	6.417	5.11	12.500	2.10	18.58	0.30
0.417	0.30	6.500	5.11	12.583	2.10	18.67	0.30
0.500	0.30	6.583	5.11	12.667	2.10	18.75	0.30
0.583	0.30	6.667	5.11	12.750	2.10	18.83	0.30
0.667	0.30	6.750	5.11	12.833	2.10	18.92	0.30

0.750	0.30	6.833	5.11	12.917	2.10	19.00	0.30
0.833	0.30	6.917	5.11	13.000	2.10	19.08	0.30
0.917	0.30	7.000	5.11	13.083	2.10	19.17	0.30
1.000	0.30	7.083	5.11	13.167	2.10	19.25	0.30
1.083	0.30	7.167	5.11	13.250	2.10	19.33	0.30
1.167	0.30	7.250	5.11	13.333	2.10	19.42	0.30
1.250	0.30	7.333	5.11	13.417	2.10	19.50	0.30
1.333	0.30	7.417	5.11	13.500	2.10	19.58	0.30
1.417	0.30	7.500	5.11	13.583	2.10	19.67	0.30
1.500	0.30	7.583	5.11	13.667	2.10	19.75	0.30
1.583	0.30	7.667	5.11	13.750	2.10	19.83	0.30
1.667	0.30	7.750	5.11	13.833	2.10	19.92	0.30
1.750	0.30	7.833	5.11	13.917	2.10	20.00	0.30
1.833	0.30	7.917	5.11	14.000	2.10	20.08	0.30
1.917	0.30	8.000	5.11	14.083	2.10	20.17	0.30
2.000	0.30	8.083	5.11	14.167	2.10	20.25	0.30
2.083	0.30	8.167	5.11	14.250	2.10	20.33	0.30
2.167	0.30	8.250	5.11	14.333	1.20	20.42	0.30
2.250	0.30	8.333	13.82	14.417	1.20	20.50	0.30
2.333	0.30	8.417	13.82	14.500	1.20	20.58	0.30
2.417	0.30	8.500	13.82	14.583	1.20	20.67	0.30
2.500	0.30	8.583	13.82	14.667	1.20	20.75	0.30
2.583	0.30	8.667	13.82	14.750	1.20	20.83	0.30
2.667	0.30	8.750	13.82	14.833	1.20	20.92	0.30
2.750	0.30	8.833	13.82	14.917	1.20	21.00	0.30
2.833	0.30	8.917	13.82	15.000	1.20	21.08	0.30
2.917	0.30	9.000	13.82	15.083	1.20	21.17	0.30
3.000	0.30	9.083	13.82	15.167	1.20	21.25	0.30
3.083	0.30	9.167	13.82	15.250	1.20	21.33	0.30
3.167	0.30	9.250	13.82	15.333	1.20	21.42	0.30
3.250	0.30	9.333	13.82	15.417	1.20	21.50	0.30
3.333	0.30	9.417	13.82	15.500	1.20	21.58	0.30
3.417	0.30	9.500	13.82	15.583	1.20	21.67	0.30
3.500	0.30	9.583	13.82	15.667	1.20	21.75	0.30
3.583	0.30	9.667	13.82	15.750	1.20	21.83	0.30
3.667	0.30	9.750	13.82	15.833	1.20	21.92	0.30
3.750	0.30	9.833	13.82	15.917	1.20	22.00	0.30
3.833	0.30	9.917	13.82	16.000	1.20	22.08	0.30
3.917	0.30	10.000	13.82	16.083	1.20	22.17	0.30
4.000	0.30	10.083	13.82	16.167	1.20	22.25	0.30
4.083	0.30	10.167	13.82	16.250	1.20	22.33	0.30
4.167	0.30	10.250	13.82	16.333	0.60	22.42	0.30
4.250	0.30	10.333	3.91	16.417	0.60	22.50	0.30
4.333	1.80	10.417	3.91	16.500	0.60	22.58	0.30
4.417	1.80	10.500	3.91	16.583	0.60	22.67	0.30
4.500	1.80	10.583	3.91	16.667	0.60	22.75	0.30
4.583	1.80	10.667	3.91	16.750	0.60	22.83	0.30
4.667	1.80	10.750	3.91	16.833	0.60	22.92	0.30
4.750	1.80	10.833	3.91	16.917	0.60	23.00	0.30
4.833	1.80	10.917	3.91	17.000	0.60	23.08	0.30
4.917	1.80	11.000	3.91	17.083	0.60	23.17	0.30
5.000	1.80	11.083	3.91	17.167	0.60	23.25	0.30
5.083	1.80	11.167	3.91	17.250	0.60	23.33	0.30
5.167	1.80	11.250	3.91	17.333	0.60	23.42	0.30
5.250	1.80	11.333	3.91	17.417	0.60	23.50	0.30
5.333	1.80	11.417	3.91	17.500	0.60	23.58	0.30
5.417	1.80	11.500	3.91	17.583	0.60	23.67	0.30
5.500	1.80	11.583	3.91	17.667	0.60	23.75	0.30
5.583	1.80	11.667	3.91	17.750	0.60	23.83	0.30
5.667	1.80	11.750	3.91	17.833	0.60	23.92	0.30
5.750	1.80	11.833	3.91	17.917	0.60	24.00	0.30
5.833	1.80	11.917	3.91	18.000	0.60	24.08	0.30
5.917	1.80	12.000	3.91	18.083	0.60	24.17	0.30
6.000	1.80	12.083	3.91	18.167	0.60	24.25	0.30
		6.083	1.80	12.167	3.91	18.250	0.60

```
     Max.Eff.Inten.(mm/hr)=      13.82         8.64
               over (min)         5.00        30.00
     Storage Coeff.  (min)=       6.23 (ii)   25.03 (ii)
     Unit Hyd. Tpeak (min)=       5.00        30.00
     Unit Hyd. peak  (cms)=       0.19         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.01          0.073 (iii)
     TIME TO PEAK    (hrs)=       9.75        10.33          10.25
     RUNOFF VOLUME    (mm)=      59.08        27.37          52.73
     TOTAL RAINFALL   (mm)=      60.08        60.08          60.08
     RUNOFF COEFFICIENT   =       0.98         0.46           0.88


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.073    10.25    52.73
     + ID2= 2 (  0256):     1.12   0.020    10.42    58.41
       ================================================
       ID = 3 (  0260):     3.22   0.093    10.25    54.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\ab0cf43f
| Ptotal= 60.08 mm |    Comments:
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.11	12.75	2.10	19.00	0.30
0.50	0.30	6.75	5.11	13.00	2.10	19.25	0.30
0.75	0.30	7.00	5.11	13.25	2.10	19.50	0.30
1.00	0.30	7.25	5.11	13.50	2.10	19.75	0.30
1.25	0.30	7.50	5.11	13.75	2.10	20.00	0.30
1.50	0.30	7.75	5.11	14.00	2.10	20.25	0.30
1.75	0.30	8.00	5.11	14.25	2.10	20.50	0.30
2.00	0.30	8.25	5.11	14.50	1.20	20.75	0.30
2.25	0.30	8.50	13.82	14.75	1.20	21.00	0.30
2.50	0.30	8.75	13.82	15.00	1.20	21.25	0.30
2.75	0.30	9.00	13.82	15.25	1.20	21.50	0.30
3.00	0.30	9.25	13.82	15.50	1.20	21.75	0.30
3.25	0.30	9.50	13.82	15.75	1.20	22.00	0.30
3.50	0.30	9.75	13.82	16.00	1.20	22.25	0.30
3.75	0.30	10.00	13.82	16.25	1.20	22.50	0.30
4.00	0.30	10.25	13.82	16.50	0.60	22.75	0.30
4.25	0.30	10.50	3.91	16.75	0.60	23.00	0.30
4.50	1.80	10.75	3.91	17.00	0.60	23.25	0.30
4.75	1.80	11.00	3.91	17.25	0.60	23.50	0.30
5.00	1.80	11.25	3.91	17.50	0.60	23.75	0.30

5.25	1.80	11.50	3.91	17.75	0.60	24.00	0.30
5.50	1.80	11.75	3.91	18.00	0.60	24.25	0.30
5.75	1.80	12.00	3.91	18.25	0.60		
6.00	1.80	12.25	3.91	18.50	0.30		
6.25	1.80	12.50	2.10	18.75	0.30		

CALIB	
STANDHYD (0204)	Area (ha)= 1.45
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.80	12.250	3.91	18.33	0.30
0.167	0.00	6.250	1.80	12.333	2.10	18.42	0.30
0.250	0.00	6.333	5.11	12.417	2.10	18.50	0.30
0.333	0.30	6.417	5.11	12.500	2.10	18.58	0.30
0.417	0.30	6.500	5.11	12.583	2.10	18.67	0.30
0.500	0.30	6.583	5.11	12.667	2.10	18.75	0.30
0.583	0.30	6.667	5.11	12.750	2.10	18.83	0.30
0.667	0.30	6.750	5.11	12.833	2.10	18.92	0.30
0.750	0.30	6.833	5.11	12.917	2.10	19.00	0.30
0.833	0.30	6.917	5.11	13.000	2.10	19.08	0.30
0.917	0.30	7.000	5.11	13.083	2.10	19.17	0.30
1.000	0.30	7.083	5.11	13.167	2.10	19.25	0.30
1.083	0.30	7.167	5.11	13.250	2.10	19.33	0.30
1.167	0.30	7.250	5.11	13.333	2.10	19.42	0.30
1.250	0.30	7.333	5.11	13.417	2.10	19.50	0.30
1.333	0.30	7.417	5.11	13.500	2.10	19.58	0.30
1.417	0.30	7.500	5.11	13.583	2.10	19.67	0.30
1.500	0.30	7.583	5.11	13.667	2.10	19.75	0.30
1.583	0.30	7.667	5.11	13.750	2.10	19.83	0.30
1.667	0.30	7.750	5.11	13.833	2.10	19.92	0.30
1.750	0.30	7.833	5.11	13.917	2.10	20.00	0.30
1.833	0.30	7.917	5.11	14.000	2.10	20.08	0.30
1.917	0.30	8.000	5.11	14.083	2.10	20.17	0.30
2.000	0.30	8.083	5.11	14.167	2.10	20.25	0.30
2.083	0.30	8.167	5.11	14.250	2.10	20.33	0.30
2.167	0.30	8.250	5.11	14.333	1.20	20.42	0.30
2.250	0.30	8.333	13.82	14.417	1.20	20.50	0.30
2.333	0.30	8.417	13.82	14.500	1.20	20.58	0.30
2.417	0.30	8.500	13.82	14.583	1.20	20.67	0.30
2.500	0.30	8.583	13.82	14.667	1.20	20.75	0.30
2.583	0.30	8.667	13.82	14.750	1.20	20.83	0.30
2.667	0.30	8.750	13.82	14.833	1.20	20.92	0.30
2.750	0.30	8.833	13.82	14.917	1.20	21.00	0.30
2.833	0.30	8.917	13.82	15.000	1.20	21.08	0.30
2.917	0.30	9.000	13.82	15.083	1.20	21.17	0.30
3.000	0.30	9.083	13.82	15.167	1.20	21.25	0.30
3.083	0.30	9.167	13.82	15.250	1.20	21.33	0.30
3.167	0.30	9.250	13.82	15.333	1.20	21.42	0.30
3.250	0.30	9.333	13.82	15.417	1.20	21.50	0.30
3.333	0.30	9.417	13.82	15.500	1.20	21.58	0.30
3.417	0.30	9.500	13.82	15.583	1.20	21.67	0.30
3.500	0.30	9.583	13.82	15.667	1.20	21.75	0.30
3.583	0.30	9.667	13.82	15.750	1.20	21.83	0.30
3.667	0.30	9.750	13.82	15.833	1.20	21.92	0.30
3.750	0.30	9.833	13.82	15.917	1.20	22.00	0.30
3.833	0.30	9.917	13.82	16.000	1.20	22.08	0.30
3.917	0.30	10.000	13.82	16.083	1.20	22.17	0.30
4.000	0.30	10.083	13.82	16.167	1.20	22.25	0.30
4.083	0.30	10.167	13.82	16.250	1.20	22.33	0.30
4.167	0.30	10.250	13.82	16.333	0.60	22.42	0.30
4.250	0.30	10.333	3.91	16.417	0.60	22.50	0.30
4.333	1.80	10.417	3.91	16.500	0.60	22.58	0.30
4.417	1.80	10.500	3.91	16.583	0.60	22.67	0.30
4.500	1.80	10.583	3.91	16.667	0.60	22.75	0.30
4.583	1.80	10.667	3.91	16.750	0.60	22.83	0.30
4.667	1.80	10.750	3.91	16.833	0.60	22.92	0.30
4.750	1.80	10.833	3.91	16.917	0.60	23.00	0.30
4.833	1.80	10.917	3.91	17.000	0.60	23.08	0.30
4.917	1.80	11.000	3.91	17.083	0.60	23.17	0.30
5.000	1.80	11.083	3.91	17.167	0.60	23.25	0.30
5.083	1.80	11.167	3.91	17.250	0.60	23.33	0.30
5.167	1.80	11.250	3.91	17.333	0.60	23.42	0.30
5.250	1.80	11.333	3.91	17.417	0.60	23.50	0.30
5.333	1.80	11.417	3.91	17.500	0.60	23.58	0.30
5.417	1.80	11.500	3.91	17.583	0.60	23.67	0.30
5.500	1.80	11.583	3.91	17.667	0.60	23.75	0.30
5.583	1.80	11.667	3.91	17.750	0.60	23.83	0.30
5.667	1.80	11.750	3.91	17.833	0.60	23.92	0.30
5.750	1.80	11.833	3.91	17.917	0.60	24.00	0.30
5.833	1.80	11.917	3.91	18.000	0.60	24.08	0.30
5.917	1.80	12.000	3.91	18.083	0.60	24.17	0.30
6.000	1.80	12.083	3.91	18.167	0.60	24.25	0.30
6.083	1.80	12.167	3.91	18.250	0.60		

Max.Eff.Inten.(mm/hr)=	13.82	8.64		
over (min)	5.00	25.00		
Storage Coeff. (min)=	5.58 (ii)	24.38 (ii)		
Unit Hyd. Tpeak (min)=	5.00	25.00		
Unit Hyd. peak (cms)=	0.20	0.05		
			TOTALS	
PEAK FLOW (cms)=	0.04	0.01	0.051 (iii)	
TIME TO PEAK (hrs)=	9.50	10.25	10.25	
RUNOFF VOLUME (mm)=	59.08	27.37	52.73	
TOTAL RAINFALL (mm)=	60.08	60.08	60.08	
RUNOFF COEFFICIENT =	0.98	0.46	0.88	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0259)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	1.45	0.051	10.25	52.73
+ ID2= 2 (0260):	3.22	0.093	10.25	54.71

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       ID = 3 (  0259):     4.67   0.144    10.25    54.10

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\ab0cf43f
| Ptotal= 60.08 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	5.11	12.75	2.10	19.00	0.30
0.50	0.30	6.75	5.11	13.00	2.10	19.25	0.30
0.75	0.30	7.00	5.11	13.25	2.10	19.50	0.30
1.00	0.30	7.25	5.11	13.50	2.10	19.75	0.30
1.25	0.30	7.50	5.11	13.75	2.10	20.00	0.30
1.50	0.30	7.75	5.11	14.00	2.10	20.25	0.30
1.75	0.30	8.00	5.11	14.25	2.10	20.50	0.30
2.00	0.30	8.25	5.11	14.50	1.20	20.75	0.30
2.25	0.30	8.50	13.82	14.75	1.20	21.00	0.30
2.50	0.30	8.75	13.82	15.00	1.20	21.25	0.30
2.75	0.30	9.00	13.82	15.25	1.20	21.50	0.30
3.00	0.30	9.25	13.82	15.50	1.20	21.75	0.30
3.25	0.30	9.50	13.82	15.75	1.20	22.00	0.30
3.50	0.30	9.75	13.82	16.00	1.20	22.25	0.30
3.75	0.30	10.00	13.82	16.25	1.20	22.50	0.30
4.00	0.30	10.25	13.82	16.50	0.60	22.75	0.30
4.25	0.30	10.50	3.91	16.75	0.60	23.00	0.30
4.50	1.80	10.75	3.91	17.00	0.60	23.25	0.30
4.75	1.80	11.00	3.91	17.25	0.60	23.50	0.30
5.00	1.80	11.25	3.91	17.50	0.60	23.75	0.30
5.25	1.80	11.50	3.91	17.75	0.60	24.00	0.30
5.50	1.80	11.75	3.91	18.00	0.60	24.25	0.30
5.75	1.80	12.00	3.91	18.25	0.60		
6.00	1.80	12.25	3.91	18.50	0.30		
6.25	1.80	12.50	2.10	18.75	0.30		

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| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.22	0.05
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	187.44	40.00
Mannings n	=	0.013	0.250

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        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.80	12.250	3.91	18.33	0.30
0.167	0.00	6.250	1.80	12.333	2.10	18.42	0.30
0.250	0.00	6.333	5.11	12.417	2.10	18.50	0.30
0.333	0.30	6.417	5.11	12.500	2.10	18.58	0.30
0.417	0.30	6.500	5.11	12.583	2.10	18.67	0.30
0.500	0.30	6.583	5.11	12.667	2.10	18.75	0.30
0.583	0.30	6.667	5.11	12.750	2.10	18.83	0.30
0.667	0.30	6.750	5.11	12.833	2.10	18.92	0.30
0.750	0.30	6.833	5.11	12.917	2.10	19.00	0.30
0.833	0.30	6.917	5.11	13.000	2.10	19.08	0.30
0.917	0.30	7.000	5.11	13.083	2.10	19.17	0.30
1.000	0.30	7.083	5.11	13.167	2.10	19.25	0.30
1.083	0.30	7.167	5.11	13.250	2.10	19.33	0.30
1.167	0.30	7.250	5.11	13.333	2.10	19.42	0.30
1.250	0.30	7.333	5.11	13.417	2.10	19.50	0.30
1.333	0.30	7.417	5.11	13.500	2.10	19.58	0.30
1.417	0.30	7.500	5.11	13.583	2.10	19.67	0.30
1.500	0.30	7.583	5.11	13.667	2.10	19.75	0.30
1.583	0.30	7.667	5.11	13.750	2.10	19.83	0.30
1.667	0.30	7.750	5.11	13.833	2.10	19.92	0.30
1.750	0.30	7.833	5.11	13.917	2.10	20.00	0.30
1.833	0.30	7.917	5.11	14.000	2.10	20.08	0.30
1.917	0.30	8.000	5.11	14.083	2.10	20.17	0.30
2.000	0.30	8.083	5.11	14.167	2.10	20.25	0.30
2.083	0.30	8.167	5.11	14.250	2.10	20.33	0.30
2.167	0.30	8.250	5.11	14.333	1.20	20.42	0.30
2.250	0.30	8.333	13.82	14.417	1.20	20.50	0.30
2.333	0.30	8.417	13.82	14.500	1.20	20.58	0.30
2.417	0.30	8.500	13.82	14.583	1.20	20.67	0.30
2.500	0.30	8.583	13.82	14.667	1.20	20.75	0.30
2.583	0.30	8.667	13.82	14.750	1.20	20.83	0.30
2.667	0.30	8.750	13.82	14.833	1.20	20.92	0.30
2.750	0.30	8.833	13.82	14.917	1.20	21.00	0.30
2.833	0.30	8.917	13.82	15.000	1.20	21.08	0.30
2.917	0.30	9.000	13.82	15.083	1.20	21.17	0.30
3.000	0.30	9.083	13.82	15.167	1.20	21.25	0.30
3.083	0.30	9.167	13.82	15.250	1.20	21.33	0.30
3.167	0.30	9.250	13.82	15.333	1.20	21.42	0.30
3.250	0.30	9.333	13.82	15.417	1.20	21.50	0.30
3.333	0.30	9.417	13.82	15.500	1.20	21.58	0.30
3.417	0.30	9.500	13.82	15.583	1.20	21.67	0.30
3.500	0.30	9.583	13.82	15.667	1.20	21.75	0.30
3.583	0.30	9.667	13.82	15.750	1.20	21.83	0.30
3.667	0.30	9.750	13.82	15.833	1.20	21.92	0.30
3.750	0.30	9.833	13.82	15.917	1.20	22.00	0.30
3.833	0.30	9.917	13.82	16.000	1.20	22.08	0.30
3.917	0.30	10.000	13.82	16.083	1.20	22.17	0.30
4.000	0.30	10.083	13.82	16.167	1.20	22.25	0.30
4.083	0.30	10.167	13.82	16.250	1.20	22.33	0.30
4.167	0.30	10.250	13.82	16.333	0.60	22.42	0.30
4.250	0.30	10.333	3.91	16.417	0.60	22.50	0.30
4.333	1.80	10.417	3.91	16.500	0.60	22.58	0.30
4.417	1.80	10.500	3.91	16.583	0.60	22.67	0.30
4.500	1.80	10.583	3.91	16.667	0.60	22.75	0.30
4.583	1.80	10.667	3.91	16.750	0.60	22.83	0.30
4.667	1.80	10.750	3.91	16.833	0.60	22.92	0.30
4.750	1.80	10.833	3.91	16.917	0.60	23.00	0.30
4.833	1.80	10.917	3.91	17.000	0.60	23.08	0.30
4.917	1.80	11.000	3.91	17.083	0.60	23.17	0.30
5.000	1.80	11.083	3.91	17.167	0.60	23.25	0.30
5.083	1.80	11.167	3.91	17.250	0.60	23.33	0.30
5.167	1.80	11.250	3.91	17.333	0.60	23.42	0.30
5.250	1.80	11.333	3.91	17.417	0.60	23.50	0.30
5.333	1.80	11.417	3.91	17.500	0.60	23.58	0.30
5.417	1.80	11.500	3.91	17.583	0.60	23.67	0.30
5.500	1.80	11.583	3.91	17.667	0.60	23.75	0.30
5.583	1.80	11.667	3.91	17.750	0.60	23.83	0.30
5.667	1.80	11.750	3.91	17.833	0.60	23.92	0.30

```
               5.750    1.80 |11.833    3.91 |17.917    0.60 | 24.00    0.30
               5.833    1.80 |11.917    3.91 |18.000    0.60 | 24.08    0.30
               5.917    1.80 |12.000    3.91 |18.083    0.60 | 24.17    0.30
               6.000    1.80 |12.083    3.91 |18.167    0.60 | 24.25    0.30
               6.083    1.80 |12.167    3.91 |18.250    0.60 |

     Max.Eff.Inten.(mm/hr)=      13.82         8.77
               over (min)        10.00        15.00
     Storage Coeff.  (min)=       8.22 (ii)   10.70 (ii)
     Unit Hyd. Tpeak (min)=      10.00        15.00
     Unit Hyd. peak  (cms)=       0.13         0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.00          0.202 (iii)
     TIME TO PEAK    (hrs)=      10.25        10.25          10.25
     RUNOFF VOLUME    (mm)=      59.08        27.37          58.76
     TOTAL RAINFALL   (mm)=      60.08        60.08          60.08
     RUNOFF COEFFICIENT   =       0.98         0.46           0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0268)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1959      0.1883
                          0.0980     0.0369   |   0.2939      0.4335

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0201)     5.270     0.202     10.25      58.76
   OUTFLOW: ID= 1 (  0268)     5.270     0.130     10.42      58.75

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 64.65
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0870

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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\ab0cf43f
| Ptotal= 60.08 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    5.11 | 12.75    2.10 | 19.00    0.30
                0.50    0.30 |  6.75    5.11 | 13.00    2.10 | 19.25    0.30
                0.75    0.30 |  7.00    5.11 | 13.25    2.10 | 19.50    0.30
                1.00    0.30 |  7.25    5.11 | 13.50    2.10 | 19.75    0.30
                1.25    0.30 |  7.50    5.11 | 13.75    2.10 | 20.00    0.30
                1.50    0.30 |  7.75    5.11 | 14.00    2.10 | 20.25    0.30
                1.75    0.30 |  8.00    5.11 | 14.25    2.10 | 20.50    0.30
                2.00    0.30 |  8.25    5.11 | 14.50    1.20 | 20.75    0.30
                2.25    0.30 |  8.50   13.82 | 14.75    1.20 | 21.00    0.30
                2.50    0.30 |  8.75   13.82 | 15.00    1.20 | 21.25    0.30
                2.75    0.30 |  9.00   13.82 | 15.25    1.20 | 21.50    0.30
                3.00    0.30 |  9.25   13.82 | 15.50    1.20 | 21.75    0.30
                3.25    0.30 |  9.50   13.82 | 15.75    1.20 | 22.00    0.30
                3.50    0.30 |  9.75   13.82 | 16.00    1.20 | 22.25    0.30
                3.75    0.30 | 10.00   13.82 | 16.25    1.20 | 22.50    0.30
                4.00    0.30 | 10.25   13.82 | 16.50    0.60 | 22.75    0.30
                4.25    0.30 | 10.50    3.91 | 16.75    0.60 | 23.00    0.30
                4.50    1.80 | 10.75    3.91 | 17.00    0.60 | 23.25    0.30
                4.75    1.80 | 11.00    3.91 | 17.25    0.60 | 23.50    0.30
                5.00    1.80 | 11.25    3.91 | 17.50    0.60 | 23.75    0.30
                5.25    1.80 | 11.50    3.91 | 17.75    0.60 | 24.00    0.30
                5.50    1.80 | 11.75    3.91 | 18.00    0.60 | 24.25    0.30
                5.75    1.80 | 12.00    3.91 | 18.25    0.60 |
                6.00    1.80 | 12.25    3.91 | 18.50    0.30 |
                6.25    1.80 | 12.50    2.10 | 18.75    0.30 |

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| CALIB            |
| STANDHYD (  0202)|   Area    (ha)=   6.57
|ID= 1 DT= 5.0 min |   Total Imp(%)=  81.00   Dir. Conn.(%)=  81.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        5.32          1.25
     Dep. Storage     (mm)=        1.00          5.00
     Average Slope     (%)=        1.00          2.00
     Length            (m)=      209.28         40.00
     Mannings n             =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    1.80 |12.250    3.91 | 18.33    0.30
               0.167    0.00 | 6.250    1.80 |12.333    2.10 | 18.42    0.30
               0.250    0.00 | 6.333    5.11 |12.417    2.10 | 18.50    0.30
               0.333    0.30 | 6.417    5.11 |12.500    2.10 | 18.58    0.30
               0.417    0.30 | 6.500    5.11 |12.583    2.10 | 18.67    0.30
               0.500    0.30 | 6.583    5.11 |12.667    2.10 | 18.75    0.30
               0.583    0.30 | 6.667    5.11 |12.750    2.10 | 18.83    0.30
               0.667    0.30 | 6.750    5.11 |12.833    2.10 | 18.92    0.30
               0.750    0.30 | 6.833    5.11 |12.917    2.10 | 19.00    0.30
               0.833    0.30 | 6.917    5.11 |13.000    2.10 | 19.08    0.30
               0.917    0.30 | 7.000    5.11 |13.083    2.10 | 19.17    0.30
               1.000    0.30 | 7.083    5.11 |13.167    2.10 | 19.25    0.30
               1.083    0.30 | 7.167    5.11 |13.250    2.10 | 19.33    0.30
               1.167    0.30 | 7.250    5.11 |13.333    2.10 | 19.42    0.30
               1.250    0.30 | 7.333    5.11 |13.417    2.10 | 19.50    0.30
               1.333    0.30 | 7.417    5.11 |13.500    2.10 | 19.58    0.30
               1.417    0.30 | 7.500    5.11 |13.583    2.10 | 19.67    0.30
               1.500    0.30 | 7.583    5.11 |13.667    2.10 | 19.75    0.30
               1.583    0.30 | 7.667    5.11 |13.750    2.10 | 19.83    0.30
               1.667    0.30 | 7.750    5.11 |13.833    2.10 | 19.92    0.30
               1.750    0.30 | 7.833    5.11 |13.917    2.10 | 20.00    0.30
               1.833    0.30 | 7.917    5.11 |14.000    2.10 | 20.08    0.30
               1.917    0.30 | 8.000    5.11 |14.083    2.10 | 20.17    0.30
               2.000    0.30 | 8.083    5.11 |14.167    2.10 | 20.25    0.30
               2.083    0.30 | 8.167    5.11 |14.250    2.10 | 20.33    0.30
               2.167    0.30 | 8.250    5.11 |14.333    1.20 | 20.42    0.30
               2.250    0.30 | 8.333   13.82 |14.417    1.20 | 20.50    0.30
               2.333    0.30 | 8.417   13.82 |14.500    1.20 | 20.58    0.30
               2.417    0.30 | 8.500   13.82 |14.583    1.20 | 20.67    0.30
```

2.500	0.30	8.583	13.82	14.667	1.20	20.75	0.30
2.583	0.30	8.667	13.82	14.750	1.20	20.83	0.30
2.667	0.30	8.750	13.82	14.833	1.20	20.92	0.30
2.750	0.30	8.833	13.82	14.917	1.20	21.00	0.30
2.833	0.30	8.917	13.82	15.000	1.20	21.08	0.30
2.917	0.30	9.000	13.82	15.083	1.20	21.17	0.30
3.000	0.30	9.083	13.82	15.167	1.20	21.25	0.30
3.083	0.30	9.167	13.82	15.250	1.20	21.33	0.30
3.167	0.30	9.250	13.82	15.333	1.20	21.42	0.30
3.250	0.30	9.333	13.82	15.417	1.20	21.50	0.30
3.333	0.30	9.417	13.82	15.500	1.20	21.58	0.30
3.417	0.30	9.500	13.82	15.583	1.20	21.67	0.30
3.500	0.30	9.583	13.82	15.667	1.20	21.75	0.30
3.583	0.30	9.667	13.82	15.750	1.20	21.83	0.30
3.667	0.30	9.750	13.82	15.833	1.20	21.92	0.30
3.750	0.30	9.833	13.82	15.917	1.20	22.00	0.30
3.833	0.30	9.917	13.82	16.000	1.20	22.08	0.30
3.917	0.30	10.000	13.82	16.083	1.20	22.17	0.30
4.000	0.30	10.083	13.82	16.167	1.20	22.25	0.30
4.083	0.30	10.167	13.82	16.250	1.20	22.33	0.30
4.167	0.30	10.250	13.82	16.333	0.60	22.42	0.30
4.250	0.30	10.333	3.91	16.417	0.60	22.50	0.30
4.333	1.80	10.417	3.91	16.500	0.60	22.58	0.30
4.417	1.80	10.500	3.91	16.583	0.60	22.67	0.30
4.500	1.80	10.583	3.91	16.667	0.60	22.75	0.30
4.583	1.80	10.667	3.91	16.750	0.60	22.83	0.30
4.667	1.80	10.750	3.91	16.833	0.60	22.92	0.30
4.750	1.80	10.833	3.91	16.917	0.60	23.00	0.30
4.833	1.80	10.917	3.91	17.000	0.60	23.08	0.30
4.917	1.80	11.000	3.91	17.083	0.60	23.17	0.30
5.000	1.80	11.083	3.91	17.167	0.60	23.25	0.30
5.083	1.80	11.167	3.91	17.250	0.60	23.33	0.30
5.167	1.80	11.250	3.91	17.333	0.60	23.42	0.30
5.250	1.80	11.333	3.91	17.417	0.60	23.50	0.30
5.333	1.80	11.417	3.91	17.500	0.60	23.58	0.30
5.417	1.80	11.500	3.91	17.583	0.60	23.67	0.30
5.500	1.80	11.583	3.91	17.667	0.60	23.75	0.30
5.583	1.80	11.667	3.91	17.750	0.60	23.83	0.30
5.667	1.80	11.750	3.91	17.833	0.60	23.92	0.30
5.750	1.80	11.833	3.91	17.917	0.60	24.00	0.30
5.833	1.80	11.917	3.91	18.000	0.60	24.08	0.30
5.917	1.80	12.000	3.91	18.083	0.60	24.17	0.30
6.000	1.80	12.083	3.91	18.167	0.60	24.25	0.30
6.083	1.80	12.167	3.91	18.250	0.60		

Max.Eff.Inten.(mm/hr)=	13.82	8.64	
over (min)	10.00	30.00	
Storage Coeff. (min)=	8.78 (ii)	27.58 (ii)	
Unit Hyd. Tpeak (min)=	10.00	30.00	
Unit Hyd. peak (cms)=	0.12	0.04	
			TOTALS
PEAK FLOW (cms)=	0.20	0.03	0.230 (iii)
TIME TO PEAK (hrs)=	10.25	10.33	10.25
RUNOFF VOLUME (mm)=	59.08	27.37	53.05
TOTAL RAINFALL (mm)=	60.08	60.08	60.08
RUNOFF COEFFICIENT =	0.98	0.46	0.88

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	6.57	0.230	10.25	53.05
+ ID2= 2 (0268):	5.27	0.130	10.42	58.75
ID = 3 (0262):	11.84	0.359	10.25	55.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):	4.67	0.144	10.25	54.10
+ ID2= 2 (0262):	11.84	0.359	10.25	55.59
ID = 3 (0266):	16.51	0.503	10.25	55.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0263)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2130	0.6563
0.0190	0.1773	0.2520	0.6883
0.0220	0.2128	0.2890	0.7150
0.0260	0.2888	0.2980	0.7450
0.0300	0.3648	0.3060	0.7700
0.0650	0.4586	0.3150	0.8127
0.1100	0.5155	0.3320	0.9290
0.1680	0.5503	0.3390	0.9767
0.1930	0.5804	0.3520	1.0680
0.2000	0.6048	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0266)	16.510	0.503	10.25	55.17
OUTFLOW: ID= 1 (0263)	16.510	0.173	12.83	55.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.41
TIME SHIFT OF PEAK FLOW (min)=155.00
MAXIMUM STORAGE USED (ha.m.)= 0.5564

ADD HYD (0261)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0206):	0.12	0.003	10.25	27.34
+ ID2= 2 (0263):	16.51	0.173	12.83	55.02
ID = 3 (0261):	16.64	0.174	12.83	54.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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      V    V   I    SSSSS  U   U    A    L             (v 5.0.2025)
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\3ad0a445-98ef-4dce-9217-ba887e56117d\s
  Summary filename: C:\Users\mventresca\AppData\Local\Civica\VH5\4d9d4227-6f21-
4bf8-aeac-18a29a864848\3ad0a445-98ef-4dce-9217-ba887e56117d\s


DATE: 07/06/2020                          TIME: 04:38:42

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 50 Year 24 Hour AES           **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\1089df3a
| Ptotal= 87.80 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	7.46	12.75	3.07	19.00	0.44
0.50	0.44	6.75	7.46	13.00	3.07	19.25	0.44
0.75	0.44	7.00	7.46	13.25	3.07	19.50	0.44
1.00	0.44	7.25	7.46	13.50	3.07	19.75	0.44
1.25	0.44	7.50	7.46	13.75	3.07	20.00	0.44
1.50	0.44	7.75	7.46	14.00	3.07	20.25	0.44
1.75	0.44	8.00	7.46	14.25	3.07	20.50	0.44
2.00	0.44	8.25	7.46	14.50	1.76	20.75	0.44
2.25	0.44	8.50	20.19	14.75	1.76	21.00	0.44
2.50	0.44	8.75	20.19	15.00	1.76	21.25	0.44
2.75	0.44	9.00	20.19	15.25	1.76	21.50	0.44
3.00	0.44	9.25	20.19	15.50	1.76	21.75	0.44
3.25	0.44	9.50	20.19	15.75	1.76	22.00	0.44
3.50	0.44	9.75	20.19	16.00	1.76	22.25	0.44
3.75	0.44	10.00	20.19	16.25	1.76	22.50	0.44
4.00	0.44	10.25	20.19	16.50	0.88	22.75	0.44
4.25	0.44	10.50	5.71	16.75	0.88	23.00	0.44
4.50	2.63	10.75	5.71	17.00	0.88	23.25	0.44
4.75	2.63	11.00	5.71	17.25	0.88	23.50	0.44
5.00	2.63	11.25	5.71	17.50	0.88	23.75	0.44
5.25	2.63	11.50	5.71	17.75	0.88	24.00	0.44
5.50	2.63	11.75	5.71	18.00	0.88	24.25	0.44
5.75	2.63	12.00	5.71	18.25	0.88		
6.00	2.63	12.25	5.71	18.50	0.44		
6.25	2.63	12.50	3.07	18.75	0.44		

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| CALIB            |
| NASHYD   (  0206)|   Area    (ha)=   0.12   Curve Number   (CN)= 82.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.25

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.63	12.250	5.71	18.33	0.44
0.167	0.00	6.250	2.63	12.333	3.07	18.42	0.44
0.250	0.00	6.333	7.46	12.417	3.07	18.50	0.44
0.333	0.44	6.417	7.46	12.500	3.07	18.58	0.44
0.417	0.44	6.500	7.46	12.583	3.07	18.67	0.44
0.500	0.44	6.583	7.46	12.667	3.07	18.75	0.44
0.583	0.44	6.667	7.46	12.750	3.07	18.83	0.44
0.667	0.44	6.750	7.46	12.833	3.07	18.92	0.44
0.750	0.44	6.833	7.46	12.917	3.07	19.00	0.44
0.833	0.44	6.917	7.46	13.000	3.07	19.08	0.44
0.917	0.44	7.000	7.46	13.083	3.07	19.17	0.44
1.000	0.44	7.083	7.46	13.167	3.07	19.25	0.44
1.083	0.44	7.167	7.46	13.250	3.07	19.33	0.44
1.167	0.44	7.250	7.46	13.333	3.07	19.42	0.44
1.250	0.44	7.333	7.46	13.417	3.07	19.50	0.44
1.333	0.44	7.417	7.46	13.500	3.07	19.58	0.44
1.417	0.44	7.500	7.46	13.583	3.07	19.67	0.44
1.500	0.44	7.583	7.46	13.667	3.07	19.75	0.44
1.583	0.44	7.667	7.46	13.750	3.07	19.83	0.44
1.667	0.44	7.750	7.46	13.833	3.07	19.92	0.44
1.750	0.44	7.833	7.46	13.917	3.07	20.00	0.44
1.833	0.44	7.917	7.46	14.000	3.07	20.08	0.44
1.917	0.44	8.000	7.46	14.083	3.07	20.17	0.44
2.000	0.44	8.083	7.46	14.167	3.07	20.25	0.44
2.083	0.44	8.167	7.46	14.250	3.07	20.33	0.44
2.167	0.44	8.250	7.46	14.333	1.76	20.42	0.44
2.250	0.44	8.333	20.19	14.417	1.76	20.50	0.44
2.333	0.44	8.417	20.19	14.500	1.76	20.58	0.44
2.417	0.44	8.500	20.19	14.583	1.76	20.67	0.44
2.500	0.44	8.583	20.19	14.667	1.76	20.75	0.44
2.583	0.44	8.667	20.19	14.750	1.76	20.83	0.44
2.667	0.44	8.750	20.19	14.833	1.76	20.92	0.44
2.750	0.44	8.833	20.19	14.917	1.76	21.00	0.44
2.833	0.44	8.917	20.19	15.000	1.76	21.08	0.44

2.917	0.44	9.000	20.19	15.083	1.76	21.17	0.44
3.000	0.44	9.083	20.19	15.167	1.76	21.25	0.44
3.083	0.44	9.167	20.19	15.250	1.76	21.33	0.44
3.167	0.44	9.250	20.19	15.333	1.76	21.42	0.44
3.250	0.44	9.333	20.19	15.417	1.76	21.50	0.44
3.333	0.44	9.417	20.19	15.500	1.76	21.58	0.44
3.417	0.44	9.500	20.19	15.583	1.76	21.67	0.44
3.500	0.44	9.583	20.19	15.667	1.76	21.75	0.44
3.583	0.44	9.667	20.19	15.750	1.76	21.83	0.44
3.667	0.44	9.750	20.19	15.833	1.76	21.92	0.44
3.750	0.44	9.833	20.19	15.917	1.76	22.00	0.44
3.833	0.44	9.917	20.19	16.000	1.76	22.08	0.44
3.917	0.44	10.000	20.19	16.083	1.76	22.17	0.44
4.000	0.44	10.083	20.19	16.167	1.76	22.25	0.44
4.083	0.44	10.167	20.19	16.250	1.76	22.33	0.44
4.167	0.44	10.250	20.19	16.333	0.88	22.42	0.44
4.250	0.44	10.333	5.71	16.417	0.88	22.50	0.44
4.333	2.63	10.417	5.71	16.500	0.88	22.58	0.44
4.417	2.63	10.500	5.71	16.583	0.88	22.67	0.44
4.500	2.63	10.583	5.71	16.667	0.88	22.75	0.44
4.583	2.63	10.667	5.71	16.750	0.88	22.83	0.44
4.667	2.63	10.750	5.71	16.833	0.88	22.92	0.44
4.750	2.63	10.833	5.71	16.917	0.88	23.00	0.44
4.833	2.63	10.917	5.71	17.000	0.88	23.08	0.44
4.917	2.63	11.000	5.71	17.083	0.88	23.17	0.44
5.000	2.63	11.083	5.71	17.167	0.88	23.25	0.44
5.083	2.63	11.167	5.71	17.250	0.88	23.33	0.44
5.167	2.63	11.250	5.71	17.333	0.88	23.42	0.44
5.250	2.63	11.333	5.71	17.417	0.88	23.50	0.44
5.333	2.63	11.417	5.71	17.500	0.88	23.58	0.44
5.417	2.63	11.500	5.71	17.583	0.88	23.67	0.44
5.500	2.63	11.583	5.71	17.667	0.88	23.75	0.44
5.583	2.63	11.667	5.71	17.750	0.88	23.83	0.44
5.667	2.63	11.750	5.71	17.833	0.88	23.92	0.44
5.750	2.63	11.833	5.71	17.917	0.88	24.00	0.44
5.833	2.63	11.917	5.71	18.000	0.88	24.08	0.44
5.917	2.63	12.000	5.71	18.083	0.88	24.17	0.44
6.000	2.63	12.083	5.71	18.167	0.88	24.25	0.44
6.083	2.63	12.167	5.71	18.250	0.88		

Unit Hyd Qpeak (cms)= 0.019

PEAK FLOW (cms)= 0.005 (i)
TIME TO PEAK (hrs)= 10.250
RUNOFF VOLUME (mm)= 49.434
TOTAL RAINFALL (mm)= 87.800
RUNOFF COEFFICIENT = 0.563

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\1089df3a
Ptotal= 87.80 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	7.46	12.75	3.07	19.00	0.44
0.50	0.44	6.75	7.46	13.00	3.07	19.25	0.44
0.75	0.44	7.00	7.46	13.25	3.07	19.50	0.44
1.00	0.44	7.25	7.46	13.50	3.07	19.75	0.44
1.25	0.44	7.50	7.46	13.75	3.07	20.00	0.44
1.50	0.44	7.75	7.46	14.00	3.07	20.25	0.44
1.75	0.44	8.00	7.46	14.25	3.07	20.50	0.44
2.00	0.44	8.25	7.46	14.50	1.76	20.75	0.44
2.25	0.44	8.50	20.19	14.75	1.76	21.00	0.44
2.50	0.44	8.75	20.19	15.00	1.76	21.25	0.44
2.75	0.44	9.00	20.19	15.25	1.76	21.50	0.44
3.00	0.44	9.25	20.19	15.50	1.76	21.75	0.44
3.25	0.44	9.50	20.19	15.75	1.76	22.00	0.44
3.50	0.44	9.75	20.19	16.00	1.76	22.25	0.44
3.75	0.44	10.00	20.19	16.25	1.76	22.50	0.44
4.00	0.44	10.25	20.19	16.50	0.88	22.75	0.44
4.25	0.44	10.50	5.71	16.75	0.88	23.00	0.44
4.50	2.63	10.75	5.71	17.00	0.88	23.25	0.44
4.75	2.63	11.00	5.71	17.25	0.88	23.50	0.44
5.00	2.63	11.25	5.71	17.50	0.88	23.75	0.44
5.25	2.63	11.50	5.71	17.75	0.88	24.00	0.44
5.50	2.63	11.75	5.71	18.00	0.88	24.25	0.44
5.75	2.63	12.00	5.71	18.25	0.88		
6.00	2.63	12.25	5.71	18.50	0.44		
6.25	2.63	12.50	3.07	18.75	0.44		

CALIB	
STANDHYD (0205)	Area (ha)= 1.12
ID= 1 DT= 5.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.11	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	86.60	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.63	12.250	5.71	18.33	0.44
0.167	0.00	6.250	2.63	12.333	3.07	18.42	0.44
0.250	0.00	6.333	7.46	12.417	3.07	18.50	0.44
0.333	0.44	6.417	7.46	12.500	3.07	18.58	0.44
0.417	0.44	6.500	7.46	12.583	3.07	18.67	0.44
0.500	0.44	6.583	7.46	12.667	3.07	18.75	0.44
0.583	0.44	6.667	7.46	12.750	3.07	18.83	0.44
0.667	0.44	6.750	7.46	12.833	3.07	18.92	0.44
0.750	0.44	6.833	7.46	12.917	3.07	19.00	0.44
0.833	0.44	6.917	7.46	13.000	3.07	19.08	0.44
0.917	0.44	7.000	7.46	13.083	3.07	19.17	0.44
1.000	0.44	7.083	7.46	13.167	3.07	19.25	0.44
1.083	0.44	7.167	7.46	13.250	3.07	19.33	0.44
1.167	0.44	7.250	7.46	13.333	3.07	19.42	0.44
1.250	0.44	7.333	7.46	13.417	3.07	19.50	0.44
1.333	0.44	7.417	7.46	13.500	3.07	19.58	0.44
1.417	0.44	7.500	7.46	13.583	3.07	19.67	0.44
1.500	0.44	7.583	7.46	13.667	3.07	19.75	0.44
1.583	0.44	7.667	7.46	13.750	3.07	19.83	0.44
1.667	0.44	7.750	7.46	13.833	3.07	19.92	0.44
1.750	0.44	7.833	7.46	13.917	3.07	20.00	0.44
1.833	0.44	7.917	7.46	14.000	3.07	20.08	0.44

1.917	0.44	8.000	7.46	14.083	3.07	20.17	0.44
2.000	0.44	8.083	7.46	14.167	3.07	20.25	0.44
2.083	0.44	8.167	7.46	14.250	3.07	20.33	0.44
2.167	0.44	8.250	7.46	14.333	1.76	20.42	0.44
2.250	0.44	8.333	20.19	14.417	1.76	20.50	0.44
2.333	0.44	8.417	20.19	14.500	1.76	20.58	0.44
2.417	0.44	8.500	20.19	14.583	1.76	20.67	0.44
2.500	0.44	8.583	20.19	14.667	1.76	20.75	0.44
2.583	0.44	8.667	20.19	14.750	1.76	20.83	0.44
2.667	0.44	8.750	20.19	14.833	1.76	20.92	0.44
2.750	0.44	8.833	20.19	14.917	1.76	21.00	0.44
2.833	0.44	8.917	20.19	15.000	1.76	21.08	0.44
2.917	0.44	9.000	20.19	15.083	1.76	21.17	0.44
3.000	0.44	9.083	20.19	15.167	1.76	21.25	0.44
3.083	0.44	9.167	20.19	15.250	1.76	21.33	0.44
3.167	0.44	9.250	20.19	15.333	1.76	21.42	0.44
3.250	0.44	9.333	20.19	15.417	1.76	21.50	0.44
3.333	0.44	9.417	20.19	15.500	1.76	21.58	0.44
3.417	0.44	9.500	20.19	15.583	1.76	21.67	0.44
3.500	0.44	9.583	20.19	15.667	1.76	21.75	0.44
3.583	0.44	9.667	20.19	15.750	1.76	21.83	0.44
3.667	0.44	9.750	20.19	15.833	1.76	21.92	0.44
3.750	0.44	9.833	20.19	15.917	1.76	22.00	0.44
3.833	0.44	9.917	20.19	16.000	1.76	22.08	0.44
3.917	0.44	10.000	20.19	16.083	1.76	22.17	0.44
4.000	0.44	10.083	20.19	16.167	1.76	22.25	0.44
4.083	0.44	10.167	20.19	16.250	1.76	22.33	0.44
4.167	0.44	10.250	20.19	16.333	0.88	22.42	0.44
4.250	0.44	10.333	5.71	16.417	0.88	22.50	0.44
4.333	2.63	10.417	5.71	16.500	0.88	22.58	0.44
4.417	2.63	10.500	5.71	16.583	0.88	22.67	0.44
4.500	2.63	10.583	5.71	16.667	0.88	22.75	0.44
4.583	2.63	10.667	5.71	16.750	0.88	22.83	0.44
4.667	2.63	10.750	5.71	16.833	0.88	22.92	0.44
4.750	2.63	10.833	5.71	16.917	0.88	23.00	0.44
4.833	2.63	10.917	5.71	17.000	0.88	23.08	0.44
4.917	2.63	11.000	5.71	17.083	0.88	23.17	0.44
5.000	2.63	11.083	5.71	17.167	0.88	23.25	0.44
5.083	2.63	11.167	5.71	17.250	0.88	23.33	0.44
5.167	2.63	11.250	5.71	17.333	0.88	23.42	0.44
5.250	2.63	11.333	5.71	17.417	0.88	23.50	0.44
5.333	2.63	11.417	5.71	17.500	0.88	23.58	0.44
5.417	2.63	11.500	5.71	17.583	0.88	23.67	0.44
5.500	2.63	11.583	5.71	17.667	0.88	23.75	0.44
5.583	2.63	11.667	5.71	17.750	0.88	23.83	0.44
5.667	2.63	11.750	5.71	17.833	0.88	23.92	0.44
5.750	2.63	11.833	5.71	17.917	0.88	24.00	0.44
5.833	2.63	11.917	5.71	18.000	0.88	24.08	0.44
5.917	2.63	12.000	5.71	18.083	0.88	24.17	0.44
6.000	2.63	12.083	5.71	18.167	0.88	24.25	0.44
6.083	2.63	12.167	5.71	18.250	0.88		

			TOTALS
Max.Eff.Inten.(mm/hr)=	20.19	15.13	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.44 (ii)	6.57 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.23	0.14	
PEAK FLOW (cms)=	0.06	0.00	0.063 (iii)
TIME TO PEAK (hrs)=	9.50	10.25	10.25
RUNOFF VOLUME (mm)=	86.80	49.48	86.42
TOTAL RAINFALL (mm)=	87.80	87.80	87.80
RUNOFF COEFFICIENT =	0.99	0.56	0.98

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0256)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.0750

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0205)	1.125	0.063	10.25	86.42
OUTFLOW: ID= 1 (0256)	1.125	0.029	10.33	86.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 46.42
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0467

READ STORM	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\1089df3a
Ptotal= 87.80 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	7.46	12.75	3.07	19.00	0.44
0.50	0.44	6.75	7.46	13.00	3.07	19.25	0.44
0.75	0.44	7.00	7.46	13.25	3.07	19.50	0.44
1.00	0.44	7.25	7.46	13.50	3.07	19.75	0.44
1.25	0.44	7.50	7.46	13.75	3.07	20.00	0.44
1.50	0.44	7.75	7.46	14.00	3.07	20.25	0.44
1.75	0.44	8.00	7.46	14.25	3.07	20.50	0.44
2.00	0.44	8.25	7.46	14.50	1.76	20.75	0.44
2.25	0.44	8.50	20.19	14.75	1.76	21.00	0.44
2.50	0.44	8.75	20.19	15.00	1.76	21.25	0.44
2.75	0.44	9.00	20.19	15.25	1.76	21.50	0.44
3.00	0.44	9.25	20.19	15.50	1.76	21.75	0.44
3.25	0.44	9.50	20.19	15.75	1.76	22.00	0.44
3.50	0.44	9.75	20.19	16.00	1.76	22.25	0.44
3.75	0.44	10.00	20.19	16.25	1.76	22.50	0.44
4.00	0.44	10.25	20.19	16.50	0.88	22.75	0.44
4.25	0.44	10.50	5.71	16.75	0.88	23.00	0.44
4.50	2.63	10.75	5.71	17.00	0.88	23.25	0.44
4.75	2.63	11.00	5.71	17.25	0.88	23.50	0.44
5.00	2.63	11.25	5.71	17.50	0.88	23.75	0.44
5.25	2.63	11.50	5.71	17.75	0.88	24.00	0.44
5.50	2.63	11.75	5.71	18.00	0.88	24.25	0.44
5.75	2.63	12.00	5.71	18.25	0.88		
6.00	2.63	12.25	5.71	18.50	0.44		
6.25	2.63	12.50	3.07	18.75	0.44		

```
| CALIB           |
| STANDHYD (  0203)|   Area    (ha)=   2.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  80.00   Dir. Conn.(%)=  80.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.68         0.42
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     118.18        40.00
     Mannings n             =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.63	12.250	5.71	18.33	0.44
0.167	0.00	6.250	2.63	12.333	3.07	18.42	0.44
0.250	0.00	6.333	7.46	12.417	3.07	18.50	0.44
0.333	0.44	6.417	7.46	12.500	3.07	18.58	0.44
0.417	0.44	6.500	7.46	12.583	3.07	18.67	0.44
0.500	0.44	6.583	7.46	12.667	3.07	18.75	0.44
0.583	0.44	6.667	7.46	12.750	3.07	18.83	0.44
0.667	0.44	6.750	7.46	12.833	3.07	18.92	0.44
0.750	0.44	6.833	7.46	12.917	3.07	19.00	0.44
0.833	0.44	6.917	7.46	13.000	3.07	19.08	0.44
0.917	0.44	7.000	7.46	13.083	3.07	19.17	0.44
1.000	0.44	7.083	7.46	13.167	3.07	19.25	0.44
1.083	0.44	7.167	7.46	13.250	3.07	19.33	0.44
1.167	0.44	7.250	7.46	13.333	3.07	19.42	0.44
1.250	0.44	7.333	7.46	13.417	3.07	19.50	0.44
1.333	0.44	7.417	7.46	13.500	3.07	19.58	0.44
1.417	0.44	7.500	7.46	13.583	3.07	19.67	0.44
1.500	0.44	7.583	7.46	13.667	3.07	19.75	0.44
1.583	0.44	7.667	7.46	13.750	3.07	19.83	0.44
1.667	0.44	7.750	7.46	13.833	3.07	19.92	0.44
1.750	0.44	7.833	7.46	13.917	3.07	20.00	0.44
1.833	0.44	7.917	7.46	14.000	3.07	20.08	0.44
1.917	0.44	8.000	7.46	14.083	3.07	20.17	0.44
2.000	0.44	8.083	7.46	14.167	3.07	20.25	0.44
2.083	0.44	8.167	7.46	14.250	3.07	20.33	0.44
2.167	0.44	8.250	7.46	14.333	1.76	20.42	0.44
2.250	0.44	8.333	20.19	14.417	1.76	20.50	0.44
2.333	0.44	8.417	20.19	14.500	1.76	20.58	0.44
2.417	0.44	8.500	20.19	14.583	1.76	20.67	0.44
2.500	0.44	8.583	20.19	14.667	1.76	20.75	0.44
2.583	0.44	8.667	20.19	14.750	1.76	20.83	0.44
2.667	0.44	8.750	20.19	14.833	1.76	20.92	0.44
2.750	0.44	8.833	20.19	14.917	1.76	21.00	0.44
2.833	0.44	8.917	20.19	15.000	1.76	21.08	0.44
2.917	0.44	9.000	20.19	15.083	1.76	21.17	0.44
3.000	0.44	9.083	20.19	15.167	1.76	21.25	0.44
3.083	0.44	9.167	20.19	15.250	1.76	21.33	0.44
3.167	0.44	9.250	20.19	15.333	1.76	21.42	0.44
3.250	0.44	9.333	20.19	15.417	1.76	21.50	0.44
3.333	0.44	9.417	20.19	15.500	1.76	21.58	0.44
3.417	0.44	9.500	20.19	15.583	1.76	21.67	0.44
3.500	0.44	9.583	20.19	15.667	1.76	21.75	0.44
3.583	0.44	9.667	20.19	15.750	1.76	21.83	0.44
3.667	0.44	9.750	20.19	15.833	1.76	21.92	0.44
3.750	0.44	9.833	20.19	15.917	1.76	22.00	0.44
3.833	0.44	9.917	20.19	16.000	1.76	22.08	0.44
3.917	0.44	10.000	20.19	16.083	1.76	22.17	0.44
4.000	0.44	10.083	20.19	16.167	1.76	22.25	0.44
4.083	0.44	10.167	20.19	16.250	1.76	22.33	0.44
4.167	0.44	10.250	20.19	16.333	0.88	22.42	0.44
4.250	0.44	10.333	5.71	16.417	0.88	22.50	0.44
4.333	2.63	10.417	5.71	16.500	0.88	22.58	0.44
4.417	2.63	10.500	5.71	16.583	0.88	22.67	0.44
4.500	2.63	10.583	5.71	16.667	0.88	22.75	0.44
4.583	2.63	10.667	5.71	16.750	0.88	22.83	0.44
4.667	2.63	10.750	5.71	16.833	0.88	22.92	0.44
4.750	2.63	10.833	5.71	16.917	0.88	23.00	0.44
4.833	2.63	10.917	5.71	17.000	0.88	23.08	0.44
4.917	2.63	11.000	5.71	17.083	0.88	23.17	0.44
5.000	2.63	11.083	5.71	17.167	0.88	23.25	0.44
5.083	2.63	11.167	5.71	17.250	0.88	23.33	0.44
5.167	2.63	11.250	5.71	17.333	0.88	23.42	0.44
5.250	2.63	11.333	5.71	17.417	0.88	23.50	0.44
5.333	2.63	11.417	5.71	17.500	0.88	23.58	0.44
5.417	2.63	11.500	5.71	17.583	0.88	23.67	0.44
5.500	2.63	11.583	5.71	17.667	0.88	23.75	0.44
5.583	2.63	11.667	5.71	17.750	0.88	23.83	0.44
5.667	2.63	11.750	5.71	17.833	0.88	23.92	0.44
5.750	2.63	11.833	5.71	17.917	0.88	24.00	0.44
5.833	2.63	11.917	5.71	18.000	0.88	24.08	0.44
5.917	2.63	12.000	5.71	18.083	0.88	24.17	0.44
6.000	2.63	12.083	5.71	18.167	0.88	24.25	0.44
6.083	2.63	12.167	5.71	18.250	0.88		

```
     Max.Eff.Inten.(mm/hr)=      20.19        14.97
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       5.36 (ii)   20.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.21         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.02          0.110 (iii)
     TIME TO PEAK    (hrs)=       9.50        10.25          10.25
     RUNOFF VOLUME    (mm)=      86.80        49.48          79.33
     TOTAL RAINFALL   (mm)=      87.80        87.80          87.80
     RUNOFF COEFFICIENT   =       0.99         0.56           0.90

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0260)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0203):     2.10   0.110    10.25    79.33
     + ID2= 2 (  0256):     1.12   0.029    10.33    86.07
       ================================================
       ID = 3 (  0260):     3.22   0.139    10.25    81.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
```

	cdb8232d-79e6-461f-abf3-b53ae11525c8\1089df3a
Ptotal= 87.80 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	7.46	12.75	3.07	19.00	0.44
0.50	0.44	6.75	7.46	13.00	3.07	19.25	0.44
0.75	0.44	7.00	7.46	13.25	3.07	19.50	0.44
1.00	0.44	7.25	7.46	13.50	3.07	19.75	0.44
1.25	0.44	7.50	7.46	13.75	3.07	20.00	0.44
1.50	0.44	7.75	7.46	14.00	3.07	20.25	0.44
1.75	0.44	8.00	7.46	14.25	3.07	20.50	0.44
2.00	0.44	8.25	7.46	14.50	1.76	20.75	0.44
2.25	0.44	8.50	20.19	14.75	1.76	21.00	0.44
2.50	0.44	8.75	20.19	15.00	1.76	21.25	0.44
2.75	0.44	9.00	20.19	15.25	1.76	21.50	0.44
3.00	0.44	9.25	20.19	15.50	1.76	21.75	0.44
3.25	0.44	9.50	20.19	15.75	1.76	22.00	0.44
3.50	0.44	9.75	20.19	16.00	1.76	22.25	0.44
3.75	0.44	10.00	20.19	16.25	1.76	22.50	0.44
4.00	0.44	10.25	20.19	16.50	0.88	22.75	0.44
4.25	0.44	10.50	5.71	16.75	0.88	23.00	0.44
4.50	2.63	10.75	5.71	17.00	0.88	23.25	0.44
4.75	2.63	11.00	5.71	17.25	0.88	23.50	0.44
5.00	2.63	11.25	5.71	17.50	0.88	23.75	0.44
5.25	2.63	11.50	5.71	17.75	0.88	24.00	0.44
5.50	2.63	11.75	5.71	18.00	0.88	24.25	0.44
5.75	2.63	12.00	5.71	18.25	0.88		
6.00	2.63	12.25	5.71	18.50	0.44		
6.25	2.63	12.50	3.07	18.75	0.44		

CALIB	
STANDHYD (0204)	Area (ha)= 1.45
ID= 1 DT= 5.0 min	Total Imp(%)= 80.00 Dir. Conn.(%)= 80.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.16	0.29
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	98.32	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.63	12.250	5.71	18.33	0.44
0.167	0.00	6.250	2.63	12.333	3.07	18.42	0.44
0.250	0.00	6.333	7.46	12.417	3.07	18.50	0.44
0.333	0.44	6.417	7.46	12.500	3.07	18.58	0.44
0.417	0.44	6.500	7.46	12.583	3.07	18.67	0.44
0.500	0.44	6.583	7.46	12.667	3.07	18.75	0.44
0.583	0.44	6.667	7.46	12.750	3.07	18.83	0.44
0.667	0.44	6.750	7.46	12.833	3.07	18.92	0.44
0.750	0.44	6.833	7.46	12.917	3.07	19.00	0.44
0.833	0.44	6.917	7.46	13.000	3.07	19.08	0.44
0.917	0.44	7.000	7.46	13.083	3.07	19.17	0.44
1.000	0.44	7.083	7.46	13.167	3.07	19.25	0.44
1.083	0.44	7.167	7.46	13.250	3.07	19.33	0.44
1.167	0.44	7.250	7.46	13.333	3.07	19.42	0.44
1.250	0.44	7.333	7.46	13.417	3.07	19.50	0.44
1.333	0.44	7.417	7.46	13.500	3.07	19.58	0.44
1.417	0.44	7.500	7.46	13.583	3.07	19.67	0.44
1.500	0.44	7.583	7.46	13.667	3.07	19.75	0.44
1.583	0.44	7.667	7.46	13.750	3.07	19.83	0.44
1.667	0.44	7.750	7.46	13.833	3.07	19.92	0.44
1.750	0.44	7.833	7.46	13.917	3.07	20.00	0.44
1.833	0.44	7.917	7.46	14.000	3.07	20.08	0.44
1.917	0.44	8.000	7.46	14.083	3.07	20.17	0.44
2.000	0.44	8.083	7.46	14.167	3.07	20.25	0.44
2.083	0.44	8.167	7.46	14.250	3.07	20.33	0.44
2.167	0.44	8.250	7.46	14.333	1.76	20.42	0.44
2.250	0.44	8.333	20.19	14.417	1.76	20.50	0.44
2.333	0.44	8.417	20.19	14.500	1.76	20.58	0.44
2.417	0.44	8.500	20.19	14.583	1.76	20.67	0.44
2.500	0.44	8.583	20.19	14.667	1.76	20.75	0.44
2.583	0.44	8.667	20.19	14.750	1.76	20.83	0.44
2.667	0.44	8.750	20.19	14.833	1.76	20.92	0.44
2.750	0.44	8.833	20.19	14.917	1.76	21.00	0.44
2.833	0.44	8.917	20.19	15.000	1.76	21.08	0.44
2.917	0.44	9.000	20.19	15.083	1.76	21.17	0.44
3.000	0.44	9.083	20.19	15.167	1.76	21.25	0.44
3.083	0.44	9.167	20.19	15.250	1.76	21.33	0.44
3.167	0.44	9.250	20.19	15.333	1.76	21.42	0.44
3.250	0.44	9.333	20.19	15.417	1.76	21.50	0.44
3.333	0.44	9.417	20.19	15.500	1.76	21.58	0.44
3.417	0.44	9.500	20.19	15.583	1.76	21.67	0.44
3.500	0.44	9.583	20.19	15.667	1.76	21.75	0.44
3.583	0.44	9.667	20.19	15.750	1.76	21.83	0.44
3.667	0.44	9.750	20.19	15.833	1.76	21.92	0.44
3.750	0.44	9.833	20.19	15.917	1.76	22.00	0.44
3.833	0.44	9.917	20.19	16.000	1.76	22.08	0.44
3.917	0.44	10.000	20.19	16.083	1.76	22.17	0.44
4.000	0.44	10.083	20.19	16.167	1.76	22.25	0.44
4.083	0.44	10.167	20.19	16.250	1.76	22.33	0.44
4.167	0.44	10.250	20.19	16.333	0.88	22.42	0.44
4.250	0.44	10.333	5.71	16.417	0.88	22.50	0.44
4.333	2.63	10.417	5.71	16.500	0.88	22.58	0.44
4.417	2.63	10.500	5.71	16.583	0.88	22.67	0.44
4.500	2.63	10.583	5.71	16.667	0.88	22.75	0.44
4.583	2.63	10.667	5.71	16.750	0.88	22.83	0.44
4.667	2.63	10.750	5.71	16.833	0.88	22.92	0.44
4.750	2.63	10.833	5.71	16.917	0.88	23.00	0.44
4.833	2.63	10.917	5.71	17.000	0.88	23.08	0.44
4.917	2.63	11.000	5.71	17.083	0.88	23.17	0.44
5.000	2.63	11.083	5.71	17.167	0.88	23.25	0.44
5.083	2.63	11.167	5.71	17.250	0.88	23.33	0.44
5.167	2.63	11.250	5.71	17.333	0.88	23.42	0.44
5.250	2.63	11.333	5.71	17.417	0.88	23.50	0.44
5.333	2.63	11.417	5.71	17.500	0.88	23.58	0.44
5.417	2.63	11.500	5.71	17.583	0.88	23.67	0.44
5.500	2.63	11.583	5.71	17.667	0.88	23.75	0.44
5.583	2.63	11.667	5.71	17.750	0.88	23.83	0.44
5.667	2.63	11.750	5.71	17.833	0.88	23.92	0.44
5.750	2.63	11.833	5.71	17.917	0.88	24.00	0.44
5.833	2.63	11.917	5.71	18.000	0.88	24.08	0.44
5.917	2.63	12.000	5.71	18.083	0.88	24.17	0.44
6.000	2.63	12.083	5.71	18.167	0.88	24.25	0.44
6.083	2.63	12.167	5.71	18.250	0.88		

Max.Eff.Inten.(mm/hr)=		20.19	14.97
	over (min)	5.00	20.00
Storage Coeff. (min)=		4.80 (ii)	19.88 (ii)

```
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.22         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.01         0.077 (iii)
     TIME TO PEAK    (hrs)=       9.50        10.25        10.25
     RUNOFF VOLUME    (mm)=      86.80        49.48        79.33
     TOTAL RAINFALL   (mm)=      87.80        87.80        87.80
     RUNOFF COEFFICIENT   =       0.99         0.56         0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0259)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.45   0.077    10.25    79.33
     + ID2= 2 (  0260):     3.22   0.139    10.25    81.68
       ================================================
       ID = 3 (  0259):     4.67   0.216    10.25    80.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\mventresca\AppD
|                  |              ata\Local\Temp\
|                  |              cdb8232d-79e6-461f-abf3-b53ae11525c8\1089df3a
| Ptotal= 87.80 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	7.46	12.75	3.07	19.00	0.44
0.50	0.44	6.75	7.46	13.00	3.07	19.25	0.44
0.75	0.44	7.00	7.46	13.25	3.07	19.50	0.44
1.00	0.44	7.25	7.46	13.50	3.07	19.75	0.44
1.25	0.44	7.50	7.46	13.75	3.07	20.00	0.44
1.50	0.44	7.75	7.46	14.00	3.07	20.25	0.44
1.75	0.44	8.00	7.46	14.25	3.07	20.50	0.44
2.00	0.44	8.25	7.46	14.50	1.76	20.75	0.44
2.25	0.44	8.50	20.19	14.75	1.76	21.00	0.44
2.50	0.44	8.75	20.19	15.00	1.76	21.25	0.44
2.75	0.44	9.00	20.19	15.25	1.76	21.50	0.44
3.00	0.44	9.25	20.19	15.50	1.76	21.75	0.44
3.25	0.44	9.50	20.19	15.75	1.76	22.00	0.44
3.50	0.44	9.75	20.19	16.00	1.76	22.25	0.44
3.75	0.44	10.00	20.19	16.25	1.76	22.50	0.44
4.00	0.44	10.25	20.19	16.50	0.88	22.75	0.44
4.25	0.44	10.50	5.71	16.75	0.88	23.00	0.44
4.50	2.63	10.75	5.71	17.00	0.88	23.25	0.44
4.75	2.63	11.00	5.71	17.25	0.88	23.50	0.44
5.00	2.63	11.25	5.71	17.50	0.88	23.75	0.44
5.25	2.63	11.50	5.71	17.75	0.88	24.00	0.44
5.50	2.63	11.75	5.71	18.00	0.88	24.25	0.44
5.75	2.63	12.00	5.71	18.25	0.88		
6.00	2.63	12.25	5.71	18.50	0.44		
6.25	2.63	12.50	3.07	18.75	0.44		

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| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=   5.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.22         0.05
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     187.44        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.63	12.250	5.71	18.33	0.44
0.167	0.00	6.250	2.63	12.333	3.07	18.42	0.44
0.250	0.00	6.333	7.46	12.417	3.07	18.50	0.44
0.333	0.44	6.417	7.46	12.500	3.07	18.58	0.44
0.417	0.44	6.500	7.46	12.583	3.07	18.67	0.44
0.500	0.44	6.583	7.46	12.667	3.07	18.75	0.44
0.583	0.44	6.667	7.46	12.750	3.07	18.83	0.44
0.667	0.44	6.750	7.46	12.833	3.07	18.92	0.44
0.750	0.44	6.833	7.46	12.917	3.07	19.00	0.44
0.833	0.44	6.917	7.46	13.000	3.07	19.08	0.44
0.917	0.44	7.000	7.46	13.083	3.07	19.17	0.44
1.000	0.44	7.083	7.46	13.167	3.07	19.25	0.44
1.083	0.44	7.167	7.46	13.250	3.07	19.33	0.44
1.167	0.44	7.250	7.46	13.333	3.07	19.42	0.44
1.250	0.44	7.333	7.46	13.417	3.07	19.50	0.44
1.333	0.44	7.417	7.46	13.500	3.07	19.58	0.44
1.417	0.44	7.500	7.46	13.583	3.07	19.67	0.44
1.500	0.44	7.583	7.46	13.667	3.07	19.75	0.44
1.583	0.44	7.667	7.46	13.750	3.07	19.83	0.44
1.667	0.44	7.750	7.46	13.833	3.07	19.92	0.44
1.750	0.44	7.833	7.46	13.917	3.07	20.00	0.44
1.833	0.44	7.917	7.46	14.000	3.07	20.08	0.44
1.917	0.44	8.000	7.46	14.083	3.07	20.17	0.44
2.000	0.44	8.083	7.46	14.167	3.07	20.25	0.44
2.083	0.44	8.167	7.46	14.250	3.07	20.33	0.44
2.167	0.44	8.250	7.46	14.333	1.76	20.42	0.44
2.250	0.44	8.333	20.19	14.417	1.76	20.50	0.44
2.333	0.44	8.417	20.19	14.500	1.76	20.58	0.44
2.417	0.44	8.500	20.19	14.583	1.76	20.67	0.44
2.500	0.44	8.583	20.19	14.667	1.76	20.75	0.44
2.583	0.44	8.667	20.19	14.750	1.76	20.83	0.44
2.667	0.44	8.750	20.19	14.833	1.76	20.92	0.44
2.750	0.44	8.833	20.19	14.917	1.76	21.00	0.44
2.833	0.44	8.917	20.19	15.000	1.76	21.08	0.44
2.917	0.44	9.000	20.19	15.083	1.76	21.17	0.44
3.000	0.44	9.083	20.19	15.167	1.76	21.25	0.44
3.083	0.44	9.167	20.19	15.250	1.76	21.33	0.44
3.167	0.44	9.250	20.19	15.333	1.76	21.42	0.44
3.250	0.44	9.333	20.19	15.417	1.76	21.50	0.44
3.333	0.44	9.417	20.19	15.500	1.76	21.58	0.44
3.417	0.44	9.500	20.19	15.583	1.76	21.67	0.44
3.500	0.44	9.583	20.19	15.667	1.76	21.75	0.44

3.583	0.44	9.667	20.19	15.750	1.76	21.83	0.44
3.667	0.44	9.750	20.19	15.833	1.76	21.92	0.44
3.750	0.44	9.833	20.19	15.917	1.76	22.00	0.44
3.833	0.44	9.917	20.19	16.000	1.76	22.08	0.44
3.917	0.44	10.000	20.19	16.083	1.76	22.17	0.44
4.000	0.44	10.083	20.19	16.167	1.76	22.25	0.44
4.083	0.44	10.167	20.19	16.250	1.76	22.33	0.44
4.167	0.44	10.250	20.19	16.333	0.88	22.42	0.44
4.250	0.44	10.333	5.71	16.417	0.88	22.50	0.44
4.333	2.63	10.417	5.71	16.500	0.88	22.58	0.44
4.417	2.63	10.500	5.71	16.583	0.88	22.67	0.44
4.500	2.63	10.583	5.71	16.667	0.88	22.75	0.44
4.583	2.63	10.667	5.71	16.750	0.88	22.83	0.44
4.667	2.63	10.750	5.71	16.833	0.88	22.92	0.44
4.750	2.63	10.833	5.71	16.917	0.88	23.00	0.44
4.833	2.63	10.917	5.71	17.000	0.88	23.08	0.44
4.917	2.63	11.000	5.71	17.083	0.88	23.17	0.44
5.000	2.63	11.083	5.71	17.167	0.88	23.25	0.44
5.083	2.63	11.167	5.71	17.250	0.88	23.33	0.44
5.167	2.63	11.250	5.71	17.333	0.88	23.42	0.44
5.250	2.63	11.333	5.71	17.417	0.88	23.50	0.44
5.333	2.63	11.417	5.71	17.500	0.88	23.58	0.44
5.417	2.63	11.500	5.71	17.583	0.88	23.67	0.44
5.500	2.63	11.583	5.71	17.667	0.88	23.75	0.44
5.583	2.63	11.667	5.71	17.750	0.88	23.83	0.44
5.667	2.63	11.750	5.71	17.833	0.88	23.92	0.44
5.750	2.63	11.833	5.71	17.917	0.88	24.00	0.44
5.833	2.63	11.917	5.71	18.000	0.88	24.08	0.44
5.917	2.63	12.000	5.71	18.083	0.88	24.17	0.44
6.000	2.63	12.083	5.71	18.167	0.88	24.25	0.44
6.083	2.63	12.167	5.71	18.250	0.88		

Max.Eff.Inten.(mm/hr)=	20.19	15.13	
over (min)	5.00	10.00	
Storage Coeff. (min)=	7.06 (ii)	9.19 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.17	0.12	
			TOTALS
PEAK FLOW (cms)=	0.29	0.00	0.295 (iii)
TIME TO PEAK (hrs)=	10.00	10.25	10.25
RUNOFF VOLUME (mm)=	86.80	49.48	86.43
TOTAL RAINFALL (mm)=	87.80	87.80	87.80
RUNOFF COEFFICIENT =	0.99	0.56	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0268) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1959	0.1883
	0.0980	0.0369	0.2939	0.4335

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0201)	5.270	0.295	10.25	86.43
OUTFLOW: ID= 1 (0268)	5.270	0.169	10.33	86.41

PEAK FLOW REDUCTION [Qout/Qin](%)= 57.26
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.1467

READ STORM Ptotal= 87.80 mm	Filename: C:\Users\mventresca\AppData\Local\Temp\cdb8232d-79e6-461f-abf3-b53ae11525c8\1089df3a Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	7.46	12.75	3.07	19.00	0.44
0.50	0.44	6.75	7.46	13.00	3.07	19.25	0.44
0.75	0.44	7.00	7.46	13.25	3.07	19.50	0.44
1.00	0.44	7.25	7.46	13.50	3.07	19.75	0.44
1.25	0.44	7.50	7.46	13.75	3.07	20.00	0.44
1.50	0.44	7.75	7.46	14.00	3.07	20.25	0.44
1.75	0.44	8.00	7.46	14.25	3.07	20.50	0.44
2.00	0.44	8.25	7.46	14.50	1.76	20.75	0.44
2.25	0.44	8.50	20.19	14.75	1.76	21.00	0.44
2.50	0.44	8.75	20.19	15.00	1.76	21.25	0.44
2.75	0.44	9.00	20.19	15.25	1.76	21.50	0.44
3.00	0.44	9.25	20.19	15.50	1.76	21.75	0.44
3.25	0.44	9.50	20.19	15.75	1.76	22.00	0.44
3.50	0.44	9.75	20.19	16.00	1.76	22.25	0.44
3.75	0.44	10.00	20.19	16.25	1.76	22.50	0.44
4.00	0.44	10.25	20.19	16.50	0.88	22.75	0.44
4.25	0.44	10.50	5.71	16.75	0.88	23.00	0.44
4.50	2.63	10.75	5.71	17.00	0.88	23.25	0.44
4.75	2.63	11.00	5.71	17.25	0.88	23.50	0.44
5.00	2.63	11.25	5.71	17.50	0.88	23.75	0.44
5.25	2.63	11.50	5.71	17.75	0.88	24.00	0.44
5.50	2.63	11.75	5.71	18.00	0.88	24.25	0.44
5.75	2.63	12.00	5.71	18.25	0.88		
6.00	2.63	12.25	5.71	18.50	0.44		
6.25	2.63	12.50	3.07	18.75	0.44		

CALIB STANDHYD (0202) ID= 1 DT= 5.0 min	Area (ha)= 6.57 Total Imp(%)= 81.00 Dir. Conn.(%)= 81.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	5.32	1.25
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	209.28	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.63	12.250	5.71	18.33	0.44
0.167	0.00	6.250	2.63	12.333	3.07	18.42	0.44
0.250	0.00	6.333	7.46	12.417	3.07	18.50	0.44

0.333	0.44	6.417	7.46	12.500	3.07	18.58	0.44
0.417	0.44	6.500	7.46	12.583	3.07	18.67	0.44
0.500	0.44	6.583	7.46	12.667	3.07	18.75	0.44
0.583	0.44	6.667	7.46	12.750	3.07	18.83	0.44
0.667	0.44	6.750	7.46	12.833	3.07	18.92	0.44
0.750	0.44	6.833	7.46	12.917	3.07	19.00	0.44
0.833	0.44	6.917	7.46	13.000	3.07	19.08	0.44
0.917	0.44	7.000	7.46	13.083	3.07	19.17	0.44
1.000	0.44	7.083	7.46	13.167	3.07	19.25	0.44
1.083	0.44	7.167	7.46	13.250	3.07	19.33	0.44
1.167	0.44	7.250	7.46	13.333	3.07	19.42	0.44
1.250	0.44	7.333	7.46	13.417	3.07	19.50	0.44
1.333	0.44	7.417	7.46	13.500	3.07	19.58	0.44
1.417	0.44	7.500	7.46	13.583	3.07	19.67	0.44
1.500	0.44	7.583	7.46	13.667	3.07	19.75	0.44
1.583	0.44	7.667	7.46	13.750	3.07	19.83	0.44
1.667	0.44	7.750	7.46	13.833	3.07	19.92	0.44
1.750	0.44	7.833	7.46	13.917	3.07	20.00	0.44
1.833	0.44	7.917	7.46	14.000	3.07	20.08	0.44
1.917	0.44	8.000	7.46	14.083	3.07	20.17	0.44
2.000	0.44	8.083	7.46	14.167	3.07	20.25	0.44
2.083	0.44	8.167	7.46	14.250	3.07	20.33	0.44
2.167	0.44	8.250	7.46	14.333	1.76	20.42	0.44
2.250	0.44	8.333	20.19	14.417	1.76	20.50	0.44
2.333	0.44	8.417	20.19	14.500	1.76	20.58	0.44
2.417	0.44	8.500	20.19	14.583	1.76	20.67	0.44
2.500	0.44	8.583	20.19	14.667	1.76	20.75	0.44
2.583	0.44	8.667	20.19	14.750	1.76	20.83	0.44
2.667	0.44	8.750	20.19	14.833	1.76	20.92	0.44
2.750	0.44	8.833	20.19	14.917	1.76	21.00	0.44
2.833	0.44	8.917	20.19	15.000	1.76	21.08	0.44
2.917	0.44	9.000	20.19	15.083	1.76	21.17	0.44
3.000	0.44	9.083	20.19	15.167	1.76	21.25	0.44
3.083	0.44	9.167	20.19	15.250	1.76	21.33	0.44
3.167	0.44	9.250	20.19	15.333	1.76	21.42	0.44
3.250	0.44	9.333	20.19	15.417	1.76	21.50	0.44
3.333	0.44	9.417	20.19	15.500	1.76	21.58	0.44
3.417	0.44	9.500	20.19	15.583	1.76	21.67	0.44
3.500	0.44	9.583	20.19	15.667	1.76	21.75	0.44
3.583	0.44	9.667	20.19	15.750	1.76	21.83	0.44
3.667	0.44	9.750	20.19	15.833	1.76	21.92	0.44
3.750	0.44	9.833	20.19	15.917	1.76	22.00	0.44
3.833	0.44	9.917	20.19	16.000	1.76	22.08	0.44
3.917	0.44	10.000	20.19	16.083	1.76	22.17	0.44
4.000	0.44	10.083	20.19	16.167	1.76	22.25	0.44
4.083	0.44	10.167	20.19	16.250	1.76	22.33	0.44
4.167	0.44	10.250	20.19	16.333	0.88	22.42	0.44
4.250	0.44	10.333	5.71	16.417	0.88	22.50	0.44
4.333	2.63	10.417	5.71	16.500	0.88	22.58	0.44
4.417	2.63	10.500	5.71	16.583	0.88	22.67	0.44
4.500	2.63	10.583	5.71	16.667	0.88	22.75	0.44
4.583	2.63	10.667	5.71	16.750	0.88	22.83	0.44
4.667	2.63	10.750	5.71	16.833	0.88	22.92	0.44
4.750	2.63	10.833	5.71	16.917	0.88	23.00	0.44
4.833	2.63	10.917	5.71	17.000	0.88	23.08	0.44
4.917	2.63	11.000	5.71	17.083	0.88	23.17	0.44
5.000	2.63	11.083	5.71	17.167	0.88	23.25	0.44
5.083	2.63	11.167	5.71	17.250	0.88	23.33	0.44
5.167	2.63	11.250	5.71	17.333	0.88	23.42	0.44
5.250	2.63	11.333	5.71	17.417	0.88	23.50	0.44
5.333	2.63	11.417	5.71	17.500	0.88	23.58	0.44
5.417	2.63	11.500	5.71	17.583	0.88	23.67	0.44
5.500	2.63	11.583	5.71	17.667	0.88	23.75	0.44
5.583	2.63	11.667	5.71	17.750	0.88	23.83	0.44
5.667	2.63	11.750	5.71	17.833	0.88	23.92	0.44
5.750	2.63	11.833	5.71	17.917	0.88	24.00	0.44
5.833	2.63	11.917	5.71	18.000	0.88	24.08	0.44
5.917	2.63	12.000	5.71	18.083	0.88	24.17	0.44
6.000	2.63	12.083	5.71	18.167	0.88	24.25	0.44
6.083	2.63	12.167	5.71	18.250	0.88		

			TOTALS
Max.Eff.Inten.(mm/hr)=	20.19	14.97	
over (min)	10.00	25.00	
Storage Coeff. (min)=	7.55 (ii)	22.63 (ii)	
Unit Hyd. Tpeak (min)=	10.00	25.00	
Unit Hyd. peak (cms)=	0.13	0.05	
PEAK FLOW (cms)=	0.30	0.05	0.347 (iii)
TIME TO PEAK (hrs)=	10.25	10.25	10.25
RUNOFF VOLUME (mm)=	86.80	49.48	79.71
TOTAL RAINFALL (mm)=	87.80	87.80	87.80
RUNOFF COEFFICIENT =	0.99	0.56	0.91

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0262)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	6.57	0.347	10.25	79.71
+ ID2= 2 (0268):	5.27	0.169	10.33	86.41
ID = 3 (0262):	11.84	0.514	10.25	82.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0266)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0259):	4.67	0.216	10.25	80.95
+ ID2= 2 (0262):	11.84	0.514	10.25	82.69
ID = 3 (0266):	16.51	0.730	10.25	82.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0263)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2130	0.6563
0.0190	0.1773	0.2520	0.6883
0.0220	0.2128	0.2890	0.7150
0.0260	0.2888	0.2980	0.7450
0.0300	0.3648	0.3060	0.7700
0.0650	0.4586	0.3150	0.8127

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                        0.1100     0.5155   |   0.3320      0.9290
                        0.1680     0.5503   |   0.3390      0.9767
                        0.1930     0.5804   |   0.3520      1.0680
                        0.2000     0.6048   |   0.0000      0.0000

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0266)     16.510      0.730     10.25      82.20
   OUTFLOW: ID= 1 (  0263)     16.510      0.289     12.33      82.06

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 39.60
                  TIME SHIFT OF PEAK FLOW         (min)=125.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7152

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0261)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0206):     0.12   0.005    10.25    49.43
     + ID2= 2 (  0263):    16.51   0.289    12.33    82.06
       ================================================
       ID = 3 (  0261):    16.64   0.291    12.33    81.81

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
```

Appendix B
Background Information

FORWARD ENGINEERING

& ASSOCIATES INC.

Geotechnical, Environmental, Inspection & Material Testing Services

244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9, Tel: (416)798-3500, Fax:(416)798-8481

REPORT
GROUNDWATER MONITORING PROGRAM

PROPOSED INDUSTRIAL BUILDING

PILLSWORTH ROAD
CALEDON, ONTARIO

PREPARED FOR:
ANATOLIA CAPITAL CORP.
8300 Huntington Rd,
Vaughan, ON
L4L 1A5

September 16, 2019
Ref. No. G4049-B

Distribution: 1 PDF Copy– ANATOLIA CAPITAL CORP.

1 PDF Copy–FORWARD ENGINEERING & ASSOCIATES INC.

Contents

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INTRODUCTION 1

PURPOSE AND SCOPE 1

FIELD WORKS: 1

Field Works: 1

Borehole Investigation: 1

Laboratory Testing: 2

SUB-SURFACE CONDITIONS AND GROUNDWATER RECORDS 2

LIST OF ENCLOSURES:

BOREHOLE LOCATION PLAN - DRAWING NO. 1.

BOREHOLE/MONITORING WELLS LOG SHEET - APPENDIX A

INTRODUCTION

This report presents the results of the groundwater level monitoring program carried out by Forward Engineering & Associates Inc., for the proposed development on Pillsworth Road, Caledon, Ontario.

The location of the proposed storm water management pond is shown on Drawing No. 1. The location of the Borehole/Monitoring Well (BH/MW) installed during this program is also presented on Drawing No. 1.

PURPOSE AND SCOPE

The objectives (purpose) of this investigation were to determine the following:

- The extent, depth and properties of the predominant fill/soil strata.
- The groundwater levels.

On completion of the field works, this report was prepared.

FIELD WORKS:

Field Works:

Borehole Investigation:

The field work for the borehole investigation consisted of two [2] borehole/monitoring wells (BH/MW-21 & BH/MW-22) drilled on June 8th, 2018, under the supervision of a member of our staff.

The boreholes were located within the proposed storm water management pond as shown on Drawing No. 1. The drilled boreholes extended to a depth of about 8.1 m below the Existing Ground Surface Level (EGSL).

Soils were sampled in the boreholes following the Standard Penetration Test (SPT) method using a CME 55 with solid augers. The samples were logged in the field and appropriately stored in plastic bags and re-examined in more detail in the laboratory. The samples were stored for a period of three months and then discarded.

Groundwater observations were made in the open boreholes, during and upon completion of the drilling operation. The results are recorded on the Log of Borehole sheets.

The boreholes were equipped with a standpipe monitoring wells to facilitate future measurements of the stabilized groundwater level.

Elevations referred to in this report are metric and geodetic. The ground level elevations at the borehole locations were interpolated from the Topographic Survey drawing dated May 24, 2017 and completed by David J. Pesce Surveying which was provided to us by the client.

Laboratory Testing:

Laboratory testing consisted of determination of the in-situ moisture content of the retrieved and representative soil samples.

SUB-SURFACE CONDITIONS AND GROUNDWATER RECORDS

The subsurface conditions encountered at the borehole locations are shown on the Log of Borehole sheets, presented in Appendix A and can be summarized as follows:

Topsoil/Organic Soil — A layer of topsoil/organic soil was encountered at the surface of the boreholes, with a thickness of about 100 mm.

Reworked/ Disturbed Soil — A layer of reworked/disturbed soil was found below the topsoil consisting mainly of brown clayey silt and found generally in loose to compact state of packing. This layer extended to a depth ranging from about 0.76 m to 1.14 m below EGSL.

Groundwater — Groundwater observations in the boreholes are outlined in the following tables:

Table 1-Groundwater and Cave-in Observations Upon Completion of Drilling

Borehole No.	Groundwater Depth Below EGSL	Cave-in Depth Below EGSL
BH/MW-21	6.7 m	Open
BH/MW-22	Dry	7.3 m

The water level in the installed monitoring wells of the boreholes was measured on two occasions after completion of drilling. Observations are recorded in the following table:

Table 2-Groundwater Depth and Elevations in Monitoring Wells:

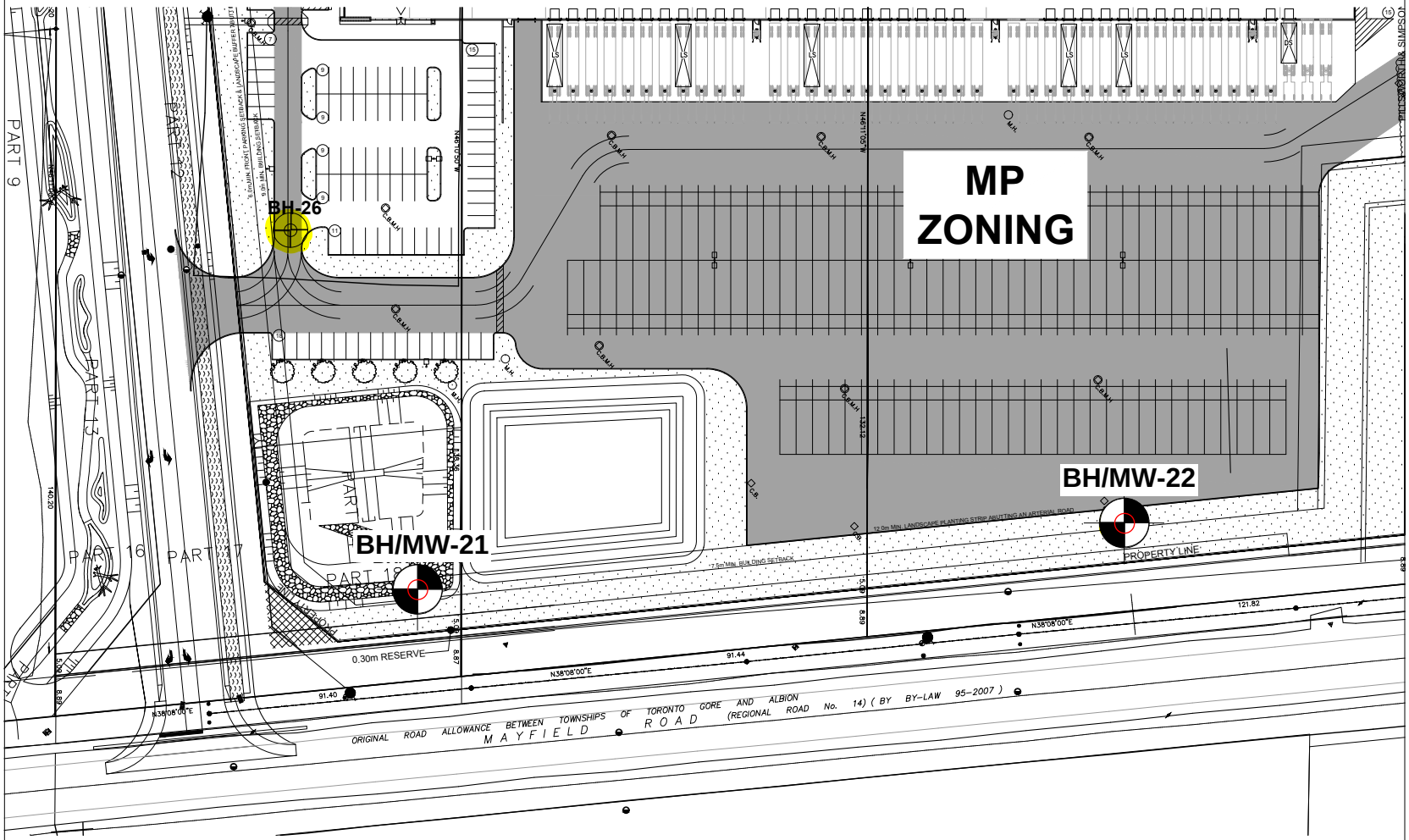
Date (dd/mm/yy)	BH/MW-21 Groundwater Depth Below EGSL (Elevation of Groundwater)	BH/MW-22 Groundwater Depth Below EGSL / Elevation of Groundwater (m)
28/06/2018	3.0 m (227.40 m)	4.75 m (225.25 m)
27/07/2019	3.4 m (227.00 m)	2.35 m (227.65 m)
30/08/2019	3.75 m (226.65 m)	2.27 m (227.73 m)

We trust this report contains information requested at this time. However, if any clarification is required, or if we can be of further assistance, please contact this office.

Yours truly,
Forward Engineering & Associates Inc.



G. S. Semaan, M.Eng., P.Eng.
Principal



NOTES:

BH/MW = **BOREHOLE/ MONITORING WELL LOCATION**

N

BOREHOLE LOCATION PLAN

Rev.	DATE	REVISION / ISSUE
04		
03		
02		
01		

Project Name: PROPOSED INDUSTRIAL BUILDING

Address: SIMPSON ROAD, VAUGHAN, ON.

PROJECT No.	:4049-B
DESIGN BY	:P.R.
DRAWING DATE	:Sept 19, 2019
DRAWN BY: P.R.	PAGE 1 of 1
CHECKED BY: G.S.	

FORWARD ENGINEERING & Associates Inc.

Forward Engineering & Associates Inc.
244 Brockport Drive, Unit 15
Toronto, Ontario M9W 6X9
Tel: 416-798-3500 Fax: 416-798-8481

www.forward**engineering**.ca

APPENDIX A

LOG OF BOREHOLE SHEETS

(BH/MW-21 & BH/MW-22)

Project No: 4049-B

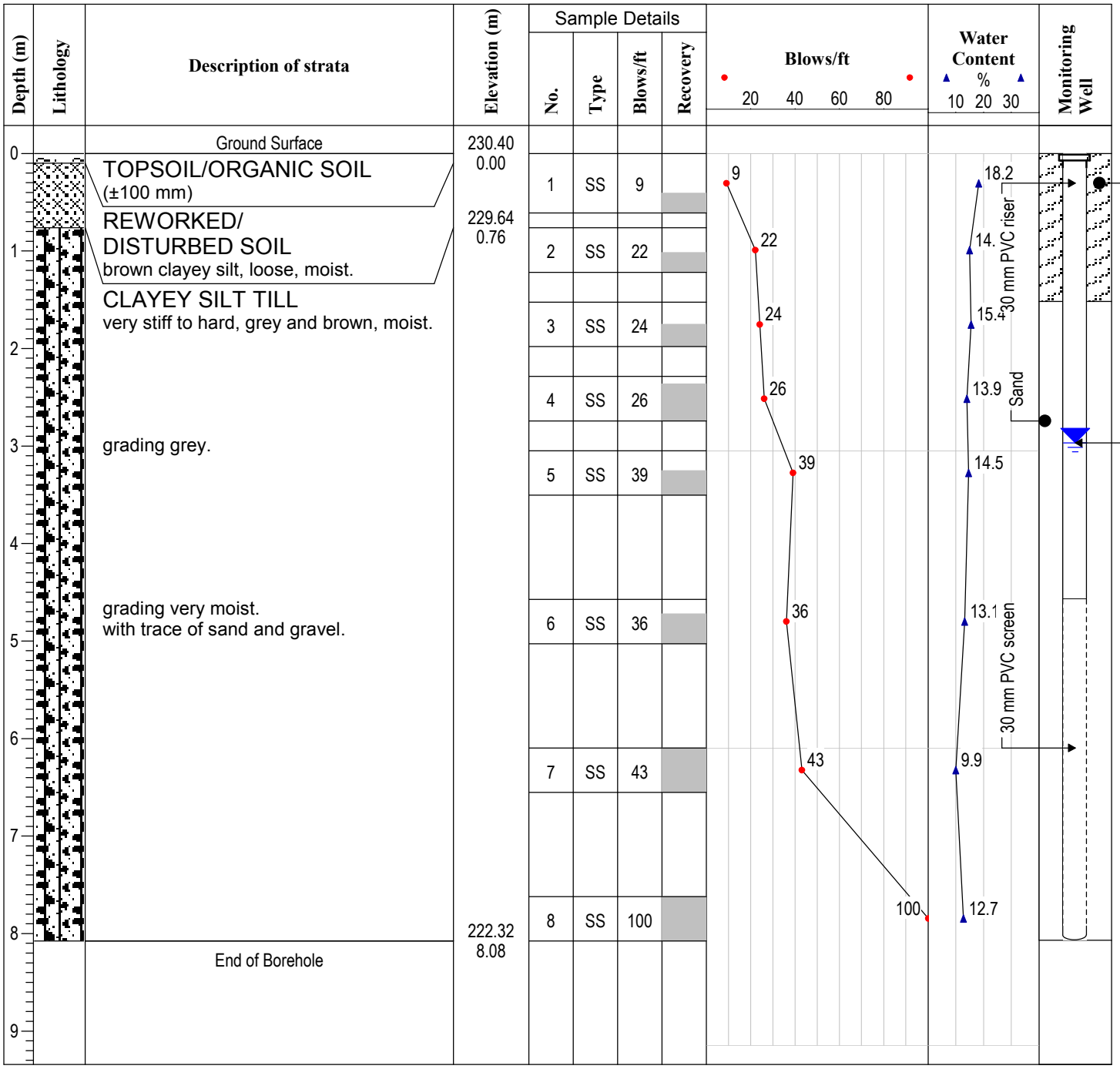
Log of Borehole BH/MW-21

Project: PROPOSED INDUSTRIAL BUILDING

Client: ANATOLIA CAPITAL CORP.

Enclosure: 22

Location: SIMPSON ROAD, VAUGHAN, ON



Remarks: Upon completion of drilling, the borehole was open and water was measured at 6.7 m.

Drill Method: CME 55 SOLID AUGER

Drill Date: 8 JUNE, 2018

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: M.T.

Checked by: G.S.

Sheet No. 1 of 1

Project No: 4049-B

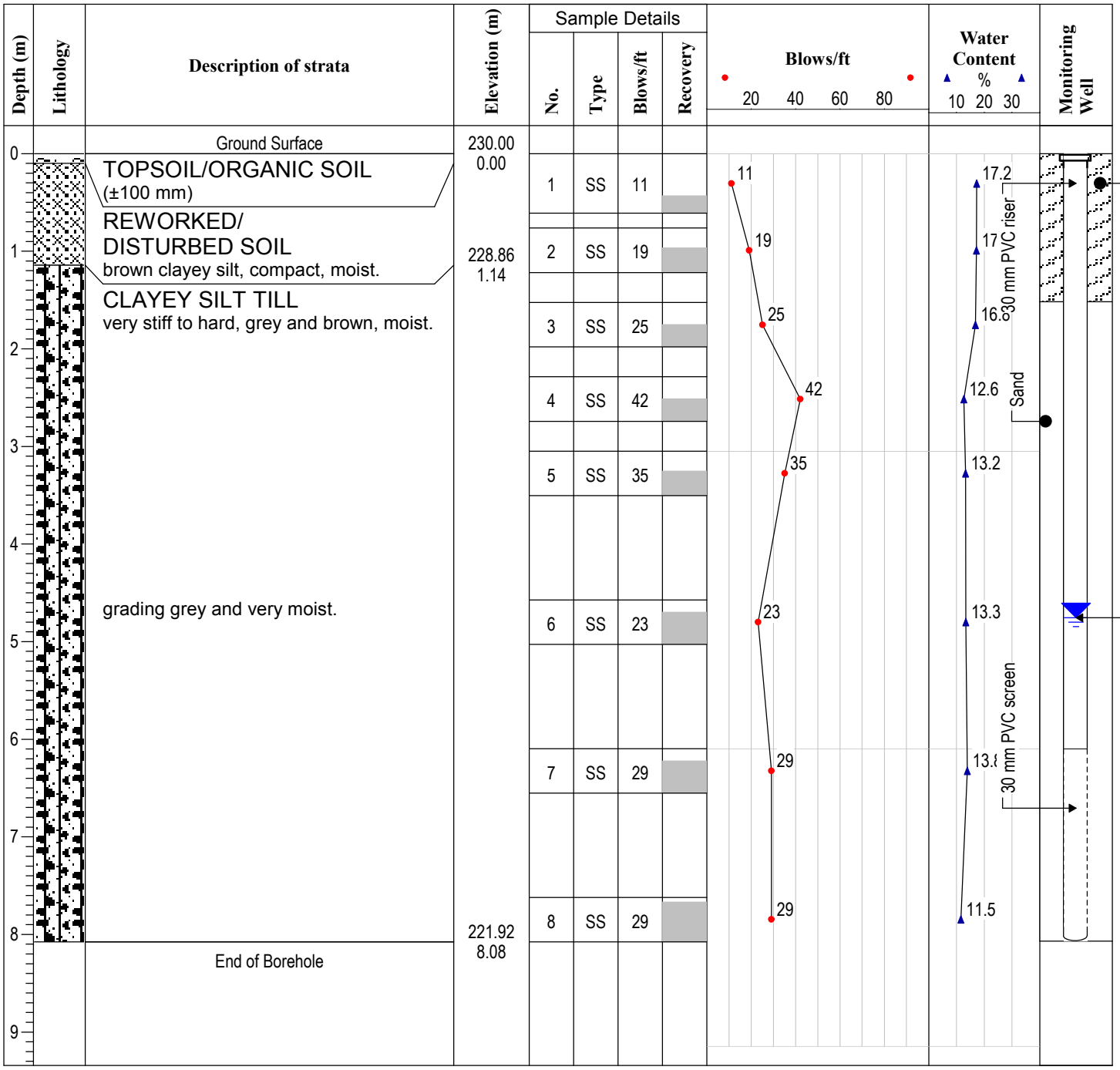
Log of Borehole BH/MW-22

Project: PROPOSED INDUSTRIAL BUILDING

Client: ANATOLIA CAPITAL CORP.

Enclosure: 23

Location: SIMPSON ROAD, VAUGHAN, ON



Remarks: Upon completion of drilling, the borehole was open to 7.3 m and dry.

Drill Method: CME 55 SOLID AUGER

Drill Date: 8 JUNE, 2018

Datum: GEODETIC

FORWARD ENGINEERING & ASSOCIATES INC.
244 Brockport Drive, Unit 15, Toronto, Ontario, M9W 6X9

Engineer: M.T.

Checked by: G.S.

Sheet No. 1 of 1

Memo

To: Geoff Hebbert, Town of Caledon

From: David Sinke, Brian Bishop

Date: August 31, 2017

File: 113126

cc: Felix Wong

Re: **Simpson Road Extension Stormwater Management Facility**

The Town of Caledon is seeking to proceed with the detailed design of a section of the Simpson Road extension, specifically the section from the existing terminus south of Parr Boulevard to Mayfield Road. The Town is in an ongoing process of development of the surrounding industrial lands, including the lands immediately to the east of Simpson Road, which will ultimately drain to a neighbourhood SWM facility. The Town is proceeding in advance of any detailed stormwater management information from the private lands.

This memo outlines the stormwater management (SWM) requirements to provide quantity control for the Town lands, i.e. the road right of way only. The Town is also proposing to build a facility with a larger volume than that simply required for the road ROW. This is to optimize the available land, and to allow for both future water quality controls, and the ultimate connection of the stormwater management control for the lands to the east, as they will share the outlet.

Amec Foster Wheeler proposes that the most accurate approach to determine these requirements is to calculate the total SWM requirements for this entire developing and contributing drainage area, and then calculate the proportionate quantity control requirements for the road ROW only based on pro-rating the resulting total by the relative contributing drainage areas.

The sizing is consistent with the approach taken in the Simpson Road Environmental Study Report (AMEC Environment & Infrastructure, December 2012) as well as the Bolton South Industrial Lands Master Environmental Servicing Plan (Burnside Development Services, December 2000). SWM requirements have therefore been calculated using the methodology applied in the Bolton South Industrial Lands Master Environmental Servicing Plan (Bolton South MESP), along with the currently estimated drainage areas for the proposed road extension and surrounding areas (refer to the storm drainage area plan in the package of engineering drawings).

3450 Harvester Road Unit 100
Burlington, Ontario L7N 3W5
Tel +1 905 335 2353
Fax +1 905 335-1414
amecfw.com

Amec Foster Wheeler Environment & Infrastructure
Registered office 2020 Winston Park Drive, Suite 700, Oakville, Ontario L6H 6X7
Registered in Canada No 773269-9 GST 699879050 RT0008 DUNS 25-362-8642

Visual OTTHYMO (VO2) version 2.4 has been applied for the resulting hydrologic simulations. Applied parameters are consistent with the approach taken in the Bolton South MESP; key parameters are presented in Table 1

TABLE 1
ASSUMED HYDROLOGIC PARAMETERIZATION

Sub-Catchment ID	Description	Area (ha)	Total Imperviousness (%)	Directly Connected Imperviousness (%)	SCS Curve Number
100	Rooftops for future lots – assumed 35% of total lot area	5.276	99	99	83
200	Remainder of future lots (parking, landscaping)	9.739	80	80	83
300	Simpson Road Extension	1.430	80	80	83
TOTAL	NA	16.505	86	86	83

As noted in Table 1, rooftop area for future industrial lots has been assumed to be 35% of the total available lot area; this is generally consistent with existing industrial developments in the area as well as the approach taken in the Bolton South MESP (refer to Appendix K from that report).

The 12-hour AES design storm distribution (2 through 100-year return periods) has been applied for hydrologic modelling. It should be noted that the Bolton South MESP applied a 24-hour AES design storm distribution, however based on AMEC's experienced within the Humber River watershed, the 12-hour AES design storm is the most commonly applied distribution.

As specified in the Bolton South MESP, the Town of Caledon requires on-site controls for industrial and commercial lots such that rooftop discharge is limited to 42 L/s/ha, and total lot discharge (including rooftops) is limited to 180 L/s/ha. In order to be consistent with the original criteria (and to avoid oversizing the SWM facility), these functions have been developed prior to sizing the SWM facility, based on limiting simulated 100-year discharges to these values (refer to the attached model schematic and VO2 model output). Based on this analysis, a total of 1,330 m^3 of rooftop storage would be required for the 5.276 ha of estimated rooftop area. No additional lot-level would controls would be required to meet the lot discharge criteria of 180 L/s/ha, as the resulting 100-year peak discharge (controlled rooftops + uncontrolled lot drainage) is less than this criteria.

With the foregoing determined, SWM sizing has been undertaken incrementally for the 2 through 100-year return periods. Peak flow targets have been developed consistent with the approach taken in the Bolton South MESP, namely the unitary flow equations originally developed as part of the Humber River Watershed Hydrology/Hydraulics and Stormwater Management Study (Aquafor Beech Limited, November 1997). Equation F (applicable for the West Humber River Watershed) has been applied for this area (actually part of the Rainbow Creek subwatershed); a copy has been attached for reference. Simulated peak inflows, outflows (based on the previously noted targets), and resulting storage volumes, are summarized in Table 2.

TABLE 2
SIMULATED PEAK FLOWS AND STORAGE VOLUMES FOR FUTURE SWM FACILITY

Parameter	Specified Return Period (years)					
	2	5	10	25	50	100
Peak Inflow (m^3/s)	0.738	0.910	1.026	1.177	1.287	1.398
Target Discharge (m^3/s)	0.124	0.169	0.233	0.293	0.342	0.387
Resulting Storage (m^3)	4,400	5,700	6,600	7,500	7,900	8,300

Based on the foregoing, a SWM facility with 8,300 m^3 of storage would ultimately be required to meet the required quantity control. As noted, this does not account for any quality control requirements (i.e. permanent pool and extended detention storage).

Interim Town Facility

As noted previously, the Town of Caledon's current focus is upon constructing only that portion necessary to control the imperviousness associated with the Simpson Road Extension. Based on the drainage areas presented in Table 1, this would represent some 8.7% of the total contributing drainage area. Accordingly, this would equate to a storage volume of some 719 m^3,

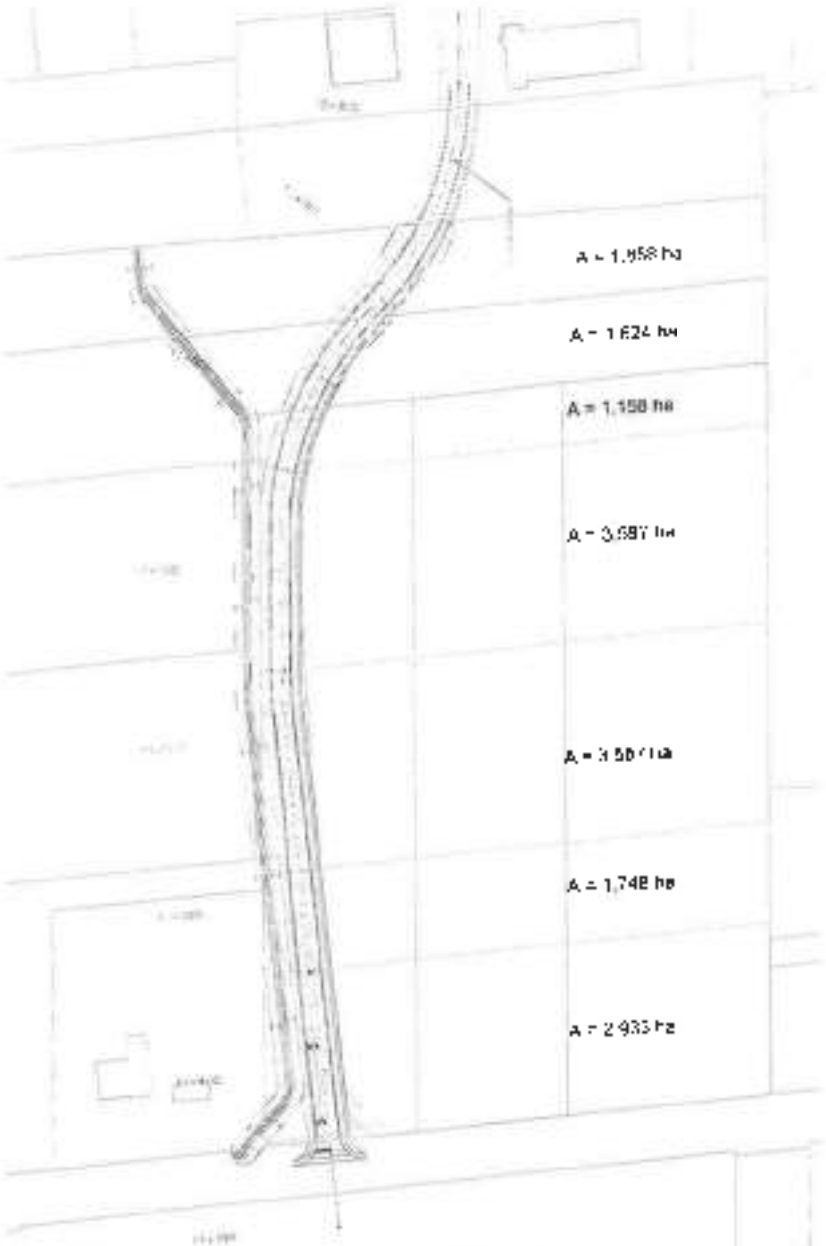
A review of the available land and a preliminary design has developed a stormwater management facility with an active storage of 1500 m^3 (ref. drawing package). Therefore the Town has approximately double the required 100 year storage available to treat the Town's land.

Interim Operation

In the interim, the Town is proposing a single-function facility, to provide the required 100 year control. Calculations are appended to demonstrate that the target release rate (ore-rated) for this drainage area may be achieved with a 160 mm diameter orifice. A valve is proposed so that the facility may be retrofit in the near future for the additional development.

Ultimate Facility and Operation

The Town expects to receive additional design information from the adjacent lands in the near future. At that time, the outlet control structure shall be modified to incorporate the requisite extended detention control volume and drawdown, and to add the ultimate 100 year outflow control structure.


A = 1,958 ha
A = 1,624 ha
A = 1,158 ha
A = 3,587 ha
A = 3,587 ha
A = 1,748 ha
A = 2,933 ha

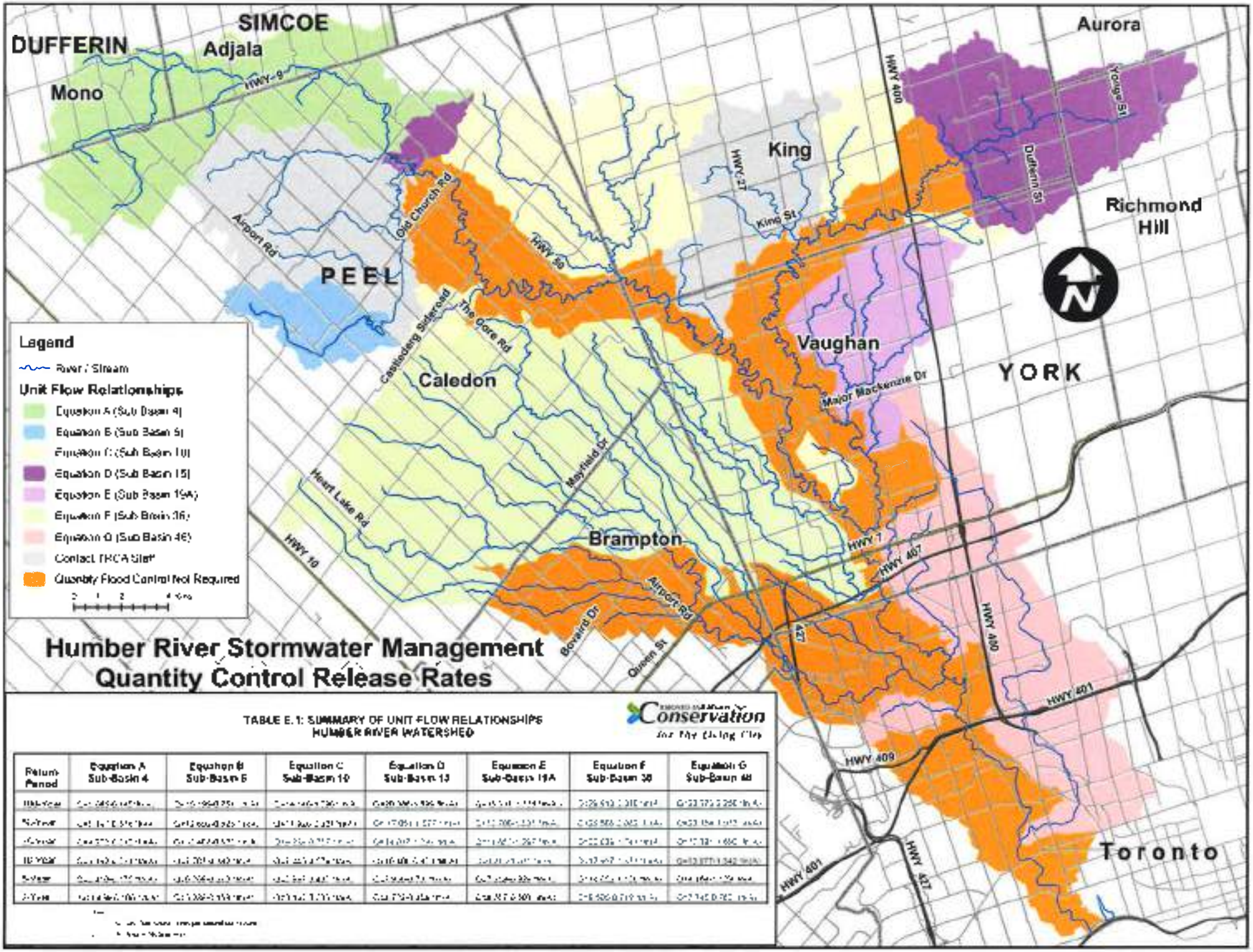


TABLE E.1: SUMMARY OF UNIT FLOW RELATIONSHIPS
HUMBER RIVER WATERSHED

Return Period	Equation A Sub-Basin 4	Equation B Sub-Basin 5	Equation C Sub-Basin 10	Equation D Sub-Basin 13	Equation E Sub-Basin 19A	Equation F Sub-Basin 36	Equation G Sub-Basin 46
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Town of Caledon - Simpson Road - Preliminary Design of 100 Year SWM

	d	L	W	A	Aavg	Vol	Target Q100 (m³/s)	Target Vol for Total DA		
Permanent Pool	0	20	21	546		0				
	0.4	28.4	24	681.6	613.8	245.52				
	0.8	30.8	27	831.6	756.6	605.28				
	1.7	36.2	33.75	1221.75	883.875	1502.588	0.387	8300		
							0.07006	1502.588	<--	Proposed 18%

100 yr max operating

h	0.4	0.8	1.2	1.7
h net	0.32	0.72	1.12	1.62
g	9.806	9.806	9.806	9.806
c	0.62	0.62	0.62	0.62
dia	0.16	0.16	0.16	0.16
pi	3.141593	3.141593	3.141593	3.141593
a	0.020106	0.020106	0.020106	0.020106
sqrt(2gh)	2.505163	3.757744	4.68673	5.636616
q	0.031229	0.046843	0.058424	0.070265

estimated proportionate Q_{100} target

Simpson Road
113126
31/8/17
BB

Appendix C
Engineering Drawings

TOTAL POND BLOCK AREA	1.10ha

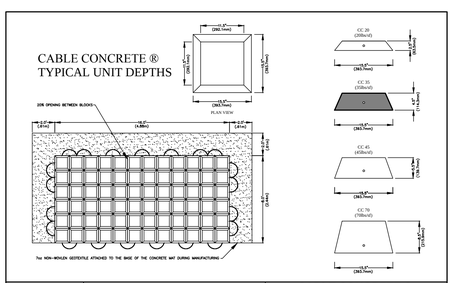
DESCRIPTION	PROVIDED STORAGE	REQUIRED STORAGE
PERMANENT POOL EL.227.15–229.00	3,680m^3	3,550m^3
EROSION CONTROL EL.229.00–229.75	3,800m^3	3,582m^3
2YR. W.L. EL.229.00–229.95	4,850m^3	4,850m^3
5YR. W.L. EL.229.00–230.15	5,850m^3	5,638m^3
10YR. W.L. EL.229.00–230.25	6,350m^3	6,198m^3
25YR. W.L. EL.229.00–230.40	7,150m^3	7,105m^3
50YR. W.L. EL.229.00–230.55	7,900m^3	7,739m^3
100YR. W.L. EL.229.00–230.85	10,550m^3	8,628m^3

DETAIL OF TIED CONCRETE BLOCK MAT BY TERRAFIX (FLEXAMAT PLUS)
N.T.S.

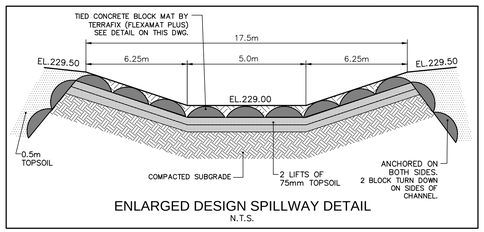
DETAIL OF TURF SLAB
N.T.S.

PERMANENT DEWATERING SUMP
N.T.S.

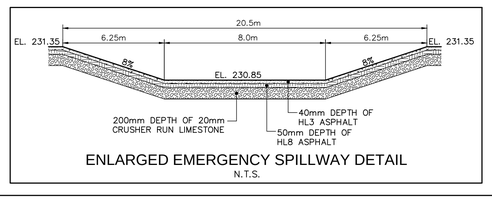
DETAIL OF ACCESS ROAD (MAX. 8%)
N.T.S.



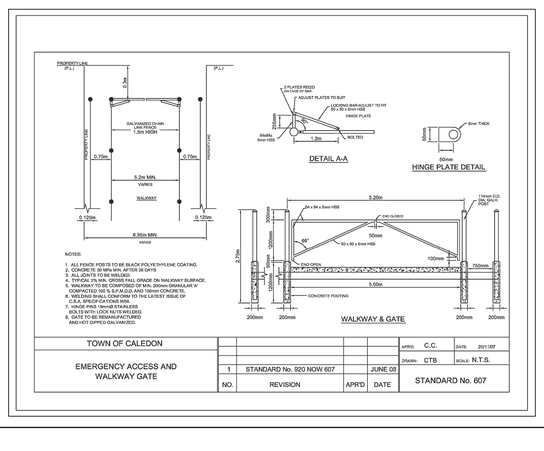
INTERNATIONAL EROSION CONTROL SYSTEMS	CABLE CONCRETE ® TYPICAL UNIT DEPTHS	
22253 Hoskins Line Rodney, ON, N0L 2C0 Phone: 800-821-7462 Fax:866-496-1900 www.iecs.com	DRAWN BY: D. J	CHECKED BY: L.A
	SCALE: N.T.S	DATE: 10/21/13 SHEET 1 OF 1



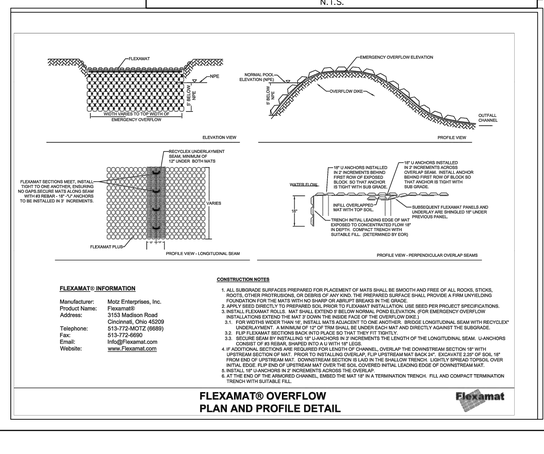
ENLARGED DESIGN SPILLWAY DETAIL
N.T.S.



ENLARGED EMERGENCY SPILLWAY DETAIL
N.T.S.



TOWN OF CALEDON								
EMERGENCY ACCESS AND WALKWAY GATE						APP'D:	C.C.	DATE: 20/1/ IST
						DRWN:	CTB	SCALE: N.T.S.
	1	STANDARD No. 920 NOW 607			JUNE 08	STANDARD No. 607		
	NO.	REVISION	APP'D	DATE				



FLEXAMAT® INFORMATION

Manufacturer: Moiz Enterprises, Inc.
Product Name: Flexamat®
Address: 3153 Madison Road Cincinnati, Ohio 45209
Telephone: 513-772-MOTZ (6689)
Fax: 513-772-6690
Email: Info@Flexamat.com
Website: www.Flexamat.com

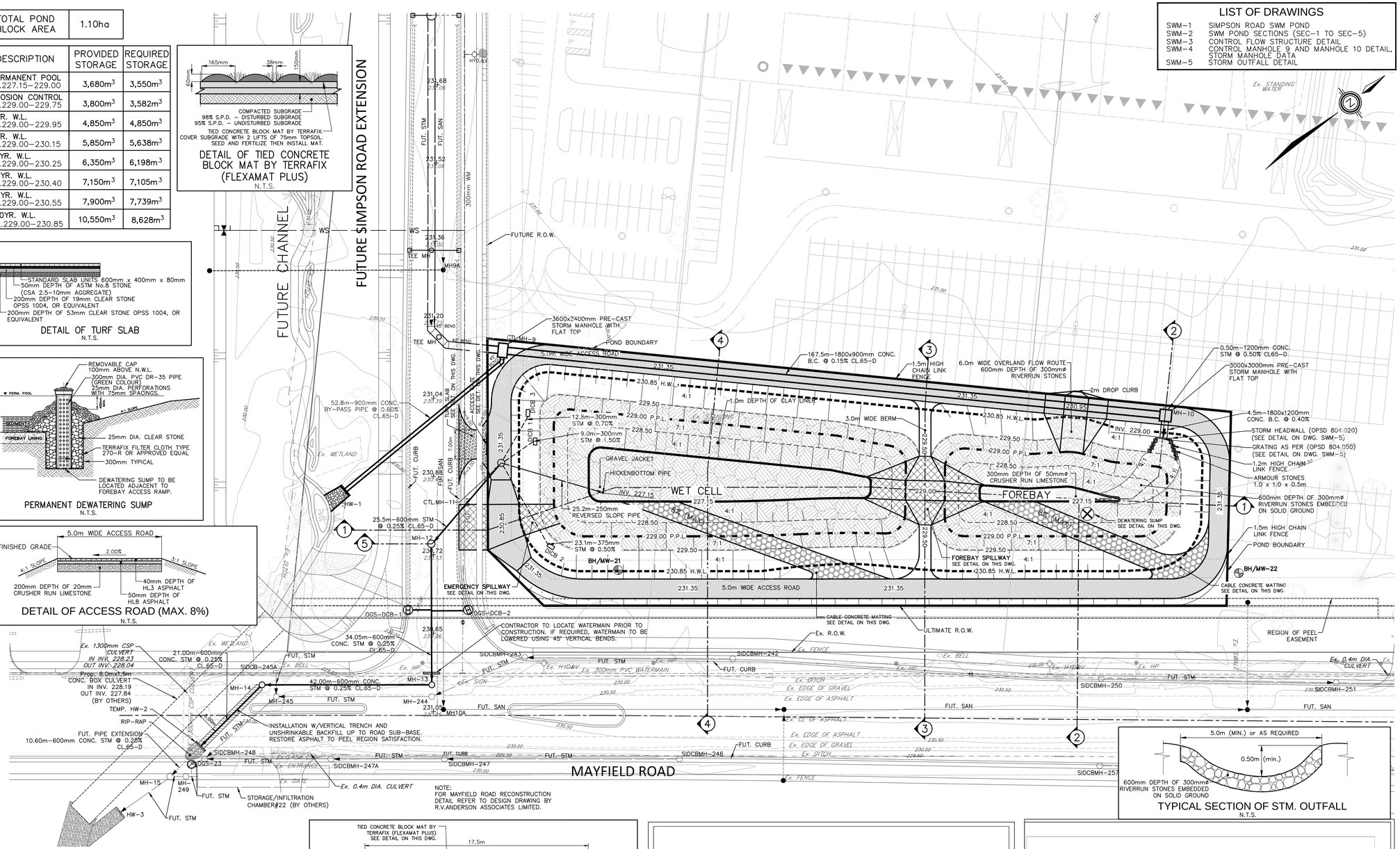
CONSTRUCTION NOTES

1. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND. THE PREPARED SURFACE SHALL PROVIDE A FIRM UNYIELDING FOUNDATION FOR THE MATS AND ANCHORS UNDER ALL EXPECTED CONDITIONS.
2. APPLY SEED DIRECTLY TO PREPARED SOIL PRIOR TO FLEXAMAT INSTALLATION. USE SEED PER PROJECT SPECIFICATIONS.
3. INSTALL FLEXAMAT ROLLS. MAT SHALL EXTEND 6' BELOW NORMAL POND ELEVATION. SEE EMERGENCY OVERFLOW INSTALLATIONS EXTEND THE MAT 3' DOWN THE INSIDE FACE OF THE OVERFLOW DIKE 2.
   3.1. FOR WIDTHS WIDER THAN 18', INSTALL MATS ADJACENT TO ONE ANOTHER. BRIDGE LONGITUDINAL SEAM WITH RECYCLED UNDERLAYMENT SEAM, MINIMUM OF 12" UNDER BOTH MATS AND SECURE DIRECTLY AGAINST THE SUBGRADE.
   3.2. FLIP FLEXAMAT SECTIONS BACK INTO PLACE SO THAT THEY FIT TIGHTLY.
   3.3. SECURE SEAM BY INSTALLING 18" U-ANCHORS IN 3' INCREMENTS THE LENGTH OF THE LONGITUDINAL SEAM. U-ANCHORS CONSIST OF #3 REBAR, BANDED INTO A U WITH 18" LEGS.
4. 9" ADDITIONAL SECTIONS ARE REQUIRED FOR LENGTH OF CHANNEL, OVERLAP THE DOWNSTREAM SECTION 18" WITH THE UPSTREAM SECTION. SECURE WITH 18" U-ANCHORS IN 3' INCREMENTS ACROSS THE OVERLAP. STAPLE 18" FROM END OF UPSTREAM MAT. DOWNSTREAM SECTION IS LAID IN THE SHALLOW TRENCH. LIGHTLY SPREAD TOPSOIL OVER INITIAL EDGE. FLIP END OF UPSTREAM MAT OVER THE SOIL COVERED INITIAL LEADING EDGE OF DOWNSTREAM MAT.
5. SECURE THE TOP OF THE MATS IN 3' INCREMENTS ACROSS THE CHANNEL.
6. AT THE END OF THE ARMOURED CHANNEL, EMBED THE MAT 18" IN A TERMINATION TRENCH. FILL AND COMPACT TERMINATION TRENCH WITH SUITABLE FILL.

FLEXAMAT® OVERFLOW PLAN AND PROFILE DETAIL

Flexamat

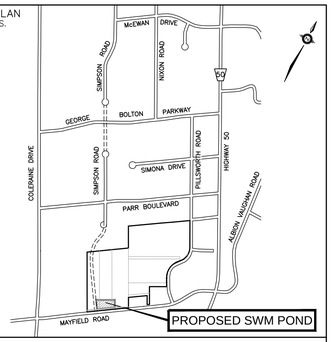
TYPICAL SECTION OF STM. OUTFALL
N.T.S.



LIST OF DRAWINGS

SWM–1	SIMPSON ROAD SWM POND
SWM–2	SWM POND SECTIONS (SEC–1 TO SEC–5)
SWM–3	CONTROL FLOW STRUCTURE DETAIL
SWM–4	CONTROL MANHOLE 9 AND MANHOLE 10 DETAIL, STORM MANHOLE DATA
SWM–5	STORM OUTFALL DETAIL

KEY PLAN
N.T.S.



NOTES

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LEGEND

230.07 / (231.05)	DENOTES PROPOSED ELEVATION / DENOTES EXISTING ELEVATION
231.0	DENOTES EXISTING CONTOUR ELEVATION
	DENOTES 100 YR. WATER LEVEL
	DENOTES PERMANENT POOL LEVEL
	DENOTES PROPOSED POND CONTOUR LINE
	DENOTES 1.0m DEPTH OF CLAY LINER
	DENOTES 300mm OF 50mm CRUSHER RUN LIMESTONE
	DENOTES TIED CONCRETE BLOCK MAT BY TERRAFIX (FLEXAMAT)
	DENOTES CABLE CONCRETE MATTING

NO.	BY	DATE	REVISION	CONCL. CHECKED	TOWN APPR'D

NO.	DATE	ISSUED FOR

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PROFESSIONAL ENGINEER
F. TCHOURKINE
AUG. 14, 2020
PROVINCE OF ONTARIO

ANATOLIA CAPITAL CORPORATION

SCHAEFFERS
CONSULTING ENGINEERS
SCHAEFFER & ASSOCIATES LTD.
6 Ronrose Drive, Concord, Ontario L4K 4R3
Tel: (905) 738-6100
Fax: (905) 738-6875
E-mail: design@schaeffers.com

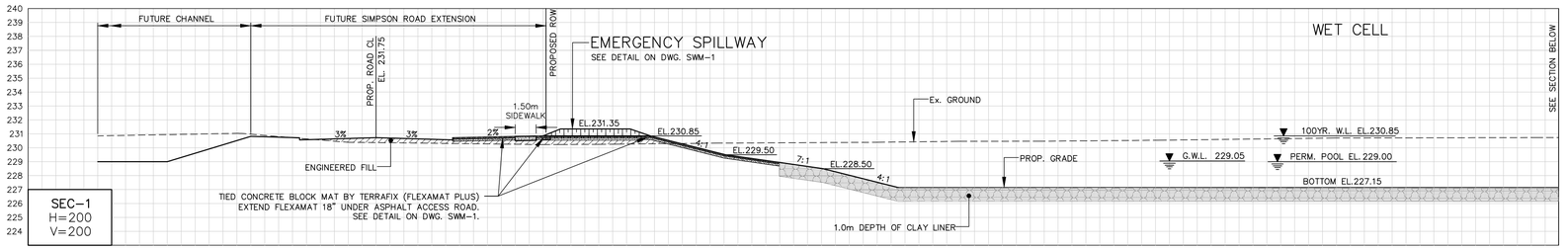
Region of Peel
Working for you.

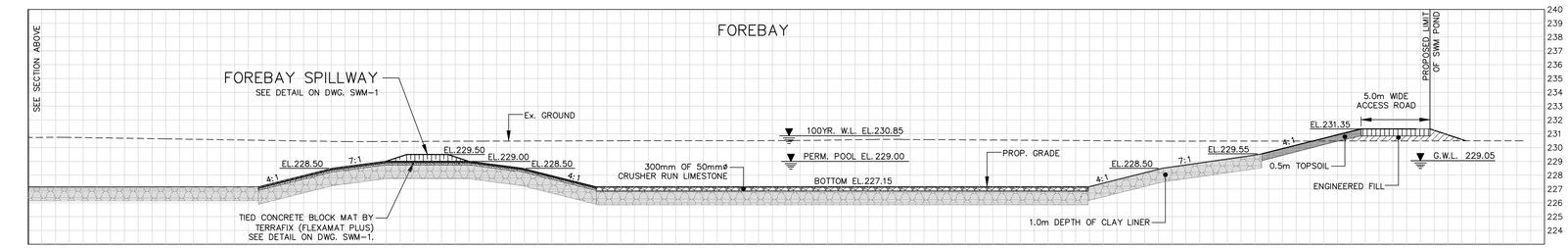
TOWN OF CALEDON

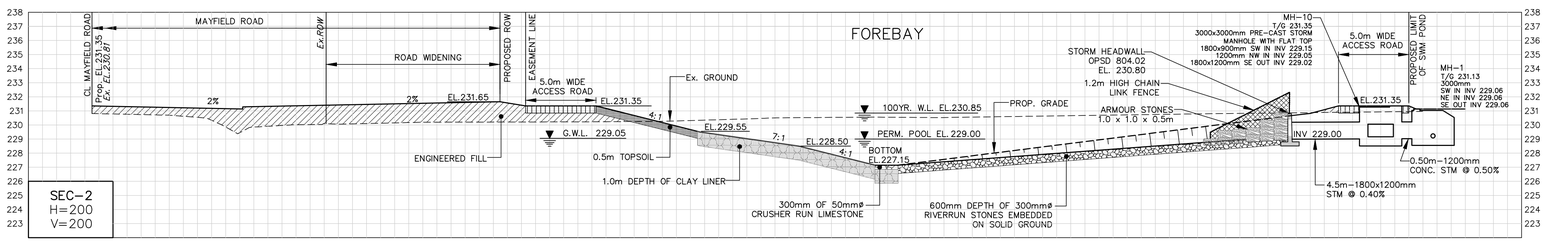
SIMPSON ROAD SWM POND

CITY FILE: XXX

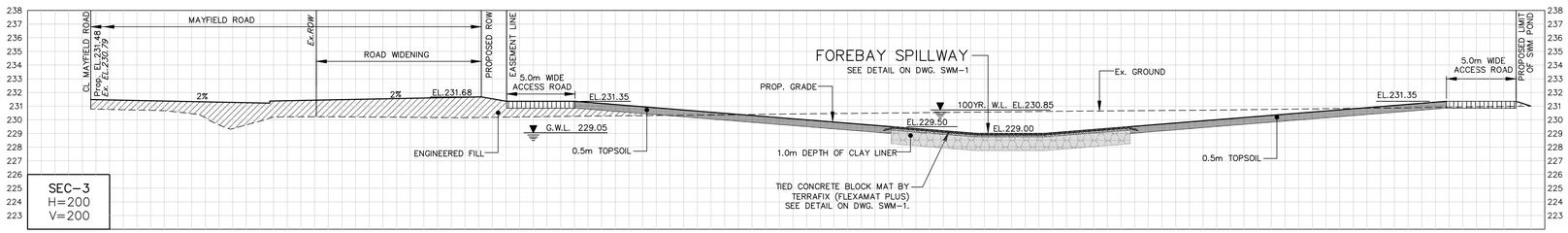
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DESIGNED BY:	F.T.	DRAWN BY:	AM
CHECKED BY:	P.S.	DATE:	OCT. 2019
		DRAWING No.	SWM-1

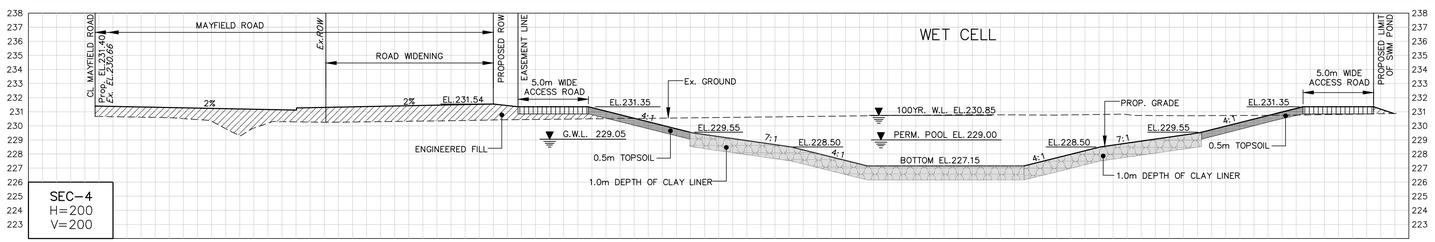


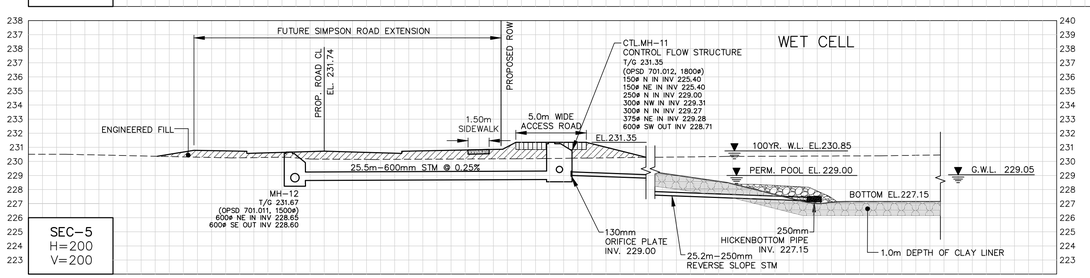




NOTE:
GROUNDWATER CONDITIONS ARE BASED ON GROUNDWATER MONITORING PROGRAM REPORT BY FORWARD ENGINEERING & ASSOCIATES INC. DATED MAY 31, 2020.







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LICENCE — PROFESSIONAL ENGINEER — F. TCHOURKINE — AUG. 4, 2020 — PROVINCE OF ONTARIO

ANATOLIA CAPITAL CORPORATION

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CONSULTING ENGINEERS
SCHAEFFER & ASSOCIATES LTD.
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E-mail: design@schaeffers.com

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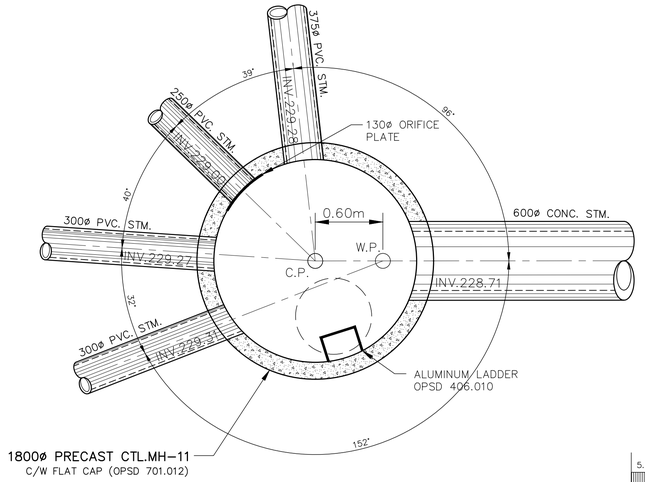
TOWN OF CALEDON

SWM POND SECTIONS
SEC-1 TO SEC-5

CITY FILE: XXX

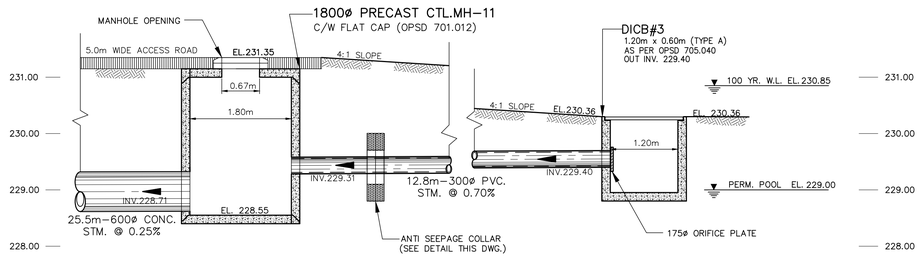
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DESIGNED BY: F.T.	DRAWN BY: AM	DRAWING No.	SWM-2
CHECKED BY: P.S.	DATE: OCT. 2019		

F:\4841\4841-SWM\4841-SWM-2.dwg, 8/11/2020 9:50:43 AM, mzemlyanoy

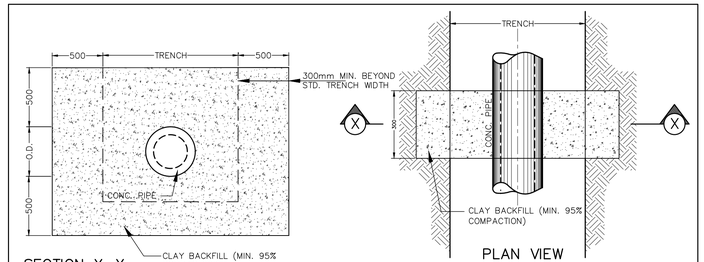


1800ø PRECAST CTL.MH–11
C/W FLAT CAP (OPSD 701.012)

PLAN VIEW OF CTL.MH–11
SCALE 1:25



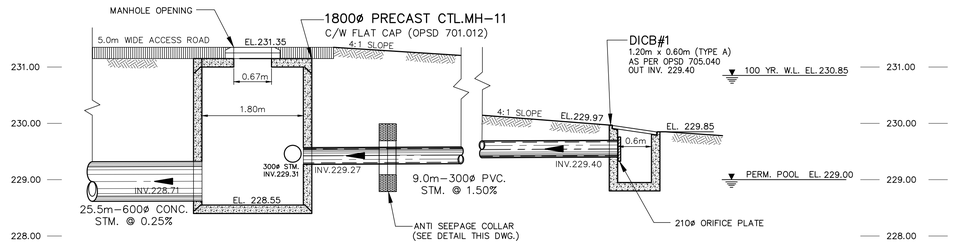
SECTION '1'–'1'
SCALE 1:50



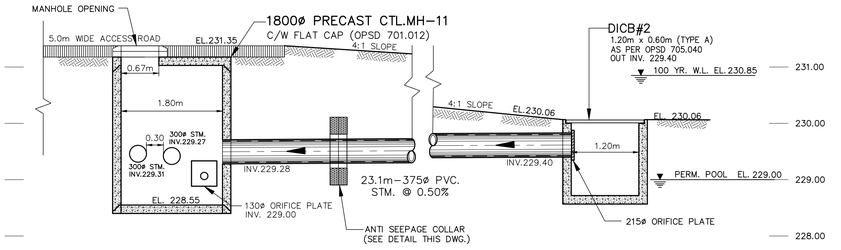
SECTION X–X

PLAN VIEW

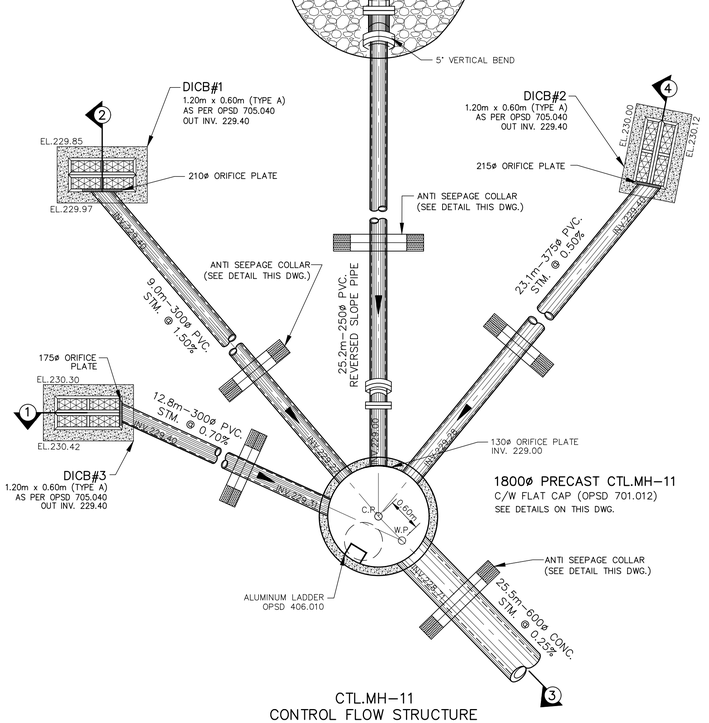
DETAIL OF ANTI–SEEPAGE COLLAR
GEOTECHNICAL ENGINEER RECOMMENDATION
TO BE CONFIRMED PRIOR TO APPROVAL
N.T.S.



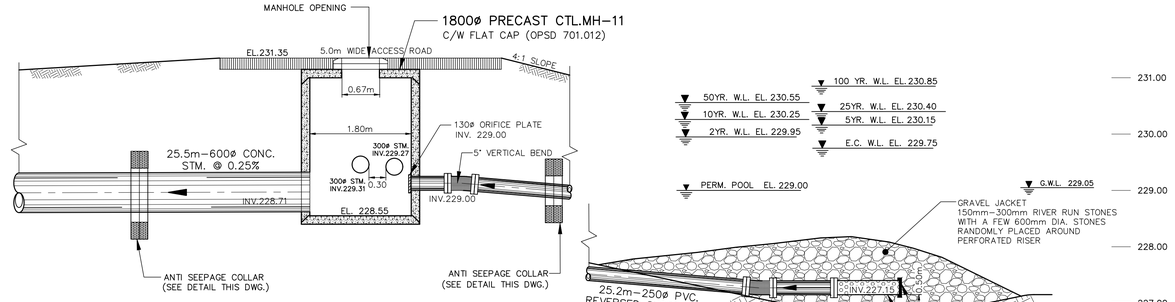
SECTION '2'–'2'
SCALE 1:50



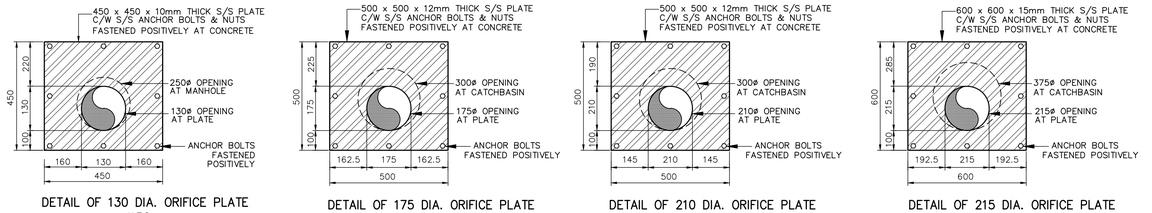
SECTION '4'–'4'
SCALE 1:50



CTL.MH–11
CONTROL FLOW STRUCTURE
PLAN VIEW
SCALE 1:50



SECTION '3'–'3'
SCALE 1:50



DETAIL OF 130 DIA. ORIFICE PLATE
N.T.S.

DETAIL OF 175 DIA. ORIFICE PLATE
N.T.S.

DETAIL OF 210 DIA. ORIFICE PLATE
N.T.S.

DETAIL OF 215 DIA. ORIFICE PLATE
N.T.S.

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TOWN OF CALEDON

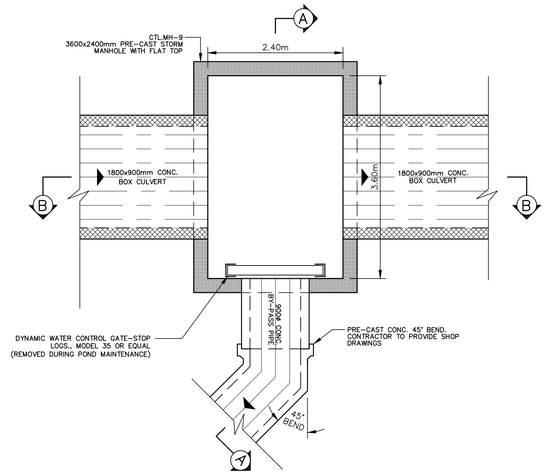
CONTROL FLOW STRUCTURE DETAIL

CITY FILE: XXX

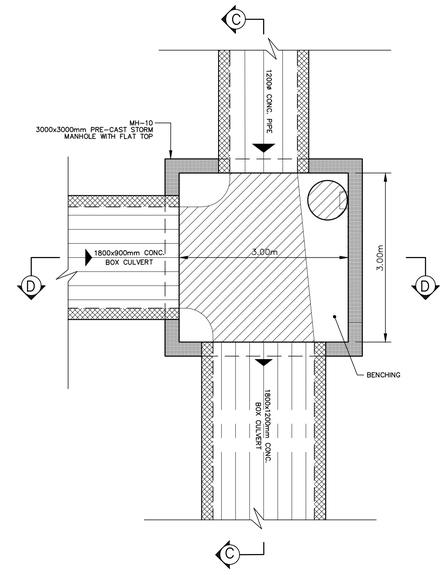
SCALE: AS SHOWN		PROJECT No.	2019-4841
DESIGNED BY: F.T.	DRAWN BY: AM		
CHECKED BY: P.S.	DATE: OCT. 2019	DRAWING No.	SWM-3

STORM MANHOLES, DICBs, HEADWALLS

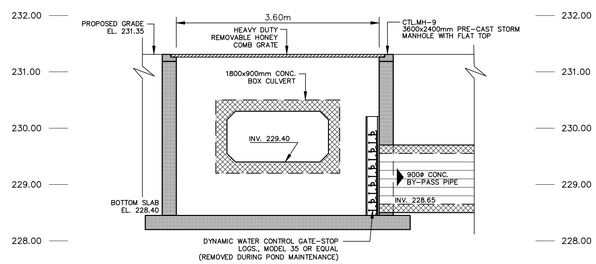
NAME	ELEVATION	SIZE	SPECIFICATION
CTL.MH–9	T/G = 231.35 SW INV IN = 229.43 NE INV OUT = 229.40 SE INV OUT = 228.65	3600x2400mm	
10	T/G = 231.35 SW INV IN = 229.15 NW INV IN = 229.05 SE INV OUT = 229.02	3000x3000mm	
CTL.MH–11	T/G = 231.35 N INV IN = 225.40 NE INV IN = 225.40 N INV IN = 229.00 NW INV IN = 229.31 N INV IN = 229.27 NE INV IN = 229.28 SW INV OUT = 228.71	1800mm	OPSD 701.012
12	T/G = 231.67 NE INV IN = 228.65 SE INV OUT = 228.60	1500mm	OPSD 701.011
13	T/G = 231.02 NW INV IN = 228.52 SW INV OUT = 228.47	1500mm	OPSD 701.011
14	T/G = 230.85 NE INV IN = 228.36 S INV OUT = 228.34	1500mm	OPSD 701.011
15	T/G = 230.70 NE INV IN = 228.31 N INV IN = 228.26 S INV OUT = 228.15	1500mm	OPSD 701.011
SIDCBMH–242	T/G = 231.30 SW INV OUT = 229.59	1500mm	OPSD 701.011
SIDCBMH–243	T/G = 231.05 NE INV IN = 229.33 S INV OUT = 229.31	1500mm	OPSD 701.011
244	T/G = 230.85 N INV IN = 229.19 SW INV OUT = 229.17	1500mm	OPSD 701.011
245	T/G = 230.75 NW INV IN = 229.00 NE INV IN = 228.97 S INV OUT = 228.95	1500mm	OPSD 701.011
SIDCBMH–246	T/G = 231.29 SW INV OUT = 229.50	1500mm	OPSD 701.011
SIDCBMH–247	T/G = 230.99 NE INV IN = 229.21 SW INV OUT = 229.17	1500mm	OPSD 701.011
SIDCBMH–247A	T/G = 230.85 NE INV IN = 229.03 SW INV OUT = 229.00	1500mm	OPSD 701.011
SIDCBMH–248	T/G = 230.65 NE INV IN = 228.84 NW INV IN = 228.84 SW INV OUT = 228.44	1500mm	OPSD 701.011
OGS–23	T/G = 230.67 NW INV IN = 228.43 SE INV OUT = 228.41	1500mm	OPSD 701.011
249	T/G = 230.65 NW INV IN = 228.40 NE INV IN = 228.40 SW INV OUT = 228.33	1500mm	OPSD 701.011
SIDCB–245A	T/G = 230.56 SE INV OUT = 229.11	600x1450mm	OPSD 705.020
HW–1	T/G = 229.80 N INV IN = 228.35		OPSD 804.020
TEMP. HW–2	T/G = 229.40 N INV IN = 228.29		OPSD 804.030
HW–3	T/G = 229.40 N INV IN = 228.12		OPSD 804.030



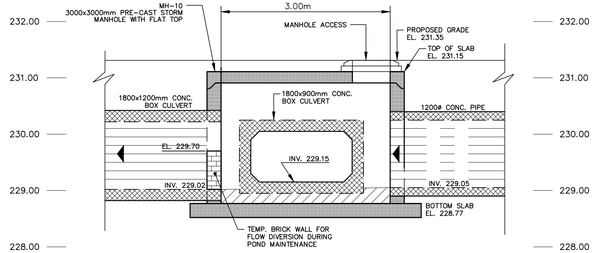
PLAN VIEW OF STORM CTL.MH–9
SCALE: 1:50



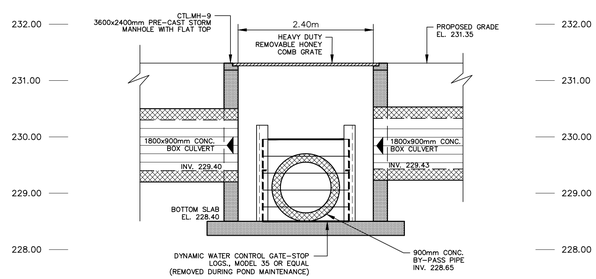
PLAN VIEW OF STORM MH–10
SCALE: 1:50



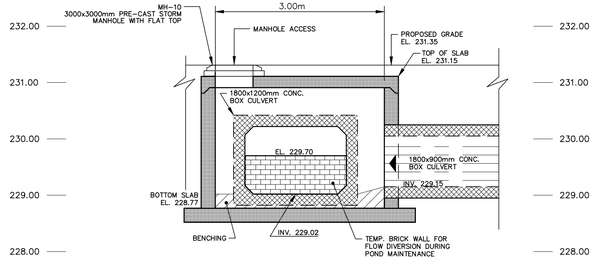
SECTION 'A'–'A'
SCALE: 1:50



SECTION 'C'–'C'
SCALE: 1:50



SECTION 'B'–'B'
SCALE: 1:50

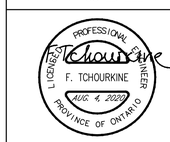


SECTION 'D'–'D'
SCALE: 1:50

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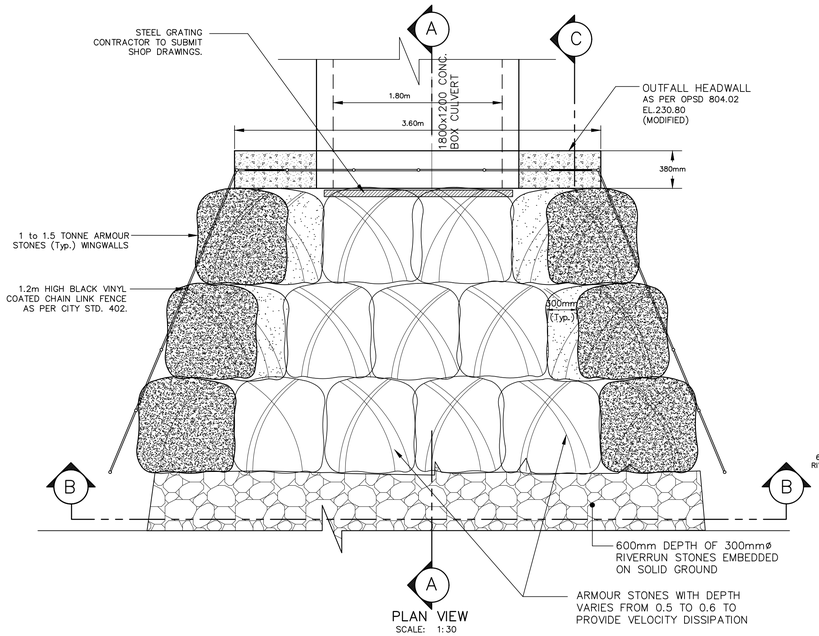
Region of Peel
Working for you

TOWN OF CALEDON

CONTROL MANHOLE 9 AND MANHOLE 10 DETAIL, STORM MANHOLE DATA

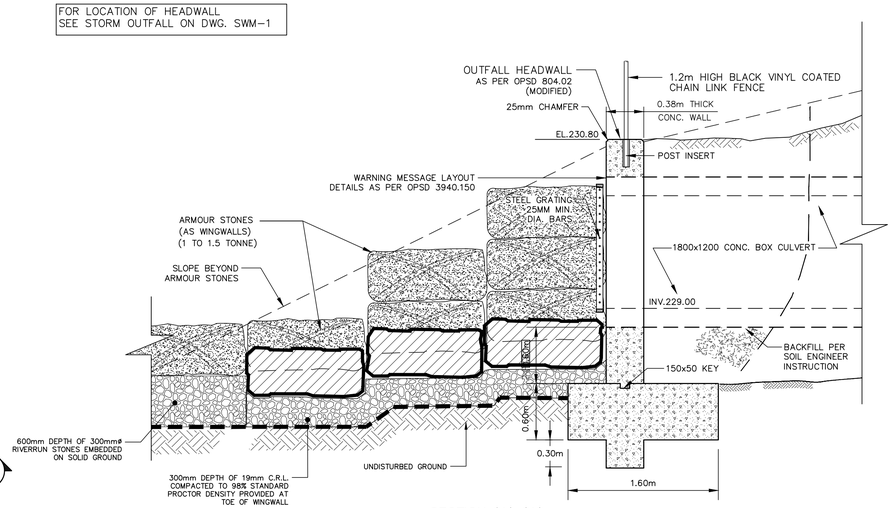
CITY FILE: XXX

SCALE: AS SHOWN		PROJECT No.	2019-4841
DESIGNED BY: F.T.	DRAWN BY: AM	DRAWING No.	SWM-4
CHECKED BY: P.S.	DATE: OCT. 2019		

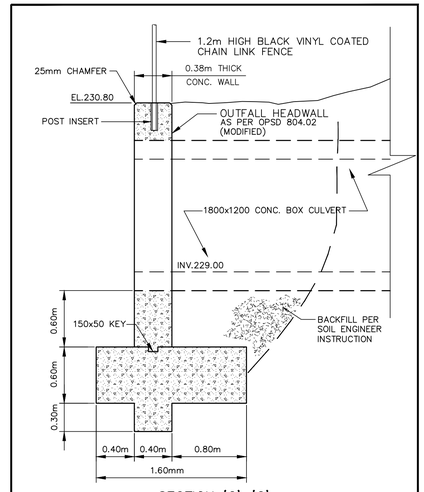


PLAN VIEW
SCALE: 1:30

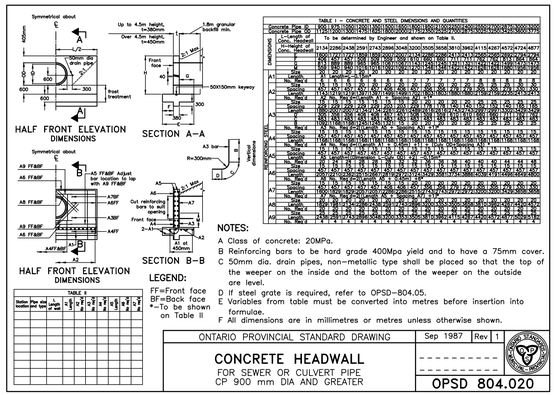
FOR LOCATION OF HEADWALL
SEE STORM OUTFALL ON DWG. SWM-1

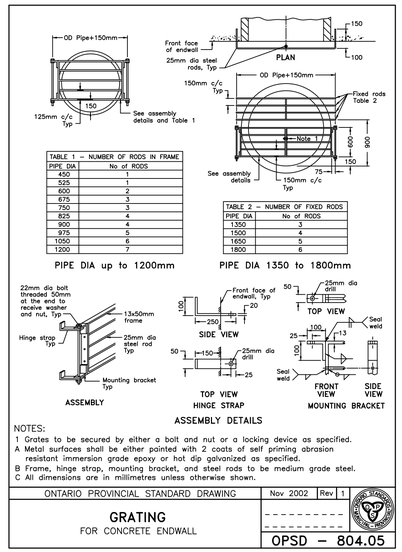


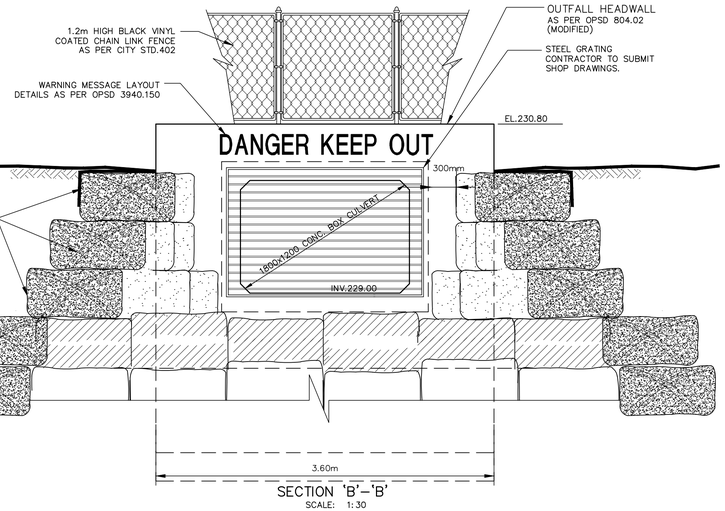
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SECTION 'C'–'C'
SCALE: 1:30



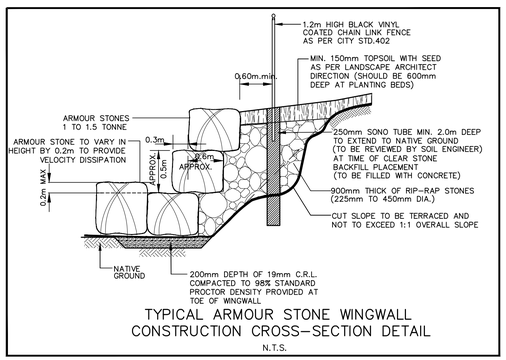




SECTION 'B'–'B'
SCALE: 1:30

ARMOUR STONE NOTES:

1. ALL ARMOUR STONE SHALL BE SELECTED, HARD, SOUND, DURABLE, QUARRIED STONE WITH A HIGH RESISTANCE TO WEATHERING AND DISINTEGRATION UNDER FREEZING, THAWING, WETTING AND DRYING CYCLES AND SHALL BE OF A QUALITY TO ENSURE PERMANENCE IN THE CLIMATE AND CONDITIONS IN WHICH IT IS TO BE USED. THE INDIVIDUAL STONES SHALL BE FREE FROM WEAK BEDDING PLANES, CRACKS OR CREVICES OR OTHER DEFECTS THAT WOULD TEND TO INCREASE ITS DETERIORATION FROM NATURAL CAUSES OR BREAKAGE IN HANDLING OR PLACING. ARGILLACEOUS MATERIAL SUCH AS SHALES OR QUARRIED STONE FROM THINLY BEDDED STRATA OF SHALEY NATURE WILL NOT BE ACCEPTED. IN ALL CASES, THE STONES SHALL BE ROUGHLY CUBICAL IN SHAPE AND SHALL BE APPROXIMATELY EQUAL IN SIZE WITH RELATIVELY UNIFORM AND SMOOTH EXPOSED FRONT FACE. THE GREATEST DIMENSION OF EACH STONE SHALL BE NOT MORE THAN 2.5 TIMES THE LEAST DIMENSION.
2. ARMOUR STONE SHALL BE FROM QUARRIES WHICH HAVE PRODUCED ARMOUR STONE, OF THE SIZE SPECIFIED, WITH A CONCLUSIVE HISTORY OF PREVIOUS SUCCESSFUL USE IN SHORELINE STRUCTURES.
3. ARMOUR STONE SHALL HAVE: MINIMUM RELATIVE DENSITY (TESTED TO ASTM C127) OF 2.6; MAXIMUM ABSORPTION OF 2.0% (TESTED TO ASTM C127); MAXIMUM 35% ABRASION WEAR (LOS ANGELES ABRASION TEST TO ASTM C535).
4. ALL ARMOUR STONE MUST BE STOCKPILED AT THE QUARRY FOR AN INITIAL CURING PERIOD OF A MINIMUM OF 48 HOURS PRIOR TO TRANSPORT TO THE SITE.
5. LIMESTONE DOLOMITE ARMOUR STONE QUARRIED AFTER A PERIOD TWO WEEKS PRIOR TO THE TIME WHEN THE 24–HOUR AVERAGE AIR TEMPERATURE AT THE QUARRY IS LESS THAN OR EQUAL TO –4C FOR 3 CONSECUTIVE DAYS WILL NOT BE ACCEPTED UNLESS THE CONTRACTOR CAN CONCLUSIVELY SHOW THAT THE ROCK HAS A HISTORY OF BEING DURABLE IRRESPECTIVE OF THE TIME OF YEAR IT WAS QUARRIED. STONE QUARRIED AFTER THIS TWO WEEK PERIOD WILL ONLY BE ACCEPTED AFTER THE STONES HAVE BEEN STORED AT THE QUARRY AND INSPECTED FOR SUITABILITY AFTER AN ADDITIONAL CURING PERIOD.
6. THE CONTRACTOR SHALL CHECK ALL ARMOUR STONE AT THE QUARRY FOR CONFORMANCE TO SPECIFICATIONS AND MARK EACH PROPOSED PIECE.
7. ALL ARMOUR STONES SHALL BE PLACED TO THE LINES AND GRADES INDICATED ON THE CONTRACT DRAWINGS. THE STONES SHALL BE INDIVIDUALLY AND CAREFULLY PLACED IN A SUITABLE POSITION AND REGULAR ALIGNMENT AND IN DIRECT CONTACT WITH THE ADJACENT STONES IN ORDER TO PROVIDE A TIGHTLY KNIT STRUCTURE. EACH ARMOUR STONE SHALL BE SECURE AND STABLE AND KEYED IN THE ADJOINING STONES. THE STONES SHALL BE PLACES SO THAT THE EXPOSED FRONT FACE OF THE STONES AND THE TOP OF THE STONES FORM A RELATIVELY UNIFORM AND STRAIGHT LINE. THE OVERALL UNIFORM APPEARANCE OF THE PLACED ARMOUR STONE IS VERY IMPORTANT AND THE CONTRACTOR WILL BE REQUIRED, AT HIS OWN EXPENCE, TO REMOVE AND/OR RESET STONES IN ORDER TO OBTAIN A UNIFORM SURFACE TO THE SATISFACTION OF THE ENGINEER.



TYPICAL ARMOUR STONE WINGWALL
CONSTRUCTION CROSS–SECTION DETAIL
N.T.S.

NOTES:

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METRIC.
2. ALL CONCRETE SHALL HAVE 30MPa COMPRESSIVE STRENGTH IN 28 DAYS WITH MAX. WAYER/CEMENTING MATERIALS RATIO OF 0.50 @ 5–8% AIR ENTRAINED.
3. REINFORCING STEEL HAVE 400MPa MINIMUM YIELD STRENGTH CONFORMING TO C.S.A. SPECIFICATION G.30.18–M2.
4. REINFORCING BARS SHALL BE LAPPED 36 BAR DIAMETERS AT SPLICES.
5. ALL REINFORCING SHALL BE PROTECTED BY THE THICKNESS OF CONCRETE SPECIFIED ON THE DRAWINGS AND/OR AS FOLLOWS:

a) CONCRETE POURED AGAINST THE GROUND WITHOUT FORMS 75mm
b) CONCRETE EXPOSED TO WEATHER, WATER OR TO GROUND, BUT IN FORMS 50mm

6. SUBMIT SHOP DRAWINGS FOR REINFORCING STEEL BARS TO SCHAEFFERS CONSULTING ENGINEERS FOR REVIEW AND OBTAIN APPROVAL BEFORE FABRICATING STEEL.
7. BEFORE PLACING CONCRETE FOR FOOTINGS OBTAIN APPROVAL FROM PROFESSIONAL SOIL ENGINEER.
8. PROVIDE EPOXY COATED RE–BARS FOR ALL EXPOSED SURFACES OF HEADWALLS.
9. THE SOIL CONSULTANT SHALL VERIFY ON SITE THAT THE BEARING CAPACITY OF THE SUBGRADE UNDER HEADWALL FOUNDATION IS 200KPa OR HIGHER.

NO.	BY	DATE	REVISION	CONCL. CHECKED	TOWN APPR'D

NO.	DATE	ISSUED FOR

BENCH MARK:

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO CITY OF BRAMPTON CONTROL MONUNENT No. 010840151 HAVING A POSTED ELEVATION OF 229.82 METRES.

PROFESSIONAL ENGINEER
F. TCHOURKINE
AUG. 4, 2020
PROVINCE OF ONTARIO

ANATOLIA CAPITAL CORPORATION

SCHAEFFERS
CONSULTING ENGINEERS
SCHAEFFER & ASSOCIATES LTD.
6 Ronrose Drive, Concord,
Ontario L4K 4R3
Tel: (905) 738-6100
Fax: (905) 738-6875
E-mail:
design@schaeffers.com

Region of Peel
Working for you.

TOWN OF CALEDON

STORM OUTFALL DETAIL
(1800x1200mm CONC. BOX CULVERT)

CITY FILE: XXX

SCALE: AS SHOWN		PROJECT No.	2019-4841
DESIGNED BY: F.T.	DRAWN BY: AM	DRAWING No.	SWM-5
CHECKED BY: P.S.	DATE: OCT. 2019		

D.2. Existing Flows

GEI Consultants

Existing Peak Flow Rates (m3/s)

Simpson Road MESP Updates
Project# 2301130
July-25

Catchment ID	Area (ha)	Storm Event (m3/s) - 6hr AES					
		2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
24.10 / 7417	90.03	0.420	0.741	0.974	1.281	1.518	1.756
A1-Pre	13.93	0.104	0.259	0.443	0.710	0.975	1.260
A2-Pre	10.84	0.086	0.225	0.399	0.656	0.919	1.205

Catchment ID	Area (ha)	Storm Event (m3/s) -12HR AES					
		2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
24.10 / 7417	90.03	0.500	0.813	1.038	1.331	1.553	1.779
A1-Pre	13.93	0.123	0.285	0.472	0.737	0.997	1.276
A2-Pre	10.84	0.102	0.247	0.425	0.681	0.939	1.220

Catchment ID	Area (ha)	Storm Event (m3/s) -24HR AES					
		2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
24.10 / 7417	90.03	0.503	0.788	0.988	1.248	1.444	1.644
A1-Pre	13.93	0.124	0.276	0.450	0.691	0.927	1.179
A2-Pre	10.84	0.103	0.240	0.405	0.639	0.874	1.128

The Modified Index Flood Method referenced in the MTO Drainage Management Manual is the following formula:

$$Q_2 = Q_1(A_2/A_1)^{0.75}$$

Where:

- A1 = the known larger area;
- A2 = the smaller area;
- Q1 = the available flow available for the A1 area; and
- Q2 = the unknown variable.

D.3. Draining to Extended SWMP Box Culvert Outlet and Channel

GEI Consultants

Kevin Surja

Allowable Release Rates

TRCA Unit Flow Rate Calcs

Simpson Road MESP Updates

Project #: 2301130

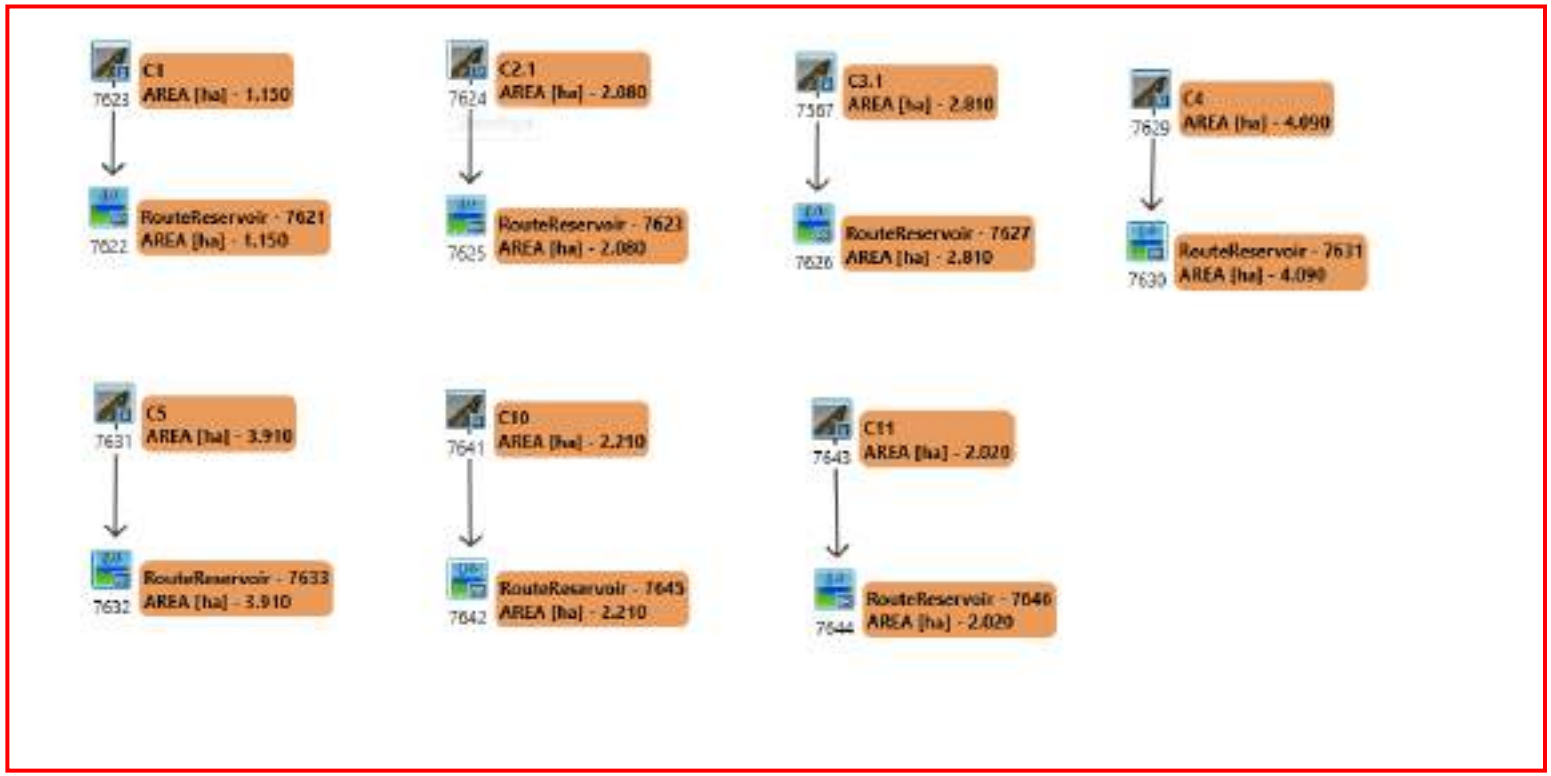
Jun-25

Unit Rate (TRCA Guidelines)

Catchment	Area	Return Period (cms)					
	ha	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
C1	1.15	0.0108	0.0167	0.0204	0.0258	0.0302	0.0340
C2.1	2.08	0.0187	0.0287	0.0353	0.0444	0.0521	0.0587
C3.1	2.81	0.0246	0.0379	0.0465	0.0586	0.0686	0.0773
C4	4.09	0.0347	0.0534	0.0655	0.0826	0.0967	0.1090
C5	3.91	0.0333	0.0512	0.0629	0.0792	0.0928	0.1046
C10	2.21	0.0197	0.0304	0.0373	0.0470	0.0551	0.0620
C11	2.02	0.0182	0.0280	0.0343	0.0433	0.0507	0.0571
	18.27	**0.160**	**0.246**	**0.302**	**0.381**	**0.446**	**0.503**

File No. 2301130
Simpson Road MESP
Town of Caledon
2 - 100-Year 6/12/24HR AES Storms, 4-hour Chicago Design Storms
Post development Model Output
June 2025

VO6 Model Schematic



```
================================================================================================
======

       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.2\VO2\voin.dat
  Output  filename: C:\Users\ygollamudi\AppData\Local\Civica\VH5\40fcb7f5-f544-4d5a-b245-
a4eb17eaad57\6cb9ef31-da97-4733-a3bc-fcbc9ec3fbae\s
  Summary filename: C:\Users\ygollamudi\AppData\Local\Civica\VH5\40fcb7f5-f544-4d5a-b245-
a4eb17eaad57\6cb9ef31-da97-4733-a3bc-fcbc9ec3fbae\s
************************************************
** SIMULATION:1. 2 Year 6 Hour AES (Bloor, TRCA) **
************************************************

--------------------
|    READ STORM    |    Filename: C:\Users\kevsur3650\AppD
|                  |              ata\Local\Temp\
|                  |              a38a8851-c36c-4932-84b4-c99a8b88bdf6\acb042c3
| Ptotal= 36.00 mm |    Comments: 2 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.00    0.00 |  1.75   12.24 |  3.50    5.04 |  5.25    0.72
               0.25    0.72 |  2.00   12.24 |  3.75    2.88 |  5.50    0.72
               0.50    0.72 |  2.25   33.12 |  4.00    2.88 |  5.75    0.72
               0.75    0.72 |  2.50   33.12 |  4.25    1.44 |  6.00    0.72
               1.00    0.72 |  2.75    9.36 |  4.50    1.44 |
               1.25    4.32 |  3.00    9.36 |  4.75    0.72 |
               1.50    4.32 |  3.25    5.04 |  5.00    0.72 |

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  7567)|   Area    (ha)=   2.81
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        2.78          0.03
     Dep. Storage     (mm)=        1.00          1.50
     Average Slope     (%)=        1.00          0.50
     Length            (m)=      136.87         40.00
     Mannings n             =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 1.583    4.32 | 3.150    9.36 |  4.72    1.44
               0.033    0.00 | 1.600    4.32 | 3.167    9.36 |  4.73    1.44
               0.050    0.00 | 1.617    4.32 | 3.183    9.36 |  4.75    1.44
               0.067    0.00 | 1.633    4.32 | 3.200    9.36 |  4.77    0.72
               0.083    0.00 | 1.650    4.32 | 3.217    9.36 |  4.78    0.72
               0.100    0.00 | 1.667    4.32 | 3.233    9.36 |  4.80    0.72
               0.117    0.00 | 1.683    4.32 | 3.250    9.36 |  4.82    0.72
               0.133    0.00 | 1.700    4.32 | 3.267    5.04 |  4.83    0.72
               0.150    0.00 | 1.717    4.32 | 3.283    5.04 |  4.85    0.72
               0.167    0.00 | 1.733    4.32 | 3.300    5.04 |  4.87    0.72
               0.183    0.00 | 1.750    4.32 | 3.317    5.04 |  4.88    0.72
               0.200    0.00 | 1.767   12.24 | 3.333    5.04 |  4.90    0.72
               0.217    0.00 | 1.783   12.24 | 3.350    5.04 |  4.92    0.72
               0.233    0.00 | 1.800   12.24 | 3.367    5.04 |  4.93    0.72
               0.250    0.00 | 1.817   12.24 | 3.383    5.04 |  4.95    0.72
               0.267    0.72 | 1.833   12.24 | 3.400    5.04 |  4.97    0.72
               0.283    0.72 | 1.850   12.24 | 3.417    5.04 |  4.98    0.72
               0.300    0.72 | 1.867   12.24 | 3.433    5.04 |  5.00    0.72
               0.317    0.72 | 1.883   12.24 | 3.450    5.04 |  5.02    0.72
               0.333    0.72 | 1.900   12.24 | 3.467    5.04 |  5.03    0.72
               0.350    0.72 | 1.917   12.24 | 3.483    5.04 |  5.05    0.72
               0.367    0.72 | 1.933   12.24 | 3.500    5.04 |  5.07    0.72
               0.383    0.72 | 1.950   12.24 | 3.517    5.04 |  5.08    0.72
               0.400    0.72 | 1.967   12.24 | 3.533    5.04 |  5.10    0.72
               0.417    0.72 | 1.983   12.24 | 3.550    5.04 |  5.12    0.72
               0.433    0.72 | 2.000   12.24 | 3.567    5.04 |  5.13    0.72
               0.450    0.72 | 2.017   12.24 | 3.583    5.04 |  5.15    0.72
               0.467    0.72 | 2.033   12.24 | 3.600    5.04 |  5.17    0.72
               0.483    0.72 | 2.050   12.24 | 3.617    5.04 |  5.18    0.72
               0.500    0.72 | 2.067   12.24 | 3.633    5.04 |  5.20    0.72
               0.517    0.72 | 2.083   12.24 | 3.650    5.04 |  5.22    0.72
               0.533    0.72 | 2.100   12.24 | 3.667    5.04 |  5.23    0.72
               0.550    0.72 | 2.117   12.24 | 3.683    5.04 |  5.25    0.72
               0.567    0.72 | 2.133   12.24 | 3.700    5.04 |  5.27    0.72
               0.583    0.72 | 2.150   12.24 | 3.717    5.04 |  5.28    0.72
               0.600    0.72 | 2.167   12.24 | 3.733    5.04 |  5.30    0.72
               0.617    0.72 | 2.183   12.24 | 3.750    5.04 |  5.32    0.72
               0.633    0.72 | 2.200   12.24 | 3.767    2.88 |  5.33    0.72
               0.650    0.72 | 2.217   12.24 | 3.783    2.88 |  5.35    0.72
               0.667    0.72 | 2.233   12.24 | 3.800    2.88 |  5.37    0.72
               0.683    0.72 | 2.250   12.24 | 3.817    2.88 |  5.38    0.72
               0.700    0.72 | 2.267   33.12 | 3.833    2.88 |  5.40    0.72
               0.717    0.72 | 2.283   33.12 | 3.850    2.88 |  5.42    0.72
               0.733    0.72 | 2.300   33.12 | 3.867    2.88 |  5.43    0.72
               0.750    0.72 | 2.317   33.12 | 3.883    2.88 |  5.45    0.72
               0.767    0.72 | 2.333   33.12 | 3.900    2.88 |  5.47    0.72
               0.783    0.72 | 2.350   33.12 | 3.917    2.88 |  5.48    0.72
               0.800    0.72 | 2.367   33.12 | 3.933    2.88 |  5.50    0.72
               0.817    0.72 | 2.383   33.12 | 3.950    2.88 |  5.52    0.72
               0.833    0.72 | 2.400   33.12 | 3.967    2.88 |  5.53    0.72
               0.850    0.72 | 2.417   33.12 | 3.983    2.88 |  5.55    0.72
               0.867    0.72 | 2.433   33.12 | 4.000    2.88 |  5.57    0.72
               0.883    0.72 | 2.450   33.12 | 4.017    2.88 |  5.58    0.72
               0.900    0.72 | 2.467   33.12 | 4.033    2.88 |  5.60    0.72
               0.917    0.72 | 2.483   33.12 | 4.050    2.88 |  5.62    0.72
               0.933    0.72 | 2.500   33.12 | 4.067    2.88 |  5.63    0.72
               0.950    0.72 | 2.517   33.12 | 4.083    2.88 |  5.65    0.72
               0.967    0.72 | 2.533   33.12 | 4.100    2.88 |  5.67    0.72
               0.983    0.72 | 2.550   33.12 | 4.117    2.88 |  5.68    0.72
               1.000    0.72 | 2.567   33.12 | 4.133    2.88 |  5.70    0.72
               1.017    0.72 | 2.583   33.12 | 4.150    2.88 |  5.72    0.72
               1.033    0.72 | 2.600   33.12 | 4.167    2.88 |  5.73    0.72
               1.050    0.72 | 2.617   33.12 | 4.183    2.88 |  5.75    0.72
               1.067    0.72 | 2.633   33.12 | 4.200    2.88 |  5.77    0.72
               1.083    0.72 | 2.650   33.12 | 4.217    2.88 |  5.78    0.72
               1.100    0.72 | 2.667   33.12 | 4.233    2.88 |  5.80    0.72
               1.117    0.72 | 2.683   33.12 | 4.250    2.88 |  5.82    0.72
               1.133    0.72 | 2.700   33.12 | 4.267    1.44 |  5.83    0.72
               1.150    0.72 | 2.717   33.12 | 4.283    1.44 |  5.85    0.72
               1.167    0.72 | 2.733   33.12 | 4.300    1.44 |  5.87    0.72
               1.183    0.72 | 2.750   33.12 | 4.317    1.44 |  5.88    0.72
               1.200    0.72 | 2.767    9.36 | 4.333    1.44 |  5.90    0.72
               1.217    0.72 | 2.783    9.36 | 4.350    1.44 |  5.92    0.72
               1.233    0.72 | 2.800    9.36 | 4.367    1.44 |  5.93    0.72
               1.250    0.72 | 2.817    9.36 | 4.383    1.44 |  5.95    0.72
               1.267    4.32 | 2.833    9.36 | 4.400    1.44 |  5.97    0.72
               1.283    4.32 | 2.850    9.36 | 4.417    1.44 |  5.98    0.72
               1.300    4.32 | 2.867    9.36 | 4.433    1.44 |  6.00    0.72
               1.317    4.32 | 2.883    9.36 | 4.450    1.44 |  6.02    0.72
               1.333    4.32 | 2.900    9.36 | 4.467    1.44 |  6.03    0.72
               1.350    4.32 | 2.917    9.36 | 4.483    1.44 |  6.05    0.72
               1.367    4.32 | 2.933    9.36 | 4.500    1.44 |  6.07    0.72
               1.383    4.32 | 2.950    9.36 | 4.517    1.44 |  6.08    0.72
               1.400    4.32 | 2.967    9.36 | 4.533    1.44 |  6.10    0.72
               1.417    4.32 | 2.983    9.36 | 4.550    1.44 |  6.12    0.72
               1.433    4.32 | 3.000    9.36 | 4.567    1.44 |  6.13    0.72
```

1.450	4.32	3.017	9.36	4.583	1.44	6.15	0.72
1.467	4.32	3.033	9.36	4.600	1.44	6.17	0.72
1.483	4.32	3.050	9.36	4.617	1.44	6.18	0.72
1.500	4.32	3.067	9.36	4.633	1.44	6.20	0.72
1.517	4.32	3.083	9.36	4.650	1.44	6.22	0.72
1.533	4.32	3.100	9.36	4.667	1.44	6.23	0.72
1.550	4.32	3.117	9.36	4.683	1.44	6.25	0.72
1.567	4.32	3.133	9.36	4.700	1.44		

Max.Eff.Inten.(mm/hr)=	33.12	17.87	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.80 (ii)	7.45 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.23	0.15	
			TOTALS
PEAK FLOW (cms)=	0.26	0.00	0.257 (iii)
TIME TO PEAK (hrs)=	2.75	2.77	2.75
RUNOFF VOLUME (mm)=	35.00	15.01	34.80
TOTAL RAINFALL (mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT =	0.97	0.42	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0568	0.1530
0.0239	0.0780	0.0660	0.1730
0.0370	0.1040	0.0751	0.2000
0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.257	2.75	34.80
OUTFLOW: ID= 1 (7626)	2.810	0.024	4.00	33.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.23
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.0773

CALIB	
STANDHYD (7624)	Area (ha)= 2.08
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	4.32	3.150	9.36	4.72	1.44
0.033	0.00	1.600	4.32	3.167	9.36	4.73	1.44
0.050	0.00	1.617	4.32	3.183	9.36	4.75	1.44
0.067	0.00	1.633	4.32	3.200	9.36	4.77	0.72
0.083	0.00	1.650	4.32	3.217	9.36	4.78	0.72
0.100	0.00	1.667	4.32	3.233	9.36	4.80	0.72
0.117	0.00	1.683	4.32	3.250	9.36	4.82	0.72
0.133	0.00	1.700	4.32	3.267	5.04	4.83	0.72
0.150	0.00	1.717	4.32	3.283	5.04	4.85	0.72
0.167	0.00	1.733	4.32	3.300	5.04	4.87	0.72
0.183	0.00	1.750	4.32	3.317	5.04	4.88	0.72
0.200	0.00	1.767	12.24	3.333	5.04	4.90	0.72
0.217	0.00	1.783	12.24	3.350	5.04	4.92	0.72
0.233	0.00	1.800	12.24	3.367	5.04	4.93	0.72
0.250	0.00	1.817	12.24	3.383	5.04	4.95	0.72
0.267	0.72	1.833	12.24	3.400	5.04	4.97	0.72
0.283	0.72	1.850	12.24	3.417	5.04	4.98	0.72
0.300	0.72	1.867	12.24	3.433	5.04	5.00	0.72
0.317	0.72	1.883	12.24	3.450	5.04	5.02	0.72
0.333	0.72	1.900	12.24	3.467	5.04	5.03	0.72
0.350	0.72	1.917	12.24	3.483	5.04	5.05	0.72
0.367	0.72	1.933	12.24	3.500	5.04	5.07	0.72
0.383	0.72	1.950	12.24	3.517	5.04	5.08	0.72
0.400	0.72	1.967	12.24	3.533	5.04	5.10	0.72
0.417	0.72	1.983	12.24	3.550	5.04	5.12	0.72
0.433	0.72	2.000	12.24	3.567	5.04	5.13	0.72
0.450	0.72	2.017	12.24	3.583	5.04	5.15	0.72
0.467	0.72	2.033	12.24	3.600	5.04	5.17	0.72
0.483	0.72	2.050	12.24	3.617	5.04	5.18	0.72
0.500	0.72	2.067	12.24	3.633	5.04	5.20	0.72
0.517	0.72	2.083	12.24	3.650	5.04	5.22	0.72
0.533	0.72	2.100	12.24	3.667	5.04	5.23	0.72
0.550	0.72	2.117	12.24	3.683	5.04	5.25	0.72
0.567	0.72	2.133	12.24	3.700	5.04	5.27	0.72
0.583	0.72	2.150	12.24	3.717	5.04	5.28	0.72
0.600	0.72	2.167	12.24	3.733	5.04	5.30	0.72
0.617	0.72	2.183	12.24	3.750	5.04	5.32	0.72
0.633	0.72	2.200	12.24	3.767	2.88	5.33	0.72
0.650	0.72	2.217	12.24	3.783	2.88	5.35	0.72
0.667	0.72	2.233	12.24	3.800	2.88	5.37	0.72
0.683	0.72	2.250	12.24	3.817	2.88	5.38	0.72
0.700	0.72	2.267	33.12	3.833	2.88	5.40	0.72
0.717	0.72	2.283	33.12	3.850	2.88	5.42	0.72
0.733	0.72	2.300	33.12	3.867	2.88	5.43	0.72
0.750	0.72	2.317	33.12	3.883	2.88	5.45	0.72
0.767	0.72	2.333	33.12	3.900	2.88	5.47	0.72
0.783	0.72	2.350	33.12	3.917	2.88	5.48	0.72
0.800	0.72	2.367	33.12	3.933	2.88	5.50	0.72
0.817	0.72	2.383	33.12	3.950	2.88	5.52	0.72
0.833	0.72	2.400	33.12	3.967	2.88	5.53	0.72
0.850	0.72	2.417	33.12	3.983	2.88	5.55	0.72
0.867	0.72	2.433	33.12	4.000	2.88	5.57	0.72
0.883	0.72	2.450	33.12	4.017	2.88	5.58	0.72
0.900	0.72	2.467	33.12	4.033	2.88	5.60	0.72
0.917	0.72	2.483	33.12	4.050	2.88	5.62	0.72
0.933	0.72	2.500	33.12	4.067	2.88	5.63	0.72
0.950	0.72	2.517	33.12	4.083	2.88	5.65	0.72
0.967	0.72	2.533	33.12	4.100	2.88	5.67	0.72
0.983	0.72	2.550	33.12	4.117	2.88	5.68	0.72
1.000	0.72	2.567	33.12	4.133	2.88	5.70	0.72
1.017	0.72	2.583	33.12	4.150	2.88	5.72	0.72
1.033	0.72	2.600	33.12	4.167	2.88	5.73	0.72
1.050	0.72	2.617	33.12	4.183	2.88	5.75	0.72
1.067	0.72	2.633	33.12	4.200	2.88	5.77	0.72
1.083	0.72	2.650	33.12	4.217	2.88	5.78	0.72
1.100	0.72	2.667	33.12	4.233	2.88	5.80	0.72
1.117	0.72	2.683	33.12	4.250	2.88	5.82	0.72
1.133	0.72	2.700	33.12	4.267	1.44	5.83	0.72
1.150	0.72	2.717	33.12	4.283	1.44	5.85	0.72
1.167	0.72	2.733	33.12	4.300	1.44	5.87	0.72
1.183	0.72	2.750	33.12	4.317	1.44	5.88	0.72
1.200	0.72	2.767	9.36	4.333	1.44	5.90	0.72
1.217	0.72	2.783	9.36	4.350	1.44	5.92	0.72
1.233	0.72	2.800	9.36	4.367	1.44	5.93	0.72
1.250	0.72	2.817	9.36	4.383	1.44	5.95	0.72
1.267	4.32	2.833	9.36	4.400	1.44	5.97	0.72
1.283	4.32	2.850	9.36	4.417	1.44	5.98	0.72
1.300	4.32	2.867	9.36	4.433	1.44	6.00	0.72
1.317	4.32	2.883	9.36	4.450	1.44	6.02	0.72
1.333	4.32	2.900	9.36	4.467	1.44	6.03	0.72
1.350	4.32	2.917	9.36	4.483	1.44	6.05	0.72
1.367	4.32	2.933	9.36	4.500	1.44	6.07	0.72
1.383	4.32	2.950	9.36	4.517	1.44	6.08	0.72
1.400	4.32	2.967	9.36	4.533	1.44	6.10	0.72
1.417	4.32	2.983	9.36	4.550	1.44	6.12	0.72

1.433	4.32	3.000	9.36	4.567	1.44	6.13	0.72
1.450	4.32	3.017	9.36	4.583	1.44	6.15	0.72
1.467	4.32	3.033	9.36	4.600	1.44	6.17	0.72
1.483	4.32	3.050	9.36	4.617	1.44	6.18	0.72
1.500	4.32	3.067	9.36	4.633	1.44	6.20	0.72
1.517	4.32	3.083	9.36	4.650	1.44	6.22	0.72
1.533	4.32	3.100	9.36	4.667	1.44	6.23	0.72
1.550	4.32	3.117	9.36	4.683	1.44	6.25	0.72
1.567	4.32	3.133	9.36	4.700	1.44		

Max.Eff.Inten.(mm/hr)=	33.12	22.33	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.38 (ii)	7.03 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.25	0.15	
			TOTALS
PEAK FLOW (cms)=	0.19	0.00	0.190 (iii)
TIME TO PEAK (hrs)=	2.75	2.77	2.75
RUNOFF VOLUME (mm)=	35.00	18.98	34.84
TOTAL RAINFALL (mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT =	0.97	0.53	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.190	2.75	34.84
OUTFLOW: ID= 1 (7625)	2.080	0.019	3.92	33.80

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.02
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.0568

CALIB			
STANDHYD (7623)	Area (ha)= 1.15		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	1.14	0.01	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	87.56	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	4.32	3.150	9.36	4.72	1.44
0.033	0.00	1.600	4.32	3.167	9.36	4.73	1.44
0.050	0.00	1.617	4.32	3.183	9.36	4.75	1.44
0.067	0.00	1.633	4.32	3.200	9.36	4.77	0.72
0.083	0.00	1.650	4.32	3.217	9.36	4.78	0.72
0.100	0.00	1.667	4.32	3.233	9.36	4.80	0.72
0.117	0.00	1.683	4.32	3.250	9.36	4.82	0.72
0.133	0.00	1.700	4.32	3.267	5.04	4.83	0.72
0.150	0.00	1.717	4.32	3.283	5.04	4.85	0.72
0.167	0.00	1.733	4.32	3.300	5.04	4.87	0.72
0.183	0.00	1.750	4.32	3.317	5.04	4.88	0.72
0.200	0.00	1.767	12.24	3.333	5.04	4.90	0.72
0.217	0.00	1.783	12.24	3.350	5.04	4.92	0.72
0.233	0.00	1.800	12.24	3.367	5.04	4.93	0.72
0.250	0.00	1.817	12.24	3.383	5.04	4.95	0.72
0.267	0.72	1.833	12.24	3.400	5.04	4.97	0.72
0.283	0.72	1.850	12.24	3.417	5.04	4.98	0.72
0.300	0.72	1.867	12.24	3.433	5.04	5.00	0.72
0.317	0.72	1.883	12.24	3.450	5.04	5.02	0.72
0.333	0.72	1.900	12.24	3.467	5.04	5.03	0.72
0.350	0.72	1.917	12.24	3.483	5.04	5.05	0.72
0.367	0.72	1.933	12.24	3.500	5.04	5.07	0.72
0.383	0.72	1.950	12.24	3.517	5.04	5.08	0.72
0.400	0.72	1.967	12.24	3.533	5.04	5.10	0.72
0.417	0.72	1.983	12.24	3.550	5.04	5.12	0.72
0.433	0.72	2.000	12.24	3.567	5.04	5.13	0.72
0.450	0.72	2.017	12.24	3.583	5.04	5.15	0.72
0.467	0.72	2.033	12.24	3.600	5.04	5.17	0.72
0.483	0.72	2.050	12.24	3.617	5.04	5.18	0.72
0.500	0.72	2.067	12.24	3.633	5.04	5.20	0.72
0.517	0.72	2.083	12.24	3.650	5.04	5.22	0.72
0.533	0.72	2.100	12.24	3.667	5.04	5.23	0.72
0.550	0.72	2.117	12.24	3.683	5.04	5.25	0.72
0.567	0.72	2.133	12.24	3.700	5.04	5.27	0.72
0.583	0.72	2.150	12.24	3.717	5.04	5.28	0.72
0.600	0.72	2.167	12.24	3.733	5.04	5.30	0.72
0.617	0.72	2.183	12.24	3.750	5.04	5.32	0.72
0.633	0.72	2.200	12.24	3.767	2.88	5.33	0.72
0.650	0.72	2.217	12.24	3.783	2.88	5.35	0.72
0.667	0.72	2.233	12.24	3.800	2.88	5.37	0.72
0.683	0.72	2.250	12.24	3.817	2.88	5.38	0.72
0.700	0.72	2.267	33.12	3.833	2.88	5.40	0.72
0.717	0.72	2.283	33.12	3.850	2.88	5.42	0.72
0.733	0.72	2.300	33.12	3.867	2.88	5.43	0.72
0.750	0.72	2.317	33.12	3.883	2.88	5.45	0.72
0.767	0.72	2.333	33.12	3.900	2.88	5.47	0.72
0.783	0.72	2.350	33.12	3.917	2.88	5.48	0.72
0.800	0.72	2.367	33.12	3.933	2.88	5.50	0.72
0.817	0.72	2.383	33.12	3.950	2.88	5.52	0.72
0.833	0.72	2.400	33.12	3.967	2.88	5.53	0.72
0.850	0.72	2.417	33.12	3.983	2.88	5.55	0.72
0.867	0.72	2.433	33.12	4.000	2.88	5.57	0.72
0.883	0.72	2.450	33.12	4.017	2.88	5.58	0.72
0.900	0.72	2.467	33.12	4.033	2.88	5.60	0.72
0.917	0.72	2.483	33.12	4.050	2.88	5.62	0.72
0.933	0.72	2.500	33.12	4.067	2.88	5.63	0.72
0.950	0.72	2.517	33.12	4.083	2.88	5.65	0.72
0.967	0.72	2.533	33.12	4.100	2.88	5.67	0.72
0.983	0.72	2.550	33.12	4.117	2.88	5.68	0.72
1.000	0.72	2.567	33.12	4.133	2.88	5.70	0.72
1.017	0.72	2.583	33.12	4.150	2.88	5.72	0.72
1.033	0.72	2.600	33.12	4.167	2.88	5.73	0.72
1.050	0.72	2.617	33.12	4.183	2.88	5.75	0.72
1.067	0.72	2.633	33.12	4.200	2.88	5.77	0.72
1.083	0.72	2.650	33.12	4.217	2.88	5.78	0.72
1.100	0.72	2.667	33.12	4.233	2.88	5.80	0.72
1.117	0.72	2.683	33.12	4.250	2.88	5.82	0.72
1.133	0.72	2.700	33.12	4.267	1.44	5.83	0.72
1.150	0.72	2.717	33.12	4.283	1.44	5.85	0.72
1.167	0.72	2.733	33.12	4.300	1.44	5.87	0.72
1.183	0.72	2.750	33.12	4.317	1.44	5.88	0.72
1.200	0.72	2.767	9.36	4.333	1.44	5.90	0.72
1.217	0.72	2.783	9.36	4.350	1.44	5.92	0.72
1.233	0.72	2.800	9.36	4.367	1.44	5.93	0.72
1.250	0.72	2.817	9.36	4.383	1.44	5.95	0.72
1.267	4.32	2.833	9.36	4.400	1.44	5.97	0.72
1.283	4.32	2.850	9.36	4.417	1.44	5.98	0.72
1.300	4.32	2.867	9.36	4.433	1.44	6.00	0.72
1.317	4.32	2.883	9.36	4.450	1.44	6.02	0.72
1.333	4.32	2.900	9.36	4.467	1.44	6.03	0.72
1.350	4.32	2.917	9.36	4.483	1.44	6.05	0.72
1.367	4.32	2.933	9.36	4.500	1.44	6.07	0.72
1.383	4.32	2.950	9.36	4.517	1.44	6.08	0.72
1.400	4.32	2.967	9.36	4.533	1.44	6.10	0.72

1.417	4.32	2.983	9.36	4.550	1.44	6.12	0.72
1.433	4.32	3.000	9.36	4.567	1.44	6.13	0.72
1.450	4.32	3.017	9.36	4.583	1.44	6.15	0.72
1.467	4.32	3.033	9.36	4.600	1.44	6.17	0.72
1.483	4.32	3.050	9.36	4.617	1.44	6.18	0.72
1.500	4.32	3.067	9.36	4.633	1.44	6.20	0.72
1.517	4.32	3.083	9.36	4.650	1.44	6.22	0.72
1.533	4.32	3.100	9.36	4.667	1.44	6.23	0.72
1.550	4.32	3.117	9.36	4.683	1.44	6.25	0.72
1.567	4.32	3.133	9.36	4.700	1.44		

Max.Eff.Inten.(mm/hr)=	33.12	17.87	
over (min)	5.00	7.00	
Storage Coeff. (min)=	3.67 (ii)	6.32 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.27	0.17	
			TOTALS
PEAK FLOW (cms)=	0.10	0.00	0.105 (iii)
TIME TO PEAK (hrs)=	2.75	2.77	2.75
RUNOFF VOLUME (mm)=	35.00	15.01	34.80
TOTAL RAINFALL (mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT =	0.97	0.42	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0258	0.0650
0.0108	0.0330	0.0302	0.0725
0.0167	0.0440	0.0340	0.0820
0.0204	0.0525	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7623)	1.150	0.105	2.75	34.80
OUTFLOW: ID= 1 (	7622)	1.150	0.010	3.90	33.84

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.75
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.0313

CALIB	
STANDHYD (7629)	Area (ha)= 4.09
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	4.32	3.150	9.36	4.72	1.44
0.033	0.00	1.600	4.32	3.167	9.36	4.73	1.44
0.050	0.00	1.617	4.32	3.183	9.36	4.75	1.44
0.067	0.00	1.633	4.32	3.200	9.36	4.77	0.72
0.083	0.00	1.650	4.32	3.217	9.36	4.78	0.72
0.100	0.00	1.667	4.32	3.233	9.36	4.80	0.72
0.117	0.00	1.683	4.32	3.250	9.36	4.82	0.72
0.133	0.00	1.700	4.32	3.267	5.04	4.83	0.72
0.150	0.00	1.717	4.32	3.283	5.04	4.85	0.72
0.167	0.00	1.733	4.32	3.300	5.04	4.87	0.72
0.183	0.00	1.750	4.32	3.317	5.04	4.88	0.72
0.200	0.00	1.767	12.24	3.333	5.04	4.90	0.72
0.217	0.00	1.783	12.24	3.350	5.04	4.92	0.72
0.233	0.00	1.800	12.24	3.367	5.04	4.93	0.72
0.250	0.00	1.817	12.24	3.383	5.04	4.95	0.72
0.267	0.72	1.833	12.24	3.400	5.04	4.97	0.72
0.283	0.72	1.850	12.24	3.417	5.04	4.98	0.72
0.300	0.72	1.867	12.24	3.433	5.04	5.00	0.72
0.317	0.72	1.883	12.24	3.450	5.04	5.02	0.72
0.333	0.72	1.900	12.24	3.467	5.04	5.03	0.72
0.350	0.72	1.917	12.24	3.483	5.04	5.05	0.72
0.367	0.72	1.933	12.24	3.500	5.04	5.07	0.72
0.383	0.72	1.950	12.24	3.517	5.04	5.08	0.72
0.400	0.72	1.967	12.24	3.533	5.04	5.10	0.72
0.417	0.72	1.983	12.24	3.550	5.04	5.12	0.72
0.433	0.72	2.000	12.24	3.567	5.04	5.13	0.72
0.450	0.72	2.017	12.24	3.583	5.04	5.15	0.72
0.467	0.72	2.033	12.24	3.600	5.04	5.17	0.72
0.483	0.72	2.050	12.24	3.617	5.04	5.18	0.72
0.500	0.72	2.067	12.24	3.633	5.04	5.20	0.72
0.517	0.72	2.083	12.24	3.650	5.04	5.22	0.72
0.533	0.72	2.100	12.24	3.667	5.04	5.23	0.72
0.550	0.72	2.117	12.24	3.683	5.04	5.25	0.72
0.567	0.72	2.133	12.24	3.700	5.04	5.27	0.72
0.583	0.72	2.150	12.24	3.717	5.04	5.28	0.72
0.600	0.72	2.167	12.24	3.733	5.04	5.30	0.72
0.617	0.72	2.183	12.24	3.750	5.04	5.32	0.72
0.633	0.72	2.200	12.24	3.767	2.88	5.33	0.72
0.650	0.72	2.217	12.24	3.783	2.88	5.35	0.72
0.667	0.72	2.233	12.24	3.800	2.88	5.37	0.72
0.683	0.72	2.250	12.24	3.817	2.88	5.38	0.72
0.700	0.72	2.267	33.12	3.833	2.88	5.40	0.72
0.717	0.72	2.283	33.12	3.850	2.88	5.42	0.72
0.733	0.72	2.300	33.12	3.867	2.88	5.43	0.72
0.750	0.72	2.317	33.12	3.883	2.88	5.45	0.72
0.767	0.72	2.333	33.12	3.900	2.88	5.47	0.72
0.783	0.72	2.350	33.12	3.917	2.88	5.48	0.72
0.800	0.72	2.367	33.12	3.933	2.88	5.50	0.72
0.817	0.72	2.383	33.12	3.950	2.88	5.52	0.72
0.833	0.72	2.400	33.12	3.967	2.88	5.53	0.72
0.850	0.72	2.417	33.12	3.983	2.88	5.55	0.72
0.867	0.72	2.433	33.12	4.000	2.88	5.57	0.72
0.883	0.72	2.450	33.12	4.017	2.88	5.58	0.72
0.900	0.72	2.467	33.12	4.033	2.88	5.60	0.72
0.917	0.72	2.483	33.12	4.050	2.88	5.62	0.72
0.933	0.72	2.500	33.12	4.067	2.88	5.63	0.72
0.950	0.72	2.517	33.12	4.083	2.88	5.65	0.72
0.967	0.72	2.533	33.12	4.100	2.88	5.67	0.72
0.983	0.72	2.550	33.12	4.117	2.88	5.68	0.72
1.000	0.72	2.567	33.12	4.133	2.88	5.70	0.72
1.017	0.72	2.583	33.12	4.150	2.88	5.72	0.72
1.033	0.72	2.600	33.12	4.167	2.88	5.73	0.72
1.050	0.72	2.617	33.12	4.183	2.88	5.75	0.72
1.067	0.72	2.633	33.12	4.200	2.88	5.77	0.72
1.083	0.72	2.650	33.12	4.217	2.88	5.78	0.72
1.100	0.72	2.667	33.12	4.233	2.88	5.80	0.72
1.117	0.72	2.683	33.12	4.250	2.88	5.82	0.72
1.133	0.72	2.700	33.12	4.267	1.44	5.83	0.72
1.150	0.72	2.717	33.12	4.283	1.44	5.85	0.72
1.167	0.72	2.733	33.12	4.300	1.44	5.87	0.72
1.183	0.72	2.750	33.12	4.317	1.44	5.88	0.72
1.200	0.72	2.767	9.36	4.333	1.44	5.90	0.72
1.217	0.72	2.783	9.36	4.350	1.44	5.92	0.72
1.233	0.72	2.800	9.36	4.367	1.44	5.93	0.72
1.250	0.72	2.817	9.36	4.383	1.44	5.95	0.72
1.267	4.32	2.833	9.36	4.400	1.44	5.97	0.72
1.283	4.32	2.850	9.36	4.417	1.44	5.98	0.72
1.300	4.32	2.867	9.36	4.433	1.44	6.00	0.72
1.317	4.32	2.883	9.36	4.450	1.44	6.02	0.72
1.333	4.32	2.900	9.36	4.467	1.44	6.03	0.72
1.350	4.32	2.917	9.36	4.483	1.44	6.05	0.72
1.367	4.32	2.933	9.36	4.500	1.44	6.07	0.72
1.383	4.32	2.950	9.36	4.517	1.44	6.08	0.72

1.400	4.32	2.967	9.36	4.533	1.44	6.10	0.72
1.417	4.32	2.983	9.36	4.550	1.44	6.12	0.72
1.433	4.32	3.000	9.36	4.567	1.44	6.13	0.72
1.450	4.32	3.017	9.36	4.583	1.44	6.15	0.72
1.467	4.32	3.033	9.36	4.600	1.44	6.17	0.72
1.483	4.32	3.050	9.36	4.617	1.44	6.18	0.72
1.500	4.32	3.067	9.36	4.633	1.44	6.20	0.72
1.517	4.32	3.083	9.36	4.650	1.44	6.22	0.72
1.533	4.32	3.100	9.36	4.667	1.44	6.23	0.72
1.550	4.32	3.117	9.36	4.683	1.44	6.25	0.72
1.567	4.32	3.133	9.36	4.700	1.44		

Max.Eff.Inten.(mm/hr)=	33.12	17.87	
over (min)	5.00	9.00	
Storage Coeff. (min)=	5.37 (ii)	8.02 (ii)	
Unit Hyd. Tpeak (min)=	5.00	9.00	
Unit Hyd. peak (cms)=	0.22	0.14	
			TOTALS
PEAK FLOW (cms)=	0.37	0.00	0.373 (iii)
TIME TO PEAK (hrs)=	2.75	2.78	2.75
RUNOFF VOLUME (mm)=	35.00	15.00	34.80
TOTAL RAINFALL (mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT =	0.97	0.42	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940
	0.0655	0.1890	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7629)	4.090	0.373	2.75	34.80
OUTFLOW: ID= 1 (	7630)	4.090	0.034	4.08	33.45

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.99
TIME SHIFT OF PEAK FLOW (min)= 80.00
MAXIMUM STORAGE USED (ha.m.)= 0.1130

CALIB	
STANDHYD (7631)	Area (ha)= 3.91
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	4.32	3.150	9.36	4.72	1.44
0.033	0.00	1.600	4.32	3.167	9.36	4.73	1.44
0.050	0.00	1.617	4.32	3.183	9.36	4.75	1.44
0.067	0.00	1.633	4.32	3.200	9.36	4.77	0.72
0.083	0.00	1.650	4.32	3.217	9.36	4.78	0.72
0.100	0.00	1.667	4.32	3.233	9.36	4.80	0.72
0.117	0.00	1.683	4.32	3.250	9.36	4.82	0.72
0.133	0.00	1.700	4.32	3.267	5.04	4.83	0.72
0.150	0.00	1.717	4.32	3.283	5.04	4.85	0.72
0.167	0.00	1.733	4.32	3.300	5.04	4.87	0.72
0.183	0.00	1.750	4.32	3.317	5.04	4.88	0.72
0.200	0.00	1.767	12.24	3.333	5.04	4.90	0.72
0.217	0.00	1.783	12.24	3.350	5.04	4.92	0.72
0.233	0.00	1.800	12.24	3.367	5.04	4.93	0.72
0.250	0.00	1.817	12.24	3.383	5.04	4.95	0.72
0.267	0.72	1.833	12.24	3.400	5.04	4.97	0.72
0.283	0.72	1.850	12.24	3.417	5.04	4.98	0.72
0.300	0.72	1.867	12.24	3.433	5.04	5.00	0.72
0.317	0.72	1.883	12.24	3.450	5.04	5.02	0.72
0.333	0.72	1.900	12.24	3.467	5.04	5.03	0.72
0.350	0.72	1.917	12.24	3.483	5.04	5.05	0.72
0.367	0.72	1.933	12.24	3.500	5.04	5.07	0.72
0.383	0.72	1.950	12.24	3.517	5.04	5.08	0.72
0.400	0.72	1.967	12.24	3.533	5.04	5.10	0.72
0.417	0.72	1.983	12.24	3.550	5.04	5.12	0.72
0.433	0.72	2.000	12.24	3.567	5.04	5.13	0.72
0.450	0.72	2.017	12.24	3.583	5.04	5.15	0.72
0.467	0.72	2.033	12.24	3.600	5.04	5.17	0.72
0.483	0.72	2.050	12.24	3.617	5.04	5.18	0.72
0.500	0.72	2.067	12.24	3.633	5.04	5.20	0.72
0.517	0.72	2.083	12.24	3.650	5.04	5.22	0.72
0.533	0.72	2.100	12.24	3.667	5.04	5.23	0.72
0.550	0.72	2.117	12.24	3.683	5.04	5.25	0.72
0.567	0.72	2.133	12.24	3.700	5.04	5.27	0.72
0.583	0.72	2.150	12.24	3.717	5.04	5.28	0.72
0.600	0.72	2.167	12.24	3.733	5.04	5.30	0.72
0.617	0.72	2.183	12.24	3.750	5.04	5.32	0.72
0.633	0.72	2.200	12.24	3.767	2.88	5.33	0.72
0.650	0.72	2.217	12.24	3.783	2.88	5.35	0.72
0.667	0.72	2.233	12.24	3.800	2.88	5.37	0.72
0.683	0.72	2.250	12.24	3.817	2.88	5.38	0.72
0.700	0.72	2.267	33.12	3.833	2.88	5.40	0.72
0.717	0.72	2.283	33.12	3.850	2.88	5.42	0.72
0.733	0.72	2.300	33.12	3.867	2.88	5.43	0.72
0.750	0.72	2.317	33.12	3.883	2.88	5.45	0.72
0.767	0.72	2.333	33.12	3.900	2.88	5.47	0.72
0.783	0.72	2.350	33.12	3.917	2.88	5.48	0.72
0.800	0.72	2.367	33.12	3.933	2.88	5.50	0.72
0.817	0.72	2.383	33.12	3.950	2.88	5.52	0.72
0.833	0.72	2.400	33.12	3.967	2.88	5.53	0.72
0.850	0.72	2.417	33.12	3.983	2.88	5.55	0.72
0.867	0.72	2.433	33.12	4.000	2.88	5.57	0.72
0.883	0.72	2.450	33.12	4.017	2.88	5.58	0.72
0.900	0.72	2.467	33.12	4.033	2.88	5.60	0.72
0.917	0.72	2.483	33.12	4.050	2.88	5.62	0.72
0.933	0.72	2.500	33.12	4.067	2.88	5.63	0.72
0.950	0.72	2.517	33.12	4.083	2.88	5.65	0.72
0.967	0.72	2.533	33.12	4.100	2.88	5.67	0.72
0.983	0.72	2.550	33.12	4.117	2.88	5.68	0.72
1.000	0.72	2.567	33.12	4.133	2.88	5.70	0.72
1.017	0.72	2.583	33.12	4.150	2.88	5.72	0.72
1.033	0.72	2.600	33.12	4.167	2.88	5.73	0.72
1.050	0.72	2.617	33.12	4.183	2.88	5.75	0.72
1.067	0.72	2.633	33.12	4.200	2.88	5.77	0.72
1.083	0.72	2.650	33.12	4.217	2.88	5.78	0.72
1.100	0.72	2.667	33.12	4.233	2.88	5.80	0.72
1.117	0.72	2.683	33.12	4.250	2.88	5.82	0.72
1.133	0.72	2.700	33.12	4.267	1.44	5.83	0.72
1.150	0.72	2.717	33.12	4.283	1.44	5.85	0.72
1.167	0.72	2.733	33.12	4.300	1.44	5.87	0.72
1.183	0.72	2.750	33.12	4.317	1.44	5.88	0.72
1.200	0.72	2.767	9.36	4.333	1.44	5.90	0.72
1.217	0.72	2.783	9.36	4.350	1.44	5.92	0.72
1.233	0.72	2.800	9.36	4.367	1.44	5.93	0.72
1.250	0.72	2.817	9.36	4.383	1.44	5.95	0.72
1.267	4.32	2.833	9.36	4.400	1.44	5.97	0.72
1.283	4.32	2.850	9.36	4.417	1.44	5.98	0.72
1.300	4.32	2.867	9.36	4.433	1.44	6.00	0.72
1.317	4.32	2.883	9.36	4.450	1.44	6.02	0.72
1.333	4.32	2.900	9.36	4.467	1.44	6.03	0.72
1.350	4.32	2.917	9.36	4.483	1.44	6.05	0.72
1.367	4.32	2.933	9.36	4.500	1.44	6.07	0.72

1.383	4.32	2.950	9.36	4.517	1.44	6.08	0.72
1.400	4.32	2.967	9.36	4.533	1.44	6.10	0.72
1.417	4.32	2.983	9.36	4.550	1.44	6.12	0.72
1.433	4.32	3.000	9.36	4.567	1.44	6.13	0.72
1.450	4.32	3.017	9.36	4.583	1.44	6.15	0.72
1.467	4.32	3.033	9.36	4.600	1.44	6.17	0.72
1.483	4.32	3.050	9.36	4.617	1.44	6.18	0.72
1.500	4.32	3.067	9.36	4.633	1.44	6.20	0.72
1.517	4.32	3.083	9.36	4.650	1.44	6.22	0.72
1.533	4.32	3.100	9.36	4.667	1.44	6.23	0.72
1.550	4.32	3.117	9.36	4.683	1.44	6.25	0.72
1.567	4.32	3.133	9.36	4.700	1.44		

Max.Eff.Inten.(mm/hr)=	33.12	17.87	
over (min)	5.00	8.00	
Storage Coeff. (min)=	5.30 (ii)	7.95 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.22	0.14	
			TOTALS
PEAK FLOW (cms)=	0.35	0.00	0.357 (iii)
TIME TO PEAK (hrs)=	2.75	2.78	2.75
RUNOFF VOLUME (mm)=	35.00	15.00	34.80
TOTAL RAINFALL (mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT =	0.97	0.42	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.357	2.75	34.80
OUTFLOW: ID= 1 (7632)	3.910	0.032	4.10	33.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.94
TIME SHIFT OF PEAK FLOW (min)= 81.00
MAXIMUM STORAGE USED (ha.m.)= 0.1082

CALIB STANDHYD (7641) ID= 1 DT= 1.0 min | Area (ha)= 2.21 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.19	0.02
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	121.38	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	4.32	3.150	9.36	4.72	1.44
0.033	0.00	1.600	4.32	3.167	9.36	4.73	1.44
0.050	0.00	1.617	4.32	3.183	9.36	4.75	1.44
0.067	0.00	1.633	4.32	3.200	9.36	4.77	0.72
0.083	0.00	1.650	4.32	3.217	9.36	4.78	0.72
0.100	0.00	1.667	4.32	3.233	9.36	4.80	0.72
0.117	0.00	1.683	4.32	3.250	9.36	4.82	0.72
0.133	0.00	1.700	4.32	3.267	5.04	4.83	0.72
0.150	0.00	1.717	4.32	3.283	5.04	4.85	0.72
0.167	0.00	1.733	4.32	3.300	5.04	4.87	0.72
0.183	0.00	1.750	4.32	3.317	5.04	4.88	0.72
0.200	0.00	1.767	12.24	3.333	5.04	4.90	0.72
0.217	0.00	1.783	12.24	3.350	5.04	4.92	0.72
0.233	0.00	1.800	12.24	3.367	5.04	4.93	0.72
0.250	0.00	1.817	12.24	3.383	5.04	4.95	0.72
0.267	0.72	1.833	12.24	3.400	5.04	4.97	0.72
0.283	0.72	1.850	12.24	3.417	5.04	4.98	0.72
0.300	0.72	1.867	12.24	3.433	5.04	5.00	0.72
0.317	0.72	1.883	12.24	3.450	5.04	5.02	0.72
0.333	0.72	1.900	12.24	3.467	5.04	5.03	0.72
0.350	0.72	1.917	12.24	3.483	5.04	5.05	0.72
0.367	0.72	1.933	12.24	3.500	5.04	5.07	0.72
0.383	0.72	1.950	12.24	3.517	5.04	5.08	0.72
0.400	0.72	1.967	12.24	3.533	5.04	5.10	0.72
0.417	0.72	1.983	12.24	3.550	5.04	5.12	0.72
0.433	0.72	2.000	12.24	3.567	5.04	5.13	0.72
0.450	0.72	2.017	12.24	3.583	5.04	5.15	0.72
0.467	0.72	2.033	12.24	3.600	5.04	5.17	0.72
0.483	0.72	2.050	12.24	3.617	5.04	5.18	0.72
0.500	0.72	2.067	12.24	3.633	5.04	5.20	0.72
0.517	0.72	2.083	12.24	3.650	5.04	5.22	0.72
0.533	0.72	2.100	12.24	3.667	5.04	5.23	0.72
0.550	0.72	2.117	12.24	3.683	5.04	5.25	0.72
0.567	0.72	2.133	12.24	3.700	5.04	5.27	0.72
0.583	0.72	2.150	12.24	3.717	5.04	5.28	0.72
0.600	0.72	2.167	12.24	3.733	5.04	5.30	0.72
0.617	0.72	2.183	12.24	3.750	5.04	5.32	0.72
0.633	0.72	2.200	12.24	3.767	2.88	5.33	0.72
0.650	0.72	2.217	12.24	3.783	2.88	5.35	0.72
0.667	0.72	2.233	12.24	3.800	2.88	5.37	0.72
0.683	0.72	2.250	12.24	3.817	2.88	5.38	0.72
0.700	0.72	2.267	33.12	3.833	2.88	5.40	0.72
0.717	0.72	2.283	33.12	3.850	2.88	5.42	0.72
0.733	0.72	2.300	33.12	3.867	2.88	5.43	0.72
0.750	0.72	2.317	33.12	3.883	2.88	5.45	0.72
0.767	0.72	2.333	33.12	3.900	2.88	5.47	0.72
0.783	0.72	2.350	33.12	3.917	2.88	5.48	0.72
0.800	0.72	2.367	33.12	3.933	2.88	5.50	0.72
0.817	0.72	2.383	33.12	3.950	2.88	5.52	0.72
0.833	0.72	2.400	33.12	3.967	2.88	5.53	0.72
0.850	0.72	2.417	33.12	3.983	2.88	5.55	0.72
0.867	0.72	2.433	33.12	4.000	2.88	5.57	0.72
0.883	0.72	2.450	33.12	4.017	2.88	5.58	0.72
0.900	0.72	2.467	33.12	4.033	2.88	5.60	0.72
0.917	0.72	2.483	33.12	4.050	2.88	5.62	0.72
0.933	0.72	2.500	33.12	4.067	2.88	5.63	0.72
0.950	0.72	2.517	33.12	4.083	2.88	5.65	0.72
0.967	0.72	2.533	33.12	4.100	2.88	5.67	0.72
0.983	0.72	2.550	33.12	4.117	2.88	5.68	0.72
1.000	0.72	2.567	33.12	4.133	2.88	5.70	0.72
1.017	0.72	2.583	33.12	4.150	2.88	5.72	0.72
1.033	0.72	2.600	33.12	4.167	2.88	5.73	0.72
1.050	0.72	2.617	33.12	4.183	2.88	5.75	0.72
1.067	0.72	2.633	33.12	4.200	2.88	5.77	0.72
1.083	0.72	2.650	33.12	4.217	2.88	5.78	0.72
1.100	0.72	2.667	33.12	4.233	2.88	5.80	0.72
1.117	0.72	2.683	33.12	4.250	2.88	5.82	0.72
1.133	0.72	2.700	33.12	4.267	1.44	5.83	0.72
1.150	0.72	2.717	33.12	4.283	1.44	5.85	0.72
1.167	0.72	2.733	33.12	4.300	1.44	5.87	0.72
1.183	0.72	2.750	33.12	4.317	1.44	5.88	0.72
1.200	0.72	2.767	9.36	4.333	1.44	5.90	0.72
1.217	0.72	2.783	9.36	4.350	1.44	5.92	0.72
1.233	0.72	2.800	9.36	4.367	1.44	5.93	0.72
1.250	0.72	2.817	9.36	4.383	1.44	5.95	0.72
1.267	4.32	2.833	9.36	4.400	1.44	5.97	0.72
1.283	4.32	2.850	9.36	4.417	1.44	5.98	0.72
1.300	4.32	2.867	9.36	4.433	1.44	6.00	0.72
1.317	4.32	2.883	9.36	4.450	1.44	6.02	0.72
1.333	4.32	2.900	9.36	4.467	1.44	6.03	0.72
1.350	4.32	2.917	9.36	4.483	1.44	6.05	0.72

1.367	4.32	2.933	9.36	4.500	1.44	6.07	0.72
1.383	4.32	2.950	9.36	4.517	1.44	6.08	0.72
1.400	4.32	2.967	9.36	4.533	1.44	6.10	0.72
1.417	4.32	2.983	9.36	4.550	1.44	6.12	0.72
1.433	4.32	3.000	9.36	4.567	1.44	6.13	0.72
1.450	4.32	3.017	9.36	4.583	1.44	6.15	0.72
1.467	4.32	3.033	9.36	4.600	1.44	6.17	0.72
1.483	4.32	3.050	9.36	4.617	1.44	6.18	0.72
1.500	4.32	3.067	9.36	4.633	1.44	6.20	0.72
1.517	4.32	3.083	9.36	4.650	1.44	6.22	0.72
1.533	4.32	3.100	9.36	4.667	1.44	6.23	0.72
1.550	4.32	3.117	9.36	4.683	1.44	6.25	0.72
1.567	4.32	3.133	9.36	4.700	1.44		

Max.Eff.Inten.(mm/hr)=	33.12	17.87	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.46 (ii)	7.11 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.24	0.15	
			TOTALS
PEAK FLOW (cms)=	0.20	0.00	0.202 (iii)
TIME TO PEAK (hrs)=	2.75	2.77	2.75
RUNOFF VOLUME (mm)=	35.00	15.01	34.80
TOTAL RAINFALL (mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT =	0.97	0.42	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.202	2.75	34.80
OUTFLOW: ID= 1 (7642)	2.210	0.019	3.97	33.67

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.38
TIME SHIFT OF PEAK FLOW (min)= 73.00
MAXIMUM STORAGE USED (ha.m.)= 0.0606

CALIB			
STANDHYD (7643)	Area (ha)= 2.02		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.00	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	116.05	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	4.32	3.150	9.36	4.72	1.44
0.033	0.00	1.600	4.32	3.167	9.36	4.73	1.44
0.050	0.00	1.617	4.32	3.183	9.36	4.75	1.44
0.067	0.00	1.633	4.32	3.200	9.36	4.77	0.72
0.083	0.00	1.650	4.32	3.217	9.36	4.78	0.72
0.100	0.00	1.667	4.32	3.233	9.36	4.80	0.72
0.117	0.00	1.683	4.32	3.250	9.36	4.82	0.72
0.133	0.00	1.700	4.32	3.267	5.04	4.83	0.72
0.150	0.00	1.717	4.32	3.283	5.04	4.85	0.72
0.167	0.00	1.733	4.32	3.300	5.04	4.87	0.72
0.183	0.00	1.750	4.32	3.317	5.04	4.88	0.72
0.200	0.00	1.767	12.24	3.333	5.04	4.90	0.72
0.217	0.00	1.783	12.24	3.350	5.04	4.92	0.72
0.233	0.00	1.800	12.24	3.367	5.04	4.93	0.72
0.250	0.00	1.817	12.24	3.383	5.04	4.95	0.72
0.267	0.72	1.833	12.24	3.400	5.04	4.97	0.72
0.283	0.72	1.850	12.24	3.417	5.04	4.98	0.72
0.300	0.72	1.867	12.24	3.433	5.04	5.00	0.72
0.317	0.72	1.883	12.24	3.450	5.04	5.02	0.72
0.333	0.72	1.900	12.24	3.467	5.04	5.03	0.72
0.350	0.72	1.917	12.24	3.483	5.04	5.05	0.72
0.367	0.72	1.933	12.24	3.500	5.04	5.07	0.72
0.383	0.72	1.950	12.24	3.517	5.04	5.08	0.72
0.400	0.72	1.967	12.24	3.533	5.04	5.10	0.72
0.417	0.72	1.983	12.24	3.550	5.04	5.12	0.72
0.433	0.72	2.000	12.24	3.567	5.04	5.13	0.72
0.450	0.72	2.017	12.24	3.583	5.04	5.15	0.72
0.467	0.72	2.033	12.24	3.600	5.04	5.17	0.72
0.483	0.72	2.050	12.24	3.617	5.04	5.18	0.72
0.500	0.72	2.067	12.24	3.633	5.04	5.20	0.72
0.517	0.72	2.083	12.24	3.650	5.04	5.22	0.72
0.533	0.72	2.100	12.24	3.667	5.04	5.23	0.72
0.550	0.72	2.117	12.24	3.683	5.04	5.25	0.72
0.567	0.72	2.133	12.24	3.700	5.04	5.27	0.72
0.583	0.72	2.150	12.24	3.717	5.04	5.28	0.72
0.600	0.72	2.167	12.24	3.733	5.04	5.30	0.72
0.617	0.72	2.183	12.24	3.750	5.04	5.32	0.72
0.633	0.72	2.200	12.24	3.767	2.88	5.33	0.72
0.650	0.72	2.217	12.24	3.783	2.88	5.35	0.72
0.667	0.72	2.233	12.24	3.800	2.88	5.37	0.72
0.683	0.72	2.250	12.24	3.817	2.88	5.38	0.72
0.700	0.72	2.267	33.12	3.833	2.88	5.40	0.72
0.717	0.72	2.283	33.12	3.850	2.88	5.42	0.72
0.733	0.72	2.300	33.12	3.867	2.88	5.43	0.72
0.750	0.72	2.317	33.12	3.883	2.88	5.45	0.72
0.767	0.72	2.333	33.12	3.900	2.88	5.47	0.72
0.783	0.72	2.350	33.12	3.917	2.88	5.48	0.72
0.800	0.72	2.367	33.12	3.933	2.88	5.50	0.72
0.817	0.72	2.383	33.12	3.950	2.88	5.52	0.72
0.833	0.72	2.400	33.12	3.967	2.88	5.53	0.72
0.850	0.72	2.417	33.12	3.983	2.88	5.55	0.72
0.867	0.72	2.433	33.12	4.000	2.88	5.57	0.72
0.883	0.72	2.450	33.12	4.017	2.88	5.58	0.72
0.900	0.72	2.467	33.12	4.033	2.88	5.60	0.72
0.917	0.72	2.483	33.12	4.050	2.88	5.62	0.72
0.933	0.72	2.500	33.12	4.067	2.88	5.63	0.72
0.950	0.72	2.517	33.12	4.083	2.88	5.65	0.72
0.967	0.72	2.533	33.12	4.100	2.88	5.67	0.72
0.983	0.72	2.550	33.12	4.117	2.88	5.68	0.72
1.000	0.72	2.567	33.12	4.133	2.88	5.70	0.72
1.017	0.72	2.583	33.12	4.150	2.88	5.72	0.72
1.033	0.72	2.600	33.12	4.167	2.88	5.73	0.72
1.050	0.72	2.617	33.12	4.183	2.88	5.75	0.72
1.067	0.72	2.633	33.12	4.200	2.88	5.77	0.72
1.083	0.72	2.650	33.12	4.217	2.88	5.78	0.72
1.100	0.72	2.667	33.12	4.233	2.88	5.80	0.72
1.117	0.72	2.683	33.12	4.250	2.88	5.82	0.72
1.133	0.72	2.700	33.12	4.267	1.44	5.83	0.72
1.150	0.72	2.717	33.12	4.283	1.44	5.85	0.72
1.167	0.72	2.733	33.12	4.300	1.44	5.87	0.72
1.183	0.72	2.750	33.12	4.317	1.44	5.88	0.72
1.200	0.72	2.767	9.36	4.333	1.44	5.90	0.72
1.217	0.72	2.783	9.36	4.350	1.44	5.92	0.72
1.233	0.72	2.800	9.36	4.367	1.44	5.93	0.72
1.250	0.72	2.817	9.36	4.383	1.44	5.95	0.72
1.267	4.32	2.833	9.36	4.400	1.44	5.97	0.72
1.283	4.32	2.850	9.36	4.417	1.44	5.98	0.72
1.300	4.32	2.867	9.36	4.433	1.44	6.00	0.72
1.317	4.32	2.883	9.36	4.450	1.44	6.02	0.72
1.333	4.32	2.900	9.36	4.467	1.44	6.03	0.72

1.350	4.32	2.917	9.36	4.483	1.44	6.05	0.72
1.367	4.32	2.933	9.36	4.500	1.44	6.07	0.72
1.383	4.32	2.950	9.36	4.517	1.44	6.08	0.72
1.400	4.32	2.967	9.36	4.533	1.44	6.10	0.72
1.417	4.32	2.983	9.36	4.550	1.44	6.12	0.72
1.433	4.32	3.000	9.36	4.567	1.44	6.13	0.72
1.450	4.32	3.017	9.36	4.583	1.44	6.15	0.72
1.467	4.32	3.033	9.36	4.600	1.44	6.17	0.72
1.483	4.32	3.050	9.36	4.617	1.44	6.18	0.72
1.500	4.32	3.067	9.36	4.633	1.44	6.20	0.72
1.517	4.32	3.083	9.36	4.650	1.44	6.22	0.72
1.533	4.32	3.100	9.36	4.667	1.44	6.23	0.72
1.550	4.32	3.117	9.36	4.683	1.44	6.25	0.72
1.567	4.32	3.133	9.36	4.700	1.44		

Max.Eff.Inten.(mm/hr)=		33.12	17.87
over (min)		5.00	7.00
Storage Coeff. (min)=		4.35 (ii)	6.99 (ii)
Unit Hyd. Tpeak (min)=		5.00	7.00
Unit Hyd. peak (cms)=		0.25	0.16
			TOTALS
PEAK FLOW	(cms)=	0.18	0.00	0.185 (iii)
TIME TO PEAK	(hrs)=	2.75	2.77	2.75
RUNOFF VOLUME	(mm)=	35.00	15.01	34.80
TOTAL RAINFALL	(mm)=	36.00	36.00	36.00
RUNOFF COEFFICIENT	=	0.97	0.42	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0433	0.1140
0.0182	0.0580	0.0507	0.1280
0.0280	0.0775	0.0571	0.1440
0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.185	2.75	34.80
OUTFLOW: ID= 1 (7644)	2.020	0.017	3.95	33.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.41
TIME SHIFT OF PEAK FLOW (min)= 72.00
MAXIMUM STORAGE USED (ha.m.)= 0.0554

****
** SIMULATION:2. 2 Year 12 Hour AES (Bloor, TRCA) **
****

READ STORM	Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\e2501d61
Ptotal= 42.00 mm	Comments: 2 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.25	7.14	6.50	2.94	9.75	0.42
0.25	0.42	3.50	7.14	6.75	2.94	10.00	0.42
0.50	0.42	3.75	7.14	7.00	2.94	10.25	0.42
0.75	0.42	4.00	7.14	7.25	1.68	10.50	0.42
1.00	0.42	4.25	19.32	7.50	1.68	10.75	0.42
1.25	0.42	4.50	19.32	7.75	1.68	11.00	0.42
1.50	0.42	4.75	19.32	8.00	1.68	11.25	0.42
1.75	0.42	5.00	19.32	8.25	0.84	11.50	0.42
2.00	0.42	5.25	5.46	8.50	0.84	11.75	0.42
2.25	2.52	5.50	5.46	8.75	0.84	12.00	0.42
2.50	2.52	5.75	5.46	9.00	0.84		
2.75	2.52	6.00	5.46	9.25	0.42		
3.00	2.52	6.25	2.94	9.50	0.42		

CALIB	
STANDHYD (7567)	Area (ha)= 2.81
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	2.52	6.150	5.46	9.22	0.84
0.033	0.00	3.100	2.52	6.167	5.46	9.23	0.84
0.050	0.00	3.117	2.52	6.183	5.46	9.25	0.84
0.067	0.00	3.133	2.52	6.200	5.46	9.27	0.42
0.083	0.00	3.150	2.52	6.217	5.46	9.28	0.42
0.100	0.00	3.167	2.52	6.233	5.46	9.30	0.42
0.117	0.00	3.183	2.52	6.250	5.46	9.32	0.42
0.133	0.00	3.200	2.52	6.267	2.94	9.33	0.42
0.150	0.00	3.217	2.52	6.283	2.94	9.35	0.42
0.167	0.00	3.233	2.52	6.300	2.94	9.37	0.42
0.183	0.00	3.250	2.52	6.317	2.94	9.38	0.42
0.200	0.00	3.267	7.14	6.333	2.94	9.40	0.42
0.217	0.00	3.283	7.14	6.350	2.94	9.42	0.42
0.233	0.00	3.300	7.14	6.367	2.94	9.43	0.42
0.250	0.00	3.317	7.14	6.383	2.94	9.45	0.42
0.267	0.42	3.333	7.14	6.400	2.94	9.47	0.42
0.283	0.42	3.350	7.14	6.417	2.94	9.48	0.42
0.300	0.42	3.367	7.14	6.433	2.94	9.50	0.42
0.317	0.42	3.383	7.14	6.450	2.94	9.52	0.42
0.333	0.42	3.400	7.14	6.467	2.94	9.53	0.42
0.350	0.42	3.417	7.14	6.483	2.94	9.55	0.42
0.367	0.42	3.433	7.14	6.500	2.94	9.57	0.42
0.383	0.42	3.450	7.14	6.517	2.94	9.58	0.42
0.400	0.42	3.467	7.14	6.533	2.94	9.60	0.42
0.417	0.42	3.483	7.14	6.550	2.94	9.62	0.42
0.433	0.42	3.500	7.14	6.567	2.94	9.63	0.42
0.450	0.42	3.517	7.14	6.583	2.94	9.65	0.42
0.467	0.42	3.533	7.14	6.600	2.94	9.67	0.42
0.483	0.42	3.550	7.14	6.617	2.94	9.68	0.42
0.500	0.42	3.567	7.14	6.633	2.94	9.70	0.42
0.517	0.42	3.583	7.14	6.650	2.94	9.72	0.42
0.533	0.42	3.600	7.14	6.667	2.94	9.73	0.42
0.550	0.42	3.617	7.14	6.683	2.94	9.75	0.42
0.567	0.42	3.633	7.14	6.700	2.94	9.77	0.42
0.583	0.42	3.650	7.14	6.717	2.94	9.78	0.42
0.600	0.42	3.667	7.14	6.733	2.94	9.80	0.42
0.617	0.42	3.683	7.14	6.750	2.94	9.82	0.42
0.633	0.42	3.700	7.14	6.767	2.94	9.83	0.42
0.650	0.42	3.717	7.14	6.783	2.94	9.85	0.42
0.667	0.42	3.733	7.14	6.800	2.94	9.87	0.42
0.683	0.42	3.750	7.14	6.817	2.94	9.88	0.42
0.700	0.42	3.767	7.14	6.833	2.94	9.90	0.42
0.717	0.42	3.783	7.14	6.850	2.94	9.92	0.42
0.733	0.42	3.800	7.14	6.867	2.94	9.93	0.42
0.750	0.42	3.817	7.14	6.883	2.94	9.95	0.42
0.767	0.42	3.833	7.14	6.900	2.94	9.97	0.42
0.783	0.42	3.850	7.14	6.917	2.94	9.98	0.42
0.800	0.42	3.867	7.14	6.933	2.94	10.00	0.42
0.817	0.42	3.883	7.14	6.950	2.94	10.02	0.42
0.833	0.42	3.900	7.14	6.967	2.94	10.03	0.42
0.850	0.42	3.917	7.14	6.983	2.94	10.05	0.42

0.867	0.42	3.933	7.14	7.000	2.94	10.07	0.42
0.883	0.42	3.950	7.14	7.017	2.94	10.08	0.42
0.900	0.42	3.967	7.14	7.033	2.94	10.10	0.42
0.917	0.42	3.983	7.14	7.050	2.94	10.12	0.42
0.933	0.42	4.000	7.14	7.067	2.94	10.13	0.42
0.950	0.42	4.017	7.14	7.083	2.94	10.15	0.42
0.967	0.42	4.033	7.14	7.100	2.94	10.17	0.42
0.983	0.42	4.050	7.14	7.117	2.94	10.18	0.42
1.000	0.42	4.067	7.14	7.133	2.94	10.20	0.42
1.017	0.42	4.083	7.14	7.150	2.94	10.22	0.42
1.033	0.42	4.100	7.14	7.167	2.94	10.23	0.42
1.050	0.42	4.117	7.14	7.183	2.94	10.25	0.42
1.067	0.42	4.133	7.14	7.200	2.94	10.27	0.42
1.083	0.42	4.150	7.14	7.217	2.94	10.28	0.42
1.100	0.42	4.167	7.14	7.233	2.94	10.30	0.42
1.117	0.42	4.183	7.14	7.250	2.94	10.32	0.42
1.133	0.42	4.200	7.14	7.267	1.68	10.33	0.42
1.150	0.42	4.217	7.14	7.283	1.68	10.35	0.42
1.167	0.42	4.233	7.14	7.300	1.68	10.37	0.42
1.183	0.42	4.250	7.14	7.317	1.68	10.38	0.42
1.200	0.42	4.267	19.32	7.333	1.68	10.40	0.42
1.217	0.42	4.283	19.32	7.350	1.68	10.42	0.42
1.233	0.42	4.300	19.32	7.367	1.68	10.43	0.42
1.250	0.42	4.317	19.32	7.383	1.68	10.45	0.42
1.267	0.42	4.333	19.32	7.400	1.68	10.47	0.42
1.283	0.42	4.350	19.32	7.417	1.68	10.48	0.42
1.300	0.42	4.367	19.32	7.433	1.68	10.50	0.42
1.317	0.42	4.383	19.32	7.450	1.68	10.52	0.42
1.333	0.42	4.400	19.32	7.467	1.68	10.53	0.42
1.350	0.42	4.417	19.32	7.483	1.68	10.55	0.42
1.367	0.42	4.433	19.32	7.500	1.68	10.57	0.42
1.383	0.42	4.450	19.32	7.517	1.68	10.58	0.42
1.400	0.42	4.467	19.32	7.533	1.68	10.60	0.42
1.417	0.42	4.483	19.32	7.550	1.68	10.62	0.42
1.433	0.42	4.500	19.32	7.567	1.68	10.63	0.42
1.450	0.42	4.517	19.32	7.583	1.68	10.65	0.42
1.467	0.42	4.533	19.32	7.600	1.68	10.67	0.42
1.483	0.42	4.550	19.32	7.617	1.68	10.68	0.42
1.500	0.42	4.567	19.32	7.633	1.68	10.70	0.42
1.517	0.42	4.583	19.32	7.650	1.68	10.72	0.42
1.533	0.42	4.600	19.32	7.667	1.68	10.73	0.42
1.550	0.42	4.617	19.32	7.683	1.68	10.75	0.42
1.567	0.42	4.633	19.32	7.700	1.68	10.77	0.42
1.583	0.42	4.650	19.32	7.717	1.68	10.78	0.42
1.600	0.42	4.667	19.32	7.733	1.68	10.80	0.42
1.617	0.42	4.683	19.32	7.750	1.68	10.82	0.42
1.633	0.42	4.700	19.32	7.767	1.68	10.83	0.42
1.650	0.42	4.717	19.32	7.783	1.68	10.85	0.42
1.667	0.42	4.733	19.32	7.800	1.68	10.87	0.42
1.683	0.42	4.750	19.32	7.817	1.68	10.88	0.42
1.700	0.42	4.767	19.32	7.833	1.68	10.90	0.42
1.717	0.42	4.783	19.32	7.850	1.68	10.92	0.42
1.733	0.42	4.800	19.32	7.867	1.68	10.93	0.42
1.750	0.42	4.817	19.32	7.883	1.68	10.95	0.42
1.767	0.42	4.833	19.32	7.900	1.68	10.97	0.42
1.783	0.42	4.850	19.32	7.917	1.68	10.98	0.42
1.800	0.42	4.867	19.32	7.933	1.68	11.00	0.42
1.817	0.42	4.883	19.32	7.950	1.68	11.02	0.42
1.833	0.42	4.900	19.32	7.967	1.68	11.03	0.42
1.850	0.42	4.917	19.32	7.983	1.68	11.05	0.42
1.867	0.42	4.933	19.32	8.000	1.68	11.07	0.42
1.883	0.42	4.950	19.32	8.017	1.68	11.08	0.42
1.900	0.42	4.967	19.32	8.033	1.68	11.10	0.42
1.917	0.42	4.983	19.32	8.050	1.68	11.12	0.42
1.933	0.42	5.000	19.32	8.067	1.68	11.13	0.42
1.950	0.42	5.017	19.32	8.083	1.68	11.15	0.42
1.967	0.42	5.033	19.32	8.100	1.68	11.17	0.42
1.983	0.42	5.050	19.32	8.117	1.68	11.18	0.42
2.000	0.42	5.067	19.32	8.133	1.68	11.20	0.42
2.017	0.42	5.083	19.32	8.150	1.68	11.22	0.42
2.033	0.42	5.100	19.32	8.167	1.68	11.23	0.42
2.050	0.42	5.117	19.32	8.183	1.68	11.25	0.42
2.067	0.42	5.133	19.32	8.200	1.68	11.27	0.42
2.083	0.42	5.150	19.32	8.217	1.68	11.28	0.42
2.100	0.42	5.167	19.32	8.233	1.68	11.30	0.42
2.117	0.42	5.183	19.32	8.250	1.68	11.32	0.42
2.133	0.42	5.200	19.32	8.267	0.84	11.33	0.42
2.150	0.42	5.217	19.32	8.283	0.84	11.35	0.42
2.167	0.42	5.233	19.32	8.300	0.84	11.37	0.42
2.183	0.42	5.250	19.31	8.317	0.84	11.38	0.42
2.200	0.42	5.267	5.46	8.333	0.84	11.40	0.42
2.217	0.42	5.283	5.46	8.350	0.84	11.42	0.42
2.233	0.42	5.300	5.46	8.367	0.84	11.43	0.42
2.250	0.42	5.317	5.46	8.383	0.84	11.45	0.42
2.267	2.52	5.333	5.46	8.400	0.84	11.47	0.42
2.283	2.52	5.350	5.46	8.417	0.84	11.48	0.42
2.300	2.52	5.367	5.46	8.433	0.84	11.50	0.42
2.317	2.52	5.383	5.46	8.450	0.84	11.52	0.42
2.333	2.52	5.400	5.46	8.467	0.84	11.53	0.42
2.350	2.52	5.417	5.46	8.483	0.84	11.55	0.42
2.367	2.52	5.433	5.46	8.500	0.84	11.57	0.42
2.383	2.52	5.450	5.46	8.517	0.84	11.58	0.42
2.400	2.52	5.467	5.46	8.533	0.84	11.60	0.42
2.417	2.52	5.483	5.46	8.550	0.84	11.62	0.42
2.433	2.52	5.500	5.46	8.567	0.84	11.63	0.42
2.450	2.52	5.517	5.46	8.583	0.84	11.65	0.42
2.467	2.52	5.533	5.46	8.600	0.84	11.67	0.42
2.483	2.52	5.550	5.46	8.617	0.84	11.68	0.42
2.500	2.52	5.567	5.46	8.633	0.84	11.70	0.42
2.517	2.52	5.583	5.46	8.650	0.84	11.72	0.42
2.533	2.52	5.600	5.46	8.667	0.84	11.73	0.42
2.550	2.52	5.617	5.46	8.683	0.84	11.75	0.42
2.567	2.52	5.633	5.46	8.700	0.84	11.77	0.42
2.583	2.52	5.650	5.46	8.717	0.84	11.78	0.42
2.600	2.52	5.667	5.46	8.733	0.84	11.80	0.42
2.617	2.52	5.683	5.46	8.750	0.84	11.82	0.42
2.633	2.52	5.700	5.46	8.767	0.84	11.83	0.42
2.650	2.52	5.717	5.46	8.783	0.84	11.85	0.42
2.667	2.52	5.733	5.46	8.800	0.84	11.87	0.42
2.683	2.52	5.750	5.46	8.817	0.84	11.88	0.42
2.700	2.52	5.767	5.46	8.833	0.84	11.90	0.42
2.717	2.52	5.783	5.46	8.850	0.84	11.92	0.42
2.733	2.52	5.800	5.46	8.867	0.84	11.93	0.42
2.750	2.52	5.817	5.46	8.883	0.84	11.95	0.42
2.767	2.52	5.833	5.46	8.900	0.84	11.97	0.42
2.783	2.52	5.850	5.46	8.917	0.84	11.98	0.42
2.800	2.52	5.867	5.46	8.933	0.84	12.00	0.42
2.817	2.52	5.883	5.46	8.950	0.84	12.02	0.42
2.833	2.52	5.900	5.46	8.967	0.84	12.03	0.42
2.850	2.52	5.917	5.46	8.983	0.84	12.05	0.42
2.867	2.52	5.933	5.46	9.000	0.84	12.07	0.42
2.883	2.52	5.950	5.46	9.017	0.84	12.08	0.42
2.900	2.52	5.967	5.46	9.033	0.84	12.10	0.42
2.917	2.52	5.983	5.46	9.050	0.84	12.12	0.42
2.933	2.52	6.000	5.46	9.067	0.84	12.13	0.42
2.950	2.52	6.017	5.46	9.083	0.84	12.15	0.42
2.967	2.52	6.033	5.46	9.100	0.84	12.17	0.42
2.983	2.52	6.050	5.46	9.117	0.84	12.18	0.42
3.000	2.52	6.067	5.46	9.133	0.84	12.20	0.42
3.017	2.52	6.083	5.46	9.150	0.84	12.22	0.42
3.033	2.52	6.100	5.46	9.167	0.84	12.23	0.42
3.050	2.52	6.117	5.46	9.183	0.84	12.25	0.42
3.067	2.52	6.133	5.46	9.200	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	11.73	
over (min)	6.00	10.00	
Storage Coeff. (min)=	5.95 (ii)	9.24 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.19	0.12	
			TOTALS
PEAK FLOW (cms)=	0.15	0.00	0.150 (iii)
TIME TO PEAK (hrs)=	5.23	5.27	5.25
RUNOFF VOLUME (mm)=	41.00	19.22	40.78
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.46	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

GEI Consultants

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| RESERVOIR(  7626)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000      0.0000   |    0.0568      0.1530
                           0.0239      0.0780   |    0.0660      0.1730
                           0.0370      0.1040   |    0.0751      0.2000
                           0.0451      0.1250   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7567)      2.810     0.150      5.25      40.78
   OUTFLOW: ID= 1 (  7626)      2.810     0.025      6.53      38.90

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.48
                TIME SHIFT OF PEAK FLOW         (min)= 77.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0797

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| CALIB            |
| STANDHYD (  7624)|   Area    (ha)=   2.08
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.06          0.02
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.00          0.50
     Length            (m)=     117.76         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.017    0.00 | 3.083    2.52 | 6.150    5.46 |  9.22    0.84
              0.033    0.00 | 3.100    2.52 | 6.167    5.46 |  9.23    0.84
              0.050    0.00 | 3.117    2.52 | 6.183    5.46 |  9.25    0.84
              0.067    0.00 | 3.133    2.52 | 6.200    5.46 |  9.27    0.42
              0.083    0.00 | 3.150    2.52 | 6.217    5.46 |  9.28    0.42
              0.100    0.00 | 3.167    2.52 | 6.233    5.46 |  9.30    0.42
              0.117    0.00 | 3.183    2.52 | 6.250    5.46 |  9.32    0.42
              0.133    0.00 | 3.200    2.52 | 6.267    2.94 |  9.33    0.42
              0.150    0.00 | 3.217    2.52 | 6.283    2.94 |  9.35    0.42
              0.167    0.00 | 3.233    2.52 | 6.300    2.94 |  9.37    0.42
              0.183    0.00 | 3.250    2.52 | 6.317    2.94 |  9.38    0.42
              0.200    0.00 | 3.267    7.14 | 6.333    2.94 |  9.40    0.42
              0.217    0.00 | 3.283    7.14 | 6.350    2.94 |  9.42    0.42
              0.233    0.00 | 3.300    7.14 | 6.367    2.94 |  9.43    0.42
              0.250    0.00 | 3.317    7.14 | 6.383    2.94 |  9.45    0.42
              0.267    0.42 | 3.333    7.14 | 6.400    2.94 |  9.47    0.42
              0.283    0.42 | 3.350    7.14 | 6.417    2.94 |  9.48    0.42
              0.300    0.42 | 3.367    7.14 | 6.433    2.94 |  9.50    0.42
              0.317    0.42 | 3.383    7.14 | 6.450    2.94 |  9.52    0.42
              0.333    0.42 | 3.400    7.14 | 6.467    2.94 |  9.53    0.42
              0.350    0.42 | 3.417    7.14 | 6.483    2.94 |  9.55    0.42
              0.367    0.42 | 3.433    7.14 | 6.500    2.94 |  9.57    0.42
              0.383    0.42 | 3.450    7.14 | 6.517    2.94 |  9.58    0.42
              0.400    0.42 | 3.467    7.14 | 6.533    2.94 |  9.60    0.42
              0.417    0.42 | 3.483    7.14 | 6.550    2.94 |  9.62    0.42
              0.433    0.42 | 3.500    7.14 | 6.567    2.94 |  9.63    0.42
              0.450    0.42 | 3.517    7.14 | 6.583    2.94 |  9.65    0.42
              0.467    0.42 | 3.533    7.14 | 6.600    2.94 |  9.67    0.42
              0.483    0.42 | 3.550    7.14 | 6.617    2.94 |  9.68    0.42
              0.500    0.42 | 3.567    7.14 | 6.633    2.94 |  9.70    0.42
              0.517    0.42 | 3.583    7.14 | 6.650    2.94 |  9.72    0.42
              0.533    0.42 | 3.600    7.14 | 6.667    2.94 |  9.73    0.42
              0.550    0.42 | 3.617    7.14 | 6.683    2.94 |  9.75    0.42
              0.567    0.42 | 3.633    7.14 | 6.700    2.94 |  9.77    0.42
              0.583    0.42 | 3.650    7.14 | 6.717    2.94 |  9.78    0.42
              0.600    0.42 | 3.667    7.14 | 6.733    2.94 |  9.80    0.42
              0.617    0.42 | 3.683    7.14 | 6.750    2.94 |  9.82    0.42
              0.633    0.42 | 3.700    7.14 | 6.767    2.94 |  9.83    0.42
              0.650    0.42 | 3.717    7.14 | 6.783    2.94 |  9.85    0.42
              0.667    0.42 | 3.733    7.14 | 6.800    2.94 |  9.87    0.42
              0.683    0.42 | 3.750    7.14 | 6.817    2.94 |  9.88    0.42
              0.700    0.42 | 3.767    7.14 | 6.833    2.94 |  9.90    0.42
              0.717    0.42 | 3.783    7.14 | 6.850    2.94 |  9.92    0.42
              0.733    0.42 | 3.800    7.14 | 6.867    2.94 |  9.93    0.42
              0.750    0.42 | 3.817    7.14 | 6.883    2.94 |  9.95    0.42
              0.767    0.42 | 3.833    7.14 | 6.900    2.94 |  9.97    0.42
              0.783    0.42 | 3.850    7.14 | 6.917    2.94 |  9.98    0.42
              0.800    0.42 | 3.867    7.14 | 6.933    2.94 | 10.00    0.42
              0.817    0.42 | 3.883    7.14 | 6.950    2.94 | 10.02    0.42
              0.833    0.42 | 3.900    7.14 | 6.967    2.94 | 10.03    0.42
              0.850    0.42 | 3.917    7.14 | 6.983    2.94 | 10.05    0.42
              0.867    0.42 | 3.933    7.14 | 7.000    2.94 | 10.07    0.42
              0.883    0.42 | 3.950    7.14 | 7.017    2.94 | 10.08    0.42
              0.900    0.42 | 3.967    7.14 | 7.033    2.94 | 10.10    0.42
              0.917    0.42 | 3.983    7.14 | 7.050    2.94 | 10.12    0.42
              0.933    0.42 | 4.000    7.14 | 7.067    2.94 | 10.13    0.42
              0.950    0.42 | 4.017    7.14 | 7.083    2.94 | 10.15    0.42
              0.967    0.42 | 4.033    7.14 | 7.100    2.94 | 10.17    0.42
              0.983    0.42 | 4.050    7.14 | 7.117    2.94 | 10.18    0.42
              1.000    0.42 | 4.067    7.14 | 7.133    2.94 | 10.20    0.42
              1.017    0.42 | 4.083    7.14 | 7.150    2.94 | 10.22    0.42
              1.033    0.42 | 4.100    7.14 | 7.167    2.94 | 10.23    0.42
              1.050    0.42 | 4.117    7.14 | 7.183    2.94 | 10.25    0.42
              1.067    0.42 | 4.133    7.14 | 7.200    2.94 | 10.27    0.42
              1.083    0.42 | 4.150    7.14 | 7.217    2.94 | 10.28    0.42
              1.100    0.42 | 4.167    7.14 | 7.233    2.94 | 10.30    0.42
              1.117    0.42 | 4.183    7.14 | 7.250    2.94 | 10.32    0.42
              1.133    0.42 | 4.200    7.14 | 7.267    1.68 | 10.33    0.42
              1.150    0.42 | 4.217    7.14 | 7.283    1.68 | 10.35    0.42
              1.167    0.42 | 4.233    7.14 | 7.300    1.68 | 10.37    0.42
              1.183    0.42 | 4.250    7.14 | 7.317    1.68 | 10.38    0.42
              1.200    0.42 | 4.267   19.32 | 7.333    1.68 | 10.40    0.42
              1.217    0.42 | 4.283   19.32 | 7.350    1.68 | 10.42    0.42
              1.233    0.42 | 4.300   19.32 | 7.367    1.68 | 10.43    0.42
              1.250    0.42 | 4.317   19.32 | 7.383    1.68 | 10.45    0.42
              1.267    0.42 | 4.333   19.32 | 7.400    1.68 | 10.47    0.42
              1.283    0.42 | 4.350   19.32 | 7.417    1.68 | 10.48    0.42
              1.300    0.42 | 4.367   19.32 | 7.433    1.68 | 10.50    0.42
              1.317    0.42 | 4.383   19.32 | 7.450    1.68 | 10.52    0.42
              1.333    0.42 | 4.400   19.32 | 7.467    1.68 | 10.53    0.42
              1.350    0.42 | 4.417   19.32 | 7.483    1.68 | 10.55    0.42
              1.367    0.42 | 4.433   19.32 | 7.500    1.68 | 10.57    0.42
              1.383    0.42 | 4.450   19.32 | 7.517    1.68 | 10.58    0.42
              1.400    0.42 | 4.467   19.32 | 7.533    1.68 | 10.60    0.42
              1.417    0.42 | 4.483   19.32 | 7.550    1.68 | 10.62    0.42
              1.433    0.42 | 4.500   19.32 | 7.567    1.68 | 10.63    0.42
              1.450    0.42 | 4.517   19.32 | 7.583    1.68 | 10.65    0.42
              1.467    0.42 | 4.533   19.32 | 7.600    1.68 | 10.67    0.42
              1.483    0.42 | 4.550   19.32 | 7.617    1.68 | 10.68    0.42
              1.500    0.42 | 4.567   19.32 | 7.633    1.68 | 10.70    0.42
              1.517    0.42 | 4.583   19.32 | 7.650    1.68 | 10.72    0.42
              1.533    0.42 | 4.600   19.32 | 7.667    1.68 | 10.73    0.42
              1.550    0.42 | 4.617   19.32 | 7.683    1.68 | 10.75    0.42
              1.567    0.42 | 4.633   19.32 | 7.700    1.68 | 10.77    0.42
              1.583    0.42 | 4.650   19.32 | 7.717    1.68 | 10.78    0.42
              1.600    0.42 | 4.667   19.32 | 7.733    1.68 | 10.80    0.42
              1.617    0.42 | 4.683   19.32 | 7.750    1.68 | 10.82    0.42
              1.633    0.42 | 4.700   19.32 | 7.767    1.68 | 10.83    0.42
              1.650    0.42 | 4.717   19.32 | 7.783    1.68 | 10.85    0.42
              1.667    0.42 | 4.733   19.32 | 7.800    1.68 | 10.87    0.42
              1.683    0.42 | 4.750   19.32 | 7.817    1.68 | 10.88    0.42
              1.700    0.42 | 4.767   19.32 | 7.833    1.68 | 10.90    0.42
              1.717    0.42 | 4.783   19.32 | 7.850    1.68 | 10.92    0.42
              1.733    0.42 | 4.800   19.32 | 7.867    1.68 | 10.93    0.42
              1.750    0.42 | 4.817   19.32 | 7.883    1.68 | 10.95    0.42
              1.767    0.42 | 4.833   19.32 | 7.900    1.68 | 10.97    0.42
              1.783    0.42 | 4.850   19.32 | 7.917    1.68 | 10.98    0.42
              1.800    0.42 | 4.867   19.32 | 7.933    1.68 | 11.00    0.42
              1.817    0.42 | 4.883   19.32 | 7.950    1.68 | 11.02    0.42
              1.833    0.42 | 4.900   19.32 | 7.967    1.68 | 11.03    0.42
              1.850    0.42 | 4.917   19.32 | 7.983    1.68 | 11.05    0.42
              1.867    0.42 | 4.933   19.32 | 8.000    1.68 | 11.07    0.42
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1.883	0.42	4.950	19.32	8.017	1.68	11.08	0.42
1.900	0.42	4.967	19.32	8.033	1.68	11.10	0.42
1.917	0.42	4.983	19.32	8.050	1.68	11.12	0.42
1.933	0.42	5.000	19.32	8.067	1.68	11.13	0.42
1.950	0.42	5.017	19.32	8.083	1.68	11.15	0.42
1.967	0.42	5.033	19.32	8.100	1.68	11.17	0.42
1.983	0.42	5.050	19.32	8.117	1.68	11.18	0.42
2.000	0.42	5.067	19.32	8.133	1.68	11.20	0.42
2.017	0.42	5.083	19.32	8.150	1.68	11.22	0.42
2.033	0.42	5.100	19.32	8.167	1.68	11.23	0.42
2.050	0.42	5.117	19.32	8.183	1.68	11.25	0.42
2.067	0.42	5.133	19.32	8.200	1.68	11.27	0.42
2.083	0.42	5.150	19.32	8.217	1.68	11.28	0.42
2.100	0.42	5.167	19.32	8.233	1.68	11.30	0.42
2.117	0.42	5.183	19.32	8.250	1.68	11.32	0.42
2.133	0.42	5.200	19.32	8.267	0.84	11.33	0.42
2.150	0.42	5.217	19.32	8.283	0.84	11.35	0.42
2.167	0.42	5.233	19.32	8.300	0.84	11.37	0.42
2.183	0.42	5.250	19.31	8.317	0.84	11.38	0.42
2.200	0.42	5.267	5.46	8.333	0.84	11.40	0.42
2.217	0.42	5.283	5.46	8.350	0.84	11.42	0.42
2.233	0.42	5.300	5.46	8.367	0.84	11.43	0.42
2.250	0.42	5.317	5.46	8.383	0.84	11.45	0.42
2.267	2.52	5.333	5.46	8.400	0.84	11.47	0.42
2.283	2.52	5.350	5.46	8.417	0.84	11.48	0.42
2.300	2.52	5.367	5.46	8.433	0.84	11.50	0.42
2.317	2.52	5.383	5.46	8.450	0.84	11.52	0.42
2.333	2.52	5.400	5.46	8.467	0.84	11.53	0.42
2.350	2.52	5.417	5.46	8.483	0.84	11.55	0.42
2.367	2.52	5.433	5.46	8.500	0.84	11.57	0.42
2.383	2.52	5.450	5.46	8.517	0.84	11.58	0.42
2.400	2.52	5.467	5.46	8.533	0.84	11.60	0.42
2.417	2.52	5.483	5.46	8.550	0.84	11.62	0.42
2.433	2.52	5.500	5.46	8.567	0.84	11.63	0.42
2.450	2.52	5.517	5.46	8.583	0.84	11.65	0.42
2.467	2.52	5.533	5.46	8.600	0.84	11.67	0.42
2.483	2.52	5.550	5.46	8.617	0.84	11.68	0.42
2.500	2.52	5.567	5.46	8.633	0.84	11.70	0.42
2.517	2.52	5.583	5.46	8.650	0.84	11.72	0.42
2.533	2.52	5.600	5.46	8.667	0.84	11.73	0.42
2.550	2.52	5.617	5.46	8.683	0.84	11.75	0.42
2.567	2.52	5.633	5.46	8.700	0.84	11.77	0.42
2.583	2.52	5.650	5.46	8.717	0.84	11.78	0.42
2.600	2.52	5.667	5.46	8.733	0.84	11.80	0.42
2.617	2.52	5.683	5.46	8.750	0.84	11.82	0.42
2.633	2.52	5.700	5.46	8.767	0.84	11.83	0.42
2.650	2.52	5.717	5.46	8.783	0.84	11.85	0.42
2.667	2.52	5.733	5.46	8.800	0.84	11.87	0.42
2.683	2.52	5.750	5.46	8.817	0.84	11.88	0.42
2.700	2.52	5.767	5.46	8.833	0.84	11.90	0.42
2.717	2.52	5.783	5.46	8.850	0.84	11.92	0.42
2.733	2.52	5.800	5.46	8.867	0.84	11.93	0.42
2.750	2.52	5.817	5.46	8.883	0.84	11.95	0.42
2.767	2.52	5.833	5.46	8.900	0.84	11.97	0.42
2.783	2.52	5.850	5.46	8.917	0.84	11.98	0.42
2.800	2.52	5.867	5.46	8.933	0.84	12.00	0.42
2.817	2.52	5.883	5.46	8.950	0.84	12.02	0.42
2.833	2.52	5.900	5.46	8.967	0.84	12.03	0.42
2.850	2.52	5.917	5.46	8.983	0.84	12.05	0.42
2.867	2.52	5.933	5.46	9.000	0.84	12.07	0.42
2.883	2.52	5.950	5.46	9.017	0.84	12.08	0.42
2.900	2.52	5.967	5.46	9.033	0.84	12.10	0.42
2.917	2.52	5.983	5.46	9.050	0.84	12.12	0.42
2.933	2.52	6.000	5.46	9.067	0.84	12.13	0.42
2.950	2.52	6.017	5.46	9.083	0.84	12.15	0.42
2.967	2.52	6.033	5.46	9.100	0.84	12.17	0.42
2.983	2.52	6.050	5.46	9.117	0.84	12.18	0.42
3.000	2.52	6.067	5.46	9.133	0.84	12.20	0.42
3.017	2.52	6.083	5.46	9.150	0.84	12.22	0.42
3.033	2.52	6.100	5.46	9.167	0.84	12.23	0.42
3.050	2.52	6.117	5.46	9.183	0.84	12.25	0.42
3.067	2.52	6.133	5.46	9.200	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	14.22
over (min)	5.00	9.00
Storage Coeff. (min)=	5.44 (ii)	8.72 (ii)

Unit Hyd. Tpeak (min)=	5.00	9.00	
Unit Hyd. peak (cms)=	0.21	0.13	
			TOTALS
PEAK FLOW (cms)=	0.11	0.00	0.111 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	41.00	23.87	40.83
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.57	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.111	5.25	40.83
OUTFLOW: ID= 1 (7625)	2.080	0.020	6.43	39.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.84
TIME SHIFT OF PEAK FLOW (min)= 71.00
MAXIMUM STORAGE USED (ha.m.)= 0.0583

CALIB			
STANDHYD (7623)	Area (ha)= 1.15		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	1.14	0.01	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	87.56	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	2.52	6.150	5.46	9.22	0.84
0.033	0.00	3.100	2.52	6.167	5.46	9.23	0.84
0.050	0.00	3.117	2.52	6.183	5.46	9.25	0.84
0.067	0.00	3.133	2.52	6.200	5.46	9.27	0.42
0.083	0.00	3.150	2.52	6.217	5.46	9.28	0.42
0.100	0.00	3.167	2.52	6.233	5.46	9.30	0.42
0.117	0.00	3.183	2.52	6.250	5.46	9.32	0.42
0.133	0.00	3.200	2.52	6.267	2.94	9.33	0.42
0.150	0.00	3.217	2.52	6.283	2.94	9.35	0.42
0.167	0.00	3.233	2.52	6.300	2.94	9.37	0.42
0.183	0.00	3.250	2.52	6.317	2.94	9.38	0.42
0.200	0.00	3.267	7.14	6.333	2.94	9.40	0.42
0.217	0.00	3.283	7.14	6.350	2.94	9.42	0.42
0.233	0.00	3.300	7.14	6.367	2.94	9.43	0.42
0.250	0.00	3.317	7.14	6.383	2.94	9.45	0.42
0.267	0.42	3.333	7.14	6.400	2.94	9.47	0.42
0.283	0.42	3.350	7.14	6.417	2.94	9.48	0.42
0.300	0.42	3.367	7.14	6.433	2.94	9.50	0.42
0.317	0.42	3.383	7.14	6.450	2.94	9.52	0.42
0.333	0.42	3.400	7.14	6.467	2.94	9.53	0.42
0.350	0.42	3.417	7.14	6.483	2.94	9.55	0.42

0.367	0.42	3.433	7.14	6.500	2.94	9.57	0.42
0.383	0.42	3.450	7.14	6.517	2.94	9.58	0.42
0.400	0.42	3.467	7.14	6.533	2.94	9.60	0.42
0.417	0.42	3.483	7.14	6.550	2.94	9.62	0.42
0.433	0.42	3.500	7.14	6.567	2.94	9.63	0.42
0.450	0.42	3.517	7.14	6.583	2.94	9.65	0.42
0.467	0.42	3.533	7.14	6.600	2.94	9.67	0.42
0.483	0.42	3.550	7.14	6.617	2.94	9.68	0.42
0.500	0.42	3.567	7.14	6.633	2.94	9.70	0.42
0.517	0.42	3.583	7.14	6.650	2.94	9.72	0.42
0.533	0.42	3.600	7.14	6.667	2.94	9.73	0.42
0.550	0.42	3.617	7.14	6.683	2.94	9.75	0.42
0.567	0.42	3.633	7.14	6.700	2.94	9.77	0.42
0.583	0.42	3.650	7.14	6.717	2.94	9.78	0.42
0.600	0.42	3.667	7.14	6.733	2.94	9.80	0.42
0.617	0.42	3.683	7.14	6.750	2.94	9.82	0.42
0.633	0.42	3.700	7.14	6.767	2.94	9.83	0.42
0.650	0.42	3.717	7.14	6.783	2.94	9.85	0.42
0.667	0.42	3.733	7.14	6.800	2.94	9.87	0.42
0.683	0.42	3.750	7.14	6.817	2.94	9.88	0.42
0.700	0.42	3.767	7.14	6.833	2.94	9.90	0.42
0.717	0.42	3.783	7.14	6.850	2.94	9.92	0.42
0.733	0.42	3.800	7.14	6.867	2.94	9.93	0.42
0.750	0.42	3.817	7.14	6.883	2.94	9.95	0.42
0.767	0.42	3.833	7.14	6.900	2.94	9.97	0.42
0.783	0.42	3.850	7.14	6.917	2.94	9.98	0.42
0.800	0.42	3.867	7.14	6.933	2.94	10.00	0.42
0.817	0.42	3.883	7.14	6.950	2.94	10.02	0.42
0.833	0.42	3.900	7.14	6.967	2.94	10.03	0.42
0.850	0.42	3.917	7.14	6.983	2.94	10.05	0.42
0.867	0.42	3.933	7.14	7.000	2.94	10.07	0.42
0.883	0.42	3.950	7.14	7.017	2.94	10.08	0.42
0.900	0.42	3.967	7.14	7.033	2.94	10.10	0.42
0.917	0.42	3.983	7.14	7.050	2.94	10.12	0.42
0.933	0.42	4.000	7.14	7.067	2.94	10.13	0.42
0.950	0.42	4.017	7.14	7.083	2.94	10.15	0.42
0.967	0.42	4.033	7.14	7.100	2.94	10.17	0.42
0.983	0.42	4.050	7.14	7.117	2.94	10.18	0.42
1.000	0.42	4.067	7.14	7.133	2.94	10.20	0.42
1.017	0.42	4.083	7.14	7.150	2.94	10.22	0.42
1.033	0.42	4.100	7.14	7.167	2.94	10.23	0.42
1.050	0.42	4.117	7.14	7.183	2.94	10.25	0.42
1.067	0.42	4.133	7.14	7.200	2.94	10.27	0.42
1.083	0.42	4.150	7.14	7.217	2.94	10.28	0.42
1.100	0.42	4.167	7.14	7.233	2.94	10.30	0.42
1.117	0.42	4.183	7.14	7.250	2.94	10.32	0.42
1.133	0.42	4.200	7.14	7.267	1.68	10.33	0.42
1.150	0.42	4.217	7.14	7.283	1.68	10.35	0.42
1.167	0.42	4.233	7.14	7.300	1.68	10.37	0.42
1.183	0.42	4.250	7.14	7.317	1.68	10.38	0.42
1.200	0.42	4.267	19.32	7.333	1.68	10.40	0.42
1.217	0.42	4.283	19.32	7.350	1.68	10.42	0.42
1.233	0.42	4.300	19.32	7.367	1.68	10.43	0.42
1.250	0.42	4.317	19.32	7.383	1.68	10.45	0.42
1.267	0.42	4.333	19.32	7.400	1.68	10.47	0.42
1.283	0.42	4.350	19.32	7.417	1.68	10.48	0.42
1.300	0.42	4.367	19.32	7.433	1.68	10.50	0.42
1.317	0.42	4.383	19.32	7.450	1.68	10.52	0.42
1.333	0.42	4.400	19.32	7.467	1.68	10.53	0.42
1.350	0.42	4.417	19.32	7.483	1.68	10.55	0.42
1.367	0.42	4.433	19.32	7.500	1.68	10.57	0.42
1.383	0.42	4.450	19.32	7.517	1.68	10.58	0.42
1.400	0.42	4.467	19.32	7.533	1.68	10.60	0.42
1.417	0.42	4.483	19.32	7.550	1.68	10.62	0.42
1.433	0.42	4.500	19.32	7.567	1.68	10.63	0.42
1.450	0.42	4.517	19.32	7.583	1.68	10.65	0.42
1.467	0.42	4.533	19.32	7.600	1.68	10.67	0.42
1.483	0.42	4.550	19.32	7.617	1.68	10.68	0.42
1.500	0.42	4.567	19.32	7.633	1.68	10.70	0.42
1.517	0.42	4.583	19.32	7.650	1.68	10.72	0.42
1.533	0.42	4.600	19.32	7.667	1.68	10.73	0.42
1.550	0.42	4.617	19.32	7.683	1.68	10.75	0.42
1.567	0.42	4.633	19.32	7.700	1.68	10.77	0.42
1.583	0.42	4.650	19.32	7.717	1.68	10.78	0.42
1.600	0.42	4.667	19.32	7.733	1.68	10.80	0.42
1.617	0.42	4.683	19.32	7.750	1.68	10.82	0.42
1.633	0.42	4.700	19.32	7.767	1.68	10.83	0.42
1.650	0.42	4.717	19.32	7.783	1.68	10.85	0.42
1.667	0.42	4.733	19.32	7.800	1.68	10.87	0.42
1.683	0.42	4.750	19.32	7.817	1.68	10.88	0.42
1.700	0.42	4.767	19.32	7.833	1.68	10.90	0.42
1.717	0.42	4.783	19.32	7.850	1.68	10.92	0.42
1.733	0.42	4.800	19.32	7.867	1.68	10.93	0.42
1.750	0.42	4.817	19.32	7.883	1.68	10.95	0.42
1.767	0.42	4.833	19.32	7.900	1.68	10.97	0.42
1.783	0.42	4.850	19.32	7.917	1.68	10.98	0.42
1.800	0.42	4.867	19.32	7.933	1.68	11.00	0.42
1.817	0.42	4.883	19.32	7.950	1.68	11.02	0.42
1.833	0.42	4.900	19.32	7.967	1.68	11.03	0.42
1.850	0.42	4.917	19.32	7.983	1.68	11.05	0.42
1.867	0.42	4.933	19.32	8.000	1.68	11.07	0.42
1.883	0.42	4.950	19.32	8.017	1.68	11.08	0.42
1.900	0.42	4.967	19.32	8.033	1.68	11.10	0.42
1.917	0.42	4.983	19.32	8.050	1.68	11.12	0.42
1.933	0.42	5.000	19.32	8.067	1.68	11.13	0.42
1.950	0.42	5.017	19.32	8.083	1.68	11.15	0.42
1.967	0.42	5.033	19.32	8.100	1.68	11.17	0.42
1.983	0.42	5.050	19.32	8.117	1.68	11.18	0.42
2.000	0.42	5.067	19.32	8.133	1.68	11.20	0.42
2.017	0.42	5.083	19.32	8.150	1.68	11.22	0.42
2.033	0.42	5.100	19.32	8.167	1.68	11.23	0.42
2.050	0.42	5.117	19.32	8.183	1.68	11.25	0.42
2.067	0.42	5.133	19.32	8.200	1.68	11.27	0.42
2.083	0.42	5.150	19.32	8.217	1.68	11.28	0.42
2.100	0.42	5.167	19.32	8.233	1.68	11.30	0.42
2.117	0.42	5.183	19.32	8.250	1.68	11.32	0.42
2.133	0.42	5.200	19.32	8.267	0.84	11.33	0.42
2.150	0.42	5.217	19.32	8.283	0.84	11.35	0.42
2.167	0.42	5.233	19.32	8.300	0.84	11.37	0.42
2.183	0.42	5.250	19.31	8.317	0.84	11.38	0.42
2.200	0.42	5.267	5.46	8.333	0.84	11.40	0.42
2.217	0.42	5.283	5.46	8.350	0.84	11.42	0.42
2.233	0.42	5.300	5.46	8.367	0.84	11.43	0.42
2.250	0.42	5.317	5.46	8.383	0.84	11.45	0.42
2.267	2.52	5.333	5.46	8.400	0.84	11.47	0.42
2.283	2.52	5.350	5.46	8.417	0.84	11.48	0.42
2.300	2.52	5.367	5.46	8.433	0.84	11.50	0.42
2.317	2.52	5.383	5.46	8.450	0.84	11.52	0.42
2.333	2.52	5.400	5.46	8.467	0.84	11.53	0.42
2.350	2.52	5.417	5.46	8.483	0.84	11.55	0.42
2.367	2.52	5.433	5.46	8.500	0.84	11.57	0.42
2.383	2.52	5.450	5.46	8.517	0.84	11.58	0.42
2.400	2.52	5.467	5.46	8.533	0.84	11.60	0.42
2.417	2.52	5.483	5.46	8.550	0.84	11.62	0.42
2.433	2.52	5.500	5.46	8.567	0.84	11.63	0.42
2.450	2.52	5.517	5.46	8.583	0.84	11.65	0.42
2.467	2.52	5.533	5.46	8.600	0.84	11.67	0.42
2.483	2.52	5.550	5.46	8.617	0.84	11.68	0.42
2.500	2.52	5.567	5.46	8.633	0.84	11.70	0.42
2.517	2.52	5.583	5.46	8.650	0.84	11.72	0.42
2.533	2.52	5.600	5.46	8.667	0.84	11.73	0.42
2.550	2.52	5.617	5.46	8.683	0.84	11.75	0.42
2.567	2.52	5.633	5.46	8.700	0.84	11.77	0.42
2.583	2.52	5.650	5.46	8.717	0.84	11.78	0.42
2.600	2.52	5.667	5.46	8.733	0.84	11.80	0.42
2.617	2.52	5.683	5.46	8.750	0.84	11.82	0.42
2.633	2.52	5.700	5.46	8.767	0.84	11.83	0.42
2.650	2.52	5.717	5.46	8.783	0.84	11.85	0.42
2.667	2.52	5.733	5.46	8.800	0.84	11.87	0.42
2.683	2.52	5.750	5.46	8.817	0.84	11.88	0.42
2.700	2.52	5.767	5.46	8.833	0.84	11.90	0.42
2.717	2.52	5.783	5.46	8.850	0.84	11.92	0.42
2.733	2.52	5.800	5.46	8.867	0.84	11.93	0.42
2.750	2.52	5.817	5.46	8.883	0.84	11.95	0.42
2.767	2.52	5.833	5.46	8.900	0.84	11.97	0.42
2.783	2.52	5.850	5.46	8.917	0.84	11.98	0.42
2.800	2.52	5.867	5.46	8.933	0.84	12.00	0.42
2.817	2.52	5.883	5.46	8.950	0.84	12.02	0.42
2.833	2.52	5.900	5.46	8.967	0.84	12.03	0.42
2.850	2.52	5.917	5.46	8.983	0.84	12.05	0.42
2.867	2.52	5.933	5.46	9.000	0.84	12.07	0.42
2.883	2.52	5.950	5.46	9.017	0.84	12.08	0.42

2.900	2.52	5.967	5.46	9.033	0.84	12.10	0.42
2.917	2.52	5.983	5.46	9.050	0.84	12.12	0.42
2.933	2.52	6.000	5.46	9.067	0.84	12.13	0.42
2.950	2.52	6.017	5.46	9.083	0.84	12.15	0.42
2.967	2.52	6.033	5.46	9.100	0.84	12.17	0.42
2.983	2.52	6.050	5.46	9.117	0.84	12.18	0.42
3.000	2.52	6.067	5.46	9.133	0.84	12.20	0.42
3.017	2.52	6.083	5.46	9.150	0.84	12.22	0.42
3.033	2.52	6.100	5.46	9.167	0.84	12.23	0.42
3.050	2.52	6.117	5.46	9.183	0.84	12.25	0.42
3.067	2.52	6.133	5.46	9.200	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	11.73	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.55 (ii)	7.84 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.24	0.14	
			TOTALS
PEAK FLOW (cms)=	0.06	0.00	0.061 (iii)
TIME TO PEAK (hrs)=	5.22	5.25	5.25
RUNOFF VOLUME (mm)=	40.99	19.22	40.78
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.46	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725
	0.0167	0.0440	0.0340	0.0820
	0.0204	0.0525	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7623)	1.150	0.061	5.25	40.78
OUTFLOW: ID= 1 (	7622)	1.150	0.011	6.43	39.26

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.16
TIME SHIFT OF PEAK FLOW (min)= 71.00
MAXIMUM STORAGE USED (ha.m.)= 0.0322

CALIB					
STANDHYD (7629)	Area (ha)= 4.09				
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00			
	IMPERVIOUS	PERVIOUS (i)			
Surface Area (ha)=	4.05	0.04			
Dep. Storage (mm)=	1.00	1.50			
Average Slope (%)=	1.00	0.50			
Length (m)=	165.13	40.00			
Mannings n =	0.013	0.250			

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	2.52	6.150	5.46	9.22	0.84
0.033	0.00	3.100	2.52	6.167	5.46	9.23	0.84
0.050	0.00	3.117	2.52	6.183	5.46	9.25	0.84
0.067	0.00	3.133	2.52	6.200	5.46	9.27	0.42
0.083	0.00	3.150	2.52	6.217	5.46	9.28	0.42
0.100	0.00	3.167	2.52	6.233	5.46	9.30	0.42
0.117	0.00	3.183	2.52	6.250	5.46	9.32	0.42
0.133	0.00	3.200	2.52	6.267	2.94	9.33	0.42
0.150	0.00	3.217	2.52	6.283	2.94	9.35	0.42
0.167	0.00	3.233	2.52	6.300	2.94	9.37	0.42
0.183	0.00	3.250	2.52	6.317	2.94	9.38	0.42
0.200	0.00	3.267	7.14	6.333	2.94	9.40	0.42
0.217	0.00	3.283	7.14	6.350	2.94	9.42	0.42
0.233	0.00	3.300	7.14	6.367	2.94	9.43	0.42
0.250	0.00	3.317	7.14	6.383	2.94	9.45	0.42
0.267	0.42	3.333	7.14	6.400	2.94	9.47	0.42
0.283	0.42	3.350	7.14	6.417	2.94	9.48	0.42
0.300	0.42	3.367	7.14	6.433	2.94	9.50	0.42
0.317	0.42	3.383	7.14	6.450	2.94	9.52	0.42
0.333	0.42	3.400	7.14	6.467	2.94	9.53	0.42
0.350	0.42	3.417	7.14	6.483	2.94	9.55	0.42
0.367	0.42	3.433	7.14	6.500	2.94	9.57	0.42
0.383	0.42	3.450	7.14	6.517	2.94	9.58	0.42
0.400	0.42	3.467	7.14	6.533	2.94	9.60	0.42
0.417	0.42	3.483	7.14	6.550	2.94	9.62	0.42
0.433	0.42	3.500	7.14	6.567	2.94	9.63	0.42
0.450	0.42	3.517	7.14	6.583	2.94	9.65	0.42
0.467	0.42	3.533	7.14	6.600	2.94	9.67	0.42
0.483	0.42	3.550	7.14	6.617	2.94	9.68	0.42
0.500	0.42	3.567	7.14	6.633	2.94	9.70	0.42
0.517	0.42	3.583	7.14	6.650	2.94	9.72	0.42
0.533	0.42	3.600	7.14	6.667	2.94	9.73	0.42
0.550	0.42	3.617	7.14	6.683	2.94	9.75	0.42
0.567	0.42	3.633	7.14	6.700	2.94	9.77	0.42
0.583	0.42	3.650	7.14	6.717	2.94	9.78	0.42
0.600	0.42	3.667	7.14	6.733	2.94	9.80	0.42
0.617	0.42	3.683	7.14	6.750	2.94	9.82	0.42
0.633	0.42	3.700	7.14	6.767	2.94	9.83	0.42
0.650	0.42	3.717	7.14	6.783	2.94	9.85	0.42
0.667	0.42	3.733	7.14	6.800	2.94	9.87	0.42
0.683	0.42	3.750	7.14	6.817	2.94	9.88	0.42
0.700	0.42	3.767	7.14	6.833	2.94	9.90	0.42
0.717	0.42	3.783	7.14	6.850	2.94	9.92	0.42
0.733	0.42	3.800	7.14	6.867	2.94	9.93	0.42
0.750	0.42	3.817	7.14	6.883	2.94	9.95	0.42
0.767	0.42	3.833	7.14	6.900	2.94	9.97	0.42
0.783	0.42	3.850	7.14	6.917	2.94	9.98	0.42
0.800	0.42	3.867	7.14	6.933	2.94	10.00	0.42
0.817	0.42	3.883	7.14	6.950	2.94	10.02	0.42
0.833	0.42	3.900	7.14	6.967	2.94	10.03	0.42
0.850	0.42	3.917	7.14	6.983	2.94	10.05	0.42
0.867	0.42	3.933	7.14	7.000	2.94	10.07	0.42
0.883	0.42	3.950	7.14	7.017	2.94	10.08	0.42
0.900	0.42	3.967	7.14	7.033	2.94	10.10	0.42
0.917	0.42	3.983	7.14	7.050	2.94	10.12	0.42
0.933	0.42	4.000	7.14	7.067	2.94	10.13	0.42
0.950	0.42	4.017	7.14	7.083	2.94	10.15	0.42
0.967	0.42	4.033	7.14	7.100	2.94	10.17	0.42
0.983	0.42	4.050	7.14	7.117	2.94	10.18	0.42
1.000	0.42	4.067	7.14	7.133	2.94	10.20	0.42
1.017	0.42	4.083	7.14	7.150	2.94	10.22	0.42
1.033	0.42	4.100	7.14	7.167	2.94	10.23	0.42
1.050	0.42	4.117	7.14	7.183	2.94	10.25	0.42
1.067	0.42	4.133	7.14	7.200	2.94	10.27	0.42
1.083	0.42	4.150	7.14	7.217	2.94	10.28	0.42
1.100	0.42	4.167	7.14	7.233	2.94	10.30	0.42
1.117	0.42	4.183	7.14	7.250	2.94	10.32	0.42
1.133	0.42	4.200	7.14	7.267	1.68	10.33	0.42
1.150	0.42	4.217	7.14	7.283	1.68	10.35	0.42
1.167	0.42	4.233	7.14	7.300	1.68	10.37	0.42
1.183	0.42	4.250	7.14	7.317	1.68	10.38	0.42
1.200	0.42	4.267	19.32	7.333	1.68	10.40	0.42
1.217	0.42	4.283	19.32	7.350	1.68	10.42	0.42
1.233	0.42	4.300	19.32	7.367	1.68	10.43	0.42
1.250	0.42	4.317	19.32	7.383	1.68	10.45	0.42
1.267	0.42	4.333	19.32	7.400	1.68	10.47	0.42
1.283	0.42	4.350	19.32	7.417	1.68	10.48	0.42
1.300	0.42	4.367	19.32	7.433	1.68	10.50	0.42
1.317	0.42	4.383	19.32	7.450	1.68	10.52	0.42
1.333	0.42	4.400	19.32	7.467	1.68	10.53	0.42
1.350	0.42	4.417	19.32	7.483	1.68	10.55	0.42
1.367	0.42	4.433	19.32	7.500	1.68	10.57	0.42

1.383	0.42	4.450	19.32	7.517	1.68	10.58	0.42
1.400	0.42	4.467	19.32	7.533	1.68	10.60	0.42
1.417	0.42	4.483	19.32	7.550	1.68	10.62	0.42
1.433	0.42	4.500	19.32	7.567	1.68	10.63	0.42
1.450	0.42	4.517	19.32	7.583	1.68	10.65	0.42
1.467	0.42	4.533	19.32	7.600	1.68	10.67	0.42
1.483	0.42	4.550	19.32	7.617	1.68	10.68	0.42
1.500	0.42	4.567	19.32	7.633	1.68	10.70	0.42
1.517	0.42	4.583	19.32	7.650	1.68	10.72	0.42
1.533	0.42	4.600	19.32	7.667	1.68	10.73	0.42
1.550	0.42	4.617	19.32	7.683	1.68	10.75	0.42
1.567	0.42	4.633	19.32	7.700	1.68	10.77	0.42
1.583	0.42	4.650	19.32	7.717	1.68	10.78	0.42
1.600	0.42	4.667	19.32	7.733	1.68	10.80	0.42
1.617	0.42	4.683	19.32	7.750	1.68	10.82	0.42
1.633	0.42	4.700	19.32	7.767	1.68	10.83	0.42
1.650	0.42	4.717	19.32	7.783	1.68	10.85	0.42
1.667	0.42	4.733	19.32	7.800	1.68	10.87	0.42
1.683	0.42	4.750	19.32	7.817	1.68	10.88	0.42
1.700	0.42	4.767	19.32	7.833	1.68	10.90	0.42
1.717	0.42	4.783	19.32	7.850	1.68	10.92	0.42
1.733	0.42	4.800	19.32	7.867	1.68	10.93	0.42
1.750	0.42	4.817	19.32	7.883	1.68	10.95	0.42
1.767	0.42	4.833	19.32	7.900	1.68	10.97	0.42
1.783	0.42	4.850	19.32	7.917	1.68	10.98	0.42
1.800	0.42	4.867	19.32	7.933	1.68	11.00	0.42
1.817	0.42	4.883	19.32	7.950	1.68	11.02	0.42
1.833	0.42	4.900	19.32	7.967	1.68	11.03	0.42
1.850	0.42	4.917	19.32	7.983	1.68	11.05	0.42
1.867	0.42	4.933	19.32	8.000	1.68	11.07	0.42
1.883	0.42	4.950	19.32	8.017	1.68	11.08	0.42
1.900	0.42	4.967	19.32	8.033	1.68	11.10	0.42
1.917	0.42	4.983	19.32	8.050	1.68	11.12	0.42
1.933	0.42	5.000	19.32	8.067	1.68	11.13	0.42
1.950	0.42	5.017	19.32	8.083	1.68	11.15	0.42
1.967	0.42	5.033	19.32	8.100	1.68	11.17	0.42
1.983	0.42	5.050	19.32	8.117	1.68	11.18	0.42
2.000	0.42	5.067	19.32	8.133	1.68	11.20	0.42
2.017	0.42	5.083	19.32	8.150	1.68	11.22	0.42
2.033	0.42	5.100	19.32	8.167	1.68	11.23	0.42
2.050	0.42	5.117	19.32	8.183	1.68	11.25	0.42
2.067	0.42	5.133	19.32	8.200	1.68	11.27	0.42
2.083	0.42	5.150	19.32	8.217	1.68	11.28	0.42
2.100	0.42	5.167	19.32	8.233	1.68	11.30	0.42
2.117	0.42	5.183	19.32	8.250	1.68	11.32	0.42
2.133	0.42	5.200	19.32	8.267	0.84	11.33	0.42
2.150	0.42	5.217	19.32	8.283	0.84	11.35	0.42
2.167	0.42	5.233	19.32	8.300	0.84	11.37	0.42
2.183	0.42	5.250	19.31	8.317	0.84	11.38	0.42
2.200	0.42	5.267	5.46	8.333	0.84	11.40	0.42
2.217	0.42	5.283	5.46	8.350	0.84	11.42	0.42
2.233	0.42	5.300	5.46	8.367	0.84	11.43	0.42
2.250	0.42	5.317	5.46	8.383	0.84	11.45	0.42
2.267	2.52	5.333	5.46	8.400	0.84	11.47	0.42
2.283	2.52	5.350	5.46	8.417	0.84	11.48	0.42
2.300	2.52	5.367	5.46	8.433	0.84	11.50	0.42
2.317	2.52	5.383	5.46	8.450	0.84	11.52	0.42
2.333	2.52	5.400	5.46	8.467	0.84	11.53	0.42
2.350	2.52	5.417	5.46	8.483	0.84	11.55	0.42
2.367	2.52	5.433	5.46	8.500	0.84	11.57	0.42
2.383	2.52	5.450	5.46	8.517	0.84	11.58	0.42
2.400	2.52	5.467	5.46	8.533	0.84	11.60	0.42
2.417	2.52	5.483	5.46	8.550	0.84	11.62	0.42
2.433	2.52	5.500	5.46	8.567	0.84	11.63	0.42
2.450	2.52	5.517	5.46	8.583	0.84	11.65	0.42
2.467	2.52	5.533	5.46	8.600	0.84	11.67	0.42
2.483	2.52	5.550	5.46	8.617	0.84	11.68	0.42
2.500	2.52	5.567	5.46	8.633	0.84	11.70	0.42
2.517	2.52	5.583	5.46	8.650	0.84	11.72	0.42
2.533	2.52	5.600	5.46	8.667	0.84	11.73	0.42
2.550	2.52	5.617	5.46	8.683	0.84	11.75	0.42
2.567	2.52	5.633	5.46	8.700	0.84	11.77	0.42
2.583	2.52	5.650	5.46	8.717	0.84	11.78	0.42
2.600	2.52	5.667	5.46	8.733	0.84	11.80	0.42
2.617	2.52	5.683	5.46	8.750	0.84	11.82	0.42
2.633	2.52	5.700	5.46	8.767	0.84	11.83	0.42
2.650	2.52	5.717	5.46	8.783	0.84	11.85	0.42
2.667	2.52	5.733	5.46	8.800	0.84	11.87	0.42
2.683	2.52	5.750	5.46	8.817	0.84	11.88	0.42
2.700	2.52	5.767	5.46	8.833	0.84	11.90	0.42
2.717	2.52	5.783	5.46	8.850	0.84	11.92	0.42
2.733	2.52	5.800	5.46	8.867	0.84	11.93	0.42
2.750	2.52	5.817	5.46	8.883	0.84	11.95	0.42
2.767	2.52	5.833	5.46	8.900	0.84	11.97	0.42
2.783	2.52	5.850	5.46	8.917	0.84	11.98	0.42
2.800	2.52	5.867	5.46	8.933	0.84	12.00	0.42
2.817	2.52	5.883	5.46	8.950	0.84	12.02	0.42
2.833	2.52	5.900	5.46	8.967	0.84	12.03	0.42
2.850	2.52	5.917	5.46	8.983	0.84	12.05	0.42
2.867	2.52	5.933	5.46	9.000	0.84	12.07	0.42
2.883	2.52	5.950	5.46	9.017	0.84	12.08	0.42
2.900	2.52	5.967	5.46	9.033	0.84	12.10	0.42
2.917	2.52	5.983	5.46	9.050	0.84	12.12	0.42
2.933	2.52	6.000	5.46	9.067	0.84	12.13	0.42
2.950	2.52	6.017	5.46	9.083	0.84	12.15	0.42
2.967	2.52	6.033	5.46	9.100	0.84	12.17	0.42
2.983	2.52	6.050	5.46	9.117	0.84	12.18	0.42
3.000	2.52	6.067	5.46	9.133	0.84	12.20	0.42
3.017	2.52	6.083	5.46	9.150	0.84	12.22	0.42
3.033	2.52	6.100	5.46	9.167	0.84	12.23	0.42
3.050	2.52	6.117	5.46	9.183	0.84	12.25	0.42
3.067	2.52	6.133	5.46	9.200	0.84		

Max.Eff.Inten.(mm/hr)=		19.32	11.73
over (min)		7.00	10.00
Storage Coeff. (min)=		6.66 (ii)	9.95 (ii)
Unit Hyd. Tpeak (min)=		7.00	10.00
Unit Hyd. peak (cms)=		0.17	0.11
			TOTALS
PEAK FLOW	(cms)=	0.22	0.00	0.219 (iii)
TIME TO PEAK	(hrs)=	5.25	5.27	5.25
RUNOFF VOLUME	(mm)=	41.00	19.22	40.78
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.46	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0826	0.2320
0.0347	0.1170	0.0967	0.2609
0.0534	0.1580	0.1090	0.2940
0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.219	5.25	40.78
OUTFLOW: ID= 1 (7630)	4.090	0.035	6.65	38.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.85
TIME SHIFT OF PEAK FLOW (min)= 84.00
MAXIMUM STORAGE USED (ha.m.)= 0.1167

CALIB | STANDHYD (7631)| ID= 1 DT= 1.0 min	Area (ha)= 3.91 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50

Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	2.52	6.150	5.46	9.22	0.84
0.033	0.00	3.100	2.52	6.167	5.46	9.23	0.84
0.050	0.00	3.117	2.52	6.183	5.46	9.25	0.84
0.067	0.00	3.133	2.52	6.200	5.46	9.27	0.42
0.083	0.00	3.150	2.52	6.217	5.46	9.28	0.42
0.100	0.00	3.167	2.52	6.233	5.46	9.30	0.42
0.117	0.00	3.183	2.52	6.250	5.46	9.32	0.42
0.133	0.00	3.200	2.52	6.267	2.94	9.33	0.42
0.150	0.00	3.217	2.52	6.283	2.94	9.35	0.42
0.167	0.00	3.233	2.52	6.300	2.94	9.37	0.42
0.183	0.00	3.250	2.52	6.317	2.94	9.38	0.42
0.200	0.00	3.267	7.14	6.333	2.94	9.40	0.42
0.217	0.00	3.283	7.14	6.350	2.94	9.42	0.42
0.233	0.00	3.300	7.14	6.367	2.94	9.43	0.42
0.250	0.00	3.317	7.14	6.383	2.94	9.45	0.42
0.267	0.42	3.333	7.14	6.400	2.94	9.47	0.42
0.283	0.42	3.350	7.14	6.417	2.94	9.48	0.42
0.300	0.42	3.367	7.14	6.433	2.94	9.50	0.42
0.317	0.42	3.383	7.14	6.450	2.94	9.52	0.42
0.333	0.42	3.400	7.14	6.467	2.94	9.53	0.42
0.350	0.42	3.417	7.14	6.483	2.94	9.55	0.42
0.367	0.42	3.433	7.14	6.500	2.94	9.57	0.42
0.383	0.42	3.450	7.14	6.517	2.94	9.58	0.42
0.400	0.42	3.467	7.14	6.533	2.94	9.60	0.42
0.417	0.42	3.483	7.14	6.550	2.94	9.62	0.42
0.433	0.42	3.500	7.14	6.567	2.94	9.63	0.42
0.450	0.42	3.517	7.14	6.583	2.94	9.65	0.42
0.467	0.42	3.533	7.14	6.600	2.94	9.67	0.42
0.483	0.42	3.550	7.14	6.617	2.94	9.68	0.42
0.500	0.42	3.567	7.14	6.633	2.94	9.70	0.42
0.517	0.42	3.583	7.14	6.650	2.94	9.72	0.42
0.533	0.42	3.600	7.14	6.667	2.94	9.73	0.42
0.550	0.42	3.617	7.14	6.683	2.94	9.75	0.42
0.567	0.42	3.633	7.14	6.700	2.94	9.77	0.42
0.583	0.42	3.650	7.14	6.717	2.94	9.78	0.42
0.600	0.42	3.667	7.14	6.733	2.94	9.80	0.42
0.617	0.42	3.683	7.14	6.750	2.94	9.82	0.42
0.633	0.42	3.700	7.14	6.767	2.94	9.83	0.42
0.650	0.42	3.717	7.14	6.783	2.94	9.85	0.42
0.667	0.42	3.733	7.14	6.800	2.94	9.87	0.42
0.683	0.42	3.750	7.14	6.817	2.94	9.88	0.42
0.700	0.42	3.767	7.14	6.833	2.94	9.90	0.42
0.717	0.42	3.783	7.14	6.850	2.94	9.92	0.42
0.733	0.42	3.800	7.14	6.867	2.94	9.93	0.42
0.750	0.42	3.817	7.14	6.883	2.94	9.95	0.42
0.767	0.42	3.833	7.14	6.900	2.94	9.97	0.42
0.783	0.42	3.850	7.14	6.917	2.94	9.98	0.42
0.800	0.42	3.867	7.14	6.933	2.94	10.00	0.42
0.817	0.42	3.883	7.14	6.950	2.94	10.02	0.42
0.833	0.42	3.900	7.14	6.967	2.94	10.03	0.42
0.850	0.42	3.917	7.14	6.983	2.94	10.05	0.42
0.867	0.42	3.933	7.14	7.000	2.94	10.07	0.42
0.883	0.42	3.950	7.14	7.017	2.94	10.08	0.42
0.900	0.42	3.967	7.14	7.033	2.94	10.10	0.42
0.917	0.42	3.983	7.14	7.050	2.94	10.12	0.42
0.933	0.42	4.000	7.14	7.067	2.94	10.13	0.42
0.950	0.42	4.017	7.14	7.083	2.94	10.15	0.42
0.967	0.42	4.033	7.14	7.100	2.94	10.17	0.42
0.983	0.42	4.050	7.14	7.117	2.94	10.18	0.42
1.000	0.42	4.067	7.14	7.133	2.94	10.20	0.42
1.017	0.42	4.083	7.14	7.150	2.94	10.22	0.42
1.033	0.42	4.100	7.14	7.167	2.94	10.23	0.42
1.050	0.42	4.117	7.14	7.183	2.94	10.25	0.42
1.067	0.42	4.133	7.14	7.200	2.94	10.27	0.42
1.083	0.42	4.150	7.14	7.217	2.94	10.28	0.42
1.100	0.42	4.167	7.14	7.233	2.94	10.30	0.42
1.117	0.42	4.183	7.14	7.250	2.94	10.32	0.42
1.133	0.42	4.200	7.14	7.267	1.68	10.33	0.42
1.150	0.42	4.217	7.14	7.283	1.68	10.35	0.42
1.167	0.42	4.233	7.14	7.300	1.68	10.37	0.42
1.183	0.42	4.250	7.14	7.317	1.68	10.38	0.42
1.200	0.42	4.267	19.32	7.333	1.68	10.40	0.42
1.217	0.42	4.283	19.32	7.350	1.68	10.42	0.42
1.233	0.42	4.300	19.32	7.367	1.68	10.43	0.42
1.250	0.42	4.317	19.32	7.383	1.68	10.45	0.42
1.267	0.42	4.333	19.32	7.400	1.68	10.47	0.42
1.283	0.42	4.350	19.32	7.417	1.68	10.48	0.42
1.300	0.42	4.367	19.32	7.433	1.68	10.50	0.42
1.317	0.42	4.383	19.32	7.450	1.68	10.52	0.42
1.333	0.42	4.400	19.32	7.467	1.68	10.53	0.42
1.350	0.42	4.417	19.32	7.483	1.68	10.55	0.42
1.367	0.42	4.433	19.32	7.500	1.68	10.57	0.42
1.383	0.42	4.450	19.32	7.517	1.68	10.58	0.42
1.400	0.42	4.467	19.32	7.533	1.68	10.60	0.42
1.417	0.42	4.483	19.32	7.550	1.68	10.62	0.42
1.433	0.42	4.500	19.32	7.567	1.68	10.63	0.42
1.450	0.42	4.517	19.32	7.583	1.68	10.65	0.42
1.467	0.42	4.533	19.32	7.600	1.68	10.67	0.42
1.483	0.42	4.550	19.32	7.617	1.68	10.68	0.42
1.500	0.42	4.567	19.32	7.633	1.68	10.70	0.42
1.517	0.42	4.583	19.32	7.650	1.68	10.72	0.42
1.533	0.42	4.600	19.32	7.667	1.68	10.73	0.42
1.550	0.42	4.617	19.32	7.683	1.68	10.75	0.42
1.567	0.42	4.633	19.32	7.700	1.68	10.77	0.42
1.583	0.42	4.650	19.32	7.717	1.68	10.78	0.42
1.600	0.42	4.667	19.32	7.733	1.68	10.80	0.42
1.617	0.42	4.683	19.32	7.750	1.68	10.82	0.42
1.633	0.42	4.700	19.32	7.767	1.68	10.83	0.42
1.650	0.42	4.717	19.32	7.783	1.68	10.85	0.42
1.667	0.42	4.733	19.32	7.800	1.68	10.87	0.42
1.683	0.42	4.750	19.32	7.817	1.68	10.88	0.42
1.700	0.42	4.767	19.32	7.833	1.68	10.90	0.42
1.717	0.42	4.783	19.32	7.850	1.68	10.92	0.42
1.733	0.42	4.800	19.32	7.867	1.68	10.93	0.42
1.750	0.42	4.817	19.32	7.883	1.68	10.95	0.42
1.767	0.42	4.833	19.32	7.900	1.68	10.97	0.42
1.783	0.42	4.850	19.32	7.917	1.68	10.98	0.42
1.800	0.42	4.867	19.32	7.933	1.68	11.00	0.42
1.817	0.42	4.883	19.32	7.950	1.68	11.02	0.42
1.833	0.42	4.900	19.32	7.967	1.68	11.03	0.42
1.850	0.42	4.917	19.32	7.983	1.68	11.05	0.42
1.867	0.42	4.933	19.32	8.000	1.68	11.07	0.42
1.883	0.42	4.950	19.32	8.017	1.68	11.08	0.42
1.900	0.42	4.967	19.32	8.033	1.68	11.10	0.42
1.917	0.42	4.983	19.32	8.050	1.68	11.12	0.42
1.933	0.42	5.000	19.32	8.067	1.68	11.13	0.42
1.950	0.42	5.017	19.32	8.083	1.68	11.15	0.42
1.967	0.42	5.033	19.32	8.100	1.68	11.17	0.42
1.983	0.42	5.050	19.32	8.117	1.68	11.18	0.42
2.000	0.42	5.067	19.32	8.133	1.68	11.20	0.42
2.017	0.42	5.083	19.32	8.150	1.68	11.22	0.42
2.033	0.42	5.100	19.32	8.167	1.68	11.23	0.42
2.050	0.42	5.117	19.32	8.183	1.68	11.25	0.42
2.067	0.42	5.133	19.32	8.200	1.68	11.27	0.42
2.083	0.42	5.150	19.32	8.217	1.68	11.28	0.42
2.100	0.42	5.167	19.32	8.233	1.68	11.30	0.42
2.117	0.42	5.183	19.32	8.250	1.68	11.32	0.42
2.133	0.42	5.200	19.32	8.267	0.84	11.33	0.42
2.150	0.42	5.217	19.32	8.283	0.84	11.35	0.42
2.167	0.42	5.233	19.32	8.300	0.84	11.37	0.42
2.183	0.42	5.250	19.31	8.317	0.84	11.38	0.42
2.200	0.42	5.267	5.46	8.333	0.84	11.40	0.42
2.217	0.42	5.283	5.46	8.350	0.84	11.42	0.42
2.233	0.42	5.300	5.46	8.367	0.84	11.43	0.42
2.250	0.42	5.317	5.46	8.383	0.84	11.45	0.42
2.267	2.52	5.333	5.46	8.400	0.84	11.47	0.42
2.283	2.52	5.350	5.46	8.417	0.84	11.48	0.42
2.300	2.52	5.367	5.46	8.433	0.84	11.50	0.42
2.317	2.52	5.383	5.46	8.450	0.84	11.52	0.42
2.333	2.52	5.400	5.46	8.467	0.84	11.53	0.42
2.350	2.52	5.417	5.46	8.483	0.84	11.55	0.42
2.367	2.52	5.433	5.46	8.500	0.84	11.57	0.42
2.383	2.52	5.450	5.46	8.517	0.84	11.58	0.42

2.400	2.52	5.467	5.46	8.533	0.84	11.60	0.42
2.417	2.52	5.483	5.46	8.550	0.84	11.62	0.42
2.433	2.52	5.500	5.46	8.567	0.84	11.63	0.42
2.450	2.52	5.517	5.46	8.583	0.84	11.65	0.42
2.467	2.52	5.533	5.46	8.600	0.84	11.67	0.42
2.483	2.52	5.550	5.46	8.617	0.84	11.68	0.42
2.500	2.52	5.567	5.46	8.633	0.84	11.70	0.42
2.517	2.52	5.583	5.46	8.650	0.84	11.72	0.42
2.533	2.52	5.600	5.46	8.667	0.84	11.73	0.42
2.550	2.52	5.617	5.46	8.683	0.84	11.75	0.42
2.567	2.52	5.633	5.46	8.700	0.84	11.77	0.42
2.583	2.52	5.650	5.46	8.717	0.84	11.78	0.42
2.600	2.52	5.667	5.46	8.733	0.84	11.80	0.42
2.617	2.52	5.683	5.46	8.750	0.84	11.82	0.42
2.633	2.52	5.700	5.46	8.767	0.84	11.83	0.42
2.650	2.52	5.717	5.46	8.783	0.84	11.85	0.42
2.667	2.52	5.733	5.46	8.800	0.84	11.87	0.42
2.683	2.52	5.750	5.46	8.817	0.84	11.88	0.42
2.700	2.52	5.767	5.46	8.833	0.84	11.90	0.42
2.717	2.52	5.783	5.46	8.850	0.84	11.92	0.42
2.733	2.52	5.800	5.46	8.867	0.84	11.93	0.42
2.750	2.52	5.817	5.46	8.883	0.84	11.95	0.42
2.767	2.52	5.833	5.46	8.900	0.84	11.97	0.42
2.783	2.52	5.850	5.46	8.917	0.84	11.98	0.42
2.800	2.52	5.867	5.46	8.933	0.84	12.00	0.42
2.817	2.52	5.883	5.46	8.950	0.84	12.02	0.42
2.833	2.52	5.900	5.46	8.967	0.84	12.03	0.42
2.850	2.52	5.917	5.46	8.983	0.84	12.05	0.42
2.867	2.52	5.933	5.46	9.000	0.84	12.07	0.42
2.883	2.52	5.950	5.46	9.017	0.84	12.08	0.42
2.900	2.52	5.967	5.46	9.033	0.84	12.10	0.42
2.917	2.52	5.983	5.46	9.050	0.84	12.12	0.42
2.933	2.52	6.000	5.46	9.067	0.84	12.13	0.42
2.950	2.52	6.017	5.46	9.083	0.84	12.15	0.42
2.967	2.52	6.033	5.46	9.100	0.84	12.17	0.42
2.983	2.52	6.050	5.46	9.117	0.84	12.18	0.42
3.000	2.52	6.067	5.46	9.133	0.84	12.20	0.42
3.017	2.52	6.083	5.46	9.150	0.84	12.22	0.42
3.033	2.52	6.100	5.46	9.167	0.84	12.23	0.42
3.050	2.52	6.117	5.46	9.183	0.84	12.25	0.42
3.067	2.52	6.133	5.46	9.200	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	11.73	
over (min)	7.00	10.00	
Storage Coeff. (min)=	6.57 (ii)	9.86 (ii)	
Unit Hyd. Tpeak (min)=	7.00	10.00	
Unit Hyd. peak (cms)=	0.17	0.11	
			TOTALS
PEAK FLOW (cms)=	0.21	0.00	0.209 (iii)
TIME TO PEAK (hrs)=	5.25	5.27	5.25
RUNOFF VOLUME (mm)=	41.00	19.22	40.78
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.46	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0792	0.2220
0.0333	0.1130	0.0928	0.2500
0.0512	0.1510	0.1046	0.2810
0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.209	5.25	40.78
OUTFLOW: ID= 1 (7632)	3.910	0.033	6.67	38.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.76
TIME SHIFT OF PEAK FLOW (min)= 85.00
MAXIMUM STORAGE USED (ha.m.)= 0.1117

CALIB	
STANDHYD (7641)	Area (ha)= 2.21
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	2.52	6.150	5.46	9.22	0.84
0.033	0.00	3.100	2.52	6.167	5.46	9.23	0.84
0.050	0.00	3.117	2.52	6.183	5.46	9.25	0.84
0.067	0.00	3.133	2.52	6.200	5.46	9.27	0.42
0.083	0.00	3.150	2.52	6.217	5.46	9.28	0.42
0.100	0.00	3.167	2.52	6.233	5.46	9.30	0.42
0.117	0.00	3.183	2.52	6.250	5.46	9.32	0.42
0.133	0.00	3.200	2.52	6.267	2.94	9.33	0.42
0.150	0.00	3.217	2.52	6.283	2.94	9.35	0.42
0.167	0.00	3.233	2.52	6.300	2.94	9.37	0.42
0.183	0.00	3.250	2.52	6.317	2.94	9.38	0.42
0.200	0.00	3.267	7.14	6.333	2.94	9.40	0.42
0.217	0.00	3.283	7.14	6.350	2.94	9.42	0.42
0.233	0.00	3.300	7.14	6.367	2.94	9.43	0.42
0.250	0.00	3.317	7.14	6.383	2.94	9.45	0.42
0.267	0.42	3.333	7.14	6.400	2.94	9.47	0.42
0.283	0.42	3.350	7.14	6.417	2.94	9.48	0.42
0.300	0.42	3.367	7.14	6.433	2.94	9.50	0.42
0.317	0.42	3.383	7.14	6.450	2.94	9.52	0.42
0.333	0.42	3.400	7.14	6.467	2.94	9.53	0.42
0.350	0.42	3.417	7.14	6.483	2.94	9.55	0.42
0.367	0.42	3.433	7.14	6.500	2.94	9.57	0.42
0.383	0.42	3.450	7.14	6.517	2.94	9.58	0.42
0.400	0.42	3.467	7.14	6.533	2.94	9.60	0.42
0.417	0.42	3.483	7.14	6.550	2.94	9.62	0.42
0.433	0.42	3.500	7.14	6.567	2.94	9.63	0.42
0.450	0.42	3.517	7.14	6.583	2.94	9.65	0.42
0.467	0.42	3.533	7.14	6.600	2.94	9.67	0.42
0.483	0.42	3.550	7.14	6.617	2.94	9.68	0.42
0.500	0.42	3.567	7.14	6.633	2.94	9.70	0.42
0.517	0.42	3.583	7.14	6.650	2.94	9.72	0.42
0.533	0.42	3.600	7.14	6.667	2.94	9.73	0.42
0.550	0.42	3.617	7.14	6.683	2.94	9.75	0.42
0.567	0.42	3.633	7.14	6.700	2.94	9.77	0.42
0.583	0.42	3.650	7.14	6.717	2.94	9.78	0.42
0.600	0.42	3.667	7.14	6.733	2.94	9.80	0.42
0.617	0.42	3.683	7.14	6.750	2.94	9.82	0.42
0.633	0.42	3.700	7.14	6.767	2.94	9.83	0.42
0.650	0.42	3.717	7.14	6.783	2.94	9.85	0.42
0.667	0.42	3.733	7.14	6.800	2.94	9.87	0.42
0.683	0.42	3.750	7.14	6.817	2.94	9.88	0.42
0.700	0.42	3.767	7.14	6.833	2.94	9.90	0.42
0.717	0.42	3.783	7.14	6.850	2.94	9.92	0.42
0.733	0.42	3.800	7.14	6.867	2.94	9.93	0.42
0.750	0.42	3.817	7.14	6.883	2.94	9.95	0.42
0.767	0.42	3.833	7.14	6.900	2.94	9.97	0.42
0.783	0.42	3.850	7.14	6.917	2.94	9.98	0.42
0.800	0.42	3.867	7.14	6.933	2.94	10.00	0.42
0.817	0.42	3.883	7.14	6.950	2.94	10.02	0.42
0.833	0.42	3.900	7.14	6.967	2.94	10.03	0.42
0.850	0.42	3.917	7.14	6.983	2.94	10.05	0.42
0.867	0.42	3.933	7.14	7.000	2.94	10.07	0.42

0.883	0.42	3.950	7.14	7.017	2.94	10.08	0.42
0.900	0.42	3.967	7.14	7.033	2.94	10.10	0.42
0.917	0.42	3.983	7.14	7.050	2.94	10.12	0.42
0.933	0.42	4.000	7.14	7.067	2.94	10.13	0.42
0.950	0.42	4.017	7.14	7.083	2.94	10.15	0.42
0.967	0.42	4.033	7.14	7.100	2.94	10.17	0.42
0.983	0.42	4.050	7.14	7.117	2.94	10.18	0.42
1.000	0.42	4.067	7.14	7.133	2.94	10.20	0.42
1.017	0.42	4.083	7.14	7.150	2.94	10.22	0.42
1.033	0.42	4.100	7.14	7.167	2.94	10.23	0.42
1.050	0.42	4.117	7.14	7.183	2.94	10.25	0.42
1.067	0.42	4.133	7.14	7.200	2.94	10.27	0.42
1.083	0.42	4.150	7.14	7.217	2.94	10.28	0.42
1.100	0.42	4.167	7.14	7.233	2.94	10.30	0.42
1.117	0.42	4.183	7.14	7.250	2.94	10.32	0.42
1.133	0.42	4.200	7.14	7.267	1.68	10.33	0.42
1.150	0.42	4.217	7.14	7.283	1.68	10.35	0.42
1.167	0.42	4.233	7.14	7.300	1.68	10.37	0.42
1.183	0.42	4.250	7.14	7.317	1.68	10.38	0.42
1.200	0.42	4.267	19.32	7.333	1.68	10.40	0.42
1.217	0.42	4.283	19.32	7.350	1.68	10.42	0.42
1.233	0.42	4.300	19.32	7.367	1.68	10.43	0.42
1.250	0.42	4.317	19.32	7.383	1.68	10.45	0.42
1.267	0.42	4.333	19.32	7.400	1.68	10.47	0.42
1.283	0.42	4.350	19.32	7.417	1.68	10.48	0.42
1.300	0.42	4.367	19.32	7.433	1.68	10.50	0.42
1.317	0.42	4.383	19.32	7.450	1.68	10.52	0.42
1.333	0.42	4.400	19.32	7.467	1.68	10.53	0.42
1.350	0.42	4.417	19.32	7.483	1.68	10.55	0.42
1.367	0.42	4.433	19.32	7.500	1.68	10.57	0.42
1.383	0.42	4.450	19.32	7.517	1.68	10.58	0.42
1.400	0.42	4.467	19.32	7.533	1.68	10.60	0.42
1.417	0.42	4.483	19.32	7.550	1.68	10.62	0.42
1.433	0.42	4.500	19.32	7.567	1.68	10.63	0.42
1.450	0.42	4.517	19.32	7.583	1.68	10.65	0.42
1.467	0.42	4.533	19.32	7.600	1.68	10.67	0.42
1.483	0.42	4.550	19.32	7.617	1.68	10.68	0.42
1.500	0.42	4.567	19.32	7.633	1.68	10.70	0.42
1.517	0.42	4.583	19.32	7.650	1.68	10.72	0.42
1.533	0.42	4.600	19.32	7.667	1.68	10.73	0.42
1.550	0.42	4.617	19.32	7.683	1.68	10.75	0.42
1.567	0.42	4.633	19.32	7.700	1.68	10.77	0.42
1.583	0.42	4.650	19.32	7.717	1.68	10.78	0.42
1.600	0.42	4.667	19.32	7.733	1.68	10.80	0.42
1.617	0.42	4.683	19.32	7.750	1.68	10.82	0.42
1.633	0.42	4.700	19.32	7.767	1.68	10.83	0.42
1.650	0.42	4.717	19.32	7.783	1.68	10.85	0.42
1.667	0.42	4.733	19.32	7.800	1.68	10.87	0.42
1.683	0.42	4.750	19.32	7.817	1.68	10.88	0.42
1.700	0.42	4.767	19.32	7.833	1.68	10.90	0.42
1.717	0.42	4.783	19.32	7.850	1.68	10.92	0.42
1.733	0.42	4.800	19.32	7.867	1.68	10.93	0.42
1.750	0.42	4.817	19.32	7.883	1.68	10.95	0.42
1.767	0.42	4.833	19.32	7.900	1.68	10.97	0.42
1.783	0.42	4.850	19.32	7.917	1.68	10.98	0.42
1.800	0.42	4.867	19.32	7.933	1.68	11.00	0.42
1.817	0.42	4.883	19.32	7.950	1.68	11.02	0.42
1.833	0.42	4.900	19.32	7.967	1.68	11.03	0.42
1.850	0.42	4.917	19.32	7.983	1.68	11.05	0.42
1.867	0.42	4.933	19.32	8.000	1.68	11.07	0.42
1.883	0.42	4.950	19.32	8.017	1.68	11.08	0.42
1.900	0.42	4.967	19.32	8.033	1.68	11.10	0.42
1.917	0.42	4.983	19.32	8.050	1.68	11.12	0.42
1.933	0.42	5.000	19.32	8.067	1.68	11.13	0.42
1.950	0.42	5.017	19.32	8.083	1.68	11.15	0.42
1.967	0.42	5.033	19.32	8.100	1.68	11.17	0.42
1.983	0.42	5.050	19.32	8.117	1.68	11.18	0.42
2.000	0.42	5.067	19.32	8.133	1.68	11.20	0.42
2.017	0.42	5.083	19.32	8.150	1.68	11.22	0.42
2.033	0.42	5.100	19.32	8.167	1.68	11.23	0.42
2.050	0.42	5.117	19.32	8.183	1.68	11.25	0.42
2.067	0.42	5.133	19.32	8.200	1.68	11.27	0.42
2.083	0.42	5.150	19.32	8.217	1.68	11.28	0.42
2.100	0.42	5.167	19.32	8.233	1.68	11.30	0.42
2.117	0.42	5.183	19.32	8.250	1.68	11.32	0.42
2.133	0.42	5.200	19.32	8.267	0.84	11.33	0.42
2.150	0.42	5.217	19.32	8.283	0.84	11.35	0.42
2.167	0.42	5.233	19.32	8.300	0.84	11.37	0.42
2.183	0.42	5.250	19.31	8.317	0.84	11.38	0.42
2.200	0.42	5.267	5.46	8.333	0.84	11.40	0.42
2.217	0.42	5.283	5.46	8.350	0.84	11.42	0.42
2.233	0.42	5.300	5.46	8.367	0.84	11.43	0.42
2.250	0.42	5.317	5.46	8.383	0.84	11.45	0.42
2.267	2.52	5.333	5.46	8.400	0.84	11.47	0.42
2.283	2.52	5.350	5.46	8.417	0.84	11.48	0.42
2.300	2.52	5.367	5.46	8.433	0.84	11.50	0.42
2.317	2.52	5.383	5.46	8.450	0.84	11.52	0.42
2.333	2.52	5.400	5.46	8.467	0.84	11.53	0.42
2.350	2.52	5.417	5.46	8.483	0.84	11.55	0.42
2.367	2.52	5.433	5.46	8.500	0.84	11.57	0.42
2.383	2.52	5.450	5.46	8.517	0.84	11.58	0.42
2.400	2.52	5.467	5.46	8.533	0.84	11.60	0.42
2.417	2.52	5.483	5.46	8.550	0.84	11.62	0.42
2.433	2.52	5.500	5.46	8.567	0.84	11.63	0.42
2.450	2.52	5.517	5.46	8.583	0.84	11.65	0.42
2.467	2.52	5.533	5.46	8.600	0.84	11.67	0.42
2.483	2.52	5.550	5.46	8.617	0.84	11.68	0.42
2.500	2.52	5.567	5.46	8.633	0.84	11.70	0.42
2.517	2.52	5.583	5.46	8.650	0.84	11.72	0.42
2.533	2.52	5.600	5.46	8.667	0.84	11.73	0.42
2.550	2.52	5.617	5.46	8.683	0.84	11.75	0.42
2.567	2.52	5.633	5.46	8.700	0.84	11.77	0.42
2.583	2.52	5.650	5.46	8.717	0.84	11.78	0.42
2.600	2.52	5.667	5.46	8.733	0.84	11.80	0.42
2.617	2.52	5.683	5.46	8.750	0.84	11.82	0.42
2.633	2.52	5.700	5.46	8.767	0.84	11.83	0.42
2.650	2.52	5.717	5.46	8.783	0.84	11.85	0.42
2.667	2.52	5.733	5.46	8.800	0.84	11.87	0.42
2.683	2.52	5.750	5.46	8.817	0.84	11.88	0.42
2.700	2.52	5.767	5.46	8.833	0.84	11.90	0.42
2.717	2.52	5.783	5.46	8.850	0.84	11.92	0.42
2.733	2.52	5.800	5.46	8.867	0.84	11.93	0.42
2.750	2.52	5.817	5.46	8.883	0.84	11.95	0.42
2.767	2.52	5.833	5.46	8.900	0.84	11.97	0.42
2.783	2.52	5.850	5.46	8.917	0.84	11.98	0.42
2.800	2.52	5.867	5.46	8.933	0.84	12.00	0.42
2.817	2.52	5.883	5.46	8.950	0.84	12.02	0.42
2.833	2.52	5.900	5.46	8.967	0.84	12.03	0.42
2.850	2.52	5.917	5.46	8.983	0.84	12.05	0.42
2.867	2.52	5.933	5.46	9.000	0.84	12.07	0.42
2.883	2.52	5.950	5.46	9.017	0.84	12.08	0.42
2.900	2.52	5.967	5.46	9.033	0.84	12.10	0.42
2.917	2.52	5.983	5.46	9.050	0.84	12.12	0.42
2.933	2.52	6.000	5.46	9.067	0.84	12.13	0.42
2.950	2.52	6.017	5.46	9.083	0.84	12.15	0.42
2.967	2.52	6.033	5.46	9.100	0.84	12.17	0.42
2.983	2.52	6.050	5.46	9.117	0.84	12.18	0.42
3.000	2.52	6.067	5.46	9.133	0.84	12.20	0.42
3.017	2.52	6.083	5.46	9.150	0.84	12.22	0.42
3.033	2.52	6.100	5.46	9.167	0.84	12.23	0.42
3.050	2.52	6.117	5.46	9.183	0.84	12.25	0.42
3.067	2.52	6.133	5.46	9.200	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	11.73	
over (min)	6.00	9.00	
Storage Coeff. (min)=	5.54 (ii)	8.82 (ii)	
Unit Hyd. Tpeak (min)=	6.00	9.00	
Unit Hyd. peak (cms)=	0.20	0.13	
			TOTALS
PEAK FLOW (cms)=	0.12	0.00	0.118 (iii)
TIME TO PEAK (hrs)=	5.23	5.27	5.25
RUNOFF VOLUME (mm)=	41.00	19.22	40.78
TOTAL RAINFALL (mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT =	0.98	0.46	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7642)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0470      0.1250
                          0.0197      0.0630   |    0.0551      0.1410
                          0.0304      0.0850   |    0.0620      0.1580
                          0.0373      0.1020   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7641)      2.210      0.118      5.25      40.78
   OUTFLOW: ID= 1 (  7642)      2.210      0.020      6.52      39.02

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.54
                  TIME SHIFT OF PEAK FLOW         (min)= 76.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0625

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------------------
| CALIB            |
| STANDHYD (  7643)|   Area    (ha)=   2.02
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.00         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     116.05        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 3.083    2.52 | 6.150    5.46 |  9.22    0.84
               0.033    0.00 | 3.100    2.52 | 6.167    5.46 |  9.23    0.84
               0.050    0.00 | 3.117    2.52 | 6.183    5.46 |  9.25    0.84
               0.067    0.00 | 3.133    2.52 | 6.200    5.46 |  9.27    0.42
               0.083    0.00 | 3.150    2.52 | 6.217    5.46 |  9.28    0.42
               0.100    0.00 | 3.167    2.52 | 6.233    5.46 |  9.30    0.42
               0.117    0.00 | 3.183    2.52 | 6.250    5.46 |  9.32    0.42
               0.133    0.00 | 3.200    2.52 | 6.267    2.94 |  9.33    0.42
               0.150    0.00 | 3.217    2.52 | 6.283    2.94 |  9.35    0.42
               0.167    0.00 | 3.233    2.52 | 6.300    2.94 |  9.37    0.42
               0.183    0.00 | 3.250    2.52 | 6.317    2.94 |  9.38    0.42
               0.200    0.00 | 3.267    7.14 | 6.333    2.94 |  9.40    0.42
               0.217    0.00 | 3.283    7.14 | 6.350    2.94 |  9.42    0.42
               0.233    0.00 | 3.300    7.14 | 6.367    2.94 |  9.43    0.42
               0.250    0.00 | 3.317    7.14 | 6.383    2.94 |  9.45    0.42
               0.267    0.42 | 3.333    7.14 | 6.400    2.94 |  9.47    0.42
               0.283    0.42 | 3.350    7.14 | 6.417    2.94 |  9.48    0.42
               0.300    0.42 | 3.367    7.14 | 6.433    2.94 |  9.50    0.42
               0.317    0.42 | 3.383    7.14 | 6.450    2.94 |  9.52    0.42
               0.333    0.42 | 3.400    7.14 | 6.467    2.94 |  9.53    0.42
               0.350    0.42 | 3.417    7.14 | 6.483    2.94 |  9.55    0.42
               0.367    0.42 | 3.433    7.14 | 6.500    2.94 |  9.57    0.42
               0.383    0.42 | 3.450    7.14 | 6.517    2.94 |  9.58    0.42
               0.400    0.42 | 3.467    7.14 | 6.533    2.94 |  9.60    0.42
               0.417    0.42 | 3.483    7.14 | 6.550    2.94 |  9.62    0.42
               0.433    0.42 | 3.500    7.14 | 6.567    2.94 |  9.63    0.42
               0.450    0.42 | 3.517    7.14 | 6.583    2.94 |  9.65    0.42
               0.467    0.42 | 3.533    7.14 | 6.600    2.94 |  9.67    0.42
               0.483    0.42 | 3.550    7.14 | 6.617    2.94 |  9.68    0.42
               0.500    0.42 | 3.567    7.14 | 6.633    2.94 |  9.70    0.42
               0.517    0.42 | 3.583    7.14 | 6.650    2.94 |  9.72    0.42
               0.533    0.42 | 3.600    7.14 | 6.667    2.94 |  9.73    0.42
               0.550    0.42 | 3.617    7.14 | 6.683    2.94 |  9.75    0.42
               0.567    0.42 | 3.633    7.14 | 6.700    2.94 |  9.77    0.42
               0.583    0.42 | 3.650    7.14 | 6.717    2.94 |  9.78    0.42
               0.600    0.42 | 3.667    7.14 | 6.733    2.94 |  9.80    0.42
               0.617    0.42 | 3.683    7.14 | 6.750    2.94 |  9.82    0.42
               0.633    0.42 | 3.700    7.14 | 6.767    2.94 |  9.83    0.42
               0.650    0.42 | 3.717    7.14 | 6.783    2.94 |  9.85    0.42
               0.667    0.42 | 3.733    7.14 | 6.800    2.94 |  9.87    0.42
               0.683    0.42 | 3.750    7.14 | 6.817    2.94 |  9.88    0.42
               0.700    0.42 | 3.767    7.14 | 6.833    2.94 |  9.90    0.42
               0.717    0.42 | 3.783    7.14 | 6.850    2.94 |  9.92    0.42
               0.733    0.42 | 3.800    7.14 | 6.867    2.94 |  9.93    0.42
               0.750    0.42 | 3.817    7.14 | 6.883    2.94 |  9.95    0.42
               0.767    0.42 | 3.833    7.14 | 6.900    2.94 |  9.97    0.42
               0.783    0.42 | 3.850    7.14 | 6.917    2.94 |  9.98    0.42
               0.800    0.42 | 3.867    7.14 | 6.933    2.94 | 10.00    0.42
               0.817    0.42 | 3.883    7.14 | 6.950    2.94 | 10.02    0.42
               0.833    0.42 | 3.900    7.14 | 6.967    2.94 | 10.03    0.42
               0.850    0.42 | 3.917    7.14 | 6.983    2.94 | 10.05    0.42
               0.867    0.42 | 3.933    7.14 | 7.000    2.94 | 10.07    0.42
               0.883    0.42 | 3.950    7.14 | 7.017    2.94 | 10.08    0.42
               0.900    0.42 | 3.967    7.14 | 7.033    2.94 | 10.10    0.42
               0.917    0.42 | 3.983    7.14 | 7.050    2.94 | 10.12    0.42
               0.933    0.42 | 4.000    7.14 | 7.067    2.94 | 10.13    0.42
               0.950    0.42 | 4.017    7.14 | 7.083    2.94 | 10.15    0.42
               0.967    0.42 | 4.033    7.14 | 7.100    2.94 | 10.17    0.42
               0.983    0.42 | 4.050    7.14 | 7.117    2.94 | 10.18    0.42
               1.000    0.42 | 4.067    7.14 | 7.133    2.94 | 10.20    0.42
               1.017    0.42 | 4.083    7.14 | 7.150    2.94 | 10.22    0.42
               1.033    0.42 | 4.100    7.14 | 7.167    2.94 | 10.23    0.42
               1.050    0.42 | 4.117    7.14 | 7.183    2.94 | 10.25    0.42
               1.067    0.42 | 4.133    7.14 | 7.200    2.94 | 10.27    0.42
               1.083    0.42 | 4.150    7.14 | 7.217    2.94 | 10.28    0.42
               1.100    0.42 | 4.167    7.14 | 7.233    2.94 | 10.30    0.42
               1.117    0.42 | 4.183    7.14 | 7.250    2.94 | 10.32    0.42
               1.133    0.42 | 4.200    7.14 | 7.267    1.68 | 10.33    0.42
               1.150    0.42 | 4.217    7.14 | 7.283    1.68 | 10.35    0.42
               1.167    0.42 | 4.233    7.14 | 7.300    1.68 | 10.37    0.42
               1.183    0.42 | 4.250    7.14 | 7.317    1.68 | 10.38    0.42
               1.200    0.42 | 4.267   19.32 | 7.333    1.68 | 10.40    0.42
               1.217    0.42 | 4.283   19.32 | 7.350    1.68 | 10.42    0.42
               1.233    0.42 | 4.300   19.32 | 7.367    1.68 | 10.43    0.42
               1.250    0.42 | 4.317   19.32 | 7.383    1.68 | 10.45    0.42
               1.267    0.42 | 4.333   19.32 | 7.400    1.68 | 10.47    0.42
               1.283    0.42 | 4.350   19.32 | 7.417    1.68 | 10.48    0.42
               1.300    0.42 | 4.367   19.32 | 7.433    1.68 | 10.50    0.42
               1.317    0.42 | 4.383   19.32 | 7.450    1.68 | 10.52    0.42
               1.333    0.42 | 4.400   19.32 | 7.467    1.68 | 10.53    0.42
               1.350    0.42 | 4.417   19.32 | 7.483    1.68 | 10.55    0.42
               1.367    0.42 | 4.433   19.32 | 7.500    1.68 | 10.57    0.42
               1.383    0.42 | 4.450   19.32 | 7.517    1.68 | 10.58    0.42
               1.400    0.42 | 4.467   19.32 | 7.533    1.68 | 10.60    0.42
               1.417    0.42 | 4.483   19.32 | 7.550    1.68 | 10.62    0.42
               1.433    0.42 | 4.500   19.32 | 7.567    1.68 | 10.63    0.42
               1.450    0.42 | 4.517   19.32 | 7.583    1.68 | 10.65    0.42
               1.467    0.42 | 4.533   19.32 | 7.600    1.68 | 10.67    0.42
               1.483    0.42 | 4.550   19.32 | 7.617    1.68 | 10.68    0.42
               1.500    0.42 | 4.567   19.32 | 7.633    1.68 | 10.70    0.42
               1.517    0.42 | 4.583   19.32 | 7.650    1.68 | 10.72    0.42
               1.533    0.42 | 4.600   19.32 | 7.667    1.68 | 10.73    0.42
               1.550    0.42 | 4.617   19.32 | 7.683    1.68 | 10.75    0.42
               1.567    0.42 | 4.633   19.32 | 7.700    1.68 | 10.77    0.42
               1.583    0.42 | 4.650   19.32 | 7.717    1.68 | 10.78    0.42
               1.600    0.42 | 4.667   19.32 | 7.733    1.68 | 10.80    0.42
               1.617    0.42 | 4.683   19.32 | 7.750    1.68 | 10.82    0.42
               1.633    0.42 | 4.700   19.32 | 7.767    1.68 | 10.83    0.42
               1.650    0.42 | 4.717   19.32 | 7.783    1.68 | 10.85    0.42
               1.667    0.42 | 4.733   19.32 | 7.800    1.68 | 10.87    0.42
               1.683    0.42 | 4.750   19.32 | 7.817    1.68 | 10.88    0.42
               1.700    0.42 | 4.767   19.32 | 7.833    1.68 | 10.90    0.42
               1.717    0.42 | 4.783   19.32 | 7.850    1.68 | 10.92    0.42
               1.733    0.42 | 4.800   19.32 | 7.867    1.68 | 10.93    0.42
               1.750    0.42 | 4.817   19.32 | 7.883    1.68 | 10.95    0.42
               1.767    0.42 | 4.833   19.32 | 7.900    1.68 | 10.97    0.42
               1.783    0.42 | 4.850   19.32 | 7.917    1.68 | 10.98    0.42
               1.800    0.42 | 4.867   19.32 | 7.933    1.68 | 11.00    0.42
               1.817    0.42 | 4.883   19.32 | 7.950    1.68 | 11.02    0.42
               1.833    0.42 | 4.900   19.32 | 7.967    1.68 | 11.03    0.42
               1.850    0.42 | 4.917   19.32 | 7.983    1.68 | 11.05    0.42
               1.867    0.42 | 4.933   19.32 | 8.000    1.68 | 11.07    0.42
               1.883    0.42 | 4.950   19.32 | 8.017    1.68 | 11.08    0.42
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1.900	0.42	4.967	19.32	8.033	1.68	11.10	0.42
1.917	0.42	4.983	19.32	8.050	1.68	11.12	0.42
1.933	0.42	5.000	19.32	8.067	1.68	11.13	0.42
1.950	0.42	5.017	19.32	8.083	1.68	11.15	0.42
1.967	0.42	5.033	19.32	8.100	1.68	11.17	0.42
1.983	0.42	5.050	19.32	8.117	1.68	11.18	0.42
2.000	0.42	5.067	19.32	8.133	1.68	11.20	0.42
2.017	0.42	5.083	19.32	8.150	1.68	11.22	0.42
2.033	0.42	5.100	19.32	8.167	1.68	11.23	0.42
2.050	0.42	5.117	19.32	8.183	1.68	11.25	0.42
2.067	0.42	5.133	19.32	8.200	1.68	11.27	0.42
2.083	0.42	5.150	19.32	8.217	1.68	11.28	0.42
2.100	0.42	5.167	19.32	8.233	1.68	11.30	0.42
2.117	0.42	5.183	19.32	8.250	1.68	11.32	0.42
2.133	0.42	5.200	19.32	8.267	0.84	11.33	0.42
2.150	0.42	5.217	19.32	8.283	0.84	11.35	0.42
2.167	0.42	5.233	19.32	8.300	0.84	11.37	0.42
2.183	0.42	5.250	19.31	8.317	0.84	11.38	0.42
2.200	0.42	5.267	5.46	8.333	0.84	11.40	0.42
2.217	0.42	5.283	5.46	8.350	0.84	11.42	0.42
2.233	0.42	5.300	5.46	8.367	0.84	11.43	0.42
2.250	0.42	5.317	5.46	8.383	0.84	11.45	0.42
2.267	2.52	5.333	5.46	8.400	0.84	11.47	0.42
2.283	2.52	5.350	5.46	8.417	0.84	11.48	0.42
2.300	2.52	5.367	5.46	8.433	0.84	11.50	0.42
2.317	2.52	5.383	5.46	8.450	0.84	11.52	0.42
2.333	2.52	5.400	5.46	8.467	0.84	11.53	0.42
2.350	2.52	5.417	5.46	8.483	0.84	11.55	0.42
2.367	2.52	5.433	5.46	8.500	0.84	11.57	0.42
2.383	2.52	5.450	5.46	8.517	0.84	11.58	0.42
2.400	2.52	5.467	5.46	8.533	0.84	11.60	0.42
2.417	2.52	5.483	5.46	8.550	0.84	11.62	0.42
2.433	2.52	5.500	5.46	8.567	0.84	11.63	0.42
2.450	2.52	5.517	5.46	8.583	0.84	11.65	0.42
2.467	2.52	5.533	5.46	8.600	0.84	11.67	0.42
2.483	2.52	5.550	5.46	8.617	0.84	11.68	0.42
2.500	2.52	5.567	5.46	8.633	0.84	11.70	0.42
2.517	2.52	5.583	5.46	8.650	0.84	11.72	0.42
2.533	2.52	5.600	5.46	8.667	0.84	11.73	0.42
2.550	2.52	5.617	5.46	8.683	0.84	11.75	0.42
2.567	2.52	5.633	5.46	8.700	0.84	11.77	0.42
2.583	2.52	5.650	5.46	8.717	0.84	11.78	0.42
2.600	2.52	5.667	5.46	8.733	0.84	11.80	0.42
2.617	2.52	5.683	5.46	8.750	0.84	11.82	0.42
2.633	2.52	5.700	5.46	8.767	0.84	11.83	0.42
2.650	2.52	5.717	5.46	8.783	0.84	11.85	0.42
2.667	2.52	5.733	5.46	8.800	0.84	11.87	0.42
2.683	2.52	5.750	5.46	8.817	0.84	11.88	0.42
2.700	2.52	5.767	5.46	8.833	0.84	11.90	0.42
2.717	2.52	5.783	5.46	8.850	0.84	11.92	0.42
2.733	2.52	5.800	5.46	8.867	0.84	11.93	0.42
2.750	2.52	5.817	5.46	8.883	0.84	11.95	0.42
2.767	2.52	5.833	5.46	8.900	0.84	11.97	0.42
2.783	2.52	5.850	5.46	8.917	0.84	11.98	0.42
2.800	2.52	5.867	5.46	8.933	0.84	12.00	0.42
2.817	2.52	5.883	5.46	8.950	0.84	12.02	0.42
2.833	2.52	5.900	5.46	8.967	0.84	12.03	0.42
2.850	2.52	5.917	5.46	8.983	0.84	12.05	0.42
2.867	2.52	5.933	5.46	9.000	0.84	12.07	0.42
2.883	2.52	5.950	5.46	9.017	0.84	12.08	0.42
2.900	2.52	5.967	5.46	9.033	0.84	12.10	0.42
2.917	2.52	5.983	5.46	9.050	0.84	12.12	0.42
2.933	2.52	6.000	5.46	9.067	0.84	12.13	0.42
2.950	2.52	6.017	5.46	9.083	0.84	12.15	0.42
2.967	2.52	6.033	5.46	9.100	0.84	12.17	0.42
2.983	2.52	6.050	5.46	9.117	0.84	12.18	0.42
3.000	2.52	6.067	5.46	9.133	0.84	12.20	0.42
3.017	2.52	6.083	5.46	9.150	0.84	12.22	0.42
3.033	2.52	6.100	5.46	9.167	0.84	12.23	0.42
3.050	2.52	6.117	5.46	9.183	0.84	12.25	0.42
3.067	2.52	6.133	5.46	9.200	0.84		

Max.Eff.Inten.(mm/hr)=	19.32	11.73
over (min)	5.00	9.00
Storage Coeff. (min)=	5.39 (ii)	8.68 (ii)
Unit Hyd. Tpeak (min)=	5.00	9.00
Unit Hyd. peak (cms)=	0.21	0.13

			TOTALS
PEAK FLOW	(cms)=	0.11	0.00	0.108 (iii)
TIME TO PEAK	(hrs)=	5.23	5.27	5.25
RUNOFF VOLUME	(mm)=	41.00	19.22	40.78
TOTAL RAINFALL	(mm)=	42.00	42.00	42.00
RUNOFF COEFFICIENT	=	0.98	0.46	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0433	0.1140
	0.0182	0.0580	0.0507	0.1280
	0.0280	0.0775	0.0571	0.1440
	0.0343	0.0930	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7643)	2.020	0.108	5.25	40.78
OUTFLOW: ID= 1 (	7644)	2.020	0.018	6.50	39.04

PEAK FLOW REDUCTION [Qout/Qin](%)= 16.59
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.0571

****
** SIMULATION:3. 2 Year 24 Hour AES (Bloor, TRCA) **
****

READ STORM |	Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\c70c9fdc
Ptotal= 47.08 mm |	Comments: 2 Year 24 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.25	4.00	12.50	1.65	18.75	0.24
0.25	0.24	6.50	4.00	12.75	1.65	19.00	0.24
0.50	0.24	6.75	4.00	13.00	1.65	19.25	0.24
0.75	0.24	7.00	4.00	13.25	1.65	19.50	0.24
1.00	0.24	7.25	4.00	13.50	1.65	19.75	0.24
1.25	0.24	7.50	4.00	13.75	1.65	20.00	0.24
1.50	0.24	7.75	4.00	14.00	1.65	20.25	0.24
1.75	0.24	8.00	4.00	14.25	0.94	20.50	0.24
2.00	0.24	8.25	10.81	14.50	0.94	20.75	0.24
2.25	0.24	8.50	10.81	14.75	0.94	21.00	0.24
2.50	0.24	8.75	10.81	15.00	0.94	21.25	0.24
2.75	0.24	9.00	10.81	15.25	0.94	21.50	0.24
3.00	0.24	9.25	10.81	15.50	0.94	21.75	0.24
3.25	0.24	9.50	10.81	15.75	0.94	22.00	0.24
3.50	0.24	9.75	10.81	16.00	0.94	22.25	0.24
3.75	0.24	10.00	10.81	16.25	0.47	22.50	0.24
4.00	0.24	10.25	3.06	16.50	0.47	22.75	0.24
4.25	1.41	10.50	3.06	16.75	0.47	23.00	0.24
4.50	1.41	10.75	3.06	17.00	0.47	23.25	0.24
4.75	1.41	11.00	3.06	17.25	0.47	23.50	0.24
5.00	1.41	11.25	3.06	17.50	0.47	23.75	0.24
5.25	1.41	11.50	3.06	17.75	0.47	24.00	0.24
5.50	1.41	11.75	3.06	18.00	0.47		
5.75	1.41	12.00	3.06	18.25	0.24		
6.00	1.41	12.25	1.65	18.50	0.24		

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| CALIB            |
| STANDHYD (  7567)|   Area    (ha)=   2.81
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.78         0.03
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     136.87        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.017    0.00 | 6.083    1.41 |12.150    3.06 | 18.22    0.47
 0.033    0.00 | 6.100    1.41 |12.167    3.06 | 18.23    0.47
 0.050    0.00 | 6.117    1.41 |12.183    3.06 | 18.25    0.47
 0.067    0.00 | 6.133    1.41 |12.200    3.06 | 18.27    0.24
 0.083    0.00 | 6.150    1.41 |12.217    3.06 | 18.28    0.24
 0.100    0.00 | 6.167    1.41 |12.233    3.06 | 18.30    0.24
 0.117    0.00 | 6.183    1.41 |12.250    3.06 | 18.32    0.24
 0.133    0.00 | 6.200    1.41 |12.267    1.65 | 18.33    0.24
 0.150    0.00 | 6.217    1.41 |12.283    1.65 | 18.35    0.24
 0.167    0.00 | 6.233    1.41 |12.300    1.65 | 18.37    0.24
 0.183    0.00 | 6.250    1.41 |12.317    1.65 | 18.38    0.24
 0.200    0.00 | 6.267    4.00 |12.333    1.65 | 18.40    0.24
 0.217    0.00 | 6.283    4.00 |12.350    1.65 | 18.42    0.24
 0.233    0.00 | 6.300    4.00 |12.367    1.65 | 18.43    0.24
 0.250    0.00 | 6.317    4.00 |12.383    1.65 | 18.45    0.24
 0.267    0.24 | 6.333    4.00 |12.400    1.65 | 18.47    0.24
 0.283    0.24 | 6.350    4.00 |12.417    1.65 | 18.48    0.24
 0.300    0.24 | 6.367    4.00 |12.433    1.65 | 18.50    0.24
 0.317    0.24 | 6.383    4.00 |12.450    1.65 | 18.52    0.24
 0.333    0.24 | 6.400    4.00 |12.467    1.65 | 18.53    0.24
 0.350    0.24 | 6.417    4.00 |12.483    1.65 | 18.55    0.24
 0.367    0.24 | 6.433    4.00 |12.500    1.65 | 18.57    0.24
 0.383    0.24 | 6.450    4.00 |12.517    1.65 | 18.58    0.24
 0.400    0.24 | 6.467    4.00 |12.533    1.65 | 18.60    0.24
 0.417    0.24 | 6.483    4.00 |12.550    1.65 | 18.62    0.24
 0.433    0.24 | 6.500    4.00 |12.567    1.65 | 18.63    0.24
 0.450    0.24 | 6.517    4.00 |12.583    1.65 | 18.65    0.24
 0.467    0.24 | 6.533    4.00 |12.600    1.65 | 18.67    0.24
 0.483    0.24 | 6.550    4.00 |12.617    1.65 | 18.68    0.24
 0.500    0.24 | 6.567    4.00 |12.633    1.65 | 18.70    0.24
 0.517    0.24 | 6.583    4.00 |12.650    1.65 | 18.72    0.24
 0.533    0.24 | 6.600    4.00 |12.667    1.65 | 18.73    0.24
 0.550    0.24 | 6.617    4.00 |12.683    1.65 | 18.75    0.24
 0.567    0.24 | 6.633    4.00 |12.700    1.65 | 18.77    0.24
 0.583    0.24 | 6.650    4.00 |12.717    1.65 | 18.78    0.24
 0.600    0.24 | 6.667    4.00 |12.733    1.65 | 18.80    0.24
 0.617    0.24 | 6.683    4.00 |12.750    1.65 | 18.82    0.24
 0.633    0.24 | 6.700    4.00 |12.767    1.65 | 18.83    0.24
 0.650    0.24 | 6.717    4.00 |12.783    1.65 | 18.85    0.24
 0.667    0.24 | 6.733    4.00 |12.800    1.65 | 18.87    0.24
 0.683    0.24 | 6.750    4.00 |12.817    1.65 | 18.88    0.24
 0.700    0.24 | 6.767    4.00 |12.833    1.65 | 18.90    0.24
 0.717    0.24 | 6.783    4.00 |12.850    1.65 | 18.92    0.24
 0.733    0.24 | 6.800    4.00 |12.867    1.65 | 18.93    0.24
 0.750    0.24 | 6.817    4.00 |12.883    1.65 | 18.95    0.24
 0.767    0.24 | 6.833    4.00 |12.900    1.65 | 18.97    0.24
 0.783    0.24 | 6.850    4.00 |12.917    1.65 | 18.98    0.24
 0.800    0.24 | 6.867    4.00 |12.933    1.65 | 19.00    0.24
 0.817    0.24 | 6.883    4.00 |12.950    1.65 | 19.02    0.24
 0.833    0.24 | 6.900    4.00 |12.967    1.65 | 19.03    0.24
 0.850    0.24 | 6.917    4.00 |12.983    1.65 | 19.05    0.24
 0.867    0.24 | 6.933    4.00 |13.000    1.65 | 19.07    0.24
 0.883    0.24 | 6.950    4.00 |13.017    1.65 | 19.08    0.24
 0.900    0.24 | 6.967    4.00 |13.033    1.65 | 19.10    0.24
 0.917    0.24 | 6.983    4.00 |13.050    1.65 | 19.12    0.24
 0.933    0.24 | 7.000    4.00 |13.067    1.65 | 19.13    0.24
 0.950    0.24 | 7.017    4.00 |13.083    1.65 | 19.15    0.24
 0.967    0.24 | 7.033    4.00 |13.100    1.65 | 19.17    0.24
 0.983    0.24 | 7.050    4.00 |13.117    1.65 | 19.18    0.24
 1.000    0.24 | 7.067    4.00 |13.133    1.65 | 19.20    0.24
 1.017    0.24 | 7.083    4.00 |13.150    1.65 | 19.22    0.24
 1.033    0.24 | 7.100    4.00 |13.167    1.65 | 19.23    0.24
 1.050    0.24 | 7.117    4.00 |13.183    1.65 | 19.25    0.24
 1.067    0.24 | 7.133    4.00 |13.200    1.65 | 19.27    0.24
 1.083    0.24 | 7.150    4.00 |13.217    1.65 | 19.28    0.24
 1.100    0.24 | 7.167    4.00 |13.233    1.65 | 19.30    0.24
 1.117    0.24 | 7.183    4.00 |13.250    1.65 | 19.32    0.24
 1.133    0.24 | 7.200    4.00 |13.267    1.65 | 19.33    0.24
 1.150    0.24 | 7.217    4.00 |13.283    1.65 | 19.35    0.24
 1.167    0.24 | 7.233    4.00 |13.300    1.65 | 19.37    0.24
 1.183    0.24 | 7.250    4.00 |13.317    1.65 | 19.38    0.24
 1.200    0.24 | 7.267    4.00 |13.333    1.65 | 19.40    0.24
 1.217    0.24 | 7.283    4.00 |13.350    1.65 | 19.42    0.24
 1.233    0.24 | 7.300    4.00 |13.367    1.65 | 19.43    0.24
 1.250    0.24 | 7.317    4.00 |13.383    1.65 | 19.45    0.24
 1.267    0.24 | 7.333    4.00 |13.400    1.65 | 19.47    0.24
 1.283    0.24 | 7.350    4.00 |13.417    1.65 | 19.48    0.24
 1.300    0.24 | 7.367    4.00 |13.433    1.65 | 19.50    0.24
 1.317    0.24 | 7.383    4.00 |13.450    1.65 | 19.52    0.24
 1.333    0.24 | 7.400    4.00 |13.467    1.65 | 19.53    0.24
 1.350    0.24 | 7.417    4.00 |13.483    1.65 | 19.55    0.24
 1.367    0.24 | 7.433    4.00 |13.500    1.65 | 19.57    0.24
 1.383    0.24 | 7.450    4.00 |13.517    1.65 | 19.58    0.24
 1.400    0.24 | 7.467    4.00 |13.533    1.65 | 19.60    0.24
 1.417    0.24 | 7.483    4.00 |13.550    1.65 | 19.62    0.24
 1.433    0.24 | 7.500    4.00 |13.567    1.65 | 19.63    0.24
 1.450    0.24 | 7.517    4.00 |13.583    1.65 | 19.65    0.24
 1.467    0.24 | 7.533    4.00 |13.600    1.65 | 19.67    0.24
 1.483    0.24 | 7.550    4.00 |13.617    1.65 | 19.68    0.24
 1.500    0.24 | 7.567    4.00 |13.633    1.65 | 19.70    0.24
 1.517    0.24 | 7.583    4.00 |13.650    1.65 | 19.72    0.24
 1.533    0.24 | 7.600    4.00 |13.667    1.65 | 19.73    0.24
 1.550    0.24 | 7.617    4.00 |13.683    1.65 | 19.75    0.24
 1.567    0.24 | 7.633    4.00 |13.700    1.65 | 19.77    0.24
 1.583    0.24 | 7.650    4.00 |13.717    1.65 | 19.78    0.24
 1.600    0.24 | 7.667    4.00 |13.733    1.65 | 19.80    0.24
 1.617    0.24 | 7.683    4.00 |13.750    1.65 | 19.82    0.24
 1.633    0.24 | 7.700    4.00 |13.767    1.65 | 19.83    0.24
 1.650    0.24 | 7.717    4.00 |13.783    1.65 | 19.85    0.24
 1.667    0.24 | 7.733    4.00 |13.800    1.65 | 19.87    0.24
 1.683    0.24 | 7.750    4.00 |13.817    1.65 | 19.88    0.24
 1.700    0.24 | 7.767    4.00 |13.833    1.65 | 19.90    0.24
 1.717    0.24 | 7.783    4.00 |13.850    1.65 | 19.92    0.24
 1.733    0.24 | 7.800    4.00 |13.867    1.65 | 19.93    0.24
 1.750    0.24 | 7.817    4.00 |13.883    1.65 | 19.95    0.24
 1.767    0.24 | 7.833    4.00 |13.900    1.65 | 19.97    0.24
 1.783    0.24 | 7.850    4.00 |13.917    1.65 | 19.98    0.24
 1.800    0.24 | 7.867    4.00 |13.933    1.65 | 20.00    0.24
 1.817    0.24 | 7.883    4.00 |13.950    1.65 | 20.02    0.24
 1.833    0.24 | 7.900    4.00 |13.967    1.65 | 20.03    0.24
 1.850    0.24 | 7.917    4.00 |13.983    1.65 | 20.05    0.24
 1.867    0.24 | 7.933    4.00 |14.000    1.65 | 20.07    0.24
 1.883    0.24 | 7.950    4.00 |14.017    1.65 | 20.08    0.24
 1.900    0.24 | 7.967    4.00 |14.033    1.65 | 20.10    0.24
 1.917    0.24 | 7.983    4.00 |14.050    1.65 | 20.12    0.24
 1.933    0.24 | 8.000    4.00 |14.067    1.65 | 20.13    0.24
 1.950    0.24 | 8.017    4.00 |14.083    1.65 | 20.15    0.24
 1.967    0.24 | 8.033    4.00 |14.100    1.65 | 20.17    0.24
 1.983    0.24 | 8.050    4.00 |14.117    1.65 | 20.18    0.24
 2.000    0.24 | 8.067    4.00 |14.133    1.65 | 20.20    0.24
 2.017    0.24 | 8.083    4.00 |14.150    1.65 | 20.22    0.24
 2.033    0.24 | 8.100    4.00 |14.167    1.65 | 20.23    0.24
 2.050    0.24 | 8.117    4.00 |14.183    1.65 | 20.25    0.24
 2.067    0.24 | 8.133    4.00 |14.200    1.65 | 20.27    0.24
 2.083    0.24 | 8.150    4.00 |14.217    1.65 | 20.28    0.24
 2.100    0.24 | 8.167    4.00 |14.233    1.65 | 20.30    0.24
 2.117    0.24 | 8.183    4.00 |14.250    1.65 | 20.32    0.24
 2.133    0.24 | 8.200    4.00 |14.267    0.94 | 20.33    0.24
 2.150    0.24 | 8.217    4.00 |14.283    0.94 | 20.35    0.24
 2.167    0.24 | 8.233    4.00 |14.300    0.94 | 20.37    0.24
 2.183    0.24 | 8.250    4.02 |14.317    0.94 | 20.38    0.24
 2.200    0.24 | 8.267   10.81 |14.333    0.94 | 20.40    0.24
 2.217    0.24 | 8.283   10.81 |14.350    0.94 | 20.42    0.24
 2.233    0.24 | 8.300   10.81 |14.367    0.94 | 20.43    0.24
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2.250	0.24	8.317	10.81	14.383	0.94	20.45	0.24
2.267	0.24	8.333	10.81	14.400	0.94	20.47	0.24
2.283	0.24	8.350	10.81	14.417	0.94	20.48	0.24
2.300	0.24	8.367	10.81	14.433	0.94	20.50	0.24
2.317	0.24	8.383	10.81	14.450	0.94	20.52	0.24
2.333	0.24	8.400	10.81	14.467	0.94	20.53	0.24
2.350	0.24	8.417	10.81	14.483	0.94	20.55	0.24
2.367	0.24	8.433	10.81	14.500	0.94	20.57	0.24
2.383	0.24	8.450	10.81	14.517	0.94	20.58	0.24
2.400	0.24	8.467	10.81	14.533	0.94	20.60	0.24
2.417	0.24	8.483	10.81	14.550	0.94	20.62	0.24
2.433	0.24	8.500	10.81	14.567	0.94	20.63	0.24
2.450	0.24	8.517	10.81	14.583	0.94	20.65	0.24
2.467	0.24	8.533	10.81	14.600	0.94	20.67	0.24
2.483	0.24	8.550	10.81	14.617	0.94	20.68	0.24
2.500	0.24	8.567	10.81	14.633	0.94	20.70	0.24
2.517	0.24	8.583	10.81	14.650	0.94	20.72	0.24
2.533	0.24	8.600	10.81	14.667	0.94	20.73	0.24
2.550	0.24	8.617	10.81	14.683	0.94	20.75	0.24
2.567	0.24	8.633	10.81	14.700	0.94	20.77	0.24
2.583	0.24	8.650	10.81	14.717	0.94	20.78	0.24
2.600	0.24	8.667	10.81	14.733	0.94	20.80	0.24
2.617	0.24	8.683	10.81	14.750	0.94	20.82	0.24
2.633	0.24	8.700	10.81	14.767	0.94	20.83	0.24
2.650	0.24	8.717	10.81	14.783	0.94	20.85	0.24
2.667	0.24	8.733	10.81	14.800	0.94	20.87	0.24
2.683	0.24	8.750	10.81	14.817	0.94	20.88	0.24
2.700	0.24	8.767	10.81	14.833	0.94	20.90	0.24
2.717	0.24	8.783	10.81	14.850	0.94	20.92	0.24
2.733	0.24	8.800	10.81	14.867	0.94	20.93	0.24
2.750	0.24	8.817	10.81	14.883	0.94	20.95	0.24
2.767	0.24	8.833	10.81	14.900	0.94	20.97	0.24
2.783	0.24	8.850	10.81	14.917	0.94	20.98	0.24
2.800	0.24	8.867	10.81	14.933	0.94	21.00	0.24
2.817	0.24	8.883	10.81	14.950	0.94	21.02	0.24
2.833	0.24	8.900	10.81	14.967	0.94	21.03	0.24
2.850	0.24	8.917	10.81	14.983	0.94	21.05	0.24
2.867	0.24	8.933	10.81	15.000	0.94	21.07	0.24
2.883	0.24	8.950	10.81	15.017	0.94	21.08	0.24
2.900	0.24	8.967	10.81	15.033	0.94	21.10	0.24
2.917	0.24	8.983	10.81	15.050	0.94	21.12	0.24
2.933	0.24	9.000	10.81	15.067	0.94	21.13	0.24
2.950	0.24	9.017	10.81	15.083	0.94	21.15	0.24
2.967	0.24	9.033	10.81	15.100	0.94	21.17	0.24
2.983	0.24	9.050	10.81	15.117	0.94	21.18	0.24
3.000	0.24	9.067	10.81	15.133	0.94	21.20	0.24
3.017	0.24	9.083	10.81	15.150	0.94	21.22	0.24
3.033	0.24	9.100	10.81	15.167	0.94	21.23	0.24
3.050	0.24	9.117	10.81	15.183	0.94	21.25	0.24
3.067	0.24	9.133	10.81	15.200	0.94	21.27	0.24
3.083	0.24	9.150	10.81	15.217	0.94	21.28	0.24
3.100	0.24	9.167	10.81	15.233	0.94	21.30	0.24
3.117	0.24	9.183	10.81	15.250	0.94	21.32	0.24
3.133	0.24	9.200	10.81	15.267	0.94	21.33	0.24
3.150	0.24	9.217	10.81	15.283	0.94	21.35	0.24
3.167	0.24	9.233	10.81	15.300	0.94	21.37	0.24
3.183	0.24	9.250	10.81	15.317	0.94	21.38	0.24
3.200	0.24	9.267	10.81	15.333	0.94	21.40	0.24
3.217	0.24	9.283	10.81	15.350	0.94	21.42	0.24
3.233	0.24	9.300	10.81	15.367	0.94	21.43	0.24
3.250	0.24	9.317	10.81	15.383	0.94	21.45	0.24
3.267	0.24	9.333	10.81	15.400	0.94	21.47	0.24
3.283	0.24	9.350	10.81	15.417	0.94	21.48	0.24
3.300	0.24	9.367	10.81	15.433	0.94	21.50	0.24
3.317	0.24	9.383	10.81	15.450	0.94	21.52	0.24
3.333	0.24	9.400	10.81	15.467	0.94	21.53	0.24
3.350	0.24	9.417	10.81	15.483	0.94	21.55	0.24
3.367	0.24	9.433	10.81	15.500	0.94	21.57	0.24
3.383	0.24	9.450	10.81	15.517	0.94	21.58	0.24
3.400	0.24	9.467	10.81	15.533	0.94	21.60	0.24
3.417	0.24	9.483	10.81	15.550	0.94	21.62	0.24
3.433	0.24	9.500	10.81	15.567	0.94	21.63	0.24
3.450	0.24	9.517	10.81	15.583	0.94	21.65	0.24
3.467	0.24	9.533	10.81	15.600	0.94	21.67	0.24
3.483	0.24	9.550	10.81	15.617	0.94	21.68	0.24
3.500	0.24	9.567	10.81	15.633	0.94	21.70	0.24
3.517	0.24	9.583	10.81	15.650	0.94	21.72	0.24
3.533	0.24	9.600	10.81	15.667	0.94	21.73	0.24
3.550	0.24	9.617	10.81	15.683	0.94	21.75	0.24
3.567	0.24	9.633	10.81	15.700	0.94	21.77	0.24
3.583	0.24	9.650	10.81	15.717	0.94	21.78	0.24
3.600	0.24	9.667	10.81	15.733	0.94	21.80	0.24
3.617	0.24	9.683	10.81	15.750	0.94	21.82	0.24
3.633	0.24	9.700	10.81	15.767	0.94	21.83	0.24
3.650	0.24	9.717	10.81	15.783	0.94	21.85	0.24
3.667	0.24	9.733	10.81	15.800	0.94	21.87	0.24
3.683	0.24	9.750	10.81	15.817	0.94	21.88	0.24
3.700	0.24	9.767	10.81	15.833	0.94	21.90	0.24
3.717	0.24	9.783	10.81	15.850	0.94	21.92	0.24
3.733	0.24	9.800	10.81	15.867	0.94	21.93	0.24
3.750	0.24	9.817	10.81	15.883	0.94	21.95	0.24
3.767	0.24	9.833	10.81	15.900	0.94	21.97	0.24
3.783	0.24	9.850	10.81	15.917	0.94	21.98	0.24
3.800	0.24	9.867	10.81	15.933	0.94	22.00	0.24
3.817	0.24	9.883	10.81	15.950	0.94	22.02	0.24
3.833	0.24	9.900	10.81	15.967	0.94	22.03	0.24
3.850	0.24	9.917	10.81	15.983	0.94	22.05	0.24
3.867	0.24	9.933	10.81	16.000	0.94	22.07	0.24
3.883	0.24	9.950	10.81	16.017	0.94	22.08	0.24
3.900	0.24	9.967	10.81	16.033	0.94	22.10	0.24
3.917	0.24	9.983	10.81	16.050	0.94	22.12	0.24
3.933	0.24	10.000	10.81	16.067	0.94	22.13	0.24
3.950	0.24	10.017	10.81	16.083	0.94	22.15	0.24
3.967	0.24	10.033	10.81	16.100	0.94	22.17	0.24
3.983	0.24	10.050	10.81	16.117	0.94	22.18	0.24
4.000	0.24	10.067	10.81	16.133	0.94	22.20	0.24
4.017	0.24	10.083	10.81	16.150	0.94	22.22	0.24
4.033	0.24	10.100	10.81	16.167	0.94	22.23	0.24
4.050	0.24	10.117	10.81	16.183	0.94	22.25	0.24
4.067	0.24	10.133	10.81	16.200	0.94	22.27	0.24
4.083	0.24	10.150	10.81	16.217	0.94	22.28	0.24
4.100	0.24	10.167	10.81	16.233	0.94	22.30	0.24
4.117	0.24	10.183	10.81	16.250	0.94	22.32	0.24
4.133	0.24	10.200	10.81	16.267	0.47	22.33	0.24
4.150	0.24	10.217	10.81	16.283	0.47	22.35	0.24
4.167	0.24	10.233	10.81	16.300	0.47	22.37	0.24
4.183	0.24	10.250	10.80	16.317	0.47	22.38	0.24
4.200	0.24	10.267	3.06	16.333	0.47	22.40	0.24
4.217	0.24	10.283	3.06	16.350	0.47	22.42	0.24
4.233	0.24	10.300	3.06	16.367	0.47	22.43	0.24
4.250	0.24	10.317	3.06	16.383	0.47	22.45	0.24
4.267	1.41	10.333	3.06	16.400	0.47	22.47	0.24
4.283	1.41	10.350	3.06	16.417	0.47	22.48	0.24
4.300	1.41	10.367	3.06	16.433	0.47	22.50	0.24
4.317	1.41	10.383	3.06	16.450	0.47	22.52	0.24
4.333	1.41	10.400	3.06	16.467	0.47	22.53	0.24
4.350	1.41	10.417	3.06	16.483	0.47	22.55	0.24
4.367	1.41	10.433	3.06	16.500	0.47	22.57	0.24
4.383	1.41	10.450	3.06	16.517	0.47	22.58	0.24
4.400	1.41	10.467	3.06	16.533	0.47	22.60	0.24
4.417	1.41	10.483	3.06	16.550	0.47	22.62	0.24
4.433	1.41	10.500	3.06	16.567	0.47	22.63	0.24
4.450	1.41	10.517	3.06	16.583	0.47	22.65	0.24
4.467	1.41	10.533	3.06	16.600	0.47	22.67	0.24
4.483	1.41	10.550	3.06	16.617	0.47	22.68	0.24
4.500	1.41	10.567	3.06	16.633	0.47	22.70	0.24
4.517	1.41	10.583	3.06	16.650	0.47	22.72	0.24
4.533	1.41	10.600	3.06	16.667	0.47	22.73	0.24
4.550	1.41	10.617	3.06	16.683	0.47	22.75	0.24
4.567	1.41	10.633	3.06	16.700	0.47	22.77	0.24
4.583	1.41	10.650	3.06	16.717	0.47	22.78	0.24
4.600	1.41	10.667	3.06	16.733	0.47	22.80	0.24
4.617	1.41	10.683	3.06	16.750	0.47	22.82	0.24
4.633	1.41	10.700	3.06	16.767	0.47	22.83	0.24
4.650	1.41	10.717	3.06	16.783	0.47	22.85	0.24
4.667	1.41	10.733	3.06	16.800	0.47	22.87	0.24
4.683	1.41	10.750	3.06	16.817	0.47	22.88	0.24
4.700	1.41	10.767	3.06	16.833	0.47	22.90	0.24
4.717	1.41	10.783	3.06	16.850	0.47	22.92	0.24
4.733	1.41	10.800	3.06	16.867	0.47	22.93	0.24
4.750	1.41	10.817	3.06	16.883	0.47	22.95	0.24
4.767	1.41	10.833	3.06	16.900	0.47	22.97	0.24

4.783	1.41	10.850	3.06	16.917	0.47	22.98	0.24
4.800	1.41	10.867	3.06	16.933	0.47	23.00	0.24
4.817	1.41	10.883	3.06	16.950	0.47	23.02	0.24
4.833	1.41	10.900	3.06	16.967	0.47	23.03	0.24
4.850	1.41	10.917	3.06	16.983	0.47	23.05	0.24
4.867	1.41	10.933	3.06	17.000	0.47	23.07	0.24
4.883	1.41	10.950	3.06	17.017	0.47	23.08	0.24
4.900	1.41	10.967	3.06	17.033	0.47	23.10	0.24
4.917	1.41	10.983	3.06	17.050	0.47	23.12	0.24
4.933	1.41	11.000	3.06	17.067	0.47	23.13	0.24
4.950	1.41	11.017	3.06	17.083	0.47	23.15	0.24
4.967	1.41	11.033	3.06	17.100	0.47	23.17	0.24
4.983	1.41	11.050	3.06	17.117	0.47	23.18	0.24
5.000	1.41	11.067	3.06	17.133	0.47	23.20	0.24
5.017	1.41	11.083	3.06	17.150	0.47	23.22	0.24
5.033	1.41	11.100	3.06	17.167	0.47	23.23	0.24
5.050	1.41	11.117	3.06	17.183	0.47	23.25	0.24
5.067	1.41	11.133	3.06	17.200	0.47	23.27	0.24
5.083	1.41	11.150	3.06	17.217	0.47	23.28	0.24
5.100	1.41	11.167	3.06	17.233	0.47	23.30	0.24
5.117	1.41	11.183	3.06	17.250	0.47	23.32	0.24
5.133	1.41	11.200	3.06	17.267	0.47	23.33	0.24
5.150	1.41	11.217	3.06	17.283	0.47	23.35	0.24
5.167	1.41	11.233	3.06	17.300	0.47	23.37	0.24
5.183	1.41	11.250	3.06	17.317	0.47	23.38	0.24
5.200	1.41	11.267	3.06	17.333	0.47	23.40	0.24
5.217	1.41	11.283	3.06	17.350	0.47	23.42	0.24
5.233	1.41	11.300	3.06	17.367	0.47	23.43	0.24
5.250	1.41	11.317	3.06	17.383	0.47	23.45	0.24
5.267	1.41	11.333	3.06	17.400	0.47	23.47	0.24
5.283	1.41	11.350	3.06	17.417	0.47	23.48	0.24
5.300	1.41	11.367	3.06	17.433	0.47	23.50	0.24
5.317	1.41	11.383	3.06	17.450	0.47	23.52	0.24
5.333	1.41	11.400	3.06	17.467	0.47	23.53	0.24
5.350	1.41	11.417	3.06	17.483	0.47	23.55	0.24
5.367	1.41	11.433	3.06	17.500	0.47	23.57	0.24
5.383	1.41	11.450	3.06	17.517	0.47	23.58	0.24
5.400	1.41	11.467	3.06	17.533	0.47	23.60	0.24
5.417	1.41	11.483	3.06	17.550	0.47	23.62	0.24
5.433	1.41	11.500	3.06	17.567	0.47	23.63	0.24
5.450	1.41	11.517	3.06	17.583	0.47	23.65	0.24
5.467	1.41	11.533	3.06	17.600	0.47	23.67	0.24
5.483	1.41	11.550	3.06	17.617	0.47	23.68	0.24
5.500	1.41	11.567	3.06	17.633	0.47	23.70	0.24
5.517	1.41	11.583	3.06	17.650	0.47	23.72	0.24
5.533	1.41	11.600	3.06	17.667	0.47	23.73	0.24
5.550	1.41	11.617	3.06	17.683	0.47	23.75	0.24
5.567	1.41	11.633	3.06	17.700	0.47	23.77	0.24
5.583	1.41	11.650	3.06	17.717	0.47	23.78	0.24
5.600	1.41	11.667	3.06	17.733	0.47	23.80	0.24
5.617	1.41	11.683	3.06	17.750	0.47	23.82	0.24
5.633	1.41	11.700	3.06	17.767	0.47	23.83	0.24
5.650	1.41	11.717	3.06	17.783	0.47	23.85	0.24
5.667	1.41	11.733	3.06	17.800	0.47	23.87	0.24
5.683	1.41	11.750	3.06	17.817	0.47	23.88	0.24
5.700	1.41	11.767	3.06	17.833	0.47	23.90	0.24
5.717	1.41	11.783	3.06	17.850	0.47	23.92	0.24
5.733	1.41	11.800	3.06	17.867	0.47	23.93	0.24
5.750	1.41	11.817	3.06	17.883	0.47	23.95	0.24
5.767	1.41	11.833	3.06	17.900	0.47	23.97	0.24
5.783	1.41	11.850	3.06	17.917	0.47	23.98	0.24
5.800	1.41	11.867	3.06	17.933	0.47	24.00	0.24
5.817	1.41	11.883	3.06	17.950	0.47	24.02	0.24
5.833	1.41	11.900	3.06	17.967	0.47	24.03	0.24
5.850	1.41	11.917	3.06	17.983	0.47	24.05	0.24
5.867	1.41	11.933	3.06	18.000	0.47	24.07	0.24
5.883	1.41	11.950	3.06	18.017	0.47	24.08	0.24
5.900	1.41	11.967	3.06	18.033	0.47	24.10	0.24
5.917	1.41	11.983	3.06	18.050	0.47	24.12	0.24
5.933	1.41	12.000	3.06	18.067	0.47	24.13	0.24
5.950	1.41	12.017	3.06	18.083	0.47	24.15	0.24
5.967	1.41	12.033	3.06	18.100	0.47	24.17	0.24
5.983	1.41	12.050	3.06	18.117	0.47	24.18	0.24
6.000	1.41	12.067	3.06	18.133	0.47	24.20	0.24
6.017	1.41	12.083	3.06	18.150	0.47	24.22	0.24
6.033	1.41	12.100	3.06	18.167	0.47	24.23	0.24
6.050	1.41	12.117	3.06	18.183	0.47	24.25	0.24
6.067	1.41	12.133	3.06	18.200	0.47		

Max.Eff.Inten.(mm/hr)=	10.81	7.03	
over (min)	8.00	12.00	
Storage Coeff. (min)=	7.51 (ii)	11.65 (ii)	
Unit Hyd. Tpeak (min)=	8.00	12.00	
Unit Hyd. peak (cms)=	0.15	0.10	
			TOTALS
PEAK FLOW (cms)=	0.08	0.00	0.084 (iii)
TIME TO PEAK (hrs)=	9.98	10.25	10.25
RUNOFF VOLUME (mm)=	46.07	22.98	45.85
TOTAL RAINFALL (mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT =	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626) | OVERFLOW IS OFF
IN= 2---> OUT= 1
DT= 1.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0568	0.1530
0.0239	0.0780	0.0660	0.1730
0.0370	0.1040	0.0751	0.2000
0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.084	10.25	45.85
OUTFLOW: ID= 1 (7626)	2.810	0.023	12.30	41.98

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.46
TIME SHIFT OF PEAK FLOW (min)=123.00
MAXIMUM STORAGE USED (ha.m.)= 0.0753

CALIB
STANDHYD (7624) | Area (ha)= 2.08
ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.41	12.150	3.06	18.22	0.47
0.033	0.00	6.100	1.41	12.167	3.06	18.23	0.47
0.050	0.00	6.117	1.41	12.183	3.06	18.25	0.47
0.067	0.00	6.133	1.41	12.200	3.06	18.27	0.24
0.083	0.00	6.150	1.41	12.217	3.06	18.28	0.24
0.100	0.00	6.167	1.41	12.233	3.06	18.30	0.24
0.117	0.00	6.183	1.41	12.250	3.06	18.32	0.24
0.133	0.00	6.200	1.41	12.267	1.65	18.33	0.24
0.150	0.00	6.217	1.41	12.283	1.65	18.35	0.24
0.167	0.00	6.233	1.41	12.300	1.65	18.37	0.24
0.183	0.00	6.250	1.41	12.317	1.65	18.38	0.24
0.200	0.00	6.267	4.00	12.333	1.65	18.40	0.24
0.217	0.00	6.283	4.00	12.350	1.65	18.42	0.24
0.233	0.00	6.300	4.00	12.367	1.65	18.43	0.24
0.250	0.00	6.317	4.00	12.383	1.65	18.45	0.24

0.267	0.24	6.333	4.00	12.400	1.65	18.47	0.24
0.283	0.24	6.350	4.00	12.417	1.65	18.48	0.24
0.300	0.24	6.367	4.00	12.433	1.65	18.50	0.24
0.317	0.24	6.383	4.00	12.450	1.65	18.52	0.24
0.333	0.24	6.400	4.00	12.467	1.65	18.53	0.24
0.350	0.24	6.417	4.00	12.483	1.65	18.55	0.24
0.367	0.24	6.433	4.00	12.500	1.65	18.57	0.24
0.383	0.24	6.450	4.00	12.517	1.65	18.58	0.24
0.400	0.24	6.467	4.00	12.533	1.65	18.60	0.24
0.417	0.24	6.483	4.00	12.550	1.65	18.62	0.24
0.433	0.24	6.500	4.00	12.567	1.65	18.63	0.24
0.450	0.24	6.517	4.00	12.583	1.65	18.65	0.24
0.467	0.24	6.533	4.00	12.600	1.65	18.67	0.24
0.483	0.24	6.550	4.00	12.617	1.65	18.68	0.24
0.500	0.24	6.567	4.00	12.633	1.65	18.70	0.24
0.517	0.24	6.583	4.00	12.650	1.65	18.72	0.24
0.533	0.24	6.600	4.00	12.667	1.65	18.73	0.24
0.550	0.24	6.617	4.00	12.683	1.65	18.75	0.24
0.567	0.24	6.633	4.00	12.700	1.65	18.77	0.24
0.583	0.24	6.650	4.00	12.717	1.65	18.78	0.24
0.600	0.24	6.667	4.00	12.733	1.65	18.80	0.24
0.617	0.24	6.683	4.00	12.750	1.65	18.82	0.24
0.633	0.24	6.700	4.00	12.767	1.65	18.83	0.24
0.650	0.24	6.717	4.00	12.783	1.65	18.85	0.24
0.667	0.24	6.733	4.00	12.800	1.65	18.87	0.24
0.683	0.24	6.750	4.00	12.817	1.65	18.88	0.24
0.700	0.24	6.767	4.00	12.833	1.65	18.90	0.24
0.717	0.24	6.783	4.00	12.850	1.65	18.92	0.24
0.733	0.24	6.800	4.00	12.867	1.65	18.93	0.24
0.750	0.24	6.817	4.00	12.883	1.65	18.95	0.24
0.767	0.24	6.833	4.00	12.900	1.65	18.97	0.24
0.783	0.24	6.850	4.00	12.917	1.65	18.98	0.24
0.800	0.24	6.867	4.00	12.933	1.65	19.00	0.24
0.817	0.24	6.883	4.00	12.950	1.65	19.02	0.24
0.833	0.24	6.900	4.00	12.967	1.65	19.03	0.24
0.850	0.24	6.917	4.00	12.983	1.65	19.05	0.24
0.867	0.24	6.933	4.00	13.000	1.65	19.07	0.24
0.883	0.24	6.950	4.00	13.017	1.65	19.08	0.24
0.900	0.24	6.967	4.00	13.033	1.65	19.10	0.24
0.917	0.24	6.983	4.00	13.050	1.65	19.12	0.24
0.933	0.24	7.000	4.00	13.067	1.65	19.13	0.24
0.950	0.24	7.017	4.00	13.083	1.65	19.15	0.24
0.967	0.24	7.033	4.00	13.100	1.65	19.17	0.24
0.983	0.24	7.050	4.00	13.117	1.65	19.18	0.24
1.000	0.24	7.067	4.00	13.133	1.65	19.20	0.24
1.017	0.24	7.083	4.00	13.150	1.65	19.22	0.24
1.033	0.24	7.100	4.00	13.167	1.65	19.23	0.24
1.050	0.24	7.117	4.00	13.183	1.65	19.25	0.24
1.067	0.24	7.133	4.00	13.200	1.65	19.27	0.24
1.083	0.24	7.150	4.00	13.217	1.65	19.28	0.24
1.100	0.24	7.167	4.00	13.233	1.65	19.30	0.24
1.117	0.24	7.183	4.00	13.250	1.65	19.32	0.24
1.133	0.24	7.200	4.00	13.267	1.65	19.33	0.24
1.150	0.24	7.217	4.00	13.283	1.65	19.35	0.24
1.167	0.24	7.233	4.00	13.300	1.65	19.37	0.24
1.183	0.24	7.250	4.00	13.317	1.65	19.38	0.24
1.200	0.24	7.267	4.00	13.333	1.65	19.40	0.24
1.217	0.24	7.283	4.00	13.350	1.65	19.42	0.24
1.233	0.24	7.300	4.00	13.367	1.65	19.43	0.24
1.250	0.24	7.317	4.00	13.383	1.65	19.45	0.24
1.267	0.24	7.333	4.00	13.400	1.65	19.47	0.24
1.283	0.24	7.350	4.00	13.417	1.65	19.48	0.24
1.300	0.24	7.367	4.00	13.433	1.65	19.50	0.24
1.317	0.24	7.383	4.00	13.450	1.65	19.52	0.24
1.333	0.24	7.400	4.00	13.467	1.65	19.53	0.24
1.350	0.24	7.417	4.00	13.483	1.65	19.55	0.24
1.367	0.24	7.433	4.00	13.500	1.65	19.57	0.24
1.383	0.24	7.450	4.00	13.517	1.65	19.58	0.24
1.400	0.24	7.467	4.00	13.533	1.65	19.60	0.24
1.417	0.24	7.483	4.00	13.550	1.65	19.62	0.24
1.433	0.24	7.500	4.00	13.567	1.65	19.63	0.24
1.450	0.24	7.517	4.00	13.583	1.65	19.65	0.24
1.467	0.24	7.533	4.00	13.600	1.65	19.67	0.24
1.483	0.24	7.550	4.00	13.617	1.65	19.68	0.24
1.500	0.24	7.567	4.00	13.633	1.65	19.70	0.24
1.517	0.24	7.583	4.00	13.650	1.65	19.72	0.24
1.533	0.24	7.600	4.00	13.667	1.65	19.73	0.24
1.550	0.24	7.617	4.00	13.683	1.65	19.75	0.24
1.567	0.24	7.633	4.00	13.700	1.65	19.77	0.24
1.583	0.24	7.650	4.00	13.717	1.65	19.78	0.24
1.600	0.24	7.667	4.00	13.733	1.65	19.80	0.24
1.617	0.24	7.683	4.00	13.750	1.65	19.82	0.24
1.633	0.24	7.700	4.00	13.767	1.65	19.83	0.24
1.650	0.24	7.717	4.00	13.783	1.65	19.85	0.24
1.667	0.24	7.733	4.00	13.800	1.65	19.87	0.24
1.683	0.24	7.750	4.00	13.817	1.65	19.88	0.24
1.700	0.24	7.767	4.00	13.833	1.65	19.90	0.24
1.717	0.24	7.783	4.00	13.850	1.65	19.92	0.24
1.733	0.24	7.800	4.00	13.867	1.65	19.93	0.24
1.750	0.24	7.817	4.00	13.883	1.65	19.95	0.24
1.767	0.24	7.833	4.00	13.900	1.65	19.97	0.24
1.783	0.24	7.850	4.00	13.917	1.65	19.98	0.24
1.800	0.24	7.867	4.00	13.933	1.65	20.00	0.24
1.817	0.24	7.883	4.00	13.950	1.65	20.02	0.24
1.833	0.24	7.900	4.00	13.967	1.65	20.03	0.24
1.850	0.24	7.917	4.00	13.983	1.65	20.05	0.24
1.867	0.24	7.933	4.00	14.000	1.65	20.07	0.24
1.883	0.24	7.950	4.00	14.017	1.65	20.08	0.24
1.900	0.24	7.967	4.00	14.033	1.65	20.10	0.24
1.917	0.24	7.983	4.00	14.050	1.65	20.12	0.24
1.933	0.24	8.000	4.00	14.067	1.65	20.13	0.24
1.950	0.24	8.017	4.00	14.083	1.65	20.15	0.24
1.967	0.24	8.033	4.00	14.100	1.65	20.17	0.24
1.983	0.24	8.050	4.00	14.117	1.65	20.18	0.24
2.000	0.24	8.067	4.00	14.133	1.65	20.20	0.24
2.017	0.24	8.083	4.00	14.150	1.65	20.22	0.24
2.033	0.24	8.100	4.00	14.167	1.65	20.23	0.24
2.050	0.24	8.117	4.00	14.183	1.65	20.25	0.24
2.067	0.24	8.133	4.00	14.200	1.65	20.27	0.24
2.083	0.24	8.150	4.00	14.217	1.65	20.28	0.24
2.100	0.24	8.167	4.00	14.233	1.65	20.30	0.24
2.117	0.24	8.183	4.00	14.250	1.65	20.32	0.24
2.133	0.24	8.200	4.00	14.267	0.94	20.33	0.24
2.150	0.24	8.217	4.00	14.283	0.94	20.35	0.24
2.167	0.24	8.233	4.00	14.300	0.94	20.37	0.24
2.183	0.24	8.250	4.02	14.317	0.94	20.38	0.24
2.200	0.24	8.267	10.81	14.333	0.94	20.40	0.24
2.217	0.24	8.283	10.81	14.350	0.94	20.42	0.24
2.233	0.24	8.300	10.81	14.367	0.94	20.43	0.24
2.250	0.24	8.317	10.81	14.383	0.94	20.45	0.24
2.267	0.24	8.333	10.81	14.400	0.94	20.47	0.24
2.283	0.24	8.350	10.81	14.417	0.94	20.48	0.24
2.300	0.24	8.367	10.81	14.433	0.94	20.50	0.24
2.317	0.24	8.383	10.81	14.450	0.94	20.52	0.24
2.333	0.24	8.400	10.81	14.467	0.94	20.53	0.24
2.350	0.24	8.417	10.81	14.483	0.94	20.55	0.24
2.367	0.24	8.433	10.81	14.500	0.94	20.57	0.24
2.383	0.24	8.450	10.81	14.517	0.94	20.58	0.24
2.400	0.24	8.467	10.81	14.533	0.94	20.60	0.24
2.417	0.24	8.483	10.81	14.550	0.94	20.62	0.24
2.433	0.24	8.500	10.81	14.567	0.94	20.63	0.24
2.450	0.24	8.517	10.81	14.583	0.94	20.65	0.24
2.467	0.24	8.533	10.81	14.600	0.94	20.67	0.24
2.483	0.24	8.550	10.81	14.617	0.94	20.68	0.24
2.500	0.24	8.567	10.81	14.633	0.94	20.70	0.24
2.517	0.24	8.583	10.81	14.650	0.94	20.72	0.24
2.533	0.24	8.600	10.81	14.667	0.94	20.73	0.24
2.550	0.24	8.617	10.81	14.683	0.94	20.75	0.24
2.567	0.24	8.633	10.81	14.700	0.94	20.77	0.24
2.583	0.24	8.650	10.81	14.717	0.94	20.78	0.24
2.600	0.24	8.667	10.81	14.733	0.94	20.80	0.24
2.617	0.24	8.683	10.81	14.750	0.94	20.82	0.24
2.633	0.24	8.700	10.81	14.767	0.94	20.83	0.24
2.650	0.24	8.717	10.81	14.783	0.94	20.85	0.24
2.667	0.24	8.733	10.81	14.800	0.94	20.87	0.24
2.683	0.24	8.750	10.81	14.817	0.94	20.88	0.24
2.700	0.24	8.767	10.81	14.833	0.94	20.90	0.24
2.717	0.24	8.783	10.81	14.850	0.94	20.92	0.24
2.733	0.24	8.800	10.81	14.867	0.94	20.93	0.24
2.750	0.24	8.817	10.81	14.883	0.94	20.95	0.24
2.767	0.24	8.833	10.81	14.900	0.94	20.97	0.24
2.783	0.24	8.850	10.81	14.917	0.94	20.98	0.24

2.800	0.24	8.867	10.81	14.933	0.94	21.00	0.24
2.817	0.24	8.883	10.81	14.950	0.94	21.02	0.24
2.833	0.24	8.900	10.81	14.967	0.94	21.03	0.24
2.850	0.24	8.917	10.81	14.983	0.94	21.05	0.24
2.867	0.24	8.933	10.81	15.000	0.94	21.07	0.24
2.883	0.24	8.950	10.81	15.017	0.94	21.08	0.24
2.900	0.24	8.967	10.81	15.033	0.94	21.10	0.24
2.917	0.24	8.983	10.81	15.050	0.94	21.12	0.24
2.933	0.24	9.000	10.81	15.067	0.94	21.13	0.24
2.950	0.24	9.017	10.81	15.083	0.94	21.15	0.24
2.967	0.24	9.033	10.81	15.100	0.94	21.17	0.24
2.983	0.24	9.050	10.81	15.117	0.94	21.18	0.24
3.000	0.24	9.067	10.81	15.133	0.94	21.20	0.24
3.017	0.24	9.083	10.81	15.150	0.94	21.22	0.24
3.033	0.24	9.100	10.81	15.167	0.94	21.23	0.24
3.050	0.24	9.117	10.81	15.183	0.94	21.25	0.24
3.067	0.24	9.133	10.81	15.200	0.94	21.27	0.24
3.083	0.24	9.150	10.81	15.217	0.94	21.28	0.24
3.100	0.24	9.167	10.81	15.233	0.94	21.30	0.24
3.117	0.24	9.183	10.81	15.250	0.94	21.32	0.24
3.133	0.24	9.200	10.81	15.267	0.94	21.33	0.24
3.150	0.24	9.217	10.81	15.283	0.94	21.35	0.24
3.167	0.24	9.233	10.81	15.300	0.94	21.37	0.24
3.183	0.24	9.250	10.81	15.317	0.94	21.38	0.24
3.200	0.24	9.267	10.81	15.333	0.94	21.40	0.24
3.217	0.24	9.283	10.81	15.350	0.94	21.42	0.24
3.233	0.24	9.300	10.81	15.367	0.94	21.43	0.24
3.250	0.24	9.317	10.81	15.383	0.94	21.45	0.24
3.267	0.24	9.333	10.81	15.400	0.94	21.47	0.24
3.283	0.24	9.350	10.81	15.417	0.94	21.48	0.24
3.300	0.24	9.367	10.81	15.433	0.94	21.50	0.24
3.317	0.24	9.383	10.81	15.450	0.94	21.52	0.24
3.333	0.24	9.400	10.81	15.467	0.94	21.53	0.24
3.350	0.24	9.417	10.81	15.483	0.94	21.55	0.24
3.367	0.24	9.433	10.81	15.500	0.94	21.57	0.24
3.383	0.24	9.450	10.81	15.517	0.94	21.58	0.24
3.400	0.24	9.467	10.81	15.533	0.94	21.60	0.24
3.417	0.24	9.483	10.81	15.550	0.94	21.62	0.24
3.433	0.24	9.500	10.81	15.567	0.94	21.63	0.24
3.450	0.24	9.517	10.81	15.583	0.94	21.65	0.24
3.467	0.24	9.533	10.81	15.600	0.94	21.67	0.24
3.483	0.24	9.550	10.81	15.617	0.94	21.68	0.24
3.500	0.24	9.567	10.81	15.633	0.94	21.70	0.24
3.517	0.24	9.583	10.81	15.650	0.94	21.72	0.24
3.533	0.24	9.600	10.81	15.667	0.94	21.73	0.24
3.550	0.24	9.617	10.81	15.683	0.94	21.75	0.24
3.567	0.24	9.633	10.81	15.700	0.94	21.77	0.24
3.583	0.24	9.650	10.81	15.717	0.94	21.78	0.24
3.600	0.24	9.667	10.81	15.733	0.94	21.80	0.24
3.617	0.24	9.683	10.81	15.750	0.94	21.82	0.24
3.633	0.24	9.700	10.81	15.767	0.94	21.83	0.24
3.650	0.24	9.717	10.81	15.783	0.94	21.85	0.24
3.667	0.24	9.733	10.81	15.800	0.94	21.87	0.24
3.683	0.24	9.750	10.81	15.817	0.94	21.88	0.24
3.700	0.24	9.767	10.81	15.833	0.94	21.90	0.24
3.717	0.24	9.783	10.81	15.850	0.94	21.92	0.24
3.733	0.24	9.800	10.81	15.867	0.94	21.93	0.24
3.750	0.24	9.817	10.81	15.883	0.94	21.95	0.24
3.767	0.24	9.833	10.81	15.900	0.94	21.97	0.24
3.783	0.24	9.850	10.81	15.917	0.94	21.98	0.24
3.800	0.24	9.867	10.81	15.933	0.94	22.00	0.24
3.817	0.24	9.883	10.81	15.950	0.94	22.02	0.24
3.833	0.24	9.900	10.81	15.967	0.94	22.03	0.24
3.850	0.24	9.917	10.81	15.983	0.94	22.05	0.24
3.867	0.24	9.933	10.81	16.000	0.94	22.07	0.24
3.883	0.24	9.950	10.81	16.017	0.94	22.08	0.24
3.900	0.24	9.967	10.81	16.033	0.94	22.10	0.24
3.917	0.24	9.983	10.81	16.050	0.94	22.12	0.24
3.933	0.24	10.000	10.81	16.067	0.94	22.13	0.24
3.950	0.24	10.017	10.81	16.083	0.94	22.15	0.24
3.967	0.24	10.033	10.81	16.100	0.94	22.17	0.24
3.983	0.24	10.050	10.81	16.117	0.94	22.18	0.24
4.000	0.24	10.067	10.81	16.133	0.94	22.20	0.24
4.017	0.24	10.083	10.81	16.150	0.94	22.22	0.24
4.033	0.24	10.100	10.81	16.167	0.94	22.23	0.24
4.050	0.24	10.117	10.81	16.183	0.94	22.25	0.24
4.067	0.24	10.133	10.81	16.200	0.94	22.27	0.24
4.083	0.24	10.150	10.81	16.217	0.94	22.28	0.24
4.100	0.24	10.167	10.81	16.233	0.94	22.30	0.24
4.117	0.24	10.183	10.81	16.250	0.94	22.32	0.24
4.133	0.24	10.200	10.81	16.267	0.47	22.33	0.24
4.150	0.24	10.217	10.81	16.283	0.47	22.35	0.24
4.167	0.24	10.233	10.81	16.300	0.47	22.37	0.24
4.183	0.24	10.250	10.80	16.317	0.47	22.38	0.24
4.200	0.24	10.267	3.06	16.333	0.47	22.40	0.24
4.217	0.24	10.283	3.06	16.350	0.47	22.42	0.24
4.233	0.24	10.300	3.06	16.367	0.47	22.43	0.24
4.250	0.24	10.317	3.06	16.383	0.47	22.45	0.24
4.267	1.41	10.333	3.06	16.400	0.47	22.47	0.24
4.283	1.41	10.350	3.06	16.417	0.47	22.48	0.24
4.300	1.41	10.367	3.06	16.433	0.47	22.50	0.24
4.317	1.41	10.383	3.06	16.450	0.47	22.52	0.24
4.333	1.41	10.400	3.06	16.467	0.47	22.53	0.24
4.350	1.41	10.417	3.06	16.483	0.47	22.55	0.24
4.367	1.41	10.433	3.06	16.500	0.47	22.57	0.24
4.383	1.41	10.450	3.06	16.517	0.47	22.58	0.24
4.400	1.41	10.467	3.06	16.533	0.47	22.60	0.24
4.417	1.41	10.483	3.06	16.550	0.47	22.62	0.24
4.433	1.41	10.500	3.06	16.567	0.47	22.63	0.24
4.450	1.41	10.517	3.06	16.583	0.47	22.65	0.24
4.467	1.41	10.533	3.06	16.600	0.47	22.67	0.24
4.483	1.41	10.550	3.06	16.617	0.47	22.68	0.24
4.500	1.41	10.567	3.06	16.633	0.47	22.70	0.24
4.517	1.41	10.583	3.06	16.650	0.47	22.72	0.24
4.533	1.41	10.600	3.06	16.667	0.47	22.73	0.24
4.550	1.41	10.617	3.06	16.683	0.47	22.75	0.24
4.567	1.41	10.633	3.06	16.700	0.47	22.77	0.24
4.583	1.41	10.650	3.06	16.717	0.47	22.78	0.24
4.600	1.41	10.667	3.06	16.733	0.47	22.80	0.24
4.617	1.41	10.683	3.06	16.750	0.47	22.82	0.24
4.633	1.41	10.700	3.06	16.767	0.47	22.83	0.24
4.650	1.41	10.717	3.06	16.783	0.47	22.85	0.24
4.667	1.41	10.733	3.06	16.800	0.47	22.87	0.24
4.683	1.41	10.750	3.06	16.817	0.47	22.88	0.24
4.700	1.41	10.767	3.06	16.833	0.47	22.90	0.24
4.717	1.41	10.783	3.06	16.850	0.47	22.92	0.24
4.733	1.41	10.800	3.06	16.867	0.47	22.93	0.24
4.750	1.41	10.817	3.06	16.883	0.47	22.95	0.24
4.767	1.41	10.833	3.06	16.900	0.47	22.97	0.24
4.783	1.41	10.850	3.06	16.917	0.47	22.98	0.24
4.800	1.41	10.867	3.06	16.933	0.47	23.00	0.24
4.817	1.41	10.883	3.06	16.950	0.47	23.02	0.24
4.833	1.41	10.900	3.06	16.967	0.47	23.03	0.24
4.850	1.41	10.917	3.06	16.983	0.47	23.05	0.24
4.867	1.41	10.933	3.06	17.000	0.47	23.07	0.24
4.883	1.41	10.950	3.06	17.017	0.47	23.08	0.24
4.900	1.41	10.967	3.06	17.033	0.47	23.10	0.24
4.917	1.41	10.983	3.06	17.050	0.47	23.12	0.24
4.933	1.41	11.000	3.06	17.067	0.47	23.13	0.24
4.950	1.41	11.017	3.06	17.083	0.47	23.15	0.24
4.967	1.41	11.033	3.06	17.100	0.47	23.17	0.24
4.983	1.41	11.050	3.06	17.117	0.47	23.18	0.24
5.000	1.41	11.067	3.06	17.133	0.47	23.20	0.24
5.017	1.41	11.083	3.06	17.150	0.47	23.22	0.24
5.033	1.41	11.100	3.06	17.167	0.47	23.23	0.24
5.050	1.41	11.117	3.06	17.183	0.47	23.25	0.24
5.067	1.41	11.133	3.06	17.200	0.47	23.27	0.24
5.083	1.41	11.150	3.06	17.217	0.47	23.28	0.24
5.100	1.41	11.167	3.06	17.233	0.47	23.30	0.24
5.117	1.41	11.183	3.06	17.250	0.47	23.32	0.24
5.133	1.41	11.200	3.06	17.267	0.47	23.33	0.24
5.150	1.41	11.217	3.06	17.283	0.47	23.35	0.24
5.167	1.41	11.233	3.06	17.300	0.47	23.37	0.24
5.183	1.41	11.250	3.06	17.317	0.47	23.38	0.24
5.200	1.41	11.267	3.06	17.333	0.47	23.40	0.24
5.217	1.41	11.283	3.06	17.350	0.47	23.42	0.24
5.233	1.41	11.300	3.06	17.367	0.47	23.43	0.24
5.250	1.41	11.317	3.06	17.383	0.47	23.45	0.24
5.267	1.41	11.333	3.06	17.400	0.47	23.47	0.24
5.283	1.41	11.350	3.06	17.417	0.47	23.48	0.24
5.300	1.41	11.367	3.06	17.433	0.47	23.50	0.24
5.317	1.41	11.383	3.06	17.450	0.47	23.52	0.24

5.333	1.41	11.400	3.06	17.467	0.47	23.53	0.24
5.350	1.41	11.417	3.06	17.483	0.47	23.55	0.24
5.367	1.41	11.433	3.06	17.500	0.47	23.57	0.24
5.383	1.41	11.450	3.06	17.517	0.47	23.58	0.24
5.400	1.41	11.467	3.06	17.533	0.47	23.60	0.24
5.417	1.41	11.483	3.06	17.550	0.47	23.62	0.24
5.433	1.41	11.500	3.06	17.567	0.47	23.63	0.24
5.450	1.41	11.517	3.06	17.583	0.47	23.65	0.24
5.467	1.41	11.533	3.06	17.600	0.47	23.67	0.24
5.483	1.41	11.550	3.06	17.617	0.47	23.68	0.24
5.500	1.41	11.567	3.06	17.633	0.47	23.70	0.24
5.517	1.41	11.583	3.06	17.650	0.47	23.72	0.24
5.533	1.41	11.600	3.06	17.667	0.47	23.73	0.24
5.550	1.41	11.617	3.06	17.683	0.47	23.75	0.24
5.567	1.41	11.633	3.06	17.700	0.47	23.77	0.24
5.583	1.41	11.650	3.06	17.717	0.47	23.78	0.24
5.600	1.41	11.667	3.06	17.733	0.47	23.80	0.24
5.617	1.41	11.683	3.06	17.750	0.47	23.82	0.24
5.633	1.41	11.700	3.06	17.767	0.47	23.83	0.24
5.650	1.41	11.717	3.06	17.783	0.47	23.85	0.24
5.667	1.41	11.733	3.06	17.800	0.47	23.87	0.24
5.683	1.41	11.750	3.06	17.817	0.47	23.88	0.24
5.700	1.41	11.767	3.06	17.833	0.47	23.90	0.24
5.717	1.41	11.783	3.06	17.850	0.47	23.92	0.24
5.733	1.41	11.800	3.06	17.867	0.47	23.93	0.24
5.750	1.41	11.817	3.06	17.883	0.47	23.95	0.24
5.767	1.41	11.833	3.06	17.900	0.47	23.97	0.24
5.783	1.41	11.850	3.06	17.917	0.47	23.98	0.24
5.800	1.41	11.867	3.06	17.933	0.47	24.00	0.24
5.817	1.41	11.883	3.06	17.950	0.47	24.02	0.24
5.833	1.41	11.900	3.06	17.967	0.47	24.03	0.24
5.850	1.41	11.917	3.06	17.983	0.47	24.05	0.24
5.867	1.41	11.933	3.06	18.000	0.47	24.07	0.24
5.883	1.41	11.950	3.06	18.017	0.47	24.08	0.24
5.900	1.41	11.967	3.06	18.033	0.47	24.10	0.24
5.917	1.41	11.983	3.06	18.050	0.47	24.12	0.24
5.933	1.41	12.000	3.06	18.067	0.47	24.13	0.24
5.950	1.41	12.017	3.06	18.083	0.47	24.15	0.24
5.967	1.41	12.033	3.06	18.100	0.47	24.17	0.24
5.983	1.41	12.050	3.06	18.117	0.47	24.18	0.24
6.000	1.41	12.067	3.06	18.133	0.47	24.20	0.24
6.017	1.41	12.083	3.06	18.150	0.47	24.22	0.24
6.033	1.41	12.100	3.06	18.167	0.47	24.23	0.24
6.050	1.41	12.117	3.06	18.183	0.47	24.25	0.24
6.067	1.41	12.133	3.06	18.200	0.47		

Max.Eff.Inten.(mm/hr)=	10.81	8.35	
over (min)	7.00	12.00	
Storage Coeff. (min)=	6.86 (ii)	11.01 (ii)	
Unit Hyd. Tpeak (min)=	7.00	12.00	
Unit Hyd. peak (cms)=	0.16	0.10	
			TOTALS
PEAK FLOW (cms)=	0.06	0.00	0.062 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	46.08	28.15	45.90
TOTAL RAINFALL (mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT =	0.98	0.60	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0389	0.1013
0.0164	0.0514	0.0456	0.1141
0.0252	0.0690	0.0514	0.1288
0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.062	10.25	45.90
OUTFLOW: ID= 1 (7625)	2.080	0.018	10.83	42.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 29.13
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0549

CALIB	
STANDHYD (7623)	Area (ha)= 1.15
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.41	12.150	3.06	18.22	0.47
0.033	0.00	6.100	1.41	12.167	3.06	18.23	0.47
0.050	0.00	6.117	1.41	12.183	3.06	18.25	0.47
0.067	0.00	6.133	1.41	12.200	3.06	18.27	0.24
0.083	0.00	6.150	1.41	12.217	3.06	18.28	0.24
0.100	0.00	6.167	1.41	12.233	3.06	18.30	0.24
0.117	0.00	6.183	1.41	12.250	3.06	18.32	0.24
0.133	0.00	6.200	1.41	12.267	1.65	18.33	0.24
0.150	0.00	6.217	1.41	12.283	1.65	18.35	0.24
0.167	0.00	6.233	1.41	12.300	1.65	18.37	0.24
0.183	0.00	6.250	1.41	12.317	1.65	18.38	0.24
0.200	0.00	6.267	4.00	12.333	1.65	18.40	0.24
0.217	0.00	6.283	4.00	12.350	1.65	18.42	0.24
0.233	0.00	6.300	4.00	12.367	1.65	18.43	0.24
0.250	0.00	6.317	4.00	12.383	1.65	18.45	0.24
0.267	0.24	6.333	4.00	12.400	1.65	18.47	0.24
0.283	0.24	6.350	4.00	12.417	1.65	18.48	0.24
0.300	0.24	6.367	4.00	12.433	1.65	18.50	0.24
0.317	0.24	6.383	4.00	12.450	1.65	18.52	0.24
0.333	0.24	6.400	4.00	12.467	1.65	18.53	0.24
0.350	0.24	6.417	4.00	12.483	1.65	18.55	0.24
0.367	0.24	6.433	4.00	12.500	1.65	18.57	0.24
0.383	0.24	6.450	4.00	12.517	1.65	18.58	0.24
0.400	0.24	6.467	4.00	12.533	1.65	18.60	0.24
0.417	0.24	6.483	4.00	12.550	1.65	18.62	0.24
0.433	0.24	6.500	4.00	12.567	1.65	18.63	0.24
0.450	0.24	6.517	4.00	12.583	1.65	18.65	0.24
0.467	0.24	6.533	4.00	12.600	1.65	18.67	0.24
0.483	0.24	6.550	4.00	12.617	1.65	18.68	0.24
0.500	0.24	6.567	4.00	12.633	1.65	18.70	0.24
0.517	0.24	6.583	4.00	12.650	1.65	18.72	0.24
0.533	0.24	6.600	4.00	12.667	1.65	18.73	0.24
0.550	0.24	6.617	4.00	12.683	1.65	18.75	0.24
0.567	0.24	6.633	4.00	12.700	1.65	18.77	0.24
0.583	0.24	6.650	4.00	12.717	1.65	18.78	0.24
0.600	0.24	6.667	4.00	12.733	1.65	18.80	0.24
0.617	0.24	6.683	4.00	12.750	1.65	18.82	0.24
0.633	0.24	6.700	4.00	12.767	1.65	18.83	0.24
0.650	0.24	6.717	4.00	12.783	1.65	18.85	0.24
0.667	0.24	6.733	4.00	12.800	1.65	18.87	0.24
0.683	0.24	6.750	4.00	12.817	1.65	18.88	0.24
0.700	0.24	6.767	4.00	12.833	1.65	18.90	0.24
0.717	0.24	6.783	4.00	12.850	1.65	18.92	0.24
0.733	0.24	6.800	4.00	12.867	1.65	18.93	0.24
0.750	0.24	6.817	4.00	12.883	1.65	18.95	0.24
0.767	0.24	6.833	4.00	12.900	1.65	18.97	0.24
0.783	0.24	6.850	4.00	12.917	1.65	18.98	0.24
0.800	0.24	6.867	4.00	12.933	1.65	19.00	0.24

0.817	0.24	6.883	4.00	12.950	1.65	19.02	0.24
0.833	0.24	6.900	4.00	12.967	1.65	19.03	0.24
0.850	0.24	6.917	4.00	12.983	1.65	19.05	0.24
0.867	0.24	6.933	4.00	13.000	1.65	19.07	0.24
0.883	0.24	6.950	4.00	13.017	1.65	19.08	0.24
0.900	0.24	6.967	4.00	13.033	1.65	19.10	0.24
0.917	0.24	6.983	4.00	13.050	1.65	19.12	0.24
0.933	0.24	7.000	4.00	13.067	1.65	19.13	0.24
0.950	0.24	7.017	4.00	13.083	1.65	19.15	0.24
0.967	0.24	7.033	4.00	13.100	1.65	19.17	0.24
0.983	0.24	7.050	4.00	13.117	1.65	19.18	0.24
1.000	0.24	7.067	4.00	13.133	1.65	19.20	0.24
1.017	0.24	7.083	4.00	13.150	1.65	19.22	0.24
1.033	0.24	7.100	4.00	13.167	1.65	19.23	0.24
1.050	0.24	7.117	4.00	13.183	1.65	19.25	0.24
1.067	0.24	7.133	4.00	13.200	1.65	19.27	0.24
1.083	0.24	7.150	4.00	13.217	1.65	19.28	0.24
1.100	0.24	7.167	4.00	13.233	1.65	19.30	0.24
1.117	0.24	7.183	4.00	13.250	1.65	19.32	0.24
1.133	0.24	7.200	4.00	13.267	1.65	19.33	0.24
1.150	0.24	7.217	4.00	13.283	1.65	19.35	0.24
1.167	0.24	7.233	4.00	13.300	1.65	19.37	0.24
1.183	0.24	7.250	4.00	13.317	1.65	19.38	0.24
1.200	0.24	7.267	4.00	13.333	1.65	19.40	0.24
1.217	0.24	7.283	4.00	13.350	1.65	19.42	0.24
1.233	0.24	7.300	4.00	13.367	1.65	19.43	0.24
1.250	0.24	7.317	4.00	13.383	1.65	19.45	0.24
1.267	0.24	7.333	4.00	13.400	1.65	19.47	0.24
1.283	0.24	7.350	4.00	13.417	1.65	19.48	0.24
1.300	0.24	7.367	4.00	13.433	1.65	19.50	0.24
1.317	0.24	7.383	4.00	13.450	1.65	19.52	0.24
1.333	0.24	7.400	4.00	13.467	1.65	19.53	0.24
1.350	0.24	7.417	4.00	13.483	1.65	19.55	0.24
1.367	0.24	7.433	4.00	13.500	1.65	19.57	0.24
1.383	0.24	7.450	4.00	13.517	1.65	19.58	0.24
1.400	0.24	7.467	4.00	13.533	1.65	19.60	0.24
1.417	0.24	7.483	4.00	13.550	1.65	19.62	0.24
1.433	0.24	7.500	4.00	13.567	1.65	19.63	0.24
1.450	0.24	7.517	4.00	13.583	1.65	19.65	0.24
1.467	0.24	7.533	4.00	13.600	1.65	19.67	0.24
1.483	0.24	7.550	4.00	13.617	1.65	19.68	0.24
1.500	0.24	7.567	4.00	13.633	1.65	19.70	0.24
1.517	0.24	7.583	4.00	13.650	1.65	19.72	0.24
1.533	0.24	7.600	4.00	13.667	1.65	19.73	0.24
1.550	0.24	7.617	4.00	13.683	1.65	19.75	0.24
1.567	0.24	7.633	4.00	13.700	1.65	19.77	0.24
1.583	0.24	7.650	4.00	13.717	1.65	19.78	0.24
1.600	0.24	7.667	4.00	13.733	1.65	19.80	0.24
1.617	0.24	7.683	4.00	13.750	1.65	19.82	0.24
1.633	0.24	7.700	4.00	13.767	1.65	19.83	0.24
1.650	0.24	7.717	4.00	13.783	1.65	19.85	0.24
1.667	0.24	7.733	4.00	13.800	1.65	19.87	0.24
1.683	0.24	7.750	4.00	13.817	1.65	19.88	0.24
1.700	0.24	7.767	4.00	13.833	1.65	19.90	0.24
1.717	0.24	7.783	4.00	13.850	1.65	19.92	0.24
1.733	0.24	7.800	4.00	13.867	1.65	19.93	0.24
1.750	0.24	7.817	4.00	13.883	1.65	19.95	0.24
1.767	0.24	7.833	4.00	13.900	1.65	19.97	0.24
1.783	0.24	7.850	4.00	13.917	1.65	19.98	0.24
1.800	0.24	7.867	4.00	13.933	1.65	20.00	0.24
1.817	0.24	7.883	4.00	13.950	1.65	20.02	0.24
1.833	0.24	7.900	4.00	13.967	1.65	20.03	0.24
1.850	0.24	7.917	4.00	13.983	1.65	20.05	0.24
1.867	0.24	7.933	4.00	14.000	1.65	20.07	0.24
1.883	0.24	7.950	4.00	14.017	1.65	20.08	0.24
1.900	0.24	7.967	4.00	14.033	1.65	20.10	0.24
1.917	0.24	7.983	4.00	14.050	1.65	20.12	0.24
1.933	0.24	8.000	4.00	14.067	1.65	20.13	0.24
1.950	0.24	8.017	4.00	14.083	1.65	20.15	0.24
1.967	0.24	8.033	4.00	14.100	1.65	20.17	0.24
1.983	0.24	8.050	4.00	14.117	1.65	20.18	0.24
2.000	0.24	8.067	4.00	14.133	1.65	20.20	0.24
2.017	0.24	8.083	4.00	14.150	1.65	20.22	0.24
2.033	0.24	8.100	4.00	14.167	1.65	20.23	0.24
2.050	0.24	8.117	4.00	14.183	1.65	20.25	0.24
2.067	0.24	8.133	4.00	14.200	1.65	20.27	0.24
2.083	0.24	8.150	4.00	14.217	1.65	20.28	0.24
2.100	0.24	8.167	4.00	14.233	1.65	20.30	0.24
2.117	0.24	8.183	4.00	14.250	1.65	20.32	0.24
2.133	0.24	8.200	4.00	14.267	0.94	20.33	0.24
2.150	0.24	8.217	4.00	14.283	0.94	20.35	0.24
2.167	0.24	8.233	4.00	14.300	0.94	20.37	0.24
2.183	0.24	8.250	4.02	14.317	0.94	20.38	0.24
2.200	0.24	8.267	10.81	14.333	0.94	20.40	0.24
2.217	0.24	8.283	10.81	14.350	0.94	20.42	0.24
2.233	0.24	8.300	10.81	14.367	0.94	20.43	0.24
2.250	0.24	8.317	10.81	14.383	0.94	20.45	0.24
2.267	0.24	8.333	10.81	14.400	0.94	20.47	0.24
2.283	0.24	8.350	10.81	14.417	0.94	20.48	0.24
2.300	0.24	8.367	10.81	14.433	0.94	20.50	0.24
2.317	0.24	8.383	10.81	14.450	0.94	20.52	0.24
2.333	0.24	8.400	10.81	14.467	0.94	20.53	0.24
2.350	0.24	8.417	10.81	14.483	0.94	20.55	0.24
2.367	0.24	8.433	10.81	14.500	0.94	20.57	0.24
2.383	0.24	8.450	10.81	14.517	0.94	20.58	0.24
2.400	0.24	8.467	10.81	14.533	0.94	20.60	0.24
2.417	0.24	8.483	10.81	14.550	0.94	20.62	0.24
2.433	0.24	8.500	10.81	14.567	0.94	20.63	0.24
2.450	0.24	8.517	10.81	14.583	0.94	20.65	0.24
2.467	0.24	8.533	10.81	14.600	0.94	20.67	0.24
2.483	0.24	8.550	10.81	14.617	0.94	20.68	0.24
2.500	0.24	8.567	10.81	14.633	0.94	20.70	0.24
2.517	0.24	8.583	10.81	14.650	0.94	20.72	0.24
2.533	0.24	8.600	10.81	14.667	0.94	20.73	0.24
2.550	0.24	8.617	10.81	14.683	0.94	20.75	0.24
2.567	0.24	8.633	10.81	14.700	0.94	20.77	0.24
2.583	0.24	8.650	10.81	14.717	0.94	20.78	0.24
2.600	0.24	8.667	10.81	14.733	0.94	20.80	0.24
2.617	0.24	8.683	10.81	14.750	0.94	20.82	0.24
2.633	0.24	8.700	10.81	14.767	0.94	20.83	0.24
2.650	0.24	8.717	10.81	14.783	0.94	20.85	0.24
2.667	0.24	8.733	10.81	14.800	0.94	20.87	0.24
2.683	0.24	8.750	10.81	14.817	0.94	20.88	0.24
2.700	0.24	8.767	10.81	14.833	0.94	20.90	0.24
2.717	0.24	8.783	10.81	14.850	0.94	20.92	0.24
2.733	0.24	8.800	10.81	14.867	0.94	20.93	0.24
2.750	0.24	8.817	10.81	14.883	0.94	20.95	0.24
2.767	0.24	8.833	10.81	14.900	0.94	20.97	0.24
2.783	0.24	8.850	10.81	14.917	0.94	20.98	0.24
2.800	0.24	8.867	10.81	14.933	0.94	21.00	0.24
2.817	0.24	8.883	10.81	14.950	0.94	21.02	0.24
2.833	0.24	8.900	10.81	14.967	0.94	21.03	0.24
2.850	0.24	8.917	10.81	14.983	0.94	21.05	0.24
2.867	0.24	8.933	10.81	15.000	0.94	21.07	0.24
2.883	0.24	8.950	10.81	15.017	0.94	21.08	0.24
2.900	0.24	8.967	10.81	15.033	0.94	21.10	0.24
2.917	0.24	8.983	10.81	15.050	0.94	21.12	0.24
2.933	0.24	9.000	10.81	15.067	0.94	21.13	0.24
2.950	0.24	9.017	10.81	15.083	0.94	21.15	0.24
2.967	0.24	9.033	10.81	15.100	0.94	21.17	0.24
2.983	0.24	9.050	10.81	15.117	0.94	21.18	0.24
3.000	0.24	9.067	10.81	15.133	0.94	21.20	0.24
3.017	0.24	9.083	10.81	15.150	0.94	21.22	0.24
3.033	0.24	9.100	10.81	15.167	0.94	21.23	0.24
3.050	0.24	9.117	10.81	15.183	0.94	21.25	0.24
3.067	0.24	9.133	10.81	15.200	0.94	21.27	0.24
3.083	0.24	9.150	10.81	15.217	0.94	21.28	0.24
3.100	0.24	9.167	10.81	15.233	0.94	21.30	0.24
3.117	0.24	9.183	10.81	15.250	0.94	21.32	0.24
3.133	0.24	9.200	10.81	15.267	0.94	21.33	0.24
3.150	0.24	9.217	10.81	15.283	0.94	21.35	0.24
3.167	0.24	9.233	10.81	15.300	0.94	21.37	0.24
3.183	0.24	9.250	10.81	15.317	0.94	21.38	0.24
3.200	0.24	9.267	10.81	15.333	0.94	21.40	0.24
3.217	0.24	9.283	10.81	15.350	0.94	21.42	0.24
3.233	0.24	9.300	10.81	15.367	0.94	21.43	0.24
3.250	0.24	9.317	10.81	15.383	0.94	21.45	0.24
3.267	0.24	9.333	10.81	15.400	0.94	21.47	0.24
3.283	0.24	9.350	10.81	15.417	0.94	21.48	0.24
3.300	0.24	9.367	10.81	15.433	0.94	21.50	0.24
3.317	0.24	9.383	10.81	15.450	0.94	21.52	0.24
3.333	0.24	9.400	10.81	15.467	0.94	21.53	0.24

3.350	0.24	9.417	10.81	15.483	0.94	21.55	0.24	4.617	1.41	10.683	3.06	16.750	0.47	22.82	0.24
3.367	0.24	9.433	10.81	15.500	0.94	21.57	0.24	4.633	1.41	10.700	3.06	16.767	0.47	22.83	0.24
3.383	0.24	9.450	10.81	15.517	0.94	21.58	0.24	4.650	1.41	10.717	3.06	16.783	0.47	22.85	0.24
3.400	0.24	9.467	10.81	15.533	0.94	21.60	0.24	4.667	1.41	10.733	3.06	16.800	0.47	22.87	0.24
3.417	0.24	9.483	10.81	15.550	0.94	21.62	0.24	4.683	1.41	10.750	3.06	16.817	0.47	22.88	0.24
3.433	0.24	9.500	10.81	15.567	0.94	21.63	0.24	4.700	1.41	10.767	3.06	16.833	0.47	22.90	0.24
3.450	0.24	9.517	10.81	15.583	0.94	21.65	0.24	4.717	1.41	10.783	3.06	16.850	0.47	22.92	0.24
3.467	0.24	9.533	10.81	15.600	0.94	21.67	0.24	4.733	1.41	10.800	3.06	16.867	0.47	22.93	0.24
3.483	0.24	9.550	10.81	15.617	0.94	21.68	0.24	4.750	1.41	10.817	3.06	16.883	0.47	22.95	0.24
3.500	0.24	9.567	10.81	15.633	0.94	21.70	0.24	4.767	1.41	10.833	3.06	16.900	0.47	22.97	0.24
3.517	0.24	9.583	10.81	15.650	0.94	21.72	0.24	4.783	1.41	10.850	3.06	16.917	0.47	22.98	0.24
3.533	0.24	9.600	10.81	15.667	0.94	21.73	0.24	4.800	1.41	10.867	3.06	16.933	0.47	23.00	0.24
3.550	0.24	9.617	10.81	15.683	0.94	21.75	0.24	4.817	1.41	10.883	3.06	16.950	0.47	23.02	0.24
3.567	0.24	9.633	10.81	15.700	0.94	21.77	0.24	4.833	1.41	10.900	3.06	16.967	0.47	23.03	0.24
3.583	0.24	9.650	10.81	15.717	0.94	21.78	0.24	4.850	1.41	10.917	3.06	16.983	0.47	23.05	0.24
3.600	0.24	9.667	10.81	15.733	0.94	21.80	0.24	4.867	1.41	10.933	3.06	17.000	0.47	23.07	0.24
3.617	0.24	9.683	10.81	15.750	0.94	21.82	0.24	4.883	1.41	10.950	3.06	17.017	0.47	23.08	0.24
3.633	0.24	9.700	10.81	15.767	0.94	21.83	0.24	4.900	1.41	10.967	3.06	17.033	0.47	23.10	0.24
3.650	0.24	9.717	10.81	15.783	0.94	21.85	0.24	4.917	1.41	10.983	3.06	17.050	0.47	23.12	0.24
3.667	0.24	9.733	10.81	15.800	0.94	21.87	0.24	4.933	1.41	11.000	3.06	17.067	0.47	23.13	0.24
3.683	0.24	9.750	10.81	15.817	0.94	21.88	0.24	4.950	1.41	11.017	3.06	17.083	0.47	23.15	0.24
3.700	0.24	9.767	10.81	15.833	0.94	21.90	0.24	4.967	1.41	11.033	3.06	17.100	0.47	23.17	0.24
3.717	0.24	9.783	10.81	15.850	0.94	21.92	0.24	4.983	1.41	11.050	3.06	17.117	0.47	23.18	0.24
3.733	0.24	9.800	10.81	15.867	0.94	21.93	0.24	5.000	1.41	11.067	3.06	17.133	0.47	23.20	0.24
3.750	0.24	9.817	10.81	15.883	0.94	21.95	0.24	5.017	1.41	11.083	3.06	17.150	0.47	23.22	0.24
3.767	0.24	9.833	10.81	15.900	0.94	21.97	0.24	5.033	1.41	11.100	3.06	17.167	0.47	23.23	0.24
3.783	0.24	9.850	10.81	15.917	0.94	21.98	0.24	5.050	1.41	11.117	3.06	17.183	0.47	23.25	0.24
3.800	0.24	9.867	10.81	15.933	0.94	22.00	0.24	5.067	1.41	11.133	3.06	17.200	0.47	23.27	0.24
3.817	0.24	9.883	10.81	15.950	0.94	22.02	0.24	5.083	1.41	11.150	3.06	17.217	0.47	23.28	0.24
3.833	0.24	9.900	10.81	15.967	0.94	22.03	0.24	5.100	1.41	11.167	3.06	17.233	0.47	23.30	0.24
3.850	0.24	9.917	10.81	15.983	0.94	22.05	0.24	5.117	1.41	11.183	3.06	17.250	0.47	23.32	0.24
3.867	0.24	9.933	10.81	16.000	0.94	22.07	0.24	5.133	1.41	11.200	3.06	17.267	0.47	23.33	0.24
3.883	0.24	9.950	10.81	16.017	0.94	22.08	0.24	5.150	1.41	11.217	3.06	17.283	0.47	23.35	0.24
3.900	0.24	9.967	10.81	16.033	0.94	22.10	0.24	5.167	1.41	11.233	3.06	17.300	0.47	23.37	0.24
3.917	0.24	9.983	10.81	16.050	0.94	22.12	0.24	5.183	1.41	11.250	3.06	17.317	0.47	23.38	0.24
3.933	0.24	10.000	10.81	16.067	0.94	22.13	0.24	5.200	1.41	11.267	3.06	17.333	0.47	23.40	0.24
3.950	0.24	10.017	10.81	16.083	0.94	22.15	0.24	5.217	1.41	11.283	3.06	17.350	0.47	23.42	0.24
3.967	0.24	10.033	10.81	16.100	0.94	22.17	0.24	5.233	1.41	11.300	3.06	17.367	0.47	23.43	0.24
3.983	0.24	10.050	10.81	16.117	0.94	22.18	0.24	5.250	1.41	11.317	3.06	17.383	0.47	23.45	0.24
4.000	0.24	10.067	10.81	16.133	0.94	22.20	0.24	5.267	1.41	11.333	3.06	17.400	0.47	23.47	0.24
4.017	0.24	10.083	10.81	16.150	0.94	22.22	0.24	5.283	1.41	11.350	3.06	17.417	0.47	23.48	0.24
4.033	0.24	10.100	10.81	16.167	0.94	22.23	0.24	5.300	1.41	11.367	3.06	17.433	0.47	23.50	0.24
4.050	0.24	10.117	10.81	16.183	0.94	22.25	0.24	5.317	1.41	11.383	3.06	17.450	0.47	23.52	0.24
4.067	0.24	10.133	10.81	16.200	0.94	22.27	0.24	5.333	1.41	11.400	3.06	17.467	0.47	23.53	0.24
4.083	0.24	10.150	10.81	16.217	0.94	22.28	0.24	5.350	1.41	11.417	3.06	17.483	0.47	23.55	0.24
4.100	0.24	10.167	10.81	16.233	0.94	22.30	0.24	5.367	1.41	11.433	3.06	17.500	0.47	23.57	0.24
4.117	0.24	10.183	10.81	16.250	0.94	22.32	0.24	5.383	1.41	11.450	3.06	17.517	0.47	23.58	0.24
4.133	0.24	10.200	10.81	16.267	0.47	22.33	0.24	5.400	1.41	11.467	3.06	17.533	0.47	23.60	0.24
4.150	0.24	10.217	10.81	16.283	0.47	22.35	0.24	5.417	1.41	11.483	3.06	17.550	0.47	23.62	0.24
4.167	0.24	10.233	10.81	16.300	0.47	22.37	0.24	5.433	1.41	11.500	3.06	17.567	0.47	23.63	0.24
4.183	0.24	10.250	10.80	16.317	0.47	22.38	0.24	5.450	1.41	11.517	3.06	17.583	0.47	23.65	0.24
4.200	0.24	10.267	3.06	16.333	0.47	22.40	0.24	5.467	1.41	11.533	3.06	17.600	0.47	23.67	0.24
4.217	0.24	10.283	3.06	16.350	0.47	22.42	0.24	5.483	1.41	11.550	3.06	17.617	0.47	23.68	0.24
4.233	0.24	10.300	3.06	16.367	0.47	22.43	0.24	5.500	1.41	11.567	3.06	17.633	0.47	23.70	0.24
4.250	0.24	10.317	3.06	16.383	0.47	22.45	0.24	5.517	1.41	11.583	3.06	17.650	0.47	23.72	0.24
4.267	1.41	10.333	3.06	16.400	0.47	22.47	0.24	5.533	1.41	11.600	3.06	17.667	0.47	23.73	0.24
4.283	1.41	10.350	3.06	16.417	0.47	22.48	0.24	5.550	1.41	11.617	3.06	17.683	0.47	23.75	0.24
4.300	1.41	10.367	3.06	16.433	0.47	22.50	0.24	5.567	1.41	11.633	3.06	17.700	0.47	23.77	0.24
4.317	1.41	10.383	3.06	16.450	0.47	22.52	0.24	5.583	1.41	11.650	3.06	17.717	0.47	23.78	0.24
4.333	1.41	10.400	3.06	16.467	0.47	22.53	0.24	5.600	1.41	11.667	3.06	17.733	0.47	23.80	0.24
4.350	1.41	10.417	3.06	16.483	0.47	22.55	0.24	5.617	1.41	11.683	3.06	17.750	0.47	23.82	0.24
4.367	1.41	10.433	3.06	16.500	0.47	22.57	0.24	5.633	1.41	11.700	3.06	17.767	0.47	23.83	0.24
4.383	1.41	10.450	3.06	16.517	0.47	22.58	0.24	5.650	1.41	11.717	3.06	17.783	0.47	23.85	0.24
4.400	1.41	10.467	3.06	16.533	0.47	22.60	0.24	5.667	1.41	11.733	3.06	17.800	0.47	23.87	0.24
4.417	1.41	10.483	3.06	16.550	0.47	22.62	0.24	5.683	1.41	11.750	3.06	17.817	0.47	23.88	0.24
4.433	1.41	10.500	3.06	16.567	0.47	22.63	0.24	5.700	1.41	11.767	3.06	17.833	0.47	23.90	0.24
4.450	1.41	10.517	3.06	16.583	0.47	22.65	0.24	5.717	1.41	11.783	3.06	17.850	0.47	23.92	0.24
4.467	1.41	10.533	3.06	16.600	0.47	22.67	0.24	5.733	1.41	11.800	3.06	17.867	0.47	23.93	0.24
4.483	1.41	10.550	3.06	16.617	0.47	22.68	0.24	5.750	1.41	11.817	3.06	17.883	0.47	23.95	0.24
4.500	1.41	10.567	3.06	16.633	0.47	22.70	0.24	5.767	1.41	11.833	3.06	17.900	0.47	23.97	0.24
4.517	1.41	10.583	3.06	16.650	0.47	22.72	0.24	5.783	1.41	11.850	3.06	17.917	0.47	23.98	0.24
4.533	1.41	10.600	3.06	16.667	0.47	22.73	0.24	5.800	1.41	11.867	3.06	17.933	0.47	24.00	0.24
4.550	1.41	10.617	3.06	16.683	0.47	22.75	0.24	5.817	1.41	11.883	3.06	17.950	0.47	24.02	0.24
4.567	1.41	10.633	3.06	16.700	0.47	22.77	0.24	5.833	1.41	11.900	3.06	17.967	0.47	24.03	0.24
4.583	1.41	10.650	3.06	16.717	0.47	22.78	0.24	5.850	1.41	11.917	3.06	17.983	0.47	24.05	0.24
4.600	1.41	10.667	3.06	16.733	0.47	22.80	0.24	5.867	1.41	11.933	3.06	18.000	0.47	24.07	0.24

5.883	1.41	11.950	3.06	18.017	0.47	24.08	0.24
5.900	1.41	11.967	3.06	18.033	0.47	24.10	0.24
5.917	1.41	11.983	3.06	18.050	0.47	24.12	0.24
5.933	1.41	12.000	3.06	18.067	0.47	24.13	0.24
5.950	1.41	12.017	3.06	18.083	0.47	24.15	0.24
5.967	1.41	12.033	3.06	18.100	0.47	24.17	0.24
5.983	1.41	12.050	3.06	18.117	0.47	24.18	0.24
6.000	1.41	12.067	3.06	18.133	0.47	24.20	0.24
6.017	1.41	12.083	3.06	18.150	0.47	24.22	0.24
6.033	1.41	12.100	3.06	18.167	0.47	24.23	0.24
6.050	1.41	12.117	3.06	18.183	0.47	24.25	0.24
6.067	1.41	12.133	3.06	18.200	0.47		

Max.Eff.Inten.(mm/hr)=	10.81	7.03	
over (min)	6.00	10.00	
Storage Coeff. (min)=	5.74 (ii)	9.89 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.19	0.11	
			TOTALS
PEAK FLOW (cms)=	0.03	0.00	0.034 (iii)
TIME TO PEAK (hrs)=	9.48	10.25	10.25
RUNOFF VOLUME (mm)=	46.07	22.98	45.85
TOTAL RAINFALL (mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT =	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725
	0.0167	0.0440	0.0340	0.0820
	0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.034	10.25	45.85
OUTFLOW: ID= 1 (7622)	1.150	0.010	10.80	42.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.74
TIME SHIFT OF PEAK FLOW (min)= 33.00
MAXIMUM STORAGE USED (ha.m.)= 0.0302

CALIB |		
STANDHYD (7629)|	Area (ha)= 4.09	
ID= 1 DT= 1.0 min |	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.41	12.150	3.06	18.22	0.47
0.033	0.00	6.100	1.41	12.167	3.06	18.23	0.47
0.050	0.00	6.117	1.41	12.183	3.06	18.25	0.47
0.067	0.00	6.133	1.41	12.200	3.06	18.27	0.24
0.083	0.00	6.150	1.41	12.217	3.06	18.28	0.24
0.100	0.00	6.167	1.41	12.233	3.06	18.30	0.24
0.117	0.00	6.183	1.41	12.250	3.06	18.32	0.24
0.133	0.00	6.200	1.41	12.267	1.65	18.33	0.24
0.150	0.00	6.217	1.41	12.283	1.65	18.35	0.24
0.167	0.00	6.233	1.41	12.300	1.65	18.37	0.24
0.183	0.00	6.250	1.41	12.317	1.65	18.38	0.24
0.200	0.00	6.267	4.00	12.333	1.65	18.40	0.24
0.217	0.00	6.283	4.00	12.350	1.65	18.42	0.24
0.233	0.00	6.300	4.00	12.367	1.65	18.43	0.24
0.250	0.00	6.317	4.00	12.383	1.65	18.45	0.24
0.267	0.24	6.333	4.00	12.400	1.65	18.47	0.24
0.283	0.24	6.350	4.00	12.417	1.65	18.48	0.24
0.300	0.24	6.367	4.00	12.433	1.65	18.50	0.24
0.317	0.24	6.383	4.00	12.450	1.65	18.52	0.24
0.333	0.24	6.400	4.00	12.467	1.65	18.53	0.24
0.350	0.24	6.417	4.00	12.483	1.65	18.55	0.24
0.367	0.24	6.433	4.00	12.500	1.65	18.57	0.24
0.383	0.24	6.450	4.00	12.517	1.65	18.58	0.24
0.400	0.24	6.467	4.00	12.533	1.65	18.60	0.24
0.417	0.24	6.483	4.00	12.550	1.65	18.62	0.24
0.433	0.24	6.500	4.00	12.567	1.65	18.63	0.24
0.450	0.24	6.517	4.00	12.583	1.65	18.65	0.24
0.467	0.24	6.533	4.00	12.600	1.65	18.67	0.24
0.483	0.24	6.550	4.00	12.617	1.65	18.68	0.24
0.500	0.24	6.567	4.00	12.633	1.65	18.70	0.24
0.517	0.24	6.583	4.00	12.650	1.65	18.72	0.24
0.533	0.24	6.600	4.00	12.667	1.65	18.73	0.24
0.550	0.24	6.617	4.00	12.683	1.65	18.75	0.24
0.567	0.24	6.633	4.00	12.700	1.65	18.77	0.24
0.583	0.24	6.650	4.00	12.717	1.65	18.78	0.24
0.600	0.24	6.667	4.00	12.733	1.65	18.80	0.24
0.617	0.24	6.683	4.00	12.750	1.65	18.82	0.24
0.633	0.24	6.700	4.00	12.767	1.65	18.83	0.24
0.650	0.24	6.717	4.00	12.783	1.65	18.85	0.24
0.667	0.24	6.733	4.00	12.800	1.65	18.87	0.24
0.683	0.24	6.750	4.00	12.817	1.65	18.88	0.24
0.700	0.24	6.767	4.00	12.833	1.65	18.90	0.24
0.717	0.24	6.783	4.00	12.850	1.65	18.92	0.24
0.733	0.24	6.800	4.00	12.867	1.65	18.93	0.24
0.750	0.24	6.817	4.00	12.883	1.65	18.95	0.24
0.767	0.24	6.833	4.00	12.900	1.65	18.97	0.24
0.783	0.24	6.850	4.00	12.917	1.65	18.98	0.24
0.800	0.24	6.867	4.00	12.933	1.65	19.00	0.24
0.817	0.24	6.883	4.00	12.950	1.65	19.02	0.24
0.833	0.24	6.900	4.00	12.967	1.65	19.03	0.24
0.850	0.24	6.917	4.00	12.983	1.65	19.05	0.24
0.867	0.24	6.933	4.00	13.000	1.65	19.07	0.24
0.883	0.24	6.950	4.00	13.017	1.65	19.08	0.24
0.900	0.24	6.967	4.00	13.033	1.65	19.10	0.24
0.917	0.24	6.983	4.00	13.050	1.65	19.12	0.24
0.933	0.24	7.000	4.00	13.067	1.65	19.13	0.24
0.950	0.24	7.017	4.00	13.083	1.65	19.15	0.24
0.967	0.24	7.033	4.00	13.100	1.65	19.17	0.24
0.983	0.24	7.050	4.00	13.117	1.65	19.18	0.24
1.000	0.24	7.067	4.00	13.133	1.65	19.20	0.24
1.017	0.24	7.083	4.00	13.150	1.65	19.22	0.24
1.033	0.24	7.100	4.00	13.167	1.65	19.23	0.24
1.050	0.24	7.117	4.00	13.183	1.65	19.25	0.24
1.067	0.24	7.133	4.00	13.200	1.65	19.27	0.24
1.083	0.24	7.150	4.00	13.217	1.65	19.28	0.24
1.100	0.24	7.167	4.00	13.233	1.65	19.30	0.24
1.117	0.24	7.183	4.00	13.250	1.65	19.32	0.24
1.133	0.24	7.200	4.00	13.267	1.65	19.33	0.24
1.150	0.24	7.217	4.00	13.283	1.65	19.35	0.24
1.167	0.24	7.233	4.00	13.300	1.65	19.37	0.24
1.183	0.24	7.250	4.00	13.317	1.65	19.38	0.24
1.200	0.24	7.267	4.00	13.333	1.65	19.40	0.24
1.217	0.24	7.283	4.00	13.350	1.65	19.42	0.24
1.233	0.24	7.300	4.00	13.367	1.65	19.43	0.24
1.250	0.24	7.317	4.00	13.383	1.65	19.45	0.24
1.267	0.24	7.333	4.00	13.400	1.65	19.47	0.24
1.283	0.24	7.350	4.00	13.417	1.65	19.48	0.24
1.300	0.24	7.367	4.00	13.433	1.65	19.50	0.24
1.317	0.24	7.383	4.00	13.450	1.65	19.52	0.24
1.333	0.24	7.400	4.00	13.467	1.65	19.53	0.24
1.350	0.24	7.417	4.00	13.483	1.65	19.55	0.24

1.367	0.24	7.433	4.00	13.500	1.65	19.57	0.24	2.633	0.24	8.700	10.81	14.767	0.94	20.83	0.24
1.383	0.24	7.450	4.00	13.517	1.65	19.58	0.24	2.650	0.24	8.717	10.81	14.783	0.94	20.85	0.24
1.400	0.24	7.467	4.00	13.533	1.65	19.60	0.24	2.667	0.24	8.733	10.81	14.800	0.94	20.87	0.24
1.417	0.24	7.483	4.00	13.550	1.65	19.62	0.24	2.683	0.24	8.750	10.81	14.817	0.94	20.88	0.24
1.433	0.24	7.500	4.00	13.567	1.65	19.63	0.24	2.700	0.24	8.767	10.81	14.833	0.94	20.90	0.24
1.450	0.24	7.517	4.00	13.583	1.65	19.65	0.24	2.717	0.24	8.783	10.81	14.850	0.94	20.92	0.24
1.467	0.24	7.533	4.00	13.600	1.65	19.67	0.24	2.733	0.24	8.800	10.81	14.867	0.94	20.93	0.24
1.483	0.24	7.550	4.00	13.617	1.65	19.68	0.24	2.750	0.24	8.817	10.81	14.883	0.94	20.95	0.24
1.500	0.24	7.567	4.00	13.633	1.65	19.70	0.24	2.767	0.24	8.833	10.81	14.900	0.94	20.97	0.24
1.517	0.24	7.583	4.00	13.650	1.65	19.72	0.24	2.783	0.24	8.850	10.81	14.917	0.94	20.98	0.24
1.533	0.24	7.600	4.00	13.667	1.65	19.73	0.24	2.800	0.24	8.867	10.81	14.933	0.94	21.00	0.24
1.550	0.24	7.617	4.00	13.683	1.65	19.75	0.24	2.817	0.24	8.883	10.81	14.950	0.94	21.02	0.24
1.567	0.24	7.633	4.00	13.700	1.65	19.77	0.24	2.833	0.24	8.900	10.81	14.967	0.94	21.03	0.24
1.583	0.24	7.650	4.00	13.717	1.65	19.78	0.24	2.850	0.24	8.917	10.81	14.983	0.94	21.05	0.24
1.600	0.24	7.667	4.00	13.733	1.65	19.80	0.24	2.867	0.24	8.933	10.81	15.000	0.94	21.07	0.24
1.617	0.24	7.683	4.00	13.750	1.65	19.82	0.24	2.883	0.24	8.950	10.81	15.017	0.94	21.08	0.24
1.633	0.24	7.700	4.00	13.767	1.65	19.83	0.24	2.900	0.24	8.967	10.81	15.033	0.94	21.10	0.24
1.650	0.24	7.717	4.00	13.783	1.65	19.85	0.24	2.917	0.24	8.983	10.81	15.050	0.94	21.12	0.24
1.667	0.24	7.733	4.00	13.800	1.65	19.87	0.24	2.933	0.24	9.000	10.81	15.067	0.94	21.13	0.24
1.683	0.24	7.750	4.00	13.817	1.65	19.88	0.24	2.950	0.24	9.017	10.81	15.083	0.94	21.15	0.24
1.700	0.24	7.767	4.00	13.833	1.65	19.90	0.24	2.967	0.24	9.033	10.81	15.100	0.94	21.17	0.24
1.717	0.24	7.783	4.00	13.850	1.65	19.92	0.24	2.983	0.24	9.050	10.81	15.117	0.94	21.18	0.24
1.733	0.24	7.800	4.00	13.867	1.65	19.93	0.24	3.000	0.24	9.067	10.81	15.133	0.94	21.20	0.24
1.750	0.24	7.817	4.00	13.883	1.65	19.95	0.24	3.017	0.24	9.083	10.81	15.150	0.94	21.22	0.24
1.767	0.24	7.833	4.00	13.900	1.65	19.97	0.24	3.033	0.24	9.100	10.81	15.167	0.94	21.23	0.24
1.783	0.24	7.850	4.00	13.917	1.65	19.98	0.24	3.050	0.24	9.117	10.81	15.183	0.94	21.25	0.24
1.800	0.24	7.867	4.00	13.933	1.65	20.00	0.24	3.067	0.24	9.133	10.81	15.200	0.94	21.27	0.24
1.817	0.24	7.883	4.00	13.950	1.65	20.02	0.24	3.083	0.24	9.150	10.81	15.217	0.94	21.28	0.24
1.833	0.24	7.900	4.00	13.967	1.65	20.03	0.24	3.100	0.24	9.167	10.81	15.233	0.94	21.30	0.24
1.850	0.24	7.917	4.00	13.983	1.65	20.05	0.24	3.117	0.24	9.183	10.81	15.250	0.94	21.32	0.24
1.867	0.24	7.933	4.00	14.000	1.65	20.07	0.24	3.133	0.24	9.200	10.81	15.267	0.94	21.33	0.24
1.883	0.24	7.950	4.00	14.017	1.65	20.08	0.24	3.150	0.24	9.217	10.81	15.283	0.94	21.35	0.24
1.900	0.24	7.967	4.00	14.033	1.65	20.10	0.24	3.167	0.24	9.233	10.81	15.300	0.94	21.37	0.24
1.917	0.24	7.983	4.00	14.050	1.65	20.12	0.24	3.183	0.24	9.250	10.81	15.317	0.94	21.38	0.24
1.933	0.24	8.000	4.00	14.067	1.65	20.13	0.24	3.200	0.24	9.267	10.81	15.333	0.94	21.40	0.24
1.950	0.24	8.017	4.00	14.083	1.65	20.15	0.24	3.217	0.24	9.283	10.81	15.350	0.94	21.42	0.24
1.967	0.24	8.033	4.00	14.100	1.65	20.17	0.24	3.233	0.24	9.300	10.81	15.367	0.94	21.43	0.24
1.983	0.24	8.050	4.00	14.117	1.65	20.18	0.24	3.250	0.24	9.317	10.81	15.383	0.94	21.45	0.24
2.000	0.24	8.067	4.00	14.133	1.65	20.20	0.24	3.267	0.24	9.333	10.81	15.400	0.94	21.47	0.24
2.017	0.24	8.083	4.00	14.150	1.65	20.22	0.24	3.283	0.24	9.350	10.81	15.417	0.94	21.48	0.24
2.033	0.24	8.100	4.00	14.167	1.65	20.23	0.24	3.300	0.24	9.367	10.81	15.433	0.94	21.50	0.24
2.050	0.24	8.117	4.00	14.183	1.65	20.25	0.24	3.317	0.24	9.383	10.81	15.450	0.94	21.52	0.24
2.067	0.24	8.133	4.00	14.200	1.65	20.27	0.24	3.333	0.24	9.400	10.81	15.467	0.94	21.53	0.24
2.083	0.24	8.150	4.00	14.217	1.65	20.28	0.24	3.350	0.24	9.417	10.81	15.483	0.94	21.55	0.24
2.100	0.24	8.167	4.00	14.233	1.65	20.30	0.24	3.367	0.24	9.433	10.81	15.500	0.94	21.57	0.24
2.117	0.24	8.183	4.00	14.250	1.65	20.32	0.24	3.383	0.24	9.450	10.81	15.517	0.94	21.58	0.24
2.133	0.24	8.200	4.00	14.267	0.94	20.33	0.24	3.400	0.24	9.467	10.81	15.533	0.94	21.60	0.24
2.150	0.24	8.217	4.00	14.283	0.94	20.35	0.24	3.417	0.24	9.483	10.81	15.550	0.94	21.62	0.24
2.167	0.24	8.233	4.00	14.300	0.94	20.37	0.24	3.433	0.24	9.500	10.81	15.567	0.94	21.63	0.24
2.183	0.24	8.250	4.02	14.317	0.94	20.38	0.24	3.450	0.24	9.517	10.81	15.583	0.94	21.65	0.24
2.200	0.24	8.267	10.81	14.333	0.94	20.40	0.24	3.467	0.24	9.533	10.81	15.600	0.94	21.67	0.24
2.217	0.24	8.283	10.81	14.350	0.94	20.42	0.24	3.483	0.24	9.550	10.81	15.617	0.94	21.68	0.24
2.233	0.24	8.300	10.81	14.367	0.94	20.43	0.24	3.500	0.24	9.567	10.81	15.633	0.94	21.70	0.24
2.250	0.24	8.317	10.81	14.383	0.94	20.45	0.24	3.517	0.24	9.583	10.81	15.650	0.94	21.72	0.24
2.267	0.24	8.333	10.81	14.400	0.94	20.47	0.24	3.533	0.24	9.600	10.81	15.667	0.94	21.73	0.24
2.283	0.24	8.350	10.81	14.417	0.94	20.48	0.24	3.550	0.24	9.617	10.81	15.683	0.94	21.75	0.24
2.300	0.24	8.367	10.81	14.433	0.94	20.50	0.24	3.567	0.24	9.633	10.81	15.700	0.94	21.77	0.24
2.317	0.24	8.383	10.81	14.450	0.94	20.52	0.24	3.583	0.24	9.650	10.81	15.717	0.94	21.78	0.24
2.333	0.24	8.400	10.81	14.467	0.94	20.53	0.24	3.600	0.24	9.667	10.81	15.733	0.94	21.80	0.24
2.350	0.24	8.417	10.81	14.483	0.94	20.55	0.24	3.617	0.24	9.683	10.81	15.750	0.94	21.82	0.24
2.367	0.24	8.433	10.81	14.500	0.94	20.57	0.24	3.633	0.24	9.700	10.81	15.767	0.94	21.83	0.24
2.383	0.24	8.450	10.81	14.517	0.94	20.58	0.24	3.650	0.24	9.717	10.81	15.783	0.94	21.85	0.24
2.400	0.24	8.467	10.81	14.533	0.94	20.60	0.24	3.667	0.24	9.733	10.81	15.800	0.94	21.87	0.24
2.417	0.24	8.483	10.81	14.550	0.94	20.62	0.24	3.683	0.24	9.750	10.81	15.817	0.94	21.88	0.24
2.433	0.24	8.500	10.81	14.567	0.94	20.63	0.24	3.700	0.24	9.767	10.81	15.833	0.94	21.90	0.24
2.450	0.24	8.517	10.81	14.583	0.94	20.65	0.24	3.717	0.24	9.783	10.81	15.850	0.94	21.92	0.24
2.467	0.24	8.533	10.81	14.600	0.94	20.67	0.24	3.733	0.24	9.800	10.81	15.867	0.94	21.93	0.24
2.483	0.24	8.550	10.81	14.617	0.94	20.68	0.24	3.750	0.24	9.817	10.81	15.883	0.94	21.95	0.24
2.500	0.24	8.567	10.81	14.633	0.94	20.70	0.24	3.767	0.24	9.833	10.81	15.900	0.94	21.97	0.24
2.517	0.24	8.583	10.81	14.650	0.94	20.72	0.24	3.783	0.24	9.850	10.81	15.917	0.94	21.98	0.24
2.533	0.24	8.600	10.81	14.667	0.94	20.73	0.24	3.800	0.24	9.867	10.81	15.933	0.94	22.00	0.24
2.550	0.24	8.617	10.81	14.683	0.94	20.75	0.24	3.817	0.24	9.883	10.81	15.950	0.94	22.02	0.24
2.567	0.24	8.633	10.81	14.700	0.94	20.77	0.24	3.833	0.24	9.900	10.81	15.967	0.94	22.03	0.24
2.583	0.24	8.650	10.81	14.717	0.94	20.78	0.24	3.850	0.24	9.917	10.81	15.983	0.94	22.05	0.24
2.600	0.24	8.667	10.81	14.733	0.94	20.80	0.24	3.867	0.24	9.933	10.81	16.000	0.94	22.07	0.24
2.617	0.24	8.683	10.81	14.750	0.94	20.82	0.24	3.883	0.24	9.950	10.81	16.017	0.94	22.08	0.24

3.900	0.24	9.967	10.81	16.033	0.94	22.10	0.24
3.917	0.24	9.983	10.81	16.050	0.94	22.12	0.24
3.933	0.24	10.000	10.81	16.067	0.94	22.13	0.24
3.950	0.24	10.017	10.81	16.083	0.94	22.15	0.24
3.967	0.24	10.033	10.81	16.100	0.94	22.17	0.24
3.983	0.24	10.050	10.81	16.117	0.94	22.18	0.24
4.000	0.24	10.067	10.81	16.133	0.94	22.20	0.24
4.017	0.24	10.083	10.81	16.150	0.94	22.22	0.24
4.033	0.24	10.100	10.81	16.167	0.94	22.23	0.24
4.050	0.24	10.117	10.81	16.183	0.94	22.25	0.24
4.067	0.24	10.133	10.81	16.200	0.94	22.27	0.24
4.083	0.24	10.150	10.81	16.217	0.94	22.28	0.24
4.100	0.24	10.167	10.81	16.233	0.94	22.30	0.24
4.117	0.24	10.183	10.81	16.250	0.94	22.32	0.24
4.133	0.24	10.200	10.81	16.267	0.47	22.33	0.24
4.150	0.24	10.217	10.81	16.283	0.47	22.35	0.24
4.167	0.24	10.233	10.81	16.300	0.47	22.37	0.24
4.183	0.24	10.250	10.80	16.317	0.47	22.38	0.24
4.200	0.24	10.267	3.06	16.333	0.47	22.40	0.24
4.217	0.24	10.283	3.06	16.350	0.47	22.42	0.24
4.233	0.24	10.300	3.06	16.367	0.47	22.43	0.24
4.250	0.24	10.317	3.06	16.383	0.47	22.45	0.24
4.267	1.41	10.333	3.06	16.400	0.47	22.47	0.24
4.283	1.41	10.350	3.06	16.417	0.47	22.48	0.24
4.300	1.41	10.367	3.06	16.433	0.47	22.50	0.24
4.317	1.41	10.383	3.06	16.450	0.47	22.52	0.24
4.333	1.41	10.400	3.06	16.467	0.47	22.53	0.24
4.350	1.41	10.417	3.06	16.483	0.47	22.55	0.24
4.367	1.41	10.433	3.06	16.500	0.47	22.57	0.24
4.383	1.41	10.450	3.06	16.517	0.47	22.58	0.24
4.400	1.41	10.467	3.06	16.533	0.47	22.60	0.24
4.417	1.41	10.483	3.06	16.550	0.47	22.62	0.24
4.433	1.41	10.500	3.06	16.567	0.47	22.63	0.24
4.450	1.41	10.517	3.06	16.583	0.47	22.65	0.24
4.467	1.41	10.533	3.06	16.600	0.47	22.67	0.24
4.483	1.41	10.550	3.06	16.617	0.47	22.68	0.24
4.500	1.41	10.567	3.06	16.633	0.47	22.70	0.24
4.517	1.41	10.583	3.06	16.650	0.47	22.72	0.24
4.533	1.41	10.600	3.06	16.667	0.47	22.73	0.24
4.550	1.41	10.617	3.06	16.683	0.47	22.75	0.24
4.567	1.41	10.633	3.06	16.700	0.47	22.77	0.24
4.583	1.41	10.650	3.06	16.717	0.47	22.78	0.24
4.600	1.41	10.667	3.06	16.733	0.47	22.80	0.24
4.617	1.41	10.683	3.06	16.750	0.47	22.82	0.24
4.633	1.41	10.700	3.06	16.767	0.47	22.83	0.24
4.650	1.41	10.717	3.06	16.783	0.47	22.85	0.24
4.667	1.41	10.733	3.06	16.800	0.47	22.87	0.24
4.683	1.41	10.750	3.06	16.817	0.47	22.88	0.24
4.700	1.41	10.767	3.06	16.833	0.47	22.90	0.24
4.717	1.41	10.783	3.06	16.850	0.47	22.92	0.24
4.733	1.41	10.800	3.06	16.867	0.47	22.93	0.24
4.750	1.41	10.817	3.06	16.883	0.47	22.95	0.24
4.767	1.41	10.833	3.06	16.900	0.47	22.97	0.24
4.783	1.41	10.850	3.06	16.917	0.47	22.98	0.24
4.800	1.41	10.867	3.06	16.933	0.47	23.00	0.24
4.817	1.41	10.883	3.06	16.950	0.47	23.02	0.24
4.833	1.41	10.900	3.06	16.967	0.47	23.03	0.24
4.850	1.41	10.917	3.06	16.983	0.47	23.05	0.24
4.867	1.41	10.933	3.06	17.000	0.47	23.07	0.24
4.883	1.41	10.950	3.06	17.017	0.47	23.08	0.24
4.900	1.41	10.967	3.06	17.033	0.47	23.10	0.24
4.917	1.41	10.983	3.06	17.050	0.47	23.12	0.24
4.933	1.41	11.000	3.06	17.067	0.47	23.13	0.24
4.950	1.41	11.017	3.06	17.083	0.47	23.15	0.24
4.967	1.41	11.033	3.06	17.100	0.47	23.17	0.24
4.983	1.41	11.050	3.06	17.117	0.47	23.18	0.24
5.000	1.41	11.067	3.06	17.133	0.47	23.20	0.24
5.017	1.41	11.083	3.06	17.150	0.47	23.22	0.24
5.033	1.41	11.100	3.06	17.167	0.47	23.23	0.24
5.050	1.41	11.117	3.06	17.183	0.47	23.25	0.24
5.067	1.41	11.133	3.06	17.200	0.47	23.27	0.24
5.083	1.41	11.150	3.06	17.217	0.47	23.28	0.24
5.100	1.41	11.167	3.06	17.233	0.47	23.30	0.24
5.117	1.41	11.183	3.06	17.250	0.47	23.32	0.24
5.133	1.41	11.200	3.06	17.267	0.47	23.33	0.24
5.150	1.41	11.217	3.06	17.283	0.47	23.35	0.24
5.167	1.41	11.233	3.06	17.300	0.47	23.37	0.24
5.183	1.41	11.250	3.06	17.317	0.47	23.38	0.24
5.200	1.41	11.267	3.06	17.333	0.47	23.40	0.24
5.217	1.41	11.283	3.06	17.350	0.47	23.42	0.24
5.233	1.41	11.300	3.06	17.367	0.47	23.43	0.24
5.250	1.41	11.317	3.06	17.383	0.47	23.45	0.24
5.267	1.41	11.333	3.06	17.400	0.47	23.47	0.24
5.283	1.41	11.350	3.06	17.417	0.47	23.48	0.24
5.300	1.41	11.367	3.06	17.433	0.47	23.50	0.24
5.317	1.41	11.383	3.06	17.450	0.47	23.52	0.24
5.333	1.41	11.400	3.06	17.467	0.47	23.53	0.24
5.350	1.41	11.417	3.06	17.483	0.47	23.55	0.24
5.367	1.41	11.433	3.06	17.500	0.47	23.57	0.24
5.383	1.41	11.450	3.06	17.517	0.47	23.58	0.24
5.400	1.41	11.467	3.06	17.533	0.47	23.60	0.24
5.417	1.41	11.483	3.06	17.550	0.47	23.62	0.24
5.433	1.41	11.500	3.06	17.567	0.47	23.63	0.24
5.450	1.41	11.517	3.06	17.583	0.47	23.65	0.24
5.467	1.41	11.533	3.06	17.600	0.47	23.67	0.24
5.483	1.41	11.550	3.06	17.617	0.47	23.68	0.24
5.500	1.41	11.567	3.06	17.633	0.47	23.70	0.24
5.517	1.41	11.583	3.06	17.650	0.47	23.72	0.24
5.533	1.41	11.600	3.06	17.667	0.47	23.73	0.24
5.550	1.41	11.617	3.06	17.683	0.47	23.75	0.24
5.567	1.41	11.633	3.06	17.700	0.47	23.77	0.24
5.583	1.41	11.650	3.06	17.717	0.47	23.78	0.24
5.600	1.41	11.667	3.06	17.733	0.47	23.80	0.24
5.617	1.41	11.683	3.06	17.750	0.47	23.82	0.24
5.633	1.41	11.700	3.06	17.767	0.47	23.83	0.24
5.650	1.41	11.717	3.06	17.783	0.47	23.85	0.24
5.667	1.41	11.733	3.06	17.800	0.47	23.87	0.24
5.683	1.41	11.750	3.06	17.817	0.47	23.88	0.24
5.700	1.41	11.767	3.06	17.833	0.47	23.90	0.24
5.717	1.41	11.783	3.06	17.850	0.47	23.92	0.24
5.733	1.41	11.800	3.06	17.867	0.47	23.93	0.24
5.750	1.41	11.817	3.06	17.883	0.47	23.95	0.24
5.767	1.41	11.833	3.06	17.900	0.47	23.97	0.24
5.783	1.41	11.850	3.06	17.917	0.47	23.98	0.24
5.800	1.41	11.867	3.06	17.933	0.47	24.00	0.24
5.817	1.41	11.883	3.06	17.950	0.47	24.02	0.24
5.833	1.41	11.900	3.06	17.967	0.47	24.03	0.24
5.850	1.41	11.917	3.06	17.983	0.47	24.05	0.24
5.867	1.41	11.933	3.06	18.000	0.47	24.07	0.24
5.883	1.41	11.950	3.06	18.017	0.47	24.08	0.24
5.900	1.41	11.967	3.06	18.033	0.47	24.10	0.24
5.917	1.41	11.983	3.06	18.050	0.47	24.12	0.24
5.933	1.41	12.000	3.06	18.067	0.47	24.13	0.24
5.950	1.41	12.017	3.06	18.083	0.47	24.15	0.24
5.967	1.41	12.033	3.06	18.100	0.47	24.17	0.24
5.983	1.41	12.050	3.06	18.117	0.47	24.18	0.24
6.000	1.41	12.067	3.06	18.133	0.47	24.20	0.24
6.017	1.41	12.083	3.06	18.150	0.47	24.22	0.24
6.033	1.41	12.100	3.06	18.167	0.47	24.23	0.24
6.050	1.41	12.117	3.06	18.183	0.47	24.25	0.24
6.067	1.41	12.133	3.06	18.200	0.47		

Max.Eff.Inten.(mm/hr)=	10.81	7.03	
over (min)	8.00	13.00	
Storage Coeff. (min)=	8.40 (ii)	12.55 (ii)	
Unit Hyd. Tpeak (min)=	8.00	13.00	
Unit Hyd. peak (cms)=	0.14	0.09	
			TOTALS
PEAK FLOW (cms)=	0.12	0.00	0.122 (iii)
TIME TO PEAK (hrs)=	10.23	10.25	10.25
RUNOFF VOLUME (mm)=	46.07	22.98	45.85
TOTAL RAINFALL (mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT =	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7630)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000      0.0000   |    0.0826      0.2320
                           0.0347      0.1170   |    0.0967      0.2609
                           0.0534      0.1580   |    0.1090      0.2940
                           0.0655      0.1890   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7629)      4.090      0.122     10.25      45.85
   OUTFLOW: ID= 1 (  7630)      4.090      0.033     12.32      41.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 26.86
                  TIME SHIFT OF PEAK FLOW         (min)=124.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1108

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| CALIB            |
| STANDHYD (  7631)|   Area    (ha)=   3.91
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.87         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     161.45        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 6.083    1.41 |12.150    3.06 | 18.22    0.47
               0.033    0.00 | 6.100    1.41 |12.167    3.06 | 18.23    0.47
               0.050    0.00 | 6.117    1.41 |12.183    3.06 | 18.25    0.47
               0.067    0.00 | 6.133    1.41 |12.200    3.06 | 18.27    0.24
               0.083    0.00 | 6.150    1.41 |12.217    3.06 | 18.28    0.24
               0.100    0.00 | 6.167    1.41 |12.233    3.06 | 18.30    0.24
               0.117    0.00 | 6.183    1.41 |12.250    3.06 | 18.32    0.24
               0.133    0.00 | 6.200    1.41 |12.267    1.65 | 18.33    0.24
               0.150    0.00 | 6.217    1.41 |12.283    1.65 | 18.35    0.24
               0.167    0.00 | 6.233    1.41 |12.300    1.65 | 18.37    0.24
               0.183    0.00 | 6.250    1.41 |12.317    1.65 | 18.38    0.24
               0.200    0.00 | 6.267    4.00 |12.333    1.65 | 18.40    0.24
               0.217    0.00 | 6.283    4.00 |12.350    1.65 | 18.42    0.24
               0.233    0.00 | 6.300    4.00 |12.367    1.65 | 18.43    0.24
               0.250    0.00 | 6.317    4.00 |12.383    1.65 | 18.45    0.24
               0.267    0.24 | 6.333    4.00 |12.400    1.65 | 18.47    0.24
               0.283    0.24 | 6.350    4.00 |12.417    1.65 | 18.48    0.24
               0.300    0.24 | 6.367    4.00 |12.433    1.65 | 18.50    0.24
               0.317    0.24 | 6.383    4.00 |12.450    1.65 | 18.52    0.24
               0.333    0.24 | 6.400    4.00 |12.467    1.65 | 18.53    0.24
               0.350    0.24 | 6.417    4.00 |12.483    1.65 | 18.55    0.24
               0.367    0.24 | 6.433    4.00 |12.500    1.65 | 18.57    0.24
               0.383    0.24 | 6.450    4.00 |12.517    1.65 | 18.58    0.24
               0.400    0.24 | 6.467    4.00 |12.533    1.65 | 18.60    0.24
               0.417    0.24 | 6.483    4.00 |12.550    1.65 | 18.62    0.24
               0.433    0.24 | 6.500    4.00 |12.567    1.65 | 18.63    0.24
               0.450    0.24 | 6.517    4.00 |12.583    1.65 | 18.65    0.24
               0.467    0.24 | 6.533    4.00 |12.600    1.65 | 18.67    0.24
               0.483    0.24 | 6.550    4.00 |12.617    1.65 | 18.68    0.24
               0.500    0.24 | 6.567    4.00 |12.633    1.65 | 18.70    0.24
               0.517    0.24 | 6.583    4.00 |12.650    1.65 | 18.72    0.24
               0.533    0.24 | 6.600    4.00 |12.667    1.65 | 18.73    0.24
               0.550    0.24 | 6.617    4.00 |12.683    1.65 | 18.75    0.24
               0.567    0.24 | 6.633    4.00 |12.700    1.65 | 18.77    0.24
               0.583    0.24 | 6.650    4.00 |12.717    1.65 | 18.78    0.24
               0.600    0.24 | 6.667    4.00 |12.733    1.65 | 18.80    0.24
               0.617    0.24 | 6.683    4.00 |12.750    1.65 | 18.82    0.24
               0.633    0.24 | 6.700    4.00 |12.767    1.65 | 18.83    0.24
               0.650    0.24 | 6.717    4.00 |12.783    1.65 | 18.85    0.24
               0.667    0.24 | 6.733    4.00 |12.800    1.65 | 18.87    0.24
               0.683    0.24 | 6.750    4.00 |12.817    1.65 | 18.88    0.24
               0.700    0.24 | 6.767    4.00 |12.833    1.65 | 18.90    0.24
               0.717    0.24 | 6.783    4.00 |12.850    1.65 | 18.92    0.24
               0.733    0.24 | 6.800    4.00 |12.867    1.65 | 18.93    0.24
               0.750    0.24 | 6.817    4.00 |12.883    1.65 | 18.95    0.24
               0.767    0.24 | 6.833    4.00 |12.900    1.65 | 18.97    0.24
               0.783    0.24 | 6.850    4.00 |12.917    1.65 | 18.98    0.24
               0.800    0.24 | 6.867    4.00 |12.933    1.65 | 19.00    0.24
               0.817    0.24 | 6.883    4.00 |12.950    1.65 | 19.02    0.24
               0.833    0.24 | 6.900    4.00 |12.967    1.65 | 19.03    0.24
               0.850    0.24 | 6.917    4.00 |12.983    1.65 | 19.05    0.24
               0.867    0.24 | 6.933    4.00 |13.000    1.65 | 19.07    0.24
               0.883    0.24 | 6.950    4.00 |13.017    1.65 | 19.08    0.24
               0.900    0.24 | 6.967    4.00 |13.033    1.65 | 19.10    0.24
               0.917    0.24 | 6.983    4.00 |13.050    1.65 | 19.12    0.24
               0.933    0.24 | 7.000    4.00 |13.067    1.65 | 19.13    0.24
               0.950    0.24 | 7.017    4.00 |13.083    1.65 | 19.15    0.24
               0.967    0.24 | 7.033    4.00 |13.100    1.65 | 19.17    0.24
               0.983    0.24 | 7.050    4.00 |13.117    1.65 | 19.18    0.24
               1.000    0.24 | 7.067    4.00 |13.133    1.65 | 19.20    0.24
               1.017    0.24 | 7.083    4.00 |13.150    1.65 | 19.22    0.24
               1.033    0.24 | 7.100    4.00 |13.167    1.65 | 19.23    0.24
               1.050    0.24 | 7.117    4.00 |13.183    1.65 | 19.25    0.24
               1.067    0.24 | 7.133    4.00 |13.200    1.65 | 19.27    0.24
               1.083    0.24 | 7.150    4.00 |13.217    1.65 | 19.28    0.24
               1.100    0.24 | 7.167    4.00 |13.233    1.65 | 19.30    0.24
               1.117    0.24 | 7.183    4.00 |13.250    1.65 | 19.32    0.24
               1.133    0.24 | 7.200    4.00 |13.267    1.65 | 19.33    0.24
               1.150    0.24 | 7.217    4.00 |13.283    1.65 | 19.35    0.24
               1.167    0.24 | 7.233    4.00 |13.300    1.65 | 19.37    0.24
               1.183    0.24 | 7.250    4.00 |13.317    1.65 | 19.38    0.24
               1.200    0.24 | 7.267    4.00 |13.333    1.65 | 19.40    0.24
               1.217    0.24 | 7.283    4.00 |13.350    1.65 | 19.42    0.24
               1.233    0.24 | 7.300    4.00 |13.367    1.65 | 19.43    0.24
               1.250    0.24 | 7.317    4.00 |13.383    1.65 | 19.45    0.24
               1.267    0.24 | 7.333    4.00 |13.400    1.65 | 19.47    0.24
               1.283    0.24 | 7.350    4.00 |13.417    1.65 | 19.48    0.24
               1.300    0.24 | 7.367    4.00 |13.433    1.65 | 19.50    0.24
               1.317    0.24 | 7.383    4.00 |13.450    1.65 | 19.52    0.24
               1.333    0.24 | 7.400    4.00 |13.467    1.65 | 19.53    0.24
               1.350    0.24 | 7.417    4.00 |13.483    1.65 | 19.55    0.24
               1.367    0.24 | 7.433    4.00 |13.500    1.65 | 19.57    0.24
               1.383    0.24 | 7.450    4.00 |13.517    1.65 | 19.58    0.24
               1.400    0.24 | 7.467    4.00 |13.533    1.65 | 19.60    0.24
               1.417    0.24 | 7.483    4.00 |13.550    1.65 | 19.62    0.24
               1.433    0.24 | 7.500    4.00 |13.567    1.65 | 19.63    0.24
               1.450    0.24 | 7.517    4.00 |13.583    1.65 | 19.65    0.24
               1.467    0.24 | 7.533    4.00 |13.600    1.65 | 19.67    0.24
               1.483    0.24 | 7.550    4.00 |13.617    1.65 | 19.68    0.24
               1.500    0.24 | 7.567    4.00 |13.633    1.65 | 19.70    0.24
               1.517    0.24 | 7.583    4.00 |13.650    1.65 | 19.72    0.24
               1.533    0.24 | 7.600    4.00 |13.667    1.65 | 19.73    0.24
               1.550    0.24 | 7.617    4.00 |13.683    1.65 | 19.75    0.24
               1.567    0.24 | 7.633    4.00 |13.700    1.65 | 19.77    0.24
               1.583    0.24 | 7.650    4.00 |13.717    1.65 | 19.78    0.24
               1.600    0.24 | 7.667    4.00 |13.733    1.65 | 19.80    0.24
               1.617    0.24 | 7.683    4.00 |13.750    1.65 | 19.82    0.24
               1.633    0.24 | 7.700    4.00 |13.767    1.65 | 19.83    0.24
               1.650    0.24 | 7.717    4.00 |13.783    1.65 | 19.85    0.24
               1.667    0.24 | 7.733    4.00 |13.800    1.65 | 19.87    0.24
               1.683    0.24 | 7.750    4.00 |13.817    1.65 | 19.88    0.24
               1.700    0.24 | 7.767    4.00 |13.833    1.65 | 19.90    0.24
               1.717    0.24 | 7.783    4.00 |13.850    1.65 | 19.92    0.24
               1.733    0.24 | 7.800    4.00 |13.867    1.65 | 19.93    0.24
               1.750    0.24 | 7.817    4.00 |13.883    1.65 | 19.95    0.24
               1.767    0.24 | 7.833    4.00 |13.900    1.65 | 19.97    0.24
               1.783    0.24 | 7.850    4.00 |13.917    1.65 | 19.98    0.24
               1.800    0.24 | 7.867    4.00 |13.933    1.65 | 20.00    0.24
               1.817    0.24 | 7.883    4.00 |13.950    1.65 | 20.02    0.24
               1.833    0.24 | 7.900    4.00 |13.967    1.65 | 20.03    0.24
               1.850    0.24 | 7.917    4.00 |13.983    1.65 | 20.05    0.24
               1.867    0.24 | 7.933    4.00 |14.000    1.65 | 20.07    0.24
               1.883    0.24 | 7.950    4.00 |14.017    1.65 | 20.08    0.24
               1.900    0.24 | 7.967    4.00 |14.033    1.65 | 20.10    0.24
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1.917	0.24	7.983	4.00	14.050	1.65	20.12	0.24
1.933	0.24	8.000	4.00	14.067	1.65	20.13	0.24
1.950	0.24	8.017	4.00	14.083	1.65	20.15	0.24
1.967	0.24	8.033	4.00	14.100	1.65	20.17	0.24
1.983	0.24	8.050	4.00	14.117	1.65	20.18	0.24
2.000	0.24	8.067	4.00	14.133	1.65	20.20	0.24
2.017	0.24	8.083	4.00	14.150	1.65	20.22	0.24
2.033	0.24	8.100	4.00	14.167	1.65	20.23	0.24
2.050	0.24	8.117	4.00	14.183	1.65	20.25	0.24
2.067	0.24	8.133	4.00	14.200	1.65	20.27	0.24
2.083	0.24	8.150	4.00	14.217	1.65	20.28	0.24
2.100	0.24	8.167	4.00	14.233	1.65	20.30	0.24
2.117	0.24	8.183	4.00	14.250	1.65	20.32	0.24
2.133	0.24	8.200	4.00	14.267	0.94	20.33	0.24
2.150	0.24	8.217	4.00	14.283	0.94	20.35	0.24
2.167	0.24	8.233	4.00	14.300	0.94	20.37	0.24
2.183	0.24	8.250	4.02	14.317	0.94	20.38	0.24
2.200	0.24	8.267	10.81	14.333	0.94	20.40	0.24
2.217	0.24	8.283	10.81	14.350	0.94	20.42	0.24
2.233	0.24	8.300	10.81	14.367	0.94	20.43	0.24
2.250	0.24	8.317	10.81	14.383	0.94	20.45	0.24
2.267	0.24	8.333	10.81	14.400	0.94	20.47	0.24
2.283	0.24	8.350	10.81	14.417	0.94	20.48	0.24
2.300	0.24	8.367	10.81	14.433	0.94	20.50	0.24
2.317	0.24	8.383	10.81	14.450	0.94	20.52	0.24
2.333	0.24	8.400	10.81	14.467	0.94	20.53	0.24
2.350	0.24	8.417	10.81	14.483	0.94	20.55	0.24
2.367	0.24	8.433	10.81	14.500	0.94	20.57	0.24
2.383	0.24	8.450	10.81	14.517	0.94	20.58	0.24
2.400	0.24	8.467	10.81	14.533	0.94	20.60	0.24
2.417	0.24	8.483	10.81	14.550	0.94	20.62	0.24
2.433	0.24	8.500	10.81	14.567	0.94	20.63	0.24
2.450	0.24	8.517	10.81	14.583	0.94	20.65	0.24
2.467	0.24	8.533	10.81	14.600	0.94	20.67	0.24
2.483	0.24	8.550	10.81	14.617	0.94	20.68	0.24
2.500	0.24	8.567	10.81	14.633	0.94	20.70	0.24
2.517	0.24	8.583	10.81	14.650	0.94	20.72	0.24
2.533	0.24	8.600	10.81	14.667	0.94	20.73	0.24
2.550	0.24	8.617	10.81	14.683	0.94	20.75	0.24
2.567	0.24	8.633	10.81	14.700	0.94	20.77	0.24
2.583	0.24	8.650	10.81	14.717	0.94	20.78	0.24
2.600	0.24	8.667	10.81	14.733	0.94	20.80	0.24
2.617	0.24	8.683	10.81	14.750	0.94	20.82	0.24
2.633	0.24	8.700	10.81	14.767	0.94	20.83	0.24
2.650	0.24	8.717	10.81	14.783	0.94	20.85	0.24
2.667	0.24	8.733	10.81	14.800	0.94	20.87	0.24
2.683	0.24	8.750	10.81	14.817	0.94	20.88	0.24
2.700	0.24	8.767	10.81	14.833	0.94	20.90	0.24
2.717	0.24	8.783	10.81	14.850	0.94	20.92	0.24
2.733	0.24	8.800	10.81	14.867	0.94	20.93	0.24
2.750	0.24	8.817	10.81	14.883	0.94	20.95	0.24
2.767	0.24	8.833	10.81	14.900	0.94	20.97	0.24
2.783	0.24	8.850	10.81	14.917	0.94	20.98	0.24
2.800	0.24	8.867	10.81	14.933	0.94	21.00	0.24
2.817	0.24	8.883	10.81	14.950	0.94	21.02	0.24
2.833	0.24	8.900	10.81	14.967	0.94	21.03	0.24
2.850	0.24	8.917	10.81	14.983	0.94	21.05	0.24
2.867	0.24	8.933	10.81	15.000	0.94	21.07	0.24
2.883	0.24	8.950	10.81	15.017	0.94	21.08	0.24
2.900	0.24	8.967	10.81	15.033	0.94	21.10	0.24
2.917	0.24	8.983	10.81	15.050	0.94	21.12	0.24
2.933	0.24	9.000	10.81	15.067	0.94	21.13	0.24
2.950	0.24	9.017	10.81	15.083	0.94	21.15	0.24
2.967	0.24	9.033	10.81	15.100	0.94	21.17	0.24
2.983	0.24	9.050	10.81	15.117	0.94	21.18	0.24
3.000	0.24	9.067	10.81	15.133	0.94	21.20	0.24
3.017	0.24	9.083	10.81	15.150	0.94	21.22	0.24
3.033	0.24	9.100	10.81	15.167	0.94	21.23	0.24
3.050	0.24	9.117	10.81	15.183	0.94	21.25	0.24
3.067	0.24	9.133	10.81	15.200	0.94	21.27	0.24
3.083	0.24	9.150	10.81	15.217	0.94	21.28	0.24
3.100	0.24	9.167	10.81	15.233	0.94	21.30	0.24
3.117	0.24	9.183	10.81	15.250	0.94	21.32	0.24
3.133	0.24	9.200	10.81	15.267	0.94	21.33	0.24
3.150	0.24	9.217	10.81	15.283	0.94	21.35	0.24
3.167	0.24	9.233	10.81	15.300	0.94	21.37	0.24
3.183	0.24	9.250	10.81	15.317	0.94	21.38	0.24
3.200	0.24	9.267	10.81	15.333	0.94	21.40	0.24
3.217	0.24	9.283	10.81	15.350	0.94	21.42	0.24
3.233	0.24	9.300	10.81	15.367	0.94	21.43	0.24
3.250	0.24	9.317	10.81	15.383	0.94	21.45	0.24
3.267	0.24	9.333	10.81	15.400	0.94	21.47	0.24
3.283	0.24	9.350	10.81	15.417	0.94	21.48	0.24
3.300	0.24	9.367	10.81	15.433	0.94	21.50	0.24
3.317	0.24	9.383	10.81	15.450	0.94	21.52	0.24
3.333	0.24	9.400	10.81	15.467	0.94	21.53	0.24
3.350	0.24	9.417	10.81	15.483	0.94	21.55	0.24
3.367	0.24	9.433	10.81	15.500	0.94	21.57	0.24
3.383	0.24	9.450	10.81	15.517	0.94	21.58	0.24
3.400	0.24	9.467	10.81	15.533	0.94	21.60	0.24
3.417	0.24	9.483	10.81	15.550	0.94	21.62	0.24
3.433	0.24	9.500	10.81	15.567	0.94	21.63	0.24
3.450	0.24	9.517	10.81	15.583	0.94	21.65	0.24
3.467	0.24	9.533	10.81	15.600	0.94	21.67	0.24
3.483	0.24	9.550	10.81	15.617	0.94	21.68	0.24
3.500	0.24	9.567	10.81	15.633	0.94	21.70	0.24
3.517	0.24	9.583	10.81	15.650	0.94	21.72	0.24
3.533	0.24	9.600	10.81	15.667	0.94	21.73	0.24
3.550	0.24	9.617	10.81	15.683	0.94	21.75	0.24
3.567	0.24	9.633	10.81	15.700	0.94	21.77	0.24
3.583	0.24	9.650	10.81	15.717	0.94	21.78	0.24
3.600	0.24	9.667	10.81	15.733	0.94	21.80	0.24
3.617	0.24	9.683	10.81	15.750	0.94	21.82	0.24
3.633	0.24	9.700	10.81	15.767	0.94	21.83	0.24
3.650	0.24	9.717	10.81	15.783	0.94	21.85	0.24
3.667	0.24	9.733	10.81	15.800	0.94	21.87	0.24
3.683	0.24	9.750	10.81	15.817	0.94	21.88	0.24
3.700	0.24	9.767	10.81	15.833	0.94	21.90	0.24
3.717	0.24	9.783	10.81	15.850	0.94	21.92	0.24
3.733	0.24	9.800	10.81	15.867	0.94	21.93	0.24
3.750	0.24	9.817	10.81	15.883	0.94	21.95	0.24
3.767	0.24	9.833	10.81	15.900	0.94	21.97	0.24
3.783	0.24	9.850	10.81	15.917	0.94	21.98	0.24
3.800	0.24	9.867	10.81	15.933	0.94	22.00	0.24
3.817	0.24	9.883	10.81	15.950	0.94	22.02	0.24
3.833	0.24	9.900	10.81	15.967	0.94	22.03	0.24
3.850	0.24	9.917	10.81	15.983	0.94	22.05	0.24
3.867	0.24	9.933	10.81	16.000	0.94	22.07	0.24
3.883	0.24	9.950	10.81	16.017	0.94	22.08	0.24
3.900	0.24	9.967	10.81	16.033	0.94	22.10	0.24
3.917	0.24	9.983	10.81	16.050	0.94	22.12	0.24
3.933	0.24	10.000	10.81	16.067	0.94	22.13	0.24
3.950	0.24	10.017	10.81	16.083	0.94	22.15	0.24
3.967	0.24	10.033	10.81	16.100	0.94	22.17	0.24
3.983	0.24	10.050	10.81	16.117	0.94	22.18	0.24
4.000	0.24	10.067	10.81	16.133	0.94	22.20	0.24
4.017	0.24	10.083	10.81	16.150	0.94	22.22	0.24
4.033	0.24	10.100	10.81	16.167	0.94	22.23	0.24
4.050	0.24	10.117	10.81	16.183	0.94	22.25	0.24
4.067	0.24	10.133	10.81	16.200	0.94	22.27	0.24
4.083	0.24	10.150	10.81	16.217	0.94	22.28	0.24
4.100	0.24	10.167	10.81	16.233	0.94	22.30	0.24
4.117	0.24	10.183	10.81	16.250	0.94	22.32	0.24
4.133	0.24	10.200	10.81	16.267	0.47	22.33	0.24
4.150	0.24	10.217	10.81	16.283	0.47	22.35	0.24
4.167	0.24	10.233	10.81	16.300	0.47	22.37	0.24
4.183	0.24	10.250	10.80	16.317	0.47	22.38	0.24
4.200	0.24	10.267	3.06	16.333	0.47	22.40	0.24
4.217	0.24	10.283	3.06	16.350	0.47	22.42	0.24
4.233	0.24	10.300	3.06	16.367	0.47	22.43	0.24
4.250	0.24	10.317	3.06	16.383	0.47	22.45	0.24
4.267	1.41	10.333	3.06	16.400	0.47	22.47	0.24
4.283	1.41	10.350	3.06	16.417	0.47	22.48	0.24
4.300	1.41	10.367	3.06	16.433	0.47	22.50	0.24
4.317	1.41	10.383	3.06	16.450	0.47	22.52	0.24
4.333	1.41	10.400	3.06	16.467	0.47	22.53	0.24
4.350	1.41	10.417	3.06	16.483	0.47	22.55	0.24
4.367	1.41	10.433	3.06	16.500	0.47	22.57	0.24
4.383	1.41	10.450	3.06	16.517	0.47	22.58	0.24
4.400	1.41	10.467	3.06	16.533	0.47	22.60	0.24
4.417	1.41	10.483	3.06	16.550	0.47	22.62	0.24
4.433	1.41	10.500	3.06	16.567	0.47	22.63	0.24

4.450	1.41	10.517	3.06	16.583	0.47	22.65	0.24
4.467	1.41	10.533	3.06	16.600	0.47	22.67	0.24
4.483	1.41	10.550	3.06	16.617	0.47	22.68	0.24
4.500	1.41	10.567	3.06	16.633	0.47	22.70	0.24
4.517	1.41	10.583	3.06	16.650	0.47	22.72	0.24
4.533	1.41	10.600	3.06	16.667	0.47	22.73	0.24
4.550	1.41	10.617	3.06	16.683	0.47	22.75	0.24
4.567	1.41	10.633	3.06	16.700	0.47	22.77	0.24
4.583	1.41	10.650	3.06	16.717	0.47	22.78	0.24
4.600	1.41	10.667	3.06	16.733	0.47	22.80	0.24
4.617	1.41	10.683	3.06	16.750	0.47	22.82	0.24
4.633	1.41	10.700	3.06	16.767	0.47	22.83	0.24
4.650	1.41	10.717	3.06	16.783	0.47	22.85	0.24
4.667	1.41	10.733	3.06	16.800	0.47	22.87	0.24
4.683	1.41	10.750	3.06	16.817	0.47	22.88	0.24
4.700	1.41	10.767	3.06	16.833	0.47	22.90	0.24
4.717	1.41	10.783	3.06	16.850	0.47	22.92	0.24
4.733	1.41	10.800	3.06	16.867	0.47	22.93	0.24
4.750	1.41	10.817	3.06	16.883	0.47	22.95	0.24
4.767	1.41	10.833	3.06	16.900	0.47	22.97	0.24
4.783	1.41	10.850	3.06	16.917	0.47	22.98	0.24
4.800	1.41	10.867	3.06	16.933	0.47	23.00	0.24
4.817	1.41	10.883	3.06	16.950	0.47	23.02	0.24
4.833	1.41	10.900	3.06	16.967	0.47	23.03	0.24
4.850	1.41	10.917	3.06	16.983	0.47	23.05	0.24
4.867	1.41	10.933	3.06	17.000	0.47	23.07	0.24
4.883	1.41	10.950	3.06	17.017	0.47	23.08	0.24
4.900	1.41	10.967	3.06	17.033	0.47	23.10	0.24
4.917	1.41	10.983	3.06	17.050	0.47	23.12	0.24
4.933	1.41	11.000	3.06	17.067	0.47	23.13	0.24
4.950	1.41	11.017	3.06	17.083	0.47	23.15	0.24
4.967	1.41	11.033	3.06	17.100	0.47	23.17	0.24
4.983	1.41	11.050	3.06	17.117	0.47	23.18	0.24
5.000	1.41	11.067	3.06	17.133	0.47	23.20	0.24
5.017	1.41	11.083	3.06	17.150	0.47	23.22	0.24
5.033	1.41	11.100	3.06	17.167	0.47	23.23	0.24
5.050	1.41	11.117	3.06	17.183	0.47	23.25	0.24
5.067	1.41	11.133	3.06	17.200	0.47	23.27	0.24
5.083	1.41	11.150	3.06	17.217	0.47	23.28	0.24
5.100	1.41	11.167	3.06	17.233	0.47	23.30	0.24
5.117	1.41	11.183	3.06	17.250	0.47	23.32	0.24
5.133	1.41	11.200	3.06	17.267	0.47	23.33	0.24
5.150	1.41	11.217	3.06	17.283	0.47	23.35	0.24
5.167	1.41	11.233	3.06	17.300	0.47	23.37	0.24
5.183	1.41	11.250	3.06	17.317	0.47	23.38	0.24
5.200	1.41	11.267	3.06	17.333	0.47	23.40	0.24
5.217	1.41	11.283	3.06	17.350	0.47	23.42	0.24
5.233	1.41	11.300	3.06	17.367	0.47	23.43	0.24
5.250	1.41	11.317	3.06	17.383	0.47	23.45	0.24
5.267	1.41	11.333	3.06	17.400	0.47	23.47	0.24
5.283	1.41	11.350	3.06	17.417	0.47	23.48	0.24
5.300	1.41	11.367	3.06	17.433	0.47	23.50	0.24
5.317	1.41	11.383	3.06	17.450	0.47	23.52	0.24
5.333	1.41	11.400	3.06	17.467	0.47	23.53	0.24
5.350	1.41	11.417	3.06	17.483	0.47	23.55	0.24
5.367	1.41	11.433	3.06	17.500	0.47	23.57	0.24
5.383	1.41	11.450	3.06	17.517	0.47	23.58	0.24
5.400	1.41	11.467	3.06	17.533	0.47	23.60	0.24
5.417	1.41	11.483	3.06	17.550	0.47	23.62	0.24
5.433	1.41	11.500	3.06	17.567	0.47	23.63	0.24
5.450	1.41	11.517	3.06	17.583	0.47	23.65	0.24
5.467	1.41	11.533	3.06	17.600	0.47	23.67	0.24
5.483	1.41	11.550	3.06	17.617	0.47	23.68	0.24
5.500	1.41	11.567	3.06	17.633	0.47	23.70	0.24
5.517	1.41	11.583	3.06	17.650	0.47	23.72	0.24
5.533	1.41	11.600	3.06	17.667	0.47	23.73	0.24
5.550	1.41	11.617	3.06	17.683	0.47	23.75	0.24
5.567	1.41	11.633	3.06	17.700	0.47	23.77	0.24
5.583	1.41	11.650	3.06	17.717	0.47	23.78	0.24
5.600	1.41	11.667	3.06	17.733	0.47	23.80	0.24
5.617	1.41	11.683	3.06	17.750	0.47	23.82	0.24
5.633	1.41	11.700	3.06	17.767	0.47	23.83	0.24
5.650	1.41	11.717	3.06	17.783	0.47	23.85	0.24
5.667	1.41	11.733	3.06	17.800	0.47	23.87	0.24
5.683	1.41	11.750	3.06	17.817	0.47	23.88	0.24
5.700	1.41	11.767	3.06	17.833	0.47	23.90	0.24
5.717	1.41	11.783	3.06	17.850	0.47	23.92	0.24
5.733	1.41	11.800	3.06	17.867	0.47	23.93	0.24
5.750	1.41	11.817	3.06	17.883	0.47	23.95	0.24
5.767	1.41	11.833	3.06	17.900	0.47	23.97	0.24
5.783	1.41	11.850	3.06	17.917	0.47	23.98	0.24
5.800	1.41	11.867	3.06	17.933	0.47	24.00	0.24
5.817	1.41	11.883	3.06	17.950	0.47	24.02	0.24
5.833	1.41	11.900	3.06	17.967	0.47	24.03	0.24
5.850	1.41	11.917	3.06	17.983	0.47	24.05	0.24
5.867	1.41	11.933	3.06	18.000	0.47	24.07	0.24
5.883	1.41	11.950	3.06	18.017	0.47	24.08	0.24
5.900	1.41	11.967	3.06	18.033	0.47	24.10	0.24
5.917	1.41	11.983	3.06	18.050	0.47	24.12	0.24
5.933	1.41	12.000	3.06	18.067	0.47	24.13	0.24
5.950	1.41	12.017	3.06	18.083	0.47	24.15	0.24
5.967	1.41	12.033	3.06	18.100	0.47	24.17	0.24
5.983	1.41	12.050	3.06	18.117	0.47	24.18	0.24
6.000	1.41	12.067	3.06	18.133	0.47	24.20	0.24
6.017	1.41	12.083	3.06	18.150	0.47	24.22	0.24
6.033	1.41	12.100	3.06	18.167	0.47	24.23	0.24
6.050	1.41	12.117	3.06	18.183	0.47	24.25	0.24
6.067	1.41	12.133	3.06	18.200	0.47		

Max.Eff.Inten.(mm/hr)=	10.81	7.03	
over (min)	8.00	13.00	
Storage Coeff. (min)=	8.29 (ii)	12.44 (ii)	
Unit Hyd. Tpeak (min)=	8.00	13.00	
Unit Hyd. peak (cms)=	0.14	0.09	
			TOTALS
PEAK FLOW (cms)=	0.12	0.00	0.117 (iii)
TIME TO PEAK (hrs)=	10.23	10.25	10.25
RUNOFF VOLUME (mm)=	46.07	22.97	45.85
TOTAL RAINFALL (mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT =	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.117	10.25	45.85
OUTFLOW: ID= 1 (7632)	3.910	0.031	12.32	41.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 26.74
TIME SHIFT OF PEAK FLOW (min)=124.00
MAXIMUM STORAGE USED (ha.m.)= 0.1061

CALIB		
STANDHYD (7641)	Area (ha)= 2.21	
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.19	0.02
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	121.38	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.41	12.150	3.06	18.22	0.47
0.033	0.00	6.100	1.41	12.167	3.06	18.23	0.47
0.050	0.00	6.117	1.41	12.183	3.06	18.25	0.47
0.067	0.00	6.133	1.41	12.200	3.06	18.27	0.24
0.083	0.00	6.150	1.41	12.217	3.06	18.28	0.24
0.100	0.00	6.167	1.41	12.233	3.06	18.30	0.24
0.117	0.00	6.183	1.41	12.250	3.06	18.32	0.24
0.133	0.00	6.200	1.41	12.267	1.65	18.33	0.24
0.150	0.00	6.217	1.41	12.283	1.65	18.35	0.24
0.167	0.00	6.233	1.41	12.300	1.65	18.37	0.24
0.183	0.00	6.250	1.41	12.317	1.65	18.38	0.24
0.200	0.00	6.267	4.00	12.333	1.65	18.40	0.24
0.217	0.00	6.283	4.00	12.350	1.65	18.42	0.24
0.233	0.00	6.300	4.00	12.367	1.65	18.43	0.24
0.250	0.00	6.317	4.00	12.383	1.65	18.45	0.24
0.267	0.24	6.333	4.00	12.400	1.65	18.47	0.24
0.283	0.24	6.350	4.00	12.417	1.65	18.48	0.24
0.300	0.24	6.367	4.00	12.433	1.65	18.50	0.24
0.317	0.24	6.383	4.00	12.450	1.65	18.52	0.24
0.333	0.24	6.400	4.00	12.467	1.65	18.53	0.24
0.350	0.24	6.417	4.00	12.483	1.65	18.55	0.24
0.367	0.24	6.433	4.00	12.500	1.65	18.57	0.24
0.383	0.24	6.450	4.00	12.517	1.65	18.58	0.24
0.400	0.24	6.467	4.00	12.533	1.65	18.60	0.24
0.417	0.24	6.483	4.00	12.550	1.65	18.62	0.24
0.433	0.24	6.500	4.00	12.567	1.65	18.63	0.24
0.450	0.24	6.517	4.00	12.583	1.65	18.65	0.24
0.467	0.24	6.533	4.00	12.600	1.65	18.67	0.24
0.483	0.24	6.550	4.00	12.617	1.65	18.68	0.24
0.500	0.24	6.567	4.00	12.633	1.65	18.70	0.24
0.517	0.24	6.583	4.00	12.650	1.65	18.72	0.24
0.533	0.24	6.600	4.00	12.667	1.65	18.73	0.24
0.550	0.24	6.617	4.00	12.683	1.65	18.75	0.24
0.567	0.24	6.633	4.00	12.700	1.65	18.77	0.24
0.583	0.24	6.650	4.00	12.717	1.65	18.78	0.24
0.600	0.24	6.667	4.00	12.733	1.65	18.80	0.24
0.617	0.24	6.683	4.00	12.750	1.65	18.82	0.24
0.633	0.24	6.700	4.00	12.767	1.65	18.83	0.24
0.650	0.24	6.717	4.00	12.783	1.65	18.85	0.24
0.667	0.24	6.733	4.00	12.800	1.65	18.87	0.24
0.683	0.24	6.750	4.00	12.817	1.65	18.88	0.24
0.700	0.24	6.767	4.00	12.833	1.65	18.90	0.24
0.717	0.24	6.783	4.00	12.850	1.65	18.92	0.24
0.733	0.24	6.800	4.00	12.867	1.65	18.93	0.24
0.750	0.24	6.817	4.00	12.883	1.65	18.95	0.24
0.767	0.24	6.833	4.00	12.900	1.65	18.97	0.24
0.783	0.24	6.850	4.00	12.917	1.65	18.98	0.24
0.800	0.24	6.867	4.00	12.933	1.65	19.00	0.24
0.817	0.24	6.883	4.00	12.950	1.65	19.02	0.24
0.833	0.24	6.900	4.00	12.967	1.65	19.03	0.24
0.850	0.24	6.917	4.00	12.983	1.65	19.05	0.24
0.867	0.24	6.933	4.00	13.000	1.65	19.07	0.24
0.883	0.24	6.950	4.00	13.017	1.65	19.08	0.24
0.900	0.24	6.967	4.00	13.033	1.65	19.10	0.24
0.917	0.24	6.983	4.00	13.050	1.65	19.12	0.24
0.933	0.24	7.000	4.00	13.067	1.65	19.13	0.24
0.950	0.24	7.017	4.00	13.083	1.65	19.15	0.24
0.967	0.24	7.033	4.00	13.100	1.65	19.17	0.24
0.983	0.24	7.050	4.00	13.117	1.65	19.18	0.24
1.000	0.24	7.067	4.00	13.133	1.65	19.20	0.24
1.017	0.24	7.083	4.00	13.150	1.65	19.22	0.24
1.033	0.24	7.100	4.00	13.167	1.65	19.23	0.24
1.050	0.24	7.117	4.00	13.183	1.65	19.25	0.24
1.067	0.24	7.133	4.00	13.200	1.65	19.27	0.24
1.083	0.24	7.150	4.00	13.217	1.65	19.28	0.24
1.100	0.24	7.167	4.00	13.233	1.65	19.30	0.24
1.117	0.24	7.183	4.00	13.250	1.65	19.32	0.24
1.133	0.24	7.200	4.00	13.267	1.65	19.33	0.24
1.150	0.24	7.217	4.00	13.283	1.65	19.35	0.24
1.167	0.24	7.233	4.00	13.300	1.65	19.37	0.24
1.183	0.24	7.250	4.00	13.317	1.65	19.38	0.24
1.200	0.24	7.267	4.00	13.333	1.65	19.40	0.24
1.217	0.24	7.283	4.00	13.350	1.65	19.42	0.24
1.233	0.24	7.300	4.00	13.367	1.65	19.43	0.24
1.250	0.24	7.317	4.00	13.383	1.65	19.45	0.24
1.267	0.24	7.333	4.00	13.400	1.65	19.47	0.24
1.283	0.24	7.350	4.00	13.417	1.65	19.48	0.24
1.300	0.24	7.367	4.00	13.433	1.65	19.50	0.24
1.317	0.24	7.383	4.00	13.450	1.65	19.52	0.24
1.333	0.24	7.400	4.00	13.467	1.65	19.53	0.24
1.350	0.24	7.417	4.00	13.483	1.65	19.55	0.24
1.367	0.24	7.433	4.00	13.500	1.65	19.57	0.24
1.383	0.24	7.450	4.00	13.517	1.65	19.58	0.24
1.400	0.24	7.467	4.00	13.533	1.65	19.60	0.24
1.417	0.24	7.483	4.00	13.550	1.65	19.62	0.24
1.433	0.24	7.500	4.00	13.567	1.65	19.63	0.24
1.450	0.24	7.517	4.00	13.583	1.65	19.65	0.24
1.467	0.24	7.533	4.00	13.600	1.65	19.67	0.24
1.483	0.24	7.550	4.00	13.617	1.65	19.68	0.24
1.500	0.24	7.567	4.00	13.633	1.65	19.70	0.24
1.517	0.24	7.583	4.00	13.650	1.65	19.72	0.24
1.533	0.24	7.600	4.00	13.667	1.65	19.73	0.24
1.550	0.24	7.617	4.00	13.683	1.65	19.75	0.24
1.567	0.24	7.633	4.00	13.700	1.65	19.77	0.24
1.583	0.24	7.650	4.00	13.717	1.65	19.78	0.24
1.600	0.24	7.667	4.00	13.733	1.65	19.80	0.24
1.617	0.24	7.683	4.00	13.750	1.65	19.82	0.24
1.633	0.24	7.700	4.00	13.767	1.65	19.83	0.24
1.650	0.24	7.717	4.00	13.783	1.65	19.85	0.24
1.667	0.24	7.733	4.00	13.800	1.65	19.87	0.24
1.683	0.24	7.750	4.00	13.817	1.65	19.88	0.24
1.700	0.24	7.767	4.00	13.833	1.65	19.90	0.24
1.717	0.24	7.783	4.00	13.850	1.65	19.92	0.24
1.733	0.24	7.800	4.00	13.867	1.65	19.93	0.24
1.750	0.24	7.817	4.00	13.883	1.65	19.95	0.24
1.767	0.24	7.833	4.00	13.900	1.65	19.97	0.24
1.783	0.24	7.850	4.00	13.917	1.65	19.98	0.24
1.800	0.24	7.867	4.00	13.933	1.65	20.00	0.24
1.817	0.24	7.883	4.00	13.950	1.65	20.02	0.24
1.833	0.24	7.900	4.00	13.967	1.65	20.03	0.24
1.850	0.24	7.917	4.00	13.983	1.65	20.05	0.24
1.867	0.24	7.933	4.00	14.000	1.65	20.07	0.24
1.883	0.24	7.950	4.00	14.017	1.65	20.08	0.24
1.900	0.24	7.967	4.00	14.033	1.65	20.10	0.24
1.917	0.24	7.983	4.00	14.050	1.65	20.12	0.24
1.933	0.24	8.000	4.00	14.067	1.65	20.13	0.24
1.950	0.24	8.017	4.00	14.083	1.65	20.15	0.24
1.967	0.24	8.033	4.00	14.100	1.65	20.17	0.24
1.983	0.24	8.050	4.00	14.117	1.65	20.18	0.24
2.000	0.24	8.067	4.00	14.133	1.65	20.20	0.24
2.017	0.24	8.083	4.00	14.150	1.65	20.22	0.24
2.033	0.24	8.100	4.00	14.167	1.65	20.23	0.24
2.050	0.24	8.117	4.00	14.183	1.65	20.25	0.24
2.067	0.24	8.133	4.00	14.200	1.65	20.27	0.24
2.083	0.24	8.150	4.00	14.217	1.65	20.28	0.24
2.100	0.24	8.167	4.00	14.233	1.65	20.30	0.24
2.117	0.24	8.183	4.00	14.250	1.65	20.32	0.24
2.133	0.24	8.200	4.00	14.267	0.94	20.33	0.24
2.150	0.24	8.217	4.00	14.283	0.94	20.35	0.24
2.167	0.24	8.233	4.00	14.300	0.94	20.37	0.24
2.183	0.24	8.250	4.02	14.317	0.94	20.38	0.24
2.200	0.24	8.267	10.81	14.333	0.94	20.40	0.24
2.217	0.24	8.283	10.81	14.350	0.94	20.42	0.24
2.233	0.24	8.300	10.81	14.367	0.94	20.43	0.24
2.250	0.24	8.317	10.81	14.383	0.94	20.45	0.24
2.267	0.24	8.333	10.81	14.400	0.94	20.47	0.24
2.283	0.24	8.350	10.81	14.417	0.94	20.48	0.24
2.300	0.24	8.367	10.81	14.433	0.94	20.50	0.24
2.317	0.24	8.383	10.81	14.450	0.94	20.52	0.24
2.333	0.24	8.400	10.81	14.467	0.94	20.53	0.24
2.350	0.24	8.417	10.81	14.483	0.94	20.55	0.24
2.367	0.24	8.433	10.81	14.500	0.94	20.57	0.24
2.383	0.24	8.450	10.81	14.517	0.94	20.58	0.24
2.400	0.24	8.467	10.81	14.533	0.94	20.60	0.24
2.417	0.24	8.483	10.81	14.550	0.94	20.62	0.24
2.433	0.24	8.500	10.81	14.567	0.94	20.63	0.24
2.450	0.24	8.517	10.81	14.583	0.94	20.65	0.24

2.467	0.24	8.533	10.81	14.600	0.94	20.67	0.24
2.483	0.24	8.550	10.81	14.617	0.94	20.68	0.24
2.500	0.24	8.567	10.81	14.633	0.94	20.70	0.24
2.517	0.24	8.583	10.81	14.650	0.94	20.72	0.24
2.533	0.24	8.600	10.81	14.667	0.94	20.73	0.24
2.550	0.24	8.617	10.81	14.683	0.94	20.75	0.24
2.567	0.24	8.633	10.81	14.700	0.94	20.77	0.24
2.583	0.24	8.650	10.81	14.717	0.94	20.78	0.24
2.600	0.24	8.667	10.81	14.733	0.94	20.80	0.24
2.617	0.24	8.683	10.81	14.750	0.94	20.82	0.24
2.633	0.24	8.700	10.81	14.767	0.94	20.83	0.24
2.650	0.24	8.717	10.81	14.783	0.94	20.85	0.24
2.667	0.24	8.733	10.81	14.800	0.94	20.87	0.24
2.683	0.24	8.750	10.81	14.817	0.94	20.88	0.24
2.700	0.24	8.767	10.81	14.833	0.94	20.90	0.24
2.717	0.24	8.783	10.81	14.850	0.94	20.92	0.24
2.733	0.24	8.800	10.81	14.867	0.94	20.93	0.24
2.750	0.24	8.817	10.81	14.883	0.94	20.95	0.24
2.767	0.24	8.833	10.81	14.900	0.94	20.97	0.24
2.783	0.24	8.850	10.81	14.917	0.94	20.98	0.24
2.800	0.24	8.867	10.81	14.933	0.94	21.00	0.24
2.817	0.24	8.883	10.81	14.950	0.94	21.02	0.24
2.833	0.24	8.900	10.81	14.967	0.94	21.03	0.24
2.850	0.24	8.917	10.81	14.983	0.94	21.05	0.24
2.867	0.24	8.933	10.81	15.000	0.94	21.07	0.24
2.883	0.24	8.950	10.81	15.017	0.94	21.08	0.24
2.900	0.24	8.967	10.81	15.033	0.94	21.10	0.24
2.917	0.24	8.983	10.81	15.050	0.94	21.12	0.24
2.933	0.24	9.000	10.81	15.067	0.94	21.13	0.24
2.950	0.24	9.017	10.81	15.083	0.94	21.15	0.24
2.967	0.24	9.033	10.81	15.100	0.94	21.17	0.24
2.983	0.24	9.050	10.81	15.117	0.94	21.18	0.24
3.000	0.24	9.067	10.81	15.133	0.94	21.20	0.24
3.017	0.24	9.083	10.81	15.150	0.94	21.22	0.24
3.033	0.24	9.100	10.81	15.167	0.94	21.23	0.24
3.050	0.24	9.117	10.81	15.183	0.94	21.25	0.24
3.067	0.24	9.133	10.81	15.200	0.94	21.27	0.24
3.083	0.24	9.150	10.81	15.217	0.94	21.28	0.24
3.100	0.24	9.167	10.81	15.233	0.94	21.30	0.24
3.117	0.24	9.183	10.81	15.250	0.94	21.32	0.24
3.133	0.24	9.200	10.81	15.267	0.94	21.33	0.24
3.150	0.24	9.217	10.81	15.283	0.94	21.35	0.24
3.167	0.24	9.233	10.81	15.300	0.94	21.37	0.24
3.183	0.24	9.250	10.81	15.317	0.94	21.38	0.24
3.200	0.24	9.267	10.81	15.333	0.94	21.40	0.24
3.217	0.24	9.283	10.81	15.350	0.94	21.42	0.24
3.233	0.24	9.300	10.81	15.367	0.94	21.43	0.24
3.250	0.24	9.317	10.81	15.383	0.94	21.45	0.24
3.267	0.24	9.333	10.81	15.400	0.94	21.47	0.24
3.283	0.24	9.350	10.81	15.417	0.94	21.48	0.24
3.300	0.24	9.367	10.81	15.433	0.94	21.50	0.24
3.317	0.24	9.383	10.81	15.450	0.94	21.52	0.24
3.333	0.24	9.400	10.81	15.467	0.94	21.53	0.24
3.350	0.24	9.417	10.81	15.483	0.94	21.55	0.24
3.367	0.24	9.433	10.81	15.500	0.94	21.57	0.24
3.383	0.24	9.450	10.81	15.517	0.94	21.58	0.24
3.400	0.24	9.467	10.81	15.533	0.94	21.60	0.24
3.417	0.24	9.483	10.81	15.550	0.94	21.62	0.24
3.433	0.24	9.500	10.81	15.567	0.94	21.63	0.24
3.450	0.24	9.517	10.81	15.583	0.94	21.65	0.24
3.467	0.24	9.533	10.81	15.600	0.94	21.67	0.24
3.483	0.24	9.550	10.81	15.617	0.94	21.68	0.24
3.500	0.24	9.567	10.81	15.633	0.94	21.70	0.24
3.517	0.24	9.583	10.81	15.650	0.94	21.72	0.24
3.533	0.24	9.600	10.81	15.667	0.94	21.73	0.24
3.550	0.24	9.617	10.81	15.683	0.94	21.75	0.24
3.567	0.24	9.633	10.81	15.700	0.94	21.77	0.24
3.583	0.24	9.650	10.81	15.717	0.94	21.78	0.24
3.600	0.24	9.667	10.81	15.733	0.94	21.80	0.24
3.617	0.24	9.683	10.81	15.750	0.94	21.82	0.24
3.633	0.24	9.700	10.81	15.767	0.94	21.83	0.24
3.650	0.24	9.717	10.81	15.783	0.94	21.85	0.24
3.667	0.24	9.733	10.81	15.800	0.94	21.87	0.24
3.683	0.24	9.750	10.81	15.817	0.94	21.88	0.24
3.700	0.24	9.767	10.81	15.833	0.94	21.90	0.24
3.717	0.24	9.783	10.81	15.850	0.94	21.92	0.24
3.733	0.24	9.800	10.81	15.867	0.94	21.93	0.24
3.750	0.24	9.817	10.81	15.883	0.94	21.95	0.24
3.767	0.24	9.833	10.81	15.900	0.94	21.97	0.24
3.783	0.24	9.850	10.81	15.917	0.94	21.98	0.24
3.800	0.24	9.867	10.81	15.933	0.94	22.00	0.24
3.817	0.24	9.883	10.81	15.950	0.94	22.02	0.24
3.833	0.24	9.900	10.81	15.967	0.94	22.03	0.24
3.850	0.24	9.917	10.81	15.983	0.94	22.05	0.24
3.867	0.24	9.933	10.81	16.000	0.94	22.07	0.24
3.883	0.24	9.950	10.81	16.017	0.94	22.08	0.24
3.900	0.24	9.967	10.81	16.033	0.94	22.10	0.24
3.917	0.24	9.983	10.81	16.050	0.94	22.12	0.24
3.933	0.24	10.000	10.81	16.067	0.94	22.13	0.24
3.950	0.24	10.017	10.81	16.083	0.94	22.15	0.24
3.967	0.24	10.033	10.81	16.100	0.94	22.17	0.24
3.983	0.24	10.050	10.81	16.117	0.94	22.18	0.24
4.000	0.24	10.067	10.81	16.133	0.94	22.20	0.24
4.017	0.24	10.083	10.81	16.150	0.94	22.22	0.24
4.033	0.24	10.100	10.81	16.167	0.94	22.23	0.24
4.050	0.24	10.117	10.81	16.183	0.94	22.25	0.24
4.067	0.24	10.133	10.81	16.200	0.94	22.27	0.24
4.083	0.24	10.150	10.81	16.217	0.94	22.28	0.24
4.100	0.24	10.167	10.81	16.233	0.94	22.30	0.24
4.117	0.24	10.183	10.81	16.250	0.94	22.32	0.24
4.133	0.24	10.200	10.81	16.267	0.47	22.33	0.24
4.150	0.24	10.217	10.81	16.283	0.47	22.35	0.24
4.167	0.24	10.233	10.81	16.300	0.47	22.37	0.24
4.183	0.24	10.250	10.80	16.317	0.47	22.38	0.24
4.200	0.24	10.267	3.06	16.333	0.47	22.40	0.24
4.217	0.24	10.283	3.06	16.350	0.47	22.42	0.24
4.233	0.24	10.300	3.06	16.367	0.47	22.43	0.24
4.250	0.24	10.317	3.06	16.383	0.47	22.45	0.24
4.267	1.41	10.333	3.06	16.400	0.47	22.47	0.24
4.283	1.41	10.350	3.06	16.417	0.47	22.48	0.24
4.300	1.41	10.367	3.06	16.433	0.47	22.50	0.24
4.317	1.41	10.383	3.06	16.450	0.47	22.52	0.24
4.333	1.41	10.400	3.06	16.467	0.47	22.53	0.24
4.350	1.41	10.417	3.06	16.483	0.47	22.55	0.24
4.367	1.41	10.433	3.06	16.500	0.47	22.57	0.24
4.383	1.41	10.450	3.06	16.517	0.47	22.58	0.24
4.400	1.41	10.467	3.06	16.533	0.47	22.60	0.24
4.417	1.41	10.483	3.06	16.550	0.47	22.62	0.24
4.433	1.41	10.500	3.06	16.567	0.47	22.63	0.24
4.450	1.41	10.517	3.06	16.583	0.47	22.65	0.24
4.467	1.41	10.533	3.06	16.600	0.47	22.67	0.24
4.483	1.41	10.550	3.06	16.617	0.47	22.68	0.24
4.500	1.41	10.567	3.06	16.633	0.47	22.70	0.24
4.517	1.41	10.583	3.06	16.650	0.47	22.72	0.24
4.533	1.41	10.600	3.06	16.667	0.47	22.73	0.24
4.550	1.41	10.617	3.06	16.683	0.47	22.75	0.24
4.567	1.41	10.633	3.06	16.700	0.47	22.77	0.24
4.583	1.41	10.650	3.06	16.717	0.47	22.78	0.24
4.600	1.41	10.667	3.06	16.733	0.47	22.80	0.24
4.617	1.41	10.683	3.06	16.750	0.47	22.82	0.24
4.633	1.41	10.700	3.06	16.767	0.47	22.83	0.24
4.650	1.41	10.717	3.06	16.783	0.47	22.85	0.24
4.667	1.41	10.733	3.06	16.800	0.47	22.87	0.24
4.683	1.41	10.750	3.06	16.817	0.47	22.88	0.24
4.700	1.41	10.767	3.06	16.833	0.47	22.90	0.24
4.717	1.41	10.783	3.06	16.850	0.47	22.92	0.24
4.733	1.41	10.800	3.06	16.867	0.47	22.93	0.24
4.750	1.41	10.817	3.06	16.883	0.47	22.95	0.24
4.767	1.41	10.833	3.06	16.900	0.47	22.97	0.24
4.783	1.41	10.850	3.06	16.917	0.47	22.98	0.24
4.800	1.41	10.867	3.06	16.933	0.47	23.00	0.24
4.817	1.41	10.883	3.06	16.950	0.47	23.02	0.24
4.833	1.41	10.900	3.06	16.967	0.47	23.03	0.24
4.850	1.41	10.917	3.06	16.983	0.47	23.05	0.24
4.867	1.41	10.933	3.06	17.000	0.47	23.07	0.24
4.883	1.41	10.950	3.06	17.017	0.47	23.08	0.24
4.900	1.41	10.967	3.06	17.033	0.47	23.10	0.24
4.917	1.41	10.983	3.06	17.050	0.47	23.12	0.24
4.933	1.41	11.000	3.06	17.067	0.47	23.13	0.24
4.950	1.41	11.017	3.06	17.083	0.47	23.15	0.24
4.967	1.41	11.033	3.06	17.100	0.47	23.17	0.24
4.983	1.41	11.050	3.06	17.117	0.47	23.18	0.24

5.000	1.41	11.067	3.06	17.133	0.47	23.20	0.24
5.017	1.41	11.083	3.06	17.150	0.47	23.22	0.24
5.033	1.41	11.100	3.06	17.167	0.47	23.23	0.24
5.050	1.41	11.117	3.06	17.183	0.47	23.25	0.24
5.067	1.41	11.133	3.06	17.200	0.47	23.27	0.24
5.083	1.41	11.150	3.06	17.217	0.47	23.28	0.24
5.100	1.41	11.167	3.06	17.233	0.47	23.30	0.24
5.117	1.41	11.183	3.06	17.250	0.47	23.32	0.24
5.133	1.41	11.200	3.06	17.267	0.47	23.33	0.24
5.150	1.41	11.217	3.06	17.283	0.47	23.35	0.24
5.167	1.41	11.233	3.06	17.300	0.47	23.37	0.24
5.183	1.41	11.250	3.06	17.317	0.47	23.38	0.24
5.200	1.41	11.267	3.06	17.333	0.47	23.40	0.24
5.217	1.41	11.283	3.06	17.350	0.47	23.42	0.24
5.233	1.41	11.300	3.06	17.367	0.47	23.43	0.24
5.250	1.41	11.317	3.06	17.383	0.47	23.45	0.24
5.267	1.41	11.333	3.06	17.400	0.47	23.47	0.24
5.283	1.41	11.350	3.06	17.417	0.47	23.48	0.24
5.300	1.41	11.367	3.06	17.433	0.47	23.50	0.24
5.317	1.41	11.383	3.06	17.450	0.47	23.52	0.24
5.333	1.41	11.400	3.06	17.467	0.47	23.53	0.24
5.350	1.41	11.417	3.06	17.483	0.47	23.55	0.24
5.367	1.41	11.433	3.06	17.500	0.47	23.57	0.24
5.383	1.41	11.450	3.06	17.517	0.47	23.58	0.24
5.400	1.41	11.467	3.06	17.533	0.47	23.60	0.24
5.417	1.41	11.483	3.06	17.550	0.47	23.62	0.24
5.433	1.41	11.500	3.06	17.567	0.47	23.63	0.24
5.450	1.41	11.517	3.06	17.583	0.47	23.65	0.24
5.467	1.41	11.533	3.06	17.600	0.47	23.67	0.24
5.483	1.41	11.550	3.06	17.617	0.47	23.68	0.24
5.500	1.41	11.567	3.06	17.633	0.47	23.70	0.24
5.517	1.41	11.583	3.06	17.650	0.47	23.72	0.24
5.533	1.41	11.600	3.06	17.667	0.47	23.73	0.24
5.550	1.41	11.617	3.06	17.683	0.47	23.75	0.24
5.567	1.41	11.633	3.06	17.700	0.47	23.77	0.24
5.583	1.41	11.650	3.06	17.717	0.47	23.78	0.24
5.600	1.41	11.667	3.06	17.733	0.47	23.80	0.24
5.617	1.41	11.683	3.06	17.750	0.47	23.82	0.24
5.633	1.41	11.700	3.06	17.767	0.47	23.83	0.24
5.650	1.41	11.717	3.06	17.783	0.47	23.85	0.24
5.667	1.41	11.733	3.06	17.800	0.47	23.87	0.24
5.683	1.41	11.750	3.06	17.817	0.47	23.88	0.24
5.700	1.41	11.767	3.06	17.833	0.47	23.90	0.24
5.717	1.41	11.783	3.06	17.850	0.47	23.92	0.24
5.733	1.41	11.800	3.06	17.867	0.47	23.93	0.24
5.750	1.41	11.817	3.06	17.883	0.47	23.95	0.24
5.767	1.41	11.833	3.06	17.900	0.47	23.97	0.24
5.783	1.41	11.850	3.06	17.917	0.47	23.98	0.24
5.800	1.41	11.867	3.06	17.933	0.47	24.00	0.24
5.817	1.41	11.883	3.06	17.950	0.47	24.02	0.24
5.833	1.41	11.900	3.06	17.967	0.47	24.03	0.24
5.850	1.41	11.917	3.06	17.983	0.47	24.05	0.24
5.867	1.41	11.933	3.06	18.000	0.47	24.07	0.24
5.883	1.41	11.950	3.06	18.017	0.47	24.08	0.24
5.900	1.41	11.967	3.06	18.033	0.47	24.10	0.24
5.917	1.41	11.983	3.06	18.050	0.47	24.12	0.24
5.933	1.41	12.000	3.06	18.067	0.47	24.13	0.24
5.950	1.41	12.017	3.06	18.083	0.47	24.15	0.24
5.967	1.41	12.033	3.06	18.100	0.47	24.17	0.24
5.983	1.41	12.050	3.06	18.117	0.47	24.18	0.24
6.000	1.41	12.067	3.06	18.133	0.47	24.20	0.24
6.017	1.41	12.083	3.06	18.150	0.47	24.22	0.24
6.033	1.41	12.100	3.06	18.167	0.47	24.23	0.24
6.050	1.41	12.117	3.06	18.183	0.47	24.25	0.24
6.067	1.41	12.133	3.06	18.200	0.47		

Max.Eff.Inten.(mm/hr)=	10.81	7.03		
over (min)	7.00	12.00		
Storage Coeff. (min)=	6.99 (ii)	11.13 (ii)		
Unit Hyd. Tpeak (min)=	7.00	12.00		
Unit Hyd. peak (cms)=	0.16	0.10		
			TOTALS	
PEAK FLOW (cms)=	0.07	0.00	0.066 (iii)	
TIME TO PEAK (hrs)=	9.98	10.25	10.25	
RUNOFF VOLUME (mm)=	46.07	22.98	45.85	
TOTAL RAINFALL (mm)=	47.08	47.08	47.08	
RUNOFF COEFFICIENT =	0.98	0.49	0.97	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.066	10.25	45.85
OUTFLOW: ID= 1 (7642)	2.210	0.018	12.28	42.17

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.83
TIME SHIFT OF PEAK FLOW (min)=122.00
MAXIMUM STORAGE USED (ha.m.)= 0.0588

CALIB			
STANDHYD (7643)	Area (ha)= 2.02		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.00	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	116.05	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.41	12.150	3.06	18.22	0.47
0.033	0.00	6.100	1.41	12.167	3.06	18.23	0.47
0.050	0.00	6.117	1.41	12.183	3.06	18.25	0.47
0.067	0.00	6.133	1.41	12.200	3.06	18.27	0.24
0.083	0.00	6.150	1.41	12.217	3.06	18.28	0.24
0.100	0.00	6.167	1.41	12.233	3.06	18.30	0.24
0.117	0.00	6.183	1.41	12.250	3.06	18.32	0.24
0.133	0.00	6.200	1.41	12.267	1.65	18.33	0.24
0.150	0.00	6.217	1.41	12.283	1.65	18.35	0.24
0.167	0.00	6.233	1.41	12.300	1.65	18.37	0.24
0.183	0.00	6.250	1.41	12.317	1.65	18.38	0.24
0.200	0.00	6.267	4.00	12.333	1.65	18.40	0.24
0.217	0.00	6.283	4.00	12.350	1.65	18.42	0.24
0.233	0.00	6.300	4.00	12.367	1.65	18.43	0.24
0.250	0.00	6.317	4.00	12.383	1.65	18.45	0.24
0.267	0.24	6.333	4.00	12.400	1.65	18.47	0.24
0.283	0.24	6.350	4.00	12.417	1.65	18.48	0.24
0.300	0.24	6.367	4.00	12.433	1.65	18.50	0.24
0.317	0.24	6.383	4.00	12.450	1.65	18.52	0.24
0.333	0.24	6.400	4.00	12.467	1.65	18.53	0.24
0.350	0.24	6.417	4.00	12.483	1.65	18.55	0.24
0.367	0.24	6.433	4.00	12.500	1.65	18.57	0.24
0.383	0.24	6.450	4.00	12.517	1.65	18.58	0.24
0.400	0.24	6.467	4.00	12.533	1.65	18.60	0.24
0.417	0.24	6.483	4.00	12.550	1.65	18.62	0.24
0.433	0.24	6.500	4.00	12.567	1.65	18.63	0.24
0.450	0.24	6.517	4.00	12.583	1.65	18.65	0.24
0.467	0.24	6.533	4.00	12.600	1.65	18.67	0.24

0.483	0.24	6.550	4.00	12.617	1.65	18.68	0.24
0.500	0.24	6.567	4.00	12.633	1.65	18.70	0.24
0.517	0.24	6.583	4.00	12.650	1.65	18.72	0.24
0.533	0.24	6.600	4.00	12.667	1.65	18.73	0.24
0.550	0.24	6.617	4.00	12.683	1.65	18.75	0.24
0.567	0.24	6.633	4.00	12.700	1.65	18.77	0.24
0.583	0.24	6.650	4.00	12.717	1.65	18.78	0.24
0.600	0.24	6.667	4.00	12.733	1.65	18.80	0.24
0.617	0.24	6.683	4.00	12.750	1.65	18.82	0.24
0.633	0.24	6.700	4.00	12.767	1.65	18.83	0.24
0.650	0.24	6.717	4.00	12.783	1.65	18.85	0.24
0.667	0.24	6.733	4.00	12.800	1.65	18.87	0.24
0.683	0.24	6.750	4.00	12.817	1.65	18.88	0.24
0.700	0.24	6.767	4.00	12.833	1.65	18.90	0.24
0.717	0.24	6.783	4.00	12.850	1.65	18.92	0.24
0.733	0.24	6.800	4.00	12.867	1.65	18.93	0.24
0.750	0.24	6.817	4.00	12.883	1.65	18.95	0.24
0.767	0.24	6.833	4.00	12.900	1.65	18.97	0.24
0.783	0.24	6.850	4.00	12.917	1.65	18.98	0.24
0.800	0.24	6.867	4.00	12.933	1.65	19.00	0.24
0.817	0.24	6.883	4.00	12.950	1.65	19.02	0.24
0.833	0.24	6.900	4.00	12.967	1.65	19.03	0.24
0.850	0.24	6.917	4.00	12.983	1.65	19.05	0.24
0.867	0.24	6.933	4.00	13.000	1.65	19.07	0.24
0.883	0.24	6.950	4.00	13.017	1.65	19.08	0.24
0.900	0.24	6.967	4.00	13.033	1.65	19.10	0.24
0.917	0.24	6.983	4.00	13.050	1.65	19.12	0.24
0.933	0.24	7.000	4.00	13.067	1.65	19.13	0.24
0.950	0.24	7.017	4.00	13.083	1.65	19.15	0.24
0.967	0.24	7.033	4.00	13.100	1.65	19.17	0.24
0.983	0.24	7.050	4.00	13.117	1.65	19.18	0.24
1.000	0.24	7.067	4.00	13.133	1.65	19.20	0.24
1.017	0.24	7.083	4.00	13.150	1.65	19.22	0.24
1.033	0.24	7.100	4.00	13.167	1.65	19.23	0.24
1.050	0.24	7.117	4.00	13.183	1.65	19.25	0.24
1.067	0.24	7.133	4.00	13.200	1.65	19.27	0.24
1.083	0.24	7.150	4.00	13.217	1.65	19.28	0.24
1.100	0.24	7.167	4.00	13.233	1.65	19.30	0.24
1.117	0.24	7.183	4.00	13.250	1.65	19.32	0.24
1.133	0.24	7.200	4.00	13.267	1.65	19.33	0.24
1.150	0.24	7.217	4.00	13.283	1.65	19.35	0.24
1.167	0.24	7.233	4.00	13.300	1.65	19.37	0.24
1.183	0.24	7.250	4.00	13.317	1.65	19.38	0.24
1.200	0.24	7.267	4.00	13.333	1.65	19.40	0.24
1.217	0.24	7.283	4.00	13.350	1.65	19.42	0.24
1.233	0.24	7.300	4.00	13.367	1.65	19.43	0.24
1.250	0.24	7.317	4.00	13.383	1.65	19.45	0.24
1.267	0.24	7.333	4.00	13.400	1.65	19.47	0.24
1.283	0.24	7.350	4.00	13.417	1.65	19.48	0.24
1.300	0.24	7.367	4.00	13.433	1.65	19.50	0.24
1.317	0.24	7.383	4.00	13.450	1.65	19.52	0.24
1.333	0.24	7.400	4.00	13.467	1.65	19.53	0.24
1.350	0.24	7.417	4.00	13.483	1.65	19.55	0.24
1.367	0.24	7.433	4.00	13.500	1.65	19.57	0.24
1.383	0.24	7.450	4.00	13.517	1.65	19.58	0.24
1.400	0.24	7.467	4.00	13.533	1.65	19.60	0.24
1.417	0.24	7.483	4.00	13.550	1.65	19.62	0.24
1.433	0.24	7.500	4.00	13.567	1.65	19.63	0.24
1.450	0.24	7.517	4.00	13.583	1.65	19.65	0.24
1.467	0.24	7.533	4.00	13.600	1.65	19.67	0.24
1.483	0.24	7.550	4.00	13.617	1.65	19.68	0.24
1.500	0.24	7.567	4.00	13.633	1.65	19.70	0.24
1.517	0.24	7.583	4.00	13.650	1.65	19.72	0.24
1.533	0.24	7.600	4.00	13.667	1.65	19.73	0.24
1.550	0.24	7.617	4.00	13.683	1.65	19.75	0.24
1.567	0.24	7.633	4.00	13.700	1.65	19.77	0.24
1.583	0.24	7.650	4.00	13.717	1.65	19.78	0.24
1.600	0.24	7.667	4.00	13.733	1.65	19.80	0.24
1.617	0.24	7.683	4.00	13.750	1.65	19.82	0.24
1.633	0.24	7.700	4.00	13.767	1.65	19.83	0.24
1.650	0.24	7.717	4.00	13.783	1.65	19.85	0.24
1.667	0.24	7.733	4.00	13.800	1.65	19.87	0.24
1.683	0.24	7.750	4.00	13.817	1.65	19.88	0.24
1.700	0.24	7.767	4.00	13.833	1.65	19.90	0.24
1.717	0.24	7.783	4.00	13.850	1.65	19.92	0.24
1.733	0.24	7.800	4.00	13.867	1.65	19.93	0.24
1.750	0.24	7.817	4.00	13.883	1.65	19.95	0.24
1.767	0.24	7.833	4.00	13.900	1.65	19.97	0.24
1.783	0.24	7.850	4.00	13.917	1.65	19.98	0.24
1.800	0.24	7.867	4.00	13.933	1.65	20.00	0.24
1.817	0.24	7.883	4.00	13.950	1.65	20.02	0.24
1.833	0.24	7.900	4.00	13.967	1.65	20.03	0.24
1.850	0.24	7.917	4.00	13.983	1.65	20.05	0.24
1.867	0.24	7.933	4.00	14.000	1.65	20.07	0.24
1.883	0.24	7.950	4.00	14.017	1.65	20.08	0.24
1.900	0.24	7.967	4.00	14.033	1.65	20.10	0.24
1.917	0.24	7.983	4.00	14.050	1.65	20.12	0.24
1.933	0.24	8.000	4.00	14.067	1.65	20.13	0.24
1.950	0.24	8.017	4.00	14.083	1.65	20.15	0.24
1.967	0.24	8.033	4.00	14.100	1.65	20.17	0.24
1.983	0.24	8.050	4.00	14.117	1.65	20.18	0.24
2.000	0.24	8.067	4.00	14.133	1.65	20.20	0.24
2.017	0.24	8.083	4.00	14.150	1.65	20.22	0.24
2.033	0.24	8.100	4.00	14.167	1.65	20.23	0.24
2.050	0.24	8.117	4.00	14.183	1.65	20.25	0.24
2.067	0.24	8.133	4.00	14.200	1.65	20.27	0.24
2.083	0.24	8.150	4.00	14.217	1.65	20.28	0.24
2.100	0.24	8.167	4.00	14.233	1.65	20.30	0.24
2.117	0.24	8.183	4.00	14.250	1.65	20.32	0.24
2.133	0.24	8.200	4.00	14.267	0.94	20.33	0.24
2.150	0.24	8.217	4.00	14.283	0.94	20.35	0.24
2.167	0.24	8.233	4.00	14.300	0.94	20.37	0.24
2.183	0.24	8.250	4.02	14.317	0.94	20.38	0.24
2.200	0.24	8.267	10.81	14.333	0.94	20.40	0.24
2.217	0.24	8.283	10.81	14.350	0.94	20.42	0.24
2.233	0.24	8.300	10.81	14.367	0.94	20.43	0.24
2.250	0.24	8.317	10.81	14.383	0.94	20.45	0.24
2.267	0.24	8.333	10.81	14.400	0.94	20.47	0.24
2.283	0.24	8.350	10.81	14.417	0.94	20.48	0.24
2.300	0.24	8.367	10.81	14.433	0.94	20.50	0.24
2.317	0.24	8.383	10.81	14.450	0.94	20.52	0.24
2.333	0.24	8.400	10.81	14.467	0.94	20.53	0.24
2.350	0.24	8.417	10.81	14.483	0.94	20.55	0.24
2.367	0.24	8.433	10.81	14.500	0.94	20.57	0.24
2.383	0.24	8.450	10.81	14.517	0.94	20.58	0.24
2.400	0.24	8.467	10.81	14.533	0.94	20.60	0.24
2.417	0.24	8.483	10.81	14.550	0.94	20.62	0.24
2.433	0.24	8.500	10.81	14.567	0.94	20.63	0.24
2.450	0.24	8.517	10.81	14.583	0.94	20.65	0.24
2.467	0.24	8.533	10.81	14.600	0.94	20.67	0.24
2.483	0.24	8.550	10.81	14.617	0.94	20.68	0.24
2.500	0.24	8.567	10.81	14.633	0.94	20.70	0.24
2.517	0.24	8.583	10.81	14.650	0.94	20.72	0.24
2.533	0.24	8.600	10.81	14.667	0.94	20.73	0.24
2.550	0.24	8.617	10.81	14.683	0.94	20.75	0.24
2.567	0.24	8.633	10.81	14.700	0.94	20.77	0.24
2.583	0.24	8.650	10.81	14.717	0.94	20.78	0.24
2.600	0.24	8.667	10.81	14.733	0.94	20.80	0.24
2.617	0.24	8.683	10.81	14.750	0.94	20.82	0.24
2.633	0.24	8.700	10.81	14.767	0.94	20.83	0.24
2.650	0.24	8.717	10.81	14.783	0.94	20.85	0.24
2.667	0.24	8.733	10.81	14.800	0.94	20.87	0.24
2.683	0.24	8.750	10.81	14.817	0.94	20.88	0.24
2.700	0.24	8.767	10.81	14.833	0.94	20.90	0.24
2.717	0.24	8.783	10.81	14.850	0.94	20.92	0.24
2.733	0.24	8.800	10.81	14.867	0.94	20.93	0.24
2.750	0.24	8.817	10.81	14.883	0.94	20.95	0.24
2.767	0.24	8.833	10.81	14.900	0.94	20.97	0.24
2.783	0.24	8.850	10.81	14.917	0.94	20.98	0.24
2.800	0.24	8.867	10.81	14.933	0.94	21.00	0.24
2.817	0.24	8.883	10.81	14.950	0.94	21.02	0.24
2.833	0.24	8.900	10.81	14.967	0.94	21.03	0.24
2.850	0.24	8.917	10.81	14.983	0.94	21.05	0.24
2.867	0.24	8.933	10.81	15.000	0.94	21.07	0.24
2.883	0.24	8.950	10.81	15.017	0.94	21.08	0.24
2.900	0.24	8.967	10.81	15.033	0.94	21.10	0.24
2.917	0.24	8.983	10.81	15.050	0.94	21.12	0.24
2.933	0.24	9.000	10.81	15.067	0.94	21.13	0.24
2.950	0.24	9.017	10.81	15.083	0.94	21.15	0.24
2.967	0.24	9.033	10.81	15.100	0.94	21.17	0.24
2.983	0.24	9.050	10.81	15.117	0.94	21.18	0.24
3.000	0.24	9.067	10.81	15.133	0.94	21.20	0.24

3.017	0.24	9.083	10.81	15.150	0.94	21.22	0.24	4.283	1.41	10.350	3.06	16.417	0.47	22.48	0.24
3.033	0.24	9.100	10.81	15.167	0.94	21.23	0.24	4.300	1.41	10.367	3.06	16.433	0.47	22.50	0.24
3.050	0.24	9.117	10.81	15.183	0.94	21.25	0.24	4.317	1.41	10.383	3.06	16.450	0.47	22.52	0.24
3.067	0.24	9.133	10.81	15.200	0.94	21.27	0.24	4.333	1.41	10.400	3.06	16.467	0.47	22.53	0.24
3.083	0.24	9.150	10.81	15.217	0.94	21.28	0.24	4.350	1.41	10.417	3.06	16.483	0.47	22.55	0.24
3.100	0.24	9.167	10.81	15.233	0.94	21.30	0.24	4.367	1.41	10.433	3.06	16.500	0.47	22.57	0.24
3.117	0.24	9.183	10.81	15.250	0.94	21.32	0.24	4.383	1.41	10.450	3.06	16.517	0.47	22.58	0.24
3.133	0.24	9.200	10.81	15.267	0.94	21.33	0.24	4.400	1.41	10.467	3.06	16.533	0.47	22.60	0.24
3.150	0.24	9.217	10.81	15.283	0.94	21.35	0.24	4.417	1.41	10.483	3.06	16.550	0.47	22.62	0.24
3.167	0.24	9.233	10.81	15.300	0.94	21.37	0.24	4.433	1.41	10.500	3.06	16.567	0.47	22.63	0.24
3.183	0.24	9.250	10.81	15.317	0.94	21.38	0.24	4.450	1.41	10.517	3.06	16.583	0.47	22.65	0.24
3.200	0.24	9.267	10.81	15.333	0.94	21.40	0.24	4.467	1.41	10.533	3.06	16.600	0.47	22.67	0.24
3.217	0.24	9.283	10.81	15.350	0.94	21.42	0.24	4.483	1.41	10.550	3.06	16.617	0.47	22.68	0.24
3.233	0.24	9.300	10.81	15.367	0.94	21.43	0.24	4.500	1.41	10.567	3.06	16.633	0.47	22.70	0.24
3.250	0.24	9.317	10.81	15.383	0.94	21.45	0.24	4.517	1.41	10.583	3.06	16.650	0.47	22.72	0.24
3.267	0.24	9.333	10.81	15.400	0.94	21.47	0.24	4.533	1.41	10.600	3.06	16.667	0.47	22.73	0.24
3.283	0.24	9.350	10.81	15.417	0.94	21.48	0.24	4.550	1.41	10.617	3.06	16.683	0.47	22.75	0.24
3.300	0.24	9.367	10.81	15.433	0.94	21.50	0.24	4.567	1.41	10.633	3.06	16.700	0.47	22.77	0.24
3.317	0.24	9.383	10.81	15.450	0.94	21.52	0.24	4.583	1.41	10.650	3.06	16.717	0.47	22.78	0.24
3.333	0.24	9.400	10.81	15.467	0.94	21.53	0.24	4.600	1.41	10.667	3.06	16.733	0.47	22.80	0.24
3.350	0.24	9.417	10.81	15.483	0.94	21.55	0.24	4.617	1.41	10.683	3.06	16.750	0.47	22.82	0.24
3.367	0.24	9.433	10.81	15.500	0.94	21.57	0.24	4.633	1.41	10.700	3.06	16.767	0.47	22.83	0.24
3.383	0.24	9.450	10.81	15.517	0.94	21.58	0.24	4.650	1.41	10.717	3.06	16.783	0.47	22.85	0.24
3.400	0.24	9.467	10.81	15.533	0.94	21.60	0.24	4.667	1.41	10.733	3.06	16.800	0.47	22.87	0.24
3.417	0.24	9.483	10.81	15.550	0.94	21.62	0.24	4.683	1.41	10.750	3.06	16.817	0.47	22.88	0.24
3.433	0.24	9.500	10.81	15.567	0.94	21.63	0.24	4.700	1.41	10.767	3.06	16.833	0.47	22.90	0.24
3.450	0.24	9.517	10.81	15.583	0.94	21.65	0.24	4.717	1.41	10.783	3.06	16.850	0.47	22.92	0.24
3.467	0.24	9.533	10.81	15.600	0.94	21.67	0.24	4.733	1.41	10.800	3.06	16.867	0.47	22.93	0.24
3.483	0.24	9.550	10.81	15.617	0.94	21.68	0.24	4.750	1.41	10.817	3.06	16.883	0.47	22.95	0.24
3.500	0.24	9.567	10.81	15.633	0.94	21.70	0.24	4.767	1.41	10.833	3.06	16.900	0.47	22.97	0.24
3.517	0.24	9.583	10.81	15.650	0.94	21.72	0.24	4.783	1.41	10.850	3.06	16.917	0.47	22.98	0.24
3.533	0.24	9.600	10.81	15.667	0.94	21.73	0.24	4.800	1.41	10.867	3.06	16.933	0.47	23.00	0.24
3.550	0.24	9.617	10.81	15.683	0.94	21.75	0.24	4.817	1.41	10.883	3.06	16.950	0.47	23.02	0.24
3.567	0.24	9.633	10.81	15.700	0.94	21.77	0.24	4.833	1.41	10.900	3.06	16.967	0.47	23.03	0.24
3.583	0.24	9.650	10.81	15.717	0.94	21.78	0.24	4.850	1.41	10.917	3.06	16.983	0.47	23.05	0.24
3.600	0.24	9.667	10.81	15.733	0.94	21.80	0.24	4.867	1.41	10.933	3.06	17.000	0.47	23.07	0.24
3.617	0.24	9.683	10.81	15.750	0.94	21.82	0.24	4.883	1.41	10.950	3.06	17.017	0.47	23.08	0.24
3.633	0.24	9.700	10.81	15.767	0.94	21.83	0.24	4.900	1.41	10.967	3.06	17.033	0.47	23.10	0.24
3.650	0.24	9.717	10.81	15.783	0.94	21.85	0.24	4.917	1.41	10.983	3.06	17.050	0.47	23.12	0.24
3.667	0.24	9.733	10.81	15.800	0.94	21.87	0.24	4.933	1.41	11.000	3.06	17.067	0.47	23.13	0.24
3.683	0.24	9.750	10.81	15.817	0.94	21.88	0.24	4.950	1.41	11.017	3.06	17.083	0.47	23.15	0.24
3.700	0.24	9.767	10.81	15.833	0.94	21.90	0.24	4.967	1.41	11.033	3.06	17.100	0.47	23.17	0.24
3.717	0.24	9.783	10.81	15.850	0.94	21.92	0.24	4.983	1.41	11.050	3.06	17.117	0.47	23.18	0.24
3.733	0.24	9.800	10.81	15.867	0.94	21.93	0.24	5.000	1.41	11.067	3.06	17.133	0.47	23.20	0.24
3.750	0.24	9.817	10.81	15.883	0.94	21.95	0.24	5.017	1.41	11.083	3.06	17.150	0.47	23.22	0.24
3.767	0.24	9.833	10.81	15.900	0.94	21.97	0.24	5.033	1.41	11.100	3.06	17.167	0.47	23.23	0.24
3.783	0.24	9.850	10.81	15.917	0.94	21.98	0.24	5.050	1.41	11.117	3.06	17.183	0.47	23.25	0.24
3.800	0.24	9.867	10.81	15.933	0.94	22.00	0.24	5.067	1.41	11.133	3.06	17.200	0.47	23.27	0.24
3.817	0.24	9.883	10.81	15.950	0.94	22.02	0.24	5.083	1.41	11.150	3.06	17.217	0.47	23.28	0.24
3.833	0.24	9.900	10.81	15.967	0.94	22.03	0.24	5.100	1.41	11.167	3.06	17.233	0.47	23.30	0.24
3.850	0.24	9.917	10.81	15.983	0.94	22.05	0.24	5.117	1.41	11.183	3.06	17.250	0.47	23.32	0.24
3.867	0.24	9.933	10.81	16.000	0.94	22.07	0.24	5.133	1.41	11.200	3.06	17.267	0.47	23.33	0.24
3.883	0.24	9.950	10.81	16.017	0.94	22.08	0.24	5.150	1.41	11.217	3.06	17.283	0.47	23.35	0.24
3.900	0.24	9.967	10.81	16.033	0.94	22.10	0.24	5.167	1.41	11.233	3.06	17.300	0.47	23.37	0.24
3.917	0.24	9.983	10.81	16.050	0.94	22.12	0.24	5.183	1.41	11.250	3.06	17.317	0.47	23.38	0.24
3.933	0.24	10.000	10.81	16.067	0.94	22.13	0.24	5.200	1.41	11.267	3.06	17.333	0.47	23.40	0.24
3.950	0.24	10.017	10.81	16.083	0.94	22.15	0.24	5.217	1.41	11.283	3.06	17.350	0.47	23.42	0.24
3.967	0.24	10.033	10.81	16.100	0.94	22.17	0.24	5.233	1.41	11.300	3.06	17.367	0.47	23.43	0.24
3.983	0.24	10.050	10.81	16.117	0.94	22.18	0.24	5.250	1.41	11.317	3.06	17.383	0.47	23.45	0.24
4.000	0.24	10.067	10.81	16.133	0.94	22.20	0.24	5.267	1.41	11.333	3.06	17.400	0.47	23.47	0.24
4.017	0.24	10.083	10.81	16.150	0.94	22.22	0.24	5.283	1.41	11.350	3.06	17.417	0.47	23.48	0.24
4.033	0.24	10.100	10.81	16.167	0.94	22.23	0.24	5.300	1.41	11.367	3.06	17.433	0.47	23.50	0.24
4.050	0.24	10.117	10.81	16.183	0.94	22.25	0.24	5.317	1.41	11.383	3.06	17.450	0.47	23.52	0.24
4.067	0.24	10.133	10.81	16.200	0.94	22.27	0.24	5.333	1.41	11.400	3.06	17.467	0.47	23.53	0.24
4.083	0.24	10.150	10.81	16.217	0.94	22.28	0.24	5.350	1.41	11.417	3.06	17.483	0.47	23.55	0.24
4.100	0.24	10.167	10.81	16.233	0.94	22.30	0.24	5.367	1.41	11.433	3.06	17.500	0.47	23.57	0.24
4.117	0.24	10.183	10.81	16.250	0.94	22.32	0.24	5.383	1.41	11.450	3.06	17.517	0.47	23.58	0.24
4.133	0.24	10.200	10.81	16.267	0.47	22.33	0.24	5.400	1.41	11.467	3.06	17.533	0.47	23.60	0.24
4.150	0.24	10.217	10.81	16.283	0.47	22.35	0.24	5.417	1.41	11.483	3.06	17.550	0.47	23.62	0.24
4.167	0.24	10.233	10.81	16.300	0.47	22.37	0.24	5.433	1.41	11.500	3.06	17.567	0.47	23.63	0.24
4.183	0.24	10.250	10.80	16.317	0.47	22.38	0.24	5.450	1.41	11.517	3.06	17.583	0.47	23.65	0.24
4.200	0.24	10.267	3.06	16.333	0.47	22.40	0.24	5.467	1.41	11.533	3.06	17.600	0.47	23.67	0.24
4.217	0.24	10.283	3.06	16.350	0.47	22.42	0.24	5.483	1.41	11.550	3.06	17.617	0.47	23.68	0.24
4.233	0.24	10.300	3.06	16.367	0.47	22.43	0.24	5.500	1.41	11.567	3.06	17.633	0.47	23.70	0.24
4.250	0.24	10.317	3.06	16.383	0.47	22.45	0.24	5.517	1.41	11.583	3.06	17.650	0.47	23.72	0.24
4.267	1.41	10.333	3.06	16.400	0.47	22.47	0.24	5.533	1.41	11.600	3.06	17.667	0.47	23.73	0.24

5.550	1.41	11.617	3.06	17.683	0.47	23.75	0.24
5.567	1.41	11.633	3.06	17.700	0.47	23.77	0.24
5.583	1.41	11.650	3.06	17.717	0.47	23.78	0.24
5.600	1.41	11.667	3.06	17.733	0.47	23.80	0.24
5.617	1.41	11.683	3.06	17.750	0.47	23.82	0.24
5.633	1.41	11.700	3.06	17.767	0.47	23.83	0.24
5.650	1.41	11.717	3.06	17.783	0.47	23.85	0.24
5.667	1.41	11.733	3.06	17.800	0.47	23.87	0.24
5.683	1.41	11.750	3.06	17.817	0.47	23.88	0.24
5.700	1.41	11.767	3.06	17.833	0.47	23.90	0.24
5.717	1.41	11.783	3.06	17.850	0.47	23.92	0.24
5.733	1.41	11.800	3.06	17.867	0.47	23.93	0.24
5.750	1.41	11.817	3.06	17.883	0.47	23.95	0.24
5.767	1.41	11.833	3.06	17.900	0.47	23.97	0.24
5.783	1.41	11.850	3.06	17.917	0.47	23.98	0.24
5.800	1.41	11.867	3.06	17.933	0.47	24.00	0.24
5.817	1.41	11.883	3.06	17.950	0.47	24.02	0.24
5.833	1.41	11.900	3.06	17.967	0.47	24.03	0.24
5.850	1.41	11.917	3.06	17.983	0.47	24.05	0.24
5.867	1.41	11.933	3.06	18.000	0.47	24.07	0.24
5.883	1.41	11.950	3.06	18.017	0.47	24.08	0.24
5.900	1.41	11.967	3.06	18.033	0.47	24.10	0.24
5.917	1.41	11.983	3.06	18.050	0.47	24.12	0.24
5.933	1.41	12.000	3.06	18.067	0.47	24.13	0.24
5.950	1.41	12.017	3.06	18.083	0.47	24.15	0.24
5.967	1.41	12.033	3.06	18.100	0.47	24.17	0.24
5.983	1.41	12.050	3.06	18.117	0.47	24.18	0.24
6.000	1.41	12.067	3.06	18.133	0.47	24.20	0.24
6.017	1.41	12.083	3.06	18.150	0.47	24.22	0.24
6.033	1.41	12.100	3.06	18.167	0.47	24.23	0.24
6.050	1.41	12.117	3.06	18.183	0.47	24.25	0.24
6.067	1.41	12.133	3.06	18.200	0.47		

Max.Eff.Inten.(mm/hr)=	10.81	7.03	
over (min)	7.00	11.00	
Storage Coeff. (min)=	6.80 (ii)	10.95 (ii)	
Unit Hyd. Tpeak (min)=	7.00	11.00	
Unit Hyd. peak (cms)=	0.16	0.10	
			TOTALS
PEAK FLOW (cms)=	0.06	0.00	0.060 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	46.07	22.98	45.85
TOTAL RAINFALL (mm)=	47.08	47.08	47.08
RUNOFF COEFFICIENT =	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0433	0.1140
0.0182	0.0580	0.0507	0.1280
0.0280	0.0775	0.0571	0.1440
0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.060	10.25	45.85
OUTFLOW: ID= 1 (7644)	2.020	0.017	12.28	42.21

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.89
TIME SHIFT OF PEAK FLOW (min)=122.00
MAXIMUM STORAGE USED (ha.m.)= 0.0537

****
** SIMULATION:4. 2yr 4hr 10min Chicago **
****

CHICAGO STORM	IDF curve parameters: A=1070.000
Ptotal= 34.22 mm	B= 7.850
	C= 0.876

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	1.53	1.00	19.60	2.00	4.48	3.00	1.89
0.17	1.81	1.17	85.72	2.17	3.65	3.17	1.73
0.33	2.22	1.33	26.59	2.33	3.08	3.33	1.59
0.50	2.87	1.50	12.64	2.50	2.66	3.50	1.47
0.67	4.06	1.67	7.99	2.67	2.34	3.67	1.37
0.83	6.86	1.83	5.76	2.83	2.10	3.83	1.29

CALIB	
STANDHYD (7567)	Area (ha)= 2.81
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	1.53	1.017	19.60	2.017	4.48	3.02	1.89
0.033	1.53	1.033	19.60	2.033	4.48	3.03	1.89
0.050	1.53	1.050	19.60	2.050	4.48	3.05	1.89
0.067	1.53	1.067	19.60	2.067	4.48	3.07	1.89
0.083	1.53	1.083	19.60	2.083	4.48	3.08	1.89
0.100	1.53	1.100	19.60	2.100	4.48	3.10	1.89
0.117	1.53	1.117	19.60	2.117	4.48	3.12	1.89
0.133	1.53	1.133	19.60	2.133	4.48	3.13	1.89
0.150	1.53	1.150	19.60	2.150	4.48	3.15	1.89
0.167	1.53	1.167	19.60	2.167	4.48	3.17	1.89
0.183	1.81	1.183	85.72	2.183	3.65	3.18	1.73
0.200	1.81	1.200	85.72	2.200	3.65	3.20	1.73
0.217	1.81	1.217	85.72	2.217	3.65	3.22	1.73
0.233	1.81	1.233	85.72	2.233	3.65	3.23	1.73
0.250	1.81	1.250	85.72	2.250	3.65	3.25	1.73
0.267	1.81	1.267	85.72	2.267	3.65	3.27	1.73
0.283	1.81	1.283	85.72	2.283	3.65	3.28	1.73
0.300	1.81	1.300	85.72	2.300	3.65	3.30	1.73
0.317	1.81	1.317	85.72	2.317	3.65	3.32	1.73
0.333	1.81	1.333	85.72	2.333	3.65	3.33	1.73
0.350	2.22	1.350	26.59	2.350	3.08	3.35	1.59
0.367	2.22	1.367	26.59	2.367	3.08	3.37	1.59
0.383	2.22	1.383	26.59	2.383	3.08	3.38	1.59
0.400	2.22	1.400	26.59	2.400	3.08	3.40	1.59
0.417	2.22	1.417	26.59	2.417	3.08	3.42	1.59
0.433	2.22	1.433	26.59	2.433	3.08	3.43	1.59
0.450	2.22	1.450	26.59	2.450	3.08	3.45	1.59
0.467	2.22	1.467	26.59	2.467	3.08	3.47	1.59
0.483	2.22	1.483	26.59	2.483	3.08	3.48	1.59
0.500	2.22	1.500	26.59	2.500	3.08	3.50	1.59
0.517	2.87	1.517	12.64	2.517	2.66	3.52	1.47
0.533	2.87	1.533	12.64	2.533	2.66	3.53	1.47
0.550	2.87	1.550	12.64	2.550	2.66	3.55	1.47
0.567	2.87	1.567	12.64	2.567	2.66	3.57	1.47
0.583	2.87	1.583	12.64	2.583	2.66	3.58	1.47
0.600	2.87	1.600	12.64	2.600	2.66	3.60	1.47
0.617	2.87	1.617	12.64	2.617	2.66	3.62	1.47

0.633	2.87	1.633	12.64	2.633	2.66	3.63	1.47
0.650	2.87	1.650	12.64	2.650	2.66	3.65	1.47
0.667	2.87	1.667	12.64	2.667	2.66	3.67	1.47
0.683	4.06	1.683	7.99	2.683	2.34	3.68	1.37
0.700	4.06	1.700	7.99	2.700	2.34	3.70	1.37
0.717	4.06	1.717	7.99	2.717	2.34	3.72	1.37
0.733	4.06	1.733	7.99	2.733	2.34	3.73	1.37
0.750	4.06	1.750	7.99	2.750	2.34	3.75	1.37
0.767	4.06	1.767	7.99	2.767	2.34	3.77	1.37
0.783	4.06	1.783	7.99	2.783	2.34	3.78	1.37
0.800	4.06	1.800	7.99	2.800	2.34	3.80	1.37
0.817	4.06	1.817	7.99	2.817	2.34	3.82	1.37
0.833	4.06	1.833	7.99	2.833	2.34	3.83	1.37
0.850	6.86	1.850	5.76	2.850	2.10	3.85	1.29
0.867	6.86	1.867	5.76	2.867	2.10	3.87	1.29
0.883	6.86	1.883	5.76	2.883	2.10	3.88	1.29
0.900	6.86	1.900	5.76	2.900	2.10	3.90	1.29
0.917	6.86	1.917	5.76	2.917	2.10	3.92	1.29
0.933	6.86	1.933	5.76	2.933	2.10	3.93	1.29
0.950	6.86	1.950	5.76	2.950	2.10	3.95	1.29
0.967	6.86	1.967	5.76	2.967	2.10	3.97	1.29
0.983	6.86	1.983	5.76	2.983	2.10	3.98	1.29
1.000	6.86	2.000	5.76	3.000	2.10	4.00	1.29

Max.Eff.Inten.(mm/hr)=	85.72	31.78	
over (min)	5.00	6.00	
Storage Coeff. (min)=	3.28 (ii)	5.09 (ii)	
Unit Hyd. Tpeak (min)=	5.00	6.00	
Unit Hyd. peak (cms)=	0.29	0.21	
			TOTALS
PEAK FLOW (cms)=	0.61	0.00	0.610 (iii)
TIME TO PEAK (hrs)=	1.33	1.38	1.33
RUNOFF VOLUME (mm)=	33.22	13.81	33.02
TOTAL RAINFALL (mm)=	34.22	34.22	34.22
RUNOFF COEFFICIENT =	0.97	0.40	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7567)	2.810	0.610	1.33	33.02
OUTFLOW: ID= 1 (	7626)	2.810	0.023	2.57	32.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.77
TIME SHIFT OF PEAK FLOW (min)= 74.00
MAXIMUM STORAGE USED (ha.m.)= 0.0750

CALIB		
STANDHYD (7624)	Area (ha)= 2.08	
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	1.53	1.017	19.60	2.017	4.48	3.02	1.89
0.033	1.53	1.033	19.60	2.033	4.48	3.03	1.89
0.050	1.53	1.050	19.60	2.050	4.48	3.05	1.89
0.067	1.53	1.067	19.60	2.067	4.48	3.07	1.89
0.083	1.53	1.083	19.60	2.083	4.48	3.08	1.89
0.100	1.53	1.100	19.60	2.100	4.48	3.10	1.89
0.117	1.53	1.117	19.60	2.117	4.48	3.12	1.89
0.133	1.53	1.133	19.60	2.133	4.48	3.13	1.89
0.150	1.53	1.150	19.60	2.150	4.48	3.15	1.89
0.167	1.53	1.167	19.60	2.167	4.48	3.17	1.89
0.183	1.81	1.183	85.72	2.183	3.65	3.18	1.73
0.200	1.81	1.200	85.72	2.200	3.65	3.20	1.73
0.217	1.81	1.217	85.72	2.217	3.65	3.22	1.73
0.233	1.81	1.233	85.72	2.233	3.65	3.23	1.73
0.250	1.81	1.250	85.72	2.250	3.65	3.25	1.73
0.267	1.81	1.267	85.72	2.267	3.65	3.27	1.73
0.283	1.81	1.283	85.72	2.283	3.65	3.28	1.73
0.300	1.81	1.300	85.72	2.300	3.65	3.30	1.73
0.317	1.81	1.317	85.72	2.317	3.65	3.32	1.73
0.333	1.81	1.333	85.72	2.333	3.65	3.33	1.73
0.350	2.22	1.350	26.59	2.350	3.08	3.35	1.59
0.367	2.22	1.367	26.59	2.367	3.08	3.37	1.59
0.383	2.22	1.383	26.59	2.383	3.08	3.38	1.59
0.400	2.22	1.400	26.59	2.400	3.08	3.40	1.59
0.417	2.22	1.417	26.59	2.417	3.08	3.42	1.59
0.433	2.22	1.433	26.59	2.433	3.08	3.43	1.59
0.450	2.22	1.450	26.59	2.450	3.08	3.45	1.59
0.467	2.22	1.467	26.59	2.467	3.08	3.47	1.59
0.483	2.22	1.483	26.59	2.483	3.08	3.48	1.59
0.500	2.22	1.500	26.59	2.500	3.08	3.50	1.59
0.517	2.87	1.517	12.64	2.517	2.66	3.52	1.47
0.533	2.87	1.533	12.64	2.533	2.66	3.53	1.47
0.550	2.87	1.550	12.64	2.550	2.66	3.55	1.47
0.567	2.87	1.567	12.64	2.567	2.66	3.57	1.47
0.583	2.87	1.583	12.64	2.583	2.66	3.58	1.47
0.600	2.87	1.600	12.64	2.600	2.66	3.60	1.47
0.617	2.87	1.617	12.64	2.617	2.66	3.62	1.47
0.633	2.87	1.633	12.64	2.633	2.66	3.63	1.47
0.650	2.87	1.650	12.64	2.650	2.66	3.65	1.47
0.667	2.87	1.667	12.64	2.667	2.66	3.67	1.47
0.683	4.06	1.683	7.99	2.683	2.34	3.68	1.37
0.700	4.06	1.700	7.99	2.700	2.34	3.70	1.37
0.717	4.06	1.717	7.99	2.717	2.34	3.72	1.37
0.733	4.06	1.733	7.99	2.733	2.34	3.73	1.37
0.750	4.06	1.750	7.99	2.750	2.34	3.75	1.37
0.767	4.06	1.767	7.99	2.767	2.34	3.77	1.37
0.783	4.06	1.783	7.99	2.783	2.34	3.78	1.37
0.800	4.06	1.800	7.99	2.800	2.34	3.80	1.37
0.817	4.06	1.817	7.99	2.817	2.34	3.82	1.37
0.833	4.06	1.833	7.99	2.833	2.34	3.83	1.37
0.850	6.86	1.850	5.76	2.850	2.10	3.85	1.29
0.867	6.86	1.867	5.76	2.867	2.10	3.87	1.29
0.883	6.86	1.883	5.76	2.883	2.10	3.88	1.29
0.900	6.86	1.900	5.76	2.900	2.10	3.90	1.29
0.917	6.86	1.917	5.76	2.917	2.10	3.92	1.29
0.933	6.86	1.933	5.76	2.933	2.10	3.93	1.29
0.950	6.86	1.950	5.76	2.950	2.10	3.95	1.29
0.967	6.86	1.967	5.76	2.967	2.10	3.97	1.29
0.983	6.86	1.983	5.76	2.983	2.10	3.98	1.29
1.000	6.86	2.000	5.76	3.000	2.10	4.00	1.29

Max.Eff.Inten.(mm/hr)=	85.72	42.44	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.00 (ii)	4.81 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.31	0.23	
			TOTALS
PEAK FLOW (cms)=	0.46	0.00	0.459 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	33.22	17.57	33.06

TOTAL RAINFALL (mm)=	34.22	34.22	34.22
RUNOFF COEFFICIENT =	0.97	0.51	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.459	1.33	33.06
OUTFLOW: ID= 1 (7625)	2.080	0.018	2.47	32.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.98
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.0552

CALIB STANDHYD (7623) ID= 1 DT= 1.0 min	Area (ha)= 1.15 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	1.53	1.017	19.60	2.017	4.48	3.02	1.89
0.033	1.53	1.033	19.60	2.033	4.48	3.03	1.89
0.050	1.53	1.050	19.60	2.050	4.48	3.05	1.89
0.067	1.53	1.067	19.60	2.067	4.48	3.07	1.89
0.083	1.53	1.083	19.60	2.083	4.48	3.08	1.89
0.100	1.53	1.100	19.60	2.100	4.48	3.10	1.89
0.117	1.53	1.117	19.60	2.117	4.48	3.12	1.89
0.133	1.53	1.133	19.60	2.133	4.48	3.13	1.89
0.150	1.53	1.150	19.60	2.150	4.48	3.15	1.89
0.167	1.53	1.167	19.60	2.167	4.48	3.17	1.89
0.183	1.81	1.183	85.72	2.183	3.65	3.18	1.73
0.200	1.81	1.200	85.72	2.200	3.65	3.20	1.73
0.217	1.81	1.217	85.72	2.217	3.65	3.22	1.73
0.233	1.81	1.233	85.72	2.233	3.65	3.23	1.73
0.250	1.81	1.250	85.72	2.250	3.65	3.25	1.73
0.267	1.81	1.267	85.72	2.267	3.65	3.27	1.73
0.283	1.81	1.283	85.72	2.283	3.65	3.28	1.73
0.300	1.81	1.300	85.72	2.300	3.65	3.30	1.73
0.317	1.81	1.317	85.72	2.317	3.65	3.32	1.73
0.333	1.81	1.333	85.72	2.333	3.65	3.33	1.73
0.350	2.22	1.350	26.59	2.350	3.08	3.35	1.59
0.367	2.22	1.367	26.59	2.367	3.08	3.37	1.59
0.383	2.22	1.383	26.59	2.383	3.08	3.38	1.59
0.400	2.22	1.400	26.59	2.400	3.08	3.40	1.59
0.417	2.22	1.417	26.59	2.417	3.08	3.42	1.59
0.433	2.22	1.433	26.59	2.433	3.08	3.43	1.59
0.450	2.22	1.450	26.59	2.450	3.08	3.45	1.59
0.467	2.22	1.467	26.59	2.467	3.08	3.47	1.59
0.483	2.22	1.483	26.59	2.483	3.08	3.48	1.59
0.500	2.22	1.500	26.59	2.500	3.08	3.50	1.59
0.517	2.87	1.517	12.64	2.517	2.66	3.52	1.47
0.533	2.87	1.533	12.64	2.533	2.66	3.53	1.47
0.550	2.87	1.550	12.64	2.550	2.66	3.55	1.47
0.567	2.87	1.567	12.64	2.567	2.66	3.57	1.47
0.583	2.87	1.583	12.64	2.583	2.66	3.58	1.47
0.600	2.87	1.600	12.64	2.600	2.66	3.60	1.47
0.617	2.87	1.617	12.64	2.617	2.66	3.62	1.47
0.633	2.87	1.633	12.64	2.633	2.66	3.63	1.47
0.650	2.87	1.650	12.64	2.650	2.66	3.65	1.47
0.667	2.87	1.667	12.64	2.667	2.66	3.67	1.47
0.683	4.06	1.683	7.99	2.683	2.34	3.68	1.37
0.700	4.06	1.700	7.99	2.700	2.34	3.70	1.37
0.717	4.06	1.717	7.99	2.717	2.34	3.72	1.37
0.733	4.06	1.733	7.99	2.733	2.34	3.73	1.37
0.750	4.06	1.750	7.99	2.750	2.34	3.75	1.37
0.767	4.06	1.767	7.99	2.767	2.34	3.77	1.37
0.783	4.06	1.783	7.99	2.783	2.34	3.78	1.37
0.800	4.06	1.800	7.99	2.800	2.34	3.80	1.37
0.817	4.06	1.817	7.99	2.817	2.34	3.82	1.37
0.833	4.06	1.833	7.99	2.833	2.34	3.83	1.37
0.850	6.86	1.850	5.76	2.850	2.10	3.85	1.29
0.867	6.86	1.867	5.76	2.867	2.10	3.87	1.29
0.883	6.86	1.883	5.76	2.883	2.10	3.88	1.29
0.900	6.86	1.900	5.76	2.900	2.10	3.90	1.29
0.917	6.86	1.917	5.76	2.917	2.10	3.92	1.29
0.933	6.86	1.933	5.76	2.933	2.10	3.93	1.29
0.950	6.86	1.950	5.76	2.950	2.10	3.95	1.29
0.967	6.86	1.967	5.76	2.967	2.10	3.97	1.29
0.983	6.86	1.983	5.76	2.983	2.10	3.98	1.29
1.000	6.86	2.000	5.76	3.000	2.10	4.00	1.29

Max.Eff.Inten.(mm/hr)=	85.72	31.78	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.51 (ii)	4.32 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.34	0.25	
			TOTALS
PEAK FLOW (cms)=	0.26	0.00	0.260 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	33.22	13.81	33.02
TOTAL RAINFALL (mm)=	34.22	34.22	34.22
RUNOFF COEFFICIENT =	0.97	0.40	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725
	0.0167	0.0440	0.0340	0.0820
	0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.260	1.33	33.02
OUTFLOW: ID= 1 (7622)	1.150	0.010	2.48	32.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.83
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.0304

CALIB

| STANDHYD (7629)| Area (ha)= 4.09
|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	4.05	0.04
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	165.13	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	1.53	1.017	19.60	2.017	4.48	3.02	1.89
0.033	1.53	1.033	19.60	2.033	4.48	3.03	1.89
0.050	1.53	1.050	19.60	2.050	4.48	3.05	1.89
0.067	1.53	1.067	19.60	2.067	4.48	3.07	1.89
0.083	1.53	1.083	19.60	2.083	4.48	3.08	1.89
0.100	1.53	1.100	19.60	2.100	4.48	3.10	1.89
0.117	1.53	1.117	19.60	2.117	4.48	3.12	1.89
0.133	1.53	1.133	19.60	2.133	4.48	3.13	1.89
0.150	1.53	1.150	19.60	2.150	4.48	3.15	1.89
0.167	1.53	1.167	19.60	2.167	4.48	3.17	1.89
0.183	1.81	1.183	85.72	2.183	3.65	3.18	1.73
0.200	1.81	1.200	85.72	2.200	3.65	3.20	1.73
0.217	1.81	1.217	85.72	2.217	3.65	3.22	1.73
0.233	1.81	1.233	85.72	2.233	3.65	3.23	1.73
0.250	1.81	1.250	85.72	2.250	3.65	3.25	1.73
0.267	1.81	1.267	85.72	2.267	3.65	3.27	1.73
0.283	1.81	1.283	85.72	2.283	3.65	3.28	1.73
0.300	1.81	1.300	85.72	2.300	3.65	3.30	1.73
0.317	1.81	1.317	85.72	2.317	3.65	3.32	1.73
0.333	1.81	1.333	85.72	2.333	3.65	3.33	1.73
0.350	2.22	1.350	26.59	2.350	3.08	3.35	1.59
0.367	2.22	1.367	26.59	2.367	3.08	3.37	1.59
0.383	2.22	1.383	26.59	2.383	3.08	3.38	1.59
0.400	2.22	1.400	26.59	2.400	3.08	3.40	1.59
0.417	2.22	1.417	26.59	2.417	3.08	3.42	1.59
0.433	2.22	1.433	26.59	2.433	3.08	3.43	1.59
0.450	2.22	1.450	26.59	2.450	3.08	3.45	1.59
0.467	2.22	1.467	26.59	2.467	3.08	3.47	1.59
0.483	2.22	1.483	26.59	2.483	3.08	3.48	1.59
0.500	2.22	1.500	26.59	2.500	3.08	3.50	1.59
0.517	2.87	1.517	12.64	2.517	2.66	3.52	1.47
0.533	2.87	1.533	12.64	2.533	2.66	3.53	1.47
0.550	2.87	1.550	12.64	2.550	2.66	3.55	1.47
0.567	2.87	1.567	12.64	2.567	2.66	3.57	1.47
0.583	2.87	1.583	12.64	2.583	2.66	3.58	1.47
0.600	2.87	1.600	12.64	2.600	2.66	3.60	1.47
0.617	2.87	1.617	12.64	2.617	2.66	3.62	1.47
0.633	2.87	1.633	12.64	2.633	2.66	3.63	1.47
0.650	2.87	1.650	12.64	2.650	2.66	3.65	1.47
0.667	2.87	1.667	12.64	2.667	2.66	3.67	1.47
0.683	4.06	1.683	7.99	2.683	2.34	3.68	1.37
0.700	4.06	1.700	7.99	2.700	2.34	3.70	1.37
0.717	4.06	1.717	7.99	2.717	2.34	3.72	1.37
0.733	4.06	1.733	7.99	2.733	2.34	3.73	1.37
0.750	4.06	1.750	7.99	2.750	2.34	3.75	1.37
0.767	4.06	1.767	7.99	2.767	2.34	3.77	1.37
0.783	4.06	1.783	7.99	2.783	2.34	3.78	1.37
0.800	4.06	1.800	7.99	2.800	2.34	3.80	1.37
0.817	4.06	1.817	7.99	2.817	2.34	3.82	1.37
0.833	4.06	1.833	7.99	2.833	2.34	3.83	1.37
0.850	6.86	1.850	5.76	2.850	2.10	3.85	1.29
0.867	6.86	1.867	5.76	2.867	2.10	3.87	1.29
0.883	6.86	1.883	5.76	2.883	2.10	3.88	1.29
0.900	6.86	1.900	5.76	2.900	2.10	3.90	1.29
0.917	6.86	1.917	5.76	2.917	2.10	3.92	1.29
0.933	6.86	1.933	5.76	2.933	2.10	3.93	1.29
0.950	6.86	1.950	5.76	2.950	2.10	3.95	1.29
0.967	6.86	1.967	5.76	2.967	2.10	3.97	1.29
0.983	6.86	1.983	5.76	2.983	2.10	3.98	1.29
1.000	6.86	2.000	5.76	3.000	2.10	4.00	1.29

			TOTALS
Max.Eff.Inten.(mm/hr)=	85.72	31.78	
over (min)	5.00	6.00	
Storage Coeff. (min)=	3.67 (ii)	5.48 (ii)	
Unit Hyd. Tpeak (min)=	5.00	6.00	
Unit Hyd. peak (cms)=	0.27	0.20	
PEAK FLOW (cms)=	0.87	0.00	0.870 (iii)
TIME TO PEAK (hrs)=	1.35	1.38	1.35
RUNOFF VOLUME (mm)=	33.22	13.81	33.02
TOTAL RAINFALL (mm)=	34.22	34.22	34.22
RUNOFF COEFFICIENT =	0.97	0.40	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(7630)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT= 1.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0826	0.2320
0.0347	0.1170	0.0967	0.2609
0.0534	0.1580	0.1090	0.2940
0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.870	1.35	33.02
OUTFLOW: ID= 1 (7630)	4.090	0.033	2.58	31.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.74
TIME SHIFT OF PEAK FLOW (min)= 74.00
MAXIMUM STORAGE USED (ha.m.)= 0.1096

CALIB
STANDHYD (7631)| Area (ha)= 3.91
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.87	0.04
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	161.45	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	1.53	1.017	19.60	2.017	4.48	3.02	1.89
0.033	1.53	1.033	19.60	2.033	4.48	3.03	1.89
0.050	1.53	1.050	19.60	2.050	4.48	3.05	1.89
0.067	1.53	1.067	19.60	2.067	4.48	3.07	1.89
0.083	1.53	1.083	19.60	2.083	4.48	3.08	1.89
0.100	1.53	1.100	19.60	2.100	4.48	3.10	1.89
0.117	1.53	1.117	19.60	2.117	4.48	3.12	1.89
0.133	1.53	1.133	19.60	2.133	4.48	3.13	1.89
0.150	1.53	1.150	19.60	2.150	4.48	3.15	1.89
0.167	1.53	1.167	19.60	2.167	4.48	3.17	1.89
0.183	1.81	1.183	85.72	2.183	3.65	3.18	1.73
0.200	1.81	1.200	85.72	2.200	3.65	3.20	1.73
0.217	1.81	1.217	85.72	2.217	3.65	3.22	1.73
0.233	1.81	1.233	85.72	2.233	3.65	3.23	1.73
0.250	1.81	1.250	85.72	2.250	3.65	3.25	1.73
0.267	1.81	1.267	85.72	2.267	3.65	3.27	1.73
0.283	1.81	1.283	85.72	2.283	3.65	3.28	1.73

0.300	1.81	1.300	85.72	2.300	3.65	3.30	1.73
0.317	1.81	1.317	85.72	2.317	3.65	3.32	1.73
0.333	1.81	1.333	85.72	2.333	3.65	3.33	1.73
0.350	2.22	1.350	26.59	2.350	3.08	3.35	1.59
0.367	2.22	1.367	26.59	2.367	3.08	3.37	1.59
0.383	2.22	1.383	26.59	2.383	3.08	3.38	1.59
0.400	2.22	1.400	26.59	2.400	3.08	3.40	1.59
0.417	2.22	1.417	26.59	2.417	3.08	3.42	1.59
0.433	2.22	1.433	26.59	2.433	3.08	3.43	1.59
0.450	2.22	1.450	26.59	2.450	3.08	3.45	1.59
0.467	2.22	1.467	26.59	2.467	3.08	3.47	1.59
0.483	2.22	1.483	26.59	2.483	3.08	3.48	1.59
0.500	2.22	1.500	26.59	2.500	3.08	3.50	1.59
0.517	2.87	1.517	12.64	2.517	2.66	3.52	1.47
0.533	2.87	1.533	12.64	2.533	2.66	3.53	1.47
0.550	2.87	1.550	12.64	2.550	2.66	3.55	1.47
0.567	2.87	1.567	12.64	2.567	2.66	3.57	1.47
0.583	2.87	1.583	12.64	2.583	2.66	3.58	1.47
0.600	2.87	1.600	12.64	2.600	2.66	3.60	1.47
0.617	2.87	1.617	12.64	2.617	2.66	3.62	1.47
0.633	2.87	1.633	12.64	2.633	2.66	3.63	1.47
0.650	2.87	1.650	12.64	2.650	2.66	3.65	1.47
0.667	2.87	1.667	12.64	2.667	2.66	3.67	1.47
0.683	4.06	1.683	7.99	2.683	2.34	3.68	1.37
0.700	4.06	1.700	7.99	2.700	2.34	3.70	1.37
0.717	4.06	1.717	7.99	2.717	2.34	3.72	1.37
0.733	4.06	1.733	7.99	2.733	2.34	3.73	1.37
0.750	4.06	1.750	7.99	2.750	2.34	3.75	1.37
0.767	4.06	1.767	7.99	2.767	2.34	3.77	1.37
0.783	4.06	1.783	7.99	2.783	2.34	3.78	1.37
0.800	4.06	1.800	7.99	2.800	2.34	3.80	1.37
0.817	4.06	1.817	7.99	2.817	2.34	3.82	1.37
0.833	4.06	1.833	7.99	2.833	2.34	3.83	1.37
0.850	6.86	1.850	5.76	2.850	2.10	3.85	1.29
0.867	6.86	1.867	5.76	2.867	2.10	3.87	1.29
0.883	6.86	1.883	5.76	2.883	2.10	3.88	1.29
0.900	6.86	1.900	5.76	2.900	2.10	3.90	1.29
0.917	6.86	1.917	5.76	2.917	2.10	3.92	1.29
0.933	6.86	1.933	5.76	2.933	2.10	3.93	1.29
0.950	6.86	1.950	5.76	2.950	2.10	3.95	1.29
0.967	6.86	1.967	5.76	2.967	2.10	3.97	1.29
0.983	6.86	1.983	5.76	2.983	2.10	3.98	1.29
1.000	6.86	2.000	5.76	3.000	2.10	4.00	1.29

			TOTALS
Max.Eff.Inten.(mm/hr)=	85.72	31.78	
over (min)	5.00	6.00	
Storage Coeff. (min)=	3.62 (ii)	5.43 (ii)	
Unit Hyd. Tpeak (min)=	5.00	6.00	
Unit Hyd. peak (cms)=	0.28	0.20	
PEAK FLOW (cms)=	0.83	0.00	0.833 (iii)
TIME TO PEAK (hrs)=	1.35	1.38	1.35
RUNOFF VOLUME (mm)=	33.22	13.81	33.02
TOTAL RAINFALL (mm)=	34.22	34.22	34.22
RUNOFF COEFFICIENT =	0.97	0.40	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

INFLOW : ID= 2 (7631) 3.910 0.833 1.35 33.02
OUTFLOW: ID= 1 (7632) 3.910 0.031 2.60 31.88

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.71
TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.1049

CALIB	
STANDHYD (7641)	Area (ha)= 2.21
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	1.53	1.017	19.60	2.017	4.48	3.02	1.89
0.033	1.53	1.033	19.60	2.033	4.48	3.03	1.89
0.050	1.53	1.050	19.60	2.050	4.48	3.05	1.89
0.067	1.53	1.067	19.60	2.067	4.48	3.07	1.89
0.083	1.53	1.083	19.60	2.083	4.48	3.08	1.89
0.100	1.53	1.100	19.60	2.100	4.48	3.10	1.89
0.117	1.53	1.117	19.60	2.117	4.48	3.12	1.89
0.133	1.53	1.133	19.60	2.133	4.48	3.13	1.89
0.150	1.53	1.150	19.60	2.150	4.48	3.15	1.89
0.167	1.53	1.167	19.60	2.167	4.48	3.17	1.89
0.183	1.81	1.183	85.72	2.183	3.65	3.18	1.73
0.200	1.81	1.200	85.72	2.200	3.65	3.20	1.73
0.217	1.81	1.217	85.72	2.217	3.65	3.22	1.73
0.233	1.81	1.233	85.72	2.233	3.65	3.23	1.73
0.250	1.81	1.250	85.72	2.250	3.65	3.25	1.73
0.267	1.81	1.267	85.72	2.267	3.65	3.27	1.73
0.283	1.81	1.283	85.72	2.283	3.65	3.28	1.73
0.300	1.81	1.300	85.72	2.300	3.65	3.30	1.73
0.317	1.81	1.317	85.72	2.317	3.65	3.32	1.73
0.333	1.81	1.333	85.72	2.333	3.65	3.33	1.73
0.350	2.22	1.350	26.59	2.350	3.08	3.35	1.59
0.367	2.22	1.367	26.59	2.367	3.08	3.37	1.59
0.383	2.22	1.383	26.59	2.383	3.08	3.38	1.59
0.400	2.22	1.400	26.59	2.400	3.08	3.40	1.59
0.417	2.22	1.417	26.59	2.417	3.08	3.42	1.59
0.433	2.22	1.433	26.59	2.433	3.08	3.43	1.59
0.450	2.22	1.450	26.59	2.450	3.08	3.45	1.59
0.467	2.22	1.467	26.59	2.467	3.08	3.47	1.59
0.483	2.22	1.483	26.59	2.483	3.08	3.48	1.59
0.500	2.22	1.500	26.59	2.500	3.08	3.50	1.59
0.517	2.87	1.517	12.64	2.517	2.66	3.52	1.47
0.533	2.87	1.533	12.64	2.533	2.66	3.53	1.47
0.550	2.87	1.550	12.64	2.550	2.66	3.55	1.47
0.567	2.87	1.567	12.64	2.567	2.66	3.57	1.47
0.583	2.87	1.583	12.64	2.583	2.66	3.58	1.47
0.600	2.87	1.600	12.64	2.600	2.66	3.60	1.47
0.617	2.87	1.617	12.64	2.617	2.66	3.62	1.47
0.633	2.87	1.633	12.64	2.633	2.66	3.63	1.47
0.650	2.87	1.650	12.64	2.650	2.66	3.65	1.47
0.667	2.87	1.667	12.64	2.667	2.66	3.67	1.47
0.683	4.06	1.683	7.99	2.683	2.34	3.68	1.37
0.700	4.06	1.700	7.99	2.700	2.34	3.70	1.37
0.717	4.06	1.717	7.99	2.717	2.34	3.72	1.37
0.733	4.06	1.733	7.99	2.733	2.34	3.73	1.37
0.750	4.06	1.750	7.99	2.750	2.34	3.75	1.37
0.767	4.06	1.767	7.99	2.767	2.34	3.77	1.37
0.783	4.06	1.783	7.99	2.783	2.34	3.78	1.37
0.800	4.06	1.800	7.99	2.800	2.34	3.80	1.37
0.817	4.06	1.817	7.99	2.817	2.34	3.82	1.37
0.833	4.06	1.833	7.99	2.833	2.34	3.83	1.37

0.850	6.86	1.850	5.76	2.850	2.10	3.85	1.29
0.867	6.86	1.867	5.76	2.867	2.10	3.87	1.29
0.883	6.86	1.883	5.76	2.883	2.10	3.88	1.29
0.900	6.86	1.900	5.76	2.900	2.10	3.90	1.29
0.917	6.86	1.917	5.76	2.917	2.10	3.92	1.29
0.933	6.86	1.933	5.76	2.933	2.10	3.93	1.29
0.950	6.86	1.950	5.76	2.950	2.10	3.95	1.29
0.967	6.86	1.967	5.76	2.967	2.10	3.97	1.29
0.983	6.86	1.983	5.76	2.983	2.10	3.98	1.29
1.000	6.86	2.000	5.76	3.000	2.10	4.00	1.29

Max.Eff.Inten.(mm/hr)=	85.72	31.78	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.05 (ii)	4.86 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.30	0.23	
			TOTALS
PEAK FLOW (cms)=	0.48	0.00	0.486 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	33.22	13.81	33.02
TOTAL RAINFALL (mm)=	34.22	34.22	34.22
RUNOFF COEFFICIENT =	0.97	0.40	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7641)	2.210	0.486	1.33	33.02
OUTFLOW: ID= 1 (	7642)	2.210	0.018	2.55	32.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.78
TIME SHIFT OF PEAK FLOW (min)= 73.00
MAXIMUM STORAGE USED (ha.m.)= 0.0588

CALIB			
STANDHYD (7643)	Area (ha)=	2.02	
ID= 1 DT= 1.0 min	Total Imp(%)=	99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	1.53	1.017	19.60	2.017	4.48	3.02	1.89
0.033	1.53	1.033	19.60	2.033	4.48	3.03	1.89
0.050	1.53	1.050	19.60	2.050	4.48	3.05	1.89
0.067	1.53	1.067	19.60	2.067	4.48	3.07	1.89
0.083	1.53	1.083	19.60	2.083	4.48	3.08	1.89
0.100	1.53	1.100	19.60	2.100	4.48	3.10	1.89
0.117	1.53	1.117	19.60	2.117	4.48	3.12	1.89
0.133	1.53	1.133	19.60	2.133	4.48	3.13	1.89
0.150	1.53	1.150	19.60	2.150	4.48	3.15	1.89
0.167	1.53	1.167	19.60	2.167	4.48	3.17	1.89
0.183	1.81	1.183	85.72	2.183	3.65	3.18	1.73
0.200	1.81	1.200	85.72	2.200	3.65	3.20	1.73
0.217	1.81	1.217	85.72	2.217	3.65	3.22	1.73
0.233	1.81	1.233	85.72	2.233	3.65	3.23	1.73
0.250	1.81	1.250	85.72	2.250	3.65	3.25	1.73
0.267	1.81	1.267	85.72	2.267	3.65	3.27	1.73
0.283	1.81	1.283	85.72	2.283	3.65	3.28	1.73
0.300	1.81	1.300	85.72	2.300	3.65	3.30	1.73
0.317	1.81	1.317	85.72	2.317	3.65	3.32	1.73
0.333	1.81	1.333	85.72	2.333	3.65	3.33	1.73
0.350	2.22	1.350	26.59	2.350	3.08	3.35	1.59
0.367	2.22	1.367	26.59	2.367	3.08	3.37	1.59
0.383	2.22	1.383	26.59	2.383	3.08	3.38	1.59
0.400	2.22	1.400	26.59	2.400	3.08	3.40	1.59
0.417	2.22	1.417	26.59	2.417	3.08	3.42	1.59
0.433	2.22	1.433	26.59	2.433	3.08	3.43	1.59
0.450	2.22	1.450	26.59	2.450	3.08	3.45	1.59
0.467	2.22	1.467	26.59	2.467	3.08	3.47	1.59
0.483	2.22	1.483	26.59	2.483	3.08	3.48	1.59
0.500	2.22	1.500	26.59	2.500	3.08	3.50	1.59
0.517	2.87	1.517	12.64	2.517	2.66	3.52	1.47
0.533	2.87	1.533	12.64	2.533	2.66	3.53	1.47
0.550	2.87	1.550	12.64	2.550	2.66	3.55	1.47
0.567	2.87	1.567	12.64	2.567	2.66	3.57	1.47
0.583	2.87	1.583	12.64	2.583	2.66	3.58	1.47
0.600	2.87	1.600	12.64	2.600	2.66	3.60	1.47
0.617	2.87	1.617	12.64	2.617	2.66	3.62	1.47
0.633	2.87	1.633	12.64	2.633	2.66	3.63	1.47
0.650	2.87	1.650	12.64	2.650	2.66	3.65	1.47
0.667	2.87	1.667	12.64	2.667	2.66	3.67	1.47
0.683	4.06	1.683	7.99	2.683	2.34	3.68	1.37
0.700	4.06	1.700	7.99	2.700	2.34	3.70	1.37
0.717	4.06	1.717	7.99	2.717	2.34	3.72	1.37
0.733	4.06	1.733	7.99	2.733	2.34	3.73	1.37
0.750	4.06	1.750	7.99	2.750	2.34	3.75	1.37
0.767	4.06	1.767	7.99	2.767	2.34	3.77	1.37
0.783	4.06	1.783	7.99	2.783	2.34	3.78	1.37
0.800	4.06	1.800	7.99	2.800	2.34	3.80	1.37
0.817	4.06	1.817	7.99	2.817	2.34	3.82	1.37
0.833	4.06	1.833	7.99	2.833	2.34	3.83	1.37
0.850	6.86	1.850	5.76	2.850	2.10	3.85	1.29
0.867	6.86	1.867	5.76	2.867	2.10	3.87	1.29
0.883	6.86	1.883	5.76	2.883	2.10	3.88	1.29
0.900	6.86	1.900	5.76	2.900	2.10	3.90	1.29
0.917	6.86	1.917	5.76	2.917	2.10	3.92	1.29
0.933	6.86	1.933	5.76	2.933	2.10	3.93	1.29
0.950	6.86	1.950	5.76	2.950	2.10	3.95	1.29
0.967	6.86	1.967	5.76	2.967	2.10	3.97	1.29
0.983	6.86	1.983	5.76	2.983	2.10	3.98	1.29
1.000	6.86	2.000	5.76	3.000	2.10	4.00	1.29

Max.Eff.Inten.(mm/hr)=	85.72	31.78	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.97 (ii)	4.78 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.31	0.23	
			TOTALS
PEAK FLOW (cms)=	0.44	0.00	0.446 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	33.22	13.81	33.02
TOTAL RAINFALL (mm)=	34.22	34.22	34.22
RUNOFF COEFFICIENT =	0.97	0.40	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF

| IN= 2---> OUT= 1 |
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0433	0.1140
	0.0182	0.0580	0.0507	0.1280
	0.0280	0.0775	0.0571	0.1440
	0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.446	1.33	33.02
OUTFLOW: ID= 1 (7644)	2.020	0.017	2.55	32.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.78
TIME SHIFT OF PEAK FLOW (min)= 73.00
MAXIMUM STORAGE USED (ha.m.)= 0.0538

****
** SIMULATION:5. 5 Year 6 Hour AES (Bloor, TRCA) **
****

READ STORM	Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\37e32edb
Ptotal= 47.81 mm	Comments: 5 Year 6 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	1.75	16.25	3.50	6.69	5.25	0.96
0.25	0.96	2.00	16.25	3.75	3.82	5.50	0.96
0.50	0.96	2.25	43.98	4.00	3.82	5.75	0.96
0.75	0.96	2.50	43.98	4.25	1.91	6.00	0.96
1.00	0.96	2.75	12.43	4.50	1.91		
1.25	5.74	3.00	12.43	4.75	0.96		
1.50	5.74	3.25	6.69	5.00	0.96		

CALIB STANDHYD (7567)	Area (ha)= 2.81
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	5.74	3.150	12.43	4.72	1.91
0.033	0.00	1.600	5.74	3.167	12.43	4.73	1.91
0.050	0.00	1.617	5.74	3.183	12.43	4.75	1.91
0.067	0.00	1.633	5.74	3.200	12.43	4.77	0.96
0.083	0.00	1.650	5.74	3.217	12.43	4.78	0.96
0.100	0.00	1.667	5.74	3.233	12.43	4.80	0.96
0.117	0.00	1.683	5.74	3.250	12.43	4.82	0.96
0.133	0.00	1.700	5.74	3.267	6.69	4.83	0.96
0.150	0.00	1.717	5.74	3.283	6.69	4.85	0.96
0.167	0.00	1.733	5.74	3.300	6.69	4.87	0.96
0.183	0.00	1.750	5.74	3.317	6.69	4.88	0.96
0.200	0.00	1.767	16.25	3.333	6.69	4.90	0.96
0.217	0.00	1.783	16.25	3.350	6.69	4.92	0.96
0.233	0.00	1.800	16.25	3.367	6.69	4.93	0.96
0.250	0.00	1.817	16.25	3.383	6.69	4.95	0.96
0.267	0.96	1.833	16.25	3.400	6.69	4.97	0.96
0.283	0.96	1.850	16.25	3.417	6.69	4.98	0.96
0.300	0.96	1.867	16.25	3.433	6.69	5.00	0.96
0.317	0.96	1.883	16.25	3.450	6.69	5.02	0.96
0.333	0.96	1.900	16.25	3.467	6.69	5.03	0.96
0.350	0.96	1.917	16.25	3.483	6.69	5.05	0.96
0.367	0.96	1.933	16.25	3.500	6.69	5.07	0.96
0.383	0.96	1.950	16.25	3.517	6.69	5.08	0.96
0.400	0.96	1.967	16.25	3.533	6.69	5.10	0.96
0.417	0.96	1.983	16.25	3.550	6.69	5.12	0.96
0.433	0.96	2.000	16.25	3.567	6.69	5.13	0.96
0.450	0.96	2.017	16.25	3.583	6.69	5.15	0.96
0.467	0.96	2.033	16.25	3.600	6.69	5.17	0.96
0.483	0.96	2.050	16.25	3.617	6.69	5.18	0.96
0.500	0.96	2.067	16.25	3.633	6.69	5.20	0.96
0.517	0.96	2.083	16.25	3.650	6.69	5.22	0.96
0.533	0.96	2.100	16.25	3.667	6.69	5.23	0.96
0.550	0.96	2.117	16.25	3.683	6.69	5.25	0.96
0.567	0.96	2.133	16.25	3.700	6.69	5.27	0.96
0.583	0.96	2.150	16.25	3.717	6.69	5.28	0.96
0.600	0.96	2.167	16.25	3.733	6.69	5.30	0.96
0.617	0.96	2.183	16.25	3.750	6.69	5.32	0.96
0.633	0.96	2.200	16.25	3.767	3.82	5.33	0.96
0.650	0.96	2.217	16.25	3.783	3.82	5.35	0.96
0.667	0.96	2.233	16.25	3.800	3.82	5.37	0.96
0.683	0.96	2.250	16.25	3.817	3.82	5.38	0.96
0.700	0.96	2.267	43.98	3.833	3.82	5.40	0.96
0.717	0.96	2.283	43.98	3.850	3.82	5.42	0.96
0.733	0.96	2.300	43.98	3.867	3.82	5.43	0.96
0.750	0.96	2.317	43.98	3.883	3.82	5.45	0.96
0.767	0.96	2.333	43.98	3.900	3.82	5.47	0.96
0.783	0.96	2.350	43.98	3.917	3.82	5.48	0.96
0.800	0.96	2.367	43.98	3.933	3.82	5.50	0.96
0.817	0.96	2.383	43.98	3.950	3.82	5.52	0.96
0.833	0.96	2.400	43.98	3.967	3.82	5.53	0.96
0.850	0.96	2.417	43.98	3.983	3.82	5.55	0.96
0.867	0.96	2.433	43.98	4.000	3.82	5.57	0.96
0.883	0.96	2.450	43.98	4.017	3.82	5.58	0.96
0.900	0.96	2.467	43.98	4.033	3.82	5.60	0.96
0.917	0.96	2.483	43.98	4.050	3.82	5.62	0.96
0.933	0.96	2.500	43.98	4.067	3.82	5.63	0.96
0.950	0.96	2.517	43.98	4.083	3.82	5.65	0.96
0.967	0.96	2.533	43.98	4.100	3.82	5.67	0.96
0.983	0.96	2.550	43.98	4.117	3.82	5.68	0.96
1.000	0.96	2.567	43.98	4.133	3.82	5.70	0.96
1.017	0.96	2.583	43.98	4.150	3.82	5.72	0.96
1.033	0.96	2.600	43.98	4.167	3.82	5.73	0.96
1.050	0.96	2.617	43.98	4.183	3.82	5.75	0.96
1.067	0.96	2.633	43.98	4.200	3.82	5.77	0.96
1.083	0.96	2.650	43.98	4.217	3.82	5.78	0.96
1.100	0.96	2.667	43.98	4.233	3.82	5.80	0.96
1.117	0.96	2.683	43.98	4.250	3.82	5.82	0.96
1.133	0.96	2.700	43.98	4.267	1.91	5.83	0.96
1.150	0.96	2.717	43.98	4.283	1.91	5.85	0.96
1.167	0.96	2.733	43.98	4.300	1.91	5.87	0.96
1.183	0.96	2.750	43.98	4.317	1.91	5.88	0.96
1.200	0.96	2.767	12.43	4.333	1.91	5.90	0.96
1.217	0.96	2.783	12.43	4.350	1.91	5.92	0.96
1.233	0.96	2.800	12.43	4.367	1.91	5.93	0.96
1.250	0.96	2.817	12.43	4.383	1.91	5.95	0.96
1.267	5.74	2.833	12.43	4.400	1.91	5.97	0.96
1.283	5.74	2.850	12.43	4.417	1.91	5.98	0.96
1.300	5.74	2.867	12.43	4.433	1.91	6.00	0.96
1.317	5.74	2.883	12.43	4.450	1.91	6.02	0.96
1.333	5.74	2.900	12.43	4.467	1.91	6.03	0.96
1.350	5.74	2.917	12.43	4.483	1.91	6.05	0.96
1.367	5.74	2.933	12.43	4.500	1.91	6.07	0.96
1.383	5.74	2.950	12.43	4.517	1.91	6.08	0.96
1.400	5.74	2.967	12.43	4.533	1.91	6.10	0.96
1.417	5.74	2.983	12.43	4.550	1.91	6.12	0.96
1.433	5.74	3.000	12.43	4.567	1.91	6.13	0.96
1.450	5.74	3.017	12.43	4.583	1.91	6.15	0.96
1.467	5.74	3.033	12.43	4.600	1.91	6.17	0.96
1.483	5.74	3.050	12.43	4.617	1.91	6.18	0.96
1.500	5.74	3.067	12.43	4.633	1.91	6.20	0.96
1.517	5.74	3.083	12.43	4.650	1.91	6.22	0.96
1.533	5.74	3.100	12.43	4.667	1.91	6.23	0.96
1.550	5.74	3.117	12.43	4.683	1.91	6.25	0.96
1.567	5.74	3.133	12.43	4.700	1.91		

```
    Max.Eff.Inten.(mm/hr)=      43.98        27.63
              over (min)         5.00         7.00
    Storage Coeff.  (min)=       4.28 (ii)    6.65 (ii)
    Unit Hyd. Tpeak (min)=       5.00         7.00
    Unit Hyd. peak  (cms)=       0.25         0.17
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.34         0.00          0.341 (iii)
    TIME TO PEAK    (hrs)=       2.75         2.77          2.75
    RUNOFF VOLUME    (mm)=      46.81        23.53         46.58
    TOTAL RAINFALL   (mm)=      47.81        47.81         47.81
    RUNOFF COEFFICIENT   =       0.98         0.49          0.97


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7626)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |    0.0568     0.1530
                          0.0239     0.0780   |    0.0660     0.1730
                          0.0370     0.1040   |    0.0751     0.2000
                          0.0451     0.1250   |    0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7567)     2.810     0.341      2.75      46.58
   OUTFLOW: ID= 1 (  7626)     2.810     0.036      3.88      45.03

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.55
                  TIME SHIFT OF PEAK FLOW         (min)= 68.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1020

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| CALIB            |
| STANDHYD (  7624)|   Area    (ha)=   2.08
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       2.06         0.02
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope     (%)=       1.00         0.50
    Length            (m)=     117.76        40.00
    Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.017    0.00 | 1.583    5.74 | 3.150   12.43 |  4.72    1.91
 0.033    0.00 | 1.600    5.74 | 3.167   12.43 |  4.73    1.91
 0.050    0.00 | 1.617    5.74 | 3.183   12.43 |  4.75    1.91
 0.067    0.00 | 1.633    5.74 | 3.200   12.43 |  4.77    0.96
 0.083    0.00 | 1.650    5.74 | 3.217   12.43 |  4.78    0.96
 0.100    0.00 | 1.667    5.74 | 3.233   12.43 |  4.80    0.96
 0.117    0.00 | 1.683    5.74 | 3.250   12.43 |  4.82    0.96
 0.133    0.00 | 1.700    5.74 | 3.267    6.69 |  4.83    0.96
 0.150    0.00 | 1.717    5.74 | 3.283    6.69 |  4.85    0.96
 0.167    0.00 | 1.733    5.74 | 3.300    6.69 |  4.87    0.96
 0.183    0.00 | 1.750    5.74 | 3.317    6.69 |  4.88    0.96
 0.200    0.00 | 1.767   16.25 | 3.333    6.69 |  4.90    0.96
 0.217    0.00 | 1.783   16.25 | 3.350    6.69 |  4.92    0.96
 0.233    0.00 | 1.800   16.25 | 3.367    6.69 |  4.93    0.96
 0.250    0.00 | 1.817   16.25 | 3.383    6.69 |  4.95    0.96
 0.267    0.96 | 1.833   16.25 | 3.400    6.69 |  4.97    0.96
 0.283    0.96 | 1.850   16.25 | 3.417    6.69 |  4.98    0.96
 0.300    0.96 | 1.867   16.25 | 3.433    6.69 |  5.00    0.96
 0.317    0.96 | 1.883   16.25 | 3.450    6.69 |  5.02    0.96
 0.333    0.96 | 1.900   16.25 | 3.467    6.69 |  5.03    0.96
 0.350    0.96 | 1.917   16.25 | 3.483    6.69 |  5.05    0.96
 0.367    0.96 | 1.933   16.25 | 3.500    6.69 |  5.07    0.96
 0.383    0.96 | 1.950   16.25 | 3.517    6.69 |  5.08    0.96
 0.400    0.96 | 1.967   16.25 | 3.533    6.69 |  5.10    0.96
 0.417    0.96 | 1.983   16.25 | 3.550    6.69 |  5.12    0.96
 0.433    0.96 | 2.000   16.25 | 3.567    6.69 |  5.13    0.96
 0.450    0.96 | 2.017   16.25 | 3.583    6.69 |  5.15    0.96
 0.467    0.96 | 2.033   16.25 | 3.600    6.69 |  5.17    0.96
 0.483    0.96 | 2.050   16.25 | 3.617    6.69 |  5.18    0.96
 0.500    0.96 | 2.067   16.25 | 3.633    6.69 |  5.20    0.96
 0.517    0.96 | 2.083   16.25 | 3.650    6.69 |  5.22    0.96
 0.533    0.96 | 2.100   16.25 | 3.667    6.69 |  5.23    0.96
 0.550    0.96 | 2.117   16.25 | 3.683    6.69 |  5.25    0.96
 0.567    0.96 | 2.133   16.25 | 3.700    6.69 |  5.27    0.96
 0.583    0.96 | 2.150   16.25 | 3.717    6.69 |  5.28    0.96
 0.600    0.96 | 2.167   16.25 | 3.733    6.69 |  5.30    0.96
 0.617    0.96 | 2.183   16.25 | 3.750    6.69 |  5.32    0.96
 0.633    0.96 | 2.200   16.25 | 3.767    3.82 |  5.33    0.96
 0.650    0.96 | 2.217   16.25 | 3.783    3.82 |  5.35    0.96
 0.667    0.96 | 2.233   16.25 | 3.800    3.82 |  5.37    0.96
 0.683    0.96 | 2.250   16.25 | 3.817    3.82 |  5.38    0.96
 0.700    0.96 | 2.267   43.98 | 3.833    3.82 |  5.40    0.96
 0.717    0.96 | 2.283   43.98 | 3.850    3.82 |  5.42    0.96
 0.733    0.96 | 2.300   43.98 | 3.867    3.82 |  5.43    0.96
 0.750    0.96 | 2.317   43.98 | 3.883    3.82 |  5.45    0.96
 0.767    0.96 | 2.333   43.98 | 3.900    3.82 |  5.47    0.96
 0.783    0.96 | 2.350   43.98 | 3.917    3.82 |  5.48    0.96
 0.800    0.96 | 2.367   43.98 | 3.933    3.82 |  5.50    0.96
 0.817    0.96 | 2.383   43.98 | 3.950    3.82 |  5.52    0.96
 0.833    0.96 | 2.400   43.98 | 3.967    3.82 |  5.53    0.96
 0.850    0.96 | 2.417   43.98 | 3.983    3.82 |  5.55    0.96
 0.867    0.96 | 2.433   43.98 | 4.000    3.82 |  5.57    0.96
 0.883    0.96 | 2.450   43.98 | 4.017    3.82 |  5.58    0.96
 0.900    0.96 | 2.467   43.98 | 4.033    3.82 |  5.60    0.96
 0.917    0.96 | 2.483   43.98 | 4.050    3.82 |  5.62    0.96
 0.933    0.96 | 2.500   43.98 | 4.067    3.82 |  5.63    0.96
 0.950    0.96 | 2.517   43.98 | 4.083    3.82 |  5.65    0.96
 0.967    0.96 | 2.533   43.98 | 4.100    3.82 |  5.67    0.96
 0.983    0.96 | 2.550   43.98 | 4.117    3.82 |  5.68    0.96
 1.000    0.96 | 2.567   43.98 | 4.133    3.82 |  5.70    0.96
 1.017    0.96 | 2.583   43.98 | 4.150    3.82 |  5.72    0.96
 1.033    0.96 | 2.600   43.98 | 4.167    3.82 |  5.73    0.96
 1.050    0.96 | 2.617   43.98 | 4.183    3.82 |  5.75    0.96
 1.067    0.96 | 2.633   43.98 | 4.200    3.82 |  5.77    0.96
 1.083    0.96 | 2.650   43.98 | 4.217    3.82 |  5.78    0.96
 1.100    0.96 | 2.667   43.98 | 4.233    3.82 |  5.80    0.96
 1.117    0.96 | 2.683   43.98 | 4.250    3.82 |  5.82    0.96
 1.133    0.96 | 2.700   43.98 | 4.267    1.91 |  5.83    0.96
 1.150    0.96 | 2.717   43.98 | 4.283    1.91 |  5.85    0.96
 1.167    0.96 | 2.733   43.98 | 4.300    1.91 |  5.87    0.96
 1.183    0.96 | 2.750   43.98 | 4.317    1.91 |  5.88    0.96
 1.200    0.96 | 2.767   12.43 | 4.333    1.91 |  5.90    0.96
 1.217    0.96 | 2.783   12.43 | 4.350    1.91 |  5.92    0.96
 1.233    0.96 | 2.800   12.43 | 4.367    1.91 |  5.93    0.96
 1.250    0.96 | 2.817   12.43 | 4.383    1.91 |  5.95    0.96
 1.267    5.74 | 2.833   12.43 | 4.400    1.91 |  5.97    0.96
 1.283    5.74 | 2.850   12.43 | 4.417    1.91 |  5.98    0.96
 1.300    5.74 | 2.867   12.43 | 4.433    1.91 |  6.00    0.96
 1.317    5.74 | 2.883   12.43 | 4.450    1.91 |  6.02    0.96
 1.333    5.74 | 2.900   12.43 | 4.467    1.91 |  6.03    0.96
 1.350    5.74 | 2.917   12.43 | 4.483    1.91 |  6.05    0.96
 1.367    5.74 | 2.933   12.43 | 4.500    1.91 |  6.07    0.96
 1.383    5.74 | 2.950   12.43 | 4.517    1.91 |  6.08    0.96
 1.400    5.74 | 2.967   12.43 | 4.533    1.91 |  6.10    0.96
 1.417    5.74 | 2.983   12.43 | 4.550    1.91 |  6.12    0.96
 1.433    5.74 | 3.000   12.43 | 4.567    1.91 |  6.13    0.96
 1.450    5.74 | 3.017   12.43 | 4.583    1.91 |  6.15    0.96
 1.467    5.74 | 3.033   12.43 | 4.600    1.91 |  6.17    0.96
 1.483    5.74 | 3.050   12.43 | 4.617    1.91 |  6.18    0.96
 1.500    5.74 | 3.067   12.43 | 4.633    1.91 |  6.20    0.96
 1.517    5.74 | 3.083   12.43 | 4.650    1.91 |  6.22    0.96
 1.533    5.74 | 3.100   12.43 | 4.667    1.91 |  6.23    0.96
 1.550    5.74 | 3.117   12.43 | 4.683    1.91 |  6.25    0.96
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              1.567    5.74 | 3.133   12.43 | 4.700    1.91 |

     Max.Eff.Inten.(mm/hr)=      43.98        33.15
               over (min)         5.00         7.00
     Storage Coeff.  (min)=       3.91 (ii)    6.28 (ii)
     Unit Hyd. Tpeak (min)=       5.00         7.00
     Unit Hyd. peak  (cms)=       0.26         0.17
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.25         0.00          0.253 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.77          2.75
     RUNOFF VOLUME    (mm)=      46.81        28.77         46.63
     TOTAL RAINFALL   (mm)=      47.81        47.81         47.81
     RUNOFF COEFFICIENT   =       0.98         0.60          0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR(  7625)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |    0.0389      0.1013
                          0.0164     0.0514   |    0.0456      0.1141
                          0.0252     0.0690   |    0.0514      0.1288
                          0.0309     0.0825   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7624)     2.080     0.253      2.75      46.63
   OUTFLOW: ID= 1 (  7625)     2.080     0.028      3.87      45.31

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.94
                  TIME SHIFT OF PEAK FLOW         (min)= 67.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0750

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-------------------
| CALIB            |
| STANDHYD (  7623)|   Area    (ha)=   1.15
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         0.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=      87.56        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 1.583    5.74 | 3.150   12.43 |  4.72    1.91
               0.033    0.00 | 1.600    5.74 | 3.167   12.43 |  4.73    1.91
               0.050    0.00 | 1.617    5.74 | 3.183   12.43 |  4.75    1.91
               0.067    0.00 | 1.633    5.74 | 3.200   12.43 |  4.77    0.96
               0.083    0.00 | 1.650    5.74 | 3.217   12.43 |  4.78    0.96
               0.100    0.00 | 1.667    5.74 | 3.233   12.43 |  4.80    0.96
               0.117    0.00 | 1.683    5.74 | 3.250   12.43 |  4.82    0.96
               0.133    0.00 | 1.700    5.74 | 3.267    6.69 |  4.83    0.96
               0.150    0.00 | 1.717    5.74 | 3.283    6.69 |  4.85    0.96
               0.167    0.00 | 1.733    5.74 | 3.300    6.69 |  4.87    0.96
               0.183    0.00 | 1.750    5.74 | 3.317    6.69 |  4.88    0.96
               0.200    0.00 | 1.767   16.25 | 3.333    6.69 |  4.90    0.96
               0.217    0.00 | 1.783   16.25 | 3.350    6.69 |  4.92    0.96
               0.233    0.00 | 1.800   16.25 | 3.367    6.69 |  4.93    0.96
               0.250    0.00 | 1.817   16.25 | 3.383    6.69 |  4.95    0.96
               0.267    0.96 | 1.833   16.25 | 3.400    6.69 |  4.97    0.96
               0.283    0.96 | 1.850   16.25 | 3.417    6.69 |  4.98    0.96
               0.300    0.96 | 1.867   16.25 | 3.433    6.69 |  5.00    0.96
               0.317    0.96 | 1.883   16.25 | 3.450    6.69 |  5.02    0.96
               0.333    0.96 | 1.900   16.25 | 3.467    6.69 |  5.03    0.96
               0.350    0.96 | 1.917   16.25 | 3.483    6.69 |  5.05    0.96
               0.367    0.96 | 1.933   16.25 | 3.500    6.69 |  5.07    0.96
               0.383    0.96 | 1.950   16.25 | 3.517    6.69 |  5.08    0.96
               0.400    0.96 | 1.967   16.25 | 3.533    6.69 |  5.10    0.96
               0.417    0.96 | 1.983   16.25 | 3.550    6.69 |  5.12    0.96
               0.433    0.96 | 2.000   16.25 | 3.567    6.69 |  5.13    0.96
               0.450    0.96 | 2.017   16.25 | 3.583    6.69 |  5.15    0.96
               0.467    0.96 | 2.033   16.25 | 3.600    6.69 |  5.17    0.96
               0.483    0.96 | 2.050   16.25 | 3.617    6.69 |  5.18    0.96
               0.500    0.96 | 2.067   16.25 | 3.633    6.69 |  5.20    0.96
               0.517    0.96 | 2.083   16.25 | 3.650    6.69 |  5.22    0.96
               0.533    0.96 | 2.100   16.25 | 3.667    6.69 |  5.23    0.96
               0.550    0.96 | 2.117   16.25 | 3.683    6.69 |  5.25    0.96
               0.567    0.96 | 2.133   16.25 | 3.700    6.69 |  5.27    0.96
               0.583    0.96 | 2.150   16.25 | 3.717    6.69 |  5.28    0.96
               0.600    0.96 | 2.167   16.25 | 3.733    6.69 |  5.30    0.96
               0.617    0.96 | 2.183   16.25 | 3.750    6.69 |  5.32    0.96
               0.633    0.96 | 2.200   16.25 | 3.767    3.82 |  5.33    0.96
               0.650    0.96 | 2.217   16.25 | 3.783    3.82 |  5.35    0.96
               0.667    0.96 | 2.233   16.25 | 3.800    3.82 |  5.37    0.96
               0.683    0.96 | 2.250   16.25 | 3.817    3.82 |  5.38    0.96
               0.700    0.96 | 2.267   43.98 | 3.833    3.82 |  5.40    0.96
               0.717    0.96 | 2.283   43.98 | 3.850    3.82 |  5.42    0.96
               0.733    0.96 | 2.300   43.98 | 3.867    3.82 |  5.43    0.96
               0.750    0.96 | 2.317   43.98 | 3.883    3.82 |  5.45    0.96
               0.767    0.96 | 2.333   43.98 | 3.900    3.82 |  5.47    0.96
               0.783    0.96 | 2.350   43.98 | 3.917    3.82 |  5.48    0.96
               0.800    0.96 | 2.367   43.98 | 3.933    3.82 |  5.50    0.96
               0.817    0.96 | 2.383   43.98 | 3.950    3.82 |  5.52    0.96
               0.833    0.96 | 2.400   43.98 | 3.967    3.82 |  5.53    0.96
               0.850    0.96 | 2.417   43.98 | 3.983    3.82 |  5.55    0.96
               0.867    0.96 | 2.433   43.98 | 4.000    3.82 |  5.57    0.96
               0.883    0.96 | 2.450   43.98 | 4.017    3.82 |  5.58    0.96
               0.900    0.96 | 2.467   43.98 | 4.033    3.82 |  5.60    0.96
               0.917    0.96 | 2.483   43.98 | 4.050    3.82 |  5.62    0.96
               0.933    0.96 | 2.500   43.98 | 4.067    3.82 |  5.63    0.96
               0.950    0.96 | 2.517   43.98 | 4.083    3.82 |  5.65    0.96
               0.967    0.96 | 2.533   43.98 | 4.100    3.82 |  5.67    0.96
               0.983    0.96 | 2.550   43.98 | 4.117    3.82 |  5.68    0.96
               1.000    0.96 | 2.567   43.98 | 4.133    3.82 |  5.70    0.96
               1.017    0.96 | 2.583   43.98 | 4.150    3.82 |  5.72    0.96
               1.033    0.96 | 2.600   43.98 | 4.167    3.82 |  5.73    0.96
               1.050    0.96 | 2.617   43.98 | 4.183    3.82 |  5.75    0.96
               1.067    0.96 | 2.633   43.98 | 4.200    3.82 |  5.77    0.96
               1.083    0.96 | 2.650   43.98 | 4.217    3.82 |  5.78    0.96
               1.100    0.96 | 2.667   43.98 | 4.233    3.82 |  5.80    0.96
               1.117    0.96 | 2.683   43.98 | 4.250    3.82 |  5.82    0.96
               1.133    0.96 | 2.700   43.98 | 4.267    1.91 |  5.83    0.96
               1.150    0.96 | 2.717   43.98 | 4.283    1.91 |  5.85    0.96
               1.167    0.96 | 2.733   43.98 | 4.300    1.91 |  5.87    0.96
               1.183    0.96 | 2.750   43.98 | 4.317    1.91 |  5.88    0.96
               1.200    0.96 | 2.767   12.43 | 4.333    1.91 |  5.90    0.96
               1.217    0.96 | 2.783   12.43 | 4.350    1.91 |  5.92    0.96
               1.233    0.96 | 2.800   12.43 | 4.367    1.91 |  5.93    0.96
               1.250    0.96 | 2.817   12.43 | 4.383    1.91 |  5.95    0.96
               1.267    5.74 | 2.833   12.43 | 4.400    1.91 |  5.97    0.96
               1.283    5.74 | 2.850   12.43 | 4.417    1.91 |  5.98    0.96
               1.300    5.74 | 2.867   12.43 | 4.433    1.91 |  6.00    0.96
               1.317    5.74 | 2.883   12.43 | 4.450    1.91 |  6.02    0.96
               1.333    5.74 | 2.900   12.43 | 4.467    1.91 |  6.03    0.96
               1.350    5.74 | 2.917   12.43 | 4.483    1.91 |  6.05    0.96
               1.367    5.74 | 2.933   12.43 | 4.500    1.91 |  6.07    0.96
               1.383    5.74 | 2.950   12.43 | 4.517    1.91 |  6.08    0.96
               1.400    5.74 | 2.967   12.43 | 4.533    1.91 |  6.10    0.96
               1.417    5.74 | 2.983   12.43 | 4.550    1.91 |  6.12    0.96
               1.433    5.74 | 3.000   12.43 | 4.567    1.91 |  6.13    0.96
               1.450    5.74 | 3.017   12.43 | 4.583    1.91 |  6.15    0.96
               1.467    5.74 | 3.033   12.43 | 4.600    1.91 |  6.17    0.96
               1.483    5.74 | 3.050   12.43 | 4.617    1.91 |  6.18    0.96
               1.500    5.74 | 3.067   12.43 | 4.633    1.91 |  6.20    0.96
               1.517    5.74 | 3.083   12.43 | 4.650    1.91 |  6.22    0.96
               1.533    5.74 | 3.100   12.43 | 4.667    1.91 |  6.23    0.96
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1.550	5.74	3.117	12.43	4.683	1.91	6.25	0.96
1.567	5.74	3.133	12.43	4.700	1.91		

Max.Eff.Inten.(mm/hr)=	43.98	27.63	
over (min)	5.00	6.00	
Storage Coeff. (min)=	3.28 (ii)	5.64 (ii)	
Unit Hyd. Tpeak (min)=	5.00	6.00	
Unit Hyd. peak (cms)=	0.29	0.20	
			TOTALS
PEAK FLOW (cms)=	0.14	0.00	0.140 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	46.81	23.53	46.58
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725
	0.0167	0.0440	0.0340	0.0820
	0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.140	2.75	46.58
OUTFLOW: ID= 1 (7622)	1.150	0.015	3.85	45.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.96
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.0415

CALIB			
STANDHYD (7629)	Area (ha)= 4.09		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	4.05	0.04	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	165.13	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	5.74	3.150	12.43	4.72	1.91
0.033	0.00	1.600	5.74	3.167	12.43	4.73	1.91
0.050	0.00	1.617	5.74	3.183	12.43	4.75	1.91
0.067	0.00	1.633	5.74	3.200	12.43	4.77	0.96
0.083	0.00	1.650	5.74	3.217	12.43	4.78	0.96
0.100	0.00	1.667	5.74	3.233	12.43	4.80	0.96
0.117	0.00	1.683	5.74	3.250	12.43	4.82	0.96
0.133	0.00	1.700	5.74	3.267	6.69	4.83	0.96
0.150	0.00	1.717	5.74	3.283	6.69	4.85	0.96
0.167	0.00	1.733	5.74	3.300	6.69	4.87	0.96
0.183	0.00	1.750	5.74	3.317	6.69	4.88	0.96
0.200	0.00	1.767	16.25	3.333	6.69	4.90	0.96
0.217	0.00	1.783	16.25	3.350	6.69	4.92	0.96
0.233	0.00	1.800	16.25	3.367	6.69	4.93	0.96
0.250	0.00	1.817	16.25	3.383	6.69	4.95	0.96
0.267	0.96	1.833	16.25	3.400	6.69	4.97	0.96
0.283	0.96	1.850	16.25	3.417	6.69	4.98	0.96
0.300	0.96	1.867	16.25	3.433	6.69	5.00	0.96
0.317	0.96	1.883	16.25	3.450	6.69	5.02	0.96
0.333	0.96	1.900	16.25	3.467	6.69	5.03	0.96
0.350	0.96	1.917	16.25	3.483	6.69	5.05	0.96
0.367	0.96	1.933	16.25	3.500	6.69	5.07	0.96
0.383	0.96	1.950	16.25	3.517	6.69	5.08	0.96
0.400	0.96	1.967	16.25	3.533	6.69	5.10	0.96
0.417	0.96	1.983	16.25	3.550	6.69	5.12	0.96
0.433	0.96	2.000	16.25	3.567	6.69	5.13	0.96
0.450	0.96	2.017	16.25	3.583	6.69	5.15	0.96
0.467	0.96	2.033	16.25	3.600	6.69	5.17	0.96
0.483	0.96	2.050	16.25	3.617	6.69	5.18	0.96
0.500	0.96	2.067	16.25	3.633	6.69	5.20	0.96
0.517	0.96	2.083	16.25	3.650	6.69	5.22	0.96
0.533	0.96	2.100	16.25	3.667	6.69	5.23	0.96
0.550	0.96	2.117	16.25	3.683	6.69	5.25	0.96
0.567	0.96	2.133	16.25	3.700	6.69	5.27	0.96
0.583	0.96	2.150	16.25	3.717	6.69	5.28	0.96
0.600	0.96	2.167	16.25	3.733	6.69	5.30	0.96
0.617	0.96	2.183	16.25	3.750	6.69	5.32	0.96
0.633	0.96	2.200	16.25	3.767	3.82	5.33	0.96
0.650	0.96	2.217	16.25	3.783	3.82	5.35	0.96
0.667	0.96	2.233	16.25	3.800	3.82	5.37	0.96
0.683	0.96	2.250	16.25	3.817	3.82	5.38	0.96
0.700	0.96	2.267	43.98	3.833	3.82	5.40	0.96
0.717	0.96	2.283	43.98	3.850	3.82	5.42	0.96
0.733	0.96	2.300	43.98	3.867	3.82	5.43	0.96
0.750	0.96	2.317	43.98	3.883	3.82	5.45	0.96
0.767	0.96	2.333	43.98	3.900	3.82	5.47	0.96
0.783	0.96	2.350	43.98	3.917	3.82	5.48	0.96
0.800	0.96	2.367	43.98	3.933	3.82	5.50	0.96
0.817	0.96	2.383	43.98	3.950	3.82	5.52	0.96
0.833	0.96	2.400	43.98	3.967	3.82	5.53	0.96
0.850	0.96	2.417	43.98	3.983	3.82	5.55	0.96
0.867	0.96	2.433	43.98	4.000	3.82	5.57	0.96
0.883	0.96	2.450	43.98	4.017	3.82	5.58	0.96
0.900	0.96	2.467	43.98	4.033	3.82	5.60	0.96
0.917	0.96	2.483	43.98	4.050	3.82	5.62	0.96
0.933	0.96	2.500	43.98	4.067	3.82	5.63	0.96
0.950	0.96	2.517	43.98	4.083	3.82	5.65	0.96
0.967	0.96	2.533	43.98	4.100	3.82	5.67	0.96
0.983	0.96	2.550	43.98	4.117	3.82	5.68	0.96
1.000	0.96	2.567	43.98	4.133	3.82	5.70	0.96
1.017	0.96	2.583	43.98	4.150	3.82	5.72	0.96
1.033	0.96	2.600	43.98	4.167	3.82	5.73	0.96
1.050	0.96	2.617	43.98	4.183	3.82	5.75	0.96
1.067	0.96	2.633	43.98	4.200	3.82	5.77	0.96
1.083	0.96	2.650	43.98	4.217	3.82	5.78	0.96
1.100	0.96	2.667	43.98	4.233	3.82	5.80	0.96
1.117	0.96	2.683	43.98	4.250	3.82	5.82	0.96
1.133	0.96	2.700	43.98	4.267	1.91	5.83	0.96
1.150	0.96	2.717	43.98	4.283	1.91	5.85	0.96
1.167	0.96	2.733	43.98	4.300	1.91	5.87	0.96
1.183	0.96	2.750	43.98	4.317	1.91	5.88	0.96
1.200	0.96	2.767	12.43	4.333	1.91	5.90	0.96
1.217	0.96	2.783	12.43	4.350	1.91	5.92	0.96
1.233	0.96	2.800	12.43	4.367	1.91	5.93	0.96
1.250	0.96	2.817	12.43	4.383	1.91	5.95	0.96
1.267	5.74	2.833	12.43	4.400	1.91	5.97	0.96
1.283	5.74	2.850	12.43	4.417	1.91	5.98	0.96
1.300	5.74	2.867	12.43	4.433	1.91	6.00	0.96
1.317	5.74	2.883	12.43	4.450	1.91	6.02	0.96
1.333	5.74	2.900	12.43	4.467	1.91	6.03	0.96
1.350	5.74	2.917	12.43	4.483	1.91	6.05	0.96
1.367	5.74	2.933	12.43	4.500	1.91	6.07	0.96
1.383	5.74	2.950	12.43	4.517	1.91	6.08	0.96
1.400	5.74	2.967	12.43	4.533	1.91	6.10	0.96
1.417	5.74	2.983	12.43	4.550	1.91	6.12	0.96
1.433	5.74	3.000	12.43	4.567	1.91	6.13	0.96
1.450	5.74	3.017	12.43	4.583	1.91	6.15	0.96
1.467	5.74	3.033	12.43	4.600	1.91	6.17	0.96
1.483	5.74	3.050	12.43	4.617	1.91	6.18	0.96
1.500	5.74	3.067	12.43	4.633	1.91	6.20	0.96
1.517	5.74	3.083	12.43	4.650	1.91	6.22	0.96

1.533	5.74	3.100	12.43	4.667	1.91	6.23	0.96
1.550	5.74	3.117	12.43	4.683	1.91	6.25	0.96
1.567	5.74	3.133	12.43	4.700	1.91		

Max.Eff.Inten.(mm/hr)=	43.98	27.63	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.79 (ii)	7.16 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.23	0.15	
			TOTALS
PEAK FLOW (cms)=	0.49	0.00	0.497 (iii)
TIME TO PEAK (hrs)=	2.75	2.77	2.75
RUNOFF VOLUME (mm)=	46.81	23.53	46.58
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940
	0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.497	2.75	46.58
OUTFLOW: ID= 1 (7630)	4.090	0.050	3.92	44.84

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.99
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.1497

CALIB			
STANDHYD (7631)	Area (ha)= 3.91		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	3.87	0.04	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	161.45	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	5.74	3.150	12.43	4.72	1.91
0.033	0.00	1.600	5.74	3.167	12.43	4.73	1.91
0.050	0.00	1.617	5.74	3.183	12.43	4.75	1.91
0.067	0.00	1.633	5.74	3.200	12.43	4.77	0.96
0.083	0.00	1.650	5.74	3.217	12.43	4.78	0.96
0.100	0.00	1.667	5.74	3.233	12.43	4.80	0.96
0.117	0.00	1.683	5.74	3.250	12.43	4.82	0.96
0.133	0.00	1.700	5.74	3.267	6.69	4.83	0.96
0.150	0.00	1.717	5.74	3.283	6.69	4.85	0.96
0.167	0.00	1.733	5.74	3.300	6.69	4.87	0.96
0.183	0.00	1.750	5.74	3.317	6.69	4.88	0.96
0.200	0.00	1.767	16.25	3.333	6.69	4.90	0.96
0.217	0.00	1.783	16.25	3.350	6.69	4.92	0.96
0.233	0.00	1.800	16.25	3.367	6.69	4.93	0.96
0.250	0.00	1.817	16.25	3.383	6.69	4.95	0.96
0.267	0.96	1.833	16.25	3.400	6.69	4.97	0.96
0.283	0.96	1.850	16.25	3.417	6.69	4.98	0.96
0.300	0.96	1.867	16.25	3.433	6.69	5.00	0.96
0.317	0.96	1.883	16.25	3.450	6.69	5.02	0.96
0.333	0.96	1.900	16.25	3.467	6.69	5.03	0.96
0.350	0.96	1.917	16.25	3.483	6.69	5.05	0.96
0.367	0.96	1.933	16.25	3.500	6.69	5.07	0.96
0.383	0.96	1.950	16.25	3.517	6.69	5.08	0.96
0.400	0.96	1.967	16.25	3.533	6.69	5.10	0.96
0.417	0.96	1.983	16.25	3.550	6.69	5.12	0.96
0.433	0.96	2.000	16.25	3.567	6.69	5.13	0.96
0.450	0.96	2.017	16.25	3.583	6.69	5.15	0.96
0.467	0.96	2.033	16.25	3.600	6.69	5.17	0.96
0.483	0.96	2.050	16.25	3.617	6.69	5.18	0.96
0.500	0.96	2.067	16.25	3.633	6.69	5.20	0.96
0.517	0.96	2.083	16.25	3.650	6.69	5.22	0.96
0.533	0.96	2.100	16.25	3.667	6.69	5.23	0.96
0.550	0.96	2.117	16.25	3.683	6.69	5.25	0.96
0.567	0.96	2.133	16.25	3.700	6.69	5.27	0.96
0.583	0.96	2.150	16.25	3.717	6.69	5.28	0.96
0.600	0.96	2.167	16.25	3.733	6.69	5.30	0.96
0.617	0.96	2.183	16.25	3.750	6.69	5.32	0.96
0.633	0.96	2.200	16.25	3.767	3.82	5.33	0.96
0.650	0.96	2.217	16.25	3.783	3.82	5.35	0.96
0.667	0.96	2.233	16.25	3.800	3.82	5.37	0.96
0.683	0.96	2.250	16.25	3.817	3.82	5.38	0.96
0.700	0.96	2.267	43.98	3.833	3.82	5.40	0.96
0.717	0.96	2.283	43.98	3.850	3.82	5.42	0.96
0.733	0.96	2.300	43.98	3.867	3.82	5.43	0.96
0.750	0.96	2.317	43.98	3.883	3.82	5.45	0.96
0.767	0.96	2.333	43.98	3.900	3.82	5.47	0.96
0.783	0.96	2.350	43.98	3.917	3.82	5.48	0.96
0.800	0.96	2.367	43.98	3.933	3.82	5.50	0.96
0.817	0.96	2.383	43.98	3.950	3.82	5.52	0.96
0.833	0.96	2.400	43.98	3.967	3.82	5.53	0.96
0.850	0.96	2.417	43.98	3.983	3.82	5.55	0.96
0.867	0.96	2.433	43.98	4.000	3.82	5.57	0.96
0.883	0.96	2.450	43.98	4.017	3.82	5.58	0.96
0.900	0.96	2.467	43.98	4.033	3.82	5.60	0.96
0.917	0.96	2.483	43.98	4.050	3.82	5.62	0.96
0.933	0.96	2.500	43.98	4.067	3.82	5.63	0.96
0.950	0.96	2.517	43.98	4.083	3.82	5.65	0.96
0.967	0.96	2.533	43.98	4.100	3.82	5.67	0.96
0.983	0.96	2.550	43.98	4.117	3.82	5.68	0.96
1.000	0.96	2.567	43.98	4.133	3.82	5.70	0.96
1.017	0.96	2.583	43.98	4.150	3.82	5.72	0.96
1.033	0.96	2.600	43.98	4.167	3.82	5.73	0.96
1.050	0.96	2.617	43.98	4.183	3.82	5.75	0.96
1.067	0.96	2.633	43.98	4.200	3.82	5.77	0.96
1.083	0.96	2.650	43.98	4.217	3.82	5.78	0.96
1.100	0.96	2.667	43.98	4.233	3.82	5.80	0.96
1.117	0.96	2.683	43.98	4.250	3.82	5.82	0.96
1.133	0.96	2.700	43.98	4.267	1.91	5.83	0.96
1.150	0.96	2.717	43.98	4.283	1.91	5.85	0.96
1.167	0.96	2.733	43.98	4.300	1.91	5.87	0.96
1.183	0.96	2.750	43.98	4.317	1.91	5.88	0.96
1.200	0.96	2.767	12.43	4.333	1.91	5.90	0.96
1.217	0.96	2.783	12.43	4.350	1.91	5.92	0.96
1.233	0.96	2.800	12.43	4.367	1.91	5.93	0.96
1.250	0.96	2.817	12.43	4.383	1.91	5.95	0.96
1.267	5.74	2.833	12.43	4.400	1.91	5.97	0.96
1.283	5.74	2.850	12.43	4.417	1.91	5.98	0.96
1.300	5.74	2.867	12.43	4.433	1.91	6.00	0.96
1.317	5.74	2.883	12.43	4.450	1.91	6.02	0.96
1.333	5.74	2.900	12.43	4.467	1.91	6.03	0.96
1.350	5.74	2.917	12.43	4.483	1.91	6.05	0.96
1.367	5.74	2.933	12.43	4.500	1.91	6.07	0.96
1.383	5.74	2.950	12.43	4.517	1.91	6.08	0.96
1.400	5.74	2.967	12.43	4.533	1.91	6.10	0.96
1.417	5.74	2.983	12.43	4.550	1.91	6.12	0.96
1.433	5.74	3.000	12.43	4.567	1.91	6.13	0.96
1.450	5.74	3.017	12.43	4.583	1.91	6.15	0.96
1.467	5.74	3.033	12.43	4.600	1.91	6.17	0.96
1.483	5.74	3.050	12.43	4.617	1.91	6.18	0.96
1.500	5.74	3.067	12.43	4.633	1.91	6.20	0.96

	1.517	5.74	3.083	12.43	4.650	1.91	6.22	0.96
	1.533	5.74	3.100	12.43	4.667	1.91	6.23	0.96
	1.550	5.74	3.117	12.43	4.683	1.91	6.25	0.96
	1.567	5.74	3.133	12.43	4.700	1.91		

Max.Eff.Inten.(mm/hr)=	43.98	27.63	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.73 (ii)	7.09 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.23	0.15	
			TOTALS
PEAK FLOW (cms)=	0.47	0.00	0.475 (iii)
TIME TO PEAK (hrs)=	2.75	2.77	2.75
RUNOFF VOLUME (mm)=	46.81	23.53	46.58
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0792	0.2220
0.0333	0.1130	0.0928	0.2500
0.0512	0.1510	0.1046	0.2810
0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.475	2.75	46.58
OUTFLOW: ID= 1 (7632)	3.910	0.048	3.92	44.80

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.01
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.1432

CALIB	
STANDHYD (7641)	Area (ha)= 2.21
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	5.74	3.150	12.43	4.72	1.91
0.033	0.00	1.600	5.74	3.167	12.43	4.73	1.91
0.050	0.00	1.617	5.74	3.183	12.43	4.75	1.91
0.067	0.00	1.633	5.74	3.200	12.43	4.77	0.96
0.083	0.00	1.650	5.74	3.217	12.43	4.78	0.96
0.100	0.00	1.667	5.74	3.233	12.43	4.80	0.96
0.117	0.00	1.683	5.74	3.250	12.43	4.82	0.96
0.133	0.00	1.700	5.74	3.267	6.69	4.83	0.96
0.150	0.00	1.717	5.74	3.283	6.69	4.85	0.96
0.167	0.00	1.733	5.74	3.300	6.69	4.87	0.96
0.183	0.00	1.750	5.74	3.317	6.69	4.88	0.96
0.200	0.00	1.767	16.25	3.333	6.69	4.90	0.96
0.217	0.00	1.783	16.25	3.350	6.69	4.92	0.96
0.233	0.00	1.800	16.25	3.367	6.69	4.93	0.96
0.250	0.00	1.817	16.25	3.383	6.69	4.95	0.96
0.267	0.96	1.833	16.25	3.400	6.69	4.97	0.96
0.283	0.96	1.850	16.25	3.417	6.69	4.98	0.96
0.300	0.96	1.867	16.25	3.433	6.69	5.00	0.96
0.317	0.96	1.883	16.25	3.450	6.69	5.02	0.96
0.333	0.96	1.900	16.25	3.467	6.69	5.03	0.96
0.350	0.96	1.917	16.25	3.483	6.69	5.05	0.96
0.367	0.96	1.933	16.25	3.500	6.69	5.07	0.96
0.383	0.96	1.950	16.25	3.517	6.69	5.08	0.96
0.400	0.96	1.967	16.25	3.533	6.69	5.10	0.96
0.417	0.96	1.983	16.25	3.550	6.69	5.12	0.96
0.433	0.96	2.000	16.25	3.567	6.69	5.13	0.96
0.450	0.96	2.017	16.25	3.583	6.69	5.15	0.96
0.467	0.96	2.033	16.25	3.600	6.69	5.17	0.96
0.483	0.96	2.050	16.25	3.617	6.69	5.18	0.96
0.500	0.96	2.067	16.25	3.633	6.69	5.20	0.96
0.517	0.96	2.083	16.25	3.650	6.69	5.22	0.96
0.533	0.96	2.100	16.25	3.667	6.69	5.23	0.96
0.550	0.96	2.117	16.25	3.683	6.69	5.25	0.96
0.567	0.96	2.133	16.25	3.700	6.69	5.27	0.96
0.583	0.96	2.150	16.25	3.717	6.69	5.28	0.96
0.600	0.96	2.167	16.25	3.733	6.69	5.30	0.96
0.617	0.96	2.183	16.25	3.750	6.69	5.32	0.96
0.633	0.96	2.200	16.25	3.767	3.82	5.33	0.96
0.650	0.96	2.217	16.25	3.783	3.82	5.35	0.96
0.667	0.96	2.233	16.25	3.800	3.82	5.37	0.96
0.683	0.96	2.250	16.25	3.817	3.82	5.38	0.96
0.700	0.96	2.267	43.98	3.833	3.82	5.40	0.96
0.717	0.96	2.283	43.98	3.850	3.82	5.42	0.96
0.733	0.96	2.300	43.98	3.867	3.82	5.43	0.96
0.750	0.96	2.317	43.98	3.883	3.82	5.45	0.96
0.767	0.96	2.333	43.98	3.900	3.82	5.47	0.96
0.783	0.96	2.350	43.98	3.917	3.82	5.48	0.96
0.800	0.96	2.367	43.98	3.933	3.82	5.50	0.96
0.817	0.96	2.383	43.98	3.950	3.82	5.52	0.96
0.833	0.96	2.400	43.98	3.967	3.82	5.53	0.96
0.850	0.96	2.417	43.98	3.983	3.82	5.55	0.96
0.867	0.96	2.433	43.98	4.000	3.82	5.57	0.96
0.883	0.96	2.450	43.98	4.017	3.82	5.58	0.96
0.900	0.96	2.467	43.98	4.033	3.82	5.60	0.96
0.917	0.96	2.483	43.98	4.050	3.82	5.62	0.96
0.933	0.96	2.500	43.98	4.067	3.82	5.63	0.96
0.950	0.96	2.517	43.98	4.083	3.82	5.65	0.96
0.967	0.96	2.533	43.98	4.100	3.82	5.67	0.96
0.983	0.96	2.550	43.98	4.117	3.82	5.68	0.96
1.000	0.96	2.567	43.98	4.133	3.82	5.70	0.96
1.017	0.96	2.583	43.98	4.150	3.82	5.72	0.96
1.033	0.96	2.600	43.98	4.167	3.82	5.73	0.96
1.050	0.96	2.617	43.98	4.183	3.82	5.75	0.96
1.067	0.96	2.633	43.98	4.200	3.82	5.77	0.96
1.083	0.96	2.650	43.98	4.217	3.82	5.78	0.96
1.100	0.96	2.667	43.98	4.233	3.82	5.80	0.96
1.117	0.96	2.683	43.98	4.250	3.82	5.82	0.96
1.133	0.96	2.700	43.98	4.267	1.91	5.83	0.96
1.150	0.96	2.717	43.98	4.283	1.91	5.85	0.96
1.167	0.96	2.733	43.98	4.300	1.91	5.87	0.96
1.183	0.96	2.750	43.98	4.317	1.91	5.88	0.96
1.200	0.96	2.767	12.43	4.333	1.91	5.90	0.96
1.217	0.96	2.783	12.43	4.350	1.91	5.92	0.96
1.233	0.96	2.800	12.43	4.367	1.91	5.93	0.96
1.250	0.96	2.817	12.43	4.383	1.91	5.95	0.96
1.267	5.74	2.833	12.43	4.400	1.91	5.97	0.96
1.283	5.74	2.850	12.43	4.417	1.91	5.98	0.96
1.300	5.74	2.867	12.43	4.433	1.91	6.00	0.96
1.317	5.74	2.883	12.43	4.450	1.91	6.02	0.96
1.333	5.74	2.900	12.43	4.467	1.91	6.03	0.96
1.350	5.74	2.917	12.43	4.483	1.91	6.05	0.96
1.367	5.74	2.933	12.43	4.500	1.91	6.07	0.96
1.383	5.74	2.950	12.43	4.517	1.91	6.08	0.96
1.400	5.74	2.967	12.43	4.533	1.91	6.10	0.96
1.417	5.74	2.983	12.43	4.550	1.91	6.12	0.96
1.433	5.74	3.000	12.43	4.567	1.91	6.13	0.96
1.450	5.74	3.017	12.43	4.583	1.91	6.15	0.96
1.467	5.74	3.033	12.43	4.600	1.91	6.17	0.96
1.483	5.74	3.050	12.43	4.617	1.91	6.18	0.96

1.500	5.74	3.067	12.43	4.633	1.91	6.20	0.96
1.517	5.74	3.083	12.43	4.650	1.91	6.22	0.96
1.533	5.74	3.100	12.43	4.667	1.91	6.23	0.96
1.550	5.74	3.117	12.43	4.683	1.91	6.25	0.96
1.567	5.74	3.133	12.43	4.700	1.91		

Max.Eff.Inten.(mm/hr)=	43.98	27.63	
over (min)	5.00	7.00	
Storage Coeff. (min)=	3.99 (ii)	6.35 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.26	0.17	
			TOTALS
PEAK FLOW (cms)=	0.27	0.00	0.269 (iii)
TIME TO PEAK (hrs)=	2.75	2.77	2.75
RUNOFF VOLUME (mm)=	46.81	23.53	46.58
TOTAL RAINFALL (mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT =	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0470	0.1250
0.0197	0.0630	0.0551	0.1410
0.0304	0.0850	0.0620	0.1580
0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.269	2.75	46.58
OUTFLOW: ID= 1 (7642)	2.210	0.028	3.88	45.12

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.46
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.0803

CALIB	
STANDHYD (7643)	Area (ha)= 2.02
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	5.74	3.150	12.43	4.72	1.91
0.033	0.00	1.600	5.74	3.167	12.43	4.73	1.91
0.050	0.00	1.617	5.74	3.183	12.43	4.75	1.91
0.067	0.00	1.633	5.74	3.200	12.43	4.77	0.96
0.083	0.00	1.650	5.74	3.217	12.43	4.78	0.96
0.100	0.00	1.667	5.74	3.233	12.43	4.80	0.96
0.117	0.00	1.683	5.74	3.250	12.43	4.82	0.96
0.133	0.00	1.700	5.74	3.267	6.69	4.83	0.96
0.150	0.00	1.717	5.74	3.283	6.69	4.85	0.96
0.167	0.00	1.733	5.74	3.300	6.69	4.87	0.96
0.183	0.00	1.750	5.74	3.317	6.69	4.88	0.96
0.200	0.00	1.767	16.25	3.333	6.69	4.90	0.96
0.217	0.00	1.783	16.25	3.350	6.69	4.92	0.96
0.233	0.00	1.800	16.25	3.367	6.69	4.93	0.96
0.250	0.00	1.817	16.25	3.383	6.69	4.95	0.96
0.267	0.96	1.833	16.25	3.400	6.69	4.97	0.96
0.283	0.96	1.850	16.25	3.417	6.69	4.98	0.96
0.300	0.96	1.867	16.25	3.433	6.69	5.00	0.96
0.317	0.96	1.883	16.25	3.450	6.69	5.02	0.96
0.333	0.96	1.900	16.25	3.467	6.69	5.03	0.96
0.350	0.96	1.917	16.25	3.483	6.69	5.05	0.96
0.367	0.96	1.933	16.25	3.500	6.69	5.07	0.96
0.383	0.96	1.950	16.25	3.517	6.69	5.08	0.96
0.400	0.96	1.967	16.25	3.533	6.69	5.10	0.96
0.417	0.96	1.983	16.25	3.550	6.69	5.12	0.96
0.433	0.96	2.000	16.25	3.567	6.69	5.13	0.96
0.450	0.96	2.017	16.25	3.583	6.69	5.15	0.96
0.467	0.96	2.033	16.25	3.600	6.69	5.17	0.96
0.483	0.96	2.050	16.25	3.617	6.69	5.18	0.96
0.500	0.96	2.067	16.25	3.633	6.69	5.20	0.96
0.517	0.96	2.083	16.25	3.650	6.69	5.22	0.96
0.533	0.96	2.100	16.25	3.667	6.69	5.23	0.96
0.550	0.96	2.117	16.25	3.683	6.69	5.25	0.96
0.567	0.96	2.133	16.25	3.700	6.69	5.27	0.96
0.583	0.96	2.150	16.25	3.717	6.69	5.28	0.96
0.600	0.96	2.167	16.25	3.733	6.69	5.30	0.96
0.617	0.96	2.183	16.25	3.750	6.69	5.32	0.96
0.633	0.96	2.200	16.25	3.767	3.82	5.33	0.96
0.650	0.96	2.217	16.25	3.783	3.82	5.35	0.96
0.667	0.96	2.233	16.25	3.800	3.82	5.37	0.96
0.683	0.96	2.250	16.25	3.817	3.82	5.38	0.96
0.700	0.96	2.267	43.98	3.833	3.82	5.40	0.96
0.717	0.96	2.283	43.98	3.850	3.82	5.42	0.96
0.733	0.96	2.300	43.98	3.867	3.82	5.43	0.96
0.750	0.96	2.317	43.98	3.883	3.82	5.45	0.96
0.767	0.96	2.333	43.98	3.900	3.82	5.47	0.96
0.783	0.96	2.350	43.98	3.917	3.82	5.48	0.96
0.800	0.96	2.367	43.98	3.933	3.82	5.50	0.96
0.817	0.96	2.383	43.98	3.950	3.82	5.52	0.96
0.833	0.96	2.400	43.98	3.967	3.82	5.53	0.96
0.850	0.96	2.417	43.98	3.983	3.82	5.55	0.96
0.867	0.96	2.433	43.98	4.000	3.82	5.57	0.96
0.883	0.96	2.450	43.98	4.017	3.82	5.58	0.96
0.900	0.96	2.467	43.98	4.033	3.82	5.60	0.96
0.917	0.96	2.483	43.98	4.050	3.82	5.62	0.96
0.933	0.96	2.500	43.98	4.067	3.82	5.63	0.96
0.950	0.96	2.517	43.98	4.083	3.82	5.65	0.96
0.967	0.96	2.533	43.98	4.100	3.82	5.67	0.96
0.983	0.96	2.550	43.98	4.117	3.82	5.68	0.96
1.000	0.96	2.567	43.98	4.133	3.82	5.70	0.96
1.017	0.96	2.583	43.98	4.150	3.82	5.72	0.96
1.033	0.96	2.600	43.98	4.167	3.82	5.73	0.96
1.050	0.96	2.617	43.98	4.183	3.82	5.75	0.96
1.067	0.96	2.633	43.98	4.200	3.82	5.77	0.96
1.083	0.96	2.650	43.98	4.217	3.82	5.78	0.96
1.100	0.96	2.667	43.98	4.233	3.82	5.80	0.96
1.117	0.96	2.683	43.98	4.250	3.82	5.82	0.96
1.133	0.96	2.700	43.98	4.267	1.91	5.83	0.96
1.150	0.96	2.717	43.98	4.283	1.91	5.85	0.96
1.167	0.96	2.733	43.98	4.300	1.91	5.87	0.96
1.183	0.96	2.750	43.98	4.317	1.91	5.88	0.96
1.200	0.96	2.767	12.43	4.333	1.91	5.90	0.96
1.217	0.96	2.783	12.43	4.350	1.91	5.92	0.96
1.233	0.96	2.800	12.43	4.367	1.91	5.93	0.96
1.250	0.96	2.817	12.43	4.383	1.91	5.95	0.96
1.267	5.74	2.833	12.43	4.400	1.91	5.97	0.96
1.283	5.74	2.850	12.43	4.417	1.91	5.98	0.96
1.300	5.74	2.867	12.43	4.433	1.91	6.00	0.96
1.317	5.74	2.883	12.43	4.450	1.91	6.02	0.96
1.333	5.74	2.900	12.43	4.467	1.91	6.03	0.96
1.350	5.74	2.917	12.43	4.483	1.91	6.05	0.96
1.367	5.74	2.933	12.43	4.500	1.91	6.07	0.96
1.383	5.74	2.950	12.43	4.517	1.91	6.08	0.96
1.400	5.74	2.967	12.43	4.533	1.91	6.10	0.96
1.417	5.74	2.983	12.43	4.550	1.91	6.12	0.96
1.433	5.74	3.000	12.43	4.567	1.91	6.13	0.96
1.450	5.74	3.017	12.43	4.583	1.91	6.15	0.96
1.467	5.74	3.033	12.43	4.600	1.91	6.17	0.96

1.483	5.74	3.050	12.43	4.617	1.91	6.18	0.96
1.500	5.74	3.067	12.43	4.633	1.91	6.20	0.96
1.517	5.74	3.083	12.43	4.650	1.91	6.22	0.96
1.533	5.74	3.100	12.43	4.667	1.91	6.23	0.96
1.550	5.74	3.117	12.43	4.683	1.91	6.25	0.96
1.567	5.74	3.133	12.43	4.700	1.91		

Max.Eff.Inten.(mm/hr)=		43.98	27.63	
over (min)		5.00	7.00	
Storage Coeff. (min)=		3.88 (ii)	6.24 (ii)	
Unit Hyd. Tpeak (min)=		5.00	7.00	
Unit Hyd. peak (cms)=		0.27	0.17	
				TOTALS
PEAK FLOW	(cms)=	0.24	0.00	0.246 (iii)
TIME TO PEAK	(hrs)=	2.75	2.77	2.75
RUNOFF VOLUME	(mm)=	46.81	23.53	46.58
TOTAL RAINFALL	(mm)=	47.81	47.81	47.81
RUNOFF COEFFICIENT	=	0.98	0.49	0.97

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0433	0.1140
0.0182	0.0580	0.0507	0.1280
0.0280	0.0775	0.0571	0.1440
0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.246	2.75	46.58
OUTFLOW: ID= 1 (7644)	2.020	0.026	3.88	45.14

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.54
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.0733

****
** SIMULATION:6. 5 Year 12 Hour AES (Bloor, TRCA) **
****

READ STORM	Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\7480bb22
Ptotal= 54.38 mm	Comments: 5 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.25	9.25	6.50	3.81	9.75	0.54
0.25	0.54	3.50	9.25	6.75	3.81	10.00	0.54
0.50	0.54	3.75	9.25	7.00	3.81	10.25	0.54
0.75	0.54	4.00	9.25	7.25	2.18	10.50	0.54
1.00	0.54	4.25	25.02	7.50	2.18	10.75	0.54
1.25	0.54	4.50	25.02	7.75	2.18	11.00	0.54
1.50	0.54	4.75	25.02	8.00	2.18	11.25	0.54
1.75	0.54	5.00	25.02	8.25	1.09	11.50	0.54
2.00	0.54	5.25	7.07	8.50	1.09	11.75	0.54
2.25	3.26	5.50	7.07	8.75	1.09	12.00	0.54
2.50	3.26	5.75	7.07	9.00	1.09		
2.75	3.26	6.00	7.07	9.25	0.54		
3.00	3.26	6.25	3.81	9.50	0.54		

CALIB	
STANDHYD (7567)	Area (ha)= 2.81
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.26	6.150	7.07	9.22	1.09
0.033	0.00	3.100	3.26	6.167	7.07	9.23	1.09
0.050	0.00	3.117	3.26	6.183	7.07	9.25	1.09
0.067	0.00	3.133	3.26	6.200	7.07	9.27	0.54
0.083	0.00	3.150	3.26	6.217	7.07	9.28	0.54
0.100	0.00	3.167	3.26	6.233	7.07	9.30	0.54
0.117	0.00	3.183	3.26	6.250	7.06	9.32	0.54
0.133	0.00	3.200	3.26	6.267	3.81	9.33	0.54
0.150	0.00	3.217	3.26	6.283	3.81	9.35	0.54
0.167	0.00	3.233	3.26	6.300	3.81	9.37	0.54
0.183	0.00	3.250	3.26	6.317	3.81	9.38	0.54
0.200	0.00	3.267	9.25	6.333	3.81	9.40	0.54
0.217	0.00	3.283	9.25	6.350	3.81	9.42	0.54
0.233	0.00	3.300	9.25	6.367	3.81	9.43	0.54
0.250	0.00	3.317	9.25	6.383	3.81	9.45	0.54
0.267	0.54	3.333	9.25	6.400	3.81	9.47	0.54
0.283	0.54	3.350	9.25	6.417	3.81	9.48	0.54
0.300	0.54	3.367	9.25	6.433	3.81	9.50	0.54
0.317	0.54	3.383	9.25	6.450	3.81	9.52	0.54
0.333	0.54	3.400	9.25	6.467	3.81	9.53	0.54
0.350	0.54	3.417	9.25	6.483	3.81	9.55	0.54
0.367	0.54	3.433	9.25	6.500	3.81	9.57	0.54
0.383	0.54	3.450	9.25	6.517	3.81	9.58	0.54
0.400	0.54	3.467	9.25	6.533	3.81	9.60	0.54
0.417	0.54	3.483	9.25	6.550	3.81	9.62	0.54
0.433	0.54	3.500	9.25	6.567	3.81	9.63	0.54
0.450	0.54	3.517	9.25	6.583	3.81	9.65	0.54
0.467	0.54	3.533	9.25	6.600	3.81	9.67	0.54
0.483	0.54	3.550	9.25	6.617	3.81	9.68	0.54
0.500	0.54	3.567	9.25	6.633	3.81	9.70	0.54
0.517	0.54	3.583	9.25	6.650	3.81	9.72	0.54
0.533	0.54	3.600	9.25	6.667	3.81	9.73	0.54
0.550	0.54	3.617	9.25	6.683	3.81	9.75	0.54
0.567	0.54	3.633	9.25	6.700	3.81	9.77	0.54
0.583	0.54	3.650	9.25	6.717	3.81	9.78	0.54
0.600	0.54	3.667	9.25	6.733	3.81	9.80	0.54
0.617	0.54	3.683	9.25	6.750	3.81	9.82	0.54
0.633	0.54	3.700	9.25	6.767	3.81	9.83	0.54
0.650	0.54	3.717	9.25	6.783	3.81	9.85	0.54
0.667	0.54	3.733	9.25	6.800	3.81	9.87	0.54
0.683	0.54	3.750	9.25	6.817	3.81	9.88	0.54
0.700	0.54	3.767	9.25	6.833	3.81	9.90	0.54
0.717	0.54	3.783	9.25	6.850	3.81	9.92	0.54
0.733	0.54	3.800	9.25	6.867	3.81	9.93	0.54
0.750	0.54	3.817	9.25	6.883	3.81	9.95	0.54
0.767	0.54	3.833	9.25	6.900	3.81	9.97	0.54
0.783	0.54	3.850	9.25	6.917	3.81	9.98	0.54
0.800	0.54	3.867	9.25	6.933	3.81	10.00	0.54
0.817	0.54	3.883	9.25	6.950	3.81	10.02	0.54
0.833	0.54	3.900	9.25	6.967	3.81	10.03	0.54
0.850	0.54	3.917	9.25	6.983	3.81	10.05	0.54
0.867	0.54	3.933	9.25	7.000	3.81	10.07	0.54
0.883	0.54	3.950	9.25	7.017	3.81	10.08	0.54
0.900	0.54	3.967	9.25	7.033	3.81	10.10	0.54
0.917	0.54	3.983	9.25	7.050	3.81	10.12	0.54
0.933	0.54	4.000	9.25	7.067	3.81	10.13	0.54
0.950	0.54	4.017	9.25	7.083	3.81	10.15	0.54
0.967	0.54	4.033	9.25	7.100	3.81	10.17	0.54
0.983	0.54	4.050	9.25	7.117	3.81	10.18	0.54

1.000	0.54	4.067	9.25	7.133	3.81	10.20	0.54
1.017	0.54	4.083	9.25	7.150	3.81	10.22	0.54
1.033	0.54	4.100	9.25	7.167	3.81	10.23	0.54
1.050	0.54	4.117	9.25	7.183	3.81	10.25	0.54
1.067	0.54	4.133	9.25	7.200	3.81	10.27	0.54
1.083	0.54	4.150	9.25	7.217	3.81	10.28	0.54
1.100	0.54	4.167	9.25	7.233	3.81	10.30	0.54
1.117	0.54	4.183	9.25	7.250	3.81	10.32	0.54
1.133	0.54	4.200	9.25	7.267	2.18	10.33	0.54
1.150	0.54	4.217	9.25	7.283	2.18	10.35	0.54
1.167	0.54	4.233	9.25	7.300	2.18	10.37	0.54
1.183	0.54	4.250	9.25	7.317	2.18	10.38	0.54
1.200	0.54	4.267	25.02	7.333	2.18	10.40	0.54
1.217	0.54	4.283	25.02	7.350	2.18	10.42	0.54
1.233	0.54	4.300	25.02	7.367	2.18	10.43	0.54
1.250	0.54	4.317	25.02	7.383	2.18	10.45	0.54
1.267	0.54	4.333	25.02	7.400	2.18	10.47	0.54
1.283	0.54	4.350	25.02	7.417	2.18	10.48	0.54
1.300	0.54	4.367	25.02	7.433	2.18	10.50	0.54
1.317	0.54	4.383	25.02	7.450	2.18	10.52	0.54
1.333	0.54	4.400	25.02	7.467	2.18	10.53	0.54
1.350	0.54	4.417	25.02	7.483	2.18	10.55	0.54
1.367	0.54	4.433	25.02	7.500	2.18	10.57	0.54
1.383	0.54	4.450	25.02	7.517	2.18	10.58	0.54
1.400	0.54	4.467	25.02	7.533	2.18	10.60	0.54
1.417	0.54	4.483	25.02	7.550	2.18	10.62	0.54
1.433	0.54	4.500	25.02	7.567	2.18	10.63	0.54
1.450	0.54	4.517	25.02	7.583	2.18	10.65	0.54
1.467	0.54	4.533	25.02	7.600	2.18	10.67	0.54
1.483	0.54	4.550	25.02	7.617	2.18	10.68	0.54
1.500	0.54	4.567	25.02	7.633	2.18	10.70	0.54
1.517	0.54	4.583	25.02	7.650	2.18	10.72	0.54
1.533	0.54	4.600	25.02	7.667	2.18	10.73	0.54
1.550	0.54	4.617	25.02	7.683	2.18	10.75	0.54
1.567	0.54	4.633	25.02	7.700	2.18	10.77	0.54
1.583	0.54	4.650	25.02	7.717	2.18	10.78	0.54
1.600	0.54	4.667	25.02	7.733	2.18	10.80	0.54
1.617	0.54	4.683	25.02	7.750	2.18	10.82	0.54
1.633	0.54	4.700	25.02	7.767	2.18	10.83	0.54
1.650	0.54	4.717	25.02	7.783	2.18	10.85	0.54
1.667	0.54	4.733	25.02	7.800	2.18	10.87	0.54
1.683	0.54	4.750	25.02	7.817	2.18	10.88	0.54
1.700	0.54	4.767	25.02	7.833	2.18	10.90	0.54
1.717	0.54	4.783	25.02	7.850	2.18	10.92	0.54
1.733	0.54	4.800	25.02	7.867	2.18	10.93	0.54
1.750	0.54	4.817	25.02	7.883	2.18	10.95	0.54
1.767	0.54	4.833	25.02	7.900	2.18	10.97	0.54
1.783	0.54	4.850	25.02	7.917	2.18	10.98	0.54
1.800	0.54	4.867	25.02	7.933	2.18	11.00	0.54
1.817	0.54	4.883	25.02	7.950	2.18	11.02	0.54
1.833	0.54	4.900	25.02	7.967	2.18	11.03	0.54
1.850	0.54	4.917	25.02	7.983	2.18	11.05	0.54
1.867	0.54	4.933	25.02	8.000	2.18	11.07	0.54
1.883	0.54	4.950	25.02	8.017	2.18	11.08	0.54
1.900	0.54	4.967	25.02	8.033	2.18	11.10	0.54
1.917	0.54	4.983	25.02	8.050	2.18	11.12	0.54
1.933	0.54	5.000	25.02	8.067	2.18	11.13	0.54
1.950	0.54	5.017	25.02	8.083	2.18	11.15	0.54
1.967	0.54	5.033	25.02	8.100	2.18	11.17	0.54
1.983	0.54	5.050	25.02	8.117	2.18	11.18	0.54
2.000	0.54	5.067	25.02	8.133	2.18	11.20	0.54
2.017	0.54	5.083	25.02	8.150	2.18	11.22	0.54
2.033	0.54	5.100	25.02	8.167	2.18	11.23	0.54
2.050	0.54	5.117	25.02	8.183	2.18	11.25	0.54
2.067	0.54	5.133	25.02	8.200	2.18	11.27	0.54
2.083	0.54	5.150	25.02	8.217	2.18	11.28	0.54
2.100	0.54	5.167	25.02	8.233	2.18	11.30	0.54
2.117	0.54	5.183	25.02	8.250	2.18	11.32	0.54
2.133	0.54	5.200	25.02	8.267	1.09	11.33	0.54
2.150	0.54	5.217	25.02	8.283	1.09	11.35	0.54
2.167	0.54	5.233	25.02	8.300	1.09	11.37	0.54
2.183	0.54	5.250	25.01	8.317	1.09	11.38	0.54
2.200	0.54	5.267	7.07	8.333	1.09	11.40	0.54
2.217	0.54	5.283	7.07	8.350	1.09	11.42	0.54
2.233	0.54	5.300	7.07	8.367	1.09	11.43	0.54
2.250	0.54	5.317	7.07	8.383	1.09	11.45	0.54
2.267	3.26	5.333	7.07	8.400	1.09	11.47	0.54
2.283	3.26	5.350	7.07	8.417	1.09	11.48	0.54
2.300	3.26	5.367	7.07	8.433	1.09	11.50	0.54
2.317	3.26	5.383	7.07	8.450	1.09	11.52	0.54
2.333	3.26	5.400	7.07	8.467	1.09	11.53	0.54
2.350	3.26	5.417	7.07	8.483	1.09	11.55	0.54
2.367	3.26	5.433	7.07	8.500	1.09	11.57	0.54
2.383	3.26	5.450	7.07	8.517	1.09	11.58	0.54
2.400	3.26	5.467	7.07	8.533	1.09	11.60	0.54
2.417	3.26	5.483	7.07	8.550	1.09	11.62	0.54
2.433	3.26	5.500	7.07	8.567	1.09	11.63	0.54
2.450	3.26	5.517	7.07	8.583	1.09	11.65	0.54
2.467	3.26	5.533	7.07	8.600	1.09	11.67	0.54
2.483	3.26	5.550	7.07	8.617	1.09	11.68	0.54
2.500	3.26	5.567	7.07	8.633	1.09	11.70	0.54
2.517	3.26	5.583	7.07	8.650	1.09	11.72	0.54
2.533	3.26	5.600	7.07	8.667	1.09	11.73	0.54
2.550	3.26	5.617	7.07	8.683	1.09	11.75	0.54
2.567	3.26	5.633	7.07	8.700	1.09	11.77	0.54
2.583	3.26	5.650	7.07	8.717	1.09	11.78	0.54
2.600	3.26	5.667	7.07	8.733	1.09	11.80	0.54
2.617	3.26	5.683	7.07	8.750	1.09	11.82	0.54
2.633	3.26	5.700	7.07	8.767	1.09	11.83	0.54
2.650	3.26	5.717	7.07	8.783	1.09	11.85	0.54
2.667	3.26	5.733	7.07	8.800	1.09	11.87	0.54
2.683	3.26	5.750	7.07	8.817	1.09	11.88	0.54
2.700	3.26	5.767	7.07	8.833	1.09	11.90	0.54
2.717	3.26	5.783	7.07	8.850	1.09	11.92	0.54
2.733	3.26	5.800	7.07	8.867	1.09	11.93	0.54
2.750	3.26	5.817	7.07	8.883	1.09	11.95	0.54
2.767	3.26	5.833	7.07	8.900	1.09	11.97	0.54
2.783	3.26	5.850	7.07	8.917	1.09	11.98	0.54
2.800	3.26	5.867	7.07	8.933	1.09	12.00	0.54
2.817	3.26	5.883	7.07	8.950	1.09	12.02	0.54
2.833	3.26	5.900	7.07	8.967	1.09	12.03	0.54
2.850	3.26	5.917	7.07	8.983	1.09	12.05	0.54
2.867	3.26	5.933	7.07	9.000	1.09	12.07	0.54
2.883	3.26	5.950	7.07	9.017	1.09	12.08	0.54
2.900	3.26	5.967	7.07	9.033	1.09	12.10	0.54
2.917	3.26	5.983	7.07	9.050	1.09	12.12	0.54
2.933	3.26	6.000	7.07	9.067	1.09	12.13	0.54
2.950	3.26	6.017	7.07	9.083	1.09	12.15	0.54
2.967	3.26	6.033	7.07	9.100	1.09	12.17	0.54
2.983	3.26	6.050	7.07	9.117	1.09	12.18	0.54
3.000	3.26	6.067	7.07	9.133	1.09	12.20	0.54
3.017	3.26	6.083	7.07	9.150	1.09	12.22	0.54
3.033	3.26	6.100	7.07	9.167	1.09	12.23	0.54
3.050	3.26	6.117	7.07	9.183	1.09	12.25	0.54
3.067	3.26	6.133	7.07	9.200	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	17.13	
over (min)	5.00	9.00	
Storage Coeff. (min)=	5.37 (ii)	8.33 (ii)	
Unit Hyd. Tpeak (min)=	5.00	9.00	
Unit Hyd. peak (cms)=	0.22	0.13	
			TOTALS
PEAK FLOW (cms)=	0.19	0.00	0.195 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	28.62	53.13
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530

0.0239	0.0780	0.0660	0.1730
0.0370	0.1040	0.0751	0.2000
0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.195	5.25	53.13
OUTFLOW: ID= 1 (7626)	2.810	0.036	6.42	50.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.54
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.1022

CALIB	
STANDHYD (7624)	Area (ha)= 2.08
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.26	6.150	7.07	9.22	1.09
0.033	0.00	3.100	3.26	6.167	7.07	9.23	1.09
0.050	0.00	3.117	3.26	6.183	7.07	9.25	1.09
0.067	0.00	3.133	3.26	6.200	7.07	9.27	0.54
0.083	0.00	3.150	3.26	6.217	7.07	9.28	0.54
0.100	0.00	3.167	3.26	6.233	7.07	9.30	0.54
0.117	0.00	3.183	3.26	6.250	7.06	9.32	0.54
0.133	0.00	3.200	3.26	6.267	3.81	9.33	0.54
0.150	0.00	3.217	3.26	6.283	3.81	9.35	0.54
0.167	0.00	3.233	3.26	6.300	3.81	9.37	0.54
0.183	0.00	3.250	3.26	6.317	3.81	9.38	0.54
0.200	0.00	3.267	9.25	6.333	3.81	9.40	0.54
0.217	0.00	3.283	9.25	6.350	3.81	9.42	0.54
0.233	0.00	3.300	9.25	6.367	3.81	9.43	0.54
0.250	0.00	3.317	9.25	6.383	3.81	9.45	0.54
0.267	0.54	3.333	9.25	6.400	3.81	9.47	0.54
0.283	0.54	3.350	9.25	6.417	3.81	9.48	0.54
0.300	0.54	3.367	9.25	6.433	3.81	9.50	0.54
0.317	0.54	3.383	9.25	6.450	3.81	9.52	0.54
0.333	0.54	3.400	9.25	6.467	3.81	9.53	0.54
0.350	0.54	3.417	9.25	6.483	3.81	9.55	0.54
0.367	0.54	3.433	9.25	6.500	3.81	9.57	0.54
0.383	0.54	3.450	9.25	6.517	3.81	9.58	0.54
0.400	0.54	3.467	9.25	6.533	3.81	9.60	0.54
0.417	0.54	3.483	9.25	6.550	3.81	9.62	0.54
0.433	0.54	3.500	9.25	6.567	3.81	9.63	0.54
0.450	0.54	3.517	9.25	6.583	3.81	9.65	0.54
0.467	0.54	3.533	9.25	6.600	3.81	9.67	0.54
0.483	0.54	3.550	9.25	6.617	3.81	9.68	0.54
0.500	0.54	3.567	9.25	6.633	3.81	9.70	0.54
0.517	0.54	3.583	9.25	6.650	3.81	9.72	0.54
0.533	0.54	3.600	9.25	6.667	3.81	9.73	0.54
0.550	0.54	3.617	9.25	6.683	3.81	9.75	0.54
0.567	0.54	3.633	9.25	6.700	3.81	9.77	0.54
0.583	0.54	3.650	9.25	6.717	3.81	9.78	0.54
0.600	0.54	3.667	9.25	6.733	3.81	9.80	0.54
0.617	0.54	3.683	9.25	6.750	3.81	9.82	0.54
0.633	0.54	3.700	9.25	6.767	3.81	9.83	0.54
0.650	0.54	3.717	9.25	6.783	3.81	9.85	0.54
0.667	0.54	3.733	9.25	6.800	3.81	9.87	0.54
0.683	0.54	3.750	9.25	6.817	3.81	9.88	0.54
0.700	0.54	3.767	9.25	6.833	3.81	9.90	0.54
0.717	0.54	3.783	9.25	6.850	3.81	9.92	0.54
0.733	0.54	3.800	9.25	6.867	3.81	9.93	0.54
0.750	0.54	3.817	9.25	6.883	3.81	9.95	0.54
0.767	0.54	3.833	9.25	6.900	3.81	9.97	0.54
0.783	0.54	3.850	9.25	6.917	3.81	9.98	0.54
0.800	0.54	3.867	9.25	6.933	3.81	10.00	0.54
0.817	0.54	3.883	9.25	6.950	3.81	10.02	0.54
0.833	0.54	3.900	9.25	6.967	3.81	10.03	0.54
0.850	0.54	3.917	9.25	6.983	3.81	10.05	0.54
0.867	0.54	3.933	9.25	7.000	3.81	10.07	0.54
0.883	0.54	3.950	9.25	7.017	3.81	10.08	0.54
0.900	0.54	3.967	9.25	7.033	3.81	10.10	0.54
0.917	0.54	3.983	9.25	7.050	3.81	10.12	0.54
0.933	0.54	4.000	9.25	7.067	3.81	10.13	0.54
0.950	0.54	4.017	9.25	7.083	3.81	10.15	0.54
0.967	0.54	4.033	9.25	7.100	3.81	10.17	0.54
0.983	0.54	4.050	9.25	7.117	3.81	10.18	0.54
1.000	0.54	4.067	9.25	7.133	3.81	10.20	0.54
1.017	0.54	4.083	9.25	7.150	3.81	10.22	0.54
1.033	0.54	4.100	9.25	7.167	3.81	10.23	0.54
1.050	0.54	4.117	9.25	7.183	3.81	10.25	0.54
1.067	0.54	4.133	9.25	7.200	3.81	10.27	0.54
1.083	0.54	4.150	9.25	7.217	3.81	10.28	0.54
1.100	0.54	4.167	9.25	7.233	3.81	10.30	0.54
1.117	0.54	4.183	9.25	7.250	3.81	10.32	0.54
1.133	0.54	4.200	9.25	7.267	2.18	10.33	0.54
1.150	0.54	4.217	9.25	7.283	2.18	10.35	0.54
1.167	0.54	4.233	9.25	7.300	2.18	10.37	0.54
1.183	0.54	4.250	9.25	7.317	2.18	10.38	0.54
1.200	0.54	4.267	25.02	7.333	2.18	10.40	0.54
1.217	0.54	4.283	25.02	7.350	2.18	10.42	0.54
1.233	0.54	4.300	25.02	7.367	2.18	10.43	0.54
1.250	0.54	4.317	25.02	7.383	2.18	10.45	0.54
1.267	0.54	4.333	25.02	7.400	2.18	10.47	0.54
1.283	0.54	4.350	25.02	7.417	2.18	10.48	0.54
1.300	0.54	4.367	25.02	7.433	2.18	10.50	0.54
1.317	0.54	4.383	25.02	7.450	2.18	10.52	0.54
1.333	0.54	4.400	25.02	7.467	2.18	10.53	0.54
1.350	0.54	4.417	25.02	7.483	2.18	10.55	0.54
1.367	0.54	4.433	25.02	7.500	2.18	10.57	0.54
1.383	0.54	4.450	25.02	7.517	2.18	10.58	0.54
1.400	0.54	4.467	25.02	7.533	2.18	10.60	0.54
1.417	0.54	4.483	25.02	7.550	2.18	10.62	0.54
1.433	0.54	4.500	25.02	7.567	2.18	10.63	0.54
1.450	0.54	4.517	25.02	7.583	2.18	10.65	0.54
1.467	0.54	4.533	25.02	7.600	2.18	10.67	0.54
1.483	0.54	4.550	25.02	7.617	2.18	10.68	0.54
1.500	0.54	4.567	25.02	7.633	2.18	10.70	0.54
1.517	0.54	4.583	25.02	7.650	2.18	10.72	0.54
1.533	0.54	4.600	25.02	7.667	2.18	10.73	0.54
1.550	0.54	4.617	25.02	7.683	2.18	10.75	0.54
1.567	0.54	4.633	25.02	7.700	2.18	10.77	0.54
1.583	0.54	4.650	25.02	7.717	2.18	10.78	0.54
1.600	0.54	4.667	25.02	7.733	2.18	10.80	0.54
1.617	0.54	4.683	25.02	7.750	2.18	10.82	0.54
1.633	0.54	4.700	25.02	7.767	2.18	10.83	0.54
1.650	0.54	4.717	25.02	7.783	2.18	10.85	0.54
1.667	0.54	4.733	25.02	7.800	2.18	10.87	0.54
1.683	0.54	4.750	25.02	7.817	2.18	10.88	0.54
1.700	0.54	4.767	25.02	7.833	2.18	10.90	0.54
1.717	0.54	4.783	25.02	7.850	2.18	10.92	0.54
1.733	0.54	4.800	25.02	7.867	2.18	10.93	0.54
1.750	0.54	4.817	25.02	7.883	2.18	10.95	0.54
1.767	0.54	4.833	25.02	7.900	2.18	10.97	0.54
1.783	0.54	4.850	25.02	7.917	2.18	10.98	0.54
1.800	0.54	4.867	25.02	7.933	2.18	11.00	0.54
1.817	0.54	4.883	25.02	7.950	2.18	11.02	0.54
1.833	0.54	4.900	25.02	7.967	2.18	11.03	0.54
1.850	0.54	4.917	25.02	7.983	2.18	11.05	0.54
1.867	0.54	4.933	25.02	8.000	2.18	11.07	0.54
1.883	0.54	4.950	25.02	8.017	2.18	11.08	0.54
1.900	0.54	4.967	25.02	8.033	2.18	11.10	0.54
1.917	0.54	4.983	25.02	8.050	2.18	11.12	0.54
1.933	0.54	5.000	25.02	8.067	2.18	11.13	0.54
1.950	0.54	5.017	25.02	8.083	2.18	11.15	0.54
1.967	0.54	5.033	25.02	8.100	2.18	11.17	0.54
1.983	0.54	5.050	25.02	8.117	2.18	11.18	0.54
2.000	0.54	5.067	25.02	8.133	2.18	11.20	0.54

2.017	0.54	5.083	25.02	8.150	2.18	11.22	0.54
2.033	0.54	5.100	25.02	8.167	2.18	11.23	0.54
2.050	0.54	5.117	25.02	8.183	2.18	11.25	0.54
2.067	0.54	5.133	25.02	8.200	2.18	11.27	0.54
2.083	0.54	5.150	25.02	8.217	2.18	11.28	0.54
2.100	0.54	5.167	25.02	8.233	2.18	11.30	0.54
2.117	0.54	5.183	25.02	8.250	2.18	11.32	0.54
2.133	0.54	5.200	25.02	8.267	1.09	11.33	0.54
2.150	0.54	5.217	25.02	8.283	1.09	11.35	0.54
2.167	0.54	5.233	25.02	8.300	1.09	11.37	0.54
2.183	0.54	5.250	25.01	8.317	1.09	11.38	0.54
2.200	0.54	5.267	7.07	8.333	1.09	11.40	0.54
2.217	0.54	5.283	7.07	8.350	1.09	11.42	0.54
2.233	0.54	5.300	7.07	8.367	1.09	11.43	0.54
2.250	0.54	5.317	7.07	8.383	1.09	11.45	0.54
2.267	3.26	5.333	7.07	8.400	1.09	11.47	0.54
2.283	3.26	5.350	7.07	8.417	1.09	11.48	0.54
2.300	3.26	5.367	7.07	8.433	1.09	11.50	0.54
2.317	3.26	5.383	7.07	8.450	1.09	11.52	0.54
2.333	3.26	5.400	7.07	8.467	1.09	11.53	0.54
2.350	3.26	5.417	7.07	8.483	1.09	11.55	0.54
2.367	3.26	5.433	7.07	8.500	1.09	11.57	0.54
2.383	3.26	5.450	7.07	8.517	1.09	11.58	0.54
2.400	3.26	5.467	7.07	8.533	1.09	11.60	0.54
2.417	3.26	5.483	7.07	8.550	1.09	11.62	0.54
2.433	3.26	5.500	7.07	8.567	1.09	11.63	0.54
2.450	3.26	5.517	7.07	8.583	1.09	11.65	0.54
2.467	3.26	5.533	7.07	8.600	1.09	11.67	0.54
2.483	3.26	5.550	7.07	8.617	1.09	11.68	0.54
2.500	3.26	5.567	7.07	8.633	1.09	11.70	0.54
2.517	3.26	5.583	7.07	8.650	1.09	11.72	0.54
2.533	3.26	5.600	7.07	8.667	1.09	11.73	0.54
2.550	3.26	5.617	7.07	8.683	1.09	11.75	0.54
2.567	3.26	5.633	7.07	8.700	1.09	11.77	0.54
2.583	3.26	5.650	7.07	8.717	1.09	11.78	0.54
2.600	3.26	5.667	7.07	8.733	1.09	11.80	0.54
2.617	3.26	5.683	7.07	8.750	1.09	11.82	0.54
2.633	3.26	5.700	7.07	8.767	1.09	11.83	0.54
2.650	3.26	5.717	7.07	8.783	1.09	11.85	0.54
2.667	3.26	5.733	7.07	8.800	1.09	11.87	0.54
2.683	3.26	5.750	7.07	8.817	1.09	11.88	0.54
2.700	3.26	5.767	7.07	8.833	1.09	11.90	0.54
2.717	3.26	5.783	7.07	8.850	1.09	11.92	0.54
2.733	3.26	5.800	7.07	8.867	1.09	11.93	0.54
2.750	3.26	5.817	7.07	8.883	1.09	11.95	0.54
2.767	3.26	5.833	7.07	8.900	1.09	11.97	0.54
2.783	3.26	5.850	7.07	8.917	1.09	11.98	0.54
2.800	3.26	5.867	7.07	8.933	1.09	12.00	0.54
2.817	3.26	5.883	7.07	8.950	1.09	12.02	0.54
2.833	3.26	5.900	7.07	8.967	1.09	12.03	0.54
2.850	3.26	5.917	7.07	8.983	1.09	12.05	0.54
2.867	3.26	5.933	7.07	9.000	1.09	12.07	0.54
2.883	3.26	5.950	7.07	9.017	1.09	12.08	0.54
2.900	3.26	5.967	7.07	9.033	1.09	12.10	0.54
2.917	3.26	5.983	7.07	9.050	1.09	12.12	0.54
2.933	3.26	6.000	7.07	9.067	1.09	12.13	0.54
2.950	3.26	6.017	7.07	9.083	1.09	12.15	0.54
2.967	3.26	6.033	7.07	9.100	1.09	12.17	0.54
2.983	3.26	6.050	7.07	9.117	1.09	12.18	0.54
3.000	3.26	6.067	7.07	9.133	1.09	12.20	0.54
3.017	3.26	6.083	7.07	9.150	1.09	12.22	0.54
3.033	3.26	6.100	7.07	9.167	1.09	12.23	0.54
3.050	3.26	6.117	7.07	9.183	1.09	12.25	0.54
3.067	3.26	6.133	7.07	9.200	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	20.03	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.90 (ii)	7.87 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.23	0.14	
			TOTALS
PEAK FLOW (cms)=	0.14	0.00	0.144 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	53.37	34.48	53.19
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	OUTFLOW (cms) / STORAGE (ha.m.) / OUTFLOW (cms) / STORAGE (ha.m.)
	0.0000 / 0.0000 / 0.0389 / 0.1013
	0.0164 / 0.0514 / 0.0456 / 0.1141
	0.0252 / 0.0690 / 0.0514 / 0.1288
	0.0309 / 0.0825 / 0.0000 / 0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.144	5.25	53.19
OUTFLOW: ID= 1 (7625)	2.080	0.028	6.38	51.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.19
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.0749

CALIB	
STANDHYD (7623)	Area (ha)= 1.15
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.26	6.150	7.07	9.22	1.09
0.033	0.00	3.100	3.26	6.167	7.07	9.23	1.09
0.050	0.00	3.117	3.26	6.183	7.07	9.25	1.09
0.067	0.00	3.133	3.26	6.200	7.07	9.27	0.54
0.083	0.00	3.150	3.26	6.217	7.07	9.28	0.54
0.100	0.00	3.167	3.26	6.233	7.07	9.30	0.54
0.117	0.00	3.183	3.26	6.250	7.06	9.32	0.54
0.133	0.00	3.200	3.26	6.267	3.81	9.33	0.54
0.150	0.00	3.217	3.26	6.283	3.81	9.35	0.54
0.167	0.00	3.233	3.26	6.300	3.81	9.37	0.54
0.183	0.00	3.250	3.26	6.317	3.81	9.38	0.54
0.200	0.00	3.267	9.25	6.333	3.81	9.40	0.54
0.217	0.00	3.283	9.25	6.350	3.81	9.42	0.54
0.233	0.00	3.300	9.25	6.367	3.81	9.43	0.54
0.250	0.00	3.317	9.25	6.383	3.81	9.45	0.54
0.267	0.54	3.333	9.25	6.400	3.81	9.47	0.54
0.283	0.54	3.350	9.25	6.417	3.81	9.48	0.54
0.300	0.54	3.367	9.25	6.433	3.81	9.50	0.54
0.317	0.54	3.383	9.25	6.450	3.81	9.52	0.54
0.333	0.54	3.400	9.25	6.467	3.81	9.53	0.54
0.350	0.54	3.417	9.25	6.483	3.81	9.55	0.54
0.367	0.54	3.433	9.25	6.500	3.81	9.57	0.54
0.383	0.54	3.450	9.25	6.517	3.81	9.58	0.54
0.400	0.54	3.467	9.25	6.533	3.81	9.60	0.54
0.417	0.54	3.483	9.25	6.550	3.81	9.62	0.54
0.433	0.54	3.500	9.25	6.567	3.81	9.63	0.54
0.450	0.54	3.517	9.25	6.583	3.81	9.65	0.54
0.467	0.54	3.533	9.25	6.600	3.81	9.67	0.54
0.483	0.54	3.550	9.25	6.617	3.81	9.68	0.54

0.500	0.54	3.567	9.25	6.633	3.81	9.70	0.54
0.517	0.54	3.583	9.25	6.650	3.81	9.72	0.54
0.533	0.54	3.600	9.25	6.667	3.81	9.73	0.54
0.550	0.54	3.617	9.25	6.683	3.81	9.75	0.54
0.567	0.54	3.633	9.25	6.700	3.81	9.77	0.54
0.583	0.54	3.650	9.25	6.717	3.81	9.78	0.54
0.600	0.54	3.667	9.25	6.733	3.81	9.80	0.54
0.617	0.54	3.683	9.25	6.750	3.81	9.82	0.54
0.633	0.54	3.700	9.25	6.767	3.81	9.83	0.54
0.650	0.54	3.717	9.25	6.783	3.81	9.85	0.54
0.667	0.54	3.733	9.25	6.800	3.81	9.87	0.54
0.683	0.54	3.750	9.25	6.817	3.81	9.88	0.54
0.700	0.54	3.767	9.25	6.833	3.81	9.90	0.54
0.717	0.54	3.783	9.25	6.850	3.81	9.92	0.54
0.733	0.54	3.800	9.25	6.867	3.81	9.93	0.54
0.750	0.54	3.817	9.25	6.883	3.81	9.95	0.54
0.767	0.54	3.833	9.25	6.900	3.81	9.97	0.54
0.783	0.54	3.850	9.25	6.917	3.81	9.98	0.54
0.800	0.54	3.867	9.25	6.933	3.81	10.00	0.54
0.817	0.54	3.883	9.25	6.950	3.81	10.02	0.54
0.833	0.54	3.900	9.25	6.967	3.81	10.03	0.54
0.850	0.54	3.917	9.25	6.983	3.81	10.05	0.54
0.867	0.54	3.933	9.25	7.000	3.81	10.07	0.54
0.883	0.54	3.950	9.25	7.017	3.81	10.08	0.54
0.900	0.54	3.967	9.25	7.033	3.81	10.10	0.54
0.917	0.54	3.983	9.25	7.050	3.81	10.12	0.54
0.933	0.54	4.000	9.25	7.067	3.81	10.13	0.54
0.950	0.54	4.017	9.25	7.083	3.81	10.15	0.54
0.967	0.54	4.033	9.25	7.100	3.81	10.17	0.54
0.983	0.54	4.050	9.25	7.117	3.81	10.18	0.54
1.000	0.54	4.067	9.25	7.133	3.81	10.20	0.54
1.017	0.54	4.083	9.25	7.150	3.81	10.22	0.54
1.033	0.54	4.100	9.25	7.167	3.81	10.23	0.54
1.050	0.54	4.117	9.25	7.183	3.81	10.25	0.54
1.067	0.54	4.133	9.25	7.200	3.81	10.27	0.54
1.083	0.54	4.150	9.25	7.217	3.81	10.28	0.54
1.100	0.54	4.167	9.25	7.233	3.81	10.30	0.54
1.117	0.54	4.183	9.25	7.250	3.81	10.32	0.54
1.133	0.54	4.200	9.25	7.267	2.18	10.33	0.54
1.150	0.54	4.217	9.25	7.283	2.18	10.35	0.54
1.167	0.54	4.233	9.25	7.300	2.18	10.37	0.54
1.183	0.54	4.250	9.25	7.317	2.18	10.38	0.54
1.200	0.54	4.267	25.02	7.333	2.18	10.40	0.54
1.217	0.54	4.283	25.02	7.350	2.18	10.42	0.54
1.233	0.54	4.300	25.02	7.367	2.18	10.43	0.54
1.250	0.54	4.317	25.02	7.383	2.18	10.45	0.54
1.267	0.54	4.333	25.02	7.400	2.18	10.47	0.54
1.283	0.54	4.350	25.02	7.417	2.18	10.48	0.54
1.300	0.54	4.367	25.02	7.433	2.18	10.50	0.54
1.317	0.54	4.383	25.02	7.450	2.18	10.52	0.54
1.333	0.54	4.400	25.02	7.467	2.18	10.53	0.54
1.350	0.54	4.417	25.02	7.483	2.18	10.55	0.54
1.367	0.54	4.433	25.02	7.500	2.18	10.57	0.54
1.383	0.54	4.450	25.02	7.517	2.18	10.58	0.54
1.400	0.54	4.467	25.02	7.533	2.18	10.60	0.54
1.417	0.54	4.483	25.02	7.550	2.18	10.62	0.54
1.433	0.54	4.500	25.02	7.567	2.18	10.63	0.54
1.450	0.54	4.517	25.02	7.583	2.18	10.65	0.54
1.467	0.54	4.533	25.02	7.600	2.18	10.67	0.54
1.483	0.54	4.550	25.02	7.617	2.18	10.68	0.54
1.500	0.54	4.567	25.02	7.633	2.18	10.70	0.54
1.517	0.54	4.583	25.02	7.650	2.18	10.72	0.54
1.533	0.54	4.600	25.02	7.667	2.18	10.73	0.54
1.550	0.54	4.617	25.02	7.683	2.18	10.75	0.54
1.567	0.54	4.633	25.02	7.700	2.18	10.77	0.54
1.583	0.54	4.650	25.02	7.717	2.18	10.78	0.54
1.600	0.54	4.667	25.02	7.733	2.18	10.80	0.54
1.617	0.54	4.683	25.02	7.750	2.18	10.82	0.54
1.633	0.54	4.700	25.02	7.767	2.18	10.83	0.54
1.650	0.54	4.717	25.02	7.783	2.18	10.85	0.54
1.667	0.54	4.733	25.02	7.800	2.18	10.87	0.54
1.683	0.54	4.750	25.02	7.817	2.18	10.88	0.54
1.700	0.54	4.767	25.02	7.833	2.18	10.90	0.54
1.717	0.54	4.783	25.02	7.850	2.18	10.92	0.54
1.733	0.54	4.800	25.02	7.867	2.18	10.93	0.54
1.750	0.54	4.817	25.02	7.883	2.18	10.95	0.54
1.767	0.54	4.833	25.02	7.900	2.18	10.97	0.54
1.783	0.54	4.850	25.02	7.917	2.18	10.98	0.54
1.800	0.54	4.867	25.02	7.933	2.18	11.00	0.54
1.817	0.54	4.883	25.02	7.950	2.18	11.02	0.54
1.833	0.54	4.900	25.02	7.967	2.18	11.03	0.54
1.850	0.54	4.917	25.02	7.983	2.18	11.05	0.54
1.867	0.54	4.933	25.02	8.000	2.18	11.07	0.54
1.883	0.54	4.950	25.02	8.017	2.18	11.08	0.54
1.900	0.54	4.967	25.02	8.033	2.18	11.10	0.54
1.917	0.54	4.983	25.02	8.050	2.18	11.12	0.54
1.933	0.54	5.000	25.02	8.067	2.18	11.13	0.54
1.950	0.54	5.017	25.02	8.083	2.18	11.15	0.54
1.967	0.54	5.033	25.02	8.100	2.18	11.17	0.54
1.983	0.54	5.050	25.02	8.117	2.18	11.18	0.54
2.000	0.54	5.067	25.02	8.133	2.18	11.20	0.54
2.017	0.54	5.083	25.02	8.150	2.18	11.22	0.54
2.033	0.54	5.100	25.02	8.167	2.18	11.23	0.54
2.050	0.54	5.117	25.02	8.183	2.18	11.25	0.54
2.067	0.54	5.133	25.02	8.200	2.18	11.27	0.54
2.083	0.54	5.150	25.02	8.217	2.18	11.28	0.54
2.100	0.54	5.167	25.02	8.233	2.18	11.30	0.54
2.117	0.54	5.183	25.02	8.250	2.18	11.32	0.54
2.133	0.54	5.200	25.02	8.267	1.09	11.33	0.54
2.150	0.54	5.217	25.02	8.283	1.09	11.35	0.54
2.167	0.54	5.233	25.02	8.300	1.09	11.37	0.54
2.183	0.54	5.250	25.01	8.317	1.09	11.38	0.54
2.200	0.54	5.267	7.07	8.333	1.09	11.40	0.54
2.217	0.54	5.283	7.07	8.350	1.09	11.42	0.54
2.233	0.54	5.300	7.07	8.367	1.09	11.43	0.54
2.250	0.54	5.317	7.07	8.383	1.09	11.45	0.54
2.267	3.26	5.333	7.07	8.400	1.09	11.47	0.54
2.283	3.26	5.350	7.07	8.417	1.09	11.48	0.54
2.300	3.26	5.367	7.07	8.433	1.09	11.50	0.54
2.317	3.26	5.383	7.07	8.450	1.09	11.52	0.54
2.333	3.26	5.400	7.07	8.467	1.09	11.53	0.54
2.350	3.26	5.417	7.07	8.483	1.09	11.55	0.54
2.367	3.26	5.433	7.07	8.500	1.09	11.57	0.54
2.383	3.26	5.450	7.07	8.517	1.09	11.58	0.54
2.400	3.26	5.467	7.07	8.533	1.09	11.60	0.54
2.417	3.26	5.483	7.07	8.550	1.09	11.62	0.54
2.433	3.26	5.500	7.07	8.567	1.09	11.63	0.54
2.450	3.26	5.517	7.07	8.583	1.09	11.65	0.54
2.467	3.26	5.533	7.07	8.600	1.09	11.67	0.54
2.483	3.26	5.550	7.07	8.617	1.09	11.68	0.54
2.500	3.26	5.567	7.07	8.633	1.09	11.70	0.54
2.517	3.26	5.583	7.07	8.650	1.09	11.72	0.54
2.533	3.26	5.600	7.07	8.667	1.09	11.73	0.54
2.550	3.26	5.617	7.07	8.683	1.09	11.75	0.54
2.567	3.26	5.633	7.07	8.700	1.09	11.77	0.54
2.583	3.26	5.650	7.07	8.717	1.09	11.78	0.54
2.600	3.26	5.667	7.07	8.733	1.09	11.80	0.54
2.617	3.26	5.683	7.07	8.750	1.09	11.82	0.54
2.633	3.26	5.700	7.07	8.767	1.09	11.83	0.54
2.650	3.26	5.717	7.07	8.783	1.09	11.85	0.54
2.667	3.26	5.733	7.07	8.800	1.09	11.87	0.54
2.683	3.26	5.750	7.07	8.817	1.09	11.88	0.54
2.700	3.26	5.767	7.07	8.833	1.09	11.90	0.54
2.717	3.26	5.783	7.07	8.850	1.09	11.92	0.54
2.733	3.26	5.800	7.07	8.867	1.09	11.93	0.54
2.750	3.26	5.817	7.07	8.883	1.09	11.95	0.54
2.767	3.26	5.833	7.07	8.900	1.09	11.97	0.54
2.783	3.26	5.850	7.07	8.917	1.09	11.98	0.54
2.800	3.26	5.867	7.07	8.933	1.09	12.00	0.54
2.817	3.26	5.883	7.07	8.950	1.09	12.02	0.54
2.833	3.26	5.900	7.07	8.967	1.09	12.03	0.54
2.850	3.26	5.917	7.07	8.983	1.09	12.05	0.54
2.867	3.26	5.933	7.07	9.000	1.09	12.07	0.54
2.883	3.26	5.950	7.07	9.017	1.09	12.08	0.54
2.900	3.26	5.967	7.07	9.033	1.09	12.10	0.54
2.917	3.26	5.983	7.07	9.050	1.09	12.12	0.54
2.933	3.26	6.000	7.07	9.067	1.09	12.13	0.54
2.950	3.26	6.017	7.07	9.083	1.09	12.15	0.54
2.967	3.26	6.033	7.07	9.100	1.09	12.17	0.54
2.983	3.26	6.050	7.07	9.117	1.09	12.18	0.54
3.000	3.26	6.067	7.07	9.133	1.09	12.20	0.54
3.017	3.26	6.083	7.07	9.150	1.09	12.22	0.54

3.033	3.26	6.100	7.07	9.167	1.09	12.23	0.54
3.050	3.26	6.117	7.07	9.183	1.09	12.25	0.54
3.067	3.26	6.133	7.07	9.200	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	17.13	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.11 (ii)	7.07 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.26	0.15	
			TOTALS
PEAK FLOW (cms)=	0.08	0.00	0.080 (iii)
TIME TO PEAK (hrs)=	5.15	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	28.62	53.13
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725
	0.0167	0.0440	0.0340	0.0820
	0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.080	5.25	53.13
OUTFLOW: ID= 1 (7622)	1.150	0.015	6.37	51.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.22
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.0414

CALIB		
STANDHYD (7629)	Area (ha)= 4.09	
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.26	6.150	7.07	9.22	1.09
0.033	0.00	3.100	3.26	6.167	7.07	9.23	1.09
0.050	0.00	3.117	3.26	6.183	7.07	9.25	1.09
0.067	0.00	3.133	3.26	6.200	7.07	9.27	0.54
0.083	0.00	3.150	3.26	6.217	7.07	9.28	0.54
0.100	0.00	3.167	3.26	6.233	7.07	9.30	0.54
0.117	0.00	3.183	3.26	6.250	7.06	9.32	0.54
0.133	0.00	3.200	3.26	6.267	3.81	9.33	0.54
0.150	0.00	3.217	3.26	6.283	3.81	9.35	0.54
0.167	0.00	3.233	3.26	6.300	3.81	9.37	0.54
0.183	0.00	3.250	3.26	6.317	3.81	9.38	0.54
0.200	0.00	3.267	9.25	6.333	3.81	9.40	0.54
0.217	0.00	3.283	9.25	6.350	3.81	9.42	0.54
0.233	0.00	3.300	9.25	6.367	3.81	9.43	0.54
0.250	0.00	3.317	9.25	6.383	3.81	9.45	0.54
0.267	0.54	3.333	9.25	6.400	3.81	9.47	0.54
0.283	0.54	3.350	9.25	6.417	3.81	9.48	0.54
0.300	0.54	3.367	9.25	6.433	3.81	9.50	0.54
0.317	0.54	3.383	9.25	6.450	3.81	9.52	0.54
0.333	0.54	3.400	9.25	6.467	3.81	9.53	0.54
0.350	0.54	3.417	9.25	6.483	3.81	9.55	0.54
0.367	0.54	3.433	9.25	6.500	3.81	9.57	0.54
0.383	0.54	3.450	9.25	6.517	3.81	9.58	0.54
0.400	0.54	3.467	9.25	6.533	3.81	9.60	0.54
0.417	0.54	3.483	9.25	6.550	3.81	9.62	0.54
0.433	0.54	3.500	9.25	6.567	3.81	9.63	0.54
0.450	0.54	3.517	9.25	6.583	3.81	9.65	0.54
0.467	0.54	3.533	9.25	6.600	3.81	9.67	0.54
0.483	0.54	3.550	9.25	6.617	3.81	9.68	0.54
0.500	0.54	3.567	9.25	6.633	3.81	9.70	0.54
0.517	0.54	3.583	9.25	6.650	3.81	9.72	0.54
0.533	0.54	3.600	9.25	6.667	3.81	9.73	0.54
0.550	0.54	3.617	9.25	6.683	3.81	9.75	0.54
0.567	0.54	3.633	9.25	6.700	3.81	9.77	0.54
0.583	0.54	3.650	9.25	6.717	3.81	9.78	0.54
0.600	0.54	3.667	9.25	6.733	3.81	9.80	0.54
0.617	0.54	3.683	9.25	6.750	3.81	9.82	0.54
0.633	0.54	3.700	9.25	6.767	3.81	9.83	0.54
0.650	0.54	3.717	9.25	6.783	3.81	9.85	0.54
0.667	0.54	3.733	9.25	6.800	3.81	9.87	0.54
0.683	0.54	3.750	9.25	6.817	3.81	9.88	0.54
0.700	0.54	3.767	9.25	6.833	3.81	9.90	0.54
0.717	0.54	3.783	9.25	6.850	3.81	9.92	0.54
0.733	0.54	3.800	9.25	6.867	3.81	9.93	0.54
0.750	0.54	3.817	9.25	6.883	3.81	9.95	0.54
0.767	0.54	3.833	9.25	6.900	3.81	9.97	0.54
0.783	0.54	3.850	9.25	6.917	3.81	9.98	0.54
0.800	0.54	3.867	9.25	6.933	3.81	10.00	0.54
0.817	0.54	3.883	9.25	6.950	3.81	10.02	0.54
0.833	0.54	3.900	9.25	6.967	3.81	10.03	0.54
0.850	0.54	3.917	9.25	6.983	3.81	10.05	0.54
0.867	0.54	3.933	9.25	7.000	3.81	10.07	0.54
0.883	0.54	3.950	9.25	7.017	3.81	10.08	0.54
0.900	0.54	3.967	9.25	7.033	3.81	10.10	0.54
0.917	0.54	3.983	9.25	7.050	3.81	10.12	0.54
0.933	0.54	4.000	9.25	7.067	3.81	10.13	0.54
0.950	0.54	4.017	9.25	7.083	3.81	10.15	0.54
0.967	0.54	4.033	9.25	7.100	3.81	10.17	0.54
0.983	0.54	4.050	9.25	7.117	3.81	10.18	0.54
1.000	0.54	4.067	9.25	7.133	3.81	10.20	0.54
1.017	0.54	4.083	9.25	7.150	3.81	10.22	0.54
1.033	0.54	4.100	9.25	7.167	3.81	10.23	0.54
1.050	0.54	4.117	9.25	7.183	3.81	10.25	0.54
1.067	0.54	4.133	9.25	7.200	3.81	10.27	0.54
1.083	0.54	4.150	9.25	7.217	3.81	10.28	0.54
1.100	0.54	4.167	9.25	7.233	3.81	10.30	0.54
1.117	0.54	4.183	9.25	7.250	3.81	10.32	0.54
1.133	0.54	4.200	9.25	7.267	2.18	10.33	0.54
1.150	0.54	4.217	9.25	7.283	2.18	10.35	0.54
1.167	0.54	4.233	9.25	7.300	2.18	10.37	0.54
1.183	0.54	4.250	9.25	7.317	2.18	10.38	0.54
1.200	0.54	4.267	25.02	7.333	2.18	10.40	0.54
1.217	0.54	4.283	25.02	7.350	2.18	10.42	0.54
1.233	0.54	4.300	25.02	7.367	2.18	10.43	0.54
1.250	0.54	4.317	25.02	7.383	2.18	10.45	0.54
1.267	0.54	4.333	25.02	7.400	2.18	10.47	0.54
1.283	0.54	4.350	25.02	7.417	2.18	10.48	0.54
1.300	0.54	4.367	25.02	7.433	2.18	10.50	0.54
1.317	0.54	4.383	25.02	7.450	2.18	10.52	0.54
1.333	0.54	4.400	25.02	7.467	2.18	10.53	0.54
1.350	0.54	4.417	25.02	7.483	2.18	10.55	0.54
1.367	0.54	4.433	25.02	7.500	2.18	10.57	0.54
1.383	0.54	4.450	25.02	7.517	2.18	10.58	0.54
1.400	0.54	4.467	25.02	7.533	2.18	10.60	0.54
1.417	0.54	4.483	25.02	7.550	2.18	10.62	0.54
1.433	0.54	4.500	25.02	7.567	2.18	10.63	0.54
1.450	0.54	4.517	25.02	7.583	2.18	10.65	0.54
1.467	0.54	4.533	25.02	7.600	2.18	10.67	0.54
1.483	0.54	4.550	25.02	7.617	2.18	10.68	0.54
1.500	0.54	4.567	25.02	7.633	2.18	10.70	0.54

1.517	0.54	4.583	25.02	7.650	2.18	10.72	0.54
1.533	0.54	4.600	25.02	7.667	2.18	10.73	0.54
1.550	0.54	4.617	25.02	7.683	2.18	10.75	0.54
1.567	0.54	4.633	25.02	7.700	2.18	10.77	0.54
1.583	0.54	4.650	25.02	7.717	2.18	10.78	0.54
1.600	0.54	4.667	25.02	7.733	2.18	10.80	0.54
1.617	0.54	4.683	25.02	7.750	2.18	10.82	0.54
1.633	0.54	4.700	25.02	7.767	2.18	10.83	0.54
1.650	0.54	4.717	25.02	7.783	2.18	10.85	0.54
1.667	0.54	4.733	25.02	7.800	2.18	10.87	0.54
1.683	0.54	4.750	25.02	7.817	2.18	10.88	0.54
1.700	0.54	4.767	25.02	7.833	2.18	10.90	0.54
1.717	0.54	4.783	25.02	7.850	2.18	10.92	0.54
1.733	0.54	4.800	25.02	7.867	2.18	10.93	0.54
1.750	0.54	4.817	25.02	7.883	2.18	10.95	0.54
1.767	0.54	4.833	25.02	7.900	2.18	10.97	0.54
1.783	0.54	4.850	25.02	7.917	2.18	10.98	0.54
1.800	0.54	4.867	25.02	7.933	2.18	11.00	0.54
1.817	0.54	4.883	25.02	7.950	2.18	11.02	0.54
1.833	0.54	4.900	25.02	7.967	2.18	11.03	0.54
1.850	0.54	4.917	25.02	7.983	2.18	11.05	0.54
1.867	0.54	4.933	25.02	8.000	2.18	11.07	0.54
1.883	0.54	4.950	25.02	8.017	2.18	11.08	0.54
1.900	0.54	4.967	25.02	8.033	2.18	11.10	0.54
1.917	0.54	4.983	25.02	8.050	2.18	11.12	0.54
1.933	0.54	5.000	25.02	8.067	2.18	11.13	0.54
1.950	0.54	5.017	25.02	8.083	2.18	11.15	0.54
1.967	0.54	5.033	25.02	8.100	2.18	11.17	0.54
1.983	0.54	5.050	25.02	8.117	2.18	11.18	0.54
2.000	0.54	5.067	25.02	8.133	2.18	11.20	0.54
2.017	0.54	5.083	25.02	8.150	2.18	11.22	0.54
2.033	0.54	5.100	25.02	8.167	2.18	11.23	0.54
2.050	0.54	5.117	25.02	8.183	2.18	11.25	0.54
2.067	0.54	5.133	25.02	8.200	2.18	11.27	0.54
2.083	0.54	5.150	25.02	8.217	2.18	11.28	0.54
2.100	0.54	5.167	25.02	8.233	2.18	11.30	0.54
2.117	0.54	5.183	25.02	8.250	2.18	11.32	0.54
2.133	0.54	5.200	25.02	8.267	1.09	11.33	0.54
2.150	0.54	5.217	25.02	8.283	1.09	11.35	0.54
2.167	0.54	5.233	25.02	8.300	1.09	11.37	0.54
2.183	0.54	5.250	25.01	8.317	1.09	11.38	0.54
2.200	0.54	5.267	7.07	8.333	1.09	11.40	0.54
2.217	0.54	5.283	7.07	8.350	1.09	11.42	0.54
2.233	0.54	5.300	7.07	8.367	1.09	11.43	0.54
2.250	0.54	5.317	7.07	8.383	1.09	11.45	0.54
2.267	3.26	5.333	7.07	8.400	1.09	11.47	0.54
2.283	3.26	5.350	7.07	8.417	1.09	11.48	0.54
2.300	3.26	5.367	7.07	8.433	1.09	11.50	0.54
2.317	3.26	5.383	7.07	8.450	1.09	11.52	0.54
2.333	3.26	5.400	7.07	8.467	1.09	11.53	0.54
2.350	3.26	5.417	7.07	8.483	1.09	11.55	0.54
2.367	3.26	5.433	7.07	8.500	1.09	11.57	0.54
2.383	3.26	5.450	7.07	8.517	1.09	11.58	0.54
2.400	3.26	5.467	7.07	8.533	1.09	11.60	0.54
2.417	3.26	5.483	7.07	8.550	1.09	11.62	0.54
2.433	3.26	5.500	7.07	8.567	1.09	11.63	0.54
2.450	3.26	5.517	7.07	8.583	1.09	11.65	0.54
2.467	3.26	5.533	7.07	8.600	1.09	11.67	0.54
2.483	3.26	5.550	7.07	8.617	1.09	11.68	0.54
2.500	3.26	5.567	7.07	8.633	1.09	11.70	0.54
2.517	3.26	5.583	7.07	8.650	1.09	11.72	0.54
2.533	3.26	5.600	7.07	8.667	1.09	11.73	0.54
2.550	3.26	5.617	7.07	8.683	1.09	11.75	0.54
2.567	3.26	5.633	7.07	8.700	1.09	11.77	0.54
2.583	3.26	5.650	7.07	8.717	1.09	11.78	0.54
2.600	3.26	5.667	7.07	8.733	1.09	11.80	0.54
2.617	3.26	5.683	7.07	8.750	1.09	11.82	0.54
2.633	3.26	5.700	7.07	8.767	1.09	11.83	0.54
2.650	3.26	5.717	7.07	8.783	1.09	11.85	0.54
2.667	3.26	5.733	7.07	8.800	1.09	11.87	0.54
2.683	3.26	5.750	7.07	8.817	1.09	11.88	0.54
2.700	3.26	5.767	7.07	8.833	1.09	11.90	0.54
2.717	3.26	5.783	7.07	8.850	1.09	11.92	0.54
2.733	3.26	5.800	7.07	8.867	1.09	11.93	0.54
2.750	3.26	5.817	7.07	8.883	1.09	11.95	0.54
2.767	3.26	5.833	7.07	8.900	1.09	11.97	0.54
2.783	3.26	5.850	7.07	8.917	1.09	11.98	0.54
2.800	3.26	5.867	7.07	8.933	1.09	12.00	0.54
2.817	3.26	5.883	7.07	8.950	1.09	12.02	0.54
2.833	3.26	5.900	7.07	8.967	1.09	12.03	0.54
2.850	3.26	5.917	7.07	8.983	1.09	12.05	0.54
2.867	3.26	5.933	7.07	9.000	1.09	12.07	0.54
2.883	3.26	5.950	7.07	9.017	1.09	12.08	0.54
2.900	3.26	5.967	7.07	9.033	1.09	12.10	0.54
2.917	3.26	5.983	7.07	9.050	1.09	12.12	0.54
2.933	3.26	6.000	7.07	9.067	1.09	12.13	0.54
2.950	3.26	6.017	7.07	9.083	1.09	12.15	0.54
2.967	3.26	6.033	7.07	9.100	1.09	12.17	0.54
2.983	3.26	6.050	7.07	9.117	1.09	12.18	0.54
3.000	3.26	6.067	7.07	9.133	1.09	12.20	0.54
3.017	3.26	6.083	7.07	9.150	1.09	12.22	0.54
3.033	3.26	6.100	7.07	9.167	1.09	12.23	0.54
3.050	3.26	6.117	7.07	9.183	1.09	12.25	0.54
3.067	3.26	6.133	7.07	9.200	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	17.13	
over (min)	6.00	9.00	
Storage Coeff. (min)=	6.01 (ii)	8.97 (ii)	
Unit Hyd. Tpeak (min)=	6.00	9.00	
Unit Hyd. peak (cms)=	0.19	0.13	
			TOTALS
PEAK FLOW (cms)=	0.28	0.00	0.283 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	53.37	28.62	53.13
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940
	0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.283	5.25	53.13
OUTFLOW: ID= 1 (7630)	4.090	0.050	6.47	50.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.60
TIME SHIFT OF PEAK FLOW (min)= 73.00
MAXIMUM STORAGE USED (ha.m.)= 0.1502

CALIB		
STANDHYD (7631)	Area (ha)= 3.91	
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	3.87	0.04
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	161.45	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.017	0.00	3.083	3.26	6.150	7.07	9.22	1.09
0.033	0.00	3.100	3.26	6.167	7.07	9.23	1.09
0.050	0.00	3.117	3.26	6.183	7.07	9.25	1.09
0.067	0.00	3.133	3.26	6.200	7.07	9.27	0.54
0.083	0.00	3.150	3.26	6.217	7.07	9.28	0.54
0.100	0.00	3.167	3.26	6.233	7.07	9.30	0.54
0.117	0.00	3.183	3.26	6.250	7.06	9.32	0.54
0.133	0.00	3.200	3.26	6.267	3.81	9.33	0.54
0.150	0.00	3.217	3.26	6.283	3.81	9.35	0.54
0.167	0.00	3.233	3.26	6.300	3.81	9.37	0.54
0.183	0.00	3.250	3.26	6.317	3.81	9.38	0.54
0.200	0.00	3.267	9.25	6.333	3.81	9.40	0.54
0.217	0.00	3.283	9.25	6.350	3.81	9.42	0.54
0.233	0.00	3.300	9.25	6.367	3.81	9.43	0.54
0.250	0.00	3.317	9.25	6.383	3.81	9.45	0.54
0.267	0.54	3.333	9.25	6.400	3.81	9.47	0.54
0.283	0.54	3.350	9.25	6.417	3.81	9.48	0.54
0.300	0.54	3.367	9.25	6.433	3.81	9.50	0.54
0.317	0.54	3.383	9.25	6.450	3.81	9.52	0.54
0.333	0.54	3.400	9.25	6.467	3.81	9.53	0.54
0.350	0.54	3.417	9.25	6.483	3.81	9.55	0.54
0.367	0.54	3.433	9.25	6.500	3.81	9.57	0.54
0.383	0.54	3.450	9.25	6.517	3.81	9.58	0.54
0.400	0.54	3.467	9.25	6.533	3.81	9.60	0.54
0.417	0.54	3.483	9.25	6.550	3.81	9.62	0.54
0.433	0.54	3.500	9.25	6.567	3.81	9.63	0.54
0.450	0.54	3.517	9.25	6.583	3.81	9.65	0.54
0.467	0.54	3.533	9.25	6.600	3.81	9.67	0.54
0.483	0.54	3.550	9.25	6.617	3.81	9.68	0.54
0.500	0.54	3.567	9.25	6.633	3.81	9.70	0.54
0.517	0.54	3.583	9.25	6.650	3.81	9.72	0.54
0.533	0.54	3.600	9.25	6.667	3.81	9.73	0.54
0.550	0.54	3.617	9.25	6.683	3.81	9.75	0.54
0.567	0.54	3.633	9.25	6.700	3.81	9.77	0.54
0.583	0.54	3.650	9.25	6.717	3.81	9.78	0.54
0.600	0.54	3.667	9.25	6.733	3.81	9.80	0.54
0.617	0.54	3.683	9.25	6.750	3.81	9.82	0.54
0.633	0.54	3.700	9.25	6.767	3.81	9.83	0.54
0.650	0.54	3.717	9.25	6.783	3.81	9.85	0.54
0.667	0.54	3.733	9.25	6.800	3.81	9.87	0.54
0.683	0.54	3.750	9.25	6.817	3.81	9.88	0.54
0.700	0.54	3.767	9.25	6.833	3.81	9.90	0.54
0.717	0.54	3.783	9.25	6.850	3.81	9.92	0.54
0.733	0.54	3.800	9.25	6.867	3.81	9.93	0.54
0.750	0.54	3.817	9.25	6.883	3.81	9.95	0.54
0.767	0.54	3.833	9.25	6.900	3.81	9.97	0.54
0.783	0.54	3.850	9.25	6.917	3.81	9.98	0.54
0.800	0.54	3.867	9.25	6.933	3.81	10.00	0.54
0.817	0.54	3.883	9.25	6.950	3.81	10.02	0.54
0.833	0.54	3.900	9.25	6.967	3.81	10.03	0.54
0.850	0.54	3.917	9.25	6.983	3.81	10.05	0.54
0.867	0.54	3.933	9.25	7.000	3.81	10.07	0.54
0.883	0.54	3.950	9.25	7.017	3.81	10.08	0.54
0.900	0.54	3.967	9.25	7.033	3.81	10.10	0.54
0.917	0.54	3.983	9.25	7.050	3.81	10.12	0.54
0.933	0.54	4.000	9.25	7.067	3.81	10.13	0.54
0.950	0.54	4.017	9.25	7.083	3.81	10.15	0.54
0.967	0.54	4.033	9.25	7.100	3.81	10.17	0.54
0.983	0.54	4.050	9.25	7.117	3.81	10.18	0.54
1.000	0.54	4.067	9.25	7.133	3.81	10.20	0.54
1.017	0.54	4.083	9.25	7.150	3.81	10.22	0.54
1.033	0.54	4.100	9.25	7.167	3.81	10.23	0.54
1.050	0.54	4.117	9.25	7.183	3.81	10.25	0.54
1.067	0.54	4.133	9.25	7.200	3.81	10.27	0.54
1.083	0.54	4.150	9.25	7.217	3.81	10.28	0.54
1.100	0.54	4.167	9.25	7.233	3.81	10.30	0.54
1.117	0.54	4.183	9.25	7.250	3.81	10.32	0.54
1.133	0.54	4.200	9.25	7.267	2.18	10.33	0.54
1.150	0.54	4.217	9.25	7.283	2.18	10.35	0.54
1.167	0.54	4.233	9.25	7.300	2.18	10.37	0.54
1.183	0.54	4.250	9.25	7.317	2.18	10.38	0.54
1.200	0.54	4.267	25.02	7.333	2.18	10.40	0.54
1.217	0.54	4.283	25.02	7.350	2.18	10.42	0.54
1.233	0.54	4.300	25.02	7.367	2.18	10.43	0.54
1.250	0.54	4.317	25.02	7.383	2.18	10.45	0.54
1.267	0.54	4.333	25.02	7.400	2.18	10.47	0.54
1.283	0.54	4.350	25.02	7.417	2.18	10.48	0.54
1.300	0.54	4.367	25.02	7.433	2.18	10.50	0.54
1.317	0.54	4.383	25.02	7.450	2.18	10.52	0.54
1.333	0.54	4.400	25.02	7.467	2.18	10.53	0.54
1.350	0.54	4.417	25.02	7.483	2.18	10.55	0.54
1.367	0.54	4.433	25.02	7.500	2.18	10.57	0.54
1.383	0.54	4.450	25.02	7.517	2.18	10.58	0.54
1.400	0.54	4.467	25.02	7.533	2.18	10.60	0.54
1.417	0.54	4.483	25.02	7.550	2.18	10.62	0.54
1.433	0.54	4.500	25.02	7.567	2.18	10.63	0.54
1.450	0.54	4.517	25.02	7.583	2.18	10.65	0.54
1.467	0.54	4.533	25.02	7.600	2.18	10.67	0.54
1.483	0.54	4.550	25.02	7.617	2.18	10.68	0.54
1.500	0.54	4.567	25.02	7.633	2.18	10.70	0.54
1.517	0.54	4.583	25.02	7.650	2.18	10.72	0.54
1.533	0.54	4.600	25.02	7.667	2.18	10.73	0.54
1.550	0.54	4.617	25.02	7.683	2.18	10.75	0.54
1.567	0.54	4.633	25.02	7.700	2.18	10.77	0.54
1.583	0.54	4.650	25.02	7.717	2.18	10.78	0.54
1.600	0.54	4.667	25.02	7.733	2.18	10.80	0.54
1.617	0.54	4.683	25.02	7.750	2.18	10.82	0.54
1.633	0.54	4.700	25.02	7.767	2.18	10.83	0.54
1.650	0.54	4.717	25.02	7.783	2.18	10.85	0.54
1.667	0.54	4.733	25.02	7.800	2.18	10.87	0.54
1.683	0.54	4.750	25.02	7.817	2.18	10.88	0.54
1.700	0.54	4.767	25.02	7.833	2.18	10.90	0.54
1.717	0.54	4.783	25.02	7.850	2.18	10.92	0.54
1.733	0.54	4.800	25.02	7.867	2.18	10.93	0.54
1.750	0.54	4.817	25.02	7.883	2.18	10.95	0.54
1.767	0.54	4.833	25.02	7.900	2.18	10.97	0.54
1.783	0.54	4.850	25.02	7.917	2.18	10.98	0.54
1.800	0.54	4.867	25.02	7.933	2.18	11.00	0.54
1.817	0.54	4.883	25.02	7.950	2.18	11.02	0.54
1.833	0.54	4.900	25.02	7.967	2.18	11.03	0.54
1.850	0.54	4.917	25.02	7.983	2.18	11.05	0.54
1.867	0.54	4.933	25.02	8.000	2.18	11.07	0.54
1.883	0.54	4.950	25.02	8.017	2.18	11.08	0.54
1.900	0.54	4.967	25.02	8.033	2.18	11.10	0.54
1.917	0.54	4.983	25.02	8.050	2.18	11.12	0.54
1.933	0.54	5.000	25.02	8.067	2.18	11.13	0.54
1.950	0.54	5.017	25.02	8.083	2.18	11.15	0.54
1.967	0.54	5.033	25.02	8.100	2.18	11.17	0.54
1.983	0.54	5.050	25.02	8.117	2.18	11.18	0.54
2.000	0.54	5.067	25.02	8.133	2.18	11.20	0.54
2.017	0.54	5.083	25.02	8.150	2.18	11.22	0.54
2.033	0.54	5.100	25.02	8.167	2.18	11.23	0.54
2.050	0.54	5.117	25.02	8.183	2.18	11.25	0.54
2.067	0.54	5.133	25.02	8.200	2.18	11.27	0.54
2.083	0.54	5.150	25.02	8.217	2.18	11.28	0.54
2.100	0.54	5.167	25.02	8.233	2.18	11.30	0.54
2.117	0.54	5.183	25.02	8.250	2.18	11.32	0.54
2.133	0.54	5.200	25.02	8.267	1.09	11.33	0.54
2.150	0.54	5.217	25.02	8.283	1.09	11.35	0.54
2.167	0.54	5.233	25.02	8.300	1.09	11.37	0.54
2.183	0.54	5.250	25.01	8.317	1.09	11.38	0.54
2.200	0.54	5.267	7.07	8.333	1.09	11.40	0.54
2.217	0.54	5.283	7.07	8.350	1.09	11.42	0.54
2.233	0.54	5.300	7.07	8.367	1.09	11.43	0.54
2.250	0.54	5.317	7.07	8.383	1.09	11.45	0.54
2.267	3.26	5.333	7.07	8.400	1.09	11.47	0.54
2.283	3.26	5.350	7.07	8.417	1.09	11.48	0.54
2.300	3.26	5.367	7.07	8.433	1.09	11.50	0.54
2.317	3.26	5.383	7.07	8.450	1.09	11.52	0.54
2.333	3.26	5.400	7.07	8.467	1.09	11.53	0.54
2.350	3.26	5.417	7.07	8.483	1.09	11.55	0.54
2.367	3.26	5.433	7.07	8.500	1.09	11.57	0.54
2.383	3.26	5.450	7.07	8.517	1.09	11.58	0.54
2.400	3.26	5.467	7.07	8.533	1.09	11.60	0.54
2.417	3.26	5.483	7.07	8.550	1.09	11.62	0.54
2.433	3.26	5.500	7.07	8.567	1.09	11.63	0.54
2.450	3.26	5.517	7.07	8.583	1.09	11.65	0.54
2.467	3.26	5.533	7.07	8.600	1.09	11.67	0.54
2.483	3.26	5.550	7.07	8.617	1.09	11.68	0.54
2.500	3.26	5.567	7.07	8.633	1.09	11.70	0.54
2.517	3.26	5.583	7.07	8.650	1.09	11.72	0.54

2.533	3.26	5.600	7.07	8.667	1.09	11.73	0.54
2.550	3.26	5.617	7.07	8.683	1.09	11.75	0.54
2.567	3.26	5.633	7.07	8.700	1.09	11.77	0.54
2.583	3.26	5.650	7.07	8.717	1.09	11.78	0.54
2.600	3.26	5.667	7.07	8.733	1.09	11.80	0.54
2.617	3.26	5.683	7.07	8.750	1.09	11.82	0.54
2.633	3.26	5.700	7.07	8.767	1.09	11.83	0.54
2.650	3.26	5.717	7.07	8.783	1.09	11.85	0.54
2.667	3.26	5.733	7.07	8.800	1.09	11.87	0.54
2.683	3.26	5.750	7.07	8.817	1.09	11.88	0.54
2.700	3.26	5.767	7.07	8.833	1.09	11.90	0.54
2.717	3.26	5.783	7.07	8.850	1.09	11.92	0.54
2.733	3.26	5.800	7.07	8.867	1.09	11.93	0.54
2.750	3.26	5.817	7.07	8.883	1.09	11.95	0.54
2.767	3.26	5.833	7.07	8.900	1.09	11.97	0.54
2.783	3.26	5.850	7.07	8.917	1.09	11.98	0.54
2.800	3.26	5.867	7.07	8.933	1.09	12.00	0.54
2.817	3.26	5.883	7.07	8.950	1.09	12.02	0.54
2.833	3.26	5.900	7.07	8.967	1.09	12.03	0.54
2.850	3.26	5.917	7.07	8.983	1.09	12.05	0.54
2.867	3.26	5.933	7.07	9.000	1.09	12.07	0.54
2.883	3.26	5.950	7.07	9.017	1.09	12.08	0.54
2.900	3.26	5.967	7.07	9.033	1.09	12.10	0.54
2.917	3.26	5.983	7.07	9.050	1.09	12.12	0.54
2.933	3.26	6.000	7.07	9.067	1.09	12.13	0.54
2.950	3.26	6.017	7.07	9.083	1.09	12.15	0.54
2.967	3.26	6.033	7.07	9.100	1.09	12.17	0.54
2.983	3.26	6.050	7.07	9.117	1.09	12.18	0.54
3.000	3.26	6.067	7.07	9.133	1.09	12.20	0.54
3.017	3.26	6.083	7.07	9.150	1.09	12.22	0.54
3.033	3.26	6.100	7.07	9.167	1.09	12.23	0.54
3.050	3.26	6.117	7.07	9.183	1.09	12.25	0.54
3.067	3.26	6.133	7.07	9.200	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	17.13	
over (min)	6.00	9.00	
Storage Coeff. (min)=	5.93 (ii)	8.89 (ii)	
Unit Hyd. Tpeak (min)=	6.00	9.00	
Unit Hyd. peak (cms)=	0.19	0.13	
			TOTALS
PEAK FLOW (cms)=	0.27	0.00	0.271 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	53.38	28.62	53.13
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0792	0.2220	
	0.0333	0.1130	0.0928	0.2500	
	0.0512	0.1510	0.1046	0.2810	
	0.0629	0.1810	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.271	5.25	53.13
OUTFLOW: ID= 1 (7632)	3.910	0.048	6.47	50.49

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.63
TIME SHIFT OF PEAK FLOW (min)= 73.00
MAXIMUM STORAGE USED (ha.m.)= 0.1437

CALIB

STANDHYD (7641)	Area (ha)= 2.21
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.26	6.150	7.07	9.22	1.09
0.033	0.00	3.100	3.26	6.167	7.07	9.23	1.09
0.050	0.00	3.117	3.26	6.183	7.07	9.25	1.09
0.067	0.00	3.133	3.26	6.200	7.07	9.27	0.54
0.083	0.00	3.150	3.26	6.217	7.07	9.28	0.54
0.100	0.00	3.167	3.26	6.233	7.07	9.30	0.54
0.117	0.00	3.183	3.26	6.250	7.06	9.32	0.54
0.133	0.00	3.200	3.26	6.267	3.81	9.33	0.54
0.150	0.00	3.217	3.26	6.283	3.81	9.35	0.54
0.167	0.00	3.233	3.26	6.300	3.81	9.37	0.54
0.183	0.00	3.250	3.26	6.317	3.81	9.38	0.54
0.200	0.00	3.267	9.25	6.333	3.81	9.40	0.54
0.217	0.00	3.283	9.25	6.350	3.81	9.42	0.54
0.233	0.00	3.300	9.25	6.367	3.81	9.43	0.54
0.250	0.00	3.317	9.25	6.383	3.81	9.45	0.54
0.267	0.54	3.333	9.25	6.400	3.81	9.47	0.54
0.283	0.54	3.350	9.25	6.417	3.81	9.48	0.54
0.300	0.54	3.367	9.25	6.433	3.81	9.50	0.54
0.317	0.54	3.383	9.25	6.450	3.81	9.52	0.54
0.333	0.54	3.400	9.25	6.467	3.81	9.53	0.54
0.350	0.54	3.417	9.25	6.483	3.81	9.55	0.54
0.367	0.54	3.433	9.25	6.500	3.81	9.57	0.54
0.383	0.54	3.450	9.25	6.517	3.81	9.58	0.54
0.400	0.54	3.467	9.25	6.533	3.81	9.60	0.54
0.417	0.54	3.483	9.25	6.550	3.81	9.62	0.54
0.433	0.54	3.500	9.25	6.567	3.81	9.63	0.54
0.450	0.54	3.517	9.25	6.583	3.81	9.65	0.54
0.467	0.54	3.533	9.25	6.600	3.81	9.67	0.54
0.483	0.54	3.550	9.25	6.617	3.81	9.68	0.54
0.500	0.54	3.567	9.25	6.633	3.81	9.70	0.54
0.517	0.54	3.583	9.25	6.650	3.81	9.72	0.54
0.533	0.54	3.600	9.25	6.667	3.81	9.73	0.54
0.550	0.54	3.617	9.25	6.683	3.81	9.75	0.54
0.567	0.54	3.633	9.25	6.700	3.81	9.77	0.54
0.583	0.54	3.650	9.25	6.717	3.81	9.78	0.54
0.600	0.54	3.667	9.25	6.733	3.81	9.80	0.54
0.617	0.54	3.683	9.25	6.750	3.81	9.82	0.54
0.633	0.54	3.700	9.25	6.767	3.81	9.83	0.54
0.650	0.54	3.717	9.25	6.783	3.81	9.85	0.54
0.667	0.54	3.733	9.25	6.800	3.81	9.87	0.54
0.683	0.54	3.750	9.25	6.817	3.81	9.88	0.54
0.700	0.54	3.767	9.25	6.833	3.81	9.90	0.54
0.717	0.54	3.783	9.25	6.850	3.81	9.92	0.54
0.733	0.54	3.800	9.25	6.867	3.81	9.93	0.54
0.750	0.54	3.817	9.25	6.883	3.81	9.95	0.54
0.767	0.54	3.833	9.25	6.900	3.81	9.97	0.54
0.783	0.54	3.850	9.25	6.917	3.81	9.98	0.54
0.800	0.54	3.867	9.25	6.933	3.81	10.00	0.54
0.817	0.54	3.883	9.25	6.950	3.81	10.02	0.54
0.833	0.54	3.900	9.25	6.967	3.81	10.03	0.54
0.850	0.54	3.917	9.25	6.983	3.81	10.05	0.54
0.867	0.54	3.933	9.25	7.000	3.81	10.07	0.54
0.883	0.54	3.950	9.25	7.017	3.81	10.08	0.54
0.900	0.54	3.967	9.25	7.033	3.81	10.10	0.54
0.917	0.54	3.983	9.25	7.050	3.81	10.12	0.54
0.933	0.54	4.000	9.25	7.067	3.81	10.13	0.54
0.950	0.54	4.017	9.25	7.083	3.81	10.15	0.54
0.967	0.54	4.033	9.25	7.100	3.81	10.17	0.54
0.983	0.54	4.050	9.25	7.117	3.81	10.18	0.54
1.000	0.54	4.067	9.25	7.133	3.81	10.20	0.54

1.017	0.54	4.083	9.25	7.150	3.81	10.22	0.54
1.033	0.54	4.100	9.25	7.167	3.81	10.23	0.54
1.050	0.54	4.117	9.25	7.183	3.81	10.25	0.54
1.067	0.54	4.133	9.25	7.200	3.81	10.27	0.54
1.083	0.54	4.150	9.25	7.217	3.81	10.28	0.54
1.100	0.54	4.167	9.25	7.233	3.81	10.30	0.54
1.117	0.54	4.183	9.25	7.250	3.81	10.32	0.54
1.133	0.54	4.200	9.25	7.267	2.18	10.33	0.54
1.150	0.54	4.217	9.25	7.283	2.18	10.35	0.54
1.167	0.54	4.233	9.25	7.300	2.18	10.37	0.54
1.183	0.54	4.250	9.25	7.317	2.18	10.38	0.54
1.200	0.54	4.267	25.02	7.333	2.18	10.40	0.54
1.217	0.54	4.283	25.02	7.350	2.18	10.42	0.54
1.233	0.54	4.300	25.02	7.367	2.18	10.43	0.54
1.250	0.54	4.317	25.02	7.383	2.18	10.45	0.54
1.267	0.54	4.333	25.02	7.400	2.18	10.47	0.54
1.283	0.54	4.350	25.02	7.417	2.18	10.48	0.54
1.300	0.54	4.367	25.02	7.433	2.18	10.50	0.54
1.317	0.54	4.383	25.02	7.450	2.18	10.52	0.54
1.333	0.54	4.400	25.02	7.467	2.18	10.53	0.54
1.350	0.54	4.417	25.02	7.483	2.18	10.55	0.54
1.367	0.54	4.433	25.02	7.500	2.18	10.57	0.54
1.383	0.54	4.450	25.02	7.517	2.18	10.58	0.54
1.400	0.54	4.467	25.02	7.533	2.18	10.60	0.54
1.417	0.54	4.483	25.02	7.550	2.18	10.62	0.54
1.433	0.54	4.500	25.02	7.567	2.18	10.63	0.54
1.450	0.54	4.517	25.02	7.583	2.18	10.65	0.54
1.467	0.54	4.533	25.02	7.600	2.18	10.67	0.54
1.483	0.54	4.550	25.02	7.617	2.18	10.68	0.54
1.500	0.54	4.567	25.02	7.633	2.18	10.70	0.54
1.517	0.54	4.583	25.02	7.650	2.18	10.72	0.54
1.533	0.54	4.600	25.02	7.667	2.18	10.73	0.54
1.550	0.54	4.617	25.02	7.683	2.18	10.75	0.54
1.567	0.54	4.633	25.02	7.700	2.18	10.77	0.54
1.583	0.54	4.650	25.02	7.717	2.18	10.78	0.54
1.600	0.54	4.667	25.02	7.733	2.18	10.80	0.54
1.617	0.54	4.683	25.02	7.750	2.18	10.82	0.54
1.633	0.54	4.700	25.02	7.767	2.18	10.83	0.54
1.650	0.54	4.717	25.02	7.783	2.18	10.85	0.54
1.667	0.54	4.733	25.02	7.800	2.18	10.87	0.54
1.683	0.54	4.750	25.02	7.817	2.18	10.88	0.54
1.700	0.54	4.767	25.02	7.833	2.18	10.90	0.54
1.717	0.54	4.783	25.02	7.850	2.18	10.92	0.54
1.733	0.54	4.800	25.02	7.867	2.18	10.93	0.54
1.750	0.54	4.817	25.02	7.883	2.18	10.95	0.54
1.767	0.54	4.833	25.02	7.900	2.18	10.97	0.54
1.783	0.54	4.850	25.02	7.917	2.18	10.98	0.54
1.800	0.54	4.867	25.02	7.933	2.18	11.00	0.54
1.817	0.54	4.883	25.02	7.950	2.18	11.02	0.54
1.833	0.54	4.900	25.02	7.967	2.18	11.03	0.54
1.850	0.54	4.917	25.02	7.983	2.18	11.05	0.54
1.867	0.54	4.933	25.02	8.000	2.18	11.07	0.54
1.883	0.54	4.950	25.02	8.017	2.18	11.08	0.54
1.900	0.54	4.967	25.02	8.033	2.18	11.10	0.54
1.917	0.54	4.983	25.02	8.050	2.18	11.12	0.54
1.933	0.54	5.000	25.02	8.067	2.18	11.13	0.54
1.950	0.54	5.017	25.02	8.083	2.18	11.15	0.54
1.967	0.54	5.033	25.02	8.100	2.18	11.17	0.54
1.983	0.54	5.050	25.02	8.117	2.18	11.18	0.54
2.000	0.54	5.067	25.02	8.133	2.18	11.20	0.54
2.017	0.54	5.083	25.02	8.150	2.18	11.22	0.54
2.033	0.54	5.100	25.02	8.167	2.18	11.23	0.54
2.050	0.54	5.117	25.02	8.183	2.18	11.25	0.54
2.067	0.54	5.133	25.02	8.200	2.18	11.27	0.54
2.083	0.54	5.150	25.02	8.217	2.18	11.28	0.54
2.100	0.54	5.167	25.02	8.233	2.18	11.30	0.54
2.117	0.54	5.183	25.02	8.250	2.18	11.32	0.54
2.133	0.54	5.200	25.02	8.267	1.09	11.33	0.54
2.150	0.54	5.217	25.02	8.283	1.09	11.35	0.54
2.167	0.54	5.233	25.02	8.300	1.09	11.37	0.54
2.183	0.54	5.250	25.01	8.317	1.09	11.38	0.54
2.200	0.54	5.267	7.07	8.333	1.09	11.40	0.54
2.217	0.54	5.283	7.07	8.350	1.09	11.42	0.54
2.233	0.54	5.300	7.07	8.367	1.09	11.43	0.54
2.250	0.54	5.317	7.07	8.383	1.09	11.45	0.54
2.267	3.26	5.333	7.07	8.400	1.09	11.47	0.54
2.283	3.26	5.350	7.07	8.417	1.09	11.48	0.54
2.300	3.26	5.367	7.07	8.433	1.09	11.50	0.54
2.317	3.26	5.383	7.07	8.450	1.09	11.52	0.54
2.333	3.26	5.400	7.07	8.467	1.09	11.53	0.54
2.350	3.26	5.417	7.07	8.483	1.09	11.55	0.54
2.367	3.26	5.433	7.07	8.500	1.09	11.57	0.54
2.383	3.26	5.450	7.07	8.517	1.09	11.58	0.54
2.400	3.26	5.467	7.07	8.533	1.09	11.60	0.54
2.417	3.26	5.483	7.07	8.550	1.09	11.62	0.54
2.433	3.26	5.500	7.07	8.567	1.09	11.63	0.54
2.450	3.26	5.517	7.07	8.583	1.09	11.65	0.54
2.467	3.26	5.533	7.07	8.600	1.09	11.67	0.54
2.483	3.26	5.550	7.07	8.617	1.09	11.68	0.54
2.500	3.26	5.567	7.07	8.633	1.09	11.70	0.54
2.517	3.26	5.583	7.07	8.650	1.09	11.72	0.54
2.533	3.26	5.600	7.07	8.667	1.09	11.73	0.54
2.550	3.26	5.617	7.07	8.683	1.09	11.75	0.54
2.567	3.26	5.633	7.07	8.700	1.09	11.77	0.54
2.583	3.26	5.650	7.07	8.717	1.09	11.78	0.54
2.600	3.26	5.667	7.07	8.733	1.09	11.80	0.54
2.617	3.26	5.683	7.07	8.750	1.09	11.82	0.54
2.633	3.26	5.700	7.07	8.767	1.09	11.83	0.54
2.650	3.26	5.717	7.07	8.783	1.09	11.85	0.54
2.667	3.26	5.733	7.07	8.800	1.09	11.87	0.54
2.683	3.26	5.750	7.07	8.817	1.09	11.88	0.54
2.700	3.26	5.767	7.07	8.833	1.09	11.90	0.54
2.717	3.26	5.783	7.07	8.850	1.09	11.92	0.54
2.733	3.26	5.800	7.07	8.867	1.09	11.93	0.54
2.750	3.26	5.817	7.07	8.883	1.09	11.95	0.54
2.767	3.26	5.833	7.07	8.900	1.09	11.97	0.54
2.783	3.26	5.850	7.07	8.917	1.09	11.98	0.54
2.800	3.26	5.867	7.07	8.933	1.09	12.00	0.54
2.817	3.26	5.883	7.07	8.950	1.09	12.02	0.54
2.833	3.26	5.900	7.07	8.967	1.09	12.03	0.54
2.850	3.26	5.917	7.07	8.983	1.09	12.05	0.54
2.867	3.26	5.933	7.07	9.000	1.09	12.07	0.54
2.883	3.26	5.950	7.07	9.017	1.09	12.08	0.54
2.900	3.26	5.967	7.07	9.033	1.09	12.10	0.54
2.917	3.26	5.983	7.07	9.050	1.09	12.12	0.54
2.933	3.26	6.000	7.07	9.067	1.09	12.13	0.54
2.950	3.26	6.017	7.07	9.083	1.09	12.15	0.54
2.967	3.26	6.033	7.07	9.100	1.09	12.17	0.54
2.983	3.26	6.050	7.07	9.117	1.09	12.18	0.54
3.000	3.26	6.067	7.07	9.133	1.09	12.20	0.54
3.017	3.26	6.083	7.07	9.150	1.09	12.22	0.54
3.033	3.26	6.100	7.07	9.167	1.09	12.23	0.54
3.050	3.26	6.117	7.07	9.183	1.09	12.25	0.54
3.067	3.26	6.133	7.07	9.200	1.09		

Max.Eff.Inten.(mm/hr)=		25.02	17.13
	over (min)	5.00	8.00
Storage Coeff. (min)=		4.99 (ii)	7.96 (ii)
Unit Hyd. Tpeak (min)=		5.00	8.00
Unit Hyd. peak (cms)=		0.23	0.14
			TOTALS
PEAK FLOW	(cms)=	0.15	0.00	0.153 (iii)
TIME TO PEAK	(hrs)=	5.23	5.25	5.25
RUNOFF VOLUME	(mm)=	53.38	28.62	53.13
TOTAL RAINFALL	(mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT	=	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410

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	0.0304	0.0850	0.0620	0.1580	
	0.0373	0.1020	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.153	5.25	53.13
OUTFLOW: ID= 1 (7642)	2.210	0.028	6.42	50.92

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.38
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.0804

CALIB	
STANDHYD (7643)	Area (ha)= 2.02
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.26	6.150	7.07	9.22	1.09
0.033	0.00	3.100	3.26	6.167	7.07	9.23	1.09
0.050	0.00	3.117	3.26	6.183	7.07	9.25	1.09
0.067	0.00	3.133	3.26	6.200	7.07	9.27	0.54
0.083	0.00	3.150	3.26	6.217	7.07	9.28	0.54
0.100	0.00	3.167	3.26	6.233	7.07	9.30	0.54
0.117	0.00	3.183	3.26	6.250	7.06	9.32	0.54
0.133	0.00	3.200	3.26	6.267	3.81	9.33	0.54
0.150	0.00	3.217	3.26	6.283	3.81	9.35	0.54
0.167	0.00	3.233	3.26	6.300	3.81	9.37	0.54
0.183	0.00	3.250	3.26	6.317	3.81	9.38	0.54
0.200	0.00	3.267	9.25	6.333	3.81	9.40	0.54
0.217	0.00	3.283	9.25	6.350	3.81	9.42	0.54
0.233	0.00	3.300	9.25	6.367	3.81	9.43	0.54
0.250	0.00	3.317	9.25	6.383	3.81	9.45	0.54
0.267	0.54	3.333	9.25	6.400	3.81	9.47	0.54
0.283	0.54	3.350	9.25	6.417	3.81	9.48	0.54
0.300	0.54	3.367	9.25	6.433	3.81	9.50	0.54
0.317	0.54	3.383	9.25	6.450	3.81	9.52	0.54
0.333	0.54	3.400	9.25	6.467	3.81	9.53	0.54
0.350	0.54	3.417	9.25	6.483	3.81	9.55	0.54
0.367	0.54	3.433	9.25	6.500	3.81	9.57	0.54
0.383	0.54	3.450	9.25	6.517	3.81	9.58	0.54
0.400	0.54	3.467	9.25	6.533	3.81	9.60	0.54
0.417	0.54	3.483	9.25	6.550	3.81	9.62	0.54
0.433	0.54	3.500	9.25	6.567	3.81	9.63	0.54
0.450	0.54	3.517	9.25	6.583	3.81	9.65	0.54
0.467	0.54	3.533	9.25	6.600	3.81	9.67	0.54
0.483	0.54	3.550	9.25	6.617	3.81	9.68	0.54
0.500	0.54	3.567	9.25	6.633	3.81	9.70	0.54
0.517	0.54	3.583	9.25	6.650	3.81	9.72	0.54
0.533	0.54	3.600	9.25	6.667	3.81	9.73	0.54
0.550	0.54	3.617	9.25	6.683	3.81	9.75	0.54
0.567	0.54	3.633	9.25	6.700	3.81	9.77	0.54
0.583	0.54	3.650	9.25	6.717	3.81	9.78	0.54
0.600	0.54	3.667	9.25	6.733	3.81	9.80	0.54
0.617	0.54	3.683	9.25	6.750	3.81	9.82	0.54
0.633	0.54	3.700	9.25	6.767	3.81	9.83	0.54
0.650	0.54	3.717	9.25	6.783	3.81	9.85	0.54
0.667	0.54	3.733	9.25	6.800	3.81	9.87	0.54
0.683	0.54	3.750	9.25	6.817	3.81	9.88	0.54
0.700	0.54	3.767	9.25	6.833	3.81	9.90	0.54
0.717	0.54	3.783	9.25	6.850	3.81	9.92	0.54
0.733	0.54	3.800	9.25	6.867	3.81	9.93	0.54
0.750	0.54	3.817	9.25	6.883	3.81	9.95	0.54
0.767	0.54	3.833	9.25	6.900	3.81	9.97	0.54
0.783	0.54	3.850	9.25	6.917	3.81	9.98	0.54
0.800	0.54	3.867	9.25	6.933	3.81	10.00	0.54
0.817	0.54	3.883	9.25	6.950	3.81	10.02	0.54
0.833	0.54	3.900	9.25	6.967	3.81	10.03	0.54
0.850	0.54	3.917	9.25	6.983	3.81	10.05	0.54
0.867	0.54	3.933	9.25	7.000	3.81	10.07	0.54
0.883	0.54	3.950	9.25	7.017	3.81	10.08	0.54
0.900	0.54	3.967	9.25	7.033	3.81	10.10	0.54
0.917	0.54	3.983	9.25	7.050	3.81	10.12	0.54
0.933	0.54	4.000	9.25	7.067	3.81	10.13	0.54
0.950	0.54	4.017	9.25	7.083	3.81	10.15	0.54
0.967	0.54	4.033	9.25	7.100	3.81	10.17	0.54
0.983	0.54	4.050	9.25	7.117	3.81	10.18	0.54
1.000	0.54	4.067	9.25	7.133	3.81	10.20	0.54
1.017	0.54	4.083	9.25	7.150	3.81	10.22	0.54
1.033	0.54	4.100	9.25	7.167	3.81	10.23	0.54
1.050	0.54	4.117	9.25	7.183	3.81	10.25	0.54
1.067	0.54	4.133	9.25	7.200	3.81	10.27	0.54
1.083	0.54	4.150	9.25	7.217	3.81	10.28	0.54
1.100	0.54	4.167	9.25	7.233	3.81	10.30	0.54
1.117	0.54	4.183	9.25	7.250	3.81	10.32	0.54
1.133	0.54	4.200	9.25	7.267	2.18	10.33	0.54
1.150	0.54	4.217	9.25	7.283	2.18	10.35	0.54
1.167	0.54	4.233	9.25	7.300	2.18	10.37	0.54
1.183	0.54	4.250	9.25	7.317	2.18	10.38	0.54
1.200	0.54	4.267	25.02	7.333	2.18	10.40	0.54
1.217	0.54	4.283	25.02	7.350	2.18	10.42	0.54
1.233	0.54	4.300	25.02	7.367	2.18	10.43	0.54
1.250	0.54	4.317	25.02	7.383	2.18	10.45	0.54
1.267	0.54	4.333	25.02	7.400	2.18	10.47	0.54
1.283	0.54	4.350	25.02	7.417	2.18	10.48	0.54
1.300	0.54	4.367	25.02	7.433	2.18	10.50	0.54
1.317	0.54	4.383	25.02	7.450	2.18	10.52	0.54
1.333	0.54	4.400	25.02	7.467	2.18	10.53	0.54
1.350	0.54	4.417	25.02	7.483	2.18	10.55	0.54
1.367	0.54	4.433	25.02	7.500	2.18	10.57	0.54
1.383	0.54	4.450	25.02	7.517	2.18	10.58	0.54
1.400	0.54	4.467	25.02	7.533	2.18	10.60	0.54
1.417	0.54	4.483	25.02	7.550	2.18	10.62	0.54
1.433	0.54	4.500	25.02	7.567	2.18	10.63	0.54
1.450	0.54	4.517	25.02	7.583	2.18	10.65	0.54
1.467	0.54	4.533	25.02	7.600	2.18	10.67	0.54
1.483	0.54	4.550	25.02	7.617	2.18	10.68	0.54
1.500	0.54	4.567	25.02	7.633	2.18	10.70	0.54
1.517	0.54	4.583	25.02	7.650	2.18	10.72	0.54
1.533	0.54	4.600	25.02	7.667	2.18	10.73	0.54
1.550	0.54	4.617	25.02	7.683	2.18	10.75	0.54
1.567	0.54	4.633	25.02	7.700	2.18	10.77	0.54
1.583	0.54	4.650	25.02	7.717	2.18	10.78	0.54
1.600	0.54	4.667	25.02	7.733	2.18	10.80	0.54
1.617	0.54	4.683	25.02	7.750	2.18	10.82	0.54
1.633	0.54	4.700	25.02	7.767	2.18	10.83	0.54
1.650	0.54	4.717	25.02	7.783	2.18	10.85	0.54
1.667	0.54	4.733	25.02	7.800	2.18	10.87	0.54
1.683	0.54	4.750	25.02	7.817	2.18	10.88	0.54
1.700	0.54	4.767	25.02	7.833	2.18	10.90	0.54
1.717	0.54	4.783	25.02	7.850	2.18	10.92	0.54
1.733	0.54	4.800	25.02	7.867	2.18	10.93	0.54
1.750	0.54	4.817	25.02	7.883	2.18	10.95	0.54
1.767	0.54	4.833	25.02	7.900	2.18	10.97	0.54
1.783	0.54	4.850	25.02	7.917	2.18	10.98	0.54
1.800	0.54	4.867	25.02	7.933	2.18	11.00	0.54
1.817	0.54	4.883	25.02	7.950	2.18	11.02	0.54
1.833	0.54	4.900	25.02	7.967	2.18	11.03	0.54
1.850	0.54	4.917	25.02	7.983	2.18	11.05	0.54
1.867	0.54	4.933	25.02	8.000	2.18	11.07	0.54
1.883	0.54	4.950	25.02	8.017	2.18	11.08	0.54
1.900	0.54	4.967	25.02	8.033	2.18	11.10	0.54
1.917	0.54	4.983	25.02	8.050	2.18	11.12	0.54
1.933	0.54	5.000	25.02	8.067	2.18	11.13	0.54
1.950	0.54	5.017	25.02	8.083	2.18	11.15	0.54
1.967	0.54	5.033	25.02	8.100	2.18	11.17	0.54
1.983	0.54	5.050	25.02	8.117	2.18	11.18	0.54
2.000	0.54	5.067	25.02	8.133	2.18	11.20	0.54
2.017	0.54	5.083	25.02	8.150	2.18	11.22	0.54

2.033	0.54	5.100	25.02	8.167	2.18	11.23	0.54
2.050	0.54	5.117	25.02	8.183	2.18	11.25	0.54
2.067	0.54	5.133	25.02	8.200	2.18	11.27	0.54
2.083	0.54	5.150	25.02	8.217	2.18	11.28	0.54
2.100	0.54	5.167	25.02	8.233	2.18	11.30	0.54
2.117	0.54	5.183	25.02	8.250	2.18	11.32	0.54
2.133	0.54	5.200	25.02	8.267	1.09	11.33	0.54
2.150	0.54	5.217	25.02	8.283	1.09	11.35	0.54
2.167	0.54	5.233	25.02	8.300	1.09	11.37	0.54
2.183	0.54	5.250	25.01	8.317	1.09	11.38	0.54
2.200	0.54	5.267	7.07	8.333	1.09	11.40	0.54
2.217	0.54	5.283	7.07	8.350	1.09	11.42	0.54
2.233	0.54	5.300	7.07	8.367	1.09	11.43	0.54
2.250	0.54	5.317	7.07	8.383	1.09	11.45	0.54
2.267	3.26	5.333	7.07	8.400	1.09	11.47	0.54
2.283	3.26	5.350	7.07	8.417	1.09	11.48	0.54
2.300	3.26	5.367	7.07	8.433	1.09	11.50	0.54
2.317	3.26	5.383	7.07	8.450	1.09	11.52	0.54
2.333	3.26	5.400	7.07	8.467	1.09	11.53	0.54
2.350	3.26	5.417	7.07	8.483	1.09	11.55	0.54
2.367	3.26	5.433	7.07	8.500	1.09	11.57	0.54
2.383	3.26	5.450	7.07	8.517	1.09	11.58	0.54
2.400	3.26	5.467	7.07	8.533	1.09	11.60	0.54
2.417	3.26	5.483	7.07	8.550	1.09	11.62	0.54
2.433	3.26	5.500	7.07	8.567	1.09	11.63	0.54
2.450	3.26	5.517	7.07	8.583	1.09	11.65	0.54
2.467	3.26	5.533	7.07	8.600	1.09	11.67	0.54
2.483	3.26	5.550	7.07	8.617	1.09	11.68	0.54
2.500	3.26	5.567	7.07	8.633	1.09	11.70	0.54
2.517	3.26	5.583	7.07	8.650	1.09	11.72	0.54
2.533	3.26	5.600	7.07	8.667	1.09	11.73	0.54
2.550	3.26	5.617	7.07	8.683	1.09	11.75	0.54
2.567	3.26	5.633	7.07	8.700	1.09	11.77	0.54
2.583	3.26	5.650	7.07	8.717	1.09	11.78	0.54
2.600	3.26	5.667	7.07	8.733	1.09	11.80	0.54
2.617	3.26	5.683	7.07	8.750	1.09	11.82	0.54
2.633	3.26	5.700	7.07	8.767	1.09	11.83	0.54
2.650	3.26	5.717	7.07	8.783	1.09	11.85	0.54
2.667	3.26	5.733	7.07	8.800	1.09	11.87	0.54
2.683	3.26	5.750	7.07	8.817	1.09	11.88	0.54
2.700	3.26	5.767	7.07	8.833	1.09	11.90	0.54
2.717	3.26	5.783	7.07	8.850	1.09	11.92	0.54
2.733	3.26	5.800	7.07	8.867	1.09	11.93	0.54
2.750	3.26	5.817	7.07	8.883	1.09	11.95	0.54
2.767	3.26	5.833	7.07	8.900	1.09	11.97	0.54
2.783	3.26	5.850	7.07	8.917	1.09	11.98	0.54
2.800	3.26	5.867	7.07	8.933	1.09	12.00	0.54
2.817	3.26	5.883	7.07	8.950	1.09	12.02	0.54
2.833	3.26	5.900	7.07	8.967	1.09	12.03	0.54
2.850	3.26	5.917	7.07	8.983	1.09	12.05	0.54
2.867	3.26	5.933	7.07	9.000	1.09	12.07	0.54
2.883	3.26	5.950	7.07	9.017	1.09	12.08	0.54
2.900	3.26	5.967	7.07	9.033	1.09	12.10	0.54
2.917	3.26	5.983	7.07	9.050	1.09	12.12	0.54
2.933	3.26	6.000	7.07	9.067	1.09	12.13	0.54
2.950	3.26	6.017	7.07	9.083	1.09	12.15	0.54
2.967	3.26	6.033	7.07	9.100	1.09	12.17	0.54
2.983	3.26	6.050	7.07	9.117	1.09	12.18	0.54
3.000	3.26	6.067	7.07	9.133	1.09	12.20	0.54
3.017	3.26	6.083	7.07	9.150	1.09	12.22	0.54
3.033	3.26	6.100	7.07	9.167	1.09	12.23	0.54
3.050	3.26	6.117	7.07	9.183	1.09	12.25	0.54
3.067	3.26	6.133	7.07	9.200	1.09		

Max.Eff.Inten.(mm/hr)=	25.02	17.13	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.86 (ii)	7.82 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.23	0.14	
			TOTALS
PEAK FLOW (cms)=	0.14	0.00	0.140 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	53.37	28.62	53.13
TOTAL RAINFALL (mm)=	54.38	54.38	54.38
RUNOFF COEFFICIENT =	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0433	0.1140	
	0.0182	0.0580	0.0507	0.1280	
	0.0280	0.0775	0.0571	0.1440	
	0.0343	0.0930	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.140	5.25	53.13
OUTFLOW: ID= 1 (7644)	2.020	0.026	6.40	50.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.53
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.0734

****
** SIMULATION:7. 5 Year 24 Hour AES (Bloor, TRCA) **
****

READ STORM	Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\e61e69ae
Ptotal= 60.08 mm	Comments: 5 Year 24 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.25	5.11	12.50	2.10	18.75	0.30
0.25	0.30	6.50	5.11	12.75	2.10	19.00	0.30
0.50	0.30	6.75	5.11	13.00	2.10	19.25	0.30
0.75	0.30	7.00	5.11	13.25	2.10	19.50	0.30
1.00	0.30	7.25	5.11	13.50	2.10	19.75	0.30
1.25	0.30	7.50	5.11	13.75	2.10	20.00	0.30
1.50	0.30	7.75	5.11	14.00	2.10	20.25	0.30
1.75	0.30	8.00	5.11	14.25	1.20	20.50	0.30
2.00	0.30	8.25	13.82	14.50	1.20	20.75	0.30
2.25	0.30	8.50	13.82	14.75	1.20	21.00	0.30
2.50	0.30	8.75	13.82	15.00	1.20	21.25	0.30
2.75	0.30	9.00	13.82	15.25	1.20	21.50	0.30
3.00	0.30	9.25	13.82	15.50	1.20	21.75	0.30
3.25	0.30	9.50	13.82	15.75	1.20	22.00	0.30
3.50	0.30	9.75	13.82	16.00	1.20	22.25	0.30
3.75	0.30	10.00	13.82	16.25	0.60	22.50	0.30
4.00	0.30	10.25	3.91	16.50	0.60	22.75	0.30
4.25	1.80	10.50	3.91	16.75	0.60	23.00	0.30
4.50	1.80	10.75	3.91	17.00	0.60	23.25	0.30
4.75	1.80	11.00	3.91	17.25	0.60	23.50	0.30
5.00	1.80	11.25	3.91	17.50	0.60	23.75	0.30
5.25	1.80	11.50	3.91	17.75	0.60	24.00	0.30
5.50	1.80	11.75	3.91	18.00	0.60		
5.75	1.80	12.00	3.91	18.25	0.30		
6.00	1.80	12.25	2.10	18.50	0.30		

CALIB			
STANDHYD (7567)		Area (ha)= 2.81	
ID= 1 DT= 1.0 min		Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50

Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.80	12.150	3.91	18.22	0.60
0.033	0.00	6.100	1.80	12.167	3.91	18.23	0.60
0.050	0.00	6.117	1.80	12.183	3.91	18.25	0.60
0.067	0.00	6.133	1.80	12.200	3.91	18.27	0.30
0.083	0.00	6.150	1.80	12.217	3.91	18.28	0.30
0.100	0.00	6.167	1.80	12.233	3.91	18.30	0.30
0.117	0.00	6.183	1.80	12.250	3.91	18.32	0.30
0.133	0.00	6.200	1.80	12.267	2.10	18.33	0.30
0.150	0.00	6.217	1.80	12.283	2.10	18.35	0.30
0.167	0.00	6.233	1.80	12.300	2.10	18.37	0.30
0.183	0.00	6.250	1.81	12.317	2.10	18.38	0.30
0.200	0.00	6.267	5.11	12.333	2.10	18.40	0.30
0.217	0.00	6.283	5.11	12.350	2.10	18.42	0.30
0.233	0.00	6.300	5.11	12.367	2.10	18.43	0.30
0.250	0.00	6.317	5.11	12.383	2.10	18.45	0.30
0.267	0.30	6.333	5.11	12.400	2.10	18.47	0.30
0.283	0.30	6.350	5.11	12.417	2.10	18.48	0.30
0.300	0.30	6.367	5.11	12.433	2.10	18.50	0.30
0.317	0.30	6.383	5.11	12.450	2.10	18.52	0.30
0.333	0.30	6.400	5.11	12.467	2.10	18.53	0.30
0.350	0.30	6.417	5.11	12.483	2.10	18.55	0.30
0.367	0.30	6.433	5.11	12.500	2.10	18.57	0.30
0.383	0.30	6.450	5.11	12.517	2.10	18.58	0.30
0.400	0.30	6.467	5.11	12.533	2.10	18.60	0.30
0.417	0.30	6.483	5.11	12.550	2.10	18.62	0.30
0.433	0.30	6.500	5.11	12.567	2.10	18.63	0.30
0.450	0.30	6.517	5.11	12.583	2.10	18.65	0.30
0.467	0.30	6.533	5.11	12.600	2.10	18.67	0.30
0.483	0.30	6.550	5.11	12.617	2.10	18.68	0.30
0.500	0.30	6.567	5.11	12.633	2.10	18.70	0.30
0.517	0.30	6.583	5.11	12.650	2.10	18.72	0.30
0.533	0.30	6.600	5.11	12.667	2.10	18.73	0.30
0.550	0.30	6.617	5.11	12.683	2.10	18.75	0.30
0.567	0.30	6.633	5.11	12.700	2.10	18.77	0.30
0.583	0.30	6.650	5.11	12.717	2.10	18.78	0.30
0.600	0.30	6.667	5.11	12.733	2.10	18.80	0.30
0.617	0.30	6.683	5.11	12.750	2.10	18.82	0.30
0.633	0.30	6.700	5.11	12.767	2.10	18.83	0.30
0.650	0.30	6.717	5.11	12.783	2.10	18.85	0.30
0.667	0.30	6.733	5.11	12.800	2.10	18.87	0.30
0.683	0.30	6.750	5.11	12.817	2.10	18.88	0.30
0.700	0.30	6.767	5.11	12.833	2.10	18.90	0.30
0.717	0.30	6.783	5.11	12.850	2.10	18.92	0.30
0.733	0.30	6.800	5.11	12.867	2.10	18.93	0.30
0.750	0.30	6.817	5.11	12.883	2.10	18.95	0.30
0.767	0.30	6.833	5.11	12.900	2.10	18.97	0.30
0.783	0.30	6.850	5.11	12.917	2.10	18.98	0.30
0.800	0.30	6.867	5.11	12.933	2.10	19.00	0.30
0.817	0.30	6.883	5.11	12.950	2.10	19.02	0.30
0.833	0.30	6.900	5.11	12.967	2.10	19.03	0.30
0.850	0.30	6.917	5.11	12.983	2.10	19.05	0.30
0.867	0.30	6.933	5.11	13.000	2.10	19.07	0.30
0.883	0.30	6.950	5.11	13.017	2.10	19.08	0.30
0.900	0.30	6.967	5.11	13.033	2.10	19.10	0.30
0.917	0.30	6.983	5.11	13.050	2.10	19.12	0.30
0.933	0.30	7.000	5.11	13.067	2.10	19.13	0.30
0.950	0.30	7.017	5.11	13.083	2.10	19.15	0.30
0.967	0.30	7.033	5.11	13.100	2.10	19.17	0.30
0.983	0.30	7.050	5.11	13.117	2.10	19.18	0.30
1.000	0.30	7.067	5.11	13.133	2.10	19.20	0.30
1.017	0.30	7.083	5.11	13.150	2.10	19.22	0.30
1.033	0.30	7.100	5.11	13.167	2.10	19.23	0.30
1.050	0.30	7.117	5.11	13.183	2.10	19.25	0.30
1.067	0.30	7.133	5.11	13.200	2.10	19.27	0.30
1.083	0.30	7.150	5.11	13.217	2.10	19.28	0.30
1.100	0.30	7.167	5.11	13.233	2.10	19.30	0.30
1.117	0.30	7.183	5.11	13.250	2.10	19.32	0.30
1.133	0.30	7.200	5.11	13.267	2.10	19.33	0.30
1.150	0.30	7.217	5.11	13.283	2.10	19.35	0.30
1.167	0.30	7.233	5.11	13.300	2.10	19.37	0.30
1.183	0.30	7.250	5.11	13.317	2.10	19.38	0.30
1.200	0.30	7.267	5.11	13.333	2.10	19.40	0.30
1.217	0.30	7.283	5.11	13.350	2.10	19.42	0.30
1.233	0.30	7.300	5.11	13.367	2.10	19.43	0.30
1.250	0.30	7.317	5.11	13.383	2.10	19.45	0.30
1.267	0.30	7.333	5.11	13.400	2.10	19.47	0.30
1.283	0.30	7.350	5.11	13.417	2.10	19.48	0.30
1.300	0.30	7.367	5.11	13.433	2.10	19.50	0.30
1.317	0.30	7.383	5.11	13.450	2.10	19.52	0.30
1.333	0.30	7.400	5.11	13.467	2.10	19.53	0.30
1.350	0.30	7.417	5.11	13.483	2.10	19.55	0.30
1.367	0.30	7.433	5.11	13.500	2.10	19.57	0.30
1.383	0.30	7.450	5.11	13.517	2.10	19.58	0.30
1.400	0.30	7.467	5.11	13.533	2.10	19.60	0.30
1.417	0.30	7.483	5.11	13.550	2.10	19.62	0.30
1.433	0.30	7.500	5.11	13.567	2.10	19.63	0.30
1.450	0.30	7.517	5.11	13.583	2.10	19.65	0.30
1.467	0.30	7.533	5.11	13.600	2.10	19.67	0.30
1.483	0.30	7.550	5.11	13.617	2.10	19.68	0.30
1.500	0.30	7.567	5.11	13.633	2.10	19.70	0.30
1.517	0.30	7.583	5.11	13.650	2.10	19.72	0.30
1.533	0.30	7.600	5.11	13.667	2.10	19.73	0.30
1.550	0.30	7.617	5.11	13.683	2.10	19.75	0.30
1.567	0.30	7.633	5.11	13.700	2.10	19.77	0.30
1.583	0.30	7.650	5.11	13.717	2.10	19.78	0.30
1.600	0.30	7.667	5.11	13.733	2.10	19.80	0.30
1.617	0.30	7.683	5.11	13.750	2.10	19.82	0.30
1.633	0.30	7.700	5.11	13.767	2.10	19.83	0.30
1.650	0.30	7.717	5.11	13.783	2.10	19.85	0.30
1.667	0.30	7.733	5.11	13.800	2.10	19.87	0.30
1.683	0.30	7.750	5.11	13.817	2.10	19.88	0.30
1.700	0.30	7.767	5.11	13.833	2.10	19.90	0.30
1.717	0.30	7.783	5.11	13.850	2.10	19.92	0.30
1.733	0.30	7.800	5.11	13.867	2.10	19.93	0.30
1.750	0.30	7.817	5.11	13.883	2.10	19.95	0.30
1.767	0.30	7.833	5.11	13.900	2.10	19.97	0.30
1.783	0.30	7.850	5.11	13.917	2.10	19.98	0.30
1.800	0.30	7.867	5.11	13.933	2.10	20.00	0.30
1.817	0.30	7.883	5.11	13.950	2.10	20.02	0.30
1.833	0.30	7.900	5.11	13.967	2.10	20.03	0.30
1.850	0.30	7.917	5.11	13.983	2.10	20.05	0.30
1.867	0.30	7.933	5.11	14.000	2.10	20.07	0.30
1.883	0.30	7.950	5.11	14.017	2.10	20.08	0.30
1.900	0.30	7.967	5.11	14.033	2.10	20.10	0.30
1.917	0.30	7.983	5.11	14.050	2.10	20.12	0.30
1.933	0.30	8.000	5.11	14.067	2.10	20.13	0.30
1.950	0.30	8.017	5.11	14.083	2.10	20.15	0.30
1.967	0.30	8.033	5.11	14.100	2.10	20.17	0.30
1.983	0.30	8.050	5.11	14.117	2.10	20.18	0.30
2.000	0.30	8.067	5.11	14.133	2.10	20.20	0.30
2.017	0.30	8.083	5.11	14.150	2.10	20.22	0.30
2.033	0.30	8.100	5.11	14.167	2.10	20.23	0.30
2.050	0.30	8.117	5.11	14.183	2.10	20.25	0.30
2.067	0.30	8.133	5.11	14.200	2.10	20.27	0.30
2.083	0.30	8.150	5.11	14.217	2.10	20.28	0.30
2.100	0.30	8.167	5.11	14.233	2.10	20.30	0.30
2.117	0.30	8.183	5.11	14.250	2.10	20.32	0.30
2.133	0.30	8.200	5.11	14.267	1.20	20.33	0.30
2.150	0.30	8.217	5.11	14.283	1.20	20.35	0.30
2.167	0.30	8.233	5.11	14.300	1.20	20.37	0.30
2.183	0.30	8.250	5.13	14.317	1.20	20.38	0.30
2.200	0.30	8.267	13.82	14.333	1.20	20.40	0.30
2.217	0.30	8.283	13.82	14.350	1.20	20.42	0.30
2.233	0.30	8.300	13.82	14.367	1.20	20.43	0.30
2.250	0.30	8.317	13.82	14.383	1.20	20.45	0.30
2.267	0.30	8.333	13.82	14.400	1.20	20.47	0.30
2.283	0.30	8.350	13.82	14.417	1.20	20.48	0.30
2.300	0.30	8.367	13.82	14.433	1.20	20.50	0.30
2.317	0.30	8.383	13.82	14.450	1.20	20.52	0.30
2.333	0.30	8.400	13.82	14.467	1.20	20.53	0.30
2.350	0.30	8.417	13.82	14.483	1.20	20.55	0.30
2.367	0.30	8.433	13.82	14.500	1.20	20.57	0.30

2.383	0.30	8.450	13.82	14.517	1.20	20.58	0.30	3.650	0.30	9.717	13.82	15.783	1.20	21.85	0.30
2.400	0.30	8.467	13.82	14.533	1.20	20.60	0.30	3.667	0.30	9.733	13.82	15.800	1.20	21.87	0.30
2.417	0.30	8.483	13.82	14.550	1.20	20.62	0.30	3.683	0.30	9.750	13.82	15.817	1.20	21.88	0.30
2.433	0.30	8.500	13.82	14.567	1.20	20.63	0.30	3.700	0.30	9.767	13.82	15.833	1.20	21.90	0.30
2.450	0.30	8.517	13.82	14.583	1.20	20.65	0.30	3.717	0.30	9.783	13.82	15.850	1.20	21.92	0.30
2.467	0.30	8.533	13.82	14.600	1.20	20.67	0.30	3.733	0.30	9.800	13.82	15.867	1.20	21.93	0.30
2.483	0.30	8.550	13.82	14.617	1.20	20.68	0.30	3.750	0.30	9.817	13.82	15.883	1.20	21.95	0.30
2.500	0.30	8.567	13.82	14.633	1.20	20.70	0.30	3.767	0.30	9.833	13.82	15.900	1.20	21.97	0.30
2.517	0.30	8.583	13.82	14.650	1.20	20.72	0.30	3.783	0.30	9.850	13.82	15.917	1.20	21.98	0.30
2.533	0.30	8.600	13.82	14.667	1.20	20.73	0.30	3.800	0.30	9.867	13.82	15.933	1.20	22.00	0.30
2.550	0.30	8.617	13.82	14.683	1.20	20.75	0.30	3.817	0.30	9.883	13.82	15.950	1.20	22.02	0.30
2.567	0.30	8.633	13.82	14.700	1.20	20.77	0.30	3.833	0.30	9.900	13.82	15.967	1.20	22.03	0.30
2.583	0.30	8.650	13.82	14.717	1.20	20.78	0.30	3.850	0.30	9.917	13.82	15.983	1.20	22.05	0.30
2.600	0.30	8.667	13.82	14.733	1.20	20.80	0.30	3.867	0.30	9.933	13.82	16.000	1.20	22.07	0.30
2.617	0.30	8.683	13.82	14.750	1.20	20.82	0.30	3.883	0.30	9.950	13.82	16.017	1.20	22.08	0.30
2.633	0.30	8.700	13.82	14.767	1.20	20.83	0.30	3.900	0.30	9.967	13.82	16.033	1.20	22.10	0.30
2.650	0.30	8.717	13.82	14.783	1.20	20.85	0.30	3.917	0.30	9.983	13.82	16.050	1.20	22.12	0.30
2.667	0.30	8.733	13.82	14.800	1.20	20.87	0.30	3.933	0.30	10.000	13.82	16.067	1.20	22.13	0.30
2.683	0.30	8.750	13.82	14.817	1.20	20.88	0.30	3.950	0.30	10.017	13.82	16.083	1.20	22.15	0.30
2.700	0.30	8.767	13.82	14.833	1.20	20.90	0.30	3.967	0.30	10.033	13.82	16.100	1.20	22.17	0.30
2.717	0.30	8.783	13.82	14.850	1.20	20.92	0.30	3.983	0.30	10.050	13.82	16.117	1.20	22.18	0.30
2.733	0.30	8.800	13.82	14.867	1.20	20.93	0.30	4.000	0.30	10.067	13.82	16.133	1.20	22.20	0.30
2.750	0.30	8.817	13.82	14.883	1.20	20.95	0.30	4.017	0.30	10.083	13.82	16.150	1.20	22.22	0.30
2.767	0.30	8.833	13.82	14.900	1.20	20.97	0.30	4.033	0.30	10.100	13.82	16.167	1.20	22.23	0.30
2.783	0.30	8.850	13.82	14.917	1.20	20.98	0.30	4.050	0.30	10.117	13.82	16.183	1.20	22.25	0.30
2.800	0.30	8.867	13.82	14.933	1.20	21.00	0.30	4.067	0.30	10.133	13.82	16.200	1.20	22.27	0.30
2.817	0.30	8.883	13.82	14.950	1.20	21.02	0.30	4.083	0.30	10.150	13.82	16.217	1.20	22.28	0.30
2.833	0.30	8.900	13.82	14.967	1.20	21.03	0.30	4.100	0.30	10.167	13.82	16.233	1.20	22.30	0.30
2.850	0.30	8.917	13.82	14.983	1.20	21.05	0.30	4.117	0.30	10.183	13.82	16.250	1.20	22.32	0.30
2.867	0.30	8.933	13.82	15.000	1.20	21.07	0.30	4.133	0.30	10.200	13.82	16.267	0.60	22.33	0.30
2.883	0.30	8.950	13.82	15.017	1.20	21.08	0.30	4.150	0.30	10.217	13.82	16.283	0.60	22.35	0.30
2.900	0.30	8.967	13.82	15.033	1.20	21.10	0.30	4.167	0.30	10.233	13.82	16.300	0.60	22.37	0.30
2.917	0.30	8.983	13.82	15.050	1.20	21.12	0.30	4.183	0.30	10.250	13.81	16.317	0.60	22.38	0.30
2.933	0.30	9.000	13.82	15.067	1.20	21.13	0.30	4.200	0.30	10.267	3.91	16.333	0.60	22.40	0.30
2.950	0.30	9.017	13.82	15.083	1.20	21.15	0.30	4.217	0.30	10.283	3.91	16.350	0.60	22.42	0.30
2.967	0.30	9.033	13.82	15.100	1.20	21.17	0.30	4.233	0.30	10.300	3.91	16.367	0.60	22.43	0.30
2.983	0.30	9.050	13.82	15.117	1.20	21.18	0.30	4.250	0.30	10.317	3.91	16.383	0.60	22.45	0.30
3.000	0.30	9.067	13.82	15.133	1.20	21.20	0.30	4.267	1.80	10.333	3.91	16.400	0.60	22.47	0.30
3.017	0.30	9.083	13.82	15.150	1.20	21.22	0.30	4.283	1.80	10.350	3.91	16.417	0.60	22.48	0.30
3.033	0.30	9.100	13.82	15.167	1.20	21.23	0.30	4.300	1.80	10.367	3.91	16.433	0.60	22.50	0.30
3.050	0.30	9.117	13.82	15.183	1.20	21.25	0.30	4.317	1.80	10.383	3.91	16.450	0.60	22.52	0.30
3.067	0.30	9.133	13.82	15.200	1.20	21.27	0.30	4.333	1.80	10.400	3.91	16.467	0.60	22.53	0.30
3.083	0.30	9.150	13.82	15.217	1.20	21.28	0.30	4.350	1.80	10.417	3.91	16.483	0.60	22.55	0.30
3.100	0.30	9.167	13.82	15.233	1.20	21.30	0.30	4.367	1.80	10.433	3.91	16.500	0.60	22.57	0.30
3.117	0.30	9.183	13.82	15.250	1.20	21.32	0.30	4.383	1.80	10.450	3.91	16.517	0.60	22.58	0.30
3.133	0.30	9.200	13.82	15.267	1.20	21.33	0.30	4.400	1.80	10.467	3.91	16.533	0.60	22.60	0.30
3.150	0.30	9.217	13.82	15.283	1.20	21.35	0.30	4.417	1.80	10.483	3.91	16.550	0.60	22.62	0.30
3.167	0.30	9.233	13.82	15.300	1.20	21.37	0.30	4.433	1.80	10.500	3.91	16.567	0.60	22.63	0.30
3.183	0.30	9.250	13.82	15.317	1.20	21.38	0.30	4.450	1.80	10.517	3.91	16.583	0.60	22.65	0.30
3.200	0.30	9.267	13.82	15.333	1.20	21.40	0.30	4.467	1.80	10.533	3.91	16.600	0.60	22.67	0.30
3.217	0.30	9.283	13.82	15.350	1.20	21.42	0.30	4.483	1.80	10.550	3.91	16.617	0.60	22.68	0.30
3.233	0.30	9.300	13.82	15.367	1.20	21.43	0.30	4.500	1.80	10.567	3.91	16.633	0.60	22.70	0.30
3.250	0.30	9.317	13.82	15.383	1.20	21.45	0.30	4.517	1.80	10.583	3.91	16.650	0.60	22.72	0.30
3.267	0.30	9.333	13.82	15.400	1.20	21.47	0.30	4.533	1.80	10.600	3.91	16.667	0.60	22.73	0.30
3.283	0.30	9.350	13.82	15.417	1.20	21.48	0.30	4.550	1.80	10.617	3.91	16.683	0.60	22.75	0.30
3.300	0.30	9.367	13.82	15.433	1.20	21.50	0.30	4.567	1.80	10.633	3.91	16.700	0.60	22.77	0.30
3.317	0.30	9.383	13.82	15.450	1.20	21.52	0.30	4.583	1.80	10.650	3.91	16.717	0.60	22.78	0.30
3.333	0.30	9.400	13.82	15.467	1.20	21.53	0.30	4.600	1.80	10.667	3.91	16.733	0.60	22.80	0.30
3.350	0.30	9.417	13.82	15.483	1.20	21.55	0.30	4.617	1.80	10.683	3.91	16.750	0.60	22.82	0.30
3.367	0.30	9.433	13.82	15.500	1.20	21.57	0.30	4.633	1.80	10.700	3.91	16.767	0.60	22.83	0.30
3.383	0.30	9.450	13.82	15.517	1.20	21.58	0.30	4.650	1.80	10.717	3.91	16.783	0.60	22.85	0.30
3.400	0.30	9.467	13.82	15.533	1.20	21.60	0.30	4.667	1.80	10.733	3.91	16.800	0.60	22.87	0.30
3.417	0.30	9.483	13.82	15.550	1.20	21.62	0.30	4.683	1.80	10.750	3.91	16.817	0.60	22.88	0.30
3.433	0.30	9.500	13.82	15.567	1.20	21.63	0.30	4.700	1.80	10.767	3.91	16.833	0.60	22.90	0.30
3.450	0.30	9.517	13.82	15.583	1.20	21.65	0.30	4.717	1.80	10.783	3.91	16.850	0.60	22.92	0.30
3.467	0.30	9.533	13.82	15.600	1.20	21.67	0.30	4.733	1.80	10.800	3.91	16.867	0.60	22.93	0.30
3.483	0.30	9.550	13.82	15.617	1.20	21.68	0.30	4.750	1.80	10.817	3.91	16.883	0.60	22.95	0.30
3.500	0.30	9.567	13.82	15.633	1.20	21.70	0.30	4.767	1.80	10.833	3.91	16.900	0.60	22.97	0.30
3.517	0.30	9.583	13.82	15.650	1.20	21.72	0.30	4.783	1.80	10.850	3.91	16.917	0.60	22.98	0.30
3.533	0.30	9.600	13.82	15.667	1.20	21.73	0.30	4.800	1.80	10.867	3.91	16.933	0.60	23.00	0.30
3.550	0.30	9.617	13.82	15.683	1.20	21.75	0.30	4.817	1.80	10.883	3.91	16.950	0.60	23.02	0.30
3.567	0.30	9.633	13.82	15.700	1.20	21.77	0.30	4.833	1.80	10.900	3.91	16.967	0.60	23.03	0.30
3.583	0.30	9.650	13.82	15.717	1.20	21.78	0.30	4.850	1.80	10.917	3.91	16.983	0.60	23.05	0.30
3.600	0.30	9.667	13.82	15.733	1.20	21.80	0.30	4.867	1.80	10.933	3.91	17.000	0.60	23.07	0.30
3.617	0.30	9.683	13.82	15.750	1.20	21.82	0.30	4.883	1.80	10.950	3.91	17.017	0.60	23.08	0.30
3.633	0.30	9.700	13.82	15.767	1.20	21.83	0.30	4.900	1.80	10.967	3.91	17.033	0.60	23.10	0.30

4.917	1.80	10.983	3.91	17.050	0.60	23.12	0.30
4.933	1.80	11.000	3.91	17.067	0.60	23.13	0.30
4.950	1.80	11.017	3.91	17.083	0.60	23.15	0.30
4.967	1.80	11.033	3.91	17.100	0.60	23.17	0.30
4.983	1.80	11.050	3.91	17.117	0.60	23.18	0.30
5.000	1.80	11.067	3.91	17.133	0.60	23.20	0.30
5.017	1.80	11.083	3.91	17.150	0.60	23.22	0.30
5.033	1.80	11.100	3.91	17.167	0.60	23.23	0.30
5.050	1.80	11.117	3.91	17.183	0.60	23.25	0.30
5.067	1.80	11.133	3.91	17.200	0.60	23.27	0.30
5.083	1.80	11.150	3.91	17.217	0.60	23.28	0.30
5.100	1.80	11.167	3.91	17.233	0.60	23.30	0.30
5.117	1.80	11.183	3.91	17.250	0.60	23.32	0.30
5.133	1.80	11.200	3.91	17.267	0.60	23.33	0.30
5.150	1.80	11.217	3.91	17.283	0.60	23.35	0.30
5.167	1.80	11.233	3.91	17.300	0.60	23.37	0.30
5.183	1.80	11.250	3.91	17.317	0.60	23.38	0.30
5.200	1.80	11.267	3.91	17.333	0.60	23.40	0.30
5.217	1.80	11.283	3.91	17.350	0.60	23.42	0.30
5.233	1.80	11.300	3.91	17.367	0.60	23.43	0.30
5.250	1.80	11.317	3.91	17.383	0.60	23.45	0.30
5.267	1.80	11.333	3.91	17.400	0.60	23.47	0.30
5.283	1.80	11.350	3.91	17.417	0.60	23.48	0.30
5.300	1.80	11.367	3.91	17.433	0.60	23.50	0.30
5.317	1.80	11.383	3.91	17.450	0.60	23.52	0.30
5.333	1.80	11.400	3.91	17.467	0.60	23.53	0.30
5.350	1.80	11.417	3.91	17.483	0.60	23.55	0.30
5.367	1.80	11.433	3.91	17.500	0.60	23.57	0.30
5.383	1.80	11.450	3.91	17.517	0.60	23.58	0.30
5.400	1.80	11.467	3.91	17.533	0.60	23.60	0.30
5.417	1.80	11.483	3.91	17.550	0.60	23.62	0.30
5.433	1.80	11.500	3.91	17.567	0.60	23.63	0.30
5.450	1.80	11.517	3.91	17.583	0.60	23.65	0.30
5.467	1.80	11.533	3.91	17.600	0.60	23.67	0.30
5.483	1.80	11.550	3.91	17.617	0.60	23.68	0.30
5.500	1.80	11.567	3.91	17.633	0.60	23.70	0.30
5.517	1.80	11.583	3.91	17.650	0.60	23.72	0.30
5.533	1.80	11.600	3.91	17.667	0.60	23.73	0.30
5.550	1.80	11.617	3.91	17.683	0.60	23.75	0.30
5.567	1.80	11.633	3.91	17.700	0.60	23.77	0.30
5.583	1.80	11.650	3.91	17.717	0.60	23.78	0.30
5.600	1.80	11.667	3.91	17.733	0.60	23.80	0.30
5.617	1.80	11.683	3.91	17.750	0.60	23.82	0.30
5.633	1.80	11.700	3.91	17.767	0.60	23.83	0.30
5.650	1.80	11.717	3.91	17.783	0.60	23.85	0.30
5.667	1.80	11.733	3.91	17.800	0.60	23.87	0.30
5.683	1.80	11.750	3.91	17.817	0.60	23.88	0.30
5.700	1.80	11.767	3.91	17.833	0.60	23.90	0.30
5.717	1.80	11.783	3.91	17.850	0.60	23.92	0.30
5.733	1.80	11.800	3.91	17.867	0.60	23.93	0.30
5.750	1.80	11.817	3.91	17.883	0.60	23.95	0.30
5.767	1.80	11.833	3.91	17.900	0.60	23.97	0.30
5.783	1.80	11.850	3.91	17.917	0.60	23.98	0.30
5.800	1.80	11.867	3.91	17.933	0.60	24.00	0.30
5.817	1.80	11.883	3.91	17.950	0.60	24.02	0.30
5.833	1.80	11.900	3.91	17.967	0.60	24.03	0.30
5.850	1.80	11.917	3.91	17.983	0.60	24.05	0.30
5.867	1.80	11.933	3.91	18.000	0.60	24.07	0.30
5.883	1.80	11.950	3.91	18.017	0.60	24.08	0.30
5.900	1.80	11.967	3.91	18.033	0.60	24.10	0.30
5.917	1.80	11.983	3.91	18.050	0.60	24.12	0.30
5.933	1.80	12.000	3.91	18.067	0.60	24.13	0.30
5.950	1.80	12.017	3.91	18.083	0.60	24.15	0.30
5.967	1.80	12.033	3.91	18.100	0.60	24.17	0.30
5.983	1.80	12.050	3.91	18.117	0.60	24.18	0.30
6.000	1.80	12.067	3.91	18.133	0.60	24.20	0.30
6.017	1.80	12.083	3.91	18.150	0.60	24.22	0.30
6.033	1.80	12.100	3.91	18.167	0.60	24.23	0.30
6.050	1.80	12.117	3.91	18.183	0.60	24.25	0.30
6.067	1.80	12.133	3.91	18.200	0.60		

Max.Eff.Inten.(mm/hr)=	13.82	9.96
over (min)	7.00	11.00
Storage Coeff. (min)=	6.81 (ii)	10.56 (ii)
Unit Hyd. Tpeak (min)=	7.00	11.00
Unit Hyd. peak (cms)=	0.16	0.11

			TOTALS
PEAK FLOW	(cms)=	0.11	0.00	0.108 (iii)
TIME TO PEAK	(hrs)=	9.98	10.25	10.25
RUNOFF VOLUME	(mm)=	59.07	33.18	58.82
TOTAL RAINFALL	(mm)=	60.08	60.08	60.08
RUNOFF COEFFICIENT	=	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.108	10.25	58.82
OUTFLOW: ID= 1 (7626)	2.810	0.033	10.72	54.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.33
TIME SHIFT OF PEAK FLOW (min)= 28.00
MAXIMUM STORAGE USED (ha.m.)= 0.0953

CALIB			
STANDHYD (7624)	Area (ha)= 2.08		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.80	12.150	3.91	18.22	0.60
0.033	0.00	6.100	1.80	12.167	3.91	18.23	0.60
0.050	0.00	6.117	1.80	12.183	3.91	18.25	0.60
0.067	0.00	6.133	1.80	12.200	3.91	18.27	0.30
0.083	0.00	6.150	1.80	12.217	3.91	18.28	0.30
0.100	0.00	6.167	1.80	12.233	3.91	18.30	0.30
0.117	0.00	6.183	1.80	12.250	3.91	18.32	0.30
0.133	0.00	6.200	1.80	12.267	2.10	18.33	0.30
0.150	0.00	6.217	1.80	12.283	2.10	18.35	0.30
0.167	0.00	6.233	1.80	12.300	2.10	18.37	0.30
0.183	0.00	6.250	1.81	12.317	2.10	18.38	0.30
0.200	0.00	6.267	5.11	12.333	2.10	18.40	0.30
0.217	0.00	6.283	5.11	12.350	2.10	18.42	0.30
0.233	0.00	6.300	5.11	12.367	2.10	18.43	0.30
0.250	0.00	6.317	5.11	12.383	2.10	18.45	0.30
0.267	0.30	6.333	5.11	12.400	2.10	18.47	0.30
0.283	0.30	6.350	5.11	12.417	2.10	18.48	0.30
0.300	0.30	6.367	5.11	12.433	2.10	18.50	0.30
0.317	0.30	6.383	5.11	12.450	2.10	18.52	0.30
0.333	0.30	6.400	5.11	12.467	2.10	18.53	0.30
0.350	0.30	6.417	5.11	12.483	2.10	18.55	0.30
0.367	0.30	6.433	5.11	12.500	2.10	18.57	0.30
0.383	0.30	6.450	5.11	12.517	2.10	18.58	0.30

0.400	0.30	6.467	5.11	12.533	2.10	18.60	0.30	1.667	0.30	7.733	5.11	13.800	2.10	19.87	0.30
0.417	0.30	6.483	5.11	12.550	2.10	18.62	0.30	1.683	0.30	7.750	5.11	13.817	2.10	19.88	0.30
0.433	0.30	6.500	5.11	12.567	2.10	18.63	0.30	1.700	0.30	7.767	5.11	13.833	2.10	19.90	0.30
0.450	0.30	6.517	5.11	12.583	2.10	18.65	0.30	1.717	0.30	7.783	5.11	13.850	2.10	19.92	0.30
0.467	0.30	6.533	5.11	12.600	2.10	18.67	0.30	1.733	0.30	7.800	5.11	13.867	2.10	19.93	0.30
0.483	0.30	6.550	5.11	12.617	2.10	18.68	0.30	1.750	0.30	7.817	5.11	13.883	2.10	19.95	0.30
0.500	0.30	6.567	5.11	12.633	2.10	18.70	0.30	1.767	0.30	7.833	5.11	13.900	2.10	19.97	0.30
0.517	0.30	6.583	5.11	12.650	2.10	18.72	0.30	1.783	0.30	7.850	5.11	13.917	2.10	19.98	0.30
0.533	0.30	6.600	5.11	12.667	2.10	18.73	0.30	1.800	0.30	7.867	5.11	13.933	2.10	20.00	0.30
0.550	0.30	6.617	5.11	12.683	2.10	18.75	0.30	1.817	0.30	7.883	5.11	13.950	2.10	20.02	0.30
0.567	0.30	6.633	5.11	12.700	2.10	18.77	0.30	1.833	0.30	7.900	5.11	13.967	2.10	20.03	0.30
0.583	0.30	6.650	5.11	12.717	2.10	18.78	0.30	1.850	0.30	7.917	5.11	13.983	2.10	20.05	0.30
0.600	0.30	6.667	5.11	12.733	2.10	18.80	0.30	1.867	0.30	7.933	5.11	14.000	2.10	20.07	0.30
0.617	0.30	6.683	5.11	12.750	2.10	18.82	0.30	1.883	0.30	7.950	5.11	14.017	2.10	20.08	0.30
0.633	0.30	6.700	5.11	12.767	2.10	18.83	0.30	1.900	0.30	7.967	5.11	14.033	2.10	20.10	0.30
0.650	0.30	6.717	5.11	12.783	2.10	18.85	0.30	1.917	0.30	7.983	5.11	14.050	2.10	20.12	0.30
0.667	0.30	6.733	5.11	12.800	2.10	18.87	0.30	1.933	0.30	8.000	5.11	14.067	2.10	20.13	0.30
0.683	0.30	6.750	5.11	12.817	2.10	18.88	0.30	1.950	0.30	8.017	5.11	14.083	2.10	20.15	0.30
0.700	0.30	6.767	5.11	12.833	2.10	18.90	0.30	1.967	0.30	8.033	5.11	14.100	2.10	20.17	0.30
0.717	0.30	6.783	5.11	12.850	2.10	18.92	0.30	1.983	0.30	8.050	5.11	14.117	2.10	20.18	0.30
0.733	0.30	6.800	5.11	12.867	2.10	18.93	0.30	2.000	0.30	8.067	5.11	14.133	2.10	20.20	0.30
0.750	0.30	6.817	5.11	12.883	2.10	18.95	0.30	2.017	0.30	8.083	5.11	14.150	2.10	20.22	0.30
0.767	0.30	6.833	5.11	12.900	2.10	18.97	0.30	2.033	0.30	8.100	5.11	14.167	2.10	20.23	0.30
0.783	0.30	6.850	5.11	12.917	2.10	18.98	0.30	2.050	0.30	8.117	5.11	14.183	2.10	20.25	0.30
0.800	0.30	6.867	5.11	12.933	2.10	19.00	0.30	2.067	0.30	8.133	5.11	14.200	2.10	20.27	0.30
0.817	0.30	6.883	5.11	12.950	2.10	19.02	0.30	2.083	0.30	8.150	5.11	14.217	2.10	20.28	0.30
0.833	0.30	6.900	5.11	12.967	2.10	19.03	0.30	2.100	0.30	8.167	5.11	14.233	2.10	20.30	0.30
0.850	0.30	6.917	5.11	12.983	2.10	19.05	0.30	2.117	0.30	8.183	5.11	14.250	2.10	20.32	0.30
0.867	0.30	6.933	5.11	13.000	2.10	19.07	0.30	2.133	0.30	8.200	5.11	14.267	1.20	20.33	0.30
0.883	0.30	6.950	5.11	13.017	2.10	19.08	0.30	2.150	0.30	8.217	5.11	14.283	1.20	20.35	0.30
0.900	0.30	6.967	5.11	13.033	2.10	19.10	0.30	2.167	0.30	8.233	5.11	14.300	1.20	20.37	0.30
0.917	0.30	6.983	5.11	13.050	2.10	19.12	0.30	2.183	0.30	8.250	5.13	14.317	1.20	20.38	0.30
0.933	0.30	7.000	5.11	13.067	2.10	19.13	0.30	2.200	0.30	8.267	13.82	14.333	1.20	20.40	0.30
0.950	0.30	7.017	5.11	13.083	2.10	19.15	0.30	2.217	0.30	8.283	13.82	14.350	1.20	20.42	0.30
0.967	0.30	7.033	5.11	13.100	2.10	19.17	0.30	2.233	0.30	8.300	13.82	14.367	1.20	20.43	0.30
0.983	0.30	7.050	5.11	13.117	2.10	19.18	0.30	2.250	0.30	8.317	13.82	14.383	1.20	20.45	0.30
1.000	0.30	7.067	5.11	13.133	2.10	19.20	0.30	2.267	0.30	8.333	13.82	14.400	1.20	20.47	0.30
1.017	0.30	7.083	5.11	13.150	2.10	19.22	0.30	2.283	0.30	8.350	13.82	14.417	1.20	20.48	0.30
1.033	0.30	7.100	5.11	13.167	2.10	19.23	0.30	2.300	0.30	8.367	13.82	14.433	1.20	20.50	0.30
1.050	0.30	7.117	5.11	13.183	2.10	19.25	0.30	2.317	0.30	8.383	13.82	14.450	1.20	20.52	0.30
1.067	0.30	7.133	5.11	13.200	2.10	19.27	0.30	2.333	0.30	8.400	13.82	14.467	1.20	20.53	0.30
1.083	0.30	7.150	5.11	13.217	2.10	19.28	0.30	2.350	0.30	8.417	13.82	14.483	1.20	20.55	0.30
1.100	0.30	7.167	5.11	13.233	2.10	19.30	0.30	2.367	0.30	8.433	13.82	14.500	1.20	20.57	0.30
1.117	0.30	7.183	5.11	13.250	2.10	19.32	0.30	2.383	0.30	8.450	13.82	14.517	1.20	20.58	0.30
1.133	0.30	7.200	5.11	13.267	2.10	19.33	0.30	2.400	0.30	8.467	13.82	14.533	1.20	20.60	0.30
1.150	0.30	7.217	5.11	13.283	2.10	19.35	0.30	2.417	0.30	8.483	13.82	14.550	1.20	20.62	0.30
1.167	0.30	7.233	5.11	13.300	2.10	19.37	0.30	2.433	0.30	8.500	13.82	14.567	1.20	20.63	0.30
1.183	0.30	7.250	5.11	13.317	2.10	19.38	0.30	2.450	0.30	8.517	13.82	14.583	1.20	20.65	0.30
1.200	0.30	7.267	5.11	13.333	2.10	19.40	0.30	2.467	0.30	8.533	13.82	14.600	1.20	20.67	0.30
1.217	0.30	7.283	5.11	13.350	2.10	19.42	0.30	2.483	0.30	8.550	13.82	14.617	1.20	20.68	0.30
1.233	0.30	7.300	5.11	13.367	2.10	19.43	0.30	2.500	0.30	8.567	13.82	14.633	1.20	20.70	0.30
1.250	0.30	7.317	5.11	13.383	2.10	19.45	0.30	2.517	0.30	8.583	13.82	14.650	1.20	20.72	0.30
1.267	0.30	7.333	5.11	13.400	2.10	19.47	0.30	2.533	0.30	8.600	13.82	14.667	1.20	20.73	0.30
1.283	0.30	7.350	5.11	13.417	2.10	19.48	0.30	2.550	0.30	8.617	13.82	14.683	1.20	20.75	0.30
1.300	0.30	7.367	5.11	13.433	2.10	19.50	0.30	2.567	0.30	8.633	13.82	14.700	1.20	20.77	0.30
1.317	0.30	7.383	5.11	13.450	2.10	19.52	0.30	2.583	0.30	8.650	13.82	14.717	1.20	20.78	0.30
1.333	0.30	7.400	5.11	13.467	2.10	19.53	0.30	2.600	0.30	8.667	13.82	14.733	1.20	20.80	0.30
1.350	0.30	7.417	5.11	13.483	2.10	19.55	0.30	2.617	0.30	8.683	13.82	14.750	1.20	20.82	0.30
1.367	0.30	7.433	5.11	13.500	2.10	19.57	0.30	2.633	0.30	8.700	13.82	14.767	1.20	20.83	0.30
1.383	0.30	7.450	5.11	13.517	2.10	19.58	0.30	2.650	0.30	8.717	13.82	14.783	1.20	20.85	0.30
1.400	0.30	7.467	5.11	13.533	2.10	19.60	0.30	2.667	0.30	8.733	13.82	14.800	1.20	20.87	0.30
1.417	0.30	7.483	5.11	13.550	2.10	19.62	0.30	2.683	0.30	8.750	13.82	14.817	1.20	20.88	0.30
1.433	0.30	7.500	5.11	13.567	2.10	19.63	0.30	2.700	0.30	8.767	13.82	14.833	1.20	20.90	0.30
1.450	0.30	7.517	5.11	13.583	2.10	19.65	0.30	2.717	0.30	8.783	13.82	14.850	1.20	20.92	0.30
1.467	0.30	7.533	5.11	13.600	2.10	19.67	0.30	2.733	0.30	8.800	13.82	14.867	1.20	20.93	0.30
1.483	0.30	7.550	5.11	13.617	2.10	19.68	0.30	2.750	0.30	8.817	13.82	14.883	1.20	20.95	0.30
1.500	0.30	7.567	5.11	13.633	2.10	19.70	0.30	2.767	0.30	8.833	13.82	14.900	1.20	20.97	0.30
1.517	0.30	7.583	5.11	13.650	2.10	19.72	0.30	2.783	0.30	8.850	13.82	14.917	1.20	20.98	0.30
1.533	0.30	7.600	5.11	13.667	2.10	19.73	0.30	2.800	0.30	8.867	13.82	14.933	1.20	21.00	0.30
1.550	0.30	7.617	5.11	13.683	2.10	19.75	0.30	2.817	0.30	8.883	13.82	14.950	1.20	21.02	0.30
1.567	0.30	7.633	5.11	13.700	2.10	19.77	0.30	2.833	0.30	8.900	13.82	14.967	1.20	21.03	0.30
1.583	0.30	7.650	5.11	13.717	2.10	19.78	0.30	2.850	0.30	8.917	13.82	14.983	1.20	21.05	0.30
1.600	0.30	7.667	5.11	13.733	2.10	19.80	0.30	2.867	0.30	8.933	13.82	15.000	1.20	21.07	0.30
1.617	0.30	7.683	5.11	13.750	2.10	19.82	0.30	2.883	0.30	8.950	13.82	15.017	1.20	21.08	0.30
1.633	0.30	7.700	5.11	13.767	2.10	19.83	0.30	2.900	0.30	8.967	13.82	15.033	1.20	21.10	0.30
1.650	0.30	7.717	5.11	13.783	2.10	19.85	0.30	2.917	0.30	8.983	13.82	15.050	1.20	21.12	0.30

2.933	0.30	9.000	13.82	15.067	1.20	21.13	0.30
2.950	0.30	9.017	13.82	15.083	1.20	21.15	0.30
2.967	0.30	9.033	13.82	15.100	1.20	21.17	0.30
2.983	0.30	9.050	13.82	15.117	1.20	21.18	0.30
3.000	0.30	9.067	13.82	15.133	1.20	21.20	0.30
3.017	0.30	9.083	13.82	15.150	1.20	21.22	0.30
3.033	0.30	9.100	13.82	15.167	1.20	21.23	0.30
3.050	0.30	9.117	13.82	15.183	1.20	21.25	0.30
3.067	0.30	9.133	13.82	15.200	1.20	21.27	0.30
3.083	0.30	9.150	13.82	15.217	1.20	21.28	0.30
3.100	0.30	9.167	13.82	15.233	1.20	21.30	0.30
3.117	0.30	9.183	13.82	15.250	1.20	21.32	0.30
3.133	0.30	9.200	13.82	15.267	1.20	21.33	0.30
3.150	0.30	9.217	13.82	15.283	1.20	21.35	0.30
3.167	0.30	9.233	13.82	15.300	1.20	21.37	0.30
3.183	0.30	9.250	13.82	15.317	1.20	21.38	0.30
3.200	0.30	9.267	13.82	15.333	1.20	21.40	0.30
3.217	0.30	9.283	13.82	15.350	1.20	21.42	0.30
3.233	0.30	9.300	13.82	15.367	1.20	21.43	0.30
3.250	0.30	9.317	13.82	15.383	1.20	21.45	0.30
3.267	0.30	9.333	13.82	15.400	1.20	21.47	0.30
3.283	0.30	9.350	13.82	15.417	1.20	21.48	0.30
3.300	0.30	9.367	13.82	15.433	1.20	21.50	0.30
3.317	0.30	9.383	13.82	15.450	1.20	21.52	0.30
3.333	0.30	9.400	13.82	15.467	1.20	21.53	0.30
3.350	0.30	9.417	13.82	15.483	1.20	21.55	0.30
3.367	0.30	9.433	13.82	15.500	1.20	21.57	0.30
3.383	0.30	9.450	13.82	15.517	1.20	21.58	0.30
3.400	0.30	9.467	13.82	15.533	1.20	21.60	0.30
3.417	0.30	9.483	13.82	15.550	1.20	21.62	0.30
3.433	0.30	9.500	13.82	15.567	1.20	21.63	0.30
3.450	0.30	9.517	13.82	15.583	1.20	21.65	0.30
3.467	0.30	9.533	13.82	15.600	1.20	21.67	0.30
3.483	0.30	9.550	13.82	15.617	1.20	21.68	0.30
3.500	0.30	9.567	13.82	15.633	1.20	21.70	0.30
3.517	0.30	9.583	13.82	15.650	1.20	21.72	0.30
3.533	0.30	9.600	13.82	15.667	1.20	21.73	0.30
3.550	0.30	9.617	13.82	15.683	1.20	21.75	0.30
3.567	0.30	9.633	13.82	15.700	1.20	21.77	0.30
3.583	0.30	9.650	13.82	15.717	1.20	21.78	0.30
3.600	0.30	9.667	13.82	15.733	1.20	21.80	0.30
3.617	0.30	9.683	13.82	15.750	1.20	21.82	0.30
3.633	0.30	9.700	13.82	15.767	1.20	21.83	0.30
3.650	0.30	9.717	13.82	15.783	1.20	21.85	0.30
3.667	0.30	9.733	13.82	15.800	1.20	21.87	0.30
3.683	0.30	9.750	13.82	15.817	1.20	21.88	0.30
3.700	0.30	9.767	13.82	15.833	1.20	21.90	0.30
3.717	0.30	9.783	13.82	15.850	1.20	21.92	0.30
3.733	0.30	9.800	13.82	15.867	1.20	21.93	0.30
3.750	0.30	9.817	13.82	15.883	1.20	21.95	0.30
3.767	0.30	9.833	13.82	15.900	1.20	21.97	0.30
3.783	0.30	9.850	13.82	15.917	1.20	21.98	0.30
3.800	0.30	9.867	13.82	15.933	1.20	22.00	0.30
3.817	0.30	9.883	13.82	15.950	1.20	22.02	0.30
3.833	0.30	9.900	13.82	15.967	1.20	22.03	0.30
3.850	0.30	9.917	13.82	15.983	1.20	22.05	0.30
3.867	0.30	9.933	13.82	16.000	1.20	22.07	0.30
3.883	0.30	9.950	13.82	16.017	1.20	22.08	0.30
3.900	0.30	9.967	13.82	16.033	1.20	22.10	0.30
3.917	0.30	9.983	13.82	16.050	1.20	22.12	0.30
3.933	0.30	10.000	13.82	16.067	1.20	22.13	0.30
3.950	0.30	10.017	13.82	16.083	1.20	22.15	0.30
3.967	0.30	10.033	13.82	16.100	1.20	22.17	0.30
3.983	0.30	10.050	13.82	16.117	1.20	22.18	0.30
4.000	0.30	10.067	13.82	16.133	1.20	22.20	0.30
4.017	0.30	10.083	13.82	16.150	1.20	22.22	0.30
4.033	0.30	10.100	13.82	16.167	1.20	22.23	0.30
4.050	0.30	10.117	13.82	16.183	1.20	22.25	0.30
4.067	0.30	10.133	13.82	16.200	1.20	22.27	0.30
4.083	0.30	10.150	13.82	16.217	1.20	22.28	0.30
4.100	0.30	10.167	13.82	16.233	1.20	22.30	0.30
4.117	0.30	10.183	13.82	16.250	1.20	22.32	0.30
4.133	0.30	10.200	13.82	16.267	0.60	22.33	0.30
4.150	0.30	10.217	13.82	16.283	0.60	22.35	0.30
4.167	0.30	10.233	13.82	16.300	0.60	22.37	0.30
4.183	0.30	10.250	13.81	16.317	0.60	22.38	0.30
4.200	0.30	10.267	3.91	16.333	0.60	22.40	0.30
4.217	0.30	10.283	3.91	16.350	0.60	22.42	0.30
4.233	0.30	10.300	3.91	16.367	0.60	22.43	0.30
4.250	0.30	10.317	3.91	16.383	0.60	22.45	0.30
4.267	1.80	10.333	3.91	16.400	0.60	22.47	0.30
4.283	1.80	10.350	3.91	16.417	0.60	22.48	0.30
4.300	1.80	10.367	3.91	16.433	0.60	22.50	0.30
4.317	1.80	10.383	3.91	16.450	0.60	22.52	0.30
4.333	1.80	10.400	3.91	16.467	0.60	22.53	0.30
4.350	1.80	10.417	3.91	16.483	0.60	22.55	0.30
4.367	1.80	10.433	3.91	16.500	0.60	22.57	0.30
4.383	1.80	10.450	3.91	16.517	0.60	22.58	0.30
4.400	1.80	10.467	3.91	16.533	0.60	22.60	0.30
4.417	1.80	10.483	3.91	16.550	0.60	22.62	0.30
4.433	1.80	10.500	3.91	16.567	0.60	22.63	0.30
4.450	1.80	10.517	3.91	16.583	0.60	22.65	0.30
4.467	1.80	10.533	3.91	16.600	0.60	22.67	0.30
4.483	1.80	10.550	3.91	16.617	0.60	22.68	0.30
4.500	1.80	10.567	3.91	16.633	0.60	22.70	0.30
4.517	1.80	10.583	3.91	16.650	0.60	22.72	0.30
4.533	1.80	10.600	3.91	16.667	0.60	22.73	0.30
4.550	1.80	10.617	3.91	16.683	0.60	22.75	0.30
4.567	1.80	10.633	3.91	16.700	0.60	22.77	0.30
4.583	1.80	10.650	3.91	16.717	0.60	22.78	0.30
4.600	1.80	10.667	3.91	16.733	0.60	22.80	0.30
4.617	1.80	10.683	3.91	16.750	0.60	22.82	0.30
4.633	1.80	10.700	3.91	16.767	0.60	22.83	0.30
4.650	1.80	10.717	3.91	16.783	0.60	22.85	0.30
4.667	1.80	10.733	3.91	16.800	0.60	22.87	0.30
4.683	1.80	10.750	3.91	16.817	0.60	22.88	0.30
4.700	1.80	10.767	3.91	16.833	0.60	22.90	0.30
4.717	1.80	10.783	3.91	16.850	0.60	22.92	0.30
4.733	1.80	10.800	3.91	16.867	0.60	22.93	0.30
4.750	1.80	10.817	3.91	16.883	0.60	22.95	0.30
4.767	1.80	10.833	3.91	16.900	0.60	22.97	0.30
4.783	1.80	10.850	3.91	16.917	0.60	22.98	0.30
4.800	1.80	10.867	3.91	16.933	0.60	23.00	0.30
4.817	1.80	10.883	3.91	16.950	0.60	23.02	0.30
4.833	1.80	10.900	3.91	16.967	0.60	23.03	0.30
4.850	1.80	10.917	3.91	16.983	0.60	23.05	0.30
4.867	1.80	10.933	3.91	17.000	0.60	23.07	0.30
4.883	1.80	10.950	3.91	17.017	0.60	23.08	0.30
4.900	1.80	10.967	3.91	17.033	0.60	23.10	0.30
4.917	1.80	10.983	3.91	17.050	0.60	23.12	0.30
4.933	1.80	11.000	3.91	17.067	0.60	23.13	0.30
4.950	1.80	11.017	3.91	17.083	0.60	23.15	0.30
4.967	1.80	11.033	3.91	17.100	0.60	23.17	0.30
4.983	1.80	11.050	3.91	17.117	0.60	23.18	0.30
5.000	1.80	11.067	3.91	17.133	0.60	23.20	0.30
5.017	1.80	11.083	3.91	17.150	0.60	23.22	0.30
5.033	1.80	11.100	3.91	17.167	0.60	23.23	0.30
5.050	1.80	11.117	3.91	17.183	0.60	23.25	0.30
5.067	1.80	11.133	3.91	17.200	0.60	23.27	0.30
5.083	1.80	11.150	3.91	17.217	0.60	23.28	0.30
5.100	1.80	11.167	3.91	17.233	0.60	23.30	0.30
5.117	1.80	11.183	3.91	17.250	0.60	23.32	0.30
5.133	1.80	11.200	3.91	17.267	0.60	23.33	0.30
5.150	1.80	11.217	3.91	17.283	0.60	23.35	0.30
5.167	1.80	11.233	3.91	17.300	0.60	23.37	0.30
5.183	1.80	11.250	3.91	17.317	0.60	23.38	0.30
5.200	1.80	11.267	3.91	17.333	0.60	23.40	0.30
5.217	1.80	11.283	3.91	17.350	0.60	23.42	0.30
5.233	1.80	11.300	3.91	17.367	0.60	23.43	0.30
5.250	1.80	11.317	3.91	17.383	0.60	23.45	0.30
5.267	1.80	11.333	3.91	17.400	0.60	23.47	0.30
5.283	1.80	11.350	3.91	17.417	0.60	23.48	0.30
5.300	1.80	11.367	3.91	17.433	0.60	23.50	0.30
5.317	1.80	11.383	3.91	17.450	0.60	23.52	0.30
5.333	1.80	11.400	3.91	17.467	0.60	23.53	0.30
5.350	1.80	11.417	3.91	17.483	0.60	23.55	0.30
5.367	1.80	11.433	3.91	17.500	0.60	23.57	0.30
5.383	1.80	11.450	3.91	17.517	0.60	23.58	0.30
5.400	1.80	11.467	3.91	17.533	0.60	23.60	0.30
5.417	1.80	11.483	3.91	17.550	0.60	23.62	0.30
5.433	1.80	11.500	3.91	17.567	0.60	23.63	0.30
5.450	1.80	11.517	3.91	17.583	0.60	23.65	0.30

5.467	1.80	11.533	3.91	17.600	0.60	23.67	0.30
5.483	1.80	11.550	3.91	17.617	0.60	23.68	0.30
5.500	1.80	11.567	3.91	17.633	0.60	23.70	0.30
5.517	1.80	11.583	3.91	17.650	0.60	23.72	0.30
5.533	1.80	11.600	3.91	17.667	0.60	23.73	0.30
5.550	1.80	11.617	3.91	17.683	0.60	23.75	0.30
5.567	1.80	11.633	3.91	17.700	0.60	23.77	0.30
5.583	1.80	11.650	3.91	17.717	0.60	23.78	0.30
5.600	1.80	11.667	3.91	17.733	0.60	23.80	0.30
5.617	1.80	11.683	3.91	17.750	0.60	23.82	0.30
5.633	1.80	11.700	3.91	17.767	0.60	23.83	0.30
5.650	1.80	11.717	3.91	17.783	0.60	23.85	0.30
5.667	1.80	11.733	3.91	17.800	0.60	23.87	0.30
5.683	1.80	11.750	3.91	17.817	0.60	23.88	0.30
5.700	1.80	11.767	3.91	17.833	0.60	23.90	0.30
5.717	1.80	11.783	3.91	17.850	0.60	23.92	0.30
5.733	1.80	11.800	3.91	17.867	0.60	23.93	0.30
5.750	1.80	11.817	3.91	17.883	0.60	23.95	0.30
5.767	1.80	11.833	3.91	17.900	0.60	23.97	0.30
5.783	1.80	11.850	3.91	17.917	0.60	23.98	0.30
5.800	1.80	11.867	3.91	17.933	0.60	24.00	0.30
5.817	1.80	11.883	3.91	17.950	0.60	24.02	0.30
5.833	1.80	11.900	3.91	17.967	0.60	24.03	0.30
5.850	1.80	11.917	3.91	17.983	0.60	24.05	0.30
5.867	1.80	11.933	3.91	18.000	0.60	24.07	0.30
5.883	1.80	11.950	3.91	18.017	0.60	24.08	0.30
5.900	1.80	11.967	3.91	18.033	0.60	24.10	0.30
5.917	1.80	11.983	3.91	18.050	0.60	24.12	0.30
5.933	1.80	12.000	3.91	18.067	0.60	24.13	0.30
5.950	1.80	12.017	3.91	18.083	0.60	24.15	0.30
5.967	1.80	12.033	3.91	18.100	0.60	24.17	0.30
5.983	1.80	12.050	3.91	18.117	0.60	24.18	0.30
6.000	1.80	12.067	3.91	18.133	0.60	24.20	0.30
6.017	1.80	12.083	3.91	18.150	0.60	24.22	0.30
6.033	1.80	12.100	3.91	18.167	0.60	24.23	0.30
6.050	1.80	12.117	3.91	18.183	0.60	24.25	0.30
6.067	1.80	12.133	3.91	18.200	0.60		

Max.Eff.Inten.(mm/hr)=	13.82	11.45	
over (min)	6.00	10.00	
Storage Coeff. (min)=	6.22 (ii)	9.98 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.18	0.11	
			TOTALS
PEAK FLOW (cms)=	0.08	0.00	0.080 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	59.08	39.53	58.88
TOTAL RAINFALL (mm)=	60.08	60.08	60.08
RUNOFF COEFFICIENT =	0.98	0.66	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.080	10.25	58.88
OUTFLOW: ID= 1 (7625)	2.080	0.026	10.62	54.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.01
TIME SHIFT OF PEAK FLOW (min)= 22.00
MAXIMUM STORAGE USED (ha.m.)= 0.0697

CALIB	Area (ha)= 1.15
STANDHYD (7623)	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00
ID= 1 DT= 1.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.80	12.150	3.91	18.22	0.60
0.033	0.00	6.100	1.80	12.167	3.91	18.23	0.60
0.050	0.00	6.117	1.80	12.183	3.91	18.25	0.60
0.067	0.00	6.133	1.80	12.200	3.91	18.27	0.30
0.083	0.00	6.150	1.80	12.217	3.91	18.28	0.30
0.100	0.00	6.167	1.80	12.233	3.91	18.30	0.30
0.117	0.00	6.183	1.80	12.250	3.91	18.32	0.30
0.133	0.00	6.200	1.80	12.267	2.10	18.33	0.30
0.150	0.00	6.217	1.80	12.283	2.10	18.35	0.30
0.167	0.00	6.233	1.80	12.300	2.10	18.37	0.30
0.183	0.00	6.250	1.81	12.317	2.10	18.38	0.30
0.200	0.00	6.267	5.11	12.333	2.10	18.40	0.30
0.217	0.00	6.283	5.11	12.350	2.10	18.42	0.30
0.233	0.00	6.300	5.11	12.367	2.10	18.43	0.30
0.250	0.00	6.317	5.11	12.383	2.10	18.45	0.30
0.267	0.30	6.333	5.11	12.400	2.10	18.47	0.30
0.283	0.30	6.350	5.11	12.417	2.10	18.48	0.30
0.300	0.30	6.367	5.11	12.433	2.10	18.50	0.30
0.317	0.30	6.383	5.11	12.450	2.10	18.52	0.30
0.333	0.30	6.400	5.11	12.467	2.10	18.53	0.30
0.350	0.30	6.417	5.11	12.483	2.10	18.55	0.30
0.367	0.30	6.433	5.11	12.500	2.10	18.57	0.30
0.383	0.30	6.450	5.11	12.517	2.10	18.58	0.30
0.400	0.30	6.467	5.11	12.533	2.10	18.60	0.30
0.417	0.30	6.483	5.11	12.550	2.10	18.62	0.30
0.433	0.30	6.500	5.11	12.567	2.10	18.63	0.30
0.450	0.30	6.517	5.11	12.583	2.10	18.65	0.30
0.467	0.30	6.533	5.11	12.600	2.10	18.67	0.30
0.483	0.30	6.550	5.11	12.617	2.10	18.68	0.30
0.500	0.30	6.567	5.11	12.633	2.10	18.70	0.30
0.517	0.30	6.583	5.11	12.650	2.10	18.72	0.30
0.533	0.30	6.600	5.11	12.667	2.10	18.73	0.30
0.550	0.30	6.617	5.11	12.683	2.10	18.75	0.30
0.567	0.30	6.633	5.11	12.700	2.10	18.77	0.30
0.583	0.30	6.650	5.11	12.717	2.10	18.78	0.30
0.600	0.30	6.667	5.11	12.733	2.10	18.80	0.30
0.617	0.30	6.683	5.11	12.750	2.10	18.82	0.30
0.633	0.30	6.700	5.11	12.767	2.10	18.83	0.30
0.650	0.30	6.717	5.11	12.783	2.10	18.85	0.30
0.667	0.30	6.733	5.11	12.800	2.10	18.87	0.30
0.683	0.30	6.750	5.11	12.817	2.10	18.88	0.30
0.700	0.30	6.767	5.11	12.833	2.10	18.90	0.30
0.717	0.30	6.783	5.11	12.850	2.10	18.92	0.30
0.733	0.30	6.800	5.11	12.867	2.10	18.93	0.30
0.750	0.30	6.817	5.11	12.883	2.10	18.95	0.30
0.767	0.30	6.833	5.11	12.900	2.10	18.97	0.30
0.783	0.30	6.850	5.11	12.917	2.10	18.98	0.30
0.800	0.30	6.867	5.11	12.933	2.10	19.00	0.30
0.817	0.30	6.883	5.11	12.950	2.10	19.02	0.30
0.833	0.30	6.900	5.11	12.967	2.10	19.03	0.30
0.850	0.30	6.917	5.11	12.983	2.10	19.05	0.30
0.867	0.30	6.933	5.11	13.000	2.10	19.07	0.30
0.883	0.30	6.950	5.11	13.017	2.10	19.08	0.30
0.900	0.30	6.967	5.11	13.033	2.10	19.10	0.30
0.917	0.30	6.983	5.11	13.050	2.10	19.12	0.30
0.933	0.30	7.000	5.11	13.067	2.10	19.13	0.30

0.950	0.30	7.017	5.11	13.083	2.10	19.15	0.30		2.217	0.30	8.283	13.82	14.350	1.20	20.42	0.30
0.967	0.30	7.033	5.11	13.100	2.10	19.17	0.30		2.233	0.30	8.300	13.82	14.367	1.20	20.43	0.30
0.983	0.30	7.050	5.11	13.117	2.10	19.18	0.30		2.250	0.30	8.317	13.82	14.383	1.20	20.45	0.30
1.000	0.30	7.067	5.11	13.133	2.10	19.20	0.30		2.267	0.30	8.333	13.82	14.400	1.20	20.47	0.30
1.017	0.30	7.083	5.11	13.150	2.10	19.22	0.30		2.283	0.30	8.350	13.82	14.417	1.20	20.48	0.30
1.033	0.30	7.100	5.11	13.167	2.10	19.23	0.30		2.300	0.30	8.367	13.82	14.433	1.20	20.50	0.30
1.050	0.30	7.117	5.11	13.183	2.10	19.25	0.30		2.317	0.30	8.383	13.82	14.450	1.20	20.52	0.30
1.067	0.30	7.133	5.11	13.200	2.10	19.27	0.30		2.333	0.30	8.400	13.82	14.467	1.20	20.53	0.30
1.083	0.30	7.150	5.11	13.217	2.10	19.28	0.30		2.350	0.30	8.417	13.82	14.483	1.20	20.55	0.30
1.100	0.30	7.167	5.11	13.233	2.10	19.30	0.30		2.367	0.30	8.433	13.82	14.500	1.20	20.57	0.30
1.117	0.30	7.183	5.11	13.250	2.10	19.32	0.30		2.383	0.30	8.450	13.82	14.517	1.20	20.58	0.30
1.133	0.30	7.200	5.11	13.267	2.10	19.33	0.30		2.400	0.30	8.467	13.82	14.533	1.20	20.60	0.30
1.150	0.30	7.217	5.11	13.283	2.10	19.35	0.30		2.417	0.30	8.483	13.82	14.550	1.20	20.62	0.30
1.167	0.30	7.233	5.11	13.300	2.10	19.37	0.30		2.433	0.30	8.500	13.82	14.567	1.20	20.63	0.30
1.183	0.30	7.250	5.11	13.317	2.10	19.38	0.30		2.450	0.30	8.517	13.82	14.583	1.20	20.65	0.30
1.200	0.30	7.267	5.11	13.333	2.10	19.40	0.30		2.467	0.30	8.533	13.82	14.600	1.20	20.67	0.30
1.217	0.30	7.283	5.11	13.350	2.10	19.42	0.30		2.483	0.30	8.550	13.82	14.617	1.20	20.68	0.30
1.233	0.30	7.300	5.11	13.367	2.10	19.43	0.30		2.500	0.30	8.567	13.82	14.633	1.20	20.70	0.30
1.250	0.30	7.317	5.11	13.383	2.10	19.45	0.30		2.517	0.30	8.583	13.82	14.650	1.20	20.72	0.30
1.267	0.30	7.333	5.11	13.400	2.10	19.47	0.30		2.533	0.30	8.600	13.82	14.667	1.20	20.73	0.30
1.283	0.30	7.350	5.11	13.417	2.10	19.48	0.30		2.550	0.30	8.617	13.82	14.683	1.20	20.75	0.30
1.300	0.30	7.367	5.11	13.433	2.10	19.50	0.30		2.567	0.30	8.633	13.82	14.700	1.20	20.77	0.30
1.317	0.30	7.383	5.11	13.450	2.10	19.52	0.30		2.583	0.30	8.650	13.82	14.717	1.20	20.78	0.30
1.333	0.30	7.400	5.11	13.467	2.10	19.53	0.30		2.600	0.30	8.667	13.82	14.733	1.20	20.80	0.30
1.350	0.30	7.417	5.11	13.483	2.10	19.55	0.30		2.617	0.30	8.683	13.82	14.750	1.20	20.82	0.30
1.367	0.30	7.433	5.11	13.500	2.10	19.57	0.30		2.633	0.30	8.700	13.82	14.767	1.20	20.83	0.30
1.383	0.30	7.450	5.11	13.517	2.10	19.58	0.30		2.650	0.30	8.717	13.82	14.783	1.20	20.85	0.30
1.400	0.30	7.467	5.11	13.533	2.10	19.60	0.30		2.667	0.30	8.733	13.82	14.800	1.20	20.87	0.30
1.417	0.30	7.483	5.11	13.550	2.10	19.62	0.30		2.683	0.30	8.750	13.82	14.817	1.20	20.88	0.30
1.433	0.30	7.500	5.11	13.567	2.10	19.63	0.30		2.700	0.30	8.767	13.82	14.833	1.20	20.90	0.30
1.450	0.30	7.517	5.11	13.583	2.10	19.65	0.30		2.717	0.30	8.783	13.82	14.850	1.20	20.92	0.30
1.467	0.30	7.533	5.11	13.600	2.10	19.67	0.30		2.733	0.30	8.800	13.82	14.867	1.20	20.93	0.30
1.483	0.30	7.550	5.11	13.617	2.10	19.68	0.30		2.750	0.30	8.817	13.82	14.883	1.20	20.95	0.30
1.500	0.30	7.567	5.11	13.633	2.10	19.70	0.30		2.767	0.30	8.833	13.82	14.900	1.20	20.97	0.30
1.517	0.30	7.583	5.11	13.650	2.10	19.72	0.30		2.783	0.30	8.850	13.82	14.917	1.20	20.98	0.30
1.533	0.30	7.600	5.11	13.667	2.10	19.73	0.30		2.800	0.30	8.867	13.82	14.933	1.20	21.00	0.30
1.550	0.30	7.617	5.11	13.683	2.10	19.75	0.30		2.817	0.30	8.883	13.82	14.950	1.20	21.02	0.30
1.567	0.30	7.633	5.11	13.700	2.10	19.77	0.30		2.833	0.30	8.900	13.82	14.967	1.20	21.03	0.30
1.583	0.30	7.650	5.11	13.717	2.10	19.78	0.30		2.850	0.30	8.917	13.82	14.983	1.20	21.05	0.30
1.600	0.30	7.667	5.11	13.733	2.10	19.80	0.30		2.867	0.30	8.933	13.82	15.000	1.20	21.07	0.30
1.617	0.30	7.683	5.11	13.750	2.10	19.82	0.30		2.883	0.30	8.950	13.82	15.017	1.20	21.08	0.30
1.633	0.30	7.700	5.11	13.767	2.10	19.83	0.30		2.900	0.30	8.967	13.82	15.033	1.20	21.10	0.30
1.650	0.30	7.717	5.11	13.783	2.10	19.85	0.30		2.917	0.30	8.983	13.82	15.050	1.20	21.12	0.30
1.667	0.30	7.733	5.11	13.800	2.10	19.87	0.30		2.933	0.30	9.000	13.82	15.067	1.20	21.13	0.30
1.683	0.30	7.750	5.11	13.817	2.10	19.88	0.30		2.950	0.30	9.017	13.82	15.083	1.20	21.15	0.30
1.700	0.30	7.767	5.11	13.833	2.10	19.90	0.30		2.967	0.30	9.033	13.82	15.100	1.20	21.17	0.30
1.717	0.30	7.783	5.11	13.850	2.10	19.92	0.30		2.983	0.30	9.050	13.82	15.117	1.20	21.18	0.30
1.733	0.30	7.800	5.11	13.867	2.10	19.93	0.30		3.000	0.30	9.067	13.82	15.133	1.20	21.20	0.30
1.750	0.30	7.817	5.11	13.883	2.10	19.95	0.30		3.017	0.30	9.083	13.82	15.150	1.20	21.22	0.30
1.767	0.30	7.833	5.11	13.900	2.10	19.97	0.30		3.033	0.30	9.100	13.82	15.167	1.20	21.23	0.30
1.783	0.30	7.850	5.11	13.917	2.10	19.98	0.30		3.050	0.30	9.117	13.82	15.183	1.20	21.25	0.30
1.800	0.30	7.867	5.11	13.933	2.10	20.00	0.30		3.067	0.30	9.133	13.82	15.200	1.20	21.27	0.30
1.817	0.30	7.883	5.11	13.950	2.10	20.02	0.30		3.083	0.30	9.150	13.82	15.217	1.20	21.28	0.30
1.833	0.30	7.900	5.11	13.967	2.10	20.03	0.30		3.100	0.30	9.167	13.82	15.233	1.20	21.30	0.30
1.850	0.30	7.917	5.11	13.983	2.10	20.05	0.30		3.117	0.30	9.183	13.82	15.250	1.20	21.32	0.30
1.867	0.30	7.933	5.11	14.000	2.10	20.07	0.30		3.133	0.30	9.200	13.82	15.267	1.20	21.33	0.30
1.883	0.30	7.950	5.11	14.017	2.10	20.08	0.30		3.150	0.30	9.217	13.82	15.283	1.20	21.35	0.30
1.900	0.30	7.967	5.11	14.033	2.10	20.10	0.30		3.167	0.30	9.233	13.82	15.300	1.20	21.37	0.30
1.917	0.30	7.983	5.11	14.050	2.10	20.12	0.30		3.183	0.30	9.250	13.82	15.317	1.20	21.38	0.30
1.933	0.30	8.000	5.11	14.067	2.10	20.13	0.30		3.200	0.30	9.267	13.82	15.333	1.20	21.40	0.30
1.950	0.30	8.017	5.11	14.083	2.10	20.15	0.30		3.217	0.30	9.283	13.82	15.350	1.20	21.42	0.30
1.967	0.30	8.033	5.11	14.100	2.10	20.17	0.30		3.233	0.30	9.300	13.82	15.367	1.20	21.43	0.30
1.983	0.30	8.050	5.11	14.117	2.10	20.18	0.30		3.250	0.30	9.317	13.82	15.383	1.20	21.45	0.30
2.000	0.30	8.067	5.11	14.133	2.10	20.20	0.30		3.267	0.30	9.333	13.82	15.400	1.20	21.47	0.30
2.017	0.30	8.083	5.11	14.150	2.10	20.22	0.30		3.283	0.30	9.350	13.82	15.417	1.20	21.48	0.30
2.033	0.30	8.100	5.11	14.167	2.10	20.23	0.30		3.300	0.30	9.367	13.82	15.433	1.20	21.50	0.30
2.050	0.30	8.117	5.11	14.183	2.10	20.25	0.30		3.317	0.30	9.383	13.82	15.450	1.20	21.52	0.30
2.067	0.30	8.133	5.11	14.200	2.10	20.27	0.30		3.333	0.30	9.400	13.82	15.467	1.20	21.53	0.30
2.083	0.30	8.150	5.11	14.217	2.10	20.28	0.30		3.350	0.30	9.417	13.82	15.483	1.20	21.55	0.30
2.100	0.30	8.167	5.11	14.233	2.10	20.30	0.30		3.367	0.30	9.433	13.82	15.500	1.20	21.57	0.30
2.117	0.30	8.183	5.11	14.250	2.10	20.32	0.30		3.383	0.30	9.450	13.82	15.517	1.20	21.58	0.30
2.133	0.30	8.200	5.11	14.267	1.20	20.33	0.30		3.400	0.30	9.467	13.82	15.533	1.20	21.60	0.30
2.150	0.30	8.217	5.11	14.283	1.20	20.35	0.30		3.417	0.30	9.483	13.82	15.550	1.20	21.62	0.30
2.167	0.30	8.233	5.11	14.300	1.20	20.37	0.30		3.433	0.30	9.500	13.82	15.567	1.20	21.63	0.30
2.183	0.30	8.250	5.13	14.317	1.20	20.38	0.30		3.450	0.30	9.517	13.82	15.583	1.20	21.65	0.30
2.200	0.30	8.267	13.82	14.333	1.20	20.40	0.30		3.467	0.30	9.533	13.82	15.600	1.20	21.67	0.30

3.483	0.30	9.550	13.82	15.617	1.20	21.68	0.30	4.750	1.80	10.817	3.91	16.883	0.60	22.95	0.30
3.500	0.30	9.567	13.82	15.633	1.20	21.70	0.30	4.767	1.80	10.833	3.91	16.900	0.60	22.97	0.30
3.517	0.30	9.583	13.82	15.650	1.20	21.72	0.30	4.783	1.80	10.850	3.91	16.917	0.60	22.98	0.30
3.533	0.30	9.600	13.82	15.667	1.20	21.73	0.30	4.800	1.80	10.867	3.91	16.933	0.60	23.00	0.30
3.550	0.30	9.617	13.82	15.683	1.20	21.75	0.30	4.817	1.80	10.883	3.91	16.950	0.60	23.02	0.30
3.567	0.30	9.633	13.82	15.700	1.20	21.77	0.30	4.833	1.80	10.900	3.91	16.967	0.60	23.03	0.30
3.583	0.30	9.650	13.82	15.717	1.20	21.78	0.30	4.850	1.80	10.917	3.91	16.983	0.60	23.05	0.30
3.600	0.30	9.667	13.82	15.733	1.20	21.80	0.30	4.867	1.80	10.933	3.91	17.000	0.60	23.07	0.30
3.617	0.30	9.683	13.82	15.750	1.20	21.82	0.30	4.883	1.80	10.950	3.91	17.017	0.60	23.08	0.30
3.633	0.30	9.700	13.82	15.767	1.20	21.83	0.30	4.900	1.80	10.967	3.91	17.033	0.60	23.10	0.30
3.650	0.30	9.717	13.82	15.783	1.20	21.85	0.30	4.917	1.80	10.983	3.91	17.050	0.60	23.12	0.30
3.667	0.30	9.733	13.82	15.800	1.20	21.87	0.30	4.933	1.80	11.000	3.91	17.067	0.60	23.13	0.30
3.683	0.30	9.750	13.82	15.817	1.20	21.88	0.30	4.950	1.80	11.017	3.91	17.083	0.60	23.15	0.30
3.700	0.30	9.767	13.82	15.833	1.20	21.90	0.30	4.967	1.80	11.033	3.91	17.100	0.60	23.17	0.30
3.717	0.30	9.783	13.82	15.850	1.20	21.92	0.30	4.983	1.80	11.050	3.91	17.117	0.60	23.18	0.30
3.733	0.30	9.800	13.82	15.867	1.20	21.93	0.30	5.000	1.80	11.067	3.91	17.133	0.60	23.20	0.30
3.750	0.30	9.817	13.82	15.883	1.20	21.95	0.30	5.017	1.80	11.083	3.91	17.150	0.60	23.22	0.30
3.767	0.30	9.833	13.82	15.900	1.20	21.97	0.30	5.033	1.80	11.100	3.91	17.167	0.60	23.23	0.30
3.783	0.30	9.850	13.82	15.917	1.20	21.98	0.30	5.050	1.80	11.117	3.91	17.183	0.60	23.25	0.30
3.800	0.30	9.867	13.82	15.933	1.20	22.00	0.30	5.067	1.80	11.133	3.91	17.200	0.60	23.27	0.30
3.817	0.30	9.883	13.82	15.950	1.20	22.02	0.30	5.083	1.80	11.150	3.91	17.217	0.60	23.28	0.30
3.833	0.30	9.900	13.82	15.967	1.20	22.03	0.30	5.100	1.80	11.167	3.91	17.233	0.60	23.30	0.30
3.850	0.30	9.917	13.82	15.983	1.20	22.05	0.30	5.117	1.80	11.183	3.91	17.250	0.60	23.32	0.30
3.867	0.30	9.933	13.82	16.000	1.20	22.07	0.30	5.133	1.80	11.200	3.91	17.267	0.60	23.33	0.30
3.883	0.30	9.950	13.82	16.017	1.20	22.08	0.30	5.150	1.80	11.217	3.91	17.283	0.60	23.35	0.30
3.900	0.30	9.967	13.82	16.033	1.20	22.10	0.30	5.167	1.80	11.233	3.91	17.300	0.60	23.37	0.30
3.917	0.30	9.983	13.82	16.050	1.20	22.12	0.30	5.183	1.80	11.250	3.91	17.317	0.60	23.38	0.30
3.933	0.30	10.000	13.82	16.067	1.20	22.13	0.30	5.200	1.80	11.267	3.91	17.333	0.60	23.40	0.30
3.950	0.30	10.017	13.82	16.083	1.20	22.15	0.30	5.217	1.80	11.283	3.91	17.350	0.60	23.42	0.30
3.967	0.30	10.033	13.82	16.100	1.20	22.17	0.30	5.233	1.80	11.300	3.91	17.367	0.60	23.43	0.30
3.983	0.30	10.050	13.82	16.117	1.20	22.18	0.30	5.250	1.80	11.317	3.91	17.383	0.60	23.45	0.30
4.000	0.30	10.067	13.82	16.133	1.20	22.20	0.30	5.267	1.80	11.333	3.91	17.400	0.60	23.47	0.30
4.017	0.30	10.083	13.82	16.150	1.20	22.22	0.30	5.283	1.80	11.350	3.91	17.417	0.60	23.48	0.30
4.033	0.30	10.100	13.82	16.167	1.20	22.23	0.30	5.300	1.80	11.367	3.91	17.433	0.60	23.50	0.30
4.050	0.30	10.117	13.82	16.183	1.20	22.25	0.30	5.317	1.80	11.383	3.91	17.450	0.60	23.52	0.30
4.067	0.30	10.133	13.82	16.200	1.20	22.27	0.30	5.333	1.80	11.400	3.91	17.467	0.60	23.53	0.30
4.083	0.30	10.150	13.82	16.217	1.20	22.28	0.30	5.350	1.80	11.417	3.91	17.483	0.60	23.55	0.30
4.100	0.30	10.167	13.82	16.233	1.20	22.30	0.30	5.367	1.80	11.433	3.91	17.500	0.60	23.57	0.30
4.117	0.30	10.183	13.82	16.250	1.20	22.32	0.30	5.383	1.80	11.450	3.91	17.517	0.60	23.58	0.30
4.133	0.30	10.200	13.82	16.267	0.60	22.33	0.30	5.400	1.80	11.467	3.91	17.533	0.60	23.60	0.30
4.150	0.30	10.217	13.82	16.283	0.60	22.35	0.30	5.417	1.80	11.483	3.91	17.550	0.60	23.62	0.30
4.167	0.30	10.233	13.82	16.300	0.60	22.37	0.30	5.433	1.80	11.500	3.91	17.567	0.60	23.63	0.30
4.183	0.30	10.250	13.81	16.317	0.60	22.38	0.30	5.450	1.80	11.517	3.91	17.583	0.60	23.65	0.30
4.200	0.30	10.267	3.91	16.333	0.60	22.40	0.30	5.467	1.80	11.533	3.91	17.600	0.60	23.67	0.30
4.217	0.30	10.283	3.91	16.350	0.60	22.42	0.30	5.483	1.80	11.550	3.91	17.617	0.60	23.68	0.30
4.233	0.30	10.300	3.91	16.367	0.60	22.43	0.30	5.500	1.80	11.567	3.91	17.633	0.60	23.70	0.30
4.250	0.30	10.317	3.91	16.383	0.60	22.45	0.30	5.517	1.80	11.583	3.91	17.650	0.60	23.72	0.30
4.267	1.80	10.333	3.91	16.400	0.60	22.47	0.30	5.533	1.80	11.600	3.91	17.667	0.60	23.73	0.30
4.283	1.80	10.350	3.91	16.417	0.60	22.48	0.30	5.550	1.80	11.617	3.91	17.683	0.60	23.75	0.30
4.300	1.80	10.367	3.91	16.433	0.60	22.50	0.30	5.567	1.80	11.633	3.91	17.700	0.60	23.77	0.30
4.317	1.80	10.383	3.91	16.450	0.60	22.52	0.30	5.583	1.80	11.650	3.91	17.717	0.60	23.78	0.30
4.333	1.80	10.400	3.91	16.467	0.60	22.53	0.30	5.600	1.80	11.667	3.91	17.733	0.60	23.80	0.30
4.350	1.80	10.417	3.91	16.483	0.60	22.55	0.30	5.617	1.80	11.683	3.91	17.750	0.60	23.82	0.30
4.367	1.80	10.433	3.91	16.500	0.60	22.57	0.30	5.633	1.80	11.700	3.91	17.767	0.60	23.83	0.30
4.383	1.80	10.450	3.91	16.517	0.60	22.58	0.30	5.650	1.80	11.717	3.91	17.783	0.60	23.85	0.30
4.400	1.80	10.467	3.91	16.533	0.60	22.60	0.30	5.667	1.80	11.733	3.91	17.800	0.60	23.87	0.30
4.417	1.80	10.483	3.91	16.550	0.60	22.62	0.30	5.683	1.80	11.750	3.91	17.817	0.60	23.88	0.30
4.433	1.80	10.500	3.91	16.567	0.60	22.63	0.30	5.700	1.80	11.767	3.91	17.833	0.60	23.90	0.30
4.450	1.80	10.517	3.91	16.583	0.60	22.65	0.30	5.717	1.80	11.783	3.91	17.850	0.60	23.92	0.30
4.467	1.80	10.533	3.91	16.600	0.60	22.67	0.30	5.733	1.80	11.800	3.91	17.867	0.60	23.93	0.30
4.483	1.80	10.550	3.91	16.617	0.60	22.68	0.30	5.750	1.80	11.817	3.91	17.883	0.60	23.95	0.30
4.500	1.80	10.567	3.91	16.633	0.60	22.70	0.30	5.767	1.80	11.833	3.91	17.900	0.60	23.97	0.30
4.517	1.80	10.583	3.91	16.650	0.60	22.72	0.30	5.783	1.80	11.850	3.91	17.917	0.60	23.98	0.30
4.533	1.80	10.600	3.91	16.667	0.60	22.73	0.30	5.800	1.80	11.867	3.91	17.933	0.60	24.00	0.30
4.550	1.80	10.617	3.91	16.683	0.60	22.75	0.30	5.817	1.80	11.883	3.91	17.950	0.60	24.02	0.30
4.567	1.80	10.633	3.91	16.700	0.60	22.77	0.30	5.833	1.80	11.900	3.91	17.967	0.60	24.03	0.30
4.583	1.80	10.650	3.91	16.717	0.60	22.78	0.30	5.850	1.80	11.917	3.91	17.983	0.60	24.05	0.30
4.600	1.80	10.667	3.91	16.733	0.60	22.80	0.30	5.867	1.80	11.933	3.91	18.000	0.60	24.07	0.30
4.617	1.80	10.683	3.91	16.750	0.60	22.82	0.30	5.883	1.80	11.950	3.91	18.017	0.60	24.08	0.30
4.633	1.80	10.700	3.91	16.767	0.60	22.83	0.30	5.900	1.80	11.967	3.91	18.033	0.60	24.10	0.30
4.650	1.80	10.717	3.91	16.783	0.60	22.85	0.30	5.917	1.80	11.983	3.91	18.050	0.60	24.12	0.30
4.667	1.80	10.733	3.91	16.800	0.60	22.87	0.30	5.933	1.80	12.000	3.91	18.067	0.60	24.13	0.30
4.683	1.80	10.750	3.91	16.817	0.60	22.88	0.30	5.950	1.80	12.017	3.91	18.083	0.60	24.15	0.30
4.700	1.80	10.767	3.91	16.833	0.60	22.90	0.30	5.967	1.80	12.033	3.91	18.100	0.60	24.17	0.30
4.717	1.80	10.783	3.91	16.850	0.60	22.92	0.30	5.983	1.80	12.050	3.91	18.117	0.60	24.18	0.30
4.733	1.80	10.800	3.91	16.867	0.60	22.93	0.30	6.000	1.80	12.067	3.91	18.133	0.60	24.20	0.30

6.017	1.80	12.083	3.91	18.150	0.60	24.22	0.30		
6.033	1.80	12.100	3.91	18.167	0.60	24.23	0.30		
6.050	1.80	12.117	3.91	18.183	0.60	24.25	0.30		
6.067	1.80	12.133	3.91	18.200	0.60				

Max.Eff.Inten.(mm/hr)=	13.82	9.96	
over (min)	5.00	9.00	
Storage Coeff. (min)=	5.21 (ii)	8.96 (ii)	
Unit Hyd. Tpeak (min)=	5.00	9.00	
Unit Hyd. peak (cms)=	0.22	0.13	
			TOTALS
PEAK FLOW (cms)=	0.04	0.00	0.044 (iii)
TIME TO PEAK (hrs)=	9.47	10.25	10.23
RUNOFF VOLUME (mm)=	59.07	33.18	58.82
TOTAL RAINFALL (mm)=	60.08	60.08	60.08
RUNOFF COEFFICIENT =	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725
	0.0167	0.0440	0.0340	0.0820
	0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.044	10.23	58.82
OUTFLOW: ID= 1 (7622)	1.150	0.014	10.57	54.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.32
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.0386

CALIB			
STANDHYD (7629)	Area (ha)= 4.09		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	4.05	0.04	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	165.13	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.80	12.150	3.91	18.22	0.60
0.033	0.00	6.100	1.80	12.167	3.91	18.23	0.60
0.050	0.00	6.117	1.80	12.183	3.91	18.25	0.60
0.067	0.00	6.133	1.80	12.200	3.91	18.27	0.30
0.083	0.00	6.150	1.80	12.217	3.91	18.28	0.30
0.100	0.00	6.167	1.80	12.233	3.91	18.30	0.30
0.117	0.00	6.183	1.80	12.250	3.91	18.32	0.30
0.133	0.00	6.200	1.80	12.267	2.10	18.33	0.30
0.150	0.00	6.217	1.80	12.283	2.10	18.35	0.30
0.167	0.00	6.233	1.80	12.300	2.10	18.37	0.30
0.183	0.00	6.250	1.81	12.317	2.10	18.38	0.30
0.200	0.00	6.267	5.11	12.333	2.10	18.40	0.30
0.217	0.00	6.283	5.11	12.350	2.10	18.42	0.30
0.233	0.00	6.300	5.11	12.367	2.10	18.43	0.30
0.250	0.00	6.317	5.11	12.383	2.10	18.45	0.30
0.267	0.30	6.333	5.11	12.400	2.10	18.47	0.30
0.283	0.30	6.350	5.11	12.417	2.10	18.48	0.30
0.300	0.30	6.367	5.11	12.433	2.10	18.50	0.30
0.317	0.30	6.383	5.11	12.450	2.10	18.52	0.30
0.333	0.30	6.400	5.11	12.467	2.10	18.53	0.30
0.350	0.30	6.417	5.11	12.483	2.10	18.55	0.30
0.367	0.30	6.433	5.11	12.500	2.10	18.57	0.30
0.383	0.30	6.450	5.11	12.517	2.10	18.58	0.30
0.400	0.30	6.467	5.11	12.533	2.10	18.60	0.30
0.417	0.30	6.483	5.11	12.550	2.10	18.62	0.30
0.433	0.30	6.500	5.11	12.567	2.10	18.63	0.30
0.450	0.30	6.517	5.11	12.583	2.10	18.65	0.30
0.467	0.30	6.533	5.11	12.600	2.10	18.67	0.30
0.483	0.30	6.550	5.11	12.617	2.10	18.68	0.30
0.500	0.30	6.567	5.11	12.633	2.10	18.70	0.30
0.517	0.30	6.583	5.11	12.650	2.10	18.72	0.30
0.533	0.30	6.600	5.11	12.667	2.10	18.73	0.30
0.550	0.30	6.617	5.11	12.683	2.10	18.75	0.30
0.567	0.30	6.633	5.11	12.700	2.10	18.77	0.30
0.583	0.30	6.650	5.11	12.717	2.10	18.78	0.30
0.600	0.30	6.667	5.11	12.733	2.10	18.80	0.30
0.617	0.30	6.683	5.11	12.750	2.10	18.82	0.30
0.633	0.30	6.700	5.11	12.767	2.10	18.83	0.30
0.650	0.30	6.717	5.11	12.783	2.10	18.85	0.30
0.667	0.30	6.733	5.11	12.800	2.10	18.87	0.30
0.683	0.30	6.750	5.11	12.817	2.10	18.88	0.30
0.700	0.30	6.767	5.11	12.833	2.10	18.90	0.30
0.717	0.30	6.783	5.11	12.850	2.10	18.92	0.30
0.733	0.30	6.800	5.11	12.867	2.10	18.93	0.30
0.750	0.30	6.817	5.11	12.883	2.10	18.95	0.30
0.767	0.30	6.833	5.11	12.900	2.10	18.97	0.30
0.783	0.30	6.850	5.11	12.917	2.10	18.98	0.30
0.800	0.30	6.867	5.11	12.933	2.10	19.00	0.30
0.817	0.30	6.883	5.11	12.950	2.10	19.02	0.30
0.833	0.30	6.900	5.11	12.967	2.10	19.03	0.30
0.850	0.30	6.917	5.11	12.983	2.10	19.05	0.30
0.867	0.30	6.933	5.11	13.000	2.10	19.07	0.30
0.883	0.30	6.950	5.11	13.017	2.10	19.08	0.30
0.900	0.30	6.967	5.11	13.033	2.10	19.10	0.30
0.917	0.30	6.983	5.11	13.050	2.10	19.12	0.30
0.933	0.30	7.000	5.11	13.067	2.10	19.13	0.30
0.950	0.30	7.017	5.11	13.083	2.10	19.15	0.30
0.967	0.30	7.033	5.11	13.100	2.10	19.17	0.30
0.983	0.30	7.050	5.11	13.117	2.10	19.18	0.30
1.000	0.30	7.067	5.11	13.133	2.10	19.20	0.30
1.017	0.30	7.083	5.11	13.150	2.10	19.22	0.30
1.033	0.30	7.100	5.11	13.167	2.10	19.23	0.30
1.050	0.30	7.117	5.11	13.183	2.10	19.25	0.30
1.067	0.30	7.133	5.11	13.200	2.10	19.27	0.30
1.083	0.30	7.150	5.11	13.217	2.10	19.28	0.30
1.100	0.30	7.167	5.11	13.233	2.10	19.30	0.30
1.117	0.30	7.183	5.11	13.250	2.10	19.32	0.30
1.133	0.30	7.200	5.11	13.267	2.10	19.33	0.30
1.150	0.30	7.217	5.11	13.283	2.10	19.35	0.30
1.167	0.30	7.233	5.11	13.300	2.10	19.37	0.30
1.183	0.30	7.250	5.11	13.317	2.10	19.38	0.30
1.200	0.30	7.267	5.11	13.333	2.10	19.40	0.30
1.217	0.30	7.283	5.11	13.350	2.10	19.42	0.30
1.233	0.30	7.300	5.11	13.367	2.10	19.43	0.30
1.250	0.30	7.317	5.11	13.383	2.10	19.45	0.30
1.267	0.30	7.333	5.11	13.400	2.10	19.47	0.30
1.283	0.30	7.350	5.11	13.417	2.10	19.48	0.30
1.300	0.30	7.367	5.11	13.433	2.10	19.50	0.30
1.317	0.30	7.383	5.11	13.450	2.10	19.52	0.30
1.333	0.30	7.400	5.11	13.467	2.10	19.53	0.30
1.350	0.30	7.417	5.11	13.483	2.10	19.55	0.30
1.367	0.30	7.433	5.11	13.500	2.10	19.57	0.30
1.383	0.30	7.450	5.11	13.517	2.10	19.58	0.30
1.400	0.30	7.467	5.11	13.533	2.10	19.60	0.30
1.417	0.30	7.483	5.11	13.550	2.10	19.62	0.30
1.433	0.30	7.500	5.11	13.567	2.10	19.63	0.30
1.450	0.30	7.517	5.11	13.583	2.10	19.65	0.30
1.467	0.30	7.533	5.11	13.600	2.10	19.67	0.30
1.483	0.30	7.550	5.11	13.617	2.10	19.68	0.30

1.500	0.30	7.567	5.11	13.633	2.10	19.70	0.30	2.767	0.30	8.833	13.82	14.900	1.20	20.97	0.30
1.517	0.30	7.583	5.11	13.650	2.10	19.72	0.30	2.783	0.30	8.850	13.82	14.917	1.20	20.98	0.30
1.533	0.30	7.600	5.11	13.667	2.10	19.73	0.30	2.800	0.30	8.867	13.82	14.933	1.20	21.00	0.30
1.550	0.30	7.617	5.11	13.683	2.10	19.75	0.30	2.817	0.30	8.883	13.82	14.950	1.20	21.02	0.30
1.567	0.30	7.633	5.11	13.700	2.10	19.77	0.30	2.833	0.30	8.900	13.82	14.967	1.20	21.03	0.30
1.583	0.30	7.650	5.11	13.717	2.10	19.78	0.30	2.850	0.30	8.917	13.82	14.983	1.20	21.05	0.30
1.600	0.30	7.667	5.11	13.733	2.10	19.80	0.30	2.867	0.30	8.933	13.82	15.000	1.20	21.07	0.30
1.617	0.30	7.683	5.11	13.750	2.10	19.82	0.30	2.883	0.30	8.950	13.82	15.017	1.20	21.08	0.30
1.633	0.30	7.700	5.11	13.767	2.10	19.83	0.30	2.900	0.30	8.967	13.82	15.033	1.20	21.10	0.30
1.650	0.30	7.717	5.11	13.783	2.10	19.85	0.30	2.917	0.30	8.983	13.82	15.050	1.20	21.12	0.30
1.667	0.30	7.733	5.11	13.800	2.10	19.87	0.30	2.933	0.30	9.000	13.82	15.067	1.20	21.13	0.30
1.683	0.30	7.750	5.11	13.817	2.10	19.88	0.30	2.950	0.30	9.017	13.82	15.083	1.20	21.15	0.30
1.700	0.30	7.767	5.11	13.833	2.10	19.90	0.30	2.967	0.30	9.033	13.82	15.100	1.20	21.17	0.30
1.717	0.30	7.783	5.11	13.850	2.10	19.92	0.30	2.983	0.30	9.050	13.82	15.117	1.20	21.18	0.30
1.733	0.30	7.800	5.11	13.867	2.10	19.93	0.30	3.000	0.30	9.067	13.82	15.133	1.20	21.20	0.30
1.750	0.30	7.817	5.11	13.883	2.10	19.95	0.30	3.017	0.30	9.083	13.82	15.150	1.20	21.22	0.30
1.767	0.30	7.833	5.11	13.900	2.10	19.97	0.30	3.033	0.30	9.100	13.82	15.167	1.20	21.23	0.30
1.783	0.30	7.850	5.11	13.917	2.10	19.98	0.30	3.050	0.30	9.117	13.82	15.183	1.20	21.25	0.30
1.800	0.30	7.867	5.11	13.933	2.10	20.00	0.30	3.067	0.30	9.133	13.82	15.200	1.20	21.27	0.30
1.817	0.30	7.883	5.11	13.950	2.10	20.02	0.30	3.083	0.30	9.150	13.82	15.217	1.20	21.28	0.30
1.833	0.30	7.900	5.11	13.967	2.10	20.03	0.30	3.100	0.30	9.167	13.82	15.233	1.20	21.30	0.30
1.850	0.30	7.917	5.11	13.983	2.10	20.05	0.30	3.117	0.30	9.183	13.82	15.250	1.20	21.32	0.30
1.867	0.30	7.933	5.11	14.000	2.10	20.07	0.30	3.133	0.30	9.200	13.82	15.267	1.20	21.33	0.30
1.883	0.30	7.950	5.11	14.017	2.10	20.08	0.30	3.150	0.30	9.217	13.82	15.283	1.20	21.35	0.30
1.900	0.30	7.967	5.11	14.033	2.10	20.10	0.30	3.167	0.30	9.233	13.82	15.300	1.20	21.37	0.30
1.917	0.30	7.983	5.11	14.050	2.10	20.12	0.30	3.183	0.30	9.250	13.82	15.317	1.20	21.38	0.30
1.933	0.30	8.000	5.11	14.067	2.10	20.13	0.30	3.200	0.30	9.267	13.82	15.333	1.20	21.40	0.30
1.950	0.30	8.017	5.11	14.083	2.10	20.15	0.30	3.217	0.30	9.283	13.82	15.350	1.20	21.42	0.30
1.967	0.30	8.033	5.11	14.100	2.10	20.17	0.30	3.233	0.30	9.300	13.82	15.367	1.20	21.43	0.30
1.983	0.30	8.050	5.11	14.117	2.10	20.18	0.30	3.250	0.30	9.317	13.82	15.383	1.20	21.45	0.30
2.000	0.30	8.067	5.11	14.133	2.10	20.20	0.30	3.267	0.30	9.333	13.82	15.400	1.20	21.47	0.30
2.017	0.30	8.083	5.11	14.150	2.10	20.22	0.30	3.283	0.30	9.350	13.82	15.417	1.20	21.48	0.30
2.033	0.30	8.100	5.11	14.167	2.10	20.23	0.30	3.300	0.30	9.367	13.82	15.433	1.20	21.50	0.30
2.050	0.30	8.117	5.11	14.183	2.10	20.25	0.30	3.317	0.30	9.383	13.82	15.450	1.20	21.52	0.30
2.067	0.30	8.133	5.11	14.200	2.10	20.27	0.30	3.333	0.30	9.400	13.82	15.467	1.20	21.53	0.30
2.083	0.30	8.150	5.11	14.217	2.10	20.28	0.30	3.350	0.30	9.417	13.82	15.483	1.20	21.55	0.30
2.100	0.30	8.167	5.11	14.233	2.10	20.30	0.30	3.367	0.30	9.433	13.82	15.500	1.20	21.57	0.30
2.117	0.30	8.183	5.11	14.250	2.10	20.32	0.30	3.383	0.30	9.450	13.82	15.517	1.20	21.58	0.30
2.133	0.30	8.200	5.11	14.267	1.20	20.33	0.30	3.400	0.30	9.467	13.82	15.533	1.20	21.60	0.30
2.150	0.30	8.217	5.11	14.283	1.20	20.35	0.30	3.417	0.30	9.483	13.82	15.550	1.20	21.62	0.30
2.167	0.30	8.233	5.11	14.300	1.20	20.37	0.30	3.433	0.30	9.500	13.82	15.567	1.20	21.63	0.30
2.183	0.30	8.250	5.13	14.317	1.20	20.38	0.30	3.450	0.30	9.517	13.82	15.583	1.20	21.65	0.30
2.200	0.30	8.267	13.82	14.333	1.20	20.40	0.30	3.467	0.30	9.533	13.82	15.600	1.20	21.67	0.30
2.217	0.30	8.283	13.82	14.350	1.20	20.42	0.30	3.483	0.30	9.550	13.82	15.617	1.20	21.68	0.30
2.233	0.30	8.300	13.82	14.367	1.20	20.43	0.30	3.500	0.30	9.567	13.82	15.633	1.20	21.70	0.30
2.250	0.30	8.317	13.82	14.383	1.20	20.45	0.30	3.517	0.30	9.583	13.82	15.650	1.20	21.72	0.30
2.267	0.30	8.333	13.82	14.400	1.20	20.47	0.30	3.533	0.30	9.600	13.82	15.667	1.20	21.73	0.30
2.283	0.30	8.350	13.82	14.417	1.20	20.48	0.30	3.550	0.30	9.617	13.82	15.683	1.20	21.75	0.30
2.300	0.30	8.367	13.82	14.433	1.20	20.50	0.30	3.567	0.30	9.633	13.82	15.700	1.20	21.77	0.30
2.317	0.30	8.383	13.82	14.450	1.20	20.52	0.30	3.583	0.30	9.650	13.82	15.717	1.20	21.78	0.30
2.333	0.30	8.400	13.82	14.467	1.20	20.53	0.30	3.600	0.30	9.667	13.82	15.733	1.20	21.80	0.30
2.350	0.30	8.417	13.82	14.483	1.20	20.55	0.30	3.617	0.30	9.683	13.82	15.750	1.20	21.82	0.30
2.367	0.30	8.433	13.82	14.500	1.20	20.57	0.30	3.633	0.30	9.700	13.82	15.767	1.20	21.83	0.30
2.383	0.30	8.450	13.82	14.517	1.20	20.58	0.30	3.650	0.30	9.717	13.82	15.783	1.20	21.85	0.30
2.400	0.30	8.467	13.82	14.533	1.20	20.60	0.30	3.667	0.30	9.733	13.82	15.800	1.20	21.87	0.30
2.417	0.30	8.483	13.82	14.550	1.20	20.62	0.30	3.683	0.30	9.750	13.82	15.817	1.20	21.88	0.30
2.433	0.30	8.500	13.82	14.567	1.20	20.63	0.30	3.700	0.30	9.767	13.82	15.833	1.20	21.90	0.30
2.450	0.30	8.517	13.82	14.583	1.20	20.65	0.30	3.717	0.30	9.783	13.82	15.850	1.20	21.92	0.30
2.467	0.30	8.533	13.82	14.600	1.20	20.67	0.30	3.733	0.30	9.800	13.82	15.867	1.20	21.93	0.30
2.483	0.30	8.550	13.82	14.617	1.20	20.68	0.30	3.750	0.30	9.817	13.82	15.883	1.20	21.95	0.30
2.500	0.30	8.567	13.82	14.633	1.20	20.70	0.30	3.767	0.30	9.833	13.82	15.900	1.20	21.97	0.30
2.517	0.30	8.583	13.82	14.650	1.20	20.72	0.30	3.783	0.30	9.850	13.82	15.917	1.20	21.98	0.30
2.533	0.30	8.600	13.82	14.667	1.20	20.73	0.30	3.800	0.30	9.867	13.82	15.933	1.20	22.00	0.30
2.550	0.30	8.617	13.82	14.683	1.20	20.75	0.30	3.817	0.30	9.883	13.82	15.950	1.20	22.02	0.30
2.567	0.30	8.633	13.82	14.700	1.20	20.77	0.30	3.833	0.30	9.900	13.82	15.967	1.20	22.03	0.30
2.583	0.30	8.650	13.82	14.717	1.20	20.78	0.30	3.850	0.30	9.917	13.82	15.983	1.20	22.05	0.30
2.600	0.30	8.667	13.82	14.733	1.20	20.80	0.30	3.867	0.30	9.933	13.82	16.000	1.20	22.07	0.30
2.617	0.30	8.683	13.82	14.750	1.20	20.82	0.30	3.883	0.30	9.950	13.82	16.017	1.20	22.08	0.30
2.633	0.30	8.700	13.82	14.767	1.20	20.83	0.30	3.900	0.30	9.967	13.82	16.033	1.20	22.10	0.30
2.650	0.30	8.717	13.82	14.783	1.20	20.85	0.30	3.917	0.30	9.983	13.82	16.050	1.20	22.12	0.30
2.667	0.30	8.733	13.82	14.800	1.20	20.87	0.30	3.933	0.30	10.000	13.82	16.067	1.20	22.13	0.30
2.683	0.30	8.750	13.82	14.817	1.20	20.88	0.30	3.950	0.30	10.017	13.82	16.083	1.20	22.15	0.30
2.700	0.30	8.767	13.82	14.833	1.20	20.90	0.30	3.967	0.30	10.033	13.82	16.100	1.20	22.17	0.30
2.717	0.30	8.783	13.82	14.850	1.20	20.92	0.30	3.983	0.30	10.050	13.82	16.117	1.20	22.18	0.30
2.733	0.30	8.800	13.82	14.867	1.20	20.93	0.30	4.000	0.30	10.067	13.82	16.133	1.20	22.20	0.30
2.750	0.30	8.817	13.82	14.883	1.20	20.95	0.30	4.017	0.30	10.083	13.82	16.150	1.20	22.22	0.30

4.033	0.30	10.100	13.82	16.167	1.20	22.23	0.30
4.050	0.30	10.117	13.82	16.183	1.20	22.25	0.30
4.067	0.30	10.133	13.82	16.200	1.20	22.27	0.30
4.083	0.30	10.150	13.82	16.217	1.20	22.28	0.30
4.100	0.30	10.167	13.82	16.233	1.20	22.30	0.30
4.117	0.30	10.183	13.82	16.250	1.20	22.32	0.30
4.133	0.30	10.200	13.82	16.267	0.60	22.33	0.30
4.150	0.30	10.217	13.82	16.283	0.60	22.35	0.30
4.167	0.30	10.233	13.82	16.300	0.60	22.37	0.30
4.183	0.30	10.250	13.81	16.317	0.60	22.38	0.30
4.200	0.30	10.267	3.91	16.333	0.60	22.40	0.30
4.217	0.30	10.283	3.91	16.350	0.60	22.42	0.30
4.233	0.30	10.300	3.91	16.367	0.60	22.43	0.30
4.250	0.30	10.317	3.91	16.383	0.60	22.45	0.30
4.267	1.80	10.333	3.91	16.400	0.60	22.47	0.30
4.283	1.80	10.350	3.91	16.417	0.60	22.48	0.30
4.300	1.80	10.367	3.91	16.433	0.60	22.50	0.30
4.317	1.80	10.383	3.91	16.450	0.60	22.52	0.30
4.333	1.80	10.400	3.91	16.467	0.60	22.53	0.30
4.350	1.80	10.417	3.91	16.483	0.60	22.55	0.30
4.367	1.80	10.433	3.91	16.500	0.60	22.57	0.30
4.383	1.80	10.450	3.91	16.517	0.60	22.58	0.30
4.400	1.80	10.467	3.91	16.533	0.60	22.60	0.30
4.417	1.80	10.483	3.91	16.550	0.60	22.62	0.30
4.433	1.80	10.500	3.91	16.567	0.60	22.63	0.30
4.450	1.80	10.517	3.91	16.583	0.60	22.65	0.30
4.467	1.80	10.533	3.91	16.600	0.60	22.67	0.30
4.483	1.80	10.550	3.91	16.617	0.60	22.68	0.30
4.500	1.80	10.567	3.91	16.633	0.60	22.70	0.30
4.517	1.80	10.583	3.91	16.650	0.60	22.72	0.30
4.533	1.80	10.600	3.91	16.667	0.60	22.73	0.30
4.550	1.80	10.617	3.91	16.683	0.60	22.75	0.30
4.567	1.80	10.633	3.91	16.700	0.60	22.77	0.30
4.583	1.80	10.650	3.91	16.717	0.60	22.78	0.30
4.600	1.80	10.667	3.91	16.733	0.60	22.80	0.30
4.617	1.80	10.683	3.91	16.750	0.60	22.82	0.30
4.633	1.80	10.700	3.91	16.767	0.60	22.83	0.30
4.650	1.80	10.717	3.91	16.783	0.60	22.85	0.30
4.667	1.80	10.733	3.91	16.800	0.60	22.87	0.30
4.683	1.80	10.750	3.91	16.817	0.60	22.88	0.30
4.700	1.80	10.767	3.91	16.833	0.60	22.90	0.30
4.717	1.80	10.783	3.91	16.850	0.60	22.92	0.30
4.733	1.80	10.800	3.91	16.867	0.60	22.93	0.30
4.750	1.80	10.817	3.91	16.883	0.60	22.95	0.30
4.767	1.80	10.833	3.91	16.900	0.60	22.97	0.30
4.783	1.80	10.850	3.91	16.917	0.60	22.98	0.30
4.800	1.80	10.867	3.91	16.933	0.60	23.00	0.30
4.817	1.80	10.883	3.91	16.950	0.60	23.02	0.30
4.833	1.80	10.900	3.91	16.967	0.60	23.03	0.30
4.850	1.80	10.917	3.91	16.983	0.60	23.05	0.30
4.867	1.80	10.933	3.91	17.000	0.60	23.07	0.30
4.883	1.80	10.950	3.91	17.017	0.60	23.08	0.30
4.900	1.80	10.967	3.91	17.033	0.60	23.10	0.30
4.917	1.80	10.983	3.91	17.050	0.60	23.12	0.30
4.933	1.80	11.000	3.91	17.067	0.60	23.13	0.30
4.950	1.80	11.017	3.91	17.083	0.60	23.15	0.30
4.967	1.80	11.033	3.91	17.100	0.60	23.17	0.30
4.983	1.80	11.050	3.91	17.117	0.60	23.18	0.30
5.000	1.80	11.067	3.91	17.133	0.60	23.20	0.30
5.017	1.80	11.083	3.91	17.150	0.60	23.22	0.30
5.033	1.80	11.100	3.91	17.167	0.60	23.23	0.30
5.050	1.80	11.117	3.91	17.183	0.60	23.25	0.30
5.067	1.80	11.133	3.91	17.200	0.60	23.27	0.30
5.083	1.80	11.150	3.91	17.217	0.60	23.28	0.30
5.100	1.80	11.167	3.91	17.233	0.60	23.30	0.30
5.117	1.80	11.183	3.91	17.250	0.60	23.32	0.30
5.133	1.80	11.200	3.91	17.267	0.60	23.33	0.30
5.150	1.80	11.217	3.91	17.283	0.60	23.35	0.30
5.167	1.80	11.233	3.91	17.300	0.60	23.37	0.30
5.183	1.80	11.250	3.91	17.317	0.60	23.38	0.30
5.200	1.80	11.267	3.91	17.333	0.60	23.40	0.30
5.217	1.80	11.283	3.91	17.350	0.60	23.42	0.30
5.233	1.80	11.300	3.91	17.367	0.60	23.43	0.30
5.250	1.80	11.317	3.91	17.383	0.60	23.45	0.30
5.267	1.80	11.333	3.91	17.400	0.60	23.47	0.30
5.283	1.80	11.350	3.91	17.417	0.60	23.48	0.30
5.300	1.80	11.367	3.91	17.433	0.60	23.50	0.30
5.317	1.80	11.383	3.91	17.450	0.60	23.52	0.30
5.333	1.80	11.400	3.91	17.467	0.60	23.53	0.30
5.350	1.80	11.417	3.91	17.483	0.60	23.55	0.30
5.367	1.80	11.433	3.91	17.500	0.60	23.57	0.30
5.383	1.80	11.450	3.91	17.517	0.60	23.58	0.30
5.400	1.80	11.467	3.91	17.533	0.60	23.60	0.30
5.417	1.80	11.483	3.91	17.550	0.60	23.62	0.30
5.433	1.80	11.500	3.91	17.567	0.60	23.63	0.30
5.450	1.80	11.517	3.91	17.583	0.60	23.65	0.30
5.467	1.80	11.533	3.91	17.600	0.60	23.67	0.30
5.483	1.80	11.550	3.91	17.617	0.60	23.68	0.30
5.500	1.80	11.567	3.91	17.633	0.60	23.70	0.30
5.517	1.80	11.583	3.91	17.650	0.60	23.72	0.30
5.533	1.80	11.600	3.91	17.667	0.60	23.73	0.30
5.550	1.80	11.617	3.91	17.683	0.60	23.75	0.30
5.567	1.80	11.633	3.91	17.700	0.60	23.77	0.30
5.583	1.80	11.650	3.91	17.717	0.60	23.78	0.30
5.600	1.80	11.667	3.91	17.733	0.60	23.80	0.30
5.617	1.80	11.683	3.91	17.750	0.60	23.82	0.30
5.633	1.80	11.700	3.91	17.767	0.60	23.83	0.30
5.650	1.80	11.717	3.91	17.783	0.60	23.85	0.30
5.667	1.80	11.733	3.91	17.800	0.60	23.87	0.30
5.683	1.80	11.750	3.91	17.817	0.60	23.88	0.30
5.700	1.80	11.767	3.91	17.833	0.60	23.90	0.30
5.717	1.80	11.783	3.91	17.850	0.60	23.92	0.30
5.733	1.80	11.800	3.91	17.867	0.60	23.93	0.30
5.750	1.80	11.817	3.91	17.883	0.60	23.95	0.30
5.767	1.80	11.833	3.91	17.900	0.60	23.97	0.30
5.783	1.80	11.850	3.91	17.917	0.60	23.98	0.30
5.800	1.80	11.867	3.91	17.933	0.60	24.00	0.30
5.817	1.80	11.883	3.91	17.950	0.60	24.02	0.30
5.833	1.80	11.900	3.91	17.967	0.60	24.03	0.30
5.850	1.80	11.917	3.91	17.983	0.60	24.05	0.30
5.867	1.80	11.933	3.91	18.000	0.60	24.07	0.30
5.883	1.80	11.950	3.91	18.017	0.60	24.08	0.30
5.900	1.80	11.967	3.91	18.033	0.60	24.10	0.30
5.917	1.80	11.983	3.91	18.050	0.60	24.12	0.30
5.933	1.80	12.000	3.91	18.067	0.60	24.13	0.30
5.950	1.80	12.017	3.91	18.083	0.60	24.15	0.30
5.967	1.80	12.033	3.91	18.100	0.60	24.17	0.30
5.983	1.80	12.050	3.91	18.117	0.60	24.18	0.30
6.000	1.80	12.067	3.91	18.133	0.60	24.20	0.30
6.017	1.80	12.083	3.91	18.150	0.60	24.22	0.30
6.033	1.80	12.100	3.91	18.167	0.60	24.23	0.30
6.050	1.80	12.117	3.91	18.183	0.60	24.25	0.30
6.067	1.80	12.133	3.91	18.200	0.60		

Max.Eff.Inten.(mm/hr)=	13.82	9.96	
over (min)	8.00	12.00	
Storage Coeff. (min)=	7.62 (ii)	11.37 (ii)	
Unit Hyd. Tpeak (min)=	8.00	12.00	
Unit Hyd. peak (cms)=	0.15	0.10	
			TOTALS
PEAK FLOW (cms)=	0.16	0.00	0.157 (iii)
TIME TO PEAK (hrs)=	10.23	10.25	10.25
RUNOFF VOLUME (mm)=	59.07	33.18	58.82
TOTAL RAINFALL (mm)=	60.08	60.08	60.08
RUNOFF COEFFICIENT =	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940

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                        0.0655      0.1890   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7629)      4.090     0.157     10.25      58.82
   OUTFLOW: ID= 1 (  7630)      4.090     0.045     10.93      53.62

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.87
                    TIME SHIFT OF PEAK FLOW         (min)= 41.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1400

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-------------------
| CALIB           |
| STANDHYD (  7631)|   Area    (ha)=   3.91
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.87         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     161.45        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.017    0.00 | 6.083    1.80 |12.150    3.91 | 18.22    0.60
              0.033    0.00 | 6.100    1.80 |12.167    3.91 | 18.23    0.60
              0.050    0.00 | 6.117    1.80 |12.183    3.91 | 18.25    0.60
              0.067    0.00 | 6.133    1.80 |12.200    3.91 | 18.27    0.30
              0.083    0.00 | 6.150    1.80 |12.217    3.91 | 18.28    0.30
              0.100    0.00 | 6.167    1.80 |12.233    3.91 | 18.30    0.30
              0.117    0.00 | 6.183    1.80 |12.250    3.91 | 18.32    0.30
              0.133    0.00 | 6.200    1.80 |12.267    2.10 | 18.33    0.30
              0.150    0.00 | 6.217    1.80 |12.283    2.10 | 18.35    0.30
              0.167    0.00 | 6.233    1.80 |12.300    2.10 | 18.37    0.30
              0.183    0.00 | 6.250    1.81 |12.317    2.10 | 18.38    0.30
              0.200    0.00 | 6.267    5.11 |12.333    2.10 | 18.40    0.30
              0.217    0.00 | 6.283    5.11 |12.350    2.10 | 18.42    0.30
              0.233    0.00 | 6.300    5.11 |12.367    2.10 | 18.43    0.30
              0.250    0.00 | 6.317    5.11 |12.383    2.10 | 18.45    0.30
              0.267    0.30 | 6.333    5.11 |12.400    2.10 | 18.47    0.30
              0.283    0.30 | 6.350    5.11 |12.417    2.10 | 18.48    0.30
              0.300    0.30 | 6.367    5.11 |12.433    2.10 | 18.50    0.30
              0.317    0.30 | 6.383    5.11 |12.450    2.10 | 18.52    0.30
              0.333    0.30 | 6.400    5.11 |12.467    2.10 | 18.53    0.30
              0.350    0.30 | 6.417    5.11 |12.483    2.10 | 18.55    0.30
              0.367    0.30 | 6.433    5.11 |12.500    2.10 | 18.57    0.30
              0.383    0.30 | 6.450    5.11 |12.517    2.10 | 18.58    0.30
              0.400    0.30 | 6.467    5.11 |12.533    2.10 | 18.60    0.30
              0.417    0.30 | 6.483    5.11 |12.550    2.10 | 18.62    0.30
              0.433    0.30 | 6.500    5.11 |12.567    2.10 | 18.63    0.30
              0.450    0.30 | 6.517    5.11 |12.583    2.10 | 18.65    0.30
              0.467    0.30 | 6.533    5.11 |12.600    2.10 | 18.67    0.30
              0.483    0.30 | 6.550    5.11 |12.617    2.10 | 18.68    0.30
              0.500    0.30 | 6.567    5.11 |12.633    2.10 | 18.70    0.30
              0.517    0.30 | 6.583    5.11 |12.650    2.10 | 18.72    0.30
              0.533    0.30 | 6.600    5.11 |12.667    2.10 | 18.73    0.30
              0.550    0.30 | 6.617    5.11 |12.683    2.10 | 18.75    0.30
              0.567    0.30 | 6.633    5.11 |12.700    2.10 | 18.77    0.30
              0.583    0.30 | 6.650    5.11 |12.717    2.10 | 18.78    0.30
              0.600    0.30 | 6.667    5.11 |12.733    2.10 | 18.80    0.30
              0.617    0.30 | 6.683    5.11 |12.750    2.10 | 18.82    0.30
              0.633    0.30 | 6.700    5.11 |12.767    2.10 | 18.83    0.30
              0.650    0.30 | 6.717    5.11 |12.783    2.10 | 18.85    0.30
              0.667    0.30 | 6.733    5.11 |12.800    2.10 | 18.87    0.30
              0.683    0.30 | 6.750    5.11 |12.817    2.10 | 18.88    0.30
              0.700    0.30 | 6.767    5.11 |12.833    2.10 | 18.90    0.30
              0.717    0.30 | 6.783    5.11 |12.850    2.10 | 18.92    0.30
              0.733    0.30 | 6.800    5.11 |12.867    2.10 | 18.93    0.30
              0.750    0.30 | 6.817    5.11 |12.883    2.10 | 18.95    0.30
              0.767    0.30 | 6.833    5.11 |12.900    2.10 | 18.97    0.30
              0.783    0.30 | 6.850    5.11 |12.917    2.10 | 18.98    0.30
              0.800    0.30 | 6.867    5.11 |12.933    2.10 | 19.00    0.30
              0.817    0.30 | 6.883    5.11 |12.950    2.10 | 19.02    0.30
              0.833    0.30 | 6.900    5.11 |12.967    2.10 | 19.03    0.30
              0.850    0.30 | 6.917    5.11 |12.983    2.10 | 19.05    0.30
              0.867    0.30 | 6.933    5.11 |13.000    2.10 | 19.07    0.30
              0.883    0.30 | 6.950    5.11 |13.017    2.10 | 19.08    0.30
              0.900    0.30 | 6.967    5.11 |13.033    2.10 | 19.10    0.30
              0.917    0.30 | 6.983    5.11 |13.050    2.10 | 19.12    0.30
              0.933    0.30 | 7.000    5.11 |13.067    2.10 | 19.13    0.30
              0.950    0.30 | 7.017    5.11 |13.083    2.10 | 19.15    0.30
              0.967    0.30 | 7.033    5.11 |13.100    2.10 | 19.17    0.30
              0.983    0.30 | 7.050    5.11 |13.117    2.10 | 19.18    0.30
              1.000    0.30 | 7.067    5.11 |13.133    2.10 | 19.20    0.30
              1.017    0.30 | 7.083    5.11 |13.150    2.10 | 19.22    0.30
              1.033    0.30 | 7.100    5.11 |13.167    2.10 | 19.23    0.30
              1.050    0.30 | 7.117    5.11 |13.183    2.10 | 19.25    0.30
              1.067    0.30 | 7.133    5.11 |13.200    2.10 | 19.27    0.30
              1.083    0.30 | 7.150    5.11 |13.217    2.10 | 19.28    0.30
              1.100    0.30 | 7.167    5.11 |13.233    2.10 | 19.30    0.30
              1.117    0.30 | 7.183    5.11 |13.250    2.10 | 19.32    0.30
              1.133    0.30 | 7.200    5.11 |13.267    2.10 | 19.33    0.30
              1.150    0.30 | 7.217    5.11 |13.283    2.10 | 19.35    0.30
              1.167    0.30 | 7.233    5.11 |13.300    2.10 | 19.37    0.30
              1.183    0.30 | 7.250    5.11 |13.317    2.10 | 19.38    0.30
              1.200    0.30 | 7.267    5.11 |13.333    2.10 | 19.40    0.30
              1.217    0.30 | 7.283    5.11 |13.350    2.10 | 19.42    0.30
              1.233    0.30 | 7.300    5.11 |13.367    2.10 | 19.43    0.30
              1.250    0.30 | 7.317    5.11 |13.383    2.10 | 19.45    0.30
              1.267    0.30 | 7.333    5.11 |13.400    2.10 | 19.47    0.30
              1.283    0.30 | 7.350    5.11 |13.417    2.10 | 19.48    0.30
              1.300    0.30 | 7.367    5.11 |13.433    2.10 | 19.50    0.30
              1.317    0.30 | 7.383    5.11 |13.450    2.10 | 19.52    0.30
              1.333    0.30 | 7.400    5.11 |13.467    2.10 | 19.53    0.30
              1.350    0.30 | 7.417    5.11 |13.483    2.10 | 19.55    0.30
              1.367    0.30 | 7.433    5.11 |13.500    2.10 | 19.57    0.30
              1.383    0.30 | 7.450    5.11 |13.517    2.10 | 19.58    0.30
              1.400    0.30 | 7.467    5.11 |13.533    2.10 | 19.60    0.30
              1.417    0.30 | 7.483    5.11 |13.550    2.10 | 19.62    0.30
              1.433    0.30 | 7.500    5.11 |13.567    2.10 | 19.63    0.30
              1.450    0.30 | 7.517    5.11 |13.583    2.10 | 19.65    0.30
              1.467    0.30 | 7.533    5.11 |13.600    2.10 | 19.67    0.30
              1.483    0.30 | 7.550    5.11 |13.617    2.10 | 19.68    0.30
              1.500    0.30 | 7.567    5.11 |13.633    2.10 | 19.70    0.30
              1.517    0.30 | 7.583    5.11 |13.650    2.10 | 19.72    0.30
              1.533    0.30 | 7.600    5.11 |13.667    2.10 | 19.73    0.30
              1.550    0.30 | 7.617    5.11 |13.683    2.10 | 19.75    0.30
              1.567    0.30 | 7.633    5.11 |13.700    2.10 | 19.77    0.30
              1.583    0.30 | 7.650    5.11 |13.717    2.10 | 19.78    0.30
              1.600    0.30 | 7.667    5.11 |13.733    2.10 | 19.80    0.30
              1.617    0.30 | 7.683    5.11 |13.750    2.10 | 19.82    0.30
              1.633    0.30 | 7.700    5.11 |13.767    2.10 | 19.83    0.30
              1.650    0.30 | 7.717    5.11 |13.783    2.10 | 19.85    0.30
              1.667    0.30 | 7.733    5.11 |13.800    2.10 | 19.87    0.30
              1.683    0.30 | 7.750    5.11 |13.817    2.10 | 19.88    0.30
              1.700    0.30 | 7.767    5.11 |13.833    2.10 | 19.90    0.30
              1.717    0.30 | 7.783    5.11 |13.850    2.10 | 19.92    0.30
              1.733    0.30 | 7.800    5.11 |13.867    2.10 | 19.93    0.30
              1.750    0.30 | 7.817    5.11 |13.883    2.10 | 19.95    0.30
              1.767    0.30 | 7.833    5.11 |13.900    2.10 | 19.97    0.30
              1.783    0.30 | 7.850    5.11 |13.917    2.10 | 19.98    0.30
              1.800    0.30 | 7.867    5.11 |13.933    2.10 | 20.00    0.30
              1.817    0.30 | 7.883    5.11 |13.950    2.10 | 20.02    0.30
              1.833    0.30 | 7.900    5.11 |13.967    2.10 | 20.03    0.30
              1.850    0.30 | 7.917    5.11 |13.983    2.10 | 20.05    0.30
              1.867    0.30 | 7.933    5.11 |14.000    2.10 | 20.07    0.30
              1.883    0.30 | 7.950    5.11 |14.017    2.10 | 20.08    0.30
              1.900    0.30 | 7.967    5.11 |14.033    2.10 | 20.10    0.30
              1.917    0.30 | 7.983    5.11 |14.050    2.10 | 20.12    0.30
              1.933    0.30 | 8.000    5.11 |14.067    2.10 | 20.13    0.30
              1.950    0.30 | 8.017    5.11 |14.083    2.10 | 20.15    0.30
              1.967    0.30 | 8.033    5.11 |14.100    2.10 | 20.17    0.30
              1.983    0.30 | 8.050    5.11 |14.117    2.10 | 20.18    0.30
              2.000    0.30 | 8.067    5.11 |14.133    2.10 | 20.20    0.30
              2.017    0.30 | 8.083    5.11 |14.150    2.10 | 20.22    0.30
              2.033    0.30 | 8.100    5.11 |14.167    2.10 | 20.23    0.30
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2.050	0.30	8.117	5.11	14.183	2.10	20.25	0.30	3.317	0.30	9.383	13.82	15.450	1.20	21.52	0.30
2.067	0.30	8.133	5.11	14.200	2.10	20.27	0.30	3.333	0.30	9.400	13.82	15.467	1.20	21.53	0.30
2.083	0.30	8.150	5.11	14.217	2.10	20.28	0.30	3.350	0.30	9.417	13.82	15.483	1.20	21.55	0.30
2.100	0.30	8.167	5.11	14.233	2.10	20.30	0.30	3.367	0.30	9.433	13.82	15.500	1.20	21.57	0.30
2.117	0.30	8.183	5.11	14.250	2.10	20.32	0.30	3.383	0.30	9.450	13.82	15.517	1.20	21.58	0.30
2.133	0.30	8.200	5.11	14.267	1.20	20.33	0.30	3.400	0.30	9.467	13.82	15.533	1.20	21.60	0.30
2.150	0.30	8.217	5.11	14.283	1.20	20.35	0.30	3.417	0.30	9.483	13.82	15.550	1.20	21.62	0.30
2.167	0.30	8.233	5.11	14.300	1.20	20.37	0.30	3.433	0.30	9.500	13.82	15.567	1.20	21.63	0.30
2.183	0.30	8.250	5.13	14.317	1.20	20.38	0.30	3.450	0.30	9.517	13.82	15.583	1.20	21.65	0.30
2.200	0.30	8.267	13.82	14.333	1.20	20.40	0.30	3.467	0.30	9.533	13.82	15.600	1.20	21.67	0.30
2.217	0.30	8.283	13.82	14.350	1.20	20.42	0.30	3.483	0.30	9.550	13.82	15.617	1.20	21.68	0.30
2.233	0.30	8.300	13.82	14.367	1.20	20.43	0.30	3.500	0.30	9.567	13.82	15.633	1.20	21.70	0.30
2.250	0.30	8.317	13.82	14.383	1.20	20.45	0.30	3.517	0.30	9.583	13.82	15.650	1.20	21.72	0.30
2.267	0.30	8.333	13.82	14.400	1.20	20.47	0.30	3.533	0.30	9.600	13.82	15.667	1.20	21.73	0.30
2.283	0.30	8.350	13.82	14.417	1.20	20.48	0.30	3.550	0.30	9.617	13.82	15.683	1.20	21.75	0.30
2.300	0.30	8.367	13.82	14.433	1.20	20.50	0.30	3.567	0.30	9.633	13.82	15.700	1.20	21.77	0.30
2.317	0.30	8.383	13.82	14.450	1.20	20.52	0.30	3.583	0.30	9.650	13.82	15.717	1.20	21.78	0.30
2.333	0.30	8.400	13.82	14.467	1.20	20.53	0.30	3.600	0.30	9.667	13.82	15.733	1.20	21.80	0.30
2.350	0.30	8.417	13.82	14.483	1.20	20.55	0.30	3.617	0.30	9.683	13.82	15.750	1.20	21.82	0.30
2.367	0.30	8.433	13.82	14.500	1.20	20.57	0.30	3.633	0.30	9.700	13.82	15.767	1.20	21.83	0.30
2.383	0.30	8.450	13.82	14.517	1.20	20.58	0.30	3.650	0.30	9.717	13.82	15.783	1.20	21.85	0.30
2.400	0.30	8.467	13.82	14.533	1.20	20.60	0.30	3.667	0.30	9.733	13.82	15.800	1.20	21.87	0.30
2.417	0.30	8.483	13.82	14.550	1.20	20.62	0.30	3.683	0.30	9.750	13.82	15.817	1.20	21.88	0.30
2.433	0.30	8.500	13.82	14.567	1.20	20.63	0.30	3.700	0.30	9.767	13.82	15.833	1.20	21.90	0.30
2.450	0.30	8.517	13.82	14.583	1.20	20.65	0.30	3.717	0.30	9.783	13.82	15.850	1.20	21.92	0.30
2.467	0.30	8.533	13.82	14.600	1.20	20.67	0.30	3.733	0.30	9.800	13.82	15.867	1.20	21.93	0.30
2.483	0.30	8.550	13.82	14.617	1.20	20.68	0.30	3.750	0.30	9.817	13.82	15.883	1.20	21.95	0.30
2.500	0.30	8.567	13.82	14.633	1.20	20.70	0.30	3.767	0.30	9.833	13.82	15.900	1.20	21.97	0.30
2.517	0.30	8.583	13.82	14.650	1.20	20.72	0.30	3.783	0.30	9.850	13.82	15.917	1.20	21.98	0.30
2.533	0.30	8.600	13.82	14.667	1.20	20.73	0.30	3.800	0.30	9.867	13.82	15.933	1.20	22.00	0.30
2.550	0.30	8.617	13.82	14.683	1.20	20.75	0.30	3.817	0.30	9.883	13.82	15.950	1.20	22.02	0.30
2.567	0.30	8.633	13.82	14.700	1.20	20.77	0.30	3.833	0.30	9.900	13.82	15.967	1.20	22.03	0.30
2.583	0.30	8.650	13.82	14.717	1.20	20.78	0.30	3.850	0.30	9.917	13.82	15.983	1.20	22.05	0.30
2.600	0.30	8.667	13.82	14.733	1.20	20.80	0.30	3.867	0.30	9.933	13.82	16.000	1.20	22.07	0.30
2.617	0.30	8.683	13.82	14.750	1.20	20.82	0.30	3.883	0.30	9.950	13.82	16.017	1.20	22.08	0.30
2.633	0.30	8.700	13.82	14.767	1.20	20.83	0.30	3.900	0.30	9.967	13.82	16.033	1.20	22.10	0.30
2.650	0.30	8.717	13.82	14.783	1.20	20.85	0.30	3.917	0.30	9.983	13.82	16.050	1.20	22.12	0.30
2.667	0.30	8.733	13.82	14.800	1.20	20.87	0.30	3.933	0.30	10.000	13.82	16.067	1.20	22.13	0.30
2.683	0.30	8.750	13.82	14.817	1.20	20.88	0.30	3.950	0.30	10.017	13.82	16.083	1.20	22.15	0.30
2.700	0.30	8.767	13.82	14.833	1.20	20.90	0.30	3.967	0.30	10.033	13.82	16.100	1.20	22.17	0.30
2.717	0.30	8.783	13.82	14.850	1.20	20.92	0.30	3.983	0.30	10.050	13.82	16.117	1.20	22.18	0.30
2.733	0.30	8.800	13.82	14.867	1.20	20.93	0.30	4.000	0.30	10.067	13.82	16.133	1.20	22.20	0.30
2.750	0.30	8.817	13.82	14.883	1.20	20.95	0.30	4.017	0.30	10.083	13.82	16.150	1.20	22.22	0.30
2.767	0.30	8.833	13.82	14.900	1.20	20.97	0.30	4.033	0.30	10.100	13.82	16.167	1.20	22.23	0.30
2.783	0.30	8.850	13.82	14.917	1.20	20.98	0.30	4.050	0.30	10.117	13.82	16.183	1.20	22.25	0.30
2.800	0.30	8.867	13.82	14.933	1.20	21.00	0.30	4.067	0.30	10.133	13.82	16.200	1.20	22.27	0.30
2.817	0.30	8.883	13.82	14.950	1.20	21.02	0.30	4.083	0.30	10.150	13.82	16.217	1.20	22.28	0.30
2.833	0.30	8.900	13.82	14.967	1.20	21.03	0.30	4.100	0.30	10.167	13.82	16.233	1.20	22.30	0.30
2.850	0.30	8.917	13.82	14.983	1.20	21.05	0.30	4.117	0.30	10.183	13.82	16.250	1.20	22.32	0.30
2.867	0.30	8.933	13.82	15.000	1.20	21.07	0.30	4.133	0.30	10.200	13.82	16.267	0.60	22.33	0.30
2.883	0.30	8.950	13.82	15.017	1.20	21.08	0.30	4.150	0.30	10.217	13.82	16.283	0.60	22.35	0.30
2.900	0.30	8.967	13.82	15.033	1.20	21.10	0.30	4.167	0.30	10.233	13.82	16.300	0.60	22.37	0.30
2.917	0.30	8.983	13.82	15.050	1.20	21.12	0.30	4.183	0.30	10.250	13.81	16.317	0.60	22.38	0.30
2.933	0.30	9.000	13.82	15.067	1.20	21.13	0.30	4.200	0.30	10.267	3.91	16.333	0.60	22.40	0.30
2.950	0.30	9.017	13.82	15.083	1.20	21.15	0.30	4.217	0.30	10.283	3.91	16.350	0.60	22.42	0.30
2.967	0.30	9.033	13.82	15.100	1.20	21.17	0.30	4.233	0.30	10.300	3.91	16.367	0.60	22.43	0.30
2.983	0.30	9.050	13.82	15.117	1.20	21.18	0.30	4.250	0.30	10.317	3.91	16.383	0.60	22.45	0.30
3.000	0.30	9.067	13.82	15.133	1.20	21.20	0.30	4.267	1.80	10.333	3.91	16.400	0.60	22.47	0.30
3.017	0.30	9.083	13.82	15.150	1.20	21.22	0.30	4.283	1.80	10.350	3.91	16.417	0.60	22.48	0.30
3.033	0.30	9.100	13.82	15.167	1.20	21.23	0.30	4.300	1.80	10.367	3.91	16.433	0.60	22.50	0.30
3.050	0.30	9.117	13.82	15.183	1.20	21.25	0.30	4.317	1.80	10.383	3.91	16.450	0.60	22.52	0.30
3.067	0.30	9.133	13.82	15.200	1.20	21.27	0.30	4.333	1.80	10.400	3.91	16.467	0.60	22.53	0.30
3.083	0.30	9.150	13.82	15.217	1.20	21.28	0.30	4.350	1.80	10.417	3.91	16.483	0.60	22.55	0.30
3.100	0.30	9.167	13.82	15.233	1.20	21.30	0.30	4.367	1.80	10.433	3.91	16.500	0.60	22.57	0.30
3.117	0.30	9.183	13.82	15.250	1.20	21.32	0.30	4.383	1.80	10.450	3.91	16.517	0.60	22.58	0.30
3.133	0.30	9.200	13.82	15.267	1.20	21.33	0.30	4.400	1.80	10.467	3.91	16.533	0.60	22.60	0.30
3.150	0.30	9.217	13.82	15.283	1.20	21.35	0.30	4.417	1.80	10.483	3.91	16.550	0.60	22.62	0.30
3.167	0.30	9.233	13.82	15.300	1.20	21.37	0.30	4.433	1.80	10.500	3.91	16.567	0.60	22.63	0.30
3.183	0.30	9.250	13.82	15.317	1.20	21.38	0.30	4.450	1.80	10.517	3.91	16.583	0.60	22.65	0.30
3.200	0.30	9.267	13.82	15.333	1.20	21.40	0.30	4.467	1.80	10.533	3.91	16.600	0.60	22.67	0.30
3.217	0.30	9.283	13.82	15.350	1.20	21.42	0.30	4.483	1.80	10.550	3.91	16.617	0.60	22.68	0.30
3.233	0.30	9.300	13.82	15.367	1.20	21.43	0.30	4.500	1.80	10.567	3.91	16.633	0.60	22.70	0.30
3.250	0.30	9.317	13.82	15.383	1.20	21.45	0.30	4.517	1.80	10.583	3.91	16.650	0.60	22.72	0.30
3.267	0.30	9.333	13.82	15.400	1.20	21.47	0.30	4.533	1.80	10.600	3.91	16.667	0.60	22.73	0.30
3.283	0.30	9.350	13.82	15.417	1.20	21.48	0.30	4.550	1.80	10.617	3.91	16.683	0.60	22.75	0.30
3.300	0.30	9.367	13.82	15.433	1.20	21.50	0.30	4.567	1.80	10.633	3.91	16.700	0.60	22.77	0.30

4.583	1.80	10.650	3.91	16.717	0.60	22.78	0.30
4.600	1.80	10.667	3.91	16.733	0.60	22.80	0.30
4.617	1.80	10.683	3.91	16.750	0.60	22.82	0.30
4.633	1.80	10.700	3.91	16.767	0.60	22.83	0.30
4.650	1.80	10.717	3.91	16.783	0.60	22.85	0.30
4.667	1.80	10.733	3.91	16.800	0.60	22.87	0.30
4.683	1.80	10.750	3.91	16.817	0.60	22.88	0.30
4.700	1.80	10.767	3.91	16.833	0.60	22.90	0.30
4.717	1.80	10.783	3.91	16.850	0.60	22.92	0.30
4.733	1.80	10.800	3.91	16.867	0.60	22.93	0.30
4.750	1.80	10.817	3.91	16.883	0.60	22.95	0.30
4.767	1.80	10.833	3.91	16.900	0.60	22.97	0.30
4.783	1.80	10.850	3.91	16.917	0.60	22.98	0.30
4.800	1.80	10.867	3.91	16.933	0.60	23.00	0.30
4.817	1.80	10.883	3.91	16.950	0.60	23.02	0.30
4.833	1.80	10.900	3.91	16.967	0.60	23.03	0.30
4.850	1.80	10.917	3.91	16.983	0.60	23.05	0.30
4.867	1.80	10.933	3.91	17.000	0.60	23.07	0.30
4.883	1.80	10.950	3.91	17.017	0.60	23.08	0.30
4.900	1.80	10.967	3.91	17.033	0.60	23.10	0.30
4.917	1.80	10.983	3.91	17.050	0.60	23.12	0.30
4.933	1.80	11.000	3.91	17.067	0.60	23.13	0.30
4.950	1.80	11.017	3.91	17.083	0.60	23.15	0.30
4.967	1.80	11.033	3.91	17.100	0.60	23.17	0.30
4.983	1.80	11.050	3.91	17.117	0.60	23.18	0.30
5.000	1.80	11.067	3.91	17.133	0.60	23.20	0.30
5.017	1.80	11.083	3.91	17.150	0.60	23.22	0.30
5.033	1.80	11.100	3.91	17.167	0.60	23.23	0.30
5.050	1.80	11.117	3.91	17.183	0.60	23.25	0.30
5.067	1.80	11.133	3.91	17.200	0.60	23.27	0.30
5.083	1.80	11.150	3.91	17.217	0.60	23.28	0.30
5.100	1.80	11.167	3.91	17.233	0.60	23.30	0.30
5.117	1.80	11.183	3.91	17.250	0.60	23.32	0.30
5.133	1.80	11.200	3.91	17.267	0.60	23.33	0.30
5.150	1.80	11.217	3.91	17.283	0.60	23.35	0.30
5.167	1.80	11.233	3.91	17.300	0.60	23.37	0.30
5.183	1.80	11.250	3.91	17.317	0.60	23.38	0.30
5.200	1.80	11.267	3.91	17.333	0.60	23.40	0.30
5.217	1.80	11.283	3.91	17.350	0.60	23.42	0.30
5.233	1.80	11.300	3.91	17.367	0.60	23.43	0.30
5.250	1.80	11.317	3.91	17.383	0.60	23.45	0.30
5.267	1.80	11.333	3.91	17.400	0.60	23.47	0.30
5.283	1.80	11.350	3.91	17.417	0.60	23.48	0.30
5.300	1.80	11.367	3.91	17.433	0.60	23.50	0.30
5.317	1.80	11.383	3.91	17.450	0.60	23.52	0.30
5.333	1.80	11.400	3.91	17.467	0.60	23.53	0.30
5.350	1.80	11.417	3.91	17.483	0.60	23.55	0.30
5.367	1.80	11.433	3.91	17.500	0.60	23.57	0.30
5.383	1.80	11.450	3.91	17.517	0.60	23.58	0.30
5.400	1.80	11.467	3.91	17.533	0.60	23.60	0.30
5.417	1.80	11.483	3.91	17.550	0.60	23.62	0.30
5.433	1.80	11.500	3.91	17.567	0.60	23.63	0.30
5.450	1.80	11.517	3.91	17.583	0.60	23.65	0.30
5.467	1.80	11.533	3.91	17.600	0.60	23.67	0.30
5.483	1.80	11.550	3.91	17.617	0.60	23.68	0.30
5.500	1.80	11.567	3.91	17.633	0.60	23.70	0.30
5.517	1.80	11.583	3.91	17.650	0.60	23.72	0.30
5.533	1.80	11.600	3.91	17.667	0.60	23.73	0.30
5.550	1.80	11.617	3.91	17.683	0.60	23.75	0.30
5.567	1.80	11.633	3.91	17.700	0.60	23.77	0.30
5.583	1.80	11.650	3.91	17.717	0.60	23.78	0.30
5.600	1.80	11.667	3.91	17.733	0.60	23.80	0.30
5.617	1.80	11.683	3.91	17.750	0.60	23.82	0.30
5.633	1.80	11.700	3.91	17.767	0.60	23.83	0.30
5.650	1.80	11.717	3.91	17.783	0.60	23.85	0.30
5.667	1.80	11.733	3.91	17.800	0.60	23.87	0.30
5.683	1.80	11.750	3.91	17.817	0.60	23.88	0.30
5.700	1.80	11.767	3.91	17.833	0.60	23.90	0.30
5.717	1.80	11.783	3.91	17.850	0.60	23.92	0.30
5.733	1.80	11.800	3.91	17.867	0.60	23.93	0.30
5.750	1.80	11.817	3.91	17.883	0.60	23.95	0.30
5.767	1.80	11.833	3.91	17.900	0.60	23.97	0.30
5.783	1.80	11.850	3.91	17.917	0.60	23.98	0.30
5.800	1.80	11.867	3.91	17.933	0.60	24.00	0.30
5.817	1.80	11.883	3.91	17.950	0.60	24.02	0.30
5.833	1.80	11.900	3.91	17.967	0.60	24.03	0.30
5.850	1.80	11.917	3.91	17.983	0.60	24.05	0.30
5.867	1.80	11.933	3.91	18.000	0.60	24.07	0.30
5.883	1.80	11.950	3.91	18.017	0.60	24.08	0.30
5.900	1.80	11.967	3.91	18.033	0.60	24.10	0.30
5.917	1.80	11.983	3.91	18.050	0.60	24.12	0.30
5.933	1.80	12.000	3.91	18.067	0.60	24.13	0.30
5.950	1.80	12.017	3.91	18.083	0.60	24.15	0.30
5.967	1.80	12.033	3.91	18.100	0.60	24.17	0.30
5.983	1.80	12.050	3.91	18.117	0.60	24.18	0.30
6.000	1.80	12.067	3.91	18.133	0.60	24.20	0.30
6.017	1.80	12.083	3.91	18.150	0.60	24.22	0.30
6.033	1.80	12.100	3.91	18.167	0.60	24.23	0.30
6.050	1.80	12.117	3.91	18.183	0.60	24.25	0.30
6.067	1.80	12.133	3.91	18.200	0.60		

Max.Eff.Inten.(mm/hr)=	13.82	9.96	
over (min)	8.00	12.00	
Storage Coeff. (min)=	7.52 (ii)	11.27 (ii)	
Unit Hyd. Tpeak (min)=	8.00	12.00	
Unit Hyd. peak (cms)=	0.15	0.10	
			TOTALS
PEAK FLOW (cms)=	0.15	0.00	0.150 (iii)
TIME TO PEAK (hrs)=	9.98	10.25	10.25
RUNOFF VOLUME (mm)=	59.07	33.18	58.82
TOTAL RAINFALL (mm)=	60.08	60.08	60.08
RUNOFF COEFFICIENT =	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.150	10.25	58.82
OUTFLOW: ID= 1 (7632)	3.910	0.043	10.93	53.55

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.86
TIME SHIFT OF PEAK FLOW (min)= 41.00
MAXIMUM STORAGE USED (ha.m.)= 0.1340

CALIB			
STANDHYD (7641)	Area (ha)= 2.21		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.19	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	121.38	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.80	12.150	3.91	18.22	0.60
0.033	0.00	6.100	1.80	12.167	3.91	18.23	0.60
0.050	0.00	6.117	1.80	12.183	3.91	18.25	0.60

0.067	0.00	6.133	1.80	12.200	3.91	18.27	0.30
0.083	0.00	6.150	1.80	12.217	3.91	18.28	0.30
0.100	0.00	6.167	1.80	12.233	3.91	18.30	0.30
0.117	0.00	6.183	1.80	12.250	3.91	18.32	0.30
0.133	0.00	6.200	1.80	12.267	2.10	18.33	0.30
0.150	0.00	6.217	1.80	12.283	2.10	18.35	0.30
0.167	0.00	6.233	1.80	12.300	2.10	18.37	0.30
0.183	0.00	6.250	1.81	12.317	2.10	18.38	0.30
0.200	0.00	6.267	5.11	12.333	2.10	18.40	0.30
0.217	0.00	6.283	5.11	12.350	2.10	18.42	0.30
0.233	0.00	6.300	5.11	12.367	2.10	18.43	0.30
0.250	0.00	6.317	5.11	12.383	2.10	18.45	0.30
0.267	0.30	6.333	5.11	12.400	2.10	18.47	0.30
0.283	0.30	6.350	5.11	12.417	2.10	18.48	0.30
0.300	0.30	6.367	5.11	12.433	2.10	18.50	0.30
0.317	0.30	6.383	5.11	12.450	2.10	18.52	0.30
0.333	0.30	6.400	5.11	12.467	2.10	18.53	0.30
0.350	0.30	6.417	5.11	12.483	2.10	18.55	0.30
0.367	0.30	6.433	5.11	12.500	2.10	18.57	0.30
0.383	0.30	6.450	5.11	12.517	2.10	18.58	0.30
0.400	0.30	6.467	5.11	12.533	2.10	18.60	0.30
0.417	0.30	6.483	5.11	12.550	2.10	18.62	0.30
0.433	0.30	6.500	5.11	12.567	2.10	18.63	0.30
0.450	0.30	6.517	5.11	12.583	2.10	18.65	0.30
0.467	0.30	6.533	5.11	12.600	2.10	18.67	0.30
0.483	0.30	6.550	5.11	12.617	2.10	18.68	0.30
0.500	0.30	6.567	5.11	12.633	2.10	18.70	0.30
0.517	0.30	6.583	5.11	12.650	2.10	18.72	0.30
0.533	0.30	6.600	5.11	12.667	2.10	18.73	0.30
0.550	0.30	6.617	5.11	12.683	2.10	18.75	0.30
0.567	0.30	6.633	5.11	12.700	2.10	18.77	0.30
0.583	0.30	6.650	5.11	12.717	2.10	18.78	0.30
0.600	0.30	6.667	5.11	12.733	2.10	18.80	0.30
0.617	0.30	6.683	5.11	12.750	2.10	18.82	0.30
0.633	0.30	6.700	5.11	12.767	2.10	18.83	0.30
0.650	0.30	6.717	5.11	12.783	2.10	18.85	0.30
0.667	0.30	6.733	5.11	12.800	2.10	18.87	0.30
0.683	0.30	6.750	5.11	12.817	2.10	18.88	0.30
0.700	0.30	6.767	5.11	12.833	2.10	18.90	0.30
0.717	0.30	6.783	5.11	12.850	2.10	18.92	0.30
0.733	0.30	6.800	5.11	12.867	2.10	18.93	0.30
0.750	0.30	6.817	5.11	12.883	2.10	18.95	0.30
0.767	0.30	6.833	5.11	12.900	2.10	18.97	0.30
0.783	0.30	6.850	5.11	12.917	2.10	18.98	0.30
0.800	0.30	6.867	5.11	12.933	2.10	19.00	0.30
0.817	0.30	6.883	5.11	12.950	2.10	19.02	0.30
0.833	0.30	6.900	5.11	12.967	2.10	19.03	0.30
0.850	0.30	6.917	5.11	12.983	2.10	19.05	0.30
0.867	0.30	6.933	5.11	13.000	2.10	19.07	0.30
0.883	0.30	6.950	5.11	13.017	2.10	19.08	0.30
0.900	0.30	6.967	5.11	13.033	2.10	19.10	0.30
0.917	0.30	6.983	5.11	13.050	2.10	19.12	0.30
0.933	0.30	7.000	5.11	13.067	2.10	19.13	0.30
0.950	0.30	7.017	5.11	13.083	2.10	19.15	0.30
0.967	0.30	7.033	5.11	13.100	2.10	19.17	0.30
0.983	0.30	7.050	5.11	13.117	2.10	19.18	0.30
1.000	0.30	7.067	5.11	13.133	2.10	19.20	0.30
1.017	0.30	7.083	5.11	13.150	2.10	19.22	0.30
1.033	0.30	7.100	5.11	13.167	2.10	19.23	0.30
1.050	0.30	7.117	5.11	13.183	2.10	19.25	0.30
1.067	0.30	7.133	5.11	13.200	2.10	19.27	0.30
1.083	0.30	7.150	5.11	13.217	2.10	19.28	0.30
1.100	0.30	7.167	5.11	13.233	2.10	19.30	0.30
1.117	0.30	7.183	5.11	13.250	2.10	19.32	0.30
1.133	0.30	7.200	5.11	13.267	2.10	19.33	0.30
1.150	0.30	7.217	5.11	13.283	2.10	19.35	0.30
1.167	0.30	7.233	5.11	13.300	2.10	19.37	0.30
1.183	0.30	7.250	5.11	13.317	2.10	19.38	0.30
1.200	0.30	7.267	5.11	13.333	2.10	19.40	0.30
1.217	0.30	7.283	5.11	13.350	2.10	19.42	0.30
1.233	0.30	7.300	5.11	13.367	2.10	19.43	0.30
1.250	0.30	7.317	5.11	13.383	2.10	19.45	0.30
1.267	0.30	7.333	5.11	13.400	2.10	19.47	0.30
1.283	0.30	7.350	5.11	13.417	2.10	19.48	0.30
1.300	0.30	7.367	5.11	13.433	2.10	19.50	0.30
1.317	0.30	7.383	5.11	13.450	2.10	19.52	0.30
1.333	0.30	7.400	5.11	13.467	2.10	19.53	0.30
1.350	0.30	7.417	5.11	13.483	2.10	19.55	0.30
1.367	0.30	7.433	5.11	13.500	2.10	19.57	0.30
1.383	0.30	7.450	5.11	13.517	2.10	19.58	0.30
1.400	0.30	7.467	5.11	13.533	2.10	19.60	0.30
1.417	0.30	7.483	5.11	13.550	2.10	19.62	0.30
1.433	0.30	7.500	5.11	13.567	2.10	19.63	0.30
1.450	0.30	7.517	5.11	13.583	2.10	19.65	0.30
1.467	0.30	7.533	5.11	13.600	2.10	19.67	0.30
1.483	0.30	7.550	5.11	13.617	2.10	19.68	0.30
1.500	0.30	7.567	5.11	13.633	2.10	19.70	0.30
1.517	0.30	7.583	5.11	13.650	2.10	19.72	0.30
1.533	0.30	7.600	5.11	13.667	2.10	19.73	0.30
1.550	0.30	7.617	5.11	13.683	2.10	19.75	0.30
1.567	0.30	7.633	5.11	13.700	2.10	19.77	0.30
1.583	0.30	7.650	5.11	13.717	2.10	19.78	0.30
1.600	0.30	7.667	5.11	13.733	2.10	19.80	0.30
1.617	0.30	7.683	5.11	13.750	2.10	19.82	0.30
1.633	0.30	7.700	5.11	13.767	2.10	19.83	0.30
1.650	0.30	7.717	5.11	13.783	2.10	19.85	0.30
1.667	0.30	7.733	5.11	13.800	2.10	19.87	0.30
1.683	0.30	7.750	5.11	13.817	2.10	19.88	0.30
1.700	0.30	7.767	5.11	13.833	2.10	19.90	0.30
1.717	0.30	7.783	5.11	13.850	2.10	19.92	0.30
1.733	0.30	7.800	5.11	13.867	2.10	19.93	0.30
1.750	0.30	7.817	5.11	13.883	2.10	19.95	0.30
1.767	0.30	7.833	5.11	13.900	2.10	19.97	0.30
1.783	0.30	7.850	5.11	13.917	2.10	19.98	0.30
1.800	0.30	7.867	5.11	13.933	2.10	20.00	0.30
1.817	0.30	7.883	5.11	13.950	2.10	20.02	0.30
1.833	0.30	7.900	5.11	13.967	2.10	20.03	0.30
1.850	0.30	7.917	5.11	13.983	2.10	20.05	0.30
1.867	0.30	7.933	5.11	14.000	2.10	20.07	0.30
1.883	0.30	7.950	5.11	14.017	2.10	20.08	0.30
1.900	0.30	7.967	5.11	14.033	2.10	20.10	0.30
1.917	0.30	7.983	5.11	14.050	2.10	20.12	0.30
1.933	0.30	8.000	5.11	14.067	2.10	20.13	0.30
1.950	0.30	8.017	5.11	14.083	2.10	20.15	0.30
1.967	0.30	8.033	5.11	14.100	2.10	20.17	0.30
1.983	0.30	8.050	5.11	14.117	2.10	20.18	0.30
2.000	0.30	8.067	5.11	14.133	2.10	20.20	0.30
2.017	0.30	8.083	5.11	14.150	2.10	20.22	0.30
2.033	0.30	8.100	5.11	14.167	2.10	20.23	0.30
2.050	0.30	8.117	5.11	14.183	2.10	20.25	0.30
2.067	0.30	8.133	5.11	14.200	2.10	20.27	0.30
2.083	0.30	8.150	5.11	14.217	2.10	20.28	0.30
2.100	0.30	8.167	5.11	14.233	2.10	20.30	0.30
2.117	0.30	8.183	5.11	14.250	2.10	20.32	0.30
2.133	0.30	8.200	5.11	14.267	1.20	20.33	0.30
2.150	0.30	8.217	5.11	14.283	1.20	20.35	0.30
2.167	0.30	8.233	5.11	14.300	1.20	20.37	0.30
2.183	0.30	8.250	5.13	14.317	1.20	20.38	0.30
2.200	0.30	8.267	13.82	14.333	1.20	20.40	0.30
2.217	0.30	8.283	13.82	14.350	1.20	20.42	0.30
2.233	0.30	8.300	13.82	14.367	1.20	20.43	0.30
2.250	0.30	8.317	13.82	14.383	1.20	20.45	0.30
2.267	0.30	8.333	13.82	14.400	1.20	20.47	0.30
2.283	0.30	8.350	13.82	14.417	1.20	20.48	0.30
2.300	0.30	8.367	13.82	14.433	1.20	20.50	0.30
2.317	0.30	8.383	13.82	14.450	1.20	20.52	0.30
2.333	0.30	8.400	13.82	14.467	1.20	20.53	0.30
2.350	0.30	8.417	13.82	14.483	1.20	20.55	0.30
2.367	0.30	8.433	13.82	14.500	1.20	20.57	0.30
2.383	0.30	8.450	13.82	14.517	1.20	20.58	0.30
2.400	0.30	8.467	13.82	14.533	1.20	20.60	0.30
2.417	0.30	8.483	13.82	14.550	1.20	20.62	0.30
2.433	0.30	8.500	13.82	14.567	1.20	20.63	0.30
2.450	0.30	8.517	13.82	14.583	1.20	20.65	0.30
2.467	0.30	8.533	13.82	14.600	1.20	20.67	0.30
2.483	0.30	8.550	13.82	14.617	1.20	20.68	0.30
2.500	0.30	8.567	13.82	14.633	1.20	20.70	0.30
2.517	0.30	8.583	13.82	14.650	1.20	20.72	0.30
2.533	0.30	8.600	13.82	14.667	1.20	20.73	0.30
2.550	0.30	8.617	13.82	14.683	1.20	20.75	0.30
2.567	0.30	8.633	13.82	14.700	1.20	20.77	0.30
2.583	0.30	8.650	13.82	14.717	1.20	20.78	0.30

2.600	0.30	8.667	13.82	14.733	1.20	20.80	0.30
2.617	0.30	8.683	13.82	14.750	1.20	20.82	0.30
2.633	0.30	8.700	13.82	14.767	1.20	20.83	0.30
2.650	0.30	8.717	13.82	14.783	1.20	20.85	0.30
2.667	0.30	8.733	13.82	14.800	1.20	20.87	0.30
2.683	0.30	8.750	13.82	14.817	1.20	20.88	0.30
2.700	0.30	8.767	13.82	14.833	1.20	20.90	0.30
2.717	0.30	8.783	13.82	14.850	1.20	20.92	0.30
2.733	0.30	8.800	13.82	14.867	1.20	20.93	0.30
2.750	0.30	8.817	13.82	14.883	1.20	20.95	0.30
2.767	0.30	8.833	13.82	14.900	1.20	20.97	0.30
2.783	0.30	8.850	13.82	14.917	1.20	20.98	0.30
2.800	0.30	8.867	13.82	14.933	1.20	21.00	0.30
2.817	0.30	8.883	13.82	14.950	1.20	21.02	0.30
2.833	0.30	8.900	13.82	14.967	1.20	21.03	0.30
2.850	0.30	8.917	13.82	14.983	1.20	21.05	0.30
2.867	0.30	8.933	13.82	15.000	1.20	21.07	0.30
2.883	0.30	8.950	13.82	15.017	1.20	21.08	0.30
2.900	0.30	8.967	13.82	15.033	1.20	21.10	0.30
2.917	0.30	8.983	13.82	15.050	1.20	21.12	0.30
2.933	0.30	9.000	13.82	15.067	1.20	21.13	0.30
2.950	0.30	9.017	13.82	15.083	1.20	21.15	0.30
2.967	0.30	9.033	13.82	15.100	1.20	21.17	0.30
2.983	0.30	9.050	13.82	15.117	1.20	21.18	0.30
3.000	0.30	9.067	13.82	15.133	1.20	21.20	0.30
3.017	0.30	9.083	13.82	15.150	1.20	21.22	0.30
3.033	0.30	9.100	13.82	15.167	1.20	21.23	0.30
3.050	0.30	9.117	13.82	15.183	1.20	21.25	0.30
3.067	0.30	9.133	13.82	15.200	1.20	21.27	0.30
3.083	0.30	9.150	13.82	15.217	1.20	21.28	0.30
3.100	0.30	9.167	13.82	15.233	1.20	21.30	0.30
3.117	0.30	9.183	13.82	15.250	1.20	21.32	0.30
3.133	0.30	9.200	13.82	15.267	1.20	21.33	0.30
3.150	0.30	9.217	13.82	15.283	1.20	21.35	0.30
3.167	0.30	9.233	13.82	15.300	1.20	21.37	0.30
3.183	0.30	9.250	13.82	15.317	1.20	21.38	0.30
3.200	0.30	9.267	13.82	15.333	1.20	21.40	0.30
3.217	0.30	9.283	13.82	15.350	1.20	21.42	0.30
3.233	0.30	9.300	13.82	15.367	1.20	21.43	0.30
3.250	0.30	9.317	13.82	15.383	1.20	21.45	0.30
3.267	0.30	9.333	13.82	15.400	1.20	21.47	0.30
3.283	0.30	9.350	13.82	15.417	1.20	21.48	0.30
3.300	0.30	9.367	13.82	15.433	1.20	21.50	0.30
3.317	0.30	9.383	13.82	15.450	1.20	21.52	0.30
3.333	0.30	9.400	13.82	15.467	1.20	21.53	0.30
3.350	0.30	9.417	13.82	15.483	1.20	21.55	0.30
3.367	0.30	9.433	13.82	15.500	1.20	21.57	0.30
3.383	0.30	9.450	13.82	15.517	1.20	21.58	0.30
3.400	0.30	9.467	13.82	15.533	1.20	21.60	0.30
3.417	0.30	9.483	13.82	15.550	1.20	21.62	0.30
3.433	0.30	9.500	13.82	15.567	1.20	21.63	0.30
3.450	0.30	9.517	13.82	15.583	1.20	21.65	0.30
3.467	0.30	9.533	13.82	15.600	1.20	21.67	0.30
3.483	0.30	9.550	13.82	15.617	1.20	21.68	0.30
3.500	0.30	9.567	13.82	15.633	1.20	21.70	0.30
3.517	0.30	9.583	13.82	15.650	1.20	21.72	0.30
3.533	0.30	9.600	13.82	15.667	1.20	21.73	0.30
3.550	0.30	9.617	13.82	15.683	1.20	21.75	0.30
3.567	0.30	9.633	13.82	15.700	1.20	21.77	0.30
3.583	0.30	9.650	13.82	15.717	1.20	21.78	0.30
3.600	0.30	9.667	13.82	15.733	1.20	21.80	0.30
3.617	0.30	9.683	13.82	15.750	1.20	21.82	0.30
3.633	0.30	9.700	13.82	15.767	1.20	21.83	0.30
3.650	0.30	9.717	13.82	15.783	1.20	21.85	0.30
3.667	0.30	9.733	13.82	15.800	1.20	21.87	0.30
3.683	0.30	9.750	13.82	15.817	1.20	21.88	0.30
3.700	0.30	9.767	13.82	15.833	1.20	21.90	0.30
3.717	0.30	9.783	13.82	15.850	1.20	21.92	0.30
3.733	0.30	9.800	13.82	15.867	1.20	21.93	0.30
3.750	0.30	9.817	13.82	15.883	1.20	21.95	0.30
3.767	0.30	9.833	13.82	15.900	1.20	21.97	0.30
3.783	0.30	9.850	13.82	15.917	1.20	21.98	0.30
3.800	0.30	9.867	13.82	15.933	1.20	22.00	0.30
3.817	0.30	9.883	13.82	15.950	1.20	22.02	0.30
3.833	0.30	9.900	13.82	15.967	1.20	22.03	0.30
3.850	0.30	9.917	13.82	15.983	1.20	22.05	0.30
3.867	0.30	9.933	13.82	16.000	1.20	22.07	0.30
3.883	0.30	9.950	13.82	16.017	1.20	22.08	0.30
3.900	0.30	9.967	13.82	16.033	1.20	22.10	0.30
3.917	0.30	9.983	13.82	16.050	1.20	22.12	0.30
3.933	0.30	10.000	13.82	16.067	1.20	22.13	0.30
3.950	0.30	10.017	13.82	16.083	1.20	22.15	0.30
3.967	0.30	10.033	13.82	16.100	1.20	22.17	0.30
3.983	0.30	10.050	13.82	16.117	1.20	22.18	0.30
4.000	0.30	10.067	13.82	16.133	1.20	22.20	0.30
4.017	0.30	10.083	13.82	16.150	1.20	22.22	0.30
4.033	0.30	10.100	13.82	16.167	1.20	22.23	0.30
4.050	0.30	10.117	13.82	16.183	1.20	22.25	0.30
4.067	0.30	10.133	13.82	16.200	1.20	22.27	0.30
4.083	0.30	10.150	13.82	16.217	1.20	22.28	0.30
4.100	0.30	10.167	13.82	16.233	1.20	22.30	0.30
4.117	0.30	10.183	13.82	16.250	1.20	22.32	0.30
4.133	0.30	10.200	13.82	16.267	0.60	22.33	0.30
4.150	0.30	10.217	13.82	16.283	0.60	22.35	0.30
4.167	0.30	10.233	13.82	16.300	0.60	22.37	0.30
4.183	0.30	10.250	13.81	16.317	0.60	22.38	0.30
4.200	0.30	10.267	3.91	16.333	0.60	22.40	0.30
4.217	0.30	10.283	3.91	16.350	0.60	22.42	0.30
4.233	0.30	10.300	3.91	16.367	0.60	22.43	0.30
4.250	0.30	10.317	3.91	16.383	0.60	22.45	0.30
4.267	1.80	10.333	3.91	16.400	0.60	22.47	0.30
4.283	1.80	10.350	3.91	16.417	0.60	22.48	0.30
4.300	1.80	10.367	3.91	16.433	0.60	22.50	0.30
4.317	1.80	10.383	3.91	16.450	0.60	22.52	0.30
4.333	1.80	10.400	3.91	16.467	0.60	22.53	0.30
4.350	1.80	10.417	3.91	16.483	0.60	22.55	0.30
4.367	1.80	10.433	3.91	16.500	0.60	22.57	0.30
4.383	1.80	10.450	3.91	16.517	0.60	22.58	0.30
4.400	1.80	10.467	3.91	16.533	0.60	22.60	0.30
4.417	1.80	10.483	3.91	16.550	0.60	22.62	0.30
4.433	1.80	10.500	3.91	16.567	0.60	22.63	0.30
4.450	1.80	10.517	3.91	16.583	0.60	22.65	0.30
4.467	1.80	10.533	3.91	16.600	0.60	22.67	0.30
4.483	1.80	10.550	3.91	16.617	0.60	22.68	0.30
4.500	1.80	10.567	3.91	16.633	0.60	22.70	0.30
4.517	1.80	10.583	3.91	16.650	0.60	22.72	0.30
4.533	1.80	10.600	3.91	16.667	0.60	22.73	0.30
4.550	1.80	10.617	3.91	16.683	0.60	22.75	0.30
4.567	1.80	10.633	3.91	16.700	0.60	22.77	0.30
4.583	1.80	10.650	3.91	16.717	0.60	22.78	0.30
4.600	1.80	10.667	3.91	16.733	0.60	22.80	0.30
4.617	1.80	10.683	3.91	16.750	0.60	22.82	0.30
4.633	1.80	10.700	3.91	16.767	0.60	22.83	0.30
4.650	1.80	10.717	3.91	16.783	0.60	22.85	0.30
4.667	1.80	10.733	3.91	16.800	0.60	22.87	0.30
4.683	1.80	10.750	3.91	16.817	0.60	22.88	0.30
4.700	1.80	10.767	3.91	16.833	0.60	22.90	0.30
4.717	1.80	10.783	3.91	16.850	0.60	22.92	0.30
4.733	1.80	10.800	3.91	16.867	0.60	22.93	0.30
4.750	1.80	10.817	3.91	16.883	0.60	22.95	0.30
4.767	1.80	10.833	3.91	16.900	0.60	22.97	0.30
4.783	1.80	10.850	3.91	16.917	0.60	22.98	0.30
4.800	1.80	10.867	3.91	16.933	0.60	23.00	0.30
4.817	1.80	10.883	3.91	16.950	0.60	23.02	0.30
4.833	1.80	10.900	3.91	16.967	0.60	23.03	0.30
4.850	1.80	10.917	3.91	16.983	0.60	23.05	0.30
4.867	1.80	10.933	3.91	17.000	0.60	23.07	0.30
4.883	1.80	10.950	3.91	17.017	0.60	23.08	0.30
4.900	1.80	10.967	3.91	17.033	0.60	23.10	0.30
4.917	1.80	10.983	3.91	17.050	0.60	23.12	0.30
4.933	1.80	11.000	3.91	17.067	0.60	23.13	0.30
4.950	1.80	11.017	3.91	17.083	0.60	23.15	0.30
4.967	1.80	11.033	3.91	17.100	0.60	23.17	0.30
4.983	1.80	11.050	3.91	17.117	0.60	23.18	0.30
5.000	1.80	11.067	3.91	17.133	0.60	23.20	0.30
5.017	1.80	11.083	3.91	17.150	0.60	23.22	0.30
5.033	1.80	11.100	3.91	17.167	0.60	23.23	0.30
5.050	1.80	11.117	3.91	17.183	0.60	23.25	0.30
5.067	1.80	11.133	3.91	17.200	0.60	23.27	0.30
5.083	1.80	11.150	3.91	17.217	0.60	23.28	0.30
5.100	1.80	11.167	3.91	17.233	0.60	23.30	0.30
5.117	1.80	11.183	3.91	17.250	0.60	23.32	0.30

5.133	1.80	11.200	3.91	17.267	0.60	23.33	0.30
5.150	1.80	11.217	3.91	17.283	0.60	23.35	0.30
5.167	1.80	11.233	3.91	17.300	0.60	23.37	0.30
5.183	1.80	11.250	3.91	17.317	0.60	23.38	0.30
5.200	1.80	11.267	3.91	17.333	0.60	23.40	0.30
5.217	1.80	11.283	3.91	17.350	0.60	23.42	0.30
5.233	1.80	11.300	3.91	17.367	0.60	23.43	0.30
5.250	1.80	11.317	3.91	17.383	0.60	23.45	0.30
5.267	1.80	11.333	3.91	17.400	0.60	23.47	0.30
5.283	1.80	11.350	3.91	17.417	0.60	23.48	0.30
5.300	1.80	11.367	3.91	17.433	0.60	23.50	0.30
5.317	1.80	11.383	3.91	17.450	0.60	23.52	0.30
5.333	1.80	11.400	3.91	17.467	0.60	23.53	0.30
5.350	1.80	11.417	3.91	17.483	0.60	23.55	0.30
5.367	1.80	11.433	3.91	17.500	0.60	23.57	0.30
5.383	1.80	11.450	3.91	17.517	0.60	23.58	0.30
5.400	1.80	11.467	3.91	17.533	0.60	23.60	0.30
5.417	1.80	11.483	3.91	17.550	0.60	23.62	0.30
5.433	1.80	11.500	3.91	17.567	0.60	23.63	0.30
5.450	1.80	11.517	3.91	17.583	0.60	23.65	0.30
5.467	1.80	11.533	3.91	17.600	0.60	23.67	0.30
5.483	1.80	11.550	3.91	17.617	0.60	23.68	0.30
5.500	1.80	11.567	3.91	17.633	0.60	23.70	0.30
5.517	1.80	11.583	3.91	17.650	0.60	23.72	0.30
5.533	1.80	11.600	3.91	17.667	0.60	23.73	0.30
5.550	1.80	11.617	3.91	17.683	0.60	23.75	0.30
5.567	1.80	11.633	3.91	17.700	0.60	23.77	0.30
5.583	1.80	11.650	3.91	17.717	0.60	23.78	0.30
5.600	1.80	11.667	3.91	17.733	0.60	23.80	0.30
5.617	1.80	11.683	3.91	17.750	0.60	23.82	0.30
5.633	1.80	11.700	3.91	17.767	0.60	23.83	0.30
5.650	1.80	11.717	3.91	17.783	0.60	23.85	0.30
5.667	1.80	11.733	3.91	17.800	0.60	23.87	0.30
5.683	1.80	11.750	3.91	17.817	0.60	23.88	0.30
5.700	1.80	11.767	3.91	17.833	0.60	23.90	0.30
5.717	1.80	11.783	3.91	17.850	0.60	23.92	0.30
5.733	1.80	11.800	3.91	17.867	0.60	23.93	0.30
5.750	1.80	11.817	3.91	17.883	0.60	23.95	0.30
5.767	1.80	11.833	3.91	17.900	0.60	23.97	0.30
5.783	1.80	11.850	3.91	17.917	0.60	23.98	0.30
5.800	1.80	11.867	3.91	17.933	0.60	24.00	0.30
5.817	1.80	11.883	3.91	17.950	0.60	24.02	0.30
5.833	1.80	11.900	3.91	17.967	0.60	24.03	0.30
5.850	1.80	11.917	3.91	17.983	0.60	24.05	0.30
5.867	1.80	11.933	3.91	18.000	0.60	24.07	0.30
5.883	1.80	11.950	3.91	18.017	0.60	24.08	0.30
5.900	1.80	11.967	3.91	18.033	0.60	24.10	0.30
5.917	1.80	11.983	3.91	18.050	0.60	24.12	0.30
5.933	1.80	12.000	3.91	18.067	0.60	24.13	0.30
5.950	1.80	12.017	3.91	18.083	0.60	24.15	0.30
5.967	1.80	12.033	3.91	18.100	0.60	24.17	0.30
5.983	1.80	12.050	3.91	18.117	0.60	24.18	0.30
6.000	1.80	12.067	3.91	18.133	0.60	24.20	0.30
6.017	1.80	12.083	3.91	18.150	0.60	24.22	0.30
6.033	1.80	12.100	3.91	18.167	0.60	24.23	0.30
6.050	1.80	12.117	3.91	18.183	0.60	24.25	0.30
6.067	1.80	12.133	3.91	18.200	0.60		

Max.Eff.Inten.(mm/hr)=	13.82	9.96	
over (min)	6.00	11.00	
Storage Coeff. (min)=	6.33 (ii)	10.09 (ii)	
Unit Hyd. Tpeak (min)=	6.00	11.00	
Unit Hyd. peak (cms)=	0.18	0.11	
			TOTALS
PEAK FLOW (cms)=	0.08	0.00	0.085 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	59.07	33.18	58.82
TOTAL RAINFALL (mm)=	60.08	60.08	60.08
RUNOFF COEFFICIENT =	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.085	10.25	58.82
OUTFLOW: ID= 1 (7642)	2.210	0.025	10.70	54.24

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.08
TIME SHIFT OF PEAK FLOW (min)= 27.00
MAXIMUM STORAGE USED (ha.m.)= 0.0748

CALIB			
STANDHYD (7643)	Area (ha)= 2.02		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.00	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	116.05	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	1.80	12.150	3.91	18.22	0.60
0.033	0.00	6.100	1.80	12.167	3.91	18.23	0.60
0.050	0.00	6.117	1.80	12.183	3.91	18.25	0.60
0.067	0.00	6.133	1.80	12.200	3.91	18.27	0.30
0.083	0.00	6.150	1.80	12.217	3.91	18.28	0.30
0.100	0.00	6.167	1.80	12.233	3.91	18.30	0.30
0.117	0.00	6.183	1.80	12.250	3.91	18.32	0.30
0.133	0.00	6.200	1.80	12.267	2.10	18.33	0.30
0.150	0.00	6.217	1.80	12.283	2.10	18.35	0.30
0.167	0.00	6.233	1.80	12.300	2.10	18.37	0.30
0.183	0.00	6.250	1.81	12.317	2.10	18.38	0.30
0.200	0.00	6.267	5.11	12.333	2.10	18.40	0.30
0.217	0.00	6.283	5.11	12.350	2.10	18.42	0.30
0.233	0.00	6.300	5.11	12.367	2.10	18.43	0.30
0.250	0.00	6.317	5.11	12.383	2.10	18.45	0.30
0.267	0.30	6.333	5.11	12.400	2.10	18.47	0.30
0.283	0.30	6.350	5.11	12.417	2.10	18.48	0.30
0.300	0.30	6.367	5.11	12.433	2.10	18.50	0.30
0.317	0.30	6.383	5.11	12.450	2.10	18.52	0.30
0.333	0.30	6.400	5.11	12.467	2.10	18.53	0.30
0.350	0.30	6.417	5.11	12.483	2.10	18.55	0.30
0.367	0.30	6.433	5.11	12.500	2.10	18.57	0.30
0.383	0.30	6.450	5.11	12.517	2.10	18.58	0.30
0.400	0.30	6.467	5.11	12.533	2.10	18.60	0.30
0.417	0.30	6.483	5.11	12.550	2.10	18.62	0.30
0.433	0.30	6.500	5.11	12.567	2.10	18.63	0.30
0.450	0.30	6.517	5.11	12.583	2.10	18.65	0.30
0.467	0.30	6.533	5.11	12.600	2.10	18.67	0.30
0.483	0.30	6.550	5.11	12.617	2.10	18.68	0.30
0.500	0.30	6.567	5.11	12.633	2.10	18.70	0.30
0.517	0.30	6.583	5.11	12.650	2.10	18.72	0.30
0.533	0.30	6.600	5.11	12.667	2.10	18.73	0.30
0.550	0.30	6.617	5.11	12.683	2.10	18.75	0.30
0.567	0.30	6.633	5.11	12.700	2.10	18.77	0.30
0.583	0.30	6.650	5.11	12.717	2.10	18.78	0.30
0.600	0.30	6.667	5.11	12.733	2.10	18.80	0.30

0.617	0.30	6.683	5.11	12.750	2.10	18.82	0.30	1.883	0.30	7.950	5.11	14.017	2.10	20.08	0.30
0.633	0.30	6.700	5.11	12.767	2.10	18.83	0.30	1.900	0.30	7.967	5.11	14.033	2.10	20.10	0.30
0.650	0.30	6.717	5.11	12.783	2.10	18.85	0.30	1.917	0.30	7.983	5.11	14.050	2.10	20.12	0.30
0.667	0.30	6.733	5.11	12.800	2.10	18.87	0.30	1.933	0.30	8.000	5.11	14.067	2.10	20.13	0.30
0.683	0.30	6.750	5.11	12.817	2.10	18.88	0.30	1.950	0.30	8.017	5.11	14.083	2.10	20.15	0.30
0.700	0.30	6.767	5.11	12.833	2.10	18.90	0.30	1.967	0.30	8.033	5.11	14.100	2.10	20.17	0.30
0.717	0.30	6.783	5.11	12.850	2.10	18.92	0.30	1.983	0.30	8.050	5.11	14.117	2.10	20.18	0.30
0.733	0.30	6.800	5.11	12.867	2.10	18.93	0.30	2.000	0.30	8.067	5.11	14.133	2.10	20.20	0.30
0.750	0.30	6.817	5.11	12.883	2.10	18.95	0.30	2.017	0.30	8.083	5.11	14.150	2.10	20.22	0.30
0.767	0.30	6.833	5.11	12.900	2.10	18.97	0.30	2.033	0.30	8.100	5.11	14.167	2.10	20.23	0.30
0.783	0.30	6.850	5.11	12.917	2.10	18.98	0.30	2.050	0.30	8.117	5.11	14.183	2.10	20.25	0.30
0.800	0.30	6.867	5.11	12.933	2.10	19.00	0.30	2.067	0.30	8.133	5.11	14.200	2.10	20.27	0.30
0.817	0.30	6.883	5.11	12.950	2.10	19.02	0.30	2.083	0.30	8.150	5.11	14.217	2.10	20.28	0.30
0.833	0.30	6.900	5.11	12.967	2.10	19.03	0.30	2.100	0.30	8.167	5.11	14.233	2.10	20.30	0.30
0.850	0.30	6.917	5.11	12.983	2.10	19.05	0.30	2.117	0.30	8.183	5.11	14.250	2.10	20.32	0.30
0.867	0.30	6.933	5.11	13.000	2.10	19.07	0.30	2.133	0.30	8.200	5.11	14.267	1.20	20.33	0.30
0.883	0.30	6.950	5.11	13.017	2.10	19.08	0.30	2.150	0.30	8.217	5.11	14.283	1.20	20.35	0.30
0.900	0.30	6.967	5.11	13.033	2.10	19.10	0.30	2.167	0.30	8.233	5.11	14.300	1.20	20.37	0.30
0.917	0.30	6.983	5.11	13.050	2.10	19.12	0.30	2.183	0.30	8.250	5.13	14.317	1.20	20.38	0.30
0.933	0.30	7.000	5.11	13.067	2.10	19.13	0.30	2.200	0.30	8.267	13.82	14.333	1.20	20.40	0.30
0.950	0.30	7.017	5.11	13.083	2.10	19.15	0.30	2.217	0.30	8.283	13.82	14.350	1.20	20.42	0.30
0.967	0.30	7.033	5.11	13.100	2.10	19.17	0.30	2.233	0.30	8.300	13.82	14.367	1.20	20.43	0.30
0.983	0.30	7.050	5.11	13.117	2.10	19.18	0.30	2.250	0.30	8.317	13.82	14.383	1.20	20.45	0.30
1.000	0.30	7.067	5.11	13.133	2.10	19.20	0.30	2.267	0.30	8.333	13.82	14.400	1.20	20.47	0.30
1.017	0.30	7.083	5.11	13.150	2.10	19.22	0.30	2.283	0.30	8.350	13.82	14.417	1.20	20.48	0.30
1.033	0.30	7.100	5.11	13.167	2.10	19.23	0.30	2.300	0.30	8.367	13.82	14.433	1.20	20.50	0.30
1.050	0.30	7.117	5.11	13.183	2.10	19.25	0.30	2.317	0.30	8.383	13.82	14.450	1.20	20.52	0.30
1.067	0.30	7.133	5.11	13.200	2.10	19.27	0.30	2.333	0.30	8.400	13.82	14.467	1.20	20.53	0.30
1.083	0.30	7.150	5.11	13.217	2.10	19.28	0.30	2.350	0.30	8.417	13.82	14.483	1.20	20.55	0.30
1.100	0.30	7.167	5.11	13.233	2.10	19.30	0.30	2.367	0.30	8.433	13.82	14.500	1.20	20.57	0.30
1.117	0.30	7.183	5.11	13.250	2.10	19.32	0.30	2.383	0.30	8.450	13.82	14.517	1.20	20.58	0.30
1.133	0.30	7.200	5.11	13.267	2.10	19.33	0.30	2.400	0.30	8.467	13.82	14.533	1.20	20.60	0.30
1.150	0.30	7.217	5.11	13.283	2.10	19.35	0.30	2.417	0.30	8.483	13.82	14.550	1.20	20.62	0.30
1.167	0.30	7.233	5.11	13.300	2.10	19.37	0.30	2.433	0.30	8.500	13.82	14.567	1.20	20.63	0.30
1.183	0.30	7.250	5.11	13.317	2.10	19.38	0.30	2.450	0.30	8.517	13.82	14.583	1.20	20.65	0.30
1.200	0.30	7.267	5.11	13.333	2.10	19.40	0.30	2.467	0.30	8.533	13.82	14.600	1.20	20.67	0.30
1.217	0.30	7.283	5.11	13.350	2.10	19.42	0.30	2.483	0.30	8.550	13.82	14.617	1.20	20.68	0.30
1.233	0.30	7.300	5.11	13.367	2.10	19.43	0.30	2.500	0.30	8.567	13.82	14.633	1.20	20.70	0.30
1.250	0.30	7.317	5.11	13.383	2.10	19.45	0.30	2.517	0.30	8.583	13.82	14.650	1.20	20.72	0.30
1.267	0.30	7.333	5.11	13.400	2.10	19.47	0.30	2.533	0.30	8.600	13.82	14.667	1.20	20.73	0.30
1.283	0.30	7.350	5.11	13.417	2.10	19.48	0.30	2.550	0.30	8.617	13.82	14.683	1.20	20.75	0.30
1.300	0.30	7.367	5.11	13.433	2.10	19.50	0.30	2.567	0.30	8.633	13.82	14.700	1.20	20.77	0.30
1.317	0.30	7.383	5.11	13.450	2.10	19.52	0.30	2.583	0.30	8.650	13.82	14.717	1.20	20.78	0.30
1.333	0.30	7.400	5.11	13.467	2.10	19.53	0.30	2.600	0.30	8.667	13.82	14.733	1.20	20.80	0.30
1.350	0.30	7.417	5.11	13.483	2.10	19.55	0.30	2.617	0.30	8.683	13.82	14.750	1.20	20.82	0.30
1.367	0.30	7.433	5.11	13.500	2.10	19.57	0.30	2.633	0.30	8.700	13.82	14.767	1.20	20.83	0.30
1.383	0.30	7.450	5.11	13.517	2.10	19.58	0.30	2.650	0.30	8.717	13.82	14.783	1.20	20.85	0.30
1.400	0.30	7.467	5.11	13.533	2.10	19.60	0.30	2.667	0.30	8.733	13.82	14.800	1.20	20.87	0.30
1.417	0.30	7.483	5.11	13.550	2.10	19.62	0.30	2.683	0.30	8.750	13.82	14.817	1.20	20.88	0.30
1.433	0.30	7.500	5.11	13.567	2.10	19.63	0.30	2.700	0.30	8.767	13.82	14.833	1.20	20.90	0.30
1.450	0.30	7.517	5.11	13.583	2.10	19.65	0.30	2.717	0.30	8.783	13.82	14.850	1.20	20.92	0.30
1.467	0.30	7.533	5.11	13.600	2.10	19.67	0.30	2.733	0.30	8.800	13.82	14.867	1.20	20.93	0.30
1.483	0.30	7.550	5.11	13.617	2.10	19.68	0.30	2.750	0.30	8.817	13.82	14.883	1.20	20.95	0.30
1.500	0.30	7.567	5.11	13.633	2.10	19.70	0.30	2.767	0.30	8.833	13.82	14.900	1.20	20.97	0.30
1.517	0.30	7.583	5.11	13.650	2.10	19.72	0.30	2.783	0.30	8.850	13.82	14.917	1.20	20.98	0.30
1.533	0.30	7.600	5.11	13.667	2.10	19.73	0.30	2.800	0.30	8.867	13.82	14.933	1.20	21.00	0.30
1.550	0.30	7.617	5.11	13.683	2.10	19.75	0.30	2.817	0.30	8.883	13.82	14.950	1.20	21.02	0.30
1.567	0.30	7.633	5.11	13.700	2.10	19.77	0.30	2.833	0.30	8.900	13.82	14.967	1.20	21.03	0.30
1.583	0.30	7.650	5.11	13.717	2.10	19.78	0.30	2.850	0.30	8.917	13.82	14.983	1.20	21.05	0.30
1.600	0.30	7.667	5.11	13.733	2.10	19.80	0.30	2.867	0.30	8.933	13.82	15.000	1.20	21.07	0.30
1.617	0.30	7.683	5.11	13.750	2.10	19.82	0.30	2.883	0.30	8.950	13.82	15.017	1.20	21.08	0.30
1.633	0.30	7.700	5.11	13.767	2.10	19.83	0.30	2.900	0.30	8.967	13.82	15.033	1.20	21.10	0.30
1.650	0.30	7.717	5.11	13.783	2.10	19.85	0.30	2.917	0.30	8.983	13.82	15.050	1.20	21.12	0.30
1.667	0.30	7.733	5.11	13.800	2.10	19.87	0.30	2.933	0.30	9.000	13.82	15.067	1.20	21.13	0.30
1.683	0.30	7.750	5.11	13.817	2.10	19.88	0.30	2.950	0.30	9.017	13.82	15.083	1.20	21.15	0.30
1.700	0.30	7.767	5.11	13.833	2.10	19.90	0.30	2.967	0.30	9.033	13.82	15.100	1.20	21.17	0.30
1.717	0.30	7.783	5.11	13.850	2.10	19.92	0.30	2.983	0.30	9.050	13.82	15.117	1.20	21.18	0.30
1.733	0.30	7.800	5.11	13.867	2.10	19.93	0.30	3.000	0.30	9.067	13.82	15.133	1.20	21.20	0.30
1.750	0.30	7.817	5.11	13.883	2.10	19.95	0.30	3.017	0.30	9.083	13.82	15.150	1.20	21.22	0.30
1.767	0.30	7.833	5.11	13.900	2.10	19.97	0.30	3.033	0.30	9.100	13.82	15.167	1.20	21.23	0.30
1.783	0.30	7.850	5.11	13.917	2.10	19.98	0.30	3.050	0.30	9.117	13.82	15.183	1.20	21.25	0.30
1.800	0.30	7.867	5.11	13.933	2.10	20.00	0.30	3.067	0.30	9.133	13.82	15.200	1.20	21.27	0.30
1.817	0.30	7.883	5.11	13.950	2.10	20.02	0.30	3.083	0.30	9.150	13.82	15.217	1.20	21.28	0.30
1.833	0.30	7.900	5.11	13.967	2.10	20.03	0.30	3.100	0.30	9.167	13.82	15.233	1.20	21.30	0.30
1.850	0.30	7.917	5.11	13.983	2.10	20.05	0.30	3.117	0.30	9.183	13.82	15.250	1.20	21.32	0.30
1.867	0.30	7.933	5.11	14.000	2.10	20.07	0.30	3.133	0.30	9.200	13.82	15.267	1.20	21.33	0.30

3.150	0.30	9.217	13.82	15.283	1.20	21.35	0.30	4.417	1.80	10.483	3.91	16.550	0.60	22.62	0.30
3.167	0.30	9.233	13.82	15.300	1.20	21.37	0.30	4.433	1.80	10.500	3.91	16.567	0.60	22.63	0.30
3.183	0.30	9.250	13.82	15.317	1.20	21.38	0.30	4.450	1.80	10.517	3.91	16.583	0.60	22.65	0.30
3.200	0.30	9.267	13.82	15.333	1.20	21.40	0.30	4.467	1.80	10.533	3.91	16.600	0.60	22.67	0.30
3.217	0.30	9.283	13.82	15.350	1.20	21.42	0.30	4.483	1.80	10.550	3.91	16.617	0.60	22.68	0.30
3.233	0.30	9.300	13.82	15.367	1.20	21.43	0.30	4.500	1.80	10.567	3.91	16.633	0.60	22.70	0.30
3.250	0.30	9.317	13.82	15.383	1.20	21.45	0.30	4.517	1.80	10.583	3.91	16.650	0.60	22.72	0.30
3.267	0.30	9.333	13.82	15.400	1.20	21.47	0.30	4.533	1.80	10.600	3.91	16.667	0.60	22.73	0.30
3.283	0.30	9.350	13.82	15.417	1.20	21.48	0.30	4.550	1.80	10.617	3.91	16.683	0.60	22.75	0.30
3.300	0.30	9.367	13.82	15.433	1.20	21.50	0.30	4.567	1.80	10.633	3.91	16.700	0.60	22.77	0.30
3.317	0.30	9.383	13.82	15.450	1.20	21.52	0.30	4.583	1.80	10.650	3.91	16.717	0.60	22.78	0.30
3.333	0.30	9.400	13.82	15.467	1.20	21.53	0.30	4.600	1.80	10.667	3.91	16.733	0.60	22.80	0.30
3.350	0.30	9.417	13.82	15.483	1.20	21.55	0.30	4.617	1.80	10.683	3.91	16.750	0.60	22.82	0.30
3.367	0.30	9.433	13.82	15.500	1.20	21.57	0.30	4.633	1.80	10.700	3.91	16.767	0.60	22.83	0.30
3.383	0.30	9.450	13.82	15.517	1.20	21.58	0.30	4.650	1.80	10.717	3.91	16.783	0.60	22.85	0.30
3.400	0.30	9.467	13.82	15.533	1.20	21.60	0.30	4.667	1.80	10.733	3.91	16.800	0.60	22.87	0.30
3.417	0.30	9.483	13.82	15.550	1.20	21.62	0.30	4.683	1.80	10.750	3.91	16.817	0.60	22.88	0.30
3.433	0.30	9.500	13.82	15.567	1.20	21.63	0.30	4.700	1.80	10.767	3.91	16.833	0.60	22.90	0.30
3.450	0.30	9.517	13.82	15.583	1.20	21.65	0.30	4.717	1.80	10.783	3.91	16.850	0.60	22.92	0.30
3.467	0.30	9.533	13.82	15.600	1.20	21.67	0.30	4.733	1.80	10.800	3.91	16.867	0.60	22.93	0.30
3.483	0.30	9.550	13.82	15.617	1.20	21.68	0.30	4.750	1.80	10.817	3.91	16.883	0.60	22.95	0.30
3.500	0.30	9.567	13.82	15.633	1.20	21.70	0.30	4.767	1.80	10.833	3.91	16.900	0.60	22.97	0.30
3.517	0.30	9.583	13.82	15.650	1.20	21.72	0.30	4.783	1.80	10.850	3.91	16.917	0.60	22.98	0.30
3.533	0.30	9.600	13.82	15.667	1.20	21.73	0.30	4.800	1.80	10.867	3.91	16.933	0.60	23.00	0.30
3.550	0.30	9.617	13.82	15.683	1.20	21.75	0.30	4.817	1.80	10.883	3.91	16.950	0.60	23.02	0.30
3.567	0.30	9.633	13.82	15.700	1.20	21.77	0.30	4.833	1.80	10.900	3.91	16.967	0.60	23.03	0.30
3.583	0.30	9.650	13.82	15.717	1.20	21.78	0.30	4.850	1.80	10.917	3.91	16.983	0.60	23.05	0.30
3.600	0.30	9.667	13.82	15.733	1.20	21.80	0.30	4.867	1.80	10.933	3.91	17.000	0.60	23.07	0.30
3.617	0.30	9.683	13.82	15.750	1.20	21.82	0.30	4.883	1.80	10.950	3.91	17.017	0.60	23.08	0.30
3.633	0.30	9.700	13.82	15.767	1.20	21.83	0.30	4.900	1.80	10.967	3.91	17.033	0.60	23.10	0.30
3.650	0.30	9.717	13.82	15.783	1.20	21.85	0.30	4.917	1.80	10.983	3.91	17.050	0.60	23.12	0.30
3.667	0.30	9.733	13.82	15.800	1.20	21.87	0.30	4.933	1.80	11.000	3.91	17.067	0.60	23.13	0.30
3.683	0.30	9.750	13.82	15.817	1.20	21.88	0.30	4.950	1.80	11.017	3.91	17.083	0.60	23.15	0.30
3.700	0.30	9.767	13.82	15.833	1.20	21.90	0.30	4.967	1.80	11.033	3.91	17.100	0.60	23.17	0.30
3.717	0.30	9.783	13.82	15.850	1.20	21.92	0.30	4.983	1.80	11.050	3.91	17.117	0.60	23.18	0.30
3.733	0.30	9.800	13.82	15.867	1.20	21.93	0.30	5.000	1.80	11.067	3.91	17.133	0.60	23.20	0.30
3.750	0.30	9.817	13.82	15.883	1.20	21.95	0.30	5.017	1.80	11.083	3.91	17.150	0.60	23.22	0.30
3.767	0.30	9.833	13.82	15.900	1.20	21.97	0.30	5.033	1.80	11.100	3.91	17.167	0.60	23.23	0.30
3.783	0.30	9.850	13.82	15.917	1.20	21.98	0.30	5.050	1.80	11.117	3.91	17.183	0.60	23.25	0.30
3.800	0.30	9.867	13.82	15.933	1.20	22.00	0.30	5.067	1.80	11.133	3.91	17.200	0.60	23.27	0.30
3.817	0.30	9.883	13.82	15.950	1.20	22.02	0.30	5.083	1.80	11.150	3.91	17.217	0.60	23.28	0.30
3.833	0.30	9.900	13.82	15.967	1.20	22.03	0.30	5.100	1.80	11.167	3.91	17.233	0.60	23.30	0.30
3.850	0.30	9.917	13.82	15.983	1.20	22.05	0.30	5.117	1.80	11.183	3.91	17.250	0.60	23.32	0.30
3.867	0.30	9.933	13.82	16.000	1.20	22.07	0.30	5.133	1.80	11.200	3.91	17.267	0.60	23.33	0.30
3.883	0.30	9.950	13.82	16.017	1.20	22.08	0.30	5.150	1.80	11.217	3.91	17.283	0.60	23.35	0.30
3.900	0.30	9.967	13.82	16.033	1.20	22.10	0.30	5.167	1.80	11.233	3.91	17.300	0.60	23.37	0.30
3.917	0.30	9.983	13.82	16.050	1.20	22.12	0.30	5.183	1.80	11.250	3.91	17.317	0.60	23.38	0.30
3.933	0.30	10.000	13.82	16.067	1.20	22.13	0.30	5.200	1.80	11.267	3.91	17.333	0.60	23.40	0.30
3.950	0.30	10.017	13.82	16.083	1.20	22.15	0.30	5.217	1.80	11.283	3.91	17.350	0.60	23.42	0.30
3.967	0.30	10.033	13.82	16.100	1.20	22.17	0.30	5.233	1.80	11.300	3.91	17.367	0.60	23.43	0.30
3.983	0.30	10.050	13.82	16.117	1.20	22.18	0.30	5.250	1.80	11.317	3.91	17.383	0.60	23.45	0.30
4.000	0.30	10.067	13.82	16.133	1.20	22.20	0.30	5.267	1.80	11.333	3.91	17.400	0.60	23.47	0.30
4.017	0.30	10.083	13.82	16.150	1.20	22.22	0.30	5.283	1.80	11.350	3.91	17.417	0.60	23.48	0.30
4.033	0.30	10.100	13.82	16.167	1.20	22.23	0.30	5.300	1.80	11.367	3.91	17.433	0.60	23.50	0.30
4.050	0.30	10.117	13.82	16.183	1.20	22.25	0.30	5.317	1.80	11.383	3.91	17.450	0.60	23.52	0.30
4.067	0.30	10.133	13.82	16.200	1.20	22.27	0.30	5.333	1.80	11.400	3.91	17.467	0.60	23.53	0.30
4.083	0.30	10.150	13.82	16.217	1.20	22.28	0.30	5.350	1.80	11.417	3.91	17.483	0.60	23.55	0.30
4.100	0.30	10.167	13.82	16.233	1.20	22.30	0.30	5.367	1.80	11.433	3.91	17.500	0.60	23.57	0.30
4.117	0.30	10.183	13.82	16.250	1.20	22.32	0.30	5.383	1.80	11.450	3.91	17.517	0.60	23.58	0.30
4.133	0.30	10.200	13.82	16.267	0.60	22.33	0.30	5.400	1.80	11.467	3.91	17.533	0.60	23.60	0.30
4.150	0.30	10.217	13.82	16.283	0.60	22.35	0.30	5.417	1.80	11.483	3.91	17.550	0.60	23.62	0.30
4.167	0.30	10.233	13.82	16.300	0.60	22.37	0.30	5.433	1.80	11.500	3.91	17.567	0.60	23.63	0.30
4.183	0.30	10.250	13.81	16.317	0.60	22.38	0.30	5.450	1.80	11.517	3.91	17.583	0.60	23.65	0.30
4.200	0.30	10.267	3.91	16.333	0.60	22.40	0.30	5.467	1.80	11.533	3.91	17.600	0.60	23.67	0.30
4.217	0.30	10.283	3.91	16.350	0.60	22.42	0.30	5.483	1.80	11.550	3.91	17.617	0.60	23.68	0.30
4.233	0.30	10.300	3.91	16.367	0.60	22.43	0.30	5.500	1.80	11.567	3.91	17.633	0.60	23.70	0.30
4.250	0.30	10.317	3.91	16.383	0.60	22.45	0.30	5.517	1.80	11.583	3.91	17.650	0.60	23.72	0.30
4.267	1.80	10.333	3.91	16.400	0.60	22.47	0.30	5.533	1.80	11.600	3.91	17.667	0.60	23.73	0.30
4.283	1.80	10.350	3.91	16.417	0.60	22.48	0.30	5.550	1.80	11.617	3.91	17.683	0.60	23.75	0.30
4.300	1.80	10.367	3.91	16.433	0.60	22.50	0.30	5.567	1.80	11.633	3.91	17.700	0.60	23.77	0.30
4.317	1.80	10.383	3.91	16.450	0.60	22.52	0.30	5.583	1.80	11.650	3.91	17.717	0.60	23.78	0.30
4.333	1.80	10.400	3.91	16.467	0.60	22.53	0.30	5.600	1.80	11.667	3.91	17.733	0.60	23.80	0.30
4.350	1.80	10.417	3.91	16.483	0.60	22.55	0.30	5.617	1.80	11.683	3.91	17.750	0.60	23.82	0.30
4.367	1.80	10.433	3.91	16.500	0.60	22.57	0.30	5.633	1.80	11.700	3.91	17.767	0.60	23.83	0.30
4.383	1.80	10.450	3.91	16.517	0.60	22.58	0.30	5.650	1.80	11.717	3.91	17.783	0.60	23.85	0.30
4.400	1.80	10.467	3.91	16.533	0.60	22.60	0.30	5.667	1.80	11.733	3.91	17.800	0.60	23.87	0.30

5.683	1.80	11.750	3.91	17.817	0.60	23.88	0.30
5.700	1.80	11.767	3.91	17.833	0.60	23.90	0.30
5.717	1.80	11.783	3.91	17.850	0.60	23.92	0.30
5.733	1.80	11.800	3.91	17.867	0.60	23.93	0.30
5.750	1.80	11.817	3.91	17.883	0.60	23.95	0.30
5.767	1.80	11.833	3.91	17.900	0.60	23.97	0.30
5.783	1.80	11.850	3.91	17.917	0.60	23.98	0.30
5.800	1.80	11.867	3.91	17.933	0.60	24.00	0.30
5.817	1.80	11.883	3.91	17.950	0.60	24.02	0.30
5.833	1.80	11.900	3.91	17.967	0.60	24.03	0.30
5.850	1.80	11.917	3.91	17.983	0.60	24.05	0.30
5.867	1.80	11.933	3.91	18.000	0.60	24.07	0.30
5.883	1.80	11.950	3.91	18.017	0.60	24.08	0.30
5.900	1.80	11.967	3.91	18.033	0.60	24.10	0.30
5.917	1.80	11.983	3.91	18.050	0.60	24.12	0.30
5.933	1.80	12.000	3.91	18.067	0.60	24.13	0.30
5.950	1.80	12.017	3.91	18.083	0.60	24.15	0.30
5.967	1.80	12.033	3.91	18.100	0.60	24.17	0.30
5.983	1.80	12.050	3.91	18.117	0.60	24.18	0.30
6.000	1.80	12.067	3.91	18.133	0.60	24.20	0.30
6.017	1.80	12.083	3.91	18.150	0.60	24.22	0.30
6.033	1.80	12.100	3.91	18.167	0.60	24.23	0.30
6.050	1.80	12.117	3.91	18.183	0.60	24.25	0.30
6.067	1.80	12.133	3.91	18.200	0.60		

Max.Eff.Inten.(mm/hr)=	13.82	9.96	
over (min)	6.00	10.00	
Storage Coeff. (min)=	6.16 (ii)	9.92 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.19	0.11	
			TOTALS
PEAK FLOW (cms)=	0.08	0.00	0.077 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	59.08	33.19	58.82
TOTAL RAINFALL (mm)=	60.08	60.08	60.08
RUNOFF COEFFICIENT =	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0433	0.1140
0.0182	0.0580	0.0507	0.1280
0.0280	0.0775	0.0571	0.1440
0.0343	0.0930	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7643)	2.020	0.077	10.25	58.82
OUTFLOW: ID= 1 (	7644)	2.020	0.023	10.67	54.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.25
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0683

****
** SIMULATION:8. 5yr 4hr 10min Chicago **
****

CHICAGO STORM	IDF curve parameters: A=1593.000
Ptotal= 49.55 mm	B= 11.000
	C= 0.879

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min

Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	2.35	1.00	30.47	2.00	7.17	3.00	2.93
0.17	2.80	1.17	109.68	2.17	5.81	3.17	2.67
0.33	3.46	1.33	40.71	2.33	4.87	3.33	2.45
0.50	4.52	1.50	20.28	2.50	4.19	3.50	2.26
0.67	6.48	1.67	12.91	2.67	3.67	3.67	2.10
0.83	11.07	1.83	9.28	2.83	3.26	3.83	1.96

CALIB	
STANDHYD (7567)	Area (ha)= 2.81
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.35	1.017	30.47	2.017	7.17	3.02	2.93
0.033	2.35	1.033	30.47	2.033	7.17	3.03	2.93
0.050	2.35	1.050	30.47	2.050	7.17	3.05	2.93
0.067	2.35	1.067	30.47	2.067	7.17	3.07	2.93
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.100	2.35	1.100	30.47	2.100	7.17	3.10	2.93
0.117	2.35	1.117	30.47	2.117	7.17	3.12	2.93
0.133	2.35	1.133	30.47	2.133	7.17	3.13	2.93
0.150	2.35	1.150	30.47	2.150	7.17	3.15	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.183	2.80	1.183	109.68	2.183	5.81	3.18	2.67
0.200	2.80	1.200	109.68	2.200	5.81	3.20	2.67
0.217	2.80	1.217	109.68	2.217	5.81	3.22	2.67
0.233	2.80	1.233	109.68	2.233	5.81	3.23	2.67
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.267	2.80	1.267	109.68	2.267	5.81	3.27	2.67
0.283	2.80	1.283	109.68	2.283	5.81	3.28	2.67
0.300	2.80	1.300	109.68	2.300	5.81	3.30	2.67
0.317	2.80	1.317	109.68	2.317	5.81	3.32	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.350	3.46	1.350	40.71	2.350	4.87	3.35	2.45
0.367	3.46	1.367	40.71	2.367	4.87	3.37	2.45
0.383	3.46	1.383	40.71	2.383	4.87	3.38	2.45
0.400	3.46	1.400	40.71	2.400	4.87	3.40	2.45
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.433	3.46	1.433	40.71	2.433	4.87	3.43	2.45
0.450	3.46	1.450	40.71	2.450	4.87	3.45	2.45
0.467	3.46	1.467	40.71	2.467	4.87	3.47	2.45
0.483	3.46	1.483	40.71	2.483	4.87	3.48	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.517	4.52	1.517	20.28	2.517	4.19	3.52	2.26
0.533	4.52	1.533	20.28	2.533	4.19	3.53	2.26
0.550	4.52	1.550	20.28	2.550	4.19	3.55	2.26
0.567	4.52	1.567	20.28	2.567	4.19	3.57	2.26
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.600	4.52	1.600	20.28	2.600	4.19	3.60	2.26
0.617	4.52	1.617	20.28	2.617	4.19	3.62	2.26
0.633	4.52	1.633	20.28	2.633	4.19	3.63	2.26
0.650	4.52	1.650	20.28	2.650	4.19	3.65	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.683	6.48	1.683	12.91	2.683	3.67	3.68	2.10
0.700	6.48	1.700	12.91	2.700	3.67	3.70	2.10
0.717	6.48	1.717	12.91	2.717	3.67	3.72	2.10
0.733	6.48	1.733	12.91	2.733	3.67	3.73	2.10
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10

0.767	6.48	1.767	12.91	2.767	3.67	3.77	2.10
0.783	6.48	1.783	12.91	2.783	3.67	3.78	2.10
0.800	6.48	1.800	12.91	2.800	3.67	3.80	2.10
0.817	6.48	1.817	12.91	2.817	3.67	3.82	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.850	11.07	1.850	9.28	2.850	3.26	3.85	1.96
0.867	11.07	1.867	9.28	2.867	3.26	3.87	1.96
0.883	11.07	1.883	9.28	2.883	3.26	3.88	1.96
0.900	11.07	1.900	9.28	2.900	3.26	3.90	1.96
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
0.933	11.07	1.933	9.28	2.933	3.26	3.93	1.96
0.950	11.07	1.950	9.28	2.950	3.26	3.95	1.96
0.967	11.07	1.967	9.28	2.967	3.26	3.97	1.96
0.983	11.07	1.983	9.28	2.983	3.26	3.98	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

Max.Eff.Inten.(mm/hr)=	109.68	52.32	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.97 (ii)	4.61 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.31	0.24	
			TOTALS
PEAK FLOW (cms)=	0.80	0.00	0.799 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	48.55	24.86	48.32
TOTAL RAINFALL (mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT =	0.98	0.50	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.799	1.33	48.32
OUTFLOW: ID= 1 (7626)	2.810	0.038	2.52	46.93

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.80
TIME SHIFT OF PEAK FLOW (min)= 71.00
MAXIMUM STORAGE USED (ha.m.)= 0.1075

CALIB			
STANDHYD (7624)	Area (ha)= 2.08		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.06	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	117.76	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.35	1.017	30.47	2.017	7.17	3.02	2.93
0.033	2.35	1.033	30.47	2.033	7.17	3.03	2.93
0.050	2.35	1.050	30.47	2.050	7.17	3.05	2.93
0.067	2.35	1.067	30.47	2.067	7.17	3.07	2.93
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.100	2.35	1.100	30.47	2.100	7.17	3.10	2.93
0.117	2.35	1.117	30.47	2.117	7.17	3.12	2.93
0.133	2.35	1.133	30.47	2.133	7.17	3.13	2.93
0.150	2.35	1.150	30.47	2.150	7.17	3.15	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.183	2.80	1.183	109.68	2.183	5.81	3.18	2.67
0.200	2.80	1.200	109.68	2.200	5.81	3.20	2.67
0.217	2.80	1.217	109.68	2.217	5.81	3.22	2.67
0.233	2.80	1.233	109.68	2.233	5.81	3.23	2.67
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.267	2.80	1.267	109.68	2.267	5.81	3.27	2.67
0.283	2.80	1.283	109.68	2.283	5.81	3.28	2.67
0.300	2.80	1.300	109.68	2.300	5.81	3.30	2.67
0.317	2.80	1.317	109.68	2.317	5.81	3.32	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.350	3.46	1.350	40.71	2.350	4.87	3.35	2.45
0.367	3.46	1.367	40.71	2.367	4.87	3.37	2.45
0.383	3.46	1.383	40.71	2.383	4.87	3.38	2.45
0.400	3.46	1.400	40.71	2.400	4.87	3.40	2.45
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.433	3.46	1.433	40.71	2.433	4.87	3.43	2.45
0.450	3.46	1.450	40.71	2.450	4.87	3.45	2.45
0.467	3.46	1.467	40.71	2.467	4.87	3.47	2.45
0.483	3.46	1.483	40.71	2.483	4.87	3.48	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.517	4.52	1.517	20.28	2.517	4.19	3.52	2.26
0.533	4.52	1.533	20.28	2.533	4.19	3.53	2.26
0.550	4.52	1.550	20.28	2.550	4.19	3.55	2.26
0.567	4.52	1.567	20.28	2.567	4.19	3.57	2.26
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.600	4.52	1.600	20.28	2.600	4.19	3.60	2.26
0.617	4.52	1.617	20.28	2.617	4.19	3.62	2.26
0.633	4.52	1.633	20.28	2.633	4.19	3.63	2.26
0.650	4.52	1.650	20.28	2.650	4.19	3.65	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.683	6.48	1.683	12.91	2.683	3.67	3.68	2.10
0.700	6.48	1.700	12.91	2.700	3.67	3.70	2.10
0.717	6.48	1.717	12.91	2.717	3.67	3.72	2.10
0.733	6.48	1.733	12.91	2.733	3.67	3.73	2.10
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.767	6.48	1.767	12.91	2.767	3.67	3.77	2.10
0.783	6.48	1.783	12.91	2.783	3.67	3.78	2.10
0.800	6.48	1.800	12.91	2.800	3.67	3.80	2.10
0.817	6.48	1.817	12.91	2.817	3.67	3.82	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.850	11.07	1.850	9.28	2.850	3.26	3.85	1.96
0.867	11.07	1.867	9.28	2.867	3.26	3.87	1.96
0.883	11.07	1.883	9.28	2.883	3.26	3.88	1.96
0.900	11.07	1.900	9.28	2.900	3.26	3.90	1.96
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
0.933	11.07	1.933	9.28	2.933	3.26	3.93	1.96
0.950	11.07	1.950	9.28	2.950	3.26	3.95	1.96
0.967	11.07	1.967	9.28	2.967	3.26	3.97	1.96
0.983	11.07	1.983	9.28	2.983	3.26	3.98	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

Max.Eff.Inten.(mm/hr)=	109.68	66.80	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.72 (ii)	4.36 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.32	0.25	
			TOTALS
PEAK FLOW (cms)=	0.60	0.00	0.600 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	48.55	30.27	48.37
TOTAL RAINFALL (mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT =	0.98	0.61	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625) / IN= 2---> OUT= 1 / DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.600	1.33	48.37
OUTFLOW: ID= 1 (7625)	2.080	0.029	2.45	47.19

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.91
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.0791

CALIB / STANDHYD (7623) / ID= 1 DT= 1.0 min	Area (ha)= 1.15	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.35	1.017	30.47	2.017	7.17	3.02	2.93
0.033	2.35	1.033	30.47	2.033	7.17	3.03	2.93
0.050	2.35	1.050	30.47	2.050	7.17	3.05	2.93
0.067	2.35	1.067	30.47	2.067	7.17	3.07	2.93
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.100	2.35	1.100	30.47	2.100	7.17	3.10	2.93
0.117	2.35	1.117	30.47	2.117	7.17	3.12	2.93
0.133	2.35	1.133	30.47	2.133	7.17	3.13	2.93
0.150	2.35	1.150	30.47	2.150	7.17	3.15	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.183	2.80	1.183	109.68	2.183	5.81	3.18	2.67
0.200	2.80	1.200	109.68	2.200	5.81	3.20	2.67
0.217	2.80	1.217	109.68	2.217	5.81	3.22	2.67
0.233	2.80	1.233	109.68	2.233	5.81	3.23	2.67
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.267	2.80	1.267	109.68	2.267	5.81	3.27	2.67
0.283	2.80	1.283	109.68	2.283	5.81	3.28	2.67
0.300	2.80	1.300	109.68	2.300	5.81	3.30	2.67
0.317	2.80	1.317	109.68	2.317	5.81	3.32	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.350	3.46	1.350	40.71	2.350	4.87	3.35	2.45
0.367	3.46	1.367	40.71	2.367	4.87	3.37	2.45
0.383	3.46	1.383	40.71	2.383	4.87	3.38	2.45
0.400	3.46	1.400	40.71	2.400	4.87	3.40	2.45
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.433	3.46	1.433	40.71	2.433	4.87	3.43	2.45
0.450	3.46	1.450	40.71	2.450	4.87	3.45	2.45
0.467	3.46	1.467	40.71	2.467	4.87	3.47	2.45
0.483	3.46	1.483	40.71	2.483	4.87	3.48	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.517	4.52	1.517	20.28	2.517	4.19	3.52	2.26
0.533	4.52	1.533	20.28	2.533	4.19	3.53	2.26
0.550	4.52	1.550	20.28	2.550	4.19	3.55	2.26
0.567	4.52	1.567	20.28	2.567	4.19	3.57	2.26
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.600	4.52	1.600	20.28	2.600	4.19	3.60	2.26
0.617	4.52	1.617	20.28	2.617	4.19	3.62	2.26
0.633	4.52	1.633	20.28	2.633	4.19	3.63	2.26
0.650	4.52	1.650	20.28	2.650	4.19	3.65	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.683	6.48	1.683	12.91	2.683	3.67	3.68	2.10
0.700	6.48	1.700	12.91	2.700	3.67	3.70	2.10
0.717	6.48	1.717	12.91	2.717	3.67	3.72	2.10
0.733	6.48	1.733	12.91	2.733	3.67	3.73	2.10
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.767	6.48	1.767	12.91	2.767	3.67	3.77	2.10
0.783	6.48	1.783	12.91	2.783	3.67	3.78	2.10
0.800	6.48	1.800	12.91	2.800	3.67	3.80	2.10
0.817	6.48	1.817	12.91	2.817	3.67	3.82	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.850	11.07	1.850	9.28	2.850	3.26	3.85	1.96
0.867	11.07	1.867	9.28	2.867	3.26	3.87	1.96
0.883	11.07	1.883	9.28	2.883	3.26	3.88	1.96
0.900	11.07	1.900	9.28	2.900	3.26	3.90	1.96
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
0.933	11.07	1.933	9.28	2.933	3.26	3.93	1.96
0.950	11.07	1.950	9.28	2.950	3.26	3.95	1.96
0.967	11.07	1.967	9.28	2.967	3.26	3.97	1.96
0.983	11.07	1.983	9.28	2.983	3.26	3.98	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

				TOTALS
Max.Eff.Inten.(mm/hr)=		109.68	52.32	
over (min)		5.00	4.00	
Storage Coeff. (min)=		2.27 (ii)	3.91 (ii)	
Unit Hyd. Tpeak (min)=		5.00	4.00	
Unit Hyd. peak (cms)=		0.35	0.29	
PEAK FLOW	(cms)=	0.34	0.00	0.338 (iii)
TIME TO PEAK	(hrs)=	1.33	1.35	1.33
RUNOFF VOLUME	(mm)=	48.55	24.86	48.32
TOTAL RAINFALL	(mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT	=	0.98	0.50	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622) / IN= 2---> OUT= 1 / DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725
	0.0167	0.0440	0.0340	0.0820
	0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.338	1.33	48.32
OUTFLOW: ID= 1 (7622)	1.150	0.017	2.42	47.22

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.89
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0437

CALIB / STANDHYD (7629) / ID= 1 DT= 1.0 min	Area (ha)= 4.09	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00

Mannings n = 0.013 0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.35	1.017	30.47	2.017	7.17	3.02	2.93
0.033	2.35	1.033	30.47	2.033	7.17	3.03	2.93
0.050	2.35	1.050	30.47	2.050	7.17	3.05	2.93
0.067	2.35	1.067	30.47	2.067	7.17	3.07	2.93
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.100	2.35	1.100	30.47	2.100	7.17	3.10	2.93
0.117	2.35	1.117	30.47	2.117	7.17	3.12	2.93
0.133	2.35	1.133	30.47	2.133	7.17	3.13	2.93
0.150	2.35	1.150	30.47	2.150	7.17	3.15	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.183	2.80	1.183	109.68	2.183	5.81	3.18	2.67
0.200	2.80	1.200	109.68	2.200	5.81	3.20	2.67
0.217	2.80	1.217	109.68	2.217	5.81	3.22	2.67
0.233	2.80	1.233	109.68	2.233	5.81	3.23	2.67
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.267	2.80	1.267	109.68	2.267	5.81	3.27	2.67
0.283	2.80	1.283	109.68	2.283	5.81	3.28	2.67
0.300	2.80	1.300	109.68	2.300	5.81	3.30	2.67
0.317	2.80	1.317	109.68	2.317	5.81	3.32	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.350	3.46	1.350	40.71	2.350	4.87	3.35	2.45
0.367	3.46	1.367	40.71	2.367	4.87	3.37	2.45
0.383	3.46	1.383	40.71	2.383	4.87	3.38	2.45
0.400	3.46	1.400	40.71	2.400	4.87	3.40	2.45
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.433	3.46	1.433	40.71	2.433	4.87	3.43	2.45
0.450	3.46	1.450	40.71	2.450	4.87	3.45	2.45
0.467	3.46	1.467	40.71	2.467	4.87	3.47	2.45
0.483	3.46	1.483	40.71	2.483	4.87	3.48	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.517	4.52	1.517	20.28	2.517	4.19	3.52	2.26
0.533	4.52	1.533	20.28	2.533	4.19	3.53	2.26
0.550	4.52	1.550	20.28	2.550	4.19	3.55	2.26
0.567	4.52	1.567	20.28	2.567	4.19	3.57	2.26
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.600	4.52	1.600	20.28	2.600	4.19	3.60	2.26
0.617	4.52	1.617	20.28	2.617	4.19	3.62	2.26
0.633	4.52	1.633	20.28	2.633	4.19	3.63	2.26
0.650	4.52	1.650	20.28	2.650	4.19	3.65	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.683	6.48	1.683	12.91	2.683	3.67	3.68	2.10
0.700	6.48	1.700	12.91	2.700	3.67	3.70	2.10
0.717	6.48	1.717	12.91	2.717	3.67	3.72	2.10
0.733	6.48	1.733	12.91	2.733	3.67	3.73	2.10
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.767	6.48	1.767	12.91	2.767	3.67	3.77	2.10
0.783	6.48	1.783	12.91	2.783	3.67	3.78	2.10
0.800	6.48	1.800	12.91	2.800	3.67	3.80	2.10
0.817	6.48	1.817	12.91	2.817	3.67	3.82	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.850	11.07	1.850	9.28	2.850	3.26	3.85	1.96
0.867	11.07	1.867	9.28	2.867	3.26	3.87	1.96
0.883	11.07	1.883	9.28	2.883	3.26	3.88	1.96
0.900	11.07	1.900	9.28	2.900	3.26	3.90	1.96
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
0.933	11.07	1.933	9.28	2.933	3.26	3.93	1.96
0.950	11.07	1.950	9.28	2.950	3.26	3.95	1.96
0.967	11.07	1.967	9.28	2.967	3.26	3.97	1.96
0.983	11.07	1.983	9.28	2.983	3.26	3.98	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

Max.Eff.Inten.(mm/hr)=	109.68	52.32	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.33 (ii)	4.97 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.29	0.23	
			TOTALS
PEAK FLOW (cms)=	1.14	0.01	1.141 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	48.55	24.86	48.32
TOTAL RAINFALL (mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT =	0.98	0.50	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0826	0.2320
0.0347	0.1170	0.0967	0.2609
0.0534	0.1580	0.1090	0.2940
0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	1.141	1.33	48.32
OUTFLOW: ID= 1 (7630)	4.090	0.053	2.57	46.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.66
TIME SHIFT OF PEAK FLOW (min)= 74.00
MAXIMUM STORAGE USED (ha.m.)= 0.1576

CALIB	
STANDHYD (7631)	Area (ha)= 3.91
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.35	1.017	30.47	2.017	7.17	3.02	2.93
0.033	2.35	1.033	30.47	2.033	7.17	3.03	2.93
0.050	2.35	1.050	30.47	2.050	7.17	3.05	2.93
0.067	2.35	1.067	30.47	2.067	7.17	3.07	2.93
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.100	2.35	1.100	30.47	2.100	7.17	3.10	2.93
0.117	2.35	1.117	30.47	2.117	7.17	3.12	2.93
0.133	2.35	1.133	30.47	2.133	7.17	3.13	2.93
0.150	2.35	1.150	30.47	2.150	7.17	3.15	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.183	2.80	1.183	109.68	2.183	5.81	3.18	2.67
0.200	2.80	1.200	109.68	2.200	5.81	3.20	2.67
0.217	2.80	1.217	109.68	2.217	5.81	3.22	2.67
0.233	2.80	1.233	109.68	2.233	5.81	3.23	2.67
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.267	2.80	1.267	109.68	2.267	5.81	3.27	2.67
0.283	2.80	1.283	109.68	2.283	5.81	3.28	2.67
0.300	2.80	1.300	109.68	2.300	5.81	3.30	2.67
0.317	2.80	1.317	109.68	2.317	5.81	3.32	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.350	3.46	1.350	40.71	2.350	4.87	3.35	2.45
0.367	3.46	1.367	40.71	2.367	4.87	3.37	2.45
0.383	3.46	1.383	40.71	2.383	4.87	3.38	2.45
0.400	3.46	1.400	40.71	2.400	4.87	3.40	2.45
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45

0.433	3.46	1.433	40.71	2.433	4.87	3.43	2.45
0.450	3.46	1.450	40.71	2.450	4.87	3.45	2.45
0.467	3.46	1.467	40.71	2.467	4.87	3.47	2.45
0.483	3.46	1.483	40.71	2.483	4.87	3.48	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.517	4.52	1.517	20.28	2.517	4.19	3.52	2.26
0.533	4.52	1.533	20.28	2.533	4.19	3.53	2.26
0.550	4.52	1.550	20.28	2.550	4.19	3.55	2.26
0.567	4.52	1.567	20.28	2.567	4.19	3.57	2.26
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.600	4.52	1.600	20.28	2.600	4.19	3.60	2.26
0.617	4.52	1.617	20.28	2.617	4.19	3.62	2.26
0.633	4.52	1.633	20.28	2.633	4.19	3.63	2.26
0.650	4.52	1.650	20.28	2.650	4.19	3.65	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.683	6.48	1.683	12.91	2.683	3.67	3.68	2.10
0.700	6.48	1.700	12.91	2.700	3.67	3.70	2.10
0.717	6.48	1.717	12.91	2.717	3.67	3.72	2.10
0.733	6.48	1.733	12.91	2.733	3.67	3.73	2.10
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.767	6.48	1.767	12.91	2.767	3.67	3.77	2.10
0.783	6.48	1.783	12.91	2.783	3.67	3.78	2.10
0.800	6.48	1.800	12.91	2.800	3.67	3.80	2.10
0.817	6.48	1.817	12.91	2.817	3.67	3.82	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.850	11.07	1.850	9.28	2.850	3.26	3.85	1.96
0.867	11.07	1.867	9.28	2.867	3.26	3.87	1.96
0.883	11.07	1.883	9.28	2.883	3.26	3.88	1.96
0.900	11.07	1.900	9.28	2.900	3.26	3.90	1.96
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
0.933	11.07	1.933	9.28	2.933	3.26	3.93	1.96
0.950	11.07	1.950	9.28	2.950	3.26	3.95	1.96
0.967	11.07	1.967	9.28	2.967	3.26	3.97	1.96
0.983	11.07	1.983	9.28	2.983	3.26	3.98	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

Max.Eff.Inten.(mm/hr)=	109.68	52.32	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.28 (ii)	4.92 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.29	0.23	
			TOTALS
PEAK FLOW (cms)=	1.09	0.01	1.093 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	48.55	24.86	48.32
TOTAL RAINFALL (mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT =	0.98	0.50	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0792	0.2220
0.0333	0.1130	0.0928	0.2500
0.0512	0.1510	0.1046	0.2810
0.0629	0.1810	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7631)	3.910	1.093	1.33	48.32
OUTFLOW: ID= 1 (	7632)	3.910	0.051	2.57	46.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.67
TIME SHIFT OF PEAK FLOW (min)= 74.00
MAXIMUM STORAGE USED (ha.m.)= 0.1506

CALIB	
STANDHYD (7641)	Area (ha)= 2.21
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.35	1.017	30.47	2.017	7.17	3.02	2.93
0.033	2.35	1.033	30.47	2.033	7.17	3.03	2.93
0.050	2.35	1.050	30.47	2.050	7.17	3.05	2.93
0.067	2.35	1.067	30.47	2.067	7.17	3.07	2.93
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.100	2.35	1.100	30.47	2.100	7.17	3.10	2.93
0.117	2.35	1.117	30.47	2.117	7.17	3.12	2.93
0.133	2.35	1.133	30.47	2.133	7.17	3.13	2.93
0.150	2.35	1.150	30.47	2.150	7.17	3.15	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.183	2.80	1.183	109.68	2.183	5.81	3.18	2.67
0.200	2.80	1.200	109.68	2.200	5.81	3.20	2.67
0.217	2.80	1.217	109.68	2.217	5.81	3.22	2.67
0.233	2.80	1.233	109.68	2.233	5.81	3.23	2.67
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.267	2.80	1.267	109.68	2.267	5.81	3.27	2.67
0.283	2.80	1.283	109.68	2.283	5.81	3.28	2.67
0.300	2.80	1.300	109.68	2.300	5.81	3.30	2.67
0.317	2.80	1.317	109.68	2.317	5.81	3.32	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.350	3.46	1.350	40.71	2.350	4.87	3.35	2.45
0.367	3.46	1.367	40.71	2.367	4.87	3.37	2.45
0.383	3.46	1.383	40.71	2.383	4.87	3.38	2.45
0.400	3.46	1.400	40.71	2.400	4.87	3.40	2.45
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.433	3.46	1.433	40.71	2.433	4.87	3.43	2.45
0.450	3.46	1.450	40.71	2.450	4.87	3.45	2.45
0.467	3.46	1.467	40.71	2.467	4.87	3.47	2.45
0.483	3.46	1.483	40.71	2.483	4.87	3.48	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.517	4.52	1.517	20.28	2.517	4.19	3.52	2.26
0.533	4.52	1.533	20.28	2.533	4.19	3.53	2.26
0.550	4.52	1.550	20.28	2.550	4.19	3.55	2.26
0.567	4.52	1.567	20.28	2.567	4.19	3.57	2.26
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.600	4.52	1.600	20.28	2.600	4.19	3.60	2.26
0.617	4.52	1.617	20.28	2.617	4.19	3.62	2.26
0.633	4.52	1.633	20.28	2.633	4.19	3.63	2.26
0.650	4.52	1.650	20.28	2.650	4.19	3.65	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.683	6.48	1.683	12.91	2.683	3.67	3.68	2.10
0.700	6.48	1.700	12.91	2.700	3.67	3.70	2.10
0.717	6.48	1.717	12.91	2.717	3.67	3.72	2.10
0.733	6.48	1.733	12.91	2.733	3.67	3.73	2.10
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.767	6.48	1.767	12.91	2.767	3.67	3.77	2.10
0.783	6.48	1.783	12.91	2.783	3.67	3.78	2.10
0.800	6.48	1.800	12.91	2.800	3.67	3.80	2.10
0.817	6.48	1.817	12.91	2.817	3.67	3.82	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.850	11.07	1.850	9.28	2.850	3.26	3.85	1.96
0.867	11.07	1.867	9.28	2.867	3.26	3.87	1.96
0.883	11.07	1.883	9.28	2.883	3.26	3.88	1.96
0.900	11.07	1.900	9.28	2.900	3.26	3.90	1.96
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
0.933	11.07	1.933	9.28	2.933	3.26	3.93	1.96
0.950	11.07	1.950	9.28	2.950	3.26	3.95	1.96
0.967	11.07	1.967	9.28	2.967	3.26	3.97	1.96

0.983	11.07	1.983	9.28	2.983	3.26	3.98	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

Max.Eff.Inten.(mm/hr)=	109.68	52.32	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.77 (ii)	4.41 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.32	0.25	
			TOTALS
PEAK FLOW (cms)=	0.63	0.00	0.635 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	48.55	24.86	48.32
TOTAL RAINFALL (mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT =	0.98	0.50	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1 |				
DT= 1.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.635	1.33	48.32
OUTFLOW: ID= 1 (7642)	2.210	0.030	2.50	47.01

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.75
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.0845

CALIB |			
STANDHYD (7643)|	Area (ha)= 2.02		
ID= 1 DT= 1.0 min |	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.00	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	116.05	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.35	1.017	30.47	2.017	7.17	3.02	2.93
0.033	2.35	1.033	30.47	2.033	7.17	3.03	2.93
0.050	2.35	1.050	30.47	2.050	7.17	3.05	2.93
0.067	2.35	1.067	30.47	2.067	7.17	3.07	2.93
0.083	2.35	1.083	30.47	2.083	7.17	3.08	2.93
0.100	2.35	1.100	30.47	2.100	7.17	3.10	2.93
0.117	2.35	1.117	30.47	2.117	7.17	3.12	2.93
0.133	2.35	1.133	30.47	2.133	7.17	3.13	2.93
0.150	2.35	1.150	30.47	2.150	7.17	3.15	2.93
0.167	2.35	1.167	30.47	2.167	7.17	3.17	2.93
0.183	2.80	1.183	109.68	2.183	5.81	3.18	2.67
0.200	2.80	1.200	109.68	2.200	5.81	3.20	2.67
0.217	2.80	1.217	109.68	2.217	5.81	3.22	2.67
0.233	2.80	1.233	109.68	2.233	5.81	3.23	2.67
0.250	2.80	1.250	109.68	2.250	5.81	3.25	2.67
0.267	2.80	1.267	109.68	2.267	5.81	3.27	2.67
0.283	2.80	1.283	109.68	2.283	5.81	3.28	2.67
0.300	2.80	1.300	109.68	2.300	5.81	3.30	2.67
0.317	2.80	1.317	109.68	2.317	5.81	3.32	2.67
0.333	2.80	1.333	109.68	2.333	5.81	3.33	2.67
0.350	3.46	1.350	40.71	2.350	4.87	3.35	2.45
0.367	3.46	1.367	40.71	2.367	4.87	3.37	2.45
0.383	3.46	1.383	40.71	2.383	4.87	3.38	2.45
0.400	3.46	1.400	40.71	2.400	4.87	3.40	2.45
0.417	3.46	1.417	40.71	2.417	4.87	3.42	2.45
0.433	3.46	1.433	40.71	2.433	4.87	3.43	2.45
0.450	3.46	1.450	40.71	2.450	4.87	3.45	2.45
0.467	3.46	1.467	40.71	2.467	4.87	3.47	2.45
0.483	3.46	1.483	40.71	2.483	4.87	3.48	2.45
0.500	3.46	1.500	40.71	2.500	4.87	3.50	2.45
0.517	4.52	1.517	20.28	2.517	4.19	3.52	2.26
0.533	4.52	1.533	20.28	2.533	4.19	3.53	2.26
0.550	4.52	1.550	20.28	2.550	4.19	3.55	2.26
0.567	4.52	1.567	20.28	2.567	4.19	3.57	2.26
0.583	4.52	1.583	20.28	2.583	4.19	3.58	2.26
0.600	4.52	1.600	20.28	2.600	4.19	3.60	2.26
0.617	4.52	1.617	20.28	2.617	4.19	3.62	2.26
0.633	4.52	1.633	20.28	2.633	4.19	3.63	2.26
0.650	4.52	1.650	20.28	2.650	4.19	3.65	2.26
0.667	4.52	1.667	20.28	2.667	4.19	3.67	2.26
0.683	6.48	1.683	12.91	2.683	3.67	3.68	2.10
0.700	6.48	1.700	12.91	2.700	3.67	3.70	2.10
0.717	6.48	1.717	12.91	2.717	3.67	3.72	2.10
0.733	6.48	1.733	12.91	2.733	3.67	3.73	2.10
0.750	6.48	1.750	12.91	2.750	3.67	3.75	2.10
0.767	6.48	1.767	12.91	2.767	3.67	3.77	2.10
0.783	6.48	1.783	12.91	2.783	3.67	3.78	2.10
0.800	6.48	1.800	12.91	2.800	3.67	3.80	2.10
0.817	6.48	1.817	12.91	2.817	3.67	3.82	2.10
0.833	6.48	1.833	12.91	2.833	3.67	3.83	2.10
0.850	11.07	1.850	9.28	2.850	3.26	3.85	1.96
0.867	11.07	1.867	9.28	2.867	3.26	3.87	1.96
0.883	11.07	1.883	9.28	2.883	3.26	3.88	1.96
0.900	11.07	1.900	9.28	2.900	3.26	3.90	1.96
0.917	11.07	1.917	9.28	2.917	3.26	3.92	1.96
0.933	11.07	1.933	9.28	2.933	3.26	3.93	1.96
0.950	11.07	1.950	9.28	2.950	3.26	3.95	1.96
0.967	11.07	1.967	9.28	2.967	3.26	3.97	1.96
0.983	11.07	1.983	9.28	2.983	3.26	3.98	1.96
1.000	11.07	2.000	9.28	3.000	3.26	4.00	1.96

Max.Eff.Inten.(mm/hr)=	109.68	52.32	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.69 (ii)	4.33 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.33	0.25	
			TOTALS
PEAK FLOW (cms)=	0.58	0.00	0.582 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	48.55	24.86	48.32
TOTAL RAINFALL (mm)=	49.55	49.55	49.55
RUNOFF COEFFICIENT =	0.98	0.50	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1 |				
DT= 1.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0433	0.1140
	0.0182	0.0580	0.0507	0.1280
	0.0280	0.0775	0.0571	0.1440
	0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.582	1.33	48.32
OUTFLOW: ID= 1 (7644)	2.020	0.028	2.48	47.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.78
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.0772

****
** SIMULATION:9. 10 Year 6 Hour AES (Bloor, TRCA) **
****

READ STORM | Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\5388d806
Ptotal= 55.69 mm | Comments: 10 Year 6 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	1.75	18.94	3.50	7.80	5.25	1.11
0.25	1.11	2.00	18.94	3.75	4.46	5.50	1.11
0.50	1.11	2.25	51.24	4.00	4.46	5.75	1.11
0.75	1.11	2.50	51.24	4.25	2.23	6.00	1.11
1.00	1.11	2.75	14.48	4.50	2.23		
1.25	6.68	3.00	14.48	4.75	1.11		
1.50	6.68	3.25	7.80	5.00	1.11		

CALIB | STANDHYD (7567)| Area (ha)= 2.81
ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	6.68	3.150	14.48	4.72	2.23
0.033	0.00	1.600	6.68	3.167	14.48	4.73	2.23
0.050	0.00	1.617	6.68	3.183	14.48	4.75	2.23
0.067	0.00	1.633	6.68	3.200	14.48	4.77	1.11
0.083	0.00	1.650	6.68	3.217	14.48	4.78	1.11
0.100	0.00	1.667	6.68	3.233	14.48	4.80	1.11
0.117	0.00	1.683	6.68	3.250	14.48	4.82	1.11
0.133	0.00	1.700	6.68	3.267	7.80	4.83	1.11
0.150	0.00	1.717	6.68	3.283	7.80	4.85	1.11
0.167	0.00	1.733	6.68	3.300	7.80	4.87	1.11
0.183	0.00	1.750	6.68	3.317	7.80	4.88	1.11
0.200	0.00	1.767	18.94	3.333	7.80	4.90	1.11
0.217	0.00	1.783	18.94	3.350	7.80	4.92	1.11
0.233	0.00	1.800	18.94	3.367	7.80	4.93	1.11
0.250	0.00	1.817	18.94	3.383	7.80	4.95	1.11
0.267	1.11	1.833	18.94	3.400	7.80	4.97	1.11
0.283	1.11	1.850	18.94	3.417	7.80	4.98	1.11
0.300	1.11	1.867	18.94	3.433	7.80	5.00	1.11
0.317	1.11	1.883	18.94	3.450	7.80	5.02	1.11
0.333	1.11	1.900	18.94	3.467	7.80	5.03	1.11
0.350	1.11	1.917	18.94	3.483	7.80	5.05	1.11
0.367	1.11	1.933	18.94	3.500	7.80	5.07	1.11
0.383	1.11	1.950	18.94	3.517	7.80	5.08	1.11
0.400	1.11	1.967	18.94	3.533	7.80	5.10	1.11
0.417	1.11	1.983	18.94	3.550	7.80	5.12	1.11
0.433	1.11	2.000	18.94	3.567	7.80	5.13	1.11
0.450	1.11	2.017	18.94	3.583	7.80	5.15	1.11
0.467	1.11	2.033	18.94	3.600	7.80	5.17	1.11
0.483	1.11	2.050	18.94	3.617	7.80	5.18	1.11
0.500	1.11	2.067	18.94	3.633	7.80	5.20	1.11
0.517	1.11	2.083	18.94	3.650	7.80	5.22	1.11
0.533	1.11	2.100	18.94	3.667	7.80	5.23	1.11
0.550	1.11	2.117	18.94	3.683	7.80	5.25	1.11
0.567	1.11	2.133	18.94	3.700	7.80	5.27	1.11
0.583	1.11	2.150	18.94	3.717	7.80	5.28	1.11
0.600	1.11	2.167	18.94	3.733	7.80	5.30	1.11
0.617	1.11	2.183	18.94	3.750	7.80	5.32	1.11
0.633	1.11	2.200	18.94	3.767	4.46	5.33	1.11
0.650	1.11	2.217	18.94	3.783	4.46	5.35	1.11
0.667	1.11	2.233	18.94	3.800	4.46	5.37	1.11
0.683	1.11	2.250	18.94	3.817	4.46	5.38	1.11
0.700	1.11	2.267	51.24	3.833	4.46	5.40	1.11
0.717	1.11	2.283	51.24	3.850	4.46	5.42	1.11
0.733	1.11	2.300	51.24	3.867	4.46	5.43	1.11
0.750	1.11	2.317	51.24	3.883	4.46	5.45	1.11
0.767	1.11	2.333	51.24	3.900	4.46	5.47	1.11
0.783	1.11	2.350	51.24	3.917	4.46	5.48	1.11
0.800	1.11	2.367	51.24	3.933	4.46	5.50	1.11
0.817	1.11	2.383	51.24	3.950	4.46	5.52	1.11
0.833	1.11	2.400	51.24	3.967	4.46	5.53	1.11
0.850	1.11	2.417	51.24	3.983	4.46	5.55	1.11
0.867	1.11	2.433	51.24	4.000	4.46	5.57	1.11
0.883	1.11	2.450	51.24	4.017	4.46	5.58	1.11
0.900	1.11	2.467	51.24	4.033	4.46	5.60	1.11
0.917	1.11	2.483	51.24	4.050	4.46	5.62	1.11
0.933	1.11	2.500	51.24	4.067	4.46	5.63	1.11
0.950	1.11	2.517	51.24	4.083	4.46	5.65	1.11
0.967	1.11	2.533	51.24	4.100	4.46	5.67	1.11
0.983	1.11	2.550	51.24	4.117	4.46	5.68	1.11
1.000	1.11	2.567	51.24	4.133	4.46	5.70	1.11
1.017	1.11	2.583	51.24	4.150	4.46	5.72	1.11
1.033	1.11	2.600	51.24	4.167	4.46	5.73	1.11
1.050	1.11	2.617	51.24	4.183	4.46	5.75	1.11
1.067	1.11	2.633	51.24	4.200	4.46	5.77	1.11
1.083	1.11	2.650	51.24	4.217	4.46	5.78	1.11
1.100	1.11	2.667	51.24	4.233	4.46	5.80	1.11
1.117	1.11	2.683	51.24	4.250	4.46	5.82	1.11
1.133	1.11	2.700	51.24	4.267	2.23	5.83	1.11
1.150	1.11	2.717	51.24	4.283	2.23	5.85	1.11
1.167	1.11	2.733	51.24	4.300	2.23	5.87	1.11
1.183	1.11	2.750	51.24	4.317	2.23	5.88	1.11
1.200	1.11	2.767	14.48	4.333	2.23	5.90	1.11
1.217	1.11	2.783	14.48	4.350	2.23	5.92	1.11
1.233	1.11	2.800	14.48	4.367	2.23	5.93	1.11
1.250	1.11	2.817	14.48	4.383	2.23	5.95	1.11
1.267	6.68	2.833	14.48	4.400	2.23	5.97	1.11
1.283	6.68	2.850	14.48	4.417	2.23	5.98	1.11
1.300	6.68	2.867	14.48	4.433	2.23	6.00	1.11
1.317	6.68	2.883	14.48	4.450	2.23	6.02	1.11
1.333	6.68	2.900	14.48	4.467	2.23	6.03	1.11
1.350	6.68	2.917	14.48	4.483	2.23	6.05	1.11
1.367	6.68	2.933	14.48	4.500	2.23	6.07	1.11
1.383	6.68	2.950	14.48	4.517	2.23	6.08	1.11
1.400	6.68	2.967	14.48	4.533	2.23	6.10	1.11
1.417	6.68	2.983	14.48	4.550	2.23	6.12	1.11
1.433	6.68	3.000	14.48	4.567	2.23	6.13	1.11
1.450	6.68	3.017	14.48	4.583	2.23	6.15	1.11
1.467	6.68	3.033	14.48	4.600	2.23	6.17	1.11
1.483	6.68	3.050	14.48	4.617	2.23	6.18	1.11
1.500	6.68	3.067	14.48	4.633	2.23	6.20	1.11
1.517	6.68	3.083	14.48	4.650	2.23	6.22	1.11
1.533	6.68	3.100	14.48	4.667	2.23	6.23	1.11
1.550	6.68	3.117	14.48	4.683	2.23	6.25	1.11
1.567	6.68	3.133	14.48	4.700	2.23		

				TOTALS
Max.Eff.Inten.(mm/hr)=		51.24	34.52	
over (min)		5.00	7.00	
Storage Coeff. (min)=		4.03 (ii)	6.25 (ii)	
Unit Hyd. Tpeak (min)=		5.00	7.00	
Unit Hyd. peak (cms)=		0.26	0.17	
PEAK FLOW	(cms)=	0.40	0.00	0.398 (iii)

TIME TO PEAK	(hrs)=	2.75	2.77	2.75
RUNOFF VOLUME	(mm)=	54.69	29.66	54.44
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.398	2.75	54.44
OUTFLOW: ID= 1 (7626)	2.810	0.043	3.87	52.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.71
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.1187

CALIB STANDHYD (7624) ID= 1 DT= 1.0 min	Area (ha)= 2.08 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	6.68	3.150	14.48	4.72	2.23
0.033	0.00	1.600	6.68	3.167	14.48	4.73	2.23
0.050	0.00	1.617	6.68	3.183	14.48	4.75	2.23
0.067	0.00	1.633	6.68	3.200	14.48	4.77	1.11
0.083	0.00	1.650	6.68	3.217	14.48	4.78	1.11
0.100	0.00	1.667	6.68	3.233	14.48	4.80	1.11
0.117	0.00	1.683	6.68	3.250	14.48	4.82	1.11
0.133	0.00	1.700	6.68	3.267	7.80	4.83	1.11
0.150	0.00	1.717	6.68	3.283	7.80	4.85	1.11
0.167	0.00	1.733	6.68	3.300	7.80	4.87	1.11
0.183	0.00	1.750	6.68	3.317	7.80	4.88	1.11
0.200	0.00	1.767	18.94	3.333	7.80	4.90	1.11
0.217	0.00	1.783	18.94	3.350	7.80	4.92	1.11
0.233	0.00	1.800	18.94	3.367	7.80	4.93	1.11
0.250	0.00	1.817	18.94	3.383	7.80	4.95	1.11
0.267	1.11	1.833	18.94	3.400	7.80	4.97	1.11
0.283	1.11	1.850	18.94	3.417	7.80	4.98	1.11
0.300	1.11	1.867	18.94	3.433	7.80	5.00	1.11
0.317	1.11	1.883	18.94	3.450	7.80	5.02	1.11
0.333	1.11	1.900	18.94	3.467	7.80	5.03	1.11
0.350	1.11	1.917	18.94	3.483	7.80	5.05	1.11
0.367	1.11	1.933	18.94	3.500	7.80	5.07	1.11
0.383	1.11	1.950	18.94	3.517	7.80	5.08	1.11
0.400	1.11	1.967	18.94	3.533	7.80	5.10	1.11
0.417	1.11	1.983	18.94	3.550	7.80	5.12	1.11
0.433	1.11	2.000	18.94	3.567	7.80	5.13	1.11
0.450	1.11	2.017	18.94	3.583	7.80	5.15	1.11
0.467	1.11	2.033	18.94	3.600	7.80	5.17	1.11
0.483	1.11	2.050	18.94	3.617	7.80	5.18	1.11
0.500	1.11	2.067	18.94	3.633	7.80	5.20	1.11
0.517	1.11	2.083	18.94	3.650	7.80	5.22	1.11
0.533	1.11	2.100	18.94	3.667	7.80	5.23	1.11
0.550	1.11	2.117	18.94	3.683	7.80	5.25	1.11
0.567	1.11	2.133	18.94	3.700	7.80	5.27	1.11
0.583	1.11	2.150	18.94	3.717	7.80	5.28	1.11
0.600	1.11	2.167	18.94	3.733	7.80	5.30	1.11
0.617	1.11	2.183	18.94	3.750	7.80	5.32	1.11
0.633	1.11	2.200	18.94	3.767	4.46	5.33	1.11
0.650	1.11	2.217	18.94	3.783	4.46	5.35	1.11
0.667	1.11	2.233	18.94	3.800	4.46	5.37	1.11
0.683	1.11	2.250	18.94	3.817	4.46	5.38	1.11
0.700	1.11	2.267	51.24	3.833	4.46	5.40	1.11
0.717	1.11	2.283	51.24	3.850	4.46	5.42	1.11
0.733	1.11	2.300	51.24	3.867	4.46	5.43	1.11
0.750	1.11	2.317	51.24	3.883	4.46	5.45	1.11
0.767	1.11	2.333	51.24	3.900	4.46	5.47	1.11
0.783	1.11	2.350	51.24	3.917	4.46	5.48	1.11
0.800	1.11	2.367	51.24	3.933	4.46	5.50	1.11
0.817	1.11	2.383	51.24	3.950	4.46	5.52	1.11
0.833	1.11	2.400	51.24	3.967	4.46	5.53	1.11
0.850	1.11	2.417	51.24	3.983	4.46	5.55	1.11
0.867	1.11	2.433	51.24	4.000	4.46	5.57	1.11
0.883	1.11	2.450	51.24	4.017	4.46	5.58	1.11
0.900	1.11	2.467	51.24	4.033	4.46	5.60	1.11
0.917	1.11	2.483	51.24	4.050	4.46	5.62	1.11
0.933	1.11	2.500	51.24	4.067	4.46	5.63	1.11
0.950	1.11	2.517	51.24	4.083	4.46	5.65	1.11
0.967	1.11	2.533	51.24	4.100	4.46	5.67	1.11
0.983	1.11	2.550	51.24	4.117	4.46	5.68	1.11
1.000	1.11	2.567	51.24	4.133	4.46	5.70	1.11
1.017	1.11	2.583	51.24	4.150	4.46	5.72	1.11
1.033	1.11	2.600	51.24	4.167	4.46	5.73	1.11
1.050	1.11	2.617	51.24	4.183	4.46	5.75	1.11
1.067	1.11	2.633	51.24	4.200	4.46	5.77	1.11
1.083	1.11	2.650	51.24	4.217	4.46	5.78	1.11
1.100	1.11	2.667	51.24	4.233	4.46	5.80	1.11
1.117	1.11	2.683	51.24	4.250	4.46	5.82	1.11
1.133	1.11	2.700	51.24	4.267	2.23	5.83	1.11
1.150	1.11	2.717	51.24	4.283	2.23	5.85	1.11
1.167	1.11	2.733	51.24	4.300	2.23	5.87	1.11
1.183	1.11	2.750	51.24	4.317	2.23	5.88	1.11
1.200	1.11	2.767	14.48	4.333	2.23	5.90	1.11
1.217	1.11	2.783	14.48	4.350	2.23	5.92	1.11
1.233	1.11	2.800	14.48	4.367	2.23	5.93	1.11
1.250	1.11	2.817	14.48	4.383	2.23	5.95	1.11
1.267	6.68	2.833	14.48	4.400	2.23	5.97	1.11
1.283	6.68	2.850	14.48	4.417	2.23	5.98	1.11
1.300	6.68	2.867	14.48	4.433	2.23	6.00	1.11
1.317	6.68	2.883	14.48	4.450	2.23	6.02	1.11
1.333	6.68	2.900	14.48	4.467	2.23	6.03	1.11
1.350	6.68	2.917	14.48	4.483	2.23	6.05	1.11
1.367	6.68	2.933	14.48	4.500	2.23	6.07	1.11
1.383	6.68	2.950	14.48	4.517	2.23	6.08	1.11
1.400	6.68	2.967	14.48	4.533	2.23	6.10	1.11
1.417	6.68	2.983	14.48	4.550	2.23	6.12	1.11
1.433	6.68	3.000	14.48	4.567	2.23	6.13	1.11
1.450	6.68	3.017	14.48	4.583	2.23	6.15	1.11
1.467	6.68	3.033	14.48	4.600	2.23	6.17	1.11
1.483	6.68	3.050	14.48	4.617	2.23	6.18	1.11
1.500	6.68	3.067	14.48	4.633	2.23	6.20	1.11
1.517	6.68	3.083	14.48	4.650	2.23	6.22	1.11
1.533	6.68	3.100	14.48	4.667	2.23	6.23	1.11
1.550	6.68	3.117	14.48	4.683	2.23	6.25	1.11
1.567	6.68	3.133	14.48	4.700	2.23		

Max.Eff.Inten.(mm/hr)=		51.24	40.57
	over (min)	5.00	6.00
Storage Coeff. (min)=		3.68 (ii)	5.91 (ii)
Unit Hyd. Tpeak (min)=		5.00	6.00
Unit Hyd. peak (cms)=		0.27	0.19

TOTALS

PEAK FLOW	(cms)=	0.29	0.00	0.295 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	54.69	35.63	54.50
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.98	0.64	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0389	0.1013
0.0164	0.0514	0.0456	0.1141
0.0252	0.0690	0.0514	0.1288
0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.295	2.75	54.50
OUTFLOW: ID= 1 (7625)	2.080	0.033	3.85	53.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.15
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.0873

CALIB	
STANDHYD (7623)	Area (ha)= 1.15
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	6.68	3.150	14.48	4.72	2.23
0.033	0.00	1.600	6.68	3.167	14.48	4.73	2.23
0.050	0.00	1.617	6.68	3.183	14.48	4.75	2.23
0.067	0.00	1.633	6.68	3.200	14.48	4.77	1.11
0.083	0.00	1.650	6.68	3.217	14.48	4.78	1.11
0.100	0.00	1.667	6.68	3.233	14.48	4.80	1.11
0.117	0.00	1.683	6.68	3.250	14.48	4.82	1.11
0.133	0.00	1.700	6.68	3.267	7.80	4.83	1.11
0.150	0.00	1.717	6.68	3.283	7.80	4.85	1.11
0.167	0.00	1.733	6.68	3.300	7.80	4.87	1.11
0.183	0.00	1.750	6.68	3.317	7.80	4.88	1.11
0.200	0.00	1.767	18.94	3.333	7.80	4.90	1.11
0.217	0.00	1.783	18.94	3.350	7.80	4.92	1.11
0.233	0.00	1.800	18.94	3.367	7.80	4.93	1.11
0.250	0.00	1.817	18.94	3.383	7.80	4.95	1.11
0.267	1.11	1.833	18.94	3.400	7.80	4.97	1.11
0.283	1.11	1.850	18.94	3.417	7.80	4.98	1.11
0.300	1.11	1.867	18.94	3.433	7.80	5.00	1.11
0.317	1.11	1.883	18.94	3.450	7.80	5.02	1.11
0.333	1.11	1.900	18.94	3.467	7.80	5.03	1.11
0.350	1.11	1.917	18.94	3.483	7.80	5.05	1.11
0.367	1.11	1.933	18.94	3.500	7.80	5.07	1.11
0.383	1.11	1.950	18.94	3.517	7.80	5.08	1.11
0.400	1.11	1.967	18.94	3.533	7.80	5.10	1.11
0.417	1.11	1.983	18.94	3.550	7.80	5.12	1.11
0.433	1.11	2.000	18.94	3.567	7.80	5.13	1.11
0.450	1.11	2.017	18.94	3.583	7.80	5.15	1.11
0.467	1.11	2.033	18.94	3.600	7.80	5.17	1.11
0.483	1.11	2.050	18.94	3.617	7.80	5.18	1.11
0.500	1.11	2.067	18.94	3.633	7.80	5.20	1.11
0.517	1.11	2.083	18.94	3.650	7.80	5.22	1.11
0.533	1.11	2.100	18.94	3.667	7.80	5.23	1.11
0.550	1.11	2.117	18.94	3.683	7.80	5.25	1.11
0.567	1.11	2.133	18.94	3.700	7.80	5.27	1.11
0.583	1.11	2.150	18.94	3.717	7.80	5.28	1.11
0.600	1.11	2.167	18.94	3.733	7.80	5.30	1.11
0.617	1.11	2.183	18.94	3.750	7.80	5.32	1.11
0.633	1.11	2.200	18.94	3.767	4.46	5.33	1.11
0.650	1.11	2.217	18.94	3.783	4.46	5.35	1.11
0.667	1.11	2.233	18.94	3.800	4.46	5.37	1.11
0.683	1.11	2.250	18.94	3.817	4.46	5.38	1.11
0.700	1.11	2.267	51.24	3.833	4.46	5.40	1.11
0.717	1.11	2.283	51.24	3.850	4.46	5.42	1.11
0.733	1.11	2.300	51.24	3.867	4.46	5.43	1.11
0.750	1.11	2.317	51.24	3.883	4.46	5.45	1.11
0.767	1.11	2.333	51.24	3.900	4.46	5.47	1.11
0.783	1.11	2.350	51.24	3.917	4.46	5.48	1.11
0.800	1.11	2.367	51.24	3.933	4.46	5.50	1.11
0.817	1.11	2.383	51.24	3.950	4.46	5.52	1.11
0.833	1.11	2.400	51.24	3.967	4.46	5.53	1.11
0.850	1.11	2.417	51.24	3.983	4.46	5.55	1.11
0.867	1.11	2.433	51.24	4.000	4.46	5.57	1.11
0.883	1.11	2.450	51.24	4.017	4.46	5.58	1.11
0.900	1.11	2.467	51.24	4.033	4.46	5.60	1.11
0.917	1.11	2.483	51.24	4.050	4.46	5.62	1.11
0.933	1.11	2.500	51.24	4.067	4.46	5.63	1.11
0.950	1.11	2.517	51.24	4.083	4.46	5.65	1.11
0.967	1.11	2.533	51.24	4.100	4.46	5.67	1.11
0.983	1.11	2.550	51.24	4.117	4.46	5.68	1.11
1.000	1.11	2.567	51.24	4.133	4.46	5.70	1.11
1.017	1.11	2.583	51.24	4.150	4.46	5.72	1.11
1.033	1.11	2.600	51.24	4.167	4.46	5.73	1.11
1.050	1.11	2.617	51.24	4.183	4.46	5.75	1.11
1.067	1.11	2.633	51.24	4.200	4.46	5.77	1.11
1.083	1.11	2.650	51.24	4.217	4.46	5.78	1.11
1.100	1.11	2.667	51.24	4.233	4.46	5.80	1.11
1.117	1.11	2.683	51.24	4.250	4.46	5.82	1.11
1.133	1.11	2.700	51.24	4.267	2.23	5.83	1.11
1.150	1.11	2.717	51.24	4.283	2.23	5.85	1.11
1.167	1.11	2.733	51.24	4.300	2.23	5.87	1.11
1.183	1.11	2.750	51.24	4.317	2.23	5.88	1.11
1.200	1.11	2.767	14.48	4.333	2.23	5.90	1.11
1.217	1.11	2.783	14.48	4.350	2.23	5.92	1.11
1.233	1.11	2.800	14.48	4.367	2.23	5.93	1.11
1.250	1.11	2.817	14.48	4.383	2.23	5.95	1.11
1.267	6.68	2.833	14.48	4.400	2.23	5.97	1.11
1.283	6.68	2.850	14.48	4.417	2.23	5.98	1.11
1.300	6.68	2.867	14.48	4.433	2.23	6.00	1.11
1.317	6.68	2.883	14.48	4.450	2.23	6.02	1.11
1.333	6.68	2.900	14.48	4.467	2.23	6.03	1.11
1.350	6.68	2.917	14.48	4.483	2.23	6.05	1.11
1.367	6.68	2.933	14.48	4.500	2.23	6.07	1.11
1.383	6.68	2.950	14.48	4.517	2.23	6.08	1.11
1.400	6.68	2.967	14.48	4.533	2.23	6.10	1.11
1.417	6.68	2.983	14.48	4.550	2.23	6.12	1.11
1.433	6.68	3.000	14.48	4.567	2.23	6.13	1.11
1.450	6.68	3.017	14.48	4.583	2.23	6.15	1.11
1.467	6.68	3.033	14.48	4.600	2.23	6.17	1.11
1.483	6.68	3.050	14.48	4.617	2.23	6.18	1.11
1.500	6.68	3.067	14.48	4.633	2.23	6.20	1.11
1.517	6.68	3.083	14.48	4.650	2.23	6.22	1.11
1.533	6.68	3.100	14.48	4.667	2.23	6.23	1.11
1.550	6.68	3.117	14.48	4.683	2.23	6.25	1.11
1.567	6.68	3.133	14.48	4.700	2.23		

Max.Eff.Inten.(mm/hr)=	51.24	34.52
over (min)	5.00	6.00
Storage Coeff. (min)=	3.08 (ii)	5.31 (ii)
Unit Hyd. Tpeak (min)=	5.00	6.00
Unit Hyd. peak (cms)=	0.30	0.20

			TOTALS	
PEAK FLOW	(cms)=	0.16	0.00	0.163 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	54.69	29.66	54.44
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725
	0.0167	0.0440	0.0340	0.0820
	0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.163	2.75	54.44
OUTFLOW: ID= 1 (7622)	1.150	0.018	3.85	53.04

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.34
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.0481

CALIB STANDHYD (7629) ID= 1 DT= 1.0 min	Area (ha)= 4.09 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	6.68	3.150	14.48	4.72	2.23
0.033	0.00	1.600	6.68	3.167	14.48	4.73	2.23
0.050	0.00	1.617	6.68	3.183	14.48	4.75	2.23
0.067	0.00	1.633	6.68	3.200	14.48	4.77	1.11
0.083	0.00	1.650	6.68	3.217	14.48	4.78	1.11
0.100	0.00	1.667	6.68	3.233	14.48	4.80	1.11
0.117	0.00	1.683	6.68	3.250	14.48	4.82	1.11
0.133	0.00	1.700	6.68	3.267	7.80	4.83	1.11
0.150	0.00	1.717	6.68	3.283	7.80	4.85	1.11
0.167	0.00	1.733	6.68	3.300	7.80	4.87	1.11
0.183	0.00	1.750	6.68	3.317	7.80	4.88	1.11
0.200	0.00	1.767	18.94	3.333	7.80	4.90	1.11
0.217	0.00	1.783	18.94	3.350	7.80	4.92	1.11
0.233	0.00	1.800	18.94	3.367	7.80	4.93	1.11
0.250	0.00	1.817	18.94	3.383	7.80	4.95	1.11
0.267	1.11	1.833	18.94	3.400	7.80	4.97	1.11
0.283	1.11	1.850	18.94	3.417	7.80	4.98	1.11
0.300	1.11	1.867	18.94	3.433	7.80	5.00	1.11
0.317	1.11	1.883	18.94	3.450	7.80	5.02	1.11
0.333	1.11	1.900	18.94	3.467	7.80	5.03	1.11
0.350	1.11	1.917	18.94	3.483	7.80	5.05	1.11
0.367	1.11	1.933	18.94	3.500	7.80	5.07	1.11
0.383	1.11	1.950	18.94	3.517	7.80	5.08	1.11
0.400	1.11	1.967	18.94	3.533	7.80	5.10	1.11
0.417	1.11	1.983	18.94	3.550	7.80	5.12	1.11
0.433	1.11	2.000	18.94	3.567	7.80	5.13	1.11
0.450	1.11	2.017	18.94	3.583	7.80	5.15	1.11
0.467	1.11	2.033	18.94	3.600	7.80	5.17	1.11
0.483	1.11	2.050	18.94	3.617	7.80	5.18	1.11
0.500	1.11	2.067	18.94	3.633	7.80	5.20	1.11
0.517	1.11	2.083	18.94	3.650	7.80	5.22	1.11
0.533	1.11	2.100	18.94	3.667	7.80	5.23	1.11
0.550	1.11	2.117	18.94	3.683	7.80	5.25	1.11
0.567	1.11	2.133	18.94	3.700	7.80	5.27	1.11
0.583	1.11	2.150	18.94	3.717	7.80	5.28	1.11
0.600	1.11	2.167	18.94	3.733	7.80	5.30	1.11
0.617	1.11	2.183	18.94	3.750	7.80	5.32	1.11
0.633	1.11	2.200	18.94	3.767	4.46	5.33	1.11
0.650	1.11	2.217	18.94	3.783	4.46	5.35	1.11
0.667	1.11	2.233	18.94	3.800	4.46	5.37	1.11
0.683	1.11	2.250	18.94	3.817	4.46	5.38	1.11
0.700	1.11	2.267	51.24	3.833	4.46	5.40	1.11
0.717	1.11	2.283	51.24	3.850	4.46	5.42	1.11
0.733	1.11	2.300	51.24	3.867	4.46	5.43	1.11
0.750	1.11	2.317	51.24	3.883	4.46	5.45	1.11
0.767	1.11	2.333	51.24	3.900	4.46	5.47	1.11
0.783	1.11	2.350	51.24	3.917	4.46	5.48	1.11
0.800	1.11	2.367	51.24	3.933	4.46	5.50	1.11
0.817	1.11	2.383	51.24	3.950	4.46	5.52	1.11
0.833	1.11	2.400	51.24	3.967	4.46	5.53	1.11
0.850	1.11	2.417	51.24	3.983	4.46	5.55	1.11
0.867	1.11	2.433	51.24	4.000	4.46	5.57	1.11
0.883	1.11	2.450	51.24	4.017	4.46	5.58	1.11
0.900	1.11	2.467	51.24	4.033	4.46	5.60	1.11
0.917	1.11	2.483	51.24	4.050	4.46	5.62	1.11
0.933	1.11	2.500	51.24	4.067	4.46	5.63	1.11
0.950	1.11	2.517	51.24	4.083	4.46	5.65	1.11
0.967	1.11	2.533	51.24	4.100	4.46	5.67	1.11
0.983	1.11	2.550	51.24	4.117	4.46	5.68	1.11
1.000	1.11	2.567	51.24	4.133	4.46	5.70	1.11
1.017	1.11	2.583	51.24	4.150	4.46	5.72	1.11
1.033	1.11	2.600	51.24	4.167	4.46	5.73	1.11
1.050	1.11	2.617	51.24	4.183	4.46	5.75	1.11
1.067	1.11	2.633	51.24	4.200	4.46	5.77	1.11
1.083	1.11	2.650	51.24	4.217	4.46	5.78	1.11
1.100	1.11	2.667	51.24	4.233	4.46	5.80	1.11
1.117	1.11	2.683	51.24	4.250	4.46	5.82	1.11
1.133	1.11	2.700	51.24	4.267	2.23	5.83	1.11
1.150	1.11	2.717	51.24	4.283	2.23	5.85	1.11
1.167	1.11	2.733	51.24	4.300	2.23	5.87	1.11
1.183	1.11	2.750	51.24	4.317	2.23	5.88	1.11
1.200	1.11	2.767	14.48	4.333	2.23	5.90	1.11
1.217	1.11	2.783	14.48	4.350	2.23	5.92	1.11
1.233	1.11	2.800	14.48	4.367	2.23	5.93	1.11
1.250	1.11	2.817	14.48	4.383	2.23	5.95	1.11
1.267	6.68	2.833	14.48	4.400	2.23	5.97	1.11
1.283	6.68	2.850	14.48	4.417	2.23	5.98	1.11
1.300	6.68	2.867	14.48	4.433	2.23	6.00	1.11
1.317	6.68	2.883	14.48	4.450	2.23	6.02	1.11
1.333	6.68	2.900	14.48	4.467	2.23	6.03	1.11
1.350	6.68	2.917	14.48	4.483	2.23	6.05	1.11
1.367	6.68	2.933	14.48	4.500	2.23	6.07	1.11
1.383	6.68	2.950	14.48	4.517	2.23	6.08	1.11
1.400	6.68	2.967	14.48	4.533	2.23	6.10	1.11
1.417	6.68	2.983	14.48	4.550	2.23	6.12	1.11
1.433	6.68	3.000	14.48	4.567	2.23	6.13	1.11
1.450	6.68	3.017	14.48	4.583	2.23	6.15	1.11
1.467	6.68	3.033	14.48	4.600	2.23	6.17	1.11
1.483	6.68	3.050	14.48	4.617	2.23	6.18	1.11
1.500	6.68	3.067	14.48	4.633	2.23	6.20	1.11
1.517	6.68	3.083	14.48	4.650	2.23	6.22	1.11
1.533	6.68	3.100	14.48	4.667	2.23	6.23	1.11
1.550	6.68	3.117	14.48	4.683	2.23	6.25	1.11
1.567	6.68	3.133	14.48	4.700	2.23		

Max.Eff.Inten.(mm/hr)=	51.24	34.52
over (min)	5.00	7.00
Storage Coeff. (min)=	4.51 (ii)	6.73 (ii)
Unit Hyd. Tpeak (min)=	5.00	7.00

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     Unit Hyd. peak  (cms)=       0.24         0.17
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.58         0.00          0.579 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.77           2.75
     RUNOFF VOLUME    (mm)=      54.69        29.66          54.44
     TOTAL RAINFALL   (mm)=      55.69        55.69          55.69
     RUNOFF COEFFICIENT   =       0.98         0.53           0.98

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7630)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                           0.0000      0.0000   |    0.0826      0.2320
                           0.0347      0.1170   |    0.0967      0.2609
                           0.0534      0.1580   |    0.1090      0.2940
                           0.0655      0.1890   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7629)      4.090     0.579      2.75      54.44
   OUTFLOW: ID= 1 (  7630)      4.090     0.060      3.90      52.46

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.30
                  TIME SHIFT OF PEAK FLOW         (min)= 69.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1740

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--------------------
| CALIB            |
| STANDHYD (  7631)|   Area    (ha)=   3.91
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.87         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     161.45        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 1.583    6.68 | 3.150   14.48 |  4.72    2.23
               0.033    0.00 | 1.600    6.68 | 3.167   14.48 |  4.73    2.23
               0.050    0.00 | 1.617    6.68 | 3.183   14.48 |  4.75    2.23
               0.067    0.00 | 1.633    6.68 | 3.200   14.48 |  4.77    1.11
               0.083    0.00 | 1.650    6.68 | 3.217   14.48 |  4.78    1.11
               0.100    0.00 | 1.667    6.68 | 3.233   14.48 |  4.80    1.11
               0.117    0.00 | 1.683    6.68 | 3.250   14.48 |  4.82    1.11
               0.133    0.00 | 1.700    6.68 | 3.267    7.80 |  4.83    1.11
               0.150    0.00 | 1.717    6.68 | 3.283    7.80 |  4.85    1.11
               0.167    0.00 | 1.733    6.68 | 3.300    7.80 |  4.87    1.11
               0.183    0.00 | 1.750    6.68 | 3.317    7.80 |  4.88    1.11
               0.200    0.00 | 1.767   18.94 | 3.333    7.80 |  4.90    1.11
               0.217    0.00 | 1.783   18.94 | 3.350    7.80 |  4.92    1.11
               0.233    0.00 | 1.800   18.94 | 3.367    7.80 |  4.93    1.11
               0.250    0.00 | 1.817   18.94 | 3.383    7.80 |  4.95    1.11
               0.267    1.11 | 1.833   18.94 | 3.400    7.80 |  4.97    1.11
               0.283    1.11 | 1.850   18.94 | 3.417    7.80 |  4.98    1.11
               0.300    1.11 | 1.867   18.94 | 3.433    7.80 |  5.00    1.11
               0.317    1.11 | 1.883   18.94 | 3.450    7.80 |  5.02    1.11
               0.333    1.11 | 1.900   18.94 | 3.467    7.80 |  5.03    1.11
               0.350    1.11 | 1.917   18.94 | 3.483    7.80 |  5.05    1.11
               0.367    1.11 | 1.933   18.94 | 3.500    7.80 |  5.07    1.11
               0.383    1.11 | 1.950   18.94 | 3.517    7.80 |  5.08    1.11
               0.400    1.11 | 1.967   18.94 | 3.533    7.80 |  5.10    1.11
               0.417    1.11 | 1.983   18.94 | 3.550    7.80 |  5.12    1.11
               0.433    1.11 | 2.000   18.94 | 3.567    7.80 |  5.13    1.11
               0.450    1.11 | 2.017   18.94 | 3.583    7.80 |  5.15    1.11
               0.467    1.11 | 2.033   18.94 | 3.600    7.80 |  5.17    1.11
               0.483    1.11 | 2.050   18.94 | 3.617    7.80 |  5.18    1.11
               0.500    1.11 | 2.067   18.94 | 3.633    7.80 |  5.20    1.11
               0.517    1.11 | 2.083   18.94 | 3.650    7.80 |  5.22    1.11
               0.533    1.11 | 2.100   18.94 | 3.667    7.80 |  5.23    1.11
               0.550    1.11 | 2.117   18.94 | 3.683    7.80 |  5.25    1.11
               0.567    1.11 | 2.133   18.94 | 3.700    7.80 |  5.27    1.11
               0.583    1.11 | 2.150   18.94 | 3.717    7.80 |  5.28    1.11
               0.600    1.11 | 2.167   18.94 | 3.733    7.80 |  5.30    1.11
               0.617    1.11 | 2.183   18.94 | 3.750    7.80 |  5.32    1.11
               0.633    1.11 | 2.200   18.94 | 3.767    4.46 |  5.33    1.11
               0.650    1.11 | 2.217   18.94 | 3.783    4.46 |  5.35    1.11
               0.667    1.11 | 2.233   18.94 | 3.800    4.46 |  5.37    1.11
               0.683    1.11 | 2.250   18.94 | 3.817    4.46 |  5.38    1.11
               0.700    1.11 | 2.267   51.24 | 3.833    4.46 |  5.40    1.11
               0.717    1.11 | 2.283   51.24 | 3.850    4.46 |  5.42    1.11
               0.733    1.11 | 2.300   51.24 | 3.867    4.46 |  5.43    1.11
               0.750    1.11 | 2.317   51.24 | 3.883    4.46 |  5.45    1.11
               0.767    1.11 | 2.333   51.24 | 3.900    4.46 |  5.47    1.11
               0.783    1.11 | 2.350   51.24 | 3.917    4.46 |  5.48    1.11
               0.800    1.11 | 2.367   51.24 | 3.933    4.46 |  5.50    1.11
               0.817    1.11 | 2.383   51.24 | 3.950    4.46 |  5.52    1.11
               0.833    1.11 | 2.400   51.24 | 3.967    4.46 |  5.53    1.11
               0.850    1.11 | 2.417   51.24 | 3.983    4.46 |  5.55    1.11
               0.867    1.11 | 2.433   51.24 | 4.000    4.46 |  5.57    1.11
               0.883    1.11 | 2.450   51.24 | 4.017    4.46 |  5.58    1.11
               0.900    1.11 | 2.467   51.24 | 4.033    4.46 |  5.60    1.11
               0.917    1.11 | 2.483   51.24 | 4.050    4.46 |  5.62    1.11
               0.933    1.11 | 2.500   51.24 | 4.067    4.46 |  5.63    1.11
               0.950    1.11 | 2.517   51.24 | 4.083    4.46 |  5.65    1.11
               0.967    1.11 | 2.533   51.24 | 4.100    4.46 |  5.67    1.11
               0.983    1.11 | 2.550   51.24 | 4.117    4.46 |  5.68    1.11
               1.000    1.11 | 2.567   51.24 | 4.133    4.46 |  5.70    1.11
               1.017    1.11 | 2.583   51.24 | 4.150    4.46 |  5.72    1.11
               1.033    1.11 | 2.600   51.24 | 4.167    4.46 |  5.73    1.11
               1.050    1.11 | 2.617   51.24 | 4.183    4.46 |  5.75    1.11
               1.067    1.11 | 2.633   51.24 | 4.200    4.46 |  5.77    1.11
               1.083    1.11 | 2.650   51.24 | 4.217    4.46 |  5.78    1.11
               1.100    1.11 | 2.667   51.24 | 4.233    4.46 |  5.80    1.11
               1.117    1.11 | 2.683   51.24 | 4.250    4.46 |  5.82    1.11
               1.133    1.11 | 2.700   51.24 | 4.267    2.23 |  5.83    1.11
               1.150    1.11 | 2.717   51.24 | 4.283    2.23 |  5.85    1.11
               1.167    1.11 | 2.733   51.24 | 4.300    2.23 |  5.87    1.11
               1.183    1.11 | 2.750   51.24 | 4.317    2.23 |  5.88    1.11
               1.200    1.11 | 2.767   14.48 | 4.333    2.23 |  5.90    1.11
               1.217    1.11 | 2.783   14.48 | 4.350    2.23 |  5.92    1.11
               1.233    1.11 | 2.800   14.48 | 4.367    2.23 |  5.93    1.11
               1.250    1.11 | 2.817   14.48 | 4.383    2.23 |  5.95    1.11
               1.267    6.68 | 2.833   14.48 | 4.400    2.23 |  5.97    1.11
               1.283    6.68 | 2.850   14.48 | 4.417    2.23 |  5.98    1.11
               1.300    6.68 | 2.867   14.48 | 4.433    2.23 |  6.00    1.11
               1.317    6.68 | 2.883   14.48 | 4.450    2.23 |  6.02    1.11
               1.333    6.68 | 2.900   14.48 | 4.467    2.23 |  6.03    1.11
               1.350    6.68 | 2.917   14.48 | 4.483    2.23 |  6.05    1.11
               1.367    6.68 | 2.933   14.48 | 4.500    2.23 |  6.07    1.11
               1.383    6.68 | 2.950   14.48 | 4.517    2.23 |  6.08    1.11
               1.400    6.68 | 2.967   14.48 | 4.533    2.23 |  6.10    1.11
               1.417    6.68 | 2.983   14.48 | 4.550    2.23 |  6.12    1.11
               1.433    6.68 | 3.000   14.48 | 4.567    2.23 |  6.13    1.11
               1.450    6.68 | 3.017   14.48 | 4.583    2.23 |  6.15    1.11
               1.467    6.68 | 3.033   14.48 | 4.600    2.23 |  6.17    1.11
               1.483    6.68 | 3.050   14.48 | 4.617    2.23 |  6.18    1.11
               1.500    6.68 | 3.067   14.48 | 4.633    2.23 |  6.20    1.11
               1.517    6.68 | 3.083   14.48 | 4.650    2.23 |  6.22    1.11
               1.533    6.68 | 3.100   14.48 | 4.667    2.23 |  6.23    1.11
               1.550    6.68 | 3.117   14.48 | 4.683    2.23 |  6.25    1.11
               1.567    6.68 | 3.133   14.48 | 4.700    2.23 |

Max.Eff.Inten.(mm/hr)=      51.24        34.52
          over (min)         5.00         7.00
Storage Coeff.  (min)=       4.45 (ii)    6.67 (ii)
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Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.24	0.17	
			TOTALS
PEAK FLOW (cms)=	0.55	0.00	0.554 (iii)
TIME TO PEAK (hrs)=	2.75	2.77	2.75
RUNOFF VOLUME (mm)=	54.69	29.66	54.44
TOTAL RAINFALL (mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT =	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.554	2.75	54.44
OUTFLOW: ID= 1 (7632)	3.910	0.057	3.90	52.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.33
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.1663

CALIB			
STANDHYD (7641)	Area (ha)= 2.21		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.19	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	121.38	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	6.68	3.150	14.48	4.72	2.23
0.033	0.00	1.600	6.68	3.167	14.48	4.73	2.23
0.050	0.00	1.617	6.68	3.183	14.48	4.75	2.23
0.067	0.00	1.633	6.68	3.200	14.48	4.77	1.11
0.083	0.00	1.650	6.68	3.217	14.48	4.78	1.11
0.100	0.00	1.667	6.68	3.233	14.48	4.80	1.11
0.117	0.00	1.683	6.68	3.250	14.48	4.82	1.11
0.133	0.00	1.700	6.68	3.267	7.80	4.83	1.11
0.150	0.00	1.717	6.68	3.283	7.80	4.85	1.11
0.167	0.00	1.733	6.68	3.300	7.80	4.87	1.11
0.183	0.00	1.750	6.68	3.317	7.80	4.88	1.11
0.200	0.00	1.767	18.94	3.333	7.80	4.90	1.11
0.217	0.00	1.783	18.94	3.350	7.80	4.92	1.11
0.233	0.00	1.800	18.94	3.367	7.80	4.93	1.11
0.250	0.00	1.817	18.94	3.383	7.80	4.95	1.11
0.267	1.11	1.833	18.94	3.400	7.80	4.97	1.11
0.283	1.11	1.850	18.94	3.417	7.80	4.98	1.11
0.300	1.11	1.867	18.94	3.433	7.80	5.00	1.11
0.317	1.11	1.883	18.94	3.450	7.80	5.02	1.11
0.333	1.11	1.900	18.94	3.467	7.80	5.03	1.11
0.350	1.11	1.917	18.94	3.483	7.80	5.05	1.11
0.367	1.11	1.933	18.94	3.500	7.80	5.07	1.11
0.383	1.11	1.950	18.94	3.517	7.80	5.08	1.11
0.400	1.11	1.967	18.94	3.533	7.80	5.10	1.11
0.417	1.11	1.983	18.94	3.550	7.80	5.12	1.11
0.433	1.11	2.000	18.94	3.567	7.80	5.13	1.11
0.450	1.11	2.017	18.94	3.583	7.80	5.15	1.11
0.467	1.11	2.033	18.94	3.600	7.80	5.17	1.11
0.483	1.11	2.050	18.94	3.617	7.80	5.18	1.11
0.500	1.11	2.067	18.94	3.633	7.80	5.20	1.11
0.517	1.11	2.083	18.94	3.650	7.80	5.22	1.11
0.533	1.11	2.100	18.94	3.667	7.80	5.23	1.11
0.550	1.11	2.117	18.94	3.683	7.80	5.25	1.11
0.567	1.11	2.133	18.94	3.700	7.80	5.27	1.11
0.583	1.11	2.150	18.94	3.717	7.80	5.28	1.11
0.600	1.11	2.167	18.94	3.733	7.80	5.30	1.11
0.617	1.11	2.183	18.94	3.750	7.80	5.32	1.11
0.633	1.11	2.200	18.94	3.767	4.46	5.33	1.11
0.650	1.11	2.217	18.94	3.783	4.46	5.35	1.11
0.667	1.11	2.233	18.94	3.800	4.46	5.37	1.11
0.683	1.11	2.250	18.94	3.817	4.46	5.38	1.11
0.700	1.11	2.267	51.24	3.833	4.46	5.40	1.11
0.717	1.11	2.283	51.24	3.850	4.46	5.42	1.11
0.733	1.11	2.300	51.24	3.867	4.46	5.43	1.11
0.750	1.11	2.317	51.24	3.883	4.46	5.45	1.11
0.767	1.11	2.333	51.24	3.900	4.46	5.47	1.11
0.783	1.11	2.350	51.24	3.917	4.46	5.48	1.11
0.800	1.11	2.367	51.24	3.933	4.46	5.50	1.11
0.817	1.11	2.383	51.24	3.950	4.46	5.52	1.11
0.833	1.11	2.400	51.24	3.967	4.46	5.53	1.11
0.850	1.11	2.417	51.24	3.983	4.46	5.55	1.11
0.867	1.11	2.433	51.24	4.000	4.46	5.57	1.11
0.883	1.11	2.450	51.24	4.017	4.46	5.58	1.11
0.900	1.11	2.467	51.24	4.033	4.46	5.60	1.11
0.917	1.11	2.483	51.24	4.050	4.46	5.62	1.11
0.933	1.11	2.500	51.24	4.067	4.46	5.63	1.11
0.950	1.11	2.517	51.24	4.083	4.46	5.65	1.11
0.967	1.11	2.533	51.24	4.100	4.46	5.67	1.11
0.983	1.11	2.550	51.24	4.117	4.46	5.68	1.11
1.000	1.11	2.567	51.24	4.133	4.46	5.70	1.11
1.017	1.11	2.583	51.24	4.150	4.46	5.72	1.11
1.033	1.11	2.600	51.24	4.167	4.46	5.73	1.11
1.050	1.11	2.617	51.24	4.183	4.46	5.75	1.11
1.067	1.11	2.633	51.24	4.200	4.46	5.77	1.11
1.083	1.11	2.650	51.24	4.217	4.46	5.78	1.11
1.100	1.11	2.667	51.24	4.233	4.46	5.80	1.11
1.117	1.11	2.683	51.24	4.250	4.46	5.82	1.11
1.133	1.11	2.700	51.24	4.267	2.23	5.83	1.11
1.150	1.11	2.717	51.24	4.283	2.23	5.85	1.11
1.167	1.11	2.733	51.24	4.300	2.23	5.87	1.11
1.183	1.11	2.750	51.24	4.317	2.23	5.88	1.11
1.200	1.11	2.767	14.48	4.333	2.23	5.90	1.11
1.217	1.11	2.783	14.48	4.350	2.23	5.92	1.11
1.233	1.11	2.800	14.48	4.367	2.23	5.93	1.11
1.250	1.11	2.817	14.48	4.383	2.23	5.95	1.11
1.267	6.68	2.833	14.48	4.400	2.23	5.97	1.11
1.283	6.68	2.850	14.48	4.417	2.23	5.98	1.11
1.300	6.68	2.867	14.48	4.433	2.23	6.00	1.11
1.317	6.68	2.883	14.48	4.450	2.23	6.02	1.11
1.333	6.68	2.900	14.48	4.467	2.23	6.03	1.11
1.350	6.68	2.917	14.48	4.483	2.23	6.05	1.11
1.367	6.68	2.933	14.48	4.500	2.23	6.07	1.11
1.383	6.68	2.950	14.48	4.517	2.23	6.08	1.11
1.400	6.68	2.967	14.48	4.533	2.23	6.10	1.11
1.417	6.68	2.983	14.48	4.550	2.23	6.12	1.11
1.433	6.68	3.000	14.48	4.567	2.23	6.13	1.11
1.450	6.68	3.017	14.48	4.583	2.23	6.15	1.11
1.467	6.68	3.033	14.48	4.600	2.23	6.17	1.11
1.483	6.68	3.050	14.48	4.617	2.23	6.18	1.11
1.500	6.68	3.067	14.48	4.633	2.23	6.20	1.11
1.517	6.68	3.083	14.48	4.650	2.23	6.22	1.11
1.533	6.68	3.100	14.48	4.667	2.23	6.23	1.11
1.550	6.68	3.117	14.48	4.683	2.23	6.25	1.11
1.567	6.68	3.133	14.48	4.700	2.23		

Max.Eff.Inten.(mm/hr)=	51.24	34.52
over (min)	5.00	6.00

```
     Storage Coeff.  (min)=       3.75 (ii)    5.97 (ii)
     Unit Hyd. Tpeak (min)=       5.00         6.00
     Unit Hyd. peak  (cms)=       0.27         0.19
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.31         0.00          0.313 (iii)
     TIME TO PEAK    (hrs)=       2.75         2.75          2.75
     RUNOFF VOLUME    (mm)=      54.69        29.66         54.44
     TOTAL RAINFALL   (mm)=      55.69        55.69         55.69
     RUNOFF COEFFICIENT   =       0.98         0.53          0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  7642)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000      0.0000   |    0.0470      0.1250
                           0.0197      0.0630   |    0.0551      0.1410
                           0.0304      0.0850   |    0.0620      0.1580
                           0.0373      0.1020   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7641)      2.210     0.313      2.75      54.44
   OUTFLOW: ID= 1 (  7642)      2.210     0.034      3.87      52.79

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.77
                  TIME SHIFT OF PEAK FLOW         (min)= 67.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0933

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--------------------
| CALIB            |
| STANDHYD (  7643)|   Area    (ha)=   2.02
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.00         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     116.05        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.017    0.00 | 1.583    6.68 | 3.150   14.48 |  4.72    2.23
              0.033    0.00 | 1.600    6.68 | 3.167   14.48 |  4.73    2.23
              0.050    0.00 | 1.617    6.68 | 3.183   14.48 |  4.75    2.23
              0.067    0.00 | 1.633    6.68 | 3.200   14.48 |  4.77    1.11
              0.083    0.00 | 1.650    6.68 | 3.217   14.48 |  4.78    1.11
              0.100    0.00 | 1.667    6.68 | 3.233   14.48 |  4.80    1.11
              0.117    0.00 | 1.683    6.68 | 3.250   14.48 |  4.82    1.11
              0.133    0.00 | 1.700    6.68 | 3.267    7.80 |  4.83    1.11
              0.150    0.00 | 1.717    6.68 | 3.283    7.80 |  4.85    1.11
              0.167    0.00 | 1.733    6.68 | 3.300    7.80 |  4.87    1.11
              0.183    0.00 | 1.750    6.68 | 3.317    7.80 |  4.88    1.11
              0.200    0.00 | 1.767   18.94 | 3.333    7.80 |  4.90    1.11
              0.217    0.00 | 1.783   18.94 | 3.350    7.80 |  4.92    1.11
              0.233    0.00 | 1.800   18.94 | 3.367    7.80 |  4.93    1.11
              0.250    0.00 | 1.817   18.94 | 3.383    7.80 |  4.95    1.11
              0.267    1.11 | 1.833   18.94 | 3.400    7.80 |  4.97    1.11
              0.283    1.11 | 1.850   18.94 | 3.417    7.80 |  4.98    1.11
              0.300    1.11 | 1.867   18.94 | 3.433    7.80 |  5.00    1.11
              0.317    1.11 | 1.883   18.94 | 3.450    7.80 |  5.02    1.11
              0.333    1.11 | 1.900   18.94 | 3.467    7.80 |  5.03    1.11
              0.350    1.11 | 1.917   18.94 | 3.483    7.80 |  5.05    1.11
              0.367    1.11 | 1.933   18.94 | 3.500    7.80 |  5.07    1.11
              0.383    1.11 | 1.950   18.94 | 3.517    7.80 |  5.08    1.11
              0.400    1.11 | 1.967   18.94 | 3.533    7.80 |  5.10    1.11
              0.417    1.11 | 1.983   18.94 | 3.550    7.80 |  5.12    1.11
              0.433    1.11 | 2.000   18.94 | 3.567    7.80 |  5.13    1.11
              0.450    1.11 | 2.017   18.94 | 3.583    7.80 |  5.15    1.11
              0.467    1.11 | 2.033   18.94 | 3.600    7.80 |  5.17    1.11
              0.483    1.11 | 2.050   18.94 | 3.617    7.80 |  5.18    1.11
              0.500    1.11 | 2.067   18.94 | 3.633    7.80 |  5.20    1.11
              0.517    1.11 | 2.083   18.94 | 3.650    7.80 |  5.22    1.11
              0.533    1.11 | 2.100   18.94 | 3.667    7.80 |  5.23    1.11
              0.550    1.11 | 2.117   18.94 | 3.683    7.80 |  5.25    1.11
              0.567    1.11 | 2.133   18.94 | 3.700    7.80 |  5.27    1.11
              0.583    1.11 | 2.150   18.94 | 3.717    7.80 |  5.28    1.11
              0.600    1.11 | 2.167   18.94 | 3.733    7.80 |  5.30    1.11
              0.617    1.11 | 2.183   18.94 | 3.750    7.80 |  5.32    1.11
              0.633    1.11 | 2.200   18.94 | 3.767    4.46 |  5.33    1.11
              0.650    1.11 | 2.217   18.94 | 3.783    4.46 |  5.35    1.11
              0.667    1.11 | 2.233   18.94 | 3.800    4.46 |  5.37    1.11
              0.683    1.11 | 2.250   18.94 | 3.817    4.46 |  5.38    1.11
              0.700    1.11 | 2.267   51.24 | 3.833    4.46 |  5.40    1.11
              0.717    1.11 | 2.283   51.24 | 3.850    4.46 |  5.42    1.11
              0.733    1.11 | 2.300   51.24 | 3.867    4.46 |  5.43    1.11
              0.750    1.11 | 2.317   51.24 | 3.883    4.46 |  5.45    1.11
              0.767    1.11 | 2.333   51.24 | 3.900    4.46 |  5.47    1.11
              0.783    1.11 | 2.350   51.24 | 3.917    4.46 |  5.48    1.11
              0.800    1.11 | 2.367   51.24 | 3.933    4.46 |  5.50    1.11
              0.817    1.11 | 2.383   51.24 | 3.950    4.46 |  5.52    1.11
              0.833    1.11 | 2.400   51.24 | 3.967    4.46 |  5.53    1.11
              0.850    1.11 | 2.417   51.24 | 3.983    4.46 |  5.55    1.11
              0.867    1.11 | 2.433   51.24 | 4.000    4.46 |  5.57    1.11
              0.883    1.11 | 2.450   51.24 | 4.017    4.46 |  5.58    1.11
              0.900    1.11 | 2.467   51.24 | 4.033    4.46 |  5.60    1.11
              0.917    1.11 | 2.483   51.24 | 4.050    4.46 |  5.62    1.11
              0.933    1.11 | 2.500   51.24 | 4.067    4.46 |  5.63    1.11
              0.950    1.11 | 2.517   51.24 | 4.083    4.46 |  5.65    1.11
              0.967    1.11 | 2.533   51.24 | 4.100    4.46 |  5.67    1.11
              0.983    1.11 | 2.550   51.24 | 4.117    4.46 |  5.68    1.11
              1.000    1.11 | 2.567   51.24 | 4.133    4.46 |  5.70    1.11
              1.017    1.11 | 2.583   51.24 | 4.150    4.46 |  5.72    1.11
              1.033    1.11 | 2.600   51.24 | 4.167    4.46 |  5.73    1.11
              1.050    1.11 | 2.617   51.24 | 4.183    4.46 |  5.75    1.11
              1.067    1.11 | 2.633   51.24 | 4.200    4.46 |  5.77    1.11
              1.083    1.11 | 2.650   51.24 | 4.217    4.46 |  5.78    1.11
              1.100    1.11 | 2.667   51.24 | 4.233    4.46 |  5.80    1.11
              1.117    1.11 | 2.683   51.24 | 4.250    4.46 |  5.82    1.11
              1.133    1.11 | 2.700   51.24 | 4.267    2.23 |  5.83    1.11
              1.150    1.11 | 2.717   51.24 | 4.283    2.23 |  5.85    1.11
              1.167    1.11 | 2.733   51.24 | 4.300    2.23 |  5.87    1.11
              1.183    1.11 | 2.750   51.24 | 4.317    2.23 |  5.88    1.11
              1.200    1.11 | 2.767   14.48 | 4.333    2.23 |  5.90    1.11
              1.217    1.11 | 2.783   14.48 | 4.350    2.23 |  5.92    1.11
              1.233    1.11 | 2.800   14.48 | 4.367    2.23 |  5.93    1.11
              1.250    1.11 | 2.817   14.48 | 4.383    2.23 |  5.95    1.11
              1.267    6.68 | 2.833   14.48 | 4.400    2.23 |  5.97    1.11
              1.283    6.68 | 2.850   14.48 | 4.417    2.23 |  5.98    1.11
              1.300    6.68 | 2.867   14.48 | 4.433    2.23 |  6.00    1.11
              1.317    6.68 | 2.883   14.48 | 4.450    2.23 |  6.02    1.11
              1.333    6.68 | 2.900   14.48 | 4.467    2.23 |  6.03    1.11
              1.350    6.68 | 2.917   14.48 | 4.483    2.23 |  6.05    1.11
              1.367    6.68 | 2.933   14.48 | 4.500    2.23 |  6.07    1.11
              1.383    6.68 | 2.950   14.48 | 4.517    2.23 |  6.08    1.11
              1.400    6.68 | 2.967   14.48 | 4.533    2.23 |  6.10    1.11
              1.417    6.68 | 2.983   14.48 | 4.550    2.23 |  6.12    1.11
              1.433    6.68 | 3.000   14.48 | 4.567    2.23 |  6.13    1.11
              1.450    6.68 | 3.017   14.48 | 4.583    2.23 |  6.15    1.11
              1.467    6.68 | 3.033   14.48 | 4.600    2.23 |  6.17    1.11
              1.483    6.68 | 3.050   14.48 | 4.617    2.23 |  6.18    1.11
              1.500    6.68 | 3.067   14.48 | 4.633    2.23 |  6.20    1.11
              1.517    6.68 | 3.083   14.48 | 4.650    2.23 |  6.22    1.11
              1.533    6.68 | 3.100   14.48 | 4.667    2.23 |  6.23    1.11
              1.550    6.68 | 3.117   14.48 | 4.683    2.23 |  6.25    1.11
              1.567    6.68 | 3.133   14.48 | 4.700    2.23 |

Max.Eff.Inten.(mm/hr)=      51.24        34.52
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	over (min)	5.00	6.00	
Storage Coeff.	(min)=	3.65 (ii)	5.87 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	6.00	
Unit Hyd. peak	(cms)=	0.28	0.19	
				TOTALS
PEAK FLOW	(cms)=	0.28	0.00	0.286 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	54.69	29.66	54.44
TOTAL RAINFALL	(mm)=	55.69	55.69	55.69
RUNOFF COEFFICIENT	=	0.98	0.53	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0433	0.1140
0.0182	0.0580	0.0507	0.1280
0.0280	0.0775	0.0571	0.1440
0.0343	0.0930	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2	(7643)	2.020	0.286	2.75	54.44
OUTFLOW: ID= 1	(7644)	2.020	0.031	3.87	52.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.86
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.0851

****
** SIMULATION:91. 10 Year 12 Hour AES (Bloor, TRCA) **
****

READ STORM	Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\8ddbc7c5
Ptotal= 62.71 mm	Comments: 10 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.25	10.66	6.50	4.39	9.75	0.63
0.25	0.63	3.50	10.66	6.75	4.39	10.00	0.63
0.50	0.63	3.75	10.66	7.00	4.39	10.25	0.63
0.75	0.63	4.00	10.66	7.25	2.51	10.50	0.63
1.00	0.63	4.25	28.84	7.50	2.51	10.75	0.63
1.25	0.63	4.50	28.84	7.75	2.51	11.00	0.63
1.50	0.63	4.75	28.84	8.00	2.51	11.25	0.63
1.75	0.63	5.00	28.84	8.25	1.25	11.50	0.63
2.00	0.63	5.25	8.15	8.50	1.25	11.75	0.63
2.25	3.76	5.50	8.15	8.75	1.25	12.00	0.63
2.50	3.76	5.75	8.15	9.00	1.25		
2.75	3.76	6.00	8.15	9.25	0.63		
3.00	3.76	6.25	4.39	9.50	0.63		

CALIB	
STANDHYD (7567)	Area (ha)= 2.81
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.76	6.150	8.15	9.22	1.25
0.033	0.00	3.100	3.76	6.167	8.15	9.23	1.25
0.050	0.00	3.117	3.76	6.183	8.15	9.25	1.25
0.067	0.00	3.133	3.76	6.200	8.15	9.27	0.63
0.083	0.00	3.150	3.76	6.217	8.15	9.28	0.63
0.100	0.00	3.167	3.76	6.233	8.15	9.30	0.63
0.117	0.00	3.183	3.76	6.250	8.14	9.32	0.63
0.133	0.00	3.200	3.76	6.267	4.39	9.33	0.63
0.150	0.00	3.217	3.76	6.283	4.39	9.35	0.63
0.167	0.00	3.233	3.76	6.300	4.39	9.37	0.63
0.183	0.00	3.250	3.76	6.317	4.39	9.38	0.63
0.200	0.00	3.267	10.66	6.333	4.39	9.40	0.63
0.217	0.00	3.283	10.66	6.350	4.39	9.42	0.63
0.233	0.00	3.300	10.66	6.367	4.39	9.43	0.63
0.250	0.00	3.317	10.66	6.383	4.39	9.45	0.63
0.267	0.63	3.333	10.66	6.400	4.39	9.47	0.63
0.283	0.63	3.350	10.66	6.417	4.39	9.48	0.63
0.300	0.63	3.367	10.66	6.433	4.39	9.50	0.63
0.317	0.63	3.383	10.66	6.450	4.39	9.52	0.63
0.333	0.63	3.400	10.66	6.467	4.39	9.53	0.63
0.350	0.63	3.417	10.66	6.483	4.39	9.55	0.63
0.367	0.63	3.433	10.66	6.500	4.39	9.57	0.63
0.383	0.63	3.450	10.66	6.517	4.39	9.58	0.63
0.400	0.63	3.467	10.66	6.533	4.39	9.60	0.63
0.417	0.63	3.483	10.66	6.550	4.39	9.62	0.63
0.433	0.63	3.500	10.66	6.567	4.39	9.63	0.63
0.450	0.63	3.517	10.66	6.583	4.39	9.65	0.63
0.467	0.63	3.533	10.66	6.600	4.39	9.67	0.63
0.483	0.63	3.550	10.66	6.617	4.39	9.68	0.63
0.500	0.63	3.567	10.66	6.633	4.39	9.70	0.63
0.517	0.63	3.583	10.66	6.650	4.39	9.72	0.63
0.533	0.63	3.600	10.66	6.667	4.39	9.73	0.63
0.550	0.63	3.617	10.66	6.683	4.39	9.75	0.63
0.567	0.63	3.633	10.66	6.700	4.39	9.77	0.63
0.583	0.63	3.650	10.66	6.717	4.39	9.78	0.63
0.600	0.63	3.667	10.66	6.733	4.39	9.80	0.63
0.617	0.63	3.683	10.66	6.750	4.39	9.82	0.63
0.633	0.63	3.700	10.66	6.767	4.39	9.83	0.63
0.650	0.63	3.717	10.66	6.783	4.39	9.85	0.63
0.667	0.63	3.733	10.66	6.800	4.39	9.87	0.63
0.683	0.63	3.750	10.66	6.817	4.39	9.88	0.63
0.700	0.63	3.767	10.66	6.833	4.39	9.90	0.63
0.717	0.63	3.783	10.66	6.850	4.39	9.92	0.63
0.733	0.63	3.800	10.66	6.867	4.39	9.93	0.63
0.750	0.63	3.817	10.66	6.883	4.39	9.95	0.63
0.767	0.63	3.833	10.66	6.900	4.39	9.97	0.63
0.783	0.63	3.850	10.66	6.917	4.39	9.98	0.63
0.800	0.63	3.867	10.66	6.933	4.39	10.00	0.63
0.817	0.63	3.883	10.66	6.950	4.39	10.02	0.63
0.833	0.63	3.900	10.66	6.967	4.39	10.03	0.63
0.850	0.63	3.917	10.66	6.983	4.39	10.05	0.63
0.867	0.63	3.933	10.66	7.000	4.39	10.07	0.63
0.883	0.63	3.950	10.66	7.017	4.39	10.08	0.63
0.900	0.63	3.967	10.66	7.033	4.39	10.10	0.63
0.917	0.63	3.983	10.66	7.050	4.39	10.12	0.63
0.933	0.63	4.000	10.66	7.067	4.39	10.13	0.63
0.950	0.63	4.017	10.66	7.083	4.39	10.15	0.63
0.967	0.63	4.033	10.66	7.100	4.39	10.17	0.63
0.983	0.63	4.050	10.66	7.117	4.39	10.18	0.63
1.000	0.63	4.067	10.66	7.133	4.39	10.20	0.63
1.017	0.63	4.083	10.66	7.150	4.39	10.22	0.63
1.033	0.63	4.100	10.66	7.167	4.39	10.23	0.63
1.050	0.63	4.117	10.66	7.183	4.39	10.25	0.63
1.067	0.63	4.133	10.66	7.200	4.39	10.27	0.63
1.083	0.63	4.150	10.66	7.217	4.39	10.28	0.63
1.100	0.63	4.167	10.66	7.233	4.39	10.30	0.63
1.117	0.63	4.183	10.66	7.250	4.39	10.32	0.63

1.133	0.63	4.200	10.66	7.267	2.51	10.33	0.63
1.150	0.63	4.217	10.66	7.283	2.51	10.35	0.63
1.167	0.63	4.233	10.66	7.300	2.51	10.37	0.63
1.183	0.63	4.250	10.66	7.317	2.51	10.38	0.63
1.200	0.63	4.267	28.84	7.333	2.51	10.40	0.63
1.217	0.63	4.283	28.84	7.350	2.51	10.42	0.63
1.233	0.63	4.300	28.84	7.367	2.51	10.43	0.63
1.250	0.63	4.317	28.84	7.383	2.51	10.45	0.63
1.267	0.63	4.333	28.84	7.400	2.51	10.47	0.63
1.283	0.63	4.350	28.84	7.417	2.51	10.48	0.63
1.300	0.63	4.367	28.84	7.433	2.51	10.50	0.63
1.317	0.63	4.383	28.84	7.450	2.51	10.52	0.63
1.333	0.63	4.400	28.84	7.467	2.51	10.53	0.63
1.350	0.63	4.417	28.84	7.483	2.51	10.55	0.63
1.367	0.63	4.433	28.84	7.500	2.51	10.57	0.63
1.383	0.63	4.450	28.84	7.517	2.51	10.58	0.63
1.400	0.63	4.467	28.84	7.533	2.51	10.60	0.63
1.417	0.63	4.483	28.84	7.550	2.51	10.62	0.63
1.433	0.63	4.500	28.84	7.567	2.51	10.63	0.63
1.450	0.63	4.517	28.84	7.583	2.51	10.65	0.63
1.467	0.63	4.533	28.84	7.600	2.51	10.67	0.63
1.483	0.63	4.550	28.84	7.617	2.51	10.68	0.63
1.500	0.63	4.567	28.84	7.633	2.51	10.70	0.63
1.517	0.63	4.583	28.84	7.650	2.51	10.72	0.63
1.533	0.63	4.600	28.84	7.667	2.51	10.73	0.63
1.550	0.63	4.617	28.84	7.683	2.51	10.75	0.63
1.567	0.63	4.633	28.84	7.700	2.51	10.77	0.63
1.583	0.63	4.650	28.84	7.717	2.51	10.78	0.63
1.600	0.63	4.667	28.84	7.733	2.51	10.80	0.63
1.617	0.63	4.683	28.84	7.750	2.51	10.82	0.63
1.633	0.63	4.700	28.84	7.767	2.51	10.83	0.63
1.650	0.63	4.717	28.84	7.783	2.51	10.85	0.63
1.667	0.63	4.733	28.84	7.800	2.51	10.87	0.63
1.683	0.63	4.750	28.84	7.817	2.51	10.88	0.63
1.700	0.63	4.767	28.84	7.833	2.51	10.90	0.63
1.717	0.63	4.783	28.84	7.850	2.51	10.92	0.63
1.733	0.63	4.800	28.84	7.867	2.51	10.93	0.63
1.750	0.63	4.817	28.84	7.883	2.51	10.95	0.63
1.767	0.63	4.833	28.84	7.900	2.51	10.97	0.63
1.783	0.63	4.850	28.84	7.917	2.51	10.98	0.63
1.800	0.63	4.867	28.84	7.933	2.51	11.00	0.63
1.817	0.63	4.883	28.84	7.950	2.51	11.02	0.63
1.833	0.63	4.900	28.84	7.967	2.51	11.03	0.63
1.850	0.63	4.917	28.84	7.983	2.51	11.05	0.63
1.867	0.63	4.933	28.84	8.000	2.51	11.07	0.63
1.883	0.63	4.950	28.84	8.017	2.51	11.08	0.63
1.900	0.63	4.967	28.84	8.033	2.51	11.10	0.63
1.917	0.63	4.983	28.84	8.050	2.51	11.12	0.63
1.933	0.63	5.000	28.84	8.067	2.51	11.13	0.63
1.950	0.63	5.017	28.84	8.083	2.51	11.15	0.63
1.967	0.63	5.033	28.84	8.100	2.51	11.17	0.63
1.983	0.63	5.050	28.84	8.117	2.51	11.18	0.63
2.000	0.63	5.067	28.84	8.133	2.51	11.20	0.63
2.017	0.63	5.083	28.84	8.150	2.51	11.22	0.63
2.033	0.63	5.100	28.84	8.167	2.51	11.23	0.63
2.050	0.63	5.117	28.84	8.183	2.51	11.25	0.63
2.067	0.63	5.133	28.84	8.200	2.51	11.27	0.63
2.083	0.63	5.150	28.84	8.217	2.51	11.28	0.63
2.100	0.63	5.167	28.84	8.233	2.51	11.30	0.63
2.117	0.63	5.183	28.84	8.250	2.51	11.32	0.63
2.133	0.63	5.200	28.84	8.267	1.25	11.33	0.63
2.150	0.63	5.217	28.84	8.283	1.25	11.35	0.63
2.167	0.63	5.233	28.84	8.300	1.25	11.37	0.63
2.183	0.63	5.250	28.82	8.317	1.25	11.38	0.63
2.200	0.63	5.267	8.15	8.333	1.25	11.40	0.63
2.217	0.63	5.283	8.15	8.350	1.25	11.42	0.63
2.233	0.63	5.300	8.15	8.367	1.25	11.43	0.63
2.250	0.63	5.317	8.15	8.383	1.25	11.45	0.63
2.267	3.76	5.333	8.15	8.400	1.25	11.47	0.63
2.283	3.76	5.350	8.15	8.417	1.25	11.48	0.63
2.300	3.76	5.367	8.15	8.433	1.25	11.50	0.63
2.317	3.76	5.383	8.15	8.450	1.25	11.52	0.63
2.333	3.76	5.400	8.15	8.467	1.25	11.53	0.63
2.350	3.76	5.417	8.15	8.483	1.25	11.55	0.63
2.367	3.76	5.433	8.15	8.500	1.25	11.57	0.63
2.383	3.76	5.450	8.15	8.517	1.25	11.58	0.63
2.400	3.76	5.467	8.15	8.533	1.25	11.60	0.63
2.417	3.76	5.483	8.15	8.550	1.25	11.62	0.63
2.433	3.76	5.500	8.15	8.567	1.25	11.63	0.63
2.450	3.76	5.517	8.15	8.583	1.25	11.65	0.63
2.467	3.76	5.533	8.15	8.600	1.25	11.67	0.63
2.483	3.76	5.550	8.15	8.617	1.25	11.68	0.63
2.500	3.76	5.567	8.15	8.633	1.25	11.70	0.63
2.517	3.76	5.583	8.15	8.650	1.25	11.72	0.63
2.533	3.76	5.600	8.15	8.667	1.25	11.73	0.63
2.550	3.76	5.617	8.15	8.683	1.25	11.75	0.63
2.567	3.76	5.633	8.15	8.700	1.25	11.77	0.63
2.583	3.76	5.650	8.15	8.717	1.25	11.78	0.63
2.600	3.76	5.667	8.15	8.733	1.25	11.80	0.63
2.617	3.76	5.683	8.15	8.750	1.25	11.82	0.63
2.633	3.76	5.700	8.15	8.767	1.25	11.83	0.63
2.650	3.76	5.717	8.15	8.783	1.25	11.85	0.63
2.667	3.76	5.733	8.15	8.800	1.25	11.87	0.63
2.683	3.76	5.750	8.15	8.817	1.25	11.88	0.63
2.700	3.76	5.767	8.15	8.833	1.25	11.90	0.63
2.717	3.76	5.783	8.15	8.850	1.25	11.92	0.63
2.733	3.76	5.800	8.15	8.867	1.25	11.93	0.63
2.750	3.76	5.817	8.15	8.883	1.25	11.95	0.63
2.767	3.76	5.833	8.15	8.900	1.25	11.97	0.63
2.783	3.76	5.850	8.15	8.917	1.25	11.98	0.63
2.800	3.76	5.867	8.15	8.933	1.25	12.00	0.63
2.817	3.76	5.883	8.15	8.950	1.25	12.02	0.63
2.833	3.76	5.900	8.15	8.967	1.25	12.03	0.63
2.850	3.76	5.917	8.15	8.983	1.25	12.05	0.63
2.867	3.76	5.933	8.15	9.000	1.25	12.07	0.63
2.883	3.76	5.950	8.15	9.017	1.25	12.08	0.63
2.900	3.76	5.967	8.15	9.033	1.25	12.10	0.63
2.917	3.76	5.983	8.15	9.050	1.25	12.12	0.63
2.933	3.76	6.000	8.15	9.067	1.25	12.13	0.63
2.950	3.76	6.017	8.15	9.083	1.25	12.15	0.63
2.967	3.76	6.033	8.15	9.100	1.25	12.17	0.63
2.983	3.76	6.050	8.15	9.117	1.25	12.18	0.63
3.000	3.76	6.067	8.15	9.133	1.25	12.20	0.63
3.017	3.76	6.083	8.15	9.150	1.25	12.22	0.63
3.033	3.76	6.100	8.15	9.167	1.25	12.23	0.63
3.050	3.76	6.117	8.15	9.183	1.25	12.25	0.63
3.067	3.76	6.133	8.15	9.200	1.25		

Max.Eff.Inten.(mm/hr)=	28.84	20.90	
over (min)	5.00	8.00	
Storage Coeff. (min)=	5.07 (ii)	7.87 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.22	0.14	
			TOTALS
PEAK FLOW (cms)=	0.22	0.00	0.224 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	35.33	61.44
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.56	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.224	5.25	61.44
OUTFLOW: ID= 1 (7626)	2.810	0.042	6.40	58.84

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.80
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.1175

CALIB	
STANDHYD (7624)	Area (ha)= 2.08
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.76	6.150	8.15	9.22	1.25
0.033	0.00	3.100	3.76	6.167	8.15	9.23	1.25
0.050	0.00	3.117	3.76	6.183	8.15	9.25	1.25
0.067	0.00	3.133	3.76	6.200	8.15	9.27	0.63
0.083	0.00	3.150	3.76	6.217	8.15	9.28	0.63
0.100	0.00	3.167	3.76	6.233	8.15	9.30	0.63
0.117	0.00	3.183	3.76	6.250	8.14	9.32	0.63
0.133	0.00	3.200	3.76	6.267	4.39	9.33	0.63
0.150	0.00	3.217	3.76	6.283	4.39	9.35	0.63
0.167	0.00	3.233	3.76	6.300	4.39	9.37	0.63
0.183	0.00	3.250	3.76	6.317	4.39	9.38	0.63
0.200	0.00	3.267	10.66	6.333	4.39	9.40	0.63
0.217	0.00	3.283	10.66	6.350	4.39	9.42	0.63
0.233	0.00	3.300	10.66	6.367	4.39	9.43	0.63
0.250	0.00	3.317	10.66	6.383	4.39	9.45	0.63
0.267	0.63	3.333	10.66	6.400	4.39	9.47	0.63
0.283	0.63	3.350	10.66	6.417	4.39	9.48	0.63
0.300	0.63	3.367	10.66	6.433	4.39	9.50	0.63
0.317	0.63	3.383	10.66	6.450	4.39	9.52	0.63
0.333	0.63	3.400	10.66	6.467	4.39	9.53	0.63
0.350	0.63	3.417	10.66	6.483	4.39	9.55	0.63
0.367	0.63	3.433	10.66	6.500	4.39	9.57	0.63
0.383	0.63	3.450	10.66	6.517	4.39	9.58	0.63
0.400	0.63	3.467	10.66	6.533	4.39	9.60	0.63
0.417	0.63	3.483	10.66	6.550	4.39	9.62	0.63
0.433	0.63	3.500	10.66	6.567	4.39	9.63	0.63
0.450	0.63	3.517	10.66	6.583	4.39	9.65	0.63
0.467	0.63	3.533	10.66	6.600	4.39	9.67	0.63
0.483	0.63	3.550	10.66	6.617	4.39	9.68	0.63
0.500	0.63	3.567	10.66	6.633	4.39	9.70	0.63
0.517	0.63	3.583	10.66	6.650	4.39	9.72	0.63
0.533	0.63	3.600	10.66	6.667	4.39	9.73	0.63
0.550	0.63	3.617	10.66	6.683	4.39	9.75	0.63
0.567	0.63	3.633	10.66	6.700	4.39	9.77	0.63
0.583	0.63	3.650	10.66	6.717	4.39	9.78	0.63
0.600	0.63	3.667	10.66	6.733	4.39	9.80	0.63
0.617	0.63	3.683	10.66	6.750	4.39	9.82	0.63
0.633	0.63	3.700	10.66	6.767	4.39	9.83	0.63
0.650	0.63	3.717	10.66	6.783	4.39	9.85	0.63
0.667	0.63	3.733	10.66	6.800	4.39	9.87	0.63
0.683	0.63	3.750	10.66	6.817	4.39	9.88	0.63
0.700	0.63	3.767	10.66	6.833	4.39	9.90	0.63
0.717	0.63	3.783	10.66	6.850	4.39	9.92	0.63
0.733	0.63	3.800	10.66	6.867	4.39	9.93	0.63
0.750	0.63	3.817	10.66	6.883	4.39	9.95	0.63
0.767	0.63	3.833	10.66	6.900	4.39	9.97	0.63
0.783	0.63	3.850	10.66	6.917	4.39	9.98	0.63
0.800	0.63	3.867	10.66	6.933	4.39	10.00	0.63
0.817	0.63	3.883	10.66	6.950	4.39	10.02	0.63
0.833	0.63	3.900	10.66	6.967	4.39	10.03	0.63
0.850	0.63	3.917	10.66	6.983	4.39	10.05	0.63
0.867	0.63	3.933	10.66	7.000	4.39	10.07	0.63
0.883	0.63	3.950	10.66	7.017	4.39	10.08	0.63
0.900	0.63	3.967	10.66	7.033	4.39	10.10	0.63
0.917	0.63	3.983	10.66	7.050	4.39	10.12	0.63
0.933	0.63	4.000	10.66	7.067	4.39	10.13	0.63
0.950	0.63	4.017	10.66	7.083	4.39	10.15	0.63
0.967	0.63	4.033	10.66	7.100	4.39	10.17	0.63
0.983	0.63	4.050	10.66	7.117	4.39	10.18	0.63
1.000	0.63	4.067	10.66	7.133	4.39	10.20	0.63
1.017	0.63	4.083	10.66	7.150	4.39	10.22	0.63
1.033	0.63	4.100	10.66	7.167	4.39	10.23	0.63
1.050	0.63	4.117	10.66	7.183	4.39	10.25	0.63
1.067	0.63	4.133	10.66	7.200	4.39	10.27	0.63
1.083	0.63	4.150	10.66	7.217	4.39	10.28	0.63
1.100	0.63	4.167	10.66	7.233	4.39	10.30	0.63
1.117	0.63	4.183	10.66	7.250	4.39	10.32	0.63
1.133	0.63	4.200	10.66	7.267	2.51	10.33	0.63
1.150	0.63	4.217	10.66	7.283	2.51	10.35	0.63
1.167	0.63	4.233	10.66	7.300	2.51	10.37	0.63
1.183	0.63	4.250	10.66	7.317	2.51	10.38	0.63
1.200	0.63	4.267	28.84	7.333	2.51	10.40	0.63
1.217	0.63	4.283	28.84	7.350	2.51	10.42	0.63
1.233	0.63	4.300	28.84	7.367	2.51	10.43	0.63
1.250	0.63	4.317	28.84	7.383	2.51	10.45	0.63
1.267	0.63	4.333	28.84	7.400	2.51	10.47	0.63
1.283	0.63	4.350	28.84	7.417	2.51	10.48	0.63
1.300	0.63	4.367	28.84	7.433	2.51	10.50	0.63
1.317	0.63	4.383	28.84	7.450	2.51	10.52	0.63
1.333	0.63	4.400	28.84	7.467	2.51	10.53	0.63
1.350	0.63	4.417	28.84	7.483	2.51	10.55	0.63
1.367	0.63	4.433	28.84	7.500	2.51	10.57	0.63
1.383	0.63	4.450	28.84	7.517	2.51	10.58	0.63
1.400	0.63	4.467	28.84	7.533	2.51	10.60	0.63
1.417	0.63	4.483	28.84	7.550	2.51	10.62	0.63
1.433	0.63	4.500	28.84	7.567	2.51	10.63	0.63
1.450	0.63	4.517	28.84	7.583	2.51	10.65	0.63
1.467	0.63	4.533	28.84	7.600	2.51	10.67	0.63
1.483	0.63	4.550	28.84	7.617	2.51	10.68	0.63
1.500	0.63	4.567	28.84	7.633	2.51	10.70	0.63
1.517	0.63	4.583	28.84	7.650	2.51	10.72	0.63
1.533	0.63	4.600	28.84	7.667	2.51	10.73	0.63
1.550	0.63	4.617	28.84	7.683	2.51	10.75	0.63
1.567	0.63	4.633	28.84	7.700	2.51	10.77	0.63
1.583	0.63	4.650	28.84	7.717	2.51	10.78	0.63
1.600	0.63	4.667	28.84	7.733	2.51	10.80	0.63
1.617	0.63	4.683	28.84	7.750	2.51	10.82	0.63
1.633	0.63	4.700	28.84	7.767	2.51	10.83	0.63
1.650	0.63	4.717	28.84	7.783	2.51	10.85	0.63
1.667	0.63	4.733	28.84	7.800	2.51	10.87	0.63
1.683	0.63	4.750	28.84	7.817	2.51	10.88	0.63
1.700	0.63	4.767	28.84	7.833	2.51	10.90	0.63
1.717	0.63	4.783	28.84	7.850	2.51	10.92	0.63
1.733	0.63	4.800	28.84	7.867	2.51	10.93	0.63
1.750	0.63	4.817	28.84	7.883	2.51	10.95	0.63
1.767	0.63	4.833	28.84	7.900	2.51	10.97	0.63
1.783	0.63	4.850	28.84	7.917	2.51	10.98	0.63
1.800	0.63	4.867	28.84	7.933	2.51	11.00	0.63
1.817	0.63	4.883	28.84	7.950	2.51	11.02	0.63
1.833	0.63	4.900	28.84	7.967	2.51	11.03	0.63
1.850	0.63	4.917	28.84	7.983	2.51	11.05	0.63
1.867	0.63	4.933	28.84	8.000	2.51	11.07	0.63
1.883	0.63	4.950	28.84	8.017	2.51	11.08	0.63
1.900	0.63	4.967	28.84	8.033	2.51	11.10	0.63
1.917	0.63	4.983	28.84	8.050	2.51	11.12	0.63
1.933	0.63	5.000	28.84	8.067	2.51	11.13	0.63
1.950	0.63	5.017	28.84	8.083	2.51	11.15	0.63
1.967	0.63	5.033	28.84	8.100	2.51	11.17	0.63
1.983	0.63	5.050	28.84	8.117	2.51	11.18	0.63
2.000	0.63	5.067	28.84	8.133	2.51	11.20	0.63
2.017	0.63	5.083	28.84	8.150	2.51	11.22	0.63
2.033	0.63	5.100	28.84	8.167	2.51	11.23	0.63
2.050	0.63	5.117	28.84	8.183	2.51	11.25	0.63
2.067	0.63	5.133	28.84	8.200	2.51	11.27	0.63
2.083	0.63	5.150	28.84	8.217	2.51	11.28	0.63
2.100	0.63	5.167	28.84	8.233	2.51	11.30	0.63
2.117	0.63	5.183	28.84	8.250	2.51	11.32	0.63
2.133	0.63	5.200	28.84	8.267	1.25	11.33	0.63

2.150	0.63	5.217	28.84	8.283	1.25	11.35	0.63
2.167	0.63	5.233	28.84	8.300	1.25	11.37	0.63
2.183	0.63	5.250	28.82	8.317	1.25	11.38	0.63
2.200	0.63	5.267	8.15	8.333	1.25	11.40	0.63
2.217	0.63	5.283	8.15	8.350	1.25	11.42	0.63
2.233	0.63	5.300	8.15	8.367	1.25	11.43	0.63
2.250	0.63	5.317	8.15	8.383	1.25	11.45	0.63
2.267	3.76	5.333	8.15	8.400	1.25	11.47	0.63
2.283	3.76	5.350	8.15	8.417	1.25	11.48	0.63
2.300	3.76	5.367	8.15	8.433	1.25	11.50	0.63
2.317	3.76	5.383	8.15	8.450	1.25	11.52	0.63
2.333	3.76	5.400	8.15	8.467	1.25	11.53	0.63
2.350	3.76	5.417	8.15	8.483	1.25	11.55	0.63
2.367	3.76	5.433	8.15	8.500	1.25	11.57	0.63
2.383	3.76	5.450	8.15	8.517	1.25	11.58	0.63
2.400	3.76	5.467	8.15	8.533	1.25	11.60	0.63
2.417	3.76	5.483	8.15	8.550	1.25	11.62	0.63
2.433	3.76	5.500	8.15	8.567	1.25	11.63	0.63
2.450	3.76	5.517	8.15	8.583	1.25	11.65	0.63
2.467	3.76	5.533	8.15	8.600	1.25	11.67	0.63
2.483	3.76	5.550	8.15	8.617	1.25	11.68	0.63
2.500	3.76	5.567	8.15	8.633	1.25	11.70	0.63
2.517	3.76	5.583	8.15	8.650	1.25	11.72	0.63
2.533	3.76	5.600	8.15	8.667	1.25	11.73	0.63
2.550	3.76	5.617	8.15	8.683	1.25	11.75	0.63
2.567	3.76	5.633	8.15	8.700	1.25	11.77	0.63
2.583	3.76	5.650	8.15	8.717	1.25	11.78	0.63
2.600	3.76	5.667	8.15	8.733	1.25	11.80	0.63
2.617	3.76	5.683	8.15	8.750	1.25	11.82	0.63
2.633	3.76	5.700	8.15	8.767	1.25	11.83	0.63
2.650	3.76	5.717	8.15	8.783	1.25	11.85	0.63
2.667	3.76	5.733	8.15	8.800	1.25	11.87	0.63
2.683	3.76	5.750	8.15	8.817	1.25	11.88	0.63
2.700	3.76	5.767	8.15	8.833	1.25	11.90	0.63
2.717	3.76	5.783	8.15	8.850	1.25	11.92	0.63
2.733	3.76	5.800	8.15	8.867	1.25	11.93	0.63
2.750	3.76	5.817	8.15	8.883	1.25	11.95	0.63
2.767	3.76	5.833	8.15	8.900	1.25	11.97	0.63
2.783	3.76	5.850	8.15	8.917	1.25	11.98	0.63
2.800	3.76	5.867	8.15	8.933	1.25	12.00	0.63
2.817	3.76	5.883	8.15	8.950	1.25	12.02	0.63
2.833	3.76	5.900	8.15	8.967	1.25	12.03	0.63
2.850	3.76	5.917	8.15	8.983	1.25	12.05	0.63
2.867	3.76	5.933	8.15	9.000	1.25	12.07	0.63
2.883	3.76	5.950	8.15	9.017	1.25	12.08	0.63
2.900	3.76	5.967	8.15	9.033	1.25	12.10	0.63
2.917	3.76	5.983	8.15	9.050	1.25	12.12	0.63
2.933	3.76	6.000	8.15	9.067	1.25	12.13	0.63
2.950	3.76	6.017	8.15	9.083	1.25	12.15	0.63
2.967	3.76	6.033	8.15	9.100	1.25	12.17	0.63
2.983	3.76	6.050	8.15	9.117	1.25	12.18	0.63
3.000	3.76	6.067	8.15	9.133	1.25	12.20	0.63
3.017	3.76	6.083	8.15	9.150	1.25	12.22	0.63
3.033	3.76	6.100	8.15	9.167	1.25	12.23	0.63
3.050	3.76	6.117	8.15	9.183	1.25	12.25	0.63
3.067	3.76	6.133	8.15	9.200	1.25		

Max.Eff.Inten.(mm/hr)=	28.84	23.99	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.63 (ii)	7.43 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.24	0.15	
			TOTALS
PEAK FLOW (cms)=	0.16	0.00	0.166 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	41.89	61.51
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.67	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0389	0.1013
0.0164	0.0514	0.0456	0.1141
0.0252	0.0690	0.0514	0.1288
0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.166	5.25	61.51
OUTFLOW: ID= 1 (7625)	2.080	0.032	6.38	59.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.52
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.0862

CALIB	
STANDHYD (7623)	Area (ha)= 1.15
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.76	6.150	8.15	9.22	1.25
0.033	0.00	3.100	3.76	6.167	8.15	9.23	1.25
0.050	0.00	3.117	3.76	6.183	8.15	9.25	1.25
0.067	0.00	3.133	3.76	6.200	8.15	9.27	0.63
0.083	0.00	3.150	3.76	6.217	8.15	9.28	0.63
0.100	0.00	3.167	3.76	6.233	8.15	9.30	0.63
0.117	0.00	3.183	3.76	6.250	8.14	9.32	0.63
0.133	0.00	3.200	3.76	6.267	4.39	9.33	0.63
0.150	0.00	3.217	3.76	6.283	4.39	9.35	0.63
0.167	0.00	3.233	3.76	6.300	4.39	9.37	0.63
0.183	0.00	3.250	3.76	6.317	4.39	9.38	0.63
0.200	0.00	3.267	10.66	6.333	4.39	9.40	0.63
0.217	0.00	3.283	10.66	6.350	4.39	9.42	0.63
0.233	0.00	3.300	10.66	6.367	4.39	9.43	0.63
0.250	0.00	3.317	10.66	6.383	4.39	9.45	0.63
0.267	0.63	3.333	10.66	6.400	4.39	9.47	0.63
0.283	0.63	3.350	10.66	6.417	4.39	9.48	0.63
0.300	0.63	3.367	10.66	6.433	4.39	9.50	0.63
0.317	0.63	3.383	10.66	6.450	4.39	9.52	0.63
0.333	0.63	3.400	10.66	6.467	4.39	9.53	0.63
0.350	0.63	3.417	10.66	6.483	4.39	9.55	0.63
0.367	0.63	3.433	10.66	6.500	4.39	9.57	0.63
0.383	0.63	3.450	10.66	6.517	4.39	9.58	0.63
0.400	0.63	3.467	10.66	6.533	4.39	9.60	0.63
0.417	0.63	3.483	10.66	6.550	4.39	9.62	0.63
0.433	0.63	3.500	10.66	6.567	4.39	9.63	0.63
0.450	0.63	3.517	10.66	6.583	4.39	9.65	0.63
0.467	0.63	3.533	10.66	6.600	4.39	9.67	0.63
0.483	0.63	3.550	10.66	6.617	4.39	9.68	0.63
0.500	0.63	3.567	10.66	6.633	4.39	9.70	0.63
0.517	0.63	3.583	10.66	6.650	4.39	9.72	0.63
0.533	0.63	3.600	10.66	6.667	4.39	9.73	0.63
0.550	0.63	3.617	10.66	6.683	4.39	9.75	0.63
0.567	0.63	3.633	10.66	6.700	4.39	9.77	0.63
0.583	0.63	3.650	10.66	6.717	4.39	9.78	0.63
0.600	0.63	3.667	10.66	6.733	4.39	9.80	0.63
0.617	0.63	3.683	10.66	6.750	4.39	9.82	0.63

0.633	0.63	3.700	10.66	6.767	4.39	9.83	0.63
0.650	0.63	3.717	10.66	6.783	4.39	9.85	0.63
0.667	0.63	3.733	10.66	6.800	4.39	9.87	0.63
0.683	0.63	3.750	10.66	6.817	4.39	9.88	0.63
0.700	0.63	3.767	10.66	6.833	4.39	9.90	0.63
0.717	0.63	3.783	10.66	6.850	4.39	9.92	0.63
0.733	0.63	3.800	10.66	6.867	4.39	9.93	0.63
0.750	0.63	3.817	10.66	6.883	4.39	9.95	0.63
0.767	0.63	3.833	10.66	6.900	4.39	9.97	0.63
0.783	0.63	3.850	10.66	6.917	4.39	9.98	0.63
0.800	0.63	3.867	10.66	6.933	4.39	10.00	0.63
0.817	0.63	3.883	10.66	6.950	4.39	10.02	0.63
0.833	0.63	3.900	10.66	6.967	4.39	10.03	0.63
0.850	0.63	3.917	10.66	6.983	4.39	10.05	0.63
0.867	0.63	3.933	10.66	7.000	4.39	10.07	0.63
0.883	0.63	3.950	10.66	7.017	4.39	10.08	0.63
0.900	0.63	3.967	10.66	7.033	4.39	10.10	0.63
0.917	0.63	3.983	10.66	7.050	4.39	10.12	0.63
0.933	0.63	4.000	10.66	7.067	4.39	10.13	0.63
0.950	0.63	4.017	10.66	7.083	4.39	10.15	0.63
0.967	0.63	4.033	10.66	7.100	4.39	10.17	0.63
0.983	0.63	4.050	10.66	7.117	4.39	10.18	0.63
1.000	0.63	4.067	10.66	7.133	4.39	10.20	0.63
1.017	0.63	4.083	10.66	7.150	4.39	10.22	0.63
1.033	0.63	4.100	10.66	7.167	4.39	10.23	0.63
1.050	0.63	4.117	10.66	7.183	4.39	10.25	0.63
1.067	0.63	4.133	10.66	7.200	4.39	10.27	0.63
1.083	0.63	4.150	10.66	7.217	4.39	10.28	0.63
1.100	0.63	4.167	10.66	7.233	4.39	10.30	0.63
1.117	0.63	4.183	10.66	7.250	4.39	10.32	0.63
1.133	0.63	4.200	10.66	7.267	2.51	10.33	0.63
1.150	0.63	4.217	10.66	7.283	2.51	10.35	0.63
1.167	0.63	4.233	10.66	7.300	2.51	10.37	0.63
1.183	0.63	4.250	10.66	7.317	2.51	10.38	0.63
1.200	0.63	4.267	28.84	7.333	2.51	10.40	0.63
1.217	0.63	4.283	28.84	7.350	2.51	10.42	0.63
1.233	0.63	4.300	28.84	7.367	2.51	10.43	0.63
1.250	0.63	4.317	28.84	7.383	2.51	10.45	0.63
1.267	0.63	4.333	28.84	7.400	2.51	10.47	0.63
1.283	0.63	4.350	28.84	7.417	2.51	10.48	0.63
1.300	0.63	4.367	28.84	7.433	2.51	10.50	0.63
1.317	0.63	4.383	28.84	7.450	2.51	10.52	0.63
1.333	0.63	4.400	28.84	7.467	2.51	10.53	0.63
1.350	0.63	4.417	28.84	7.483	2.51	10.55	0.63
1.367	0.63	4.433	28.84	7.500	2.51	10.57	0.63
1.383	0.63	4.450	28.84	7.517	2.51	10.58	0.63
1.400	0.63	4.467	28.84	7.533	2.51	10.60	0.63
1.417	0.63	4.483	28.84	7.550	2.51	10.62	0.63
1.433	0.63	4.500	28.84	7.567	2.51	10.63	0.63
1.450	0.63	4.517	28.84	7.583	2.51	10.65	0.63
1.467	0.63	4.533	28.84	7.600	2.51	10.67	0.63
1.483	0.63	4.550	28.84	7.617	2.51	10.68	0.63
1.500	0.63	4.567	28.84	7.633	2.51	10.70	0.63
1.517	0.63	4.583	28.84	7.650	2.51	10.72	0.63
1.533	0.63	4.600	28.84	7.667	2.51	10.73	0.63
1.550	0.63	4.617	28.84	7.683	2.51	10.75	0.63
1.567	0.63	4.633	28.84	7.700	2.51	10.77	0.63
1.583	0.63	4.650	28.84	7.717	2.51	10.78	0.63
1.600	0.63	4.667	28.84	7.733	2.51	10.80	0.63
1.617	0.63	4.683	28.84	7.750	2.51	10.82	0.63
1.633	0.63	4.700	28.84	7.767	2.51	10.83	0.63
1.650	0.63	4.717	28.84	7.783	2.51	10.85	0.63
1.667	0.63	4.733	28.84	7.800	2.51	10.87	0.63
1.683	0.63	4.750	28.84	7.817	2.51	10.88	0.63
1.700	0.63	4.767	28.84	7.833	2.51	10.90	0.63
1.717	0.63	4.783	28.84	7.850	2.51	10.92	0.63
1.733	0.63	4.800	28.84	7.867	2.51	10.93	0.63
1.750	0.63	4.817	28.84	7.883	2.51	10.95	0.63
1.767	0.63	4.833	28.84	7.900	2.51	10.97	0.63
1.783	0.63	4.850	28.84	7.917	2.51	10.98	0.63
1.800	0.63	4.867	28.84	7.933	2.51	11.00	0.63
1.817	0.63	4.883	28.84	7.950	2.51	11.02	0.63
1.833	0.63	4.900	28.84	7.967	2.51	11.03	0.63
1.850	0.63	4.917	28.84	7.983	2.51	11.05	0.63
1.867	0.63	4.933	28.84	8.000	2.51	11.07	0.63
1.883	0.63	4.950	28.84	8.017	2.51	11.08	0.63
1.900	0.63	4.967	28.84	8.033	2.51	11.10	0.63
1.917	0.63	4.983	28.84	8.050	2.51	11.12	0.63
1.933	0.63	5.000	28.84	8.067	2.51	11.13	0.63
1.950	0.63	5.017	28.84	8.083	2.51	11.15	0.63
1.967	0.63	5.033	28.84	8.100	2.51	11.17	0.63
1.983	0.63	5.050	28.84	8.117	2.51	11.18	0.63
2.000	0.63	5.067	28.84	8.133	2.51	11.20	0.63
2.017	0.63	5.083	28.84	8.150	2.51	11.22	0.63
2.033	0.63	5.100	28.84	8.167	2.51	11.23	0.63
2.050	0.63	5.117	28.84	8.183	2.51	11.25	0.63
2.067	0.63	5.133	28.84	8.200	2.51	11.27	0.63
2.083	0.63	5.150	28.84	8.217	2.51	11.28	0.63
2.100	0.63	5.167	28.84	8.233	2.51	11.30	0.63
2.117	0.63	5.183	28.84	8.250	2.51	11.32	0.63
2.133	0.63	5.200	28.84	8.267	1.25	11.33	0.63
2.150	0.63	5.217	28.84	8.283	1.25	11.35	0.63
2.167	0.63	5.233	28.84	8.300	1.25	11.37	0.63
2.183	0.63	5.250	28.82	8.317	1.25	11.38	0.63
2.200	0.63	5.267	8.15	8.333	1.25	11.40	0.63
2.217	0.63	5.283	8.15	8.350	1.25	11.42	0.63
2.233	0.63	5.300	8.15	8.367	1.25	11.43	0.63
2.250	0.63	5.317	8.15	8.383	1.25	11.45	0.63
2.267	3.76	5.333	8.15	8.400	1.25	11.47	0.63
2.283	3.76	5.350	8.15	8.417	1.25	11.48	0.63
2.300	3.76	5.367	8.15	8.433	1.25	11.50	0.63
2.317	3.76	5.383	8.15	8.450	1.25	11.52	0.63
2.333	3.76	5.400	8.15	8.467	1.25	11.53	0.63
2.350	3.76	5.417	8.15	8.483	1.25	11.55	0.63
2.367	3.76	5.433	8.15	8.500	1.25	11.57	0.63
2.383	3.76	5.450	8.15	8.517	1.25	11.58	0.63
2.400	3.76	5.467	8.15	8.533	1.25	11.60	0.63
2.417	3.76	5.483	8.15	8.550	1.25	11.62	0.63
2.433	3.76	5.500	8.15	8.567	1.25	11.63	0.63
2.450	3.76	5.517	8.15	8.583	1.25	11.65	0.63
2.467	3.76	5.533	8.15	8.600	1.25	11.67	0.63
2.483	3.76	5.550	8.15	8.617	1.25	11.68	0.63
2.500	3.76	5.567	8.15	8.633	1.25	11.70	0.63
2.517	3.76	5.583	8.15	8.650	1.25	11.72	0.63
2.533	3.76	5.600	8.15	8.667	1.25	11.73	0.63
2.550	3.76	5.617	8.15	8.683	1.25	11.75	0.63
2.567	3.76	5.633	8.15	8.700	1.25	11.77	0.63
2.583	3.76	5.650	8.15	8.717	1.25	11.78	0.63
2.600	3.76	5.667	8.15	8.733	1.25	11.80	0.63
2.617	3.76	5.683	8.15	8.750	1.25	11.82	0.63
2.633	3.76	5.700	8.15	8.767	1.25	11.83	0.63
2.650	3.76	5.717	8.15	8.783	1.25	11.85	0.63
2.667	3.76	5.733	8.15	8.800	1.25	11.87	0.63
2.683	3.76	5.750	8.15	8.817	1.25	11.88	0.63
2.700	3.76	5.767	8.15	8.833	1.25	11.90	0.63
2.717	3.76	5.783	8.15	8.850	1.25	11.92	0.63
2.733	3.76	5.800	8.15	8.867	1.25	11.93	0.63
2.750	3.76	5.817	8.15	8.883	1.25	11.95	0.63
2.767	3.76	5.833	8.15	8.900	1.25	11.97	0.63
2.783	3.76	5.850	8.15	8.917	1.25	11.98	0.63
2.800	3.76	5.867	8.15	8.933	1.25	12.00	0.63
2.817	3.76	5.883	8.15	8.950	1.25	12.02	0.63
2.833	3.76	5.900	8.15	8.967	1.25	12.03	0.63
2.850	3.76	5.917	8.15	8.983	1.25	12.05	0.63
2.867	3.76	5.933	8.15	9.000	1.25	12.07	0.63
2.883	3.76	5.950	8.15	9.017	1.25	12.08	0.63
2.900	3.76	5.967	8.15	9.033	1.25	12.10	0.63
2.917	3.76	5.983	8.15	9.050	1.25	12.12	0.63
2.933	3.76	6.000	8.15	9.067	1.25	12.13	0.63
2.950	3.76	6.017	8.15	9.083	1.25	12.15	0.63
2.967	3.76	6.033	8.15	9.100	1.25	12.17	0.63
2.983	3.76	6.050	8.15	9.117	1.25	12.18	0.63
3.000	3.76	6.067	8.15	9.133	1.25	12.20	0.63
3.017	3.76	6.083	8.15	9.150	1.25	12.22	0.63
3.033	3.76	6.100	8.15	9.167	1.25	12.23	0.63
3.050	3.76	6.117	8.15	9.183	1.25	12.25	0.63
3.067	3.76	6.133	8.15	9.200	1.25		

Max.Eff.Inten.(mm/hr)=	28.84	20.90
over (min)	5.00	7.00
Storage Coeff. (min)=	3.88 (ii)	6.68 (ii)
Unit Hyd. Tpeak (min)=	5.00	7.00

```
     Unit Hyd. peak  (cms)=       0.27         0.17
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.00          0.092 (iii)
     TIME TO PEAK    (hrs)=       5.12         5.25           5.25
     RUNOFF VOLUME    (mm)=      61.71        35.33          61.44
     TOTAL RAINFALL   (mm)=      62.71        62.71          62.71
     RUNOFF COEFFICIENT   =       0.98         0.56           0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  7622)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)    (ha.m.)
                           0.0000      0.0000   |    0.0258      0.0650
                           0.0108      0.0330   |    0.0302      0.0725
                           0.0167      0.0440   |    0.0340      0.0820
                           0.0204      0.0525   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7623)      1.150     0.092      5.25      61.44
   OUTFLOW: ID= 1 (  7622)      1.150     0.018      6.37      59.32

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.83
                  TIME SHIFT OF PEAK FLOW         (min)= 67.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0475

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--------------------
| CALIB            |
| STANDHYD (  7629)|   Area    (ha)=   4.09
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     165.13        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 3.083    3.76 | 6.150    8.15 |  9.22    1.25
               0.033    0.00 | 3.100    3.76 | 6.167    8.15 |  9.23    1.25
               0.050    0.00 | 3.117    3.76 | 6.183    8.15 |  9.25    1.25
               0.067    0.00 | 3.133    3.76 | 6.200    8.15 |  9.27    0.63
               0.083    0.00 | 3.150    3.76 | 6.217    8.15 |  9.28    0.63
               0.100    0.00 | 3.167    3.76 | 6.233    8.15 |  9.30    0.63
               0.117    0.00 | 3.183    3.76 | 6.250    8.14 |  9.32    0.63
               0.133    0.00 | 3.200    3.76 | 6.267    4.39 |  9.33    0.63
               0.150    0.00 | 3.217    3.76 | 6.283    4.39 |  9.35    0.63
               0.167    0.00 | 3.233    3.76 | 6.300    4.39 |  9.37    0.63
               0.183    0.00 | 3.250    3.76 | 6.317    4.39 |  9.38    0.63
               0.200    0.00 | 3.267   10.66 | 6.333    4.39 |  9.40    0.63
               0.217    0.00 | 3.283   10.66 | 6.350    4.39 |  9.42    0.63
               0.233    0.00 | 3.300   10.66 | 6.367    4.39 |  9.43    0.63
               0.250    0.00 | 3.317   10.66 | 6.383    4.39 |  9.45    0.63
               0.267    0.63 | 3.333   10.66 | 6.400    4.39 |  9.47    0.63
               0.283    0.63 | 3.350   10.66 | 6.417    4.39 |  9.48    0.63
               0.300    0.63 | 3.367   10.66 | 6.433    4.39 |  9.50    0.63
               0.317    0.63 | 3.383   10.66 | 6.450    4.39 |  9.52    0.63
               0.333    0.63 | 3.400   10.66 | 6.467    4.39 |  9.53    0.63
               0.350    0.63 | 3.417   10.66 | 6.483    4.39 |  9.55    0.63
               0.367    0.63 | 3.433   10.66 | 6.500    4.39 |  9.57    0.63
               0.383    0.63 | 3.450   10.66 | 6.517    4.39 |  9.58    0.63
               0.400    0.63 | 3.467   10.66 | 6.533    4.39 |  9.60    0.63
               0.417    0.63 | 3.483   10.66 | 6.550    4.39 |  9.62    0.63
               0.433    0.63 | 3.500   10.66 | 6.567    4.39 |  9.63    0.63
               0.450    0.63 | 3.517   10.66 | 6.583    4.39 |  9.65    0.63
               0.467    0.63 | 3.533   10.66 | 6.600    4.39 |  9.67    0.63
               0.483    0.63 | 3.550   10.66 | 6.617    4.39 |  9.68    0.63
               0.500    0.63 | 3.567   10.66 | 6.633    4.39 |  9.70    0.63
               0.517    0.63 | 3.583   10.66 | 6.650    4.39 |  9.72    0.63
               0.533    0.63 | 3.600   10.66 | 6.667    4.39 |  9.73    0.63
               0.550    0.63 | 3.617   10.66 | 6.683    4.39 |  9.75    0.63
               0.567    0.63 | 3.633   10.66 | 6.700    4.39 |  9.77    0.63
               0.583    0.63 | 3.650   10.66 | 6.717    4.39 |  9.78    0.63
               0.600    0.63 | 3.667   10.66 | 6.733    4.39 |  9.80    0.63
               0.617    0.63 | 3.683   10.66 | 6.750    4.39 |  9.82    0.63
               0.633    0.63 | 3.700   10.66 | 6.767    4.39 |  9.83    0.63
               0.650    0.63 | 3.717   10.66 | 6.783    4.39 |  9.85    0.63
               0.667    0.63 | 3.733   10.66 | 6.800    4.39 |  9.87    0.63
               0.683    0.63 | 3.750   10.66 | 6.817    4.39 |  9.88    0.63
               0.700    0.63 | 3.767   10.66 | 6.833    4.39 |  9.90    0.63
               0.717    0.63 | 3.783   10.66 | 6.850    4.39 |  9.92    0.63
               0.733    0.63 | 3.800   10.66 | 6.867    4.39 |  9.93    0.63
               0.750    0.63 | 3.817   10.66 | 6.883    4.39 |  9.95    0.63
               0.767    0.63 | 3.833   10.66 | 6.900    4.39 |  9.97    0.63
               0.783    0.63 | 3.850   10.66 | 6.917    4.39 |  9.98    0.63
               0.800    0.63 | 3.867   10.66 | 6.933    4.39 | 10.00    0.63
               0.817    0.63 | 3.883   10.66 | 6.950    4.39 | 10.02    0.63
               0.833    0.63 | 3.900   10.66 | 6.967    4.39 | 10.03    0.63
               0.850    0.63 | 3.917   10.66 | 6.983    4.39 | 10.05    0.63
               0.867    0.63 | 3.933   10.66 | 7.000    4.39 | 10.07    0.63
               0.883    0.63 | 3.950   10.66 | 7.017    4.39 | 10.08    0.63
               0.900    0.63 | 3.967   10.66 | 7.033    4.39 | 10.10    0.63
               0.917    0.63 | 3.983   10.66 | 7.050    4.39 | 10.12    0.63
               0.933    0.63 | 4.000   10.66 | 7.067    4.39 | 10.13    0.63
               0.950    0.63 | 4.017   10.66 | 7.083    4.39 | 10.15    0.63
               0.967    0.63 | 4.033   10.66 | 7.100    4.39 | 10.17    0.63
               0.983    0.63 | 4.050   10.66 | 7.117    4.39 | 10.18    0.63
               1.000    0.63 | 4.067   10.66 | 7.133    4.39 | 10.20    0.63
               1.017    0.63 | 4.083   10.66 | 7.150    4.39 | 10.22    0.63
               1.033    0.63 | 4.100   10.66 | 7.167    4.39 | 10.23    0.63
               1.050    0.63 | 4.117   10.66 | 7.183    4.39 | 10.25    0.63
               1.067    0.63 | 4.133   10.66 | 7.200    4.39 | 10.27    0.63
               1.083    0.63 | 4.150   10.66 | 7.217    4.39 | 10.28    0.63
               1.100    0.63 | 4.167   10.66 | 7.233    4.39 | 10.30    0.63
               1.117    0.63 | 4.183   10.66 | 7.250    4.39 | 10.32    0.63
               1.133    0.63 | 4.200   10.66 | 7.267    2.51 | 10.33    0.63
               1.150    0.63 | 4.217   10.66 | 7.283    2.51 | 10.35    0.63
               1.167    0.63 | 4.233   10.66 | 7.300    2.51 | 10.37    0.63
               1.183    0.63 | 4.250   10.66 | 7.317    2.51 | 10.38    0.63
               1.200    0.63 | 4.267   28.84 | 7.333    2.51 | 10.40    0.63
               1.217    0.63 | 4.283   28.84 | 7.350    2.51 | 10.42    0.63
               1.233    0.63 | 4.300   28.84 | 7.367    2.51 | 10.43    0.63
               1.250    0.63 | 4.317   28.84 | 7.383    2.51 | 10.45    0.63
               1.267    0.63 | 4.333   28.84 | 7.400    2.51 | 10.47    0.63
               1.283    0.63 | 4.350   28.84 | 7.417    2.51 | 10.48    0.63
               1.300    0.63 | 4.367   28.84 | 7.433    2.51 | 10.50    0.63
               1.317    0.63 | 4.383   28.84 | 7.450    2.51 | 10.52    0.63
               1.333    0.63 | 4.400   28.84 | 7.467    2.51 | 10.53    0.63
               1.350    0.63 | 4.417   28.84 | 7.483    2.51 | 10.55    0.63
               1.367    0.63 | 4.433   28.84 | 7.500    2.51 | 10.57    0.63
               1.383    0.63 | 4.450   28.84 | 7.517    2.51 | 10.58    0.63
               1.400    0.63 | 4.467   28.84 | 7.533    2.51 | 10.60    0.63
               1.417    0.63 | 4.483   28.84 | 7.550    2.51 | 10.62    0.63
               1.433    0.63 | 4.500   28.84 | 7.567    2.51 | 10.63    0.63
               1.450    0.63 | 4.517   28.84 | 7.583    2.51 | 10.65    0.63
               1.467    0.63 | 4.533   28.84 | 7.600    2.51 | 10.67    0.63
               1.483    0.63 | 4.550   28.84 | 7.617    2.51 | 10.68    0.63
               1.500    0.63 | 4.567   28.84 | 7.633    2.51 | 10.70    0.63
               1.517    0.63 | 4.583   28.84 | 7.650    2.51 | 10.72    0.63
               1.533    0.63 | 4.600   28.84 | 7.667    2.51 | 10.73    0.63
               1.550    0.63 | 4.617   28.84 | 7.683    2.51 | 10.75    0.63
               1.567    0.63 | 4.633   28.84 | 7.700    2.51 | 10.77    0.63
               1.583    0.63 | 4.650   28.84 | 7.717    2.51 | 10.78    0.63
               1.600    0.63 | 4.667   28.84 | 7.733    2.51 | 10.80    0.63
               1.617    0.63 | 4.683   28.84 | 7.750    2.51 | 10.82    0.63
               1.633    0.63 | 4.700   28.84 | 7.767    2.51 | 10.83    0.63
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1.650	0.63	4.717	28.84	7.783	2.51	10.85	0.63
1.667	0.63	4.733	28.84	7.800	2.51	10.87	0.63
1.683	0.63	4.750	28.84	7.817	2.51	10.88	0.63
1.700	0.63	4.767	28.84	7.833	2.51	10.90	0.63
1.717	0.63	4.783	28.84	7.850	2.51	10.92	0.63
1.733	0.63	4.800	28.84	7.867	2.51	10.93	0.63
1.750	0.63	4.817	28.84	7.883	2.51	10.95	0.63
1.767	0.63	4.833	28.84	7.900	2.51	10.97	0.63
1.783	0.63	4.850	28.84	7.917	2.51	10.98	0.63
1.800	0.63	4.867	28.84	7.933	2.51	11.00	0.63
1.817	0.63	4.883	28.84	7.950	2.51	11.02	0.63
1.833	0.63	4.900	28.84	7.967	2.51	11.03	0.63
1.850	0.63	4.917	28.84	7.983	2.51	11.05	0.63
1.867	0.63	4.933	28.84	8.000	2.51	11.07	0.63
1.883	0.63	4.950	28.84	8.017	2.51	11.08	0.63
1.900	0.63	4.967	28.84	8.033	2.51	11.10	0.63
1.917	0.63	4.983	28.84	8.050	2.51	11.12	0.63
1.933	0.63	5.000	28.84	8.067	2.51	11.13	0.63
1.950	0.63	5.017	28.84	8.083	2.51	11.15	0.63
1.967	0.63	5.033	28.84	8.100	2.51	11.17	0.63
1.983	0.63	5.050	28.84	8.117	2.51	11.18	0.63
2.000	0.63	5.067	28.84	8.133	2.51	11.20	0.63
2.017	0.63	5.083	28.84	8.150	2.51	11.22	0.63
2.033	0.63	5.100	28.84	8.167	2.51	11.23	0.63
2.050	0.63	5.117	28.84	8.183	2.51	11.25	0.63
2.067	0.63	5.133	28.84	8.200	2.51	11.27	0.63
2.083	0.63	5.150	28.84	8.217	2.51	11.28	0.63
2.100	0.63	5.167	28.84	8.233	2.51	11.30	0.63
2.117	0.63	5.183	28.84	8.250	2.51	11.32	0.63
2.133	0.63	5.200	28.84	8.267	1.25	11.33	0.63
2.150	0.63	5.217	28.84	8.283	1.25	11.35	0.63
2.167	0.63	5.233	28.84	8.300	1.25	11.37	0.63
2.183	0.63	5.250	28.82	8.317	1.25	11.38	0.63
2.200	0.63	5.267	8.15	8.333	1.25	11.40	0.63
2.217	0.63	5.283	8.15	8.350	1.25	11.42	0.63
2.233	0.63	5.300	8.15	8.367	1.25	11.43	0.63
2.250	0.63	5.317	8.15	8.383	1.25	11.45	0.63
2.267	3.76	5.333	8.15	8.400	1.25	11.47	0.63
2.283	3.76	5.350	8.15	8.417	1.25	11.48	0.63
2.300	3.76	5.367	8.15	8.433	1.25	11.50	0.63
2.317	3.76	5.383	8.15	8.450	1.25	11.52	0.63
2.333	3.76	5.400	8.15	8.467	1.25	11.53	0.63
2.350	3.76	5.417	8.15	8.483	1.25	11.55	0.63
2.367	3.76	5.433	8.15	8.500	1.25	11.57	0.63
2.383	3.76	5.450	8.15	8.517	1.25	11.58	0.63
2.400	3.76	5.467	8.15	8.533	1.25	11.60	0.63
2.417	3.76	5.483	8.15	8.550	1.25	11.62	0.63
2.433	3.76	5.500	8.15	8.567	1.25	11.63	0.63
2.450	3.76	5.517	8.15	8.583	1.25	11.65	0.63
2.467	3.76	5.533	8.15	8.600	1.25	11.67	0.63
2.483	3.76	5.550	8.15	8.617	1.25	11.68	0.63
2.500	3.76	5.567	8.15	8.633	1.25	11.70	0.63
2.517	3.76	5.583	8.15	8.650	1.25	11.72	0.63
2.533	3.76	5.600	8.15	8.667	1.25	11.73	0.63
2.550	3.76	5.617	8.15	8.683	1.25	11.75	0.63
2.567	3.76	5.633	8.15	8.700	1.25	11.77	0.63
2.583	3.76	5.650	8.15	8.717	1.25	11.78	0.63
2.600	3.76	5.667	8.15	8.733	1.25	11.80	0.63
2.617	3.76	5.683	8.15	8.750	1.25	11.82	0.63
2.633	3.76	5.700	8.15	8.767	1.25	11.83	0.63
2.650	3.76	5.717	8.15	8.783	1.25	11.85	0.63
2.667	3.76	5.733	8.15	8.800	1.25	11.87	0.63
2.683	3.76	5.750	8.15	8.817	1.25	11.88	0.63
2.700	3.76	5.767	8.15	8.833	1.25	11.90	0.63
2.717	3.76	5.783	8.15	8.850	1.25	11.92	0.63
2.733	3.76	5.800	8.15	8.867	1.25	11.93	0.63
2.750	3.76	5.817	8.15	8.883	1.25	11.95	0.63
2.767	3.76	5.833	8.15	8.900	1.25	11.97	0.63
2.783	3.76	5.850	8.15	8.917	1.25	11.98	0.63
2.800	3.76	5.867	8.15	8.933	1.25	12.00	0.63
2.817	3.76	5.883	8.15	8.950	1.25	12.02	0.63
2.833	3.76	5.900	8.15	8.967	1.25	12.03	0.63
2.850	3.76	5.917	8.15	8.983	1.25	12.05	0.63
2.867	3.76	5.933	8.15	9.000	1.25	12.07	0.63
2.883	3.76	5.950	8.15	9.017	1.25	12.08	0.63
2.900	3.76	5.967	8.15	9.033	1.25	12.10	0.63
2.917	3.76	5.983	8.15	9.050	1.25	12.12	0.63
2.933	3.76	6.000	8.15	9.067	1.25	12.13	0.63
2.950	3.76	6.017	8.15	9.083	1.25	12.15	0.63
2.967	3.76	6.033	8.15	9.100	1.25	12.17	0.63
2.983	3.76	6.050	8.15	9.117	1.25	12.18	0.63
3.000	3.76	6.067	8.15	9.133	1.25	12.20	0.63
3.017	3.76	6.083	8.15	9.150	1.25	12.22	0.63
3.033	3.76	6.100	8.15	9.167	1.25	12.23	0.63
3.050	3.76	6.117	8.15	9.183	1.25	12.25	0.63
3.067	3.76	6.133	8.15	9.200	1.25		

Max.Eff.Inten.(mm/hr)=		28.84	20.90	
over (min)		6.00	9.00	
Storage Coeff. (min)=		5.68 (ii)	8.48 (ii)	
Unit Hyd. Tpeak (min)=		6.00	9.00	
Unit Hyd. peak (cms)=		0.20	0.13	
				TOTALS
PEAK FLOW	(cms)=	0.32	0.00	0.327 (iii)
TIME TO PEAK	(hrs)=	5.23	5.25	5.25
RUNOFF VOLUME	(mm)=	61.70	35.33	61.44
TOTAL RAINFALL	(mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT	=	0.98	0.56	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(7630)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT= 1.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0826	0.2320
0.0347	0.1170	0.0967	0.2609
0.0534	0.1580	0.1090	0.2940
0.0655	0.1890	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7629)	4.090	0.327	5.25	61.44
OUTFLOW: ID= 1 (	7630)	4.090	0.059	6.45	58.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.09
TIME SHIFT OF PEAK FLOW (min)= 72.00
MAXIMUM STORAGE USED (ha.m.)= 0.1725

| CALIB |
| STANDHYD (7631)| Area (ha)= 3.91
|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.76	6.150	8.15	9.22	1.25
0.033	0.00	3.100	3.76	6.167	8.15	9.23	1.25
0.050	0.00	3.117	3.76	6.183	8.15	9.25	1.25
0.067	0.00	3.133	3.76	6.200	8.15	9.27	0.63
0.083	0.00	3.150	3.76	6.217	8.15	9.28	0.63
0.100	0.00	3.167	3.76	6.233	8.15	9.30	0.63
0.117	0.00	3.183	3.76	6.250	8.14	9.32	0.63

0.133	0.00	3.200	3.76	6.267	4.39	9.33	0.63
0.150	0.00	3.217	3.76	6.283	4.39	9.35	0.63
0.167	0.00	3.233	3.76	6.300	4.39	9.37	0.63
0.183	0.00	3.250	3.76	6.317	4.39	9.38	0.63
0.200	0.00	3.267	10.66	6.333	4.39	9.40	0.63
0.217	0.00	3.283	10.66	6.350	4.39	9.42	0.63
0.233	0.00	3.300	10.66	6.367	4.39	9.43	0.63
0.250	0.00	3.317	10.66	6.383	4.39	9.45	0.63
0.267	0.63	3.333	10.66	6.400	4.39	9.47	0.63
0.283	0.63	3.350	10.66	6.417	4.39	9.48	0.63
0.300	0.63	3.367	10.66	6.433	4.39	9.50	0.63
0.317	0.63	3.383	10.66	6.450	4.39	9.52	0.63
0.333	0.63	3.400	10.66	6.467	4.39	9.53	0.63
0.350	0.63	3.417	10.66	6.483	4.39	9.55	0.63
0.367	0.63	3.433	10.66	6.500	4.39	9.57	0.63
0.383	0.63	3.450	10.66	6.517	4.39	9.58	0.63
0.400	0.63	3.467	10.66	6.533	4.39	9.60	0.63
0.417	0.63	3.483	10.66	6.550	4.39	9.62	0.63
0.433	0.63	3.500	10.66	6.567	4.39	9.63	0.63
0.450	0.63	3.517	10.66	6.583	4.39	9.65	0.63
0.467	0.63	3.533	10.66	6.600	4.39	9.67	0.63
0.483	0.63	3.550	10.66	6.617	4.39	9.68	0.63
0.500	0.63	3.567	10.66	6.633	4.39	9.70	0.63
0.517	0.63	3.583	10.66	6.650	4.39	9.72	0.63
0.533	0.63	3.600	10.66	6.667	4.39	9.73	0.63
0.550	0.63	3.617	10.66	6.683	4.39	9.75	0.63
0.567	0.63	3.633	10.66	6.700	4.39	9.77	0.63
0.583	0.63	3.650	10.66	6.717	4.39	9.78	0.63
0.600	0.63	3.667	10.66	6.733	4.39	9.80	0.63
0.617	0.63	3.683	10.66	6.750	4.39	9.82	0.63
0.633	0.63	3.700	10.66	6.767	4.39	9.83	0.63
0.650	0.63	3.717	10.66	6.783	4.39	9.85	0.63
0.667	0.63	3.733	10.66	6.800	4.39	9.87	0.63
0.683	0.63	3.750	10.66	6.817	4.39	9.88	0.63
0.700	0.63	3.767	10.66	6.833	4.39	9.90	0.63
0.717	0.63	3.783	10.66	6.850	4.39	9.92	0.63
0.733	0.63	3.800	10.66	6.867	4.39	9.93	0.63
0.750	0.63	3.817	10.66	6.883	4.39	9.95	0.63
0.767	0.63	3.833	10.66	6.900	4.39	9.97	0.63
0.783	0.63	3.850	10.66	6.917	4.39	9.98	0.63
0.800	0.63	3.867	10.66	6.933	4.39	10.00	0.63
0.817	0.63	3.883	10.66	6.950	4.39	10.02	0.63
0.833	0.63	3.900	10.66	6.967	4.39	10.03	0.63
0.850	0.63	3.917	10.66	6.983	4.39	10.05	0.63
0.867	0.63	3.933	10.66	7.000	4.39	10.07	0.63
0.883	0.63	3.950	10.66	7.017	4.39	10.08	0.63
0.900	0.63	3.967	10.66	7.033	4.39	10.10	0.63
0.917	0.63	3.983	10.66	7.050	4.39	10.12	0.63
0.933	0.63	4.000	10.66	7.067	4.39	10.13	0.63
0.950	0.63	4.017	10.66	7.083	4.39	10.15	0.63
0.967	0.63	4.033	10.66	7.100	4.39	10.17	0.63
0.983	0.63	4.050	10.66	7.117	4.39	10.18	0.63
1.000	0.63	4.067	10.66	7.133	4.39	10.20	0.63
1.017	0.63	4.083	10.66	7.150	4.39	10.22	0.63
1.033	0.63	4.100	10.66	7.167	4.39	10.23	0.63
1.050	0.63	4.117	10.66	7.183	4.39	10.25	0.63
1.067	0.63	4.133	10.66	7.200	4.39	10.27	0.63
1.083	0.63	4.150	10.66	7.217	4.39	10.28	0.63
1.100	0.63	4.167	10.66	7.233	4.39	10.30	0.63
1.117	0.63	4.183	10.66	7.250	4.39	10.32	0.63
1.133	0.63	4.200	10.66	7.267	2.51	10.33	0.63
1.150	0.63	4.217	10.66	7.283	2.51	10.35	0.63
1.167	0.63	4.233	10.66	7.300	2.51	10.37	0.63
1.183	0.63	4.250	10.66	7.317	2.51	10.38	0.63
1.200	0.63	4.267	28.84	7.333	2.51	10.40	0.63
1.217	0.63	4.283	28.84	7.350	2.51	10.42	0.63
1.233	0.63	4.300	28.84	7.367	2.51	10.43	0.63
1.250	0.63	4.317	28.84	7.383	2.51	10.45	0.63
1.267	0.63	4.333	28.84	7.400	2.51	10.47	0.63
1.283	0.63	4.350	28.84	7.417	2.51	10.48	0.63
1.300	0.63	4.367	28.84	7.433	2.51	10.50	0.63
1.317	0.63	4.383	28.84	7.450	2.51	10.52	0.63
1.333	0.63	4.400	28.84	7.467	2.51	10.53	0.63
1.350	0.63	4.417	28.84	7.483	2.51	10.55	0.63
1.367	0.63	4.433	28.84	7.500	2.51	10.57	0.63
1.383	0.63	4.450	28.84	7.517	2.51	10.58	0.63
1.400	0.63	4.467	28.84	7.533	2.51	10.60	0.63
1.417	0.63	4.483	28.84	7.550	2.51	10.62	0.63
1.433	0.63	4.500	28.84	7.567	2.51	10.63	0.63
1.450	0.63	4.517	28.84	7.583	2.51	10.65	0.63
1.467	0.63	4.533	28.84	7.600	2.51	10.67	0.63
1.483	0.63	4.550	28.84	7.617	2.51	10.68	0.63
1.500	0.63	4.567	28.84	7.633	2.51	10.70	0.63
1.517	0.63	4.583	28.84	7.650	2.51	10.72	0.63
1.533	0.63	4.600	28.84	7.667	2.51	10.73	0.63
1.550	0.63	4.617	28.84	7.683	2.51	10.75	0.63
1.567	0.63	4.633	28.84	7.700	2.51	10.77	0.63
1.583	0.63	4.650	28.84	7.717	2.51	10.78	0.63
1.600	0.63	4.667	28.84	7.733	2.51	10.80	0.63
1.617	0.63	4.683	28.84	7.750	2.51	10.82	0.63
1.633	0.63	4.700	28.84	7.767	2.51	10.83	0.63
1.650	0.63	4.717	28.84	7.783	2.51	10.85	0.63
1.667	0.63	4.733	28.84	7.800	2.51	10.87	0.63
1.683	0.63	4.750	28.84	7.817	2.51	10.88	0.63
1.700	0.63	4.767	28.84	7.833	2.51	10.90	0.63
1.717	0.63	4.783	28.84	7.850	2.51	10.92	0.63
1.733	0.63	4.800	28.84	7.867	2.51	10.93	0.63
1.750	0.63	4.817	28.84	7.883	2.51	10.95	0.63
1.767	0.63	4.833	28.84	7.900	2.51	10.97	0.63
1.783	0.63	4.850	28.84	7.917	2.51	10.98	0.63
1.800	0.63	4.867	28.84	7.933	2.51	11.00	0.63
1.817	0.63	4.883	28.84	7.950	2.51	11.02	0.63
1.833	0.63	4.900	28.84	7.967	2.51	11.03	0.63
1.850	0.63	4.917	28.84	7.983	2.51	11.05	0.63
1.867	0.63	4.933	28.84	8.000	2.51	11.07	0.63
1.883	0.63	4.950	28.84	8.017	2.51	11.08	0.63
1.900	0.63	4.967	28.84	8.033	2.51	11.10	0.63
1.917	0.63	4.983	28.84	8.050	2.51	11.12	0.63
1.933	0.63	5.000	28.84	8.067	2.51	11.13	0.63
1.950	0.63	5.017	28.84	8.083	2.51	11.15	0.63
1.967	0.63	5.033	28.84	8.100	2.51	11.17	0.63
1.983	0.63	5.050	28.84	8.117	2.51	11.18	0.63
2.000	0.63	5.067	28.84	8.133	2.51	11.20	0.63
2.017	0.63	5.083	28.84	8.150	2.51	11.22	0.63
2.033	0.63	5.100	28.84	8.167	2.51	11.23	0.63
2.050	0.63	5.117	28.84	8.183	2.51	11.25	0.63
2.067	0.63	5.133	28.84	8.200	2.51	11.27	0.63
2.083	0.63	5.150	28.84	8.217	2.51	11.28	0.63
2.100	0.63	5.167	28.84	8.233	2.51	11.30	0.63
2.117	0.63	5.183	28.84	8.250	2.51	11.32	0.63
2.133	0.63	5.200	28.84	8.267	1.25	11.33	0.63
2.150	0.63	5.217	28.84	8.283	1.25	11.35	0.63
2.167	0.63	5.233	28.84	8.300	1.25	11.37	0.63
2.183	0.63	5.250	28.82	8.317	1.25	11.38	0.63
2.200	0.63	5.267	8.15	8.333	1.25	11.40	0.63
2.217	0.63	5.283	8.15	8.350	1.25	11.42	0.63
2.233	0.63	5.300	8.15	8.367	1.25	11.43	0.63
2.250	0.63	5.317	8.15	8.383	1.25	11.45	0.63
2.267	3.76	5.333	8.15	8.400	1.25	11.47	0.63
2.283	3.76	5.350	8.15	8.417	1.25	11.48	0.63
2.300	3.76	5.367	8.15	8.433	1.25	11.50	0.63
2.317	3.76	5.383	8.15	8.450	1.25	11.52	0.63
2.333	3.76	5.400	8.15	8.467	1.25	11.53	0.63
2.350	3.76	5.417	8.15	8.483	1.25	11.55	0.63
2.367	3.76	5.433	8.15	8.500	1.25	11.57	0.63
2.383	3.76	5.450	8.15	8.517	1.25	11.58	0.63
2.400	3.76	5.467	8.15	8.533	1.25	11.60	0.63
2.417	3.76	5.483	8.15	8.550	1.25	11.62	0.63
2.433	3.76	5.500	8.15	8.567	1.25	11.63	0.63
2.450	3.76	5.517	8.15	8.583	1.25	11.65	0.63
2.467	3.76	5.533	8.15	8.600	1.25	11.67	0.63
2.483	3.76	5.550	8.15	8.617	1.25	11.68	0.63
2.500	3.76	5.567	8.15	8.633	1.25	11.70	0.63
2.517	3.76	5.583	8.15	8.650	1.25	11.72	0.63
2.533	3.76	5.600	8.15	8.667	1.25	11.73	0.63
2.550	3.76	5.617	8.15	8.683	1.25	11.75	0.63
2.567	3.76	5.633	8.15	8.700	1.25	11.77	0.63
2.583	3.76	5.650	8.15	8.717	1.25	11.78	0.63
2.600	3.76	5.667	8.15	8.733	1.25	11.80	0.63
2.617	3.76	5.683	8.15	8.750	1.25	11.82	0.63
2.633	3.76	5.700	8.15	8.767	1.25	11.83	0.63
2.650	3.76	5.717	8.15	8.783	1.25	11.85	0.63

2.667	3.76	5.733	8.15	8.800	1.25	11.87	0.63
2.683	3.76	5.750	8.15	8.817	1.25	11.88	0.63
2.700	3.76	5.767	8.15	8.833	1.25	11.90	0.63
2.717	3.76	5.783	8.15	8.850	1.25	11.92	0.63
2.733	3.76	5.800	8.15	8.867	1.25	11.93	0.63
2.750	3.76	5.817	8.15	8.883	1.25	11.95	0.63
2.767	3.76	5.833	8.15	8.900	1.25	11.97	0.63
2.783	3.76	5.850	8.15	8.917	1.25	11.98	0.63
2.800	3.76	5.867	8.15	8.933	1.25	12.00	0.63
2.817	3.76	5.883	8.15	8.950	1.25	12.02	0.63
2.833	3.76	5.900	8.15	8.967	1.25	12.03	0.63
2.850	3.76	5.917	8.15	8.983	1.25	12.05	0.63
2.867	3.76	5.933	8.15	9.000	1.25	12.07	0.63
2.883	3.76	5.950	8.15	9.017	1.25	12.08	0.63
2.900	3.76	5.967	8.15	9.033	1.25	12.10	0.63
2.917	3.76	5.983	8.15	9.050	1.25	12.12	0.63
2.933	3.76	6.000	8.15	9.067	1.25	12.13	0.63
2.950	3.76	6.017	8.15	9.083	1.25	12.15	0.63
2.967	3.76	6.033	8.15	9.100	1.25	12.17	0.63
2.983	3.76	6.050	8.15	9.117	1.25	12.18	0.63
3.000	3.76	6.067	8.15	9.133	1.25	12.20	0.63
3.017	3.76	6.083	8.15	9.150	1.25	12.22	0.63
3.033	3.76	6.100	8.15	9.167	1.25	12.23	0.63
3.050	3.76	6.117	8.15	9.183	1.25	12.25	0.63
3.067	3.76	6.133	8.15	9.200	1.25		

Max.Eff.Inten.(mm/hr)=	28.84	20.90	
over (min)	6.00	9.00	
Storage Coeff. (min)=	5.60 (ii)	8.40 (ii)	
Unit Hyd. Tpeak (min)=	6.00	9.00	
Unit Hyd. peak (cms)=	0.20	0.13	
			TOTALS
PEAK FLOW (cms)=	0.31	0.00	0.312 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	61.70	35.33	61.44
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.56	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.312	5.25	61.44
OUTFLOW: ID= 1 (7632)	3.910	0.057	6.45	58.48

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.14
TIME SHIFT OF PEAK FLOW (min)= 72.00
MAXIMUM STORAGE USED (ha.m.)= 0.1650

CALIB | STANDHYD (7641)| ID= 1 DT= 1.0 min |	Area (ha)= 2.21	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00

Mannings n = 0.013 0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.76	6.150	8.15	9.22	1.25
0.033	0.00	3.100	3.76	6.167	8.15	9.23	1.25
0.050	0.00	3.117	3.76	6.183	8.15	9.25	1.25
0.067	0.00	3.133	3.76	6.200	8.15	9.27	0.63
0.083	0.00	3.150	3.76	6.217	8.15	9.28	0.63
0.100	0.00	3.167	3.76	6.233	8.15	9.30	0.63
0.117	0.00	3.183	3.76	6.250	8.14	9.32	0.63
0.133	0.00	3.200	3.76	6.267	4.39	9.33	0.63
0.150	0.00	3.217	3.76	6.283	4.39	9.35	0.63
0.167	0.00	3.233	3.76	6.300	4.39	9.37	0.63
0.183	0.00	3.250	3.76	6.317	4.39	9.38	0.63
0.200	0.00	3.267	10.66	6.333	4.39	9.40	0.63
0.217	0.00	3.283	10.66	6.350	4.39	9.42	0.63
0.233	0.00	3.300	10.66	6.367	4.39	9.43	0.63
0.250	0.00	3.317	10.66	6.383	4.39	9.45	0.63
0.267	0.63	3.333	10.66	6.400	4.39	9.47	0.63
0.283	0.63	3.350	10.66	6.417	4.39	9.48	0.63
0.300	0.63	3.367	10.66	6.433	4.39	9.50	0.63
0.317	0.63	3.383	10.66	6.450	4.39	9.52	0.63
0.333	0.63	3.400	10.66	6.467	4.39	9.53	0.63
0.350	0.63	3.417	10.66	6.483	4.39	9.55	0.63
0.367	0.63	3.433	10.66	6.500	4.39	9.57	0.63
0.383	0.63	3.450	10.66	6.517	4.39	9.58	0.63
0.400	0.63	3.467	10.66	6.533	4.39	9.60	0.63
0.417	0.63	3.483	10.66	6.550	4.39	9.62	0.63
0.433	0.63	3.500	10.66	6.567	4.39	9.63	0.63
0.450	0.63	3.517	10.66	6.583	4.39	9.65	0.63
0.467	0.63	3.533	10.66	6.600	4.39	9.67	0.63
0.483	0.63	3.550	10.66	6.617	4.39	9.68	0.63
0.500	0.63	3.567	10.66	6.633	4.39	9.70	0.63
0.517	0.63	3.583	10.66	6.650	4.39	9.72	0.63
0.533	0.63	3.600	10.66	6.667	4.39	9.73	0.63
0.550	0.63	3.617	10.66	6.683	4.39	9.75	0.63
0.567	0.63	3.633	10.66	6.700	4.39	9.77	0.63
0.583	0.63	3.650	10.66	6.717	4.39	9.78	0.63
0.600	0.63	3.667	10.66	6.733	4.39	9.80	0.63
0.617	0.63	3.683	10.66	6.750	4.39	9.82	0.63
0.633	0.63	3.700	10.66	6.767	4.39	9.83	0.63
0.650	0.63	3.717	10.66	6.783	4.39	9.85	0.63
0.667	0.63	3.733	10.66	6.800	4.39	9.87	0.63
0.683	0.63	3.750	10.66	6.817	4.39	9.88	0.63
0.700	0.63	3.767	10.66	6.833	4.39	9.90	0.63
0.717	0.63	3.783	10.66	6.850	4.39	9.92	0.63
0.733	0.63	3.800	10.66	6.867	4.39	9.93	0.63
0.750	0.63	3.817	10.66	6.883	4.39	9.95	0.63
0.767	0.63	3.833	10.66	6.900	4.39	9.97	0.63
0.783	0.63	3.850	10.66	6.917	4.39	9.98	0.63
0.800	0.63	3.867	10.66	6.933	4.39	10.00	0.63
0.817	0.63	3.883	10.66	6.950	4.39	10.02	0.63
0.833	0.63	3.900	10.66	6.967	4.39	10.03	0.63
0.850	0.63	3.917	10.66	6.983	4.39	10.05	0.63
0.867	0.63	3.933	10.66	7.000	4.39	10.07	0.63
0.883	0.63	3.950	10.66	7.017	4.39	10.08	0.63
0.900	0.63	3.967	10.66	7.033	4.39	10.10	0.63
0.917	0.63	3.983	10.66	7.050	4.39	10.12	0.63
0.933	0.63	4.000	10.66	7.067	4.39	10.13	0.63
0.950	0.63	4.017	10.66	7.083	4.39	10.15	0.63
0.967	0.63	4.033	10.66	7.100	4.39	10.17	0.63
0.983	0.63	4.050	10.66	7.117	4.39	10.18	0.63
1.000	0.63	4.067	10.66	7.133	4.39	10.20	0.63
1.017	0.63	4.083	10.66	7.150	4.39	10.22	0.63
1.033	0.63	4.100	10.66	7.167	4.39	10.23	0.63
1.050	0.63	4.117	10.66	7.183	4.39	10.25	0.63
1.067	0.63	4.133	10.66	7.200	4.39	10.27	0.63
1.083	0.63	4.150	10.66	7.217	4.39	10.28	0.63
1.100	0.63	4.167	10.66	7.233	4.39	10.30	0.63
1.117	0.63	4.183	10.66	7.250	4.39	10.32	0.63
1.133	0.63	4.200	10.66	7.267	2.51	10.33	0.63

1.150	0.63	4.217	10.66	7.283	2.51	10.35	0.63
1.167	0.63	4.233	10.66	7.300	2.51	10.37	0.63
1.183	0.63	4.250	10.66	7.317	2.51	10.38	0.63
1.200	0.63	4.267	28.84	7.333	2.51	10.40	0.63
1.217	0.63	4.283	28.84	7.350	2.51	10.42	0.63
1.233	0.63	4.300	28.84	7.367	2.51	10.43	0.63
1.250	0.63	4.317	28.84	7.383	2.51	10.45	0.63
1.267	0.63	4.333	28.84	7.400	2.51	10.47	0.63
1.283	0.63	4.350	28.84	7.417	2.51	10.48	0.63
1.300	0.63	4.367	28.84	7.433	2.51	10.50	0.63
1.317	0.63	4.383	28.84	7.450	2.51	10.52	0.63
1.333	0.63	4.400	28.84	7.467	2.51	10.53	0.63
1.350	0.63	4.417	28.84	7.483	2.51	10.55	0.63
1.367	0.63	4.433	28.84	7.500	2.51	10.57	0.63
1.383	0.63	4.450	28.84	7.517	2.51	10.58	0.63
1.400	0.63	4.467	28.84	7.533	2.51	10.60	0.63
1.417	0.63	4.483	28.84	7.550	2.51	10.62	0.63
1.433	0.63	4.500	28.84	7.567	2.51	10.63	0.63
1.450	0.63	4.517	28.84	7.583	2.51	10.65	0.63
1.467	0.63	4.533	28.84	7.600	2.51	10.67	0.63
1.483	0.63	4.550	28.84	7.617	2.51	10.68	0.63
1.500	0.63	4.567	28.84	7.633	2.51	10.70	0.63
1.517	0.63	4.583	28.84	7.650	2.51	10.72	0.63
1.533	0.63	4.600	28.84	7.667	2.51	10.73	0.63
1.550	0.63	4.617	28.84	7.683	2.51	10.75	0.63
1.567	0.63	4.633	28.84	7.700	2.51	10.77	0.63
1.583	0.63	4.650	28.84	7.717	2.51	10.78	0.63
1.600	0.63	4.667	28.84	7.733	2.51	10.80	0.63
1.617	0.63	4.683	28.84	7.750	2.51	10.82	0.63
1.633	0.63	4.700	28.84	7.767	2.51	10.83	0.63
1.650	0.63	4.717	28.84	7.783	2.51	10.85	0.63
1.667	0.63	4.733	28.84	7.800	2.51	10.87	0.63
1.683	0.63	4.750	28.84	7.817	2.51	10.88	0.63
1.700	0.63	4.767	28.84	7.833	2.51	10.90	0.63
1.717	0.63	4.783	28.84	7.850	2.51	10.92	0.63
1.733	0.63	4.800	28.84	7.867	2.51	10.93	0.63
1.750	0.63	4.817	28.84	7.883	2.51	10.95	0.63
1.767	0.63	4.833	28.84	7.900	2.51	10.97	0.63
1.783	0.63	4.850	28.84	7.917	2.51	10.98	0.63
1.800	0.63	4.867	28.84	7.933	2.51	11.00	0.63
1.817	0.63	4.883	28.84	7.950	2.51	11.02	0.63
1.833	0.63	4.900	28.84	7.967	2.51	11.03	0.63
1.850	0.63	4.917	28.84	7.983	2.51	11.05	0.63
1.867	0.63	4.933	28.84	8.000	2.51	11.07	0.63
1.883	0.63	4.950	28.84	8.017	2.51	11.08	0.63
1.900	0.63	4.967	28.84	8.033	2.51	11.10	0.63
1.917	0.63	4.983	28.84	8.050	2.51	11.12	0.63
1.933	0.63	5.000	28.84	8.067	2.51	11.13	0.63
1.950	0.63	5.017	28.84	8.083	2.51	11.15	0.63
1.967	0.63	5.033	28.84	8.100	2.51	11.17	0.63
1.983	0.63	5.050	28.84	8.117	2.51	11.18	0.63
2.000	0.63	5.067	28.84	8.133	2.51	11.20	0.63
2.017	0.63	5.083	28.84	8.150	2.51	11.22	0.63
2.033	0.63	5.100	28.84	8.167	2.51	11.23	0.63
2.050	0.63	5.117	28.84	8.183	2.51	11.25	0.63
2.067	0.63	5.133	28.84	8.200	2.51	11.27	0.63
2.083	0.63	5.150	28.84	8.217	2.51	11.28	0.63
2.100	0.63	5.167	28.84	8.233	2.51	11.30	0.63
2.117	0.63	5.183	28.84	8.250	2.51	11.32	0.63
2.133	0.63	5.200	28.84	8.267	1.25	11.33	0.63
2.150	0.63	5.217	28.84	8.283	1.25	11.35	0.63
2.167	0.63	5.233	28.84	8.300	1.25	11.37	0.63
2.183	0.63	5.250	28.82	8.317	1.25	11.38	0.63
2.200	0.63	5.267	8.15	8.333	1.25	11.40	0.63
2.217	0.63	5.283	8.15	8.350	1.25	11.42	0.63
2.233	0.63	5.300	8.15	8.367	1.25	11.43	0.63
2.250	0.63	5.317	8.15	8.383	1.25	11.45	0.63
2.267	3.76	5.333	8.15	8.400	1.25	11.47	0.63
2.283	3.76	5.350	8.15	8.417	1.25	11.48	0.63
2.300	3.76	5.367	8.15	8.433	1.25	11.50	0.63
2.317	3.76	5.383	8.15	8.450	1.25	11.52	0.63
2.333	3.76	5.400	8.15	8.467	1.25	11.53	0.63
2.350	3.76	5.417	8.15	8.483	1.25	11.55	0.63
2.367	3.76	5.433	8.15	8.500	1.25	11.57	0.63
2.383	3.76	5.450	8.15	8.517	1.25	11.58	0.63
2.400	3.76	5.467	8.15	8.533	1.25	11.60	0.63
2.417	3.76	5.483	8.15	8.550	1.25	11.62	0.63
2.433	3.76	5.500	8.15	8.567	1.25	11.63	0.63
2.450	3.76	5.517	8.15	8.583	1.25	11.65	0.63
2.467	3.76	5.533	8.15	8.600	1.25	11.67	0.63
2.483	3.76	5.550	8.15	8.617	1.25	11.68	0.63
2.500	3.76	5.567	8.15	8.633	1.25	11.70	0.63
2.517	3.76	5.583	8.15	8.650	1.25	11.72	0.63
2.533	3.76	5.600	8.15	8.667	1.25	11.73	0.63
2.550	3.76	5.617	8.15	8.683	1.25	11.75	0.63
2.567	3.76	5.633	8.15	8.700	1.25	11.77	0.63
2.583	3.76	5.650	8.15	8.717	1.25	11.78	0.63
2.600	3.76	5.667	8.15	8.733	1.25	11.80	0.63
2.617	3.76	5.683	8.15	8.750	1.25	11.82	0.63
2.633	3.76	5.700	8.15	8.767	1.25	11.83	0.63
2.650	3.76	5.717	8.15	8.783	1.25	11.85	0.63
2.667	3.76	5.733	8.15	8.800	1.25	11.87	0.63
2.683	3.76	5.750	8.15	8.817	1.25	11.88	0.63
2.700	3.76	5.767	8.15	8.833	1.25	11.90	0.63
2.717	3.76	5.783	8.15	8.850	1.25	11.92	0.63
2.733	3.76	5.800	8.15	8.867	1.25	11.93	0.63
2.750	3.76	5.817	8.15	8.883	1.25	11.95	0.63
2.767	3.76	5.833	8.15	8.900	1.25	11.97	0.63
2.783	3.76	5.850	8.15	8.917	1.25	11.98	0.63
2.800	3.76	5.867	8.15	8.933	1.25	12.00	0.63
2.817	3.76	5.883	8.15	8.950	1.25	12.02	0.63
2.833	3.76	5.900	8.15	8.967	1.25	12.03	0.63
2.850	3.76	5.917	8.15	8.983	1.25	12.05	0.63
2.867	3.76	5.933	8.15	9.000	1.25	12.07	0.63
2.883	3.76	5.950	8.15	9.017	1.25	12.08	0.63
2.900	3.76	5.967	8.15	9.033	1.25	12.10	0.63
2.917	3.76	5.983	8.15	9.050	1.25	12.12	0.63
2.933	3.76	6.000	8.15	9.067	1.25	12.13	0.63
2.950	3.76	6.017	8.15	9.083	1.25	12.15	0.63
2.967	3.76	6.033	8.15	9.100	1.25	12.17	0.63
2.983	3.76	6.050	8.15	9.117	1.25	12.18	0.63
3.000	3.76	6.067	8.15	9.133	1.25	12.20	0.63
3.017	3.76	6.083	8.15	9.150	1.25	12.22	0.63
3.033	3.76	6.100	8.15	9.167	1.25	12.23	0.63
3.050	3.76	6.117	8.15	9.183	1.25	12.25	0.63
3.067	3.76	6.133	8.15	9.200	1.25		

Max.Eff.Inten.(mm/hr)=	28.84	20.90	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.72 (ii)	7.52 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.23	0.15	
			TOTALS
PEAK FLOW (cms)=	0.18	0.00	0.177 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	35.33	61.44
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.56	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.177	5.25	61.44
OUTFLOW: ID= 1 (7642)	2.210	0.033	6.40	58.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.89
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.0923

CALIB	
STANDHYD (7643)	Area (ha)= 2.02
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	3.76	6.150	8.15	9.22	1.25
0.033	0.00	3.100	3.76	6.167	8.15	9.23	1.25
0.050	0.00	3.117	3.76	6.183	8.15	9.25	1.25
0.067	0.00	3.133	3.76	6.200	8.15	9.27	0.63
0.083	0.00	3.150	3.76	6.217	8.15	9.28	0.63
0.100	0.00	3.167	3.76	6.233	8.15	9.30	0.63
0.117	0.00	3.183	3.76	6.250	8.14	9.32	0.63
0.133	0.00	3.200	3.76	6.267	4.39	9.33	0.63
0.150	0.00	3.217	3.76	6.283	4.39	9.35	0.63
0.167	0.00	3.233	3.76	6.300	4.39	9.37	0.63
0.183	0.00	3.250	3.76	6.317	4.39	9.38	0.63
0.200	0.00	3.267	10.66	6.333	4.39	9.40	0.63
0.217	0.00	3.283	10.66	6.350	4.39	9.42	0.63
0.233	0.00	3.300	10.66	6.367	4.39	9.43	0.63
0.250	0.00	3.317	10.66	6.383	4.39	9.45	0.63
0.267	0.63	3.333	10.66	6.400	4.39	9.47	0.63
0.283	0.63	3.350	10.66	6.417	4.39	9.48	0.63
0.300	0.63	3.367	10.66	6.433	4.39	9.50	0.63
0.317	0.63	3.383	10.66	6.450	4.39	9.52	0.63
0.333	0.63	3.400	10.66	6.467	4.39	9.53	0.63
0.350	0.63	3.417	10.66	6.483	4.39	9.55	0.63
0.367	0.63	3.433	10.66	6.500	4.39	9.57	0.63
0.383	0.63	3.450	10.66	6.517	4.39	9.58	0.63
0.400	0.63	3.467	10.66	6.533	4.39	9.60	0.63
0.417	0.63	3.483	10.66	6.550	4.39	9.62	0.63
0.433	0.63	3.500	10.66	6.567	4.39	9.63	0.63
0.450	0.63	3.517	10.66	6.583	4.39	9.65	0.63
0.467	0.63	3.533	10.66	6.600	4.39	9.67	0.63
0.483	0.63	3.550	10.66	6.617	4.39	9.68	0.63
0.500	0.63	3.567	10.66	6.633	4.39	9.70	0.63
0.517	0.63	3.583	10.66	6.650	4.39	9.72	0.63
0.533	0.63	3.600	10.66	6.667	4.39	9.73	0.63
0.550	0.63	3.617	10.66	6.683	4.39	9.75	0.63
0.567	0.63	3.633	10.66	6.700	4.39	9.77	0.63
0.583	0.63	3.650	10.66	6.717	4.39	9.78	0.63
0.600	0.63	3.667	10.66	6.733	4.39	9.80	0.63
0.617	0.63	3.683	10.66	6.750	4.39	9.82	0.63
0.633	0.63	3.700	10.66	6.767	4.39	9.83	0.63
0.650	0.63	3.717	10.66	6.783	4.39	9.85	0.63
0.667	0.63	3.733	10.66	6.800	4.39	9.87	0.63
0.683	0.63	3.750	10.66	6.817	4.39	9.88	0.63
0.700	0.63	3.767	10.66	6.833	4.39	9.90	0.63
0.717	0.63	3.783	10.66	6.850	4.39	9.92	0.63
0.733	0.63	3.800	10.66	6.867	4.39	9.93	0.63
0.750	0.63	3.817	10.66	6.883	4.39	9.95	0.63
0.767	0.63	3.833	10.66	6.900	4.39	9.97	0.63
0.783	0.63	3.850	10.66	6.917	4.39	9.98	0.63
0.800	0.63	3.867	10.66	6.933	4.39	10.00	0.63
0.817	0.63	3.883	10.66	6.950	4.39	10.02	0.63
0.833	0.63	3.900	10.66	6.967	4.39	10.03	0.63
0.850	0.63	3.917	10.66	6.983	4.39	10.05	0.63
0.867	0.63	3.933	10.66	7.000	4.39	10.07	0.63
0.883	0.63	3.950	10.66	7.017	4.39	10.08	0.63
0.900	0.63	3.967	10.66	7.033	4.39	10.10	0.63
0.917	0.63	3.983	10.66	7.050	4.39	10.12	0.63
0.933	0.63	4.000	10.66	7.067	4.39	10.13	0.63
0.950	0.63	4.017	10.66	7.083	4.39	10.15	0.63
0.967	0.63	4.033	10.66	7.100	4.39	10.17	0.63
0.983	0.63	4.050	10.66	7.117	4.39	10.18	0.63
1.000	0.63	4.067	10.66	7.133	4.39	10.20	0.63
1.017	0.63	4.083	10.66	7.150	4.39	10.22	0.63
1.033	0.63	4.100	10.66	7.167	4.39	10.23	0.63
1.050	0.63	4.117	10.66	7.183	4.39	10.25	0.63
1.067	0.63	4.133	10.66	7.200	4.39	10.27	0.63
1.083	0.63	4.150	10.66	7.217	4.39	10.28	0.63
1.100	0.63	4.167	10.66	7.233	4.39	10.30	0.63
1.117	0.63	4.183	10.66	7.250	4.39	10.32	0.63
1.133	0.63	4.200	10.66	7.267	2.51	10.33	0.63
1.150	0.63	4.217	10.66	7.283	2.51	10.35	0.63
1.167	0.63	4.233	10.66	7.300	2.51	10.37	0.63
1.183	0.63	4.250	10.66	7.317	2.51	10.38	0.63
1.200	0.63	4.267	28.84	7.333	2.51	10.40	0.63
1.217	0.63	4.283	28.84	7.350	2.51	10.42	0.63
1.233	0.63	4.300	28.84	7.367	2.51	10.43	0.63
1.250	0.63	4.317	28.84	7.383	2.51	10.45	0.63
1.267	0.63	4.333	28.84	7.400	2.51	10.47	0.63
1.283	0.63	4.350	28.84	7.417	2.51	10.48	0.63
1.300	0.63	4.367	28.84	7.433	2.51	10.50	0.63
1.317	0.63	4.383	28.84	7.450	2.51	10.52	0.63
1.333	0.63	4.400	28.84	7.467	2.51	10.53	0.63
1.350	0.63	4.417	28.84	7.483	2.51	10.55	0.63
1.367	0.63	4.433	28.84	7.500	2.51	10.57	0.63
1.383	0.63	4.450	28.84	7.517	2.51	10.58	0.63
1.400	0.63	4.467	28.84	7.533	2.51	10.60	0.63
1.417	0.63	4.483	28.84	7.550	2.51	10.62	0.63
1.433	0.63	4.500	28.84	7.567	2.51	10.63	0.63
1.450	0.63	4.517	28.84	7.583	2.51	10.65	0.63
1.467	0.63	4.533	28.84	7.600	2.51	10.67	0.63
1.483	0.63	4.550	28.84	7.617	2.51	10.68	0.63
1.500	0.63	4.567	28.84	7.633	2.51	10.70	0.63
1.517	0.63	4.583	28.84	7.650	2.51	10.72	0.63
1.533	0.63	4.600	28.84	7.667	2.51	10.73	0.63
1.550	0.63	4.617	28.84	7.683	2.51	10.75	0.63
1.567	0.63	4.633	28.84	7.700	2.51	10.77	0.63
1.583	0.63	4.650	28.84	7.717	2.51	10.78	0.63
1.600	0.63	4.667	28.84	7.733	2.51	10.80	0.63
1.617	0.63	4.683	28.84	7.750	2.51	10.82	0.63
1.633	0.63	4.700	28.84	7.767	2.51	10.83	0.63
1.650	0.63	4.717	28.84	7.783	2.51	10.85	0.63
1.667	0.63	4.733	28.84	7.800	2.51	10.87	0.63
1.683	0.63	4.750	28.84	7.817	2.51	10.88	0.63
1.700	0.63	4.767	28.84	7.833	2.51	10.90	0.63
1.717	0.63	4.783	28.84	7.850	2.51	10.92	0.63
1.733	0.63	4.800	28.84	7.867	2.51	10.93	0.63
1.750	0.63	4.817	28.84	7.883	2.51	10.95	0.63
1.767	0.63	4.833	28.84	7.900	2.51	10.97	0.63
1.783	0.63	4.850	28.84	7.917	2.51	10.98	0.63
1.800	0.63	4.867	28.84	7.933	2.51	11.00	0.63
1.817	0.63	4.883	28.84	7.950	2.51	11.02	0.63
1.833	0.63	4.900	28.84	7.967	2.51	11.03	0.63
1.850	0.63	4.917	28.84	7.983	2.51	11.05	0.63
1.867	0.63	4.933	28.84	8.000	2.51	11.07	0.63
1.883	0.63	4.950	28.84	8.017	2.51	11.08	0.63
1.900	0.63	4.967	28.84	8.033	2.51	11.10	0.63
1.917	0.63	4.983	28.84	8.050	2.51	11.12	0.63
1.933	0.63	5.000	28.84	8.067	2.51	11.13	0.63
1.950	0.63	5.017	28.84	8.083	2.51	11.15	0.63
1.967	0.63	5.033	28.84	8.100	2.51	11.17	0.63
1.983	0.63	5.050	28.84	8.117	2.51	11.18	0.63
2.000	0.63	5.067	28.84	8.133	2.51	11.20	0.63
2.017	0.63	5.083	28.84	8.150	2.51	11.22	0.63
2.033	0.63	5.100	28.84	8.167	2.51	11.23	0.63
2.050	0.63	5.117	28.84	8.183	2.51	11.25	0.63
2.067	0.63	5.133	28.84	8.200	2.51	11.27	0.63
2.083	0.63	5.150	28.84	8.217	2.51	11.28	0.63
2.100	0.63	5.167	28.84	8.233	2.51	11.30	0.63
2.117	0.63	5.183	28.84	8.250	2.51	11.32	0.63
2.133	0.63	5.200	28.84	8.267	1.25	11.33	0.63
2.150	0.63	5.217	28.84	8.283	1.25	11.35	0.63

2.167	0.63	5.233	28.84	8.300	1.25	11.37	0.63
2.183	0.63	5.250	28.82	8.317	1.25	11.38	0.63
2.200	0.63	5.267	8.15	8.333	1.25	11.40	0.63
2.217	0.63	5.283	8.15	8.350	1.25	11.42	0.63
2.233	0.63	5.300	8.15	8.367	1.25	11.43	0.63
2.250	0.63	5.317	8.15	8.383	1.25	11.45	0.63
2.267	3.76	5.333	8.15	8.400	1.25	11.47	0.63
2.283	3.76	5.350	8.15	8.417	1.25	11.48	0.63
2.300	3.76	5.367	8.15	8.433	1.25	11.50	0.63
2.317	3.76	5.383	8.15	8.450	1.25	11.52	0.63
2.333	3.76	5.400	8.15	8.467	1.25	11.53	0.63
2.350	3.76	5.417	8.15	8.483	1.25	11.55	0.63
2.367	3.76	5.433	8.15	8.500	1.25	11.57	0.63
2.383	3.76	5.450	8.15	8.517	1.25	11.58	0.63
2.400	3.76	5.467	8.15	8.533	1.25	11.60	0.63
2.417	3.76	5.483	8.15	8.550	1.25	11.62	0.63
2.433	3.76	5.500	8.15	8.567	1.25	11.63	0.63
2.450	3.76	5.517	8.15	8.583	1.25	11.65	0.63
2.467	3.76	5.533	8.15	8.600	1.25	11.67	0.63
2.483	3.76	5.550	8.15	8.617	1.25	11.68	0.63
2.500	3.76	5.567	8.15	8.633	1.25	11.70	0.63
2.517	3.76	5.583	8.15	8.650	1.25	11.72	0.63
2.533	3.76	5.600	8.15	8.667	1.25	11.73	0.63
2.550	3.76	5.617	8.15	8.683	1.25	11.75	0.63
2.567	3.76	5.633	8.15	8.700	1.25	11.77	0.63
2.583	3.76	5.650	8.15	8.717	1.25	11.78	0.63
2.600	3.76	5.667	8.15	8.733	1.25	11.80	0.63
2.617	3.76	5.683	8.15	8.750	1.25	11.82	0.63
2.633	3.76	5.700	8.15	8.767	1.25	11.83	0.63
2.650	3.76	5.717	8.15	8.783	1.25	11.85	0.63
2.667	3.76	5.733	8.15	8.800	1.25	11.87	0.63
2.683	3.76	5.750	8.15	8.817	1.25	11.88	0.63
2.700	3.76	5.767	8.15	8.833	1.25	11.90	0.63
2.717	3.76	5.783	8.15	8.850	1.25	11.92	0.63
2.733	3.76	5.800	8.15	8.867	1.25	11.93	0.63
2.750	3.76	5.817	8.15	8.883	1.25	11.95	0.63
2.767	3.76	5.833	8.15	8.900	1.25	11.97	0.63
2.783	3.76	5.850	8.15	8.917	1.25	11.98	0.63
2.800	3.76	5.867	8.15	8.933	1.25	12.00	0.63
2.817	3.76	5.883	8.15	8.950	1.25	12.02	0.63
2.833	3.76	5.900	8.15	8.967	1.25	12.03	0.63
2.850	3.76	5.917	8.15	8.983	1.25	12.05	0.63
2.867	3.76	5.933	8.15	9.000	1.25	12.07	0.63
2.883	3.76	5.950	8.15	9.017	1.25	12.08	0.63
2.900	3.76	5.967	8.15	9.033	1.25	12.10	0.63
2.917	3.76	5.983	8.15	9.050	1.25	12.12	0.63
2.933	3.76	6.000	8.15	9.067	1.25	12.13	0.63
2.950	3.76	6.017	8.15	9.083	1.25	12.15	0.63
2.967	3.76	6.033	8.15	9.100	1.25	12.17	0.63
2.983	3.76	6.050	8.15	9.117	1.25	12.18	0.63
3.000	3.76	6.067	8.15	9.133	1.25	12.20	0.63
3.017	3.76	6.083	8.15	9.150	1.25	12.22	0.63
3.033	3.76	6.100	8.15	9.167	1.25	12.23	0.63
3.050	3.76	6.117	8.15	9.183	1.25	12.25	0.63
3.067	3.76	6.133	8.15	9.200	1.25		

Max.Eff.Inten.(mm/hr)=	28.84	20.90	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.59 (ii)	7.39 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.24	0.15	
			TOTALS
PEAK FLOW (cms)=	0.16	0.00	0.161 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	61.71	35.33	61.44
TOTAL RAINFALL (mm)=	62.71	62.71	62.71
RUNOFF COEFFICIENT =	0.98	0.56	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0433	0.1140
	0.0182	0.0580	0.0507	0.1280
	0.0280	0.0775	0.0571	0.1440
	0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.161	5.25	61.44
OUTFLOW: ID= 1 (7644)	2.020	0.031	6.38	59.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.04
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.0842

****
** SIMULATION:92. 10 Year 24 Hour AES (Bloor, TRCA) **
****

READ STORM	Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\c53c0fdf
Ptotal= 68.76 mm	Comments: 10 Year 24 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.25	5.85	12.50	2.41	18.75	0.34
0.25	0.34	6.50	5.85	12.75	2.41	19.00	0.34
0.50	0.34	6.75	5.85	13.00	2.41	19.25	0.34
0.75	0.34	7.00	5.85	13.25	2.41	19.50	0.34
1.00	0.34	7.25	5.85	13.50	2.41	19.75	0.34
1.25	0.34	7.50	5.85	13.75	2.41	20.00	0.34
1.50	0.34	7.75	5.85	14.00	2.41	20.25	0.34
1.75	0.34	8.00	5.85	14.25	1.38	20.50	0.34
2.00	0.34	8.25	15.82	14.50	1.38	20.75	0.34
2.25	0.34	8.50	15.82	14.75	1.38	21.00	0.34
2.50	0.34	8.75	15.82	15.00	1.38	21.25	0.34
2.75	0.34	9.00	15.82	15.25	1.38	21.50	0.34
3.00	0.34	9.25	15.82	15.50	1.38	21.75	0.34
3.25	0.34	9.50	15.82	15.75	1.38	22.00	0.34
3.50	0.34	9.75	15.82	16.00	1.38	22.25	0.34
3.75	0.34	10.00	15.82	16.25	0.69	22.50	0.34
4.00	0.34	10.25	4.47	16.50	0.69	22.75	0.34
4.25	2.06	10.50	4.47	16.75	0.69	23.00	0.34
4.50	2.06	10.75	4.47	17.00	0.69	23.25	0.34
4.75	2.06	11.00	4.47	17.25	0.69	23.50	0.34
5.00	2.06	11.25	4.47	17.50	0.69	23.75	0.34
5.25	2.06	11.50	4.47	17.75	0.69	24.00	0.34
5.50	2.06	11.75	4.47	18.00	0.69		
5.75	2.06	12.00	4.47	18.25	0.34		
6.00	2.06	12.25	2.41	18.50	0.34		

CALIB		
STANDHYD (7567)	Area (ha)= 2.81	
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.06	12.150	4.47	18.22	0.69
0.033	0.00	6.100	2.06	12.167	4.47	18.23	0.69
0.050	0.00	6.117	2.06	12.183	4.47	18.25	0.69
0.067	0.00	6.133	2.06	12.200	4.47	18.27	0.34
0.083	0.00	6.150	2.06	12.217	4.47	18.28	0.34
0.100	0.00	6.167	2.06	12.233	4.47	18.30	0.34
0.117	0.00	6.183	2.06	12.250	4.47	18.32	0.34
0.133	0.00	6.200	2.06	12.267	2.41	18.33	0.34
0.150	0.00	6.217	2.06	12.283	2.41	18.35	0.34
0.167	0.00	6.233	2.06	12.300	2.41	18.37	0.34
0.183	0.00	6.250	2.07	12.317	2.41	18.38	0.34
0.200	0.00	6.267	5.85	12.333	2.41	18.40	0.34
0.217	0.00	6.283	5.85	12.350	2.41	18.42	0.34
0.233	0.00	6.300	5.85	12.367	2.41	18.43	0.34
0.250	0.00	6.317	5.85	12.383	2.41	18.45	0.34
0.267	0.34	6.333	5.85	12.400	2.41	18.47	0.34
0.283	0.34	6.350	5.85	12.417	2.41	18.48	0.34
0.300	0.34	6.367	5.85	12.433	2.41	18.50	0.34
0.317	0.34	6.383	5.85	12.450	2.41	18.52	0.34
0.333	0.34	6.400	5.85	12.467	2.41	18.53	0.34
0.350	0.34	6.417	5.85	12.483	2.41	18.55	0.34
0.367	0.34	6.433	5.85	12.500	2.41	18.57	0.34
0.383	0.34	6.450	5.85	12.517	2.41	18.58	0.34
0.400	0.34	6.467	5.85	12.533	2.41	18.60	0.34
0.417	0.34	6.483	5.85	12.550	2.41	18.62	0.34
0.433	0.34	6.500	5.85	12.567	2.41	18.63	0.34
0.450	0.34	6.517	5.85	12.583	2.41	18.65	0.34
0.467	0.34	6.533	5.85	12.600	2.41	18.67	0.34
0.483	0.34	6.550	5.85	12.617	2.41	18.68	0.34
0.500	0.34	6.567	5.85	12.633	2.41	18.70	0.34
0.517	0.34	6.583	5.85	12.650	2.41	18.72	0.34
0.533	0.34	6.600	5.85	12.667	2.41	18.73	0.34
0.550	0.34	6.617	5.85	12.683	2.41	18.75	0.34
0.567	0.34	6.633	5.85	12.700	2.41	18.77	0.34
0.583	0.34	6.650	5.85	12.717	2.41	18.78	0.34
0.600	0.34	6.667	5.85	12.733	2.41	18.80	0.34
0.617	0.34	6.683	5.85	12.750	2.41	18.82	0.34
0.633	0.34	6.700	5.85	12.767	2.41	18.83	0.34
0.650	0.34	6.717	5.85	12.783	2.41	18.85	0.34
0.667	0.34	6.733	5.85	12.800	2.41	18.87	0.34
0.683	0.34	6.750	5.85	12.817	2.41	18.88	0.34
0.700	0.34	6.767	5.85	12.833	2.41	18.90	0.34
0.717	0.34	6.783	5.85	12.850	2.41	18.92	0.34
0.733	0.34	6.800	5.85	12.867	2.41	18.93	0.34
0.750	0.34	6.817	5.85	12.883	2.41	18.95	0.34
0.767	0.34	6.833	5.85	12.900	2.41	18.97	0.34
0.783	0.34	6.850	5.85	12.917	2.41	18.98	0.34
0.800	0.34	6.867	5.85	12.933	2.41	19.00	0.34
0.817	0.34	6.883	5.85	12.950	2.41	19.02	0.34
0.833	0.34	6.900	5.85	12.967	2.41	19.03	0.34
0.850	0.34	6.917	5.85	12.983	2.41	19.05	0.34
0.867	0.34	6.933	5.85	13.000	2.41	19.07	0.34
0.883	0.34	6.950	5.85	13.017	2.41	19.08	0.34
0.900	0.34	6.967	5.85	13.033	2.41	19.10	0.34
0.917	0.34	6.983	5.85	13.050	2.41	19.12	0.34
0.933	0.34	7.000	5.85	13.067	2.41	19.13	0.34
0.950	0.34	7.017	5.85	13.083	2.41	19.15	0.34
0.967	0.34	7.033	5.85	13.100	2.41	19.17	0.34
0.983	0.34	7.050	5.85	13.117	2.41	19.18	0.34
1.000	0.34	7.067	5.85	13.133	2.41	19.20	0.34
1.017	0.34	7.083	5.85	13.150	2.41	19.22	0.34
1.033	0.34	7.100	5.85	13.167	2.41	19.23	0.34
1.050	0.34	7.117	5.85	13.183	2.41	19.25	0.34
1.067	0.34	7.133	5.85	13.200	2.41	19.27	0.34
1.083	0.34	7.150	5.85	13.217	2.41	19.28	0.34
1.100	0.34	7.167	5.85	13.233	2.41	19.30	0.34
1.117	0.34	7.183	5.85	13.250	2.41	19.32	0.34
1.133	0.34	7.200	5.85	13.267	2.41	19.33	0.34
1.150	0.34	7.217	5.85	13.283	2.41	19.35	0.34
1.167	0.34	7.233	5.85	13.300	2.41	19.37	0.34
1.183	0.34	7.250	5.85	13.317	2.41	19.38	0.34
1.200	0.34	7.267	5.85	13.333	2.41	19.40	0.34
1.217	0.34	7.283	5.85	13.350	2.41	19.42	0.34
1.233	0.34	7.300	5.85	13.367	2.41	19.43	0.34
1.250	0.34	7.317	5.85	13.383	2.41	19.45	0.34
1.267	0.34	7.333	5.85	13.400	2.41	19.47	0.34
1.283	0.34	7.350	5.85	13.417	2.41	19.48	0.34
1.300	0.34	7.367	5.85	13.433	2.41	19.50	0.34
1.317	0.34	7.383	5.85	13.450	2.41	19.52	0.34
1.333	0.34	7.400	5.85	13.467	2.41	19.53	0.34
1.350	0.34	7.417	5.85	13.483	2.41	19.55	0.34
1.367	0.34	7.433	5.85	13.500	2.41	19.57	0.34
1.383	0.34	7.450	5.85	13.517	2.41	19.58	0.34
1.400	0.34	7.467	5.85	13.533	2.41	19.60	0.34
1.417	0.34	7.483	5.85	13.550	2.41	19.62	0.34
1.433	0.34	7.500	5.85	13.567	2.41	19.63	0.34
1.450	0.34	7.517	5.85	13.583	2.41	19.65	0.34
1.467	0.34	7.533	5.85	13.600	2.41	19.67	0.34
1.483	0.34	7.550	5.85	13.617	2.41	19.68	0.34
1.500	0.34	7.567	5.85	13.633	2.41	19.70	0.34
1.517	0.34	7.583	5.85	13.650	2.41	19.72	0.34
1.533	0.34	7.600	5.85	13.667	2.41	19.73	0.34
1.550	0.34	7.617	5.85	13.683	2.41	19.75	0.34
1.567	0.34	7.633	5.85	13.700	2.41	19.77	0.34
1.583	0.34	7.650	5.85	13.717	2.41	19.78	0.34
1.600	0.34	7.667	5.85	13.733	2.41	19.80	0.34
1.617	0.34	7.683	5.85	13.750	2.41	19.82	0.34
1.633	0.34	7.700	5.85	13.767	2.41	19.83	0.34
1.650	0.34	7.717	5.85	13.783	2.41	19.85	0.34
1.667	0.34	7.733	5.85	13.800	2.41	19.87	0.34
1.683	0.34	7.750	5.85	13.817	2.41	19.88	0.34
1.700	0.34	7.767	5.85	13.833	2.41	19.90	0.34
1.717	0.34	7.783	5.85	13.850	2.41	19.92	0.34
1.733	0.34	7.800	5.85	13.867	2.41	19.93	0.34
1.750	0.34	7.817	5.85	13.883	2.41	19.95	0.34
1.767	0.34	7.833	5.85	13.900	2.41	19.97	0.34
1.783	0.34	7.850	5.85	13.917	2.41	19.98	0.34
1.800	0.34	7.867	5.85	13.933	2.41	20.00	0.34
1.817	0.34	7.883	5.85	13.950	2.41	20.02	0.34
1.833	0.34	7.900	5.85	13.967	2.41	20.03	0.34
1.850	0.34	7.917	5.85	13.983	2.41	20.05	0.34
1.867	0.34	7.933	5.85	14.000	2.41	20.07	0.34
1.883	0.34	7.950	5.85	14.017	2.41	20.08	0.34
1.900	0.34	7.967	5.85	14.033	2.41	20.10	0.34
1.917	0.34	7.983	5.85	14.050	2.41	20.12	0.34
1.933	0.34	8.000	5.85	14.067	2.41	20.13	0.34
1.950	0.34	8.017	5.85	14.083	2.41	20.15	0.34
1.967	0.34	8.033	5.85	14.100	2.41	20.17	0.34
1.983	0.34	8.050	5.85	14.117	2.41	20.18	0.34
2.000	0.34	8.067	5.85	14.133	2.41	20.20	0.34
2.017	0.34	8.083	5.85	14.150	2.41	20.22	0.34
2.033	0.34	8.100	5.85	14.167	2.41	20.23	0.34
2.050	0.34	8.117	5.85	14.183	2.41	20.25	0.34
2.067	0.34	8.133	5.85	14.200	2.41	20.27	0.34
2.083	0.34	8.150	5.85	14.217	2.41	20.28	0.34
2.100	0.34	8.167	5.85	14.233	2.41	20.30	0.34
2.117	0.34	8.183	5.85	14.250	2.41	20.32	0.34
2.133	0.34	8.200	5.85	14.267	1.38	20.33	0.34
2.150	0.34	8.217	5.85	14.283	1.38	20.35	0.34
2.167	0.34	8.233	5.85	14.300	1.38	20.37	0.34
2.183	0.34	8.250	5.88	14.317	1.38	20.38	0.34
2.200	0.34	8.267	15.82	14.333	1.38	20.40	0.34
2.217	0.34	8.283	15.82	14.350	1.38	20.42	0.34
2.233	0.34	8.300	15.82	14.367	1.38	20.43	0.34
2.250	0.34	8.317	15.82	14.383	1.38	20.45	0.34
2.267	0.34	8.333	15.82	14.400	1.38	20.47	0.34
2.283	0.34	8.350	15.82	14.417	1.38	20.48	0.34
2.300	0.34	8.367	15.82	14.433	1.38	20.50	0.34
2.317	0.34	8.383	15.82	14.450	1.38	20.52	0.34
2.333	0.34	8.400	15.82	14.467	1.38	20.53	0.34
2.350	0.34	8.417	15.82	14.483	1.38	20.55	0.34
2.367	0.34	8.433	15.82	14.500	1.38	20.57	0.34
2.383	0.34	8.450	15.82	14.517	1.38	20.58	0.34
2.400	0.34	8.467	15.82	14.533	1.38	20.60	0.34
2.417	0.34	8.483	15.82	14.550	1.38	20.62	0.34
2.433	0.34	8.500	15.82	14.567	1.38	20.63	0.34
2.450	0.34	8.517	15.82	14.583	1.38	20.65	0.34
2.467	0.34	8.533	15.82	14.600	1.38	20.67	0.34
2.483	0.34	8.550	15.82	14.617	1.38	20.68	0.34
2.500	0.34	8.567	15.82	14.633	1.38	20.70	0.34

2.517	0.34	8.583	15.82	14.650	1.38	20.72	0.34		3.783	0.34	9.850	15.82	15.917	1.38	21.98	0.34
2.533	0.34	8.600	15.82	14.667	1.38	20.73	0.34		3.800	0.34	9.867	15.82	15.933	1.38	22.00	0.34
2.550	0.34	8.617	15.82	14.683	1.38	20.75	0.34		3.817	0.34	9.883	15.82	15.950	1.38	22.02	0.34
2.567	0.34	8.633	15.82	14.700	1.38	20.77	0.34		3.833	0.34	9.900	15.82	15.967	1.38	22.03	0.34
2.583	0.34	8.650	15.82	14.717	1.38	20.78	0.34		3.850	0.34	9.917	15.82	15.983	1.38	22.05	0.34
2.600	0.34	8.667	15.82	14.733	1.38	20.80	0.34		3.867	0.34	9.933	15.82	16.000	1.38	22.07	0.34
2.617	0.34	8.683	15.82	14.750	1.38	20.82	0.34		3.883	0.34	9.950	15.82	16.017	1.38	22.08	0.34
2.633	0.34	8.700	15.82	14.767	1.38	20.83	0.34		3.900	0.34	9.967	15.82	16.033	1.38	22.10	0.34
2.650	0.34	8.717	15.82	14.783	1.38	20.85	0.34		3.917	0.34	9.983	15.82	16.050	1.38	22.12	0.34
2.667	0.34	8.733	15.82	14.800	1.38	20.87	0.34		3.933	0.34	10.000	15.82	16.067	1.38	22.13	0.34
2.683	0.34	8.750	15.82	14.817	1.38	20.88	0.34		3.950	0.34	10.017	15.82	16.083	1.38	22.15	0.34
2.700	0.34	8.767	15.82	14.833	1.38	20.90	0.34		3.967	0.34	10.033	15.82	16.100	1.38	22.17	0.34
2.717	0.34	8.783	15.82	14.850	1.38	20.92	0.34		3.983	0.34	10.050	15.82	16.117	1.38	22.18	0.34
2.733	0.34	8.800	15.82	14.867	1.38	20.93	0.34		4.000	0.34	10.067	15.82	16.133	1.38	22.20	0.34
2.750	0.34	8.817	15.82	14.883	1.38	20.95	0.34		4.017	0.34	10.083	15.82	16.150	1.38	22.22	0.34
2.767	0.34	8.833	15.82	14.900	1.38	20.97	0.34		4.033	0.34	10.100	15.82	16.167	1.38	22.23	0.34
2.783	0.34	8.850	15.82	14.917	1.38	20.98	0.34		4.050	0.34	10.117	15.82	16.183	1.38	22.25	0.34
2.800	0.34	8.867	15.82	14.933	1.38	21.00	0.34		4.067	0.34	10.133	15.82	16.200	1.38	22.27	0.34
2.817	0.34	8.883	15.82	14.950	1.38	21.02	0.34		4.083	0.34	10.150	15.82	16.217	1.38	22.28	0.34
2.833	0.34	8.900	15.82	14.967	1.38	21.03	0.34		4.100	0.34	10.167	15.82	16.233	1.38	22.30	0.34
2.850	0.34	8.917	15.82	14.983	1.38	21.05	0.34		4.117	0.34	10.183	15.82	16.250	1.38	22.32	0.34
2.867	0.34	8.933	15.82	15.000	1.38	21.07	0.34		4.133	0.34	10.200	15.82	16.267	0.69	22.33	0.34
2.883	0.34	8.950	15.82	15.017	1.38	21.08	0.34		4.150	0.34	10.217	15.82	16.283	0.69	22.35	0.34
2.900	0.34	8.967	15.82	15.033	1.38	21.10	0.34		4.167	0.34	10.233	15.82	16.300	0.69	22.37	0.34
2.917	0.34	8.983	15.82	15.050	1.38	21.12	0.34		4.183	0.34	10.250	15.81	16.317	0.69	22.38	0.34
2.933	0.34	9.000	15.82	15.067	1.38	21.13	0.34		4.200	0.34	10.267	4.47	16.333	0.69	22.40	0.34
2.950	0.34	9.017	15.82	15.083	1.38	21.15	0.34		4.217	0.34	10.283	4.47	16.350	0.69	22.42	0.34
2.967	0.34	9.033	15.82	15.100	1.38	21.17	0.34		4.233	0.34	10.300	4.47	16.367	0.69	22.43	0.34
2.983	0.34	9.050	15.82	15.117	1.38	21.18	0.34		4.250	0.34	10.317	4.47	16.383	0.69	22.45	0.34
3.000	0.34	9.067	15.82	15.133	1.38	21.20	0.34		4.267	2.06	10.333	4.47	16.400	0.69	22.47	0.34
3.017	0.34	9.083	15.82	15.150	1.38	21.22	0.34		4.283	2.06	10.350	4.47	16.417	0.69	22.48	0.34
3.033	0.34	9.100	15.82	15.167	1.38	21.23	0.34		4.300	2.06	10.367	4.47	16.433	0.69	22.50	0.34
3.050	0.34	9.117	15.82	15.183	1.38	21.25	0.34		4.317	2.06	10.383	4.47	16.450	0.69	22.52	0.34
3.067	0.34	9.133	15.82	15.200	1.38	21.27	0.34		4.333	2.06	10.400	4.47	16.467	0.69	22.53	0.34
3.083	0.34	9.150	15.82	15.217	1.38	21.28	0.34		4.350	2.06	10.417	4.47	16.483	0.69	22.55	0.34
3.100	0.34	9.167	15.82	15.233	1.38	21.30	0.34		4.367	2.06	10.433	4.47	16.500	0.69	22.57	0.34
3.117	0.34	9.183	15.82	15.250	1.38	21.32	0.34		4.383	2.06	10.450	4.47	16.517	0.69	22.58	0.34
3.133	0.34	9.200	15.82	15.267	1.38	21.33	0.34		4.400	2.06	10.467	4.47	16.533	0.69	22.60	0.34
3.150	0.34	9.217	15.82	15.283	1.38	21.35	0.34		4.417	2.06	10.483	4.47	16.550	0.69	22.62	0.34
3.167	0.34	9.233	15.82	15.300	1.38	21.37	0.34		4.433	2.06	10.500	4.47	16.567	0.69	22.63	0.34
3.183	0.34	9.250	15.82	15.317	1.38	21.38	0.34		4.450	2.06	10.517	4.47	16.583	0.69	22.65	0.34
3.200	0.34	9.267	15.82	15.333	1.38	21.40	0.34		4.467	2.06	10.533	4.47	16.600	0.69	22.67	0.34
3.217	0.34	9.283	15.82	15.350	1.38	21.42	0.34		4.483	2.06	10.550	4.47	16.617	0.69	22.68	0.34
3.233	0.34	9.300	15.82	15.367	1.38	21.43	0.34		4.500	2.06	10.567	4.47	16.633	0.69	22.70	0.34
3.250	0.34	9.317	15.82	15.383	1.38	21.45	0.34		4.517	2.06	10.583	4.47	16.650	0.69	22.72	0.34
3.267	0.34	9.333	15.82	15.400	1.38	21.47	0.34		4.533	2.06	10.600	4.47	16.667	0.69	22.73	0.34
3.283	0.34	9.350	15.82	15.417	1.38	21.48	0.34		4.550	2.06	10.617	4.47	16.683	0.69	22.75	0.34
3.300	0.34	9.367	15.82	15.433	1.38	21.50	0.34		4.567	2.06	10.633	4.47	16.700	0.69	22.77	0.34
3.317	0.34	9.383	15.82	15.450	1.38	21.52	0.34		4.583	2.06	10.650	4.47	16.717	0.69	22.78	0.34
3.333	0.34	9.400	15.82	15.467	1.38	21.53	0.34		4.600	2.06	10.667	4.47	16.733	0.69	22.80	0.34
3.350	0.34	9.417	15.82	15.483	1.38	21.55	0.34		4.617	2.06	10.683	4.47	16.750	0.69	22.82	0.34
3.367	0.34	9.433	15.82	15.500	1.38	21.57	0.34		4.633	2.06	10.700	4.47	16.767	0.69	22.83	0.34
3.383	0.34	9.450	15.82	15.517	1.38	21.58	0.34		4.650	2.06	10.717	4.47	16.783	0.69	22.85	0.34
3.400	0.34	9.467	15.82	15.533	1.38	21.60	0.34		4.667	2.06	10.733	4.47	16.800	0.69	22.87	0.34
3.417	0.34	9.483	15.82	15.550	1.38	21.62	0.34		4.683	2.06	10.750	4.47	16.817	0.69	22.88	0.34
3.433	0.34	9.500	15.82	15.567	1.38	21.63	0.34		4.700	2.06	10.767	4.47	16.833	0.69	22.90	0.34
3.450	0.34	9.517	15.82	15.583	1.38	21.65	0.34		4.717	2.06	10.783	4.47	16.850	0.69	22.92	0.34
3.467	0.34	9.533	15.82	15.600	1.38	21.67	0.34		4.733	2.06	10.800	4.47	16.867	0.69	22.93	0.34
3.483	0.34	9.550	15.82	15.617	1.38	21.68	0.34		4.750	2.06	10.817	4.47	16.883	0.69	22.95	0.34
3.500	0.34	9.567	15.82	15.633	1.38	21.70	0.34		4.767	2.06	10.833	4.47	16.900	0.69	22.97	0.34
3.517	0.34	9.583	15.82	15.650	1.38	21.72	0.34		4.783	2.06	10.850	4.47	16.917	0.69	22.98	0.34
3.533	0.34	9.600	15.82	15.667	1.38	21.73	0.34		4.800	2.06	10.867	4.47	16.933	0.69	23.00	0.34
3.550	0.34	9.617	15.82	15.683	1.38	21.75	0.34		4.817	2.06	10.883	4.47	16.950	0.69	23.02	0.34
3.567	0.34	9.633	15.82	15.700	1.38	21.77	0.34		4.833	2.06	10.900	4.47	16.967	0.69	23.03	0.34
3.583	0.34	9.650	15.82	15.717	1.38	21.78	0.34		4.850	2.06	10.917	4.47	16.983	0.69	23.05	0.34
3.600	0.34	9.667	15.82	15.733	1.38	21.80	0.34		4.867	2.06	10.933	4.47	17.000	0.69	23.07	0.34
3.617	0.34	9.683	15.82	15.750	1.38	21.82	0.34		4.883	2.06	10.950	4.47	17.017	0.69	23.08	0.34
3.633	0.34	9.700	15.82	15.767	1.38	21.83	0.34		4.900	2.06	10.967	4.47	17.033	0.69	23.10	0.34
3.650	0.34	9.717	15.82	15.783	1.38	21.85	0.34		4.917	2.06	10.983	4.47	17.050	0.69	23.12	0.34
3.667	0.34	9.733	15.82	15.800	1.38	21.87	0.34		4.933	2.06	11.000	4.47	17.067	0.69	23.13	0.34
3.683	0.34	9.750	15.82	15.817	1.38	21.88	0.34		4.950	2.06	11.017	4.47	17.083	0.69	23.15	0.34
3.700	0.34	9.767	15.82	15.833	1.38	21.90	0.34		4.967	2.06	11.033	4.47	17.100	0.69	23.17	0.34
3.717	0.34	9.783	15.82	15.850	1.38	21.92	0.34		4.983	2.06	11.050	4.47	17.117	0.69	23.18	0.34
3.733	0.34	9.800	15.82	15.867	1.38	21.93	0.34		5.000	2.06	11.067	4.47	17.133	0.69	23.20	0.34
3.750	0.34	9.817	15.82	15.883	1.38	21.95	0.34		5.017	2.06	11.083	4.47	17.150	0.69	23.22	0.34
3.767	0.34	9.833	15.82	15.900	1.38	21.97	0.34		5.033	2.06	11.100	4.47	17.167	0.69	23.23	0.34

5.050	2.06	11.117	4.47	17.183	0.69	23.25	0.34
5.067	2.06	11.133	4.47	17.200	0.69	23.27	0.34
5.083	2.06	11.150	4.47	17.217	0.69	23.28	0.34
5.100	2.06	11.167	4.47	17.233	0.69	23.30	0.34
5.117	2.06	11.183	4.47	17.250	0.69	23.32	0.34
5.133	2.06	11.200	4.47	17.267	0.69	23.33	0.34
5.150	2.06	11.217	4.47	17.283	0.69	23.35	0.34
5.167	2.06	11.233	4.47	17.300	0.69	23.37	0.34
5.183	2.06	11.250	4.47	17.317	0.69	23.38	0.34
5.200	2.06	11.267	4.47	17.333	0.69	23.40	0.34
5.217	2.06	11.283	4.47	17.350	0.69	23.42	0.34
5.233	2.06	11.300	4.47	17.367	0.69	23.43	0.34
5.250	2.06	11.317	4.47	17.383	0.69	23.45	0.34
5.267	2.06	11.333	4.47	17.400	0.69	23.47	0.34
5.283	2.06	11.350	4.47	17.417	0.69	23.48	0.34
5.300	2.06	11.367	4.47	17.433	0.69	23.50	0.34
5.317	2.06	11.383	4.47	17.450	0.69	23.52	0.34
5.333	2.06	11.400	4.47	17.467	0.69	23.53	0.34
5.350	2.06	11.417	4.47	17.483	0.69	23.55	0.34
5.367	2.06	11.433	4.47	17.500	0.69	23.57	0.34
5.383	2.06	11.450	4.47	17.517	0.69	23.58	0.34
5.400	2.06	11.467	4.47	17.533	0.69	23.60	0.34
5.417	2.06	11.483	4.47	17.550	0.69	23.62	0.34
5.433	2.06	11.500	4.47	17.567	0.69	23.63	0.34
5.450	2.06	11.517	4.47	17.583	0.69	23.65	0.34
5.467	2.06	11.533	4.47	17.600	0.69	23.67	0.34
5.483	2.06	11.550	4.47	17.617	0.69	23.68	0.34
5.500	2.06	11.567	4.47	17.633	0.69	23.70	0.34
5.517	2.06	11.583	4.47	17.650	0.69	23.72	0.34
5.533	2.06	11.600	4.47	17.667	0.69	23.73	0.34
5.550	2.06	11.617	4.47	17.683	0.69	23.75	0.34
5.567	2.06	11.633	4.47	17.700	0.69	23.77	0.34
5.583	2.06	11.650	4.47	17.717	0.69	23.78	0.34
5.600	2.06	11.667	4.47	17.733	0.69	23.80	0.34
5.617	2.06	11.683	4.47	17.750	0.69	23.82	0.34
5.633	2.06	11.700	4.47	17.767	0.69	23.83	0.34
5.650	2.06	11.717	4.47	17.783	0.69	23.85	0.34
5.667	2.06	11.733	4.47	17.800	0.69	23.87	0.34
5.683	2.06	11.750	4.47	17.817	0.69	23.88	0.34
5.700	2.06	11.767	4.47	17.833	0.69	23.90	0.34
5.717	2.06	11.783	4.47	17.850	0.69	23.92	0.34
5.733	2.06	11.800	4.47	17.867	0.69	23.93	0.34
5.750	2.06	11.817	4.47	17.883	0.69	23.95	0.34
5.767	2.06	11.833	4.47	17.900	0.69	23.97	0.34
5.783	2.06	11.850	4.47	17.917	0.69	23.98	0.34
5.800	2.06	11.867	4.47	17.933	0.69	24.00	0.34
5.817	2.06	11.883	4.47	17.950	0.69	24.02	0.34
5.833	2.06	11.900	4.47	17.967	0.69	24.03	0.34
5.850	2.06	11.917	4.47	17.983	0.69	24.05	0.34
5.867	2.06	11.933	4.47	18.000	0.69	24.07	0.34
5.883	2.06	11.950	4.47	18.017	0.69	24.08	0.34
5.900	2.06	11.967	4.47	18.033	0.69	24.10	0.34
5.917	2.06	11.983	4.47	18.050	0.69	24.12	0.34
5.933	2.06	12.000	4.47	18.067	0.69	24.13	0.34
5.950	2.06	12.017	4.47	18.083	0.69	24.15	0.34
5.967	2.06	12.033	4.47	18.100	0.69	24.17	0.34
5.983	2.06	12.050	4.47	18.117	0.69	24.18	0.34
6.000	2.06	12.067	4.47	18.133	0.69	24.20	0.34
6.017	2.06	12.083	4.47	18.150	0.69	24.22	0.34
6.033	2.06	12.100	4.47	18.167	0.69	24.23	0.34
6.050	2.06	12.117	4.47	18.183	0.69	24.25	0.34
6.067	2.06	12.133	4.47	18.200	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	11.97	
over (min)	6.00	11.00	
Storage Coeff. (min)=	6.45 (ii)	10.01 (ii)	
Unit Hyd. Tpeak (min)=	6.00	11.00	
Unit Hyd. peak (cms)=	0.18	0.11	
			TOTALS
PEAK FLOW (cms)=	0.12	0.00	0.123 (iii)
TIME TO PEAK (hrs)=	9.72	10.25	10.25
RUNOFF VOLUME (mm)=	67.75	40.36	67.49
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.59	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0568	0.1530
0.0239	0.0780	0.0660	0.1730
0.0370	0.1040	0.0751	0.2000
0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.123	10.25	67.49
OUTFLOW: ID= 1 (7626)	2.810	0.039	10.63	62.20

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.48
TIME SHIFT OF PEAK FLOW (min)= 23.00
MAXIMUM STORAGE USED (ha.m.)= 0.1086

CALIB	
STANDHYD (7624)	Area (ha)= 2.08
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.06	12.150	4.47	18.22	0.69
0.033	0.00	6.100	2.06	12.167	4.47	18.23	0.69
0.050	0.00	6.117	2.06	12.183	4.47	18.25	0.69
0.067	0.00	6.133	2.06	12.200	4.47	18.27	0.34
0.083	0.00	6.150	2.06	12.217	4.47	18.28	0.34
0.100	0.00	6.167	2.06	12.233	4.47	18.30	0.34
0.117	0.00	6.183	2.06	12.250	4.47	18.32	0.34
0.133	0.00	6.200	2.06	12.267	2.41	18.33	0.34
0.150	0.00	6.217	2.06	12.283	2.41	18.35	0.34
0.167	0.00	6.233	2.06	12.300	2.41	18.37	0.34
0.183	0.00	6.250	2.07	12.317	2.41	18.38	0.34
0.200	0.00	6.267	5.85	12.333	2.41	18.40	0.34
0.217	0.00	6.283	5.85	12.350	2.41	18.42	0.34
0.233	0.00	6.300	5.85	12.367	2.41	18.43	0.34
0.250	0.00	6.317	5.85	12.383	2.41	18.45	0.34
0.267	0.34	6.333	5.85	12.400	2.41	18.47	0.34
0.283	0.34	6.350	5.85	12.417	2.41	18.48	0.34
0.300	0.34	6.367	5.85	12.433	2.41	18.50	0.34
0.317	0.34	6.383	5.85	12.450	2.41	18.52	0.34
0.333	0.34	6.400	5.85	12.467	2.41	18.53	0.34
0.350	0.34	6.417	5.85	12.483	2.41	18.55	0.34
0.367	0.34	6.433	5.85	12.500	2.41	18.57	0.34
0.383	0.34	6.450	5.85	12.517	2.41	18.58	0.34
0.400	0.34	6.467	5.85	12.533	2.41	18.60	0.34
0.417	0.34	6.483	5.85	12.550	2.41	18.62	0.34
0.433	0.34	6.500	5.85	12.567	2.41	18.63	0.34
0.450	0.34	6.517	5.85	12.583	2.41	18.65	0.34
0.467	0.34	6.533	5.85	12.600	2.41	18.67	0.34
0.483	0.34	6.550	5.85	12.617	2.41	18.68	0.34
0.500	0.34	6.567	5.85	12.633	2.41	18.70	0.34
0.517	0.34	6.583	5.85	12.650	2.41	18.72	0.34

0.533	0.34	6.600	5.85	12.667	2.41	18.73	0.34	1.800	0.34	7.867	5.85	13.933	2.41	20.00	0.34
0.550	0.34	6.617	5.85	12.683	2.41	18.75	0.34	1.817	0.34	7.883	5.85	13.950	2.41	20.02	0.34
0.567	0.34	6.633	5.85	12.700	2.41	18.77	0.34	1.833	0.34	7.900	5.85	13.967	2.41	20.03	0.34
0.583	0.34	6.650	5.85	12.717	2.41	18.78	0.34	1.850	0.34	7.917	5.85	13.983	2.41	20.05	0.34
0.600	0.34	6.667	5.85	12.733	2.41	18.80	0.34	1.867	0.34	7.933	5.85	14.000	2.41	20.07	0.34
0.617	0.34	6.683	5.85	12.750	2.41	18.82	0.34	1.883	0.34	7.950	5.85	14.017	2.41	20.08	0.34
0.633	0.34	6.700	5.85	12.767	2.41	18.83	0.34	1.900	0.34	7.967	5.85	14.033	2.41	20.10	0.34
0.650	0.34	6.717	5.85	12.783	2.41	18.85	0.34	1.917	0.34	7.983	5.85	14.050	2.41	20.12	0.34
0.667	0.34	6.733	5.85	12.800	2.41	18.87	0.34	1.933	0.34	8.000	5.85	14.067	2.41	20.13	0.34
0.683	0.34	6.750	5.85	12.817	2.41	18.88	0.34	1.950	0.34	8.017	5.85	14.083	2.41	20.15	0.34
0.700	0.34	6.767	5.85	12.833	2.41	18.90	0.34	1.967	0.34	8.033	5.85	14.100	2.41	20.17	0.34
0.717	0.34	6.783	5.85	12.850	2.41	18.92	0.34	1.983	0.34	8.050	5.85	14.117	2.41	20.18	0.34
0.733	0.34	6.800	5.85	12.867	2.41	18.93	0.34	2.000	0.34	8.067	5.85	14.133	2.41	20.20	0.34
0.750	0.34	6.817	5.85	12.883	2.41	18.95	0.34	2.017	0.34	8.083	5.85	14.150	2.41	20.22	0.34
0.767	0.34	6.833	5.85	12.900	2.41	18.97	0.34	2.033	0.34	8.100	5.85	14.167	2.41	20.23	0.34
0.783	0.34	6.850	5.85	12.917	2.41	18.98	0.34	2.050	0.34	8.117	5.85	14.183	2.41	20.25	0.34
0.800	0.34	6.867	5.85	12.933	2.41	19.00	0.34	2.067	0.34	8.133	5.85	14.200	2.41	20.27	0.34
0.817	0.34	6.883	5.85	12.950	2.41	19.02	0.34	2.083	0.34	8.150	5.85	14.217	2.41	20.28	0.34
0.833	0.34	6.900	5.85	12.967	2.41	19.03	0.34	2.100	0.34	8.167	5.85	14.233	2.41	20.30	0.34
0.850	0.34	6.917	5.85	12.983	2.41	19.05	0.34	2.117	0.34	8.183	5.85	14.250	2.41	20.32	0.34
0.867	0.34	6.933	5.85	13.000	2.41	19.07	0.34	2.133	0.34	8.200	5.85	14.267	1.38	20.33	0.34
0.883	0.34	6.950	5.85	13.017	2.41	19.08	0.34	2.150	0.34	8.217	5.85	14.283	1.38	20.35	0.34
0.900	0.34	6.967	5.85	13.033	2.41	19.10	0.34	2.167	0.34	8.233	5.85	14.300	1.38	20.37	0.34
0.917	0.34	6.983	5.85	13.050	2.41	19.12	0.34	2.183	0.34	8.250	5.88	14.317	1.38	20.38	0.34
0.933	0.34	7.000	5.85	13.067	2.41	19.13	0.34	2.200	0.34	8.267	15.82	14.333	1.38	20.40	0.34
0.950	0.34	7.017	5.85	13.083	2.41	19.15	0.34	2.217	0.34	8.283	15.82	14.350	1.38	20.42	0.34
0.967	0.34	7.033	5.85	13.100	2.41	19.17	0.34	2.233	0.34	8.300	15.82	14.367	1.38	20.43	0.34
0.983	0.34	7.050	5.85	13.117	2.41	19.18	0.34	2.250	0.34	8.317	15.82	14.383	1.38	20.45	0.34
1.000	0.34	7.067	5.85	13.133	2.41	19.20	0.34	2.267	0.34	8.333	15.82	14.400	1.38	20.47	0.34
1.017	0.34	7.083	5.85	13.150	2.41	19.22	0.34	2.283	0.34	8.350	15.82	14.417	1.38	20.48	0.34
1.033	0.34	7.100	5.85	13.167	2.41	19.23	0.34	2.300	0.34	8.367	15.82	14.433	1.38	20.50	0.34
1.050	0.34	7.117	5.85	13.183	2.41	19.25	0.34	2.317	0.34	8.383	15.82	14.450	1.38	20.52	0.34
1.067	0.34	7.133	5.85	13.200	2.41	19.27	0.34	2.333	0.34	8.400	15.82	14.467	1.38	20.53	0.34
1.083	0.34	7.150	5.85	13.217	2.41	19.28	0.34	2.350	0.34	8.417	15.82	14.483	1.38	20.55	0.34
1.100	0.34	7.167	5.85	13.233	2.41	19.30	0.34	2.367	0.34	8.433	15.82	14.500	1.38	20.57	0.34
1.117	0.34	7.183	5.85	13.250	2.41	19.32	0.34	2.383	0.34	8.450	15.82	14.517	1.38	20.58	0.34
1.133	0.34	7.200	5.85	13.267	2.41	19.33	0.34	2.400	0.34	8.467	15.82	14.533	1.38	20.60	0.34
1.150	0.34	7.217	5.85	13.283	2.41	19.35	0.34	2.417	0.34	8.483	15.82	14.550	1.38	20.62	0.34
1.167	0.34	7.233	5.85	13.300	2.41	19.37	0.34	2.433	0.34	8.500	15.82	14.567	1.38	20.63	0.34
1.183	0.34	7.250	5.85	13.317	2.41	19.38	0.34	2.450	0.34	8.517	15.82	14.583	1.38	20.65	0.34
1.200	0.34	7.267	5.85	13.333	2.41	19.40	0.34	2.467	0.34	8.533	15.82	14.600	1.38	20.67	0.34
1.217	0.34	7.283	5.85	13.350	2.41	19.42	0.34	2.483	0.34	8.550	15.82	14.617	1.38	20.68	0.34
1.233	0.34	7.300	5.85	13.367	2.41	19.43	0.34	2.500	0.34	8.567	15.82	14.633	1.38	20.70	0.34
1.250	0.34	7.317	5.85	13.383	2.41	19.45	0.34	2.517	0.34	8.583	15.82	14.650	1.38	20.72	0.34
1.267	0.34	7.333	5.85	13.400	2.41	19.47	0.34	2.533	0.34	8.600	15.82	14.667	1.38	20.73	0.34
1.283	0.34	7.350	5.85	13.417	2.41	19.48	0.34	2.550	0.34	8.617	15.82	14.683	1.38	20.75	0.34
1.300	0.34	7.367	5.85	13.433	2.41	19.50	0.34	2.567	0.34	8.633	15.82	14.700	1.38	20.77	0.34
1.317	0.34	7.383	5.85	13.450	2.41	19.52	0.34	2.583	0.34	8.650	15.82	14.717	1.38	20.78	0.34
1.333	0.34	7.400	5.85	13.467	2.41	19.53	0.34	2.600	0.34	8.667	15.82	14.733	1.38	20.80	0.34
1.350	0.34	7.417	5.85	13.483	2.41	19.55	0.34	2.617	0.34	8.683	15.82	14.750	1.38	20.82	0.34
1.367	0.34	7.433	5.85	13.500	2.41	19.57	0.34	2.633	0.34	8.700	15.82	14.767	1.38	20.83	0.34
1.383	0.34	7.450	5.85	13.517	2.41	19.58	0.34	2.650	0.34	8.717	15.82	14.783	1.38	20.85	0.34
1.400	0.34	7.467	5.85	13.533	2.41	19.60	0.34	2.667	0.34	8.733	15.82	14.800	1.38	20.87	0.34
1.417	0.34	7.483	5.85	13.550	2.41	19.62	0.34	2.683	0.34	8.750	15.82	14.817	1.38	20.88	0.34
1.433	0.34	7.500	5.85	13.567	2.41	19.63	0.34	2.700	0.34	8.767	15.82	14.833	1.38	20.90	0.34
1.450	0.34	7.517	5.85	13.583	2.41	19.65	0.34	2.717	0.34	8.783	15.82	14.850	1.38	20.92	0.34
1.467	0.34	7.533	5.85	13.600	2.41	19.67	0.34	2.733	0.34	8.800	15.82	14.867	1.38	20.93	0.34
1.483	0.34	7.550	5.85	13.617	2.41	19.68	0.34	2.750	0.34	8.817	15.82	14.883	1.38	20.95	0.34
1.500	0.34	7.567	5.85	13.633	2.41	19.70	0.34	2.767	0.34	8.833	15.82	14.900	1.38	20.97	0.34
1.517	0.34	7.583	5.85	13.650	2.41	19.72	0.34	2.783	0.34	8.850	15.82	14.917	1.38	20.98	0.34
1.533	0.34	7.600	5.85	13.667	2.41	19.73	0.34	2.800	0.34	8.867	15.82	14.933	1.38	21.00	0.34
1.550	0.34	7.617	5.85	13.683	2.41	19.75	0.34	2.817	0.34	8.883	15.82	14.950	1.38	21.02	0.34
1.567	0.34	7.633	5.85	13.700	2.41	19.77	0.34	2.833	0.34	8.900	15.82	14.967	1.38	21.03	0.34
1.583	0.34	7.650	5.85	13.717	2.41	19.78	0.34	2.850	0.34	8.917	15.82	14.983	1.38	21.05	0.34
1.600	0.34	7.667	5.85	13.733	2.41	19.80	0.34	2.867	0.34	8.933	15.82	15.000	1.38	21.07	0.34
1.617	0.34	7.683	5.85	13.750	2.41	19.82	0.34	2.883	0.34	8.950	15.82	15.017	1.38	21.08	0.34
1.633	0.34	7.700	5.85	13.767	2.41	19.83	0.34	2.900	0.34	8.967	15.82	15.033	1.38	21.10	0.34
1.650	0.34	7.717	5.85	13.783	2.41	19.85	0.34	2.917	0.34	8.983	15.82	15.050	1.38	21.12	0.34
1.667	0.34	7.733	5.85	13.800	2.41	19.87	0.34	2.933	0.34	9.000	15.82	15.067	1.38	21.13	0.34
1.683	0.34	7.750	5.85	13.817	2.41	19.88	0.34	2.950	0.34	9.017	15.82	15.083	1.38	21.15	0.34
1.700	0.34	7.767	5.85	13.833	2.41	19.90	0.34	2.967	0.34	9.033	15.82	15.100	1.38	21.17	0.34
1.717	0.34	7.783	5.85	13.850	2.41	19.92	0.34	2.983	0.34	9.050	15.82	15.117	1.38	21.18	0.34
1.733	0.34	7.800	5.85	13.867	2.41	19.93	0.34	3.000	0.34	9.067	15.82	15.133	1.38	21.20	0.34
1.750	0.34	7.817	5.85	13.883	2.41	19.95	0.34	3.017	0.34	9.083	15.82	15.150	1.38	21.22	0.34
1.767	0.34	7.833	5.85	13.900	2.41	19.97	0.34	3.033	0.34	9.100	15.82	15.167	1.38	21.23	0.34
1.783	0.34	7.850	5.85	13.917	2.41	19.98	0.34	3.050	0.34	9.117	15.82	15.183	1.38	21.25	0.34

3.067	0.34	9.133	15.82	15.200	1.38	21.27	0.34	4.333	2.06	10.400	4.47	16.467	0.69	22.53	0.34
3.083	0.34	9.150	15.82	15.217	1.38	21.28	0.34	4.350	2.06	10.417	4.47	16.483	0.69	22.55	0.34
3.100	0.34	9.167	15.82	15.233	1.38	21.30	0.34	4.367	2.06	10.433	4.47	16.500	0.69	22.57	0.34
3.117	0.34	9.183	15.82	15.250	1.38	21.32	0.34	4.383	2.06	10.450	4.47	16.517	0.69	22.58	0.34
3.133	0.34	9.200	15.82	15.267	1.38	21.33	0.34	4.400	2.06	10.467	4.47	16.533	0.69	22.60	0.34
3.150	0.34	9.217	15.82	15.283	1.38	21.35	0.34	4.417	2.06	10.483	4.47	16.550	0.69	22.62	0.34
3.167	0.34	9.233	15.82	15.300	1.38	21.37	0.34	4.433	2.06	10.500	4.47	16.567	0.69	22.63	0.34
3.183	0.34	9.250	15.82	15.317	1.38	21.38	0.34	4.450	2.06	10.517	4.47	16.583	0.69	22.65	0.34
3.200	0.34	9.267	15.82	15.333	1.38	21.40	0.34	4.467	2.06	10.533	4.47	16.600	0.69	22.67	0.34
3.217	0.34	9.283	15.82	15.350	1.38	21.42	0.34	4.483	2.06	10.550	4.47	16.617	0.69	22.68	0.34
3.233	0.34	9.300	15.82	15.367	1.38	21.43	0.34	4.500	2.06	10.567	4.47	16.633	0.69	22.70	0.34
3.250	0.34	9.317	15.82	15.383	1.38	21.45	0.34	4.517	2.06	10.583	4.47	16.650	0.69	22.72	0.34
3.267	0.34	9.333	15.82	15.400	1.38	21.47	0.34	4.533	2.06	10.600	4.47	16.667	0.69	22.73	0.34
3.283	0.34	9.350	15.82	15.417	1.38	21.48	0.34	4.550	2.06	10.617	4.47	16.683	0.69	22.75	0.34
3.300	0.34	9.367	15.82	15.433	1.38	21.50	0.34	4.567	2.06	10.633	4.47	16.700	0.69	22.77	0.34
3.317	0.34	9.383	15.82	15.450	1.38	21.52	0.34	4.583	2.06	10.650	4.47	16.717	0.69	22.78	0.34
3.333	0.34	9.400	15.82	15.467	1.38	21.53	0.34	4.600	2.06	10.667	4.47	16.733	0.69	22.80	0.34
3.350	0.34	9.417	15.82	15.483	1.38	21.55	0.34	4.617	2.06	10.683	4.47	16.750	0.69	22.82	0.34
3.367	0.34	9.433	15.82	15.500	1.38	21.57	0.34	4.633	2.06	10.700	4.47	16.767	0.69	22.83	0.34
3.383	0.34	9.450	15.82	15.517	1.38	21.58	0.34	4.650	2.06	10.717	4.47	16.783	0.69	22.85	0.34
3.400	0.34	9.467	15.82	15.533	1.38	21.60	0.34	4.667	2.06	10.733	4.47	16.800	0.69	22.87	0.34
3.417	0.34	9.483	15.82	15.550	1.38	21.62	0.34	4.683	2.06	10.750	4.47	16.817	0.69	22.88	0.34
3.433	0.34	9.500	15.82	15.567	1.38	21.63	0.34	4.700	2.06	10.767	4.47	16.833	0.69	22.90	0.34
3.450	0.34	9.517	15.82	15.583	1.38	21.65	0.34	4.717	2.06	10.783	4.47	16.850	0.69	22.92	0.34
3.467	0.34	9.533	15.82	15.600	1.38	21.67	0.34	4.733	2.06	10.800	4.47	16.867	0.69	22.93	0.34
3.483	0.34	9.550	15.82	15.617	1.38	21.68	0.34	4.750	2.06	10.817	4.47	16.883	0.69	22.95	0.34
3.500	0.34	9.567	15.82	15.633	1.38	21.70	0.34	4.767	2.06	10.833	4.47	16.900	0.69	22.97	0.34
3.517	0.34	9.583	15.82	15.650	1.38	21.72	0.34	4.783	2.06	10.850	4.47	16.917	0.69	22.98	0.34
3.533	0.34	9.600	15.82	15.667	1.38	21.73	0.34	4.800	2.06	10.867	4.47	16.933	0.69	23.00	0.34
3.550	0.34	9.617	15.82	15.683	1.38	21.75	0.34	4.817	2.06	10.883	4.47	16.950	0.69	23.02	0.34
3.567	0.34	9.633	15.82	15.700	1.38	21.77	0.34	4.833	2.06	10.900	4.47	16.967	0.69	23.03	0.34
3.583	0.34	9.650	15.82	15.717	1.38	21.78	0.34	4.850	2.06	10.917	4.47	16.983	0.69	23.05	0.34
3.600	0.34	9.667	15.82	15.733	1.38	21.80	0.34	4.867	2.06	10.933	4.47	17.000	0.69	23.07	0.34
3.617	0.34	9.683	15.82	15.750	1.38	21.82	0.34	4.883	2.06	10.950	4.47	17.017	0.69	23.08	0.34
3.633	0.34	9.700	15.82	15.767	1.38	21.83	0.34	4.900	2.06	10.967	4.47	17.033	0.69	23.10	0.34
3.650	0.34	9.717	15.82	15.783	1.38	21.85	0.34	4.917	2.06	10.983	4.47	17.050	0.69	23.12	0.34
3.667	0.34	9.733	15.82	15.800	1.38	21.87	0.34	4.933	2.06	11.000	4.47	17.067	0.69	23.13	0.34
3.683	0.34	9.750	15.82	15.817	1.38	21.88	0.34	4.950	2.06	11.017	4.47	17.083	0.69	23.15	0.34
3.700	0.34	9.767	15.82	15.833	1.38	21.90	0.34	4.967	2.06	11.033	4.47	17.100	0.69	23.17	0.34
3.717	0.34	9.783	15.82	15.850	1.38	21.92	0.34	4.983	2.06	11.050	4.47	17.117	0.69	23.18	0.34
3.733	0.34	9.800	15.82	15.867	1.38	21.93	0.34	5.000	2.06	11.067	4.47	17.133	0.69	23.20	0.34
3.750	0.34	9.817	15.82	15.883	1.38	21.95	0.34	5.017	2.06	11.083	4.47	17.150	0.69	23.22	0.34
3.767	0.34	9.833	15.82	15.900	1.38	21.97	0.34	5.033	2.06	11.100	4.47	17.167	0.69	23.23	0.34
3.783	0.34	9.850	15.82	15.917	1.38	21.98	0.34	5.050	2.06	11.117	4.47	17.183	0.69	23.25	0.34
3.800	0.34	9.867	15.82	15.933	1.38	22.00	0.34	5.067	2.06	11.133	4.47	17.200	0.69	23.27	0.34
3.817	0.34	9.883	15.82	15.950	1.38	22.02	0.34	5.083	2.06	11.150	4.47	17.217	0.69	23.28	0.34
3.833	0.34	9.900	15.82	15.967	1.38	22.03	0.34	5.100	2.06	11.167	4.47	17.233	0.69	23.30	0.34
3.850	0.34	9.917	15.82	15.983	1.38	22.05	0.34	5.117	2.06	11.183	4.47	17.250	0.69	23.32	0.34
3.867	0.34	9.933	15.82	16.000	1.38	22.07	0.34	5.133	2.06	11.200	4.47	17.267	0.69	23.33	0.34
3.883	0.34	9.950	15.82	16.017	1.38	22.08	0.34	5.150	2.06	11.217	4.47	17.283	0.69	23.35	0.34
3.900	0.34	9.967	15.82	16.033	1.38	22.10	0.34	5.167	2.06	11.233	4.47	17.300	0.69	23.37	0.34
3.917	0.34	9.983	15.82	16.050	1.38	22.12	0.34	5.183	2.06	11.250	4.47	17.317	0.69	23.38	0.34
3.933	0.34	10.000	15.82	16.067	1.38	22.13	0.34	5.200	2.06	11.267	4.47	17.333	0.69	23.40	0.34
3.950	0.34	10.017	15.82	16.083	1.38	22.15	0.34	5.217	2.06	11.283	4.47	17.350	0.69	23.42	0.34
3.967	0.34	10.033	15.82	16.100	1.38	22.17	0.34	5.233	2.06	11.300	4.47	17.367	0.69	23.43	0.34
3.983	0.34	10.050	15.82	16.117	1.38	22.18	0.34	5.250	2.06	11.317	4.47	17.383	0.69	23.45	0.34
4.000	0.34	10.067	15.82	16.133	1.38	22.20	0.34	5.267	2.06	11.333	4.47	17.400	0.69	23.47	0.34
4.017	0.34	10.083	15.82	16.150	1.38	22.22	0.34	5.283	2.06	11.350	4.47	17.417	0.69	23.48	0.34
4.033	0.34	10.100	15.82	16.167	1.38	22.23	0.34	5.300	2.06	11.367	4.47	17.433	0.69	23.50	0.34
4.050	0.34	10.117	15.82	16.183	1.38	22.25	0.34	5.317	2.06	11.383	4.47	17.450	0.69	23.52	0.34
4.067	0.34	10.133	15.82	16.200	1.38	22.27	0.34	5.333	2.06	11.400	4.47	17.467	0.69	23.53	0.34
4.083	0.34	10.150	15.82	16.217	1.38	22.28	0.34	5.350	2.06	11.417	4.47	17.483	0.69	23.55	0.34
4.100	0.34	10.167	15.82	16.233	1.38	22.30	0.34	5.367	2.06	11.433	4.47	17.500	0.69	23.57	0.34
4.117	0.34	10.183	15.82	16.250	1.38	22.32	0.34	5.383	2.06	11.450	4.47	17.517	0.69	23.58	0.34
4.133	0.34	10.200	15.82	16.267	0.69	22.33	0.34	5.400	2.06	11.467	4.47	17.533	0.69	23.60	0.34
4.150	0.34	10.217	15.82	16.283	0.69	22.35	0.34	5.417	2.06	11.483	4.47	17.550	0.69	23.62	0.34
4.167	0.34	10.233	15.82	16.300	0.69	22.37	0.34	5.433	2.06	11.500	4.47	17.567	0.69	23.63	0.34
4.183	0.34	10.250	15.81	16.317	0.69	22.38	0.34	5.450	2.06	11.517	4.47	17.583	0.69	23.65	0.34
4.200	0.34	10.267	4.47	16.333	0.69	22.40	0.34	5.467	2.06	11.533	4.47	17.600	0.69	23.67	0.34
4.217	0.34	10.283	4.47	16.350	0.69	22.42	0.34	5.483	2.06	11.550	4.47	17.617	0.69	23.68	0.34
4.233	0.34	10.300	4.47	16.367	0.69	22.43	0.34	5.500	2.06	11.567	4.47	17.633	0.69	23.70	0.34
4.250	0.34	10.317	4.47	16.383	0.69	22.45	0.34	5.517	2.06	11.583	4.47	17.650	0.69	23.72	0.34
4.267	2.06	10.333	4.47	16.400	0.69	22.47	0.34	5.533	2.06	11.600	4.47	17.667	0.69	23.73	0.34
4.283	2.06	10.350	4.47	16.417	0.69	22.48	0.34	5.550	2.06	11.617	4.47	17.683	0.69	23.75	0.34
4.300	2.06	10.367	4.47	16.433	0.69	22.50	0.34	5.567	2.06	11.633	4.47	17.700	0.69	23.77	0.34
4.317	2.06	10.383	4.47	16.450	0.69	22.52	0.34	5.583	2.06	11.650	4.47	17.717	0.69	23.78	0.34

5.600	2.06	11.667	4.47	17.733	0.69	23.80	0.34
5.617	2.06	11.683	4.47	17.750	0.69	23.82	0.34
5.633	2.06	11.700	4.47	17.767	0.69	23.83	0.34
5.650	2.06	11.717	4.47	17.783	0.69	23.85	0.34
5.667	2.06	11.733	4.47	17.800	0.69	23.87	0.34
5.683	2.06	11.750	4.47	17.817	0.69	23.88	0.34
5.700	2.06	11.767	4.47	17.833	0.69	23.90	0.34
5.717	2.06	11.783	4.47	17.850	0.69	23.92	0.34
5.733	2.06	11.800	4.47	17.867	0.69	23.93	0.34
5.750	2.06	11.817	4.47	17.883	0.69	23.95	0.34
5.767	2.06	11.833	4.47	17.900	0.69	23.97	0.34
5.783	2.06	11.850	4.47	17.917	0.69	23.98	0.34
5.800	2.06	11.867	4.47	17.933	0.69	24.00	0.34
5.817	2.06	11.883	4.47	17.950	0.69	24.02	0.34
5.833	2.06	11.900	4.47	17.967	0.69	24.03	0.34
5.850	2.06	11.917	4.47	17.983	0.69	24.05	0.34
5.867	2.06	11.933	4.47	18.000	0.69	24.07	0.34
5.883	2.06	11.950	4.47	18.017	0.69	24.08	0.34
5.900	2.06	11.967	4.47	18.033	0.69	24.10	0.34
5.917	2.06	11.983	4.47	18.050	0.69	24.12	0.34
5.933	2.06	12.000	4.47	18.067	0.69	24.13	0.34
5.950	2.06	12.017	4.47	18.083	0.69	24.15	0.34
5.967	2.06	12.033	4.47	18.100	0.69	24.17	0.34
5.983	2.06	12.050	4.47	18.117	0.69	24.18	0.34
6.000	2.06	12.067	4.47	18.133	0.69	24.20	0.34
6.017	2.06	12.083	4.47	18.150	0.69	24.22	0.34
6.033	2.06	12.100	4.47	18.167	0.69	24.23	0.34
6.050	2.06	12.117	4.47	18.183	0.69	24.25	0.34
6.067	2.06	12.133	4.47	18.200	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	13.53	
over (min)	6.00	10.00	
Storage Coeff. (min)=	5.89 (ii)	9.45 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.19	0.12	
			TOTALS
PEAK FLOW (cms)=	0.09	0.00	0.091 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.23
RUNOFF VOLUME (mm)=	67.75	47.38	67.55
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.69	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.091	10.23	67.55
OUTFLOW: ID= 1 (7625)	2.080	0.030	10.58	62.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.51
TIME SHIFT OF PEAK FLOW (min)= 21.00
MAXIMUM STORAGE USED (ha.m.)= 0.0796

CALIB			
STANDHYD (7623)	Area (ha)= 1.15		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	

Surface Area (ha)=	1.14	0.01
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	87.56	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.06	12.150	4.47	18.22	0.69
0.033	0.00	6.100	2.06	12.167	4.47	18.23	0.69
0.050	0.00	6.117	2.06	12.183	4.47	18.25	0.69
0.067	0.00	6.133	2.06	12.200	4.47	18.27	0.34
0.083	0.00	6.150	2.06	12.217	4.47	18.28	0.34
0.100	0.00	6.167	2.06	12.233	4.47	18.30	0.34
0.117	0.00	6.183	2.06	12.250	4.47	18.32	0.34
0.133	0.00	6.200	2.06	12.267	2.41	18.33	0.34
0.150	0.00	6.217	2.06	12.283	2.41	18.35	0.34
0.167	0.00	6.233	2.06	12.300	2.41	18.37	0.34
0.183	0.00	6.250	2.07	12.317	2.41	18.38	0.34
0.200	0.00	6.267	5.85	12.333	2.41	18.40	0.34
0.217	0.00	6.283	5.85	12.350	2.41	18.42	0.34
0.233	0.00	6.300	5.85	12.367	2.41	18.43	0.34
0.250	0.00	6.317	5.85	12.383	2.41	18.45	0.34
0.267	0.34	6.333	5.85	12.400	2.41	18.47	0.34
0.283	0.34	6.350	5.85	12.417	2.41	18.48	0.34
0.300	0.34	6.367	5.85	12.433	2.41	18.50	0.34
0.317	0.34	6.383	5.85	12.450	2.41	18.52	0.34
0.333	0.34	6.400	5.85	12.467	2.41	18.53	0.34
0.350	0.34	6.417	5.85	12.483	2.41	18.55	0.34
0.367	0.34	6.433	5.85	12.500	2.41	18.57	0.34
0.383	0.34	6.450	5.85	12.517	2.41	18.58	0.34
0.400	0.34	6.467	5.85	12.533	2.41	18.60	0.34
0.417	0.34	6.483	5.85	12.550	2.41	18.62	0.34
0.433	0.34	6.500	5.85	12.567	2.41	18.63	0.34
0.450	0.34	6.517	5.85	12.583	2.41	18.65	0.34
0.467	0.34	6.533	5.85	12.600	2.41	18.67	0.34
0.483	0.34	6.550	5.85	12.617	2.41	18.68	0.34
0.500	0.34	6.567	5.85	12.633	2.41	18.70	0.34
0.517	0.34	6.583	5.85	12.650	2.41	18.72	0.34
0.533	0.34	6.600	5.85	12.667	2.41	18.73	0.34
0.550	0.34	6.617	5.85	12.683	2.41	18.75	0.34
0.567	0.34	6.633	5.85	12.700	2.41	18.77	0.34
0.583	0.34	6.650	5.85	12.717	2.41	18.78	0.34
0.600	0.34	6.667	5.85	12.733	2.41	18.80	0.34
0.617	0.34	6.683	5.85	12.750	2.41	18.82	0.34
0.633	0.34	6.700	5.85	12.767	2.41	18.83	0.34
0.650	0.34	6.717	5.85	12.783	2.41	18.85	0.34
0.667	0.34	6.733	5.85	12.800	2.41	18.87	0.34
0.683	0.34	6.750	5.85	12.817	2.41	18.88	0.34
0.700	0.34	6.767	5.85	12.833	2.41	18.90	0.34
0.717	0.34	6.783	5.85	12.850	2.41	18.92	0.34
0.733	0.34	6.800	5.85	12.867	2.41	18.93	0.34
0.750	0.34	6.817	5.85	12.883	2.41	18.95	0.34
0.767	0.34	6.833	5.85	12.900	2.41	18.97	0.34
0.783	0.34	6.850	5.85	12.917	2.41	18.98	0.34
0.800	0.34	6.867	5.85	12.933	2.41	19.00	0.34
0.817	0.34	6.883	5.85	12.950	2.41	19.02	0.34
0.833	0.34	6.900	5.85	12.967	2.41	19.03	0.34
0.850	0.34	6.917	5.85	12.983	2.41	19.05	0.34
0.867	0.34	6.933	5.85	13.000	2.41	19.07	0.34
0.883	0.34	6.950	5.85	13.017	2.41	19.08	0.34
0.900	0.34	6.967	5.85	13.033	2.41	19.10	0.34
0.917	0.34	6.983	5.85	13.050	2.41	19.12	0.34
0.933	0.34	7.000	5.85	13.067	2.41	19.13	0.34
0.950	0.34	7.017	5.85	13.083	2.41	19.15	0.34
0.967	0.34	7.033	5.85	13.100	2.41	19.17	0.34
0.983	0.34	7.050	5.85	13.117	2.41	19.18	0.34
1.000	0.34	7.067	5.85	13.133	2.41	19.20	0.34
1.017	0.34	7.083	5.85	13.150	2.41	19.22	0.34
1.033	0.34	7.100	5.85	13.167	2.41	19.23	0.34
1.050	0.34	7.117	5.85	13.183	2.41	19.25	0.34
1.067	0.34	7.133	5.85	13.200	2.41	19.27	0.34

1.083	0.34	7.150	5.85	13.217	2.41	19.28	0.34	2.350	0.34	8.417	15.82	14.483	1.38	20.55	0.34
1.100	0.34	7.167	5.85	13.233	2.41	19.30	0.34	2.367	0.34	8.433	15.82	14.500	1.38	20.57	0.34
1.117	0.34	7.183	5.85	13.250	2.41	19.32	0.34	2.383	0.34	8.450	15.82	14.517	1.38	20.58	0.34
1.133	0.34	7.200	5.85	13.267	2.41	19.33	0.34	2.400	0.34	8.467	15.82	14.533	1.38	20.60	0.34
1.150	0.34	7.217	5.85	13.283	2.41	19.35	0.34	2.417	0.34	8.483	15.82	14.550	1.38	20.62	0.34
1.167	0.34	7.233	5.85	13.300	2.41	19.37	0.34	2.433	0.34	8.500	15.82	14.567	1.38	20.63	0.34
1.183	0.34	7.250	5.85	13.317	2.41	19.38	0.34	2.450	0.34	8.517	15.82	14.583	1.38	20.65	0.34
1.200	0.34	7.267	5.85	13.333	2.41	19.40	0.34	2.467	0.34	8.533	15.82	14.600	1.38	20.67	0.34
1.217	0.34	7.283	5.85	13.350	2.41	19.42	0.34	2.483	0.34	8.550	15.82	14.617	1.38	20.68	0.34
1.233	0.34	7.300	5.85	13.367	2.41	19.43	0.34	2.500	0.34	8.567	15.82	14.633	1.38	20.70	0.34
1.250	0.34	7.317	5.85	13.383	2.41	19.45	0.34	2.517	0.34	8.583	15.82	14.650	1.38	20.72	0.34
1.267	0.34	7.333	5.85	13.400	2.41	19.47	0.34	2.533	0.34	8.600	15.82	14.667	1.38	20.73	0.34
1.283	0.34	7.350	5.85	13.417	2.41	19.48	0.34	2.550	0.34	8.617	15.82	14.683	1.38	20.75	0.34
1.300	0.34	7.367	5.85	13.433	2.41	19.50	0.34	2.567	0.34	8.633	15.82	14.700	1.38	20.77	0.34
1.317	0.34	7.383	5.85	13.450	2.41	19.52	0.34	2.583	0.34	8.650	15.82	14.717	1.38	20.78	0.34
1.333	0.34	7.400	5.85	13.467	2.41	19.53	0.34	2.600	0.34	8.667	15.82	14.733	1.38	20.80	0.34
1.350	0.34	7.417	5.85	13.483	2.41	19.55	0.34	2.617	0.34	8.683	15.82	14.750	1.38	20.82	0.34
1.367	0.34	7.433	5.85	13.500	2.41	19.57	0.34	2.633	0.34	8.700	15.82	14.767	1.38	20.83	0.34
1.383	0.34	7.450	5.85	13.517	2.41	19.58	0.34	2.650	0.34	8.717	15.82	14.783	1.38	20.85	0.34
1.400	0.34	7.467	5.85	13.533	2.41	19.60	0.34	2.667	0.34	8.733	15.82	14.800	1.38	20.87	0.34
1.417	0.34	7.483	5.85	13.550	2.41	19.62	0.34	2.683	0.34	8.750	15.82	14.817	1.38	20.88	0.34
1.433	0.34	7.500	5.85	13.567	2.41	19.63	0.34	2.700	0.34	8.767	15.82	14.833	1.38	20.90	0.34
1.450	0.34	7.517	5.85	13.583	2.41	19.65	0.34	2.717	0.34	8.783	15.82	14.850	1.38	20.92	0.34
1.467	0.34	7.533	5.85	13.600	2.41	19.67	0.34	2.733	0.34	8.800	15.82	14.867	1.38	20.93	0.34
1.483	0.34	7.550	5.85	13.617	2.41	19.68	0.34	2.750	0.34	8.817	15.82	14.883	1.38	20.95	0.34
1.500	0.34	7.567	5.85	13.633	2.41	19.70	0.34	2.767	0.34	8.833	15.82	14.900	1.38	20.97	0.34
1.517	0.34	7.583	5.85	13.650	2.41	19.72	0.34	2.783	0.34	8.850	15.82	14.917	1.38	20.98	0.34
1.533	0.34	7.600	5.85	13.667	2.41	19.73	0.34	2.800	0.34	8.867	15.82	14.933	1.38	21.00	0.34
1.550	0.34	7.617	5.85	13.683	2.41	19.75	0.34	2.817	0.34	8.883	15.82	14.950	1.38	21.02	0.34
1.567	0.34	7.633	5.85	13.700	2.41	19.77	0.34	2.833	0.34	8.900	15.82	14.967	1.38	21.03	0.34
1.583	0.34	7.650	5.85	13.717	2.41	19.78	0.34	2.850	0.34	8.917	15.82	14.983	1.38	21.05	0.34
1.600	0.34	7.667	5.85	13.733	2.41	19.80	0.34	2.867	0.34	8.933	15.82	15.000	1.38	21.07	0.34
1.617	0.34	7.683	5.85	13.750	2.41	19.82	0.34	2.883	0.34	8.950	15.82	15.017	1.38	21.08	0.34
1.633	0.34	7.700	5.85	13.767	2.41	19.83	0.34	2.900	0.34	8.967	15.82	15.033	1.38	21.10	0.34
1.650	0.34	7.717	5.85	13.783	2.41	19.85	0.34	2.917	0.34	8.983	15.82	15.050	1.38	21.12	0.34
1.667	0.34	7.733	5.85	13.800	2.41	19.87	0.34	2.933	0.34	9.000	15.82	15.067	1.38	21.13	0.34
1.683	0.34	7.750	5.85	13.817	2.41	19.88	0.34	2.950	0.34	9.017	15.82	15.083	1.38	21.15	0.34
1.700	0.34	7.767	5.85	13.833	2.41	19.90	0.34	2.967	0.34	9.033	15.82	15.100	1.38	21.17	0.34
1.717	0.34	7.783	5.85	13.850	2.41	19.92	0.34	2.983	0.34	9.050	15.82	15.117	1.38	21.18	0.34
1.733	0.34	7.800	5.85	13.867	2.41	19.93	0.34	3.000	0.34	9.067	15.82	15.133	1.38	21.20	0.34
1.750	0.34	7.817	5.85	13.883	2.41	19.95	0.34	3.017	0.34	9.083	15.82	15.150	1.38	21.22	0.34
1.767	0.34	7.833	5.85	13.900	2.41	19.97	0.34	3.033	0.34	9.100	15.82	15.167	1.38	21.23	0.34
1.783	0.34	7.850	5.85	13.917	2.41	19.98	0.34	3.050	0.34	9.117	15.82	15.183	1.38	21.25	0.34
1.800	0.34	7.867	5.85	13.933	2.41	20.00	0.34	3.067	0.34	9.133	15.82	15.200	1.38	21.27	0.34
1.817	0.34	7.883	5.85	13.950	2.41	20.02	0.34	3.083	0.34	9.150	15.82	15.217	1.38	21.28	0.34
1.833	0.34	7.900	5.85	13.967	2.41	20.03	0.34	3.100	0.34	9.167	15.82	15.233	1.38	21.30	0.34
1.850	0.34	7.917	5.85	13.983	2.41	20.05	0.34	3.117	0.34	9.183	15.82	15.250	1.38	21.32	0.34
1.867	0.34	7.933	5.85	14.000	2.41	20.07	0.34	3.133	0.34	9.200	15.82	15.267	1.38	21.33	0.34
1.883	0.34	7.950	5.85	14.017	2.41	20.08	0.34	3.150	0.34	9.217	15.82	15.283	1.38	21.35	0.34
1.900	0.34	7.967	5.85	14.033	2.41	20.10	0.34	3.167	0.34	9.233	15.82	15.300	1.38	21.37	0.34
1.917	0.34	7.983	5.85	14.050	2.41	20.12	0.34	3.183	0.34	9.250	15.82	15.317	1.38	21.38	0.34
1.933	0.34	8.000	5.85	14.067	2.41	20.13	0.34	3.200	0.34	9.267	15.82	15.333	1.38	21.40	0.34
1.950	0.34	8.017	5.85	14.083	2.41	20.15	0.34	3.217	0.34	9.283	15.82	15.350	1.38	21.42	0.34
1.967	0.34	8.033	5.85	14.100	2.41	20.17	0.34	3.233	0.34	9.300	15.82	15.367	1.38	21.43	0.34
1.983	0.34	8.050	5.85	14.117	2.41	20.18	0.34	3.250	0.34	9.317	15.82	15.383	1.38	21.45	0.34
2.000	0.34	8.067	5.85	14.133	2.41	20.20	0.34	3.267	0.34	9.333	15.82	15.400	1.38	21.47	0.34
2.017	0.34	8.083	5.85	14.150	2.41	20.22	0.34	3.283	0.34	9.350	15.82	15.417	1.38	21.48	0.34
2.033	0.34	8.100	5.85	14.167	2.41	20.23	0.34	3.300	0.34	9.367	15.82	15.433	1.38	21.50	0.34
2.050	0.34	8.117	5.85	14.183	2.41	20.25	0.34	3.317	0.34	9.383	15.82	15.450	1.38	21.52	0.34
2.067	0.34	8.133	5.85	14.200	2.41	20.27	0.34	3.333	0.34	9.400	15.82	15.467	1.38	21.53	0.34
2.083	0.34	8.150	5.85	14.217	2.41	20.28	0.34	3.350	0.34	9.417	15.82	15.483	1.38	21.55	0.34
2.100	0.34	8.167	5.85	14.233	2.41	20.30	0.34	3.367	0.34	9.433	15.82	15.500	1.38	21.57	0.34
2.117	0.34	8.183	5.85	14.250	2.41	20.32	0.34	3.383	0.34	9.450	15.82	15.517	1.38	21.58	0.34
2.133	0.34	8.200	5.85	14.267	1.38	20.33	0.34	3.400	0.34	9.467	15.82	15.533	1.38	21.60	0.34
2.150	0.34	8.217	5.85	14.283	1.38	20.35	0.34	3.417	0.34	9.483	15.82	15.550	1.38	21.62	0.34
2.167	0.34	8.233	5.85	14.300	1.38	20.37	0.34	3.433	0.34	9.500	15.82	15.567	1.38	21.63	0.34
2.183	0.34	8.250	5.88	14.317	1.38	20.38	0.34	3.450	0.34	9.517	15.82	15.583	1.38	21.65	0.34
2.200	0.34	8.267	15.82	14.333	1.38	20.40	0.34	3.467	0.34	9.533	15.82	15.600	1.38	21.67	0.34
2.217	0.34	8.283	15.82	14.350	1.38	20.42	0.34	3.483	0.34	9.550	15.82	15.617	1.38	21.68	0.34
2.233	0.34	8.300	15.82	14.367	1.38	20.43	0.34	3.500	0.34	9.567	15.82	15.633	1.38	21.70	0.34
2.250	0.34	8.317	15.82	14.383	1.38	20.45	0.34	3.517	0.34	9.583	15.82	15.650	1.38	21.72	0.34
2.267	0.34	8.333	15.82	14.400	1.38	20.47	0.34	3.533	0.34	9.600	15.82	15.667	1.38	21.73	0.34
2.283	0.34	8.350	15.82	14.417	1.38	20.48	0.34	3.550	0.34	9.617	15.82	15.683	1.38	21.75	0.34
2.300	0.34	8.367	15.82	14.433	1.38	20.50	0.34	3.567	0.34	9.633	15.82	15.700	1.38	21.77	0.34
2.317	0.34	8.383	15.82	14.450	1.38	20.52	0.34	3.583	0.34	9.650	15.82	15.717	1.38	21.78	0.34
2.333	0.34	8.400	15.82	14.467	1.38	20.53	0.34	3.600	0.34	9.667	15.82	15.733	1.38	21.80	0.34

3.617	0.34	9.683	15.82	15.750	1.38	21.82	0.34
3.633	0.34	9.700	15.82	15.767	1.38	21.83	0.34
3.650	0.34	9.717	15.82	15.783	1.38	21.85	0.34
3.667	0.34	9.733	15.82	15.800	1.38	21.87	0.34
3.683	0.34	9.750	15.82	15.817	1.38	21.88	0.34
3.700	0.34	9.767	15.82	15.833	1.38	21.90	0.34
3.717	0.34	9.783	15.82	15.850	1.38	21.92	0.34
3.733	0.34	9.800	15.82	15.867	1.38	21.93	0.34
3.750	0.34	9.817	15.82	15.883	1.38	21.95	0.34
3.767	0.34	9.833	15.82	15.900	1.38	21.97	0.34
3.783	0.34	9.850	15.82	15.917	1.38	21.98	0.34
3.800	0.34	9.867	15.82	15.933	1.38	22.00	0.34
3.817	0.34	9.883	15.82	15.950	1.38	22.02	0.34
3.833	0.34	9.900	15.82	15.967	1.38	22.03	0.34
3.850	0.34	9.917	15.82	15.983	1.38	22.05	0.34
3.867	0.34	9.933	15.82	16.000	1.38	22.07	0.34
3.883	0.34	9.950	15.82	16.017	1.38	22.08	0.34
3.900	0.34	9.967	15.82	16.033	1.38	22.10	0.34
3.917	0.34	9.983	15.82	16.050	1.38	22.12	0.34
3.933	0.34	10.000	15.82	16.067	1.38	22.13	0.34
3.950	0.34	10.017	15.82	16.083	1.38	22.15	0.34
3.967	0.34	10.033	15.82	16.100	1.38	22.17	0.34
3.983	0.34	10.050	15.82	16.117	1.38	22.18	0.34
4.000	0.34	10.067	15.82	16.133	1.38	22.20	0.34
4.017	0.34	10.083	15.82	16.150	1.38	22.22	0.34
4.033	0.34	10.100	15.82	16.167	1.38	22.23	0.34
4.050	0.34	10.117	15.82	16.183	1.38	22.25	0.34
4.067	0.34	10.133	15.82	16.200	1.38	22.27	0.34
4.083	0.34	10.150	15.82	16.217	1.38	22.28	0.34
4.100	0.34	10.167	15.82	16.233	1.38	22.30	0.34
4.117	0.34	10.183	15.82	16.250	1.38	22.32	0.34
4.133	0.34	10.200	15.82	16.267	0.69	22.33	0.34
4.150	0.34	10.217	15.82	16.283	0.69	22.35	0.34
4.167	0.34	10.233	15.82	16.300	0.69	22.37	0.34
4.183	0.34	10.250	15.81	16.317	0.69	22.38	0.34
4.200	0.34	10.267	4.47	16.333	0.69	22.40	0.34
4.217	0.34	10.283	4.47	16.350	0.69	22.42	0.34
4.233	0.34	10.300	4.47	16.367	0.69	22.43	0.34
4.250	0.34	10.317	4.47	16.383	0.69	22.45	0.34
4.267	2.06	10.333	4.47	16.400	0.69	22.47	0.34
4.283	2.06	10.350	4.47	16.417	0.69	22.48	0.34
4.300	2.06	10.367	4.47	16.433	0.69	22.50	0.34
4.317	2.06	10.383	4.47	16.450	0.69	22.52	0.34
4.333	2.06	10.400	4.47	16.467	0.69	22.53	0.34
4.350	2.06	10.417	4.47	16.483	0.69	22.55	0.34
4.367	2.06	10.433	4.47	16.500	0.69	22.57	0.34
4.383	2.06	10.450	4.47	16.517	0.69	22.58	0.34
4.400	2.06	10.467	4.47	16.533	0.69	22.60	0.34
4.417	2.06	10.483	4.47	16.550	0.69	22.62	0.34
4.433	2.06	10.500	4.47	16.567	0.69	22.63	0.34
4.450	2.06	10.517	4.47	16.583	0.69	22.65	0.34
4.467	2.06	10.533	4.47	16.600	0.69	22.67	0.34
4.483	2.06	10.550	4.47	16.617	0.69	22.68	0.34
4.500	2.06	10.567	4.47	16.633	0.69	22.70	0.34
4.517	2.06	10.583	4.47	16.650	0.69	22.72	0.34
4.533	2.06	10.600	4.47	16.667	0.69	22.73	0.34
4.550	2.06	10.617	4.47	16.683	0.69	22.75	0.34
4.567	2.06	10.633	4.47	16.700	0.69	22.77	0.34
4.583	2.06	10.650	4.47	16.717	0.69	22.78	0.34
4.600	2.06	10.667	4.47	16.733	0.69	22.80	0.34
4.617	2.06	10.683	4.47	16.750	0.69	22.82	0.34
4.633	2.06	10.700	4.47	16.767	0.69	22.83	0.34
4.650	2.06	10.717	4.47	16.783	0.69	22.85	0.34
4.667	2.06	10.733	4.47	16.800	0.69	22.87	0.34
4.683	2.06	10.750	4.47	16.817	0.69	22.88	0.34
4.700	2.06	10.767	4.47	16.833	0.69	22.90	0.34
4.717	2.06	10.783	4.47	16.850	0.69	22.92	0.34
4.733	2.06	10.800	4.47	16.867	0.69	22.93	0.34
4.750	2.06	10.817	4.47	16.883	0.69	22.95	0.34
4.767	2.06	10.833	4.47	16.900	0.69	22.97	0.34
4.783	2.06	10.850	4.47	16.917	0.69	22.98	0.34
4.800	2.06	10.867	4.47	16.933	0.69	23.00	0.34
4.817	2.06	10.883	4.47	16.950	0.69	23.02	0.34
4.833	2.06	10.900	4.47	16.967	0.69	23.03	0.34
4.850	2.06	10.917	4.47	16.983	0.69	23.05	0.34
4.867	2.06	10.933	4.47	17.000	0.69	23.07	0.34
4.883	2.06	10.950	4.47	17.017	0.69	23.08	0.34
4.900	2.06	10.967	4.47	17.033	0.69	23.10	0.34
4.917	2.06	10.983	4.47	17.050	0.69	23.12	0.34
4.933	2.06	11.000	4.47	17.067	0.69	23.13	0.34
4.950	2.06	11.017	4.47	17.083	0.69	23.15	0.34
4.967	2.06	11.033	4.47	17.100	0.69	23.17	0.34
4.983	2.06	11.050	4.47	17.117	0.69	23.18	0.34
5.000	2.06	11.067	4.47	17.133	0.69	23.20	0.34
5.017	2.06	11.083	4.47	17.150	0.69	23.22	0.34
5.033	2.06	11.100	4.47	17.167	0.69	23.23	0.34
5.050	2.06	11.117	4.47	17.183	0.69	23.25	0.34
5.067	2.06	11.133	4.47	17.200	0.69	23.27	0.34
5.083	2.06	11.150	4.47	17.217	0.69	23.28	0.34
5.100	2.06	11.167	4.47	17.233	0.69	23.30	0.34
5.117	2.06	11.183	4.47	17.250	0.69	23.32	0.34
5.133	2.06	11.200	4.47	17.267	0.69	23.33	0.34
5.150	2.06	11.217	4.47	17.283	0.69	23.35	0.34
5.167	2.06	11.233	4.47	17.300	0.69	23.37	0.34
5.183	2.06	11.250	4.47	17.317	0.69	23.38	0.34
5.200	2.06	11.267	4.47	17.333	0.69	23.40	0.34
5.217	2.06	11.283	4.47	17.350	0.69	23.42	0.34
5.233	2.06	11.300	4.47	17.367	0.69	23.43	0.34
5.250	2.06	11.317	4.47	17.383	0.69	23.45	0.34
5.267	2.06	11.333	4.47	17.400	0.69	23.47	0.34
5.283	2.06	11.350	4.47	17.417	0.69	23.48	0.34
5.300	2.06	11.367	4.47	17.433	0.69	23.50	0.34
5.317	2.06	11.383	4.47	17.450	0.69	23.52	0.34
5.333	2.06	11.400	4.47	17.467	0.69	23.53	0.34
5.350	2.06	11.417	4.47	17.483	0.69	23.55	0.34
5.367	2.06	11.433	4.47	17.500	0.69	23.57	0.34
5.383	2.06	11.450	4.47	17.517	0.69	23.58	0.34
5.400	2.06	11.467	4.47	17.533	0.69	23.60	0.34
5.417	2.06	11.483	4.47	17.550	0.69	23.62	0.34
5.433	2.06	11.500	4.47	17.567	0.69	23.63	0.34
5.450	2.06	11.517	4.47	17.583	0.69	23.65	0.34
5.467	2.06	11.533	4.47	17.600	0.69	23.67	0.34
5.483	2.06	11.550	4.47	17.617	0.69	23.68	0.34
5.500	2.06	11.567	4.47	17.633	0.69	23.70	0.34
5.517	2.06	11.583	4.47	17.650	0.69	23.72	0.34
5.533	2.06	11.600	4.47	17.667	0.69	23.73	0.34
5.550	2.06	11.617	4.47	17.683	0.69	23.75	0.34
5.567	2.06	11.633	4.47	17.700	0.69	23.77	0.34
5.583	2.06	11.650	4.47	17.717	0.69	23.78	0.34
5.600	2.06	11.667	4.47	17.733	0.69	23.80	0.34
5.617	2.06	11.683	4.47	17.750	0.69	23.82	0.34
5.633	2.06	11.700	4.47	17.767	0.69	23.83	0.34
5.650	2.06	11.717	4.47	17.783	0.69	23.85	0.34
5.667	2.06	11.733	4.47	17.800	0.69	23.87	0.34
5.683	2.06	11.750	4.47	17.817	0.69	23.88	0.34
5.700	2.06	11.767	4.47	17.833	0.69	23.90	0.34
5.717	2.06	11.783	4.47	17.850	0.69	23.92	0.34
5.733	2.06	11.800	4.47	17.867	0.69	23.93	0.34
5.750	2.06	11.817	4.47	17.883	0.69	23.95	0.34
5.767	2.06	11.833	4.47	17.900	0.69	23.97	0.34
5.783	2.06	11.850	4.47	17.917	0.69	23.98	0.34
5.800	2.06	11.867	4.47	17.933	0.69	24.00	0.34
5.817	2.06	11.883	4.47	17.950	0.69	24.02	0.34
5.833	2.06	11.900	4.47	17.967	0.69	24.03	0.34
5.850	2.06	11.917	4.47	17.983	0.69	24.05	0.34
5.867	2.06	11.933	4.47	18.000	0.69	24.07	0.34
5.883	2.06	11.950	4.47	18.017	0.69	24.08	0.34
5.900	2.06	11.967	4.47	18.033	0.69	24.10	0.34
5.917	2.06	11.983	4.47	18.050	0.69	24.12	0.34
5.933	2.06	12.000	4.47	18.067	0.69	24.13	0.34
5.950	2.06	12.017	4.47	18.083	0.69	24.15	0.34
5.967	2.06	12.033	4.47	18.100	0.69	24.17	0.34
5.983	2.06	12.050	4.47	18.117	0.69	24.18	0.34
6.000	2.06	12.067	4.47	18.133	0.69	24.20	0.34
6.017	2.06	12.083	4.47	18.150	0.69	24.22	0.34
6.033	2.06	12.100	4.47	18.167	0.69	24.23	0.34
6.050	2.06	12.117	4.47	18.183	0.69	24.25	0.34
6.067	2.06	12.133	4.47	18.200	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	11.97
over (min)	5.00	9.00
Storage Coeff. (min)=	4.93 (ii)	8.49 (ii)

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     Unit Hyd. Tpeak (min)=       5.00         9.00
     Unit Hyd. peak  (cms)=       0.23         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.00          0.050 (iii)
     TIME TO PEAK    (hrs)=       9.48        10.25         10.23
     RUNOFF VOLUME    (mm)=      67.75        40.36         67.48
     TOTAL RAINFALL   (mm)=      68.76        68.76         68.76
     RUNOFF COEFFICIENT   =       0.99         0.59          0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7622)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000      0.0000   |    0.0258      0.0650
                           0.0108      0.0330   |    0.0302      0.0725
                           0.0167      0.0440   |    0.0340      0.0820
                           0.0204      0.0525   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7623)      1.150     0.050     10.23      67.48
   OUTFLOW: ID= 1 (  7622)      1.150     0.017     10.52      62.95

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.08
                TIME SHIFT OF PEAK FLOW         (min)= 17.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0440

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| CALIB            |
| STANDHYD (  7629)|   Area    (ha)=   4.09
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     165.13        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.017    0.00 | 6.083    2.06 |12.150    4.47 | 18.22    0.69
              0.033    0.00 | 6.100    2.06 |12.167    4.47 | 18.23    0.69
              0.050    0.00 | 6.117    2.06 |12.183    4.47 | 18.25    0.69
              0.067    0.00 | 6.133    2.06 |12.200    4.47 | 18.27    0.34
              0.083    0.00 | 6.150    2.06 |12.217    4.47 | 18.28    0.34
              0.100    0.00 | 6.167    2.06 |12.233    4.47 | 18.30    0.34
              0.117    0.00 | 6.183    2.06 |12.250    4.47 | 18.32    0.34
              0.133    0.00 | 6.200    2.06 |12.267    2.41 | 18.33    0.34
              0.150    0.00 | 6.217    2.06 |12.283    2.41 | 18.35    0.34
              0.167    0.00 | 6.233    2.06 |12.300    2.41 | 18.37    0.34
              0.183    0.00 | 6.250    2.07 |12.317    2.41 | 18.38    0.34
              0.200    0.00 | 6.267    5.85 |12.333    2.41 | 18.40    0.34
              0.217    0.00 | 6.283    5.85 |12.350    2.41 | 18.42    0.34
              0.233    0.00 | 6.300    5.85 |12.367    2.41 | 18.43    0.34
              0.250    0.00 | 6.317    5.85 |12.383    2.41 | 18.45    0.34
              0.267    0.34 | 6.333    5.85 |12.400    2.41 | 18.47    0.34
              0.283    0.34 | 6.350    5.85 |12.417    2.41 | 18.48    0.34
              0.300    0.34 | 6.367    5.85 |12.433    2.41 | 18.50    0.34
              0.317    0.34 | 6.383    5.85 |12.450    2.41 | 18.52    0.34
              0.333    0.34 | 6.400    5.85 |12.467    2.41 | 18.53    0.34
              0.350    0.34 | 6.417    5.85 |12.483    2.41 | 18.55    0.34
              0.367    0.34 | 6.433    5.85 |12.500    2.41 | 18.57    0.34
              0.383    0.34 | 6.450    5.85 |12.517    2.41 | 18.58    0.34
              0.400    0.34 | 6.467    5.85 |12.533    2.41 | 18.60    0.34
              0.417    0.34 | 6.483    5.85 |12.550    2.41 | 18.62    0.34
              0.433    0.34 | 6.500    5.85 |12.567    2.41 | 18.63    0.34
              0.450    0.34 | 6.517    5.85 |12.583    2.41 | 18.65    0.34
              0.467    0.34 | 6.533    5.85 |12.600    2.41 | 18.67    0.34
              0.483    0.34 | 6.550    5.85 |12.617    2.41 | 18.68    0.34
              0.500    0.34 | 6.567    5.85 |12.633    2.41 | 18.70    0.34
              0.517    0.34 | 6.583    5.85 |12.650    2.41 | 18.72    0.34
              0.533    0.34 | 6.600    5.85 |12.667    2.41 | 18.73    0.34
              0.550    0.34 | 6.617    5.85 |12.683    2.41 | 18.75    0.34
              0.567    0.34 | 6.633    5.85 |12.700    2.41 | 18.77    0.34
              0.583    0.34 | 6.650    5.85 |12.717    2.41 | 18.78    0.34
              0.600    0.34 | 6.667    5.85 |12.733    2.41 | 18.80    0.34
              0.617    0.34 | 6.683    5.85 |12.750    2.41 | 18.82    0.34
              0.633    0.34 | 6.700    5.85 |12.767    2.41 | 18.83    0.34
              0.650    0.34 | 6.717    5.85 |12.783    2.41 | 18.85    0.34
              0.667    0.34 | 6.733    5.85 |12.800    2.41 | 18.87    0.34
              0.683    0.34 | 6.750    5.85 |12.817    2.41 | 18.88    0.34
              0.700    0.34 | 6.767    5.85 |12.833    2.41 | 18.90    0.34
              0.717    0.34 | 6.783    5.85 |12.850    2.41 | 18.92    0.34
              0.733    0.34 | 6.800    5.85 |12.867    2.41 | 18.93    0.34
              0.750    0.34 | 6.817    5.85 |12.883    2.41 | 18.95    0.34
              0.767    0.34 | 6.833    5.85 |12.900    2.41 | 18.97    0.34
              0.783    0.34 | 6.850    5.85 |12.917    2.41 | 18.98    0.34
              0.800    0.34 | 6.867    5.85 |12.933    2.41 | 19.00    0.34
              0.817    0.34 | 6.883    5.85 |12.950    2.41 | 19.02    0.34
              0.833    0.34 | 6.900    5.85 |12.967    2.41 | 19.03    0.34
              0.850    0.34 | 6.917    5.85 |12.983    2.41 | 19.05    0.34
              0.867    0.34 | 6.933    5.85 |13.000    2.41 | 19.07    0.34
              0.883    0.34 | 6.950    5.85 |13.017    2.41 | 19.08    0.34
              0.900    0.34 | 6.967    5.85 |13.033    2.41 | 19.10    0.34
              0.917    0.34 | 6.983    5.85 |13.050    2.41 | 19.12    0.34
              0.933    0.34 | 7.000    5.85 |13.067    2.41 | 19.13    0.34
              0.950    0.34 | 7.017    5.85 |13.083    2.41 | 19.15    0.34
              0.967    0.34 | 7.033    5.85 |13.100    2.41 | 19.17    0.34
              0.983    0.34 | 7.050    5.85 |13.117    2.41 | 19.18    0.34
              1.000    0.34 | 7.067    5.85 |13.133    2.41 | 19.20    0.34
              1.017    0.34 | 7.083    5.85 |13.150    2.41 | 19.22    0.34
              1.033    0.34 | 7.100    5.85 |13.167    2.41 | 19.23    0.34
              1.050    0.34 | 7.117    5.85 |13.183    2.41 | 19.25    0.34
              1.067    0.34 | 7.133    5.85 |13.200    2.41 | 19.27    0.34
              1.083    0.34 | 7.150    5.85 |13.217    2.41 | 19.28    0.34
              1.100    0.34 | 7.167    5.85 |13.233    2.41 | 19.30    0.34
              1.117    0.34 | 7.183    5.85 |13.250    2.41 | 19.32    0.34
              1.133    0.34 | 7.200    5.85 |13.267    2.41 | 19.33    0.34
              1.150    0.34 | 7.217    5.85 |13.283    2.41 | 19.35    0.34
              1.167    0.34 | 7.233    5.85 |13.300    2.41 | 19.37    0.34
              1.183    0.34 | 7.250    5.85 |13.317    2.41 | 19.38    0.34
              1.200    0.34 | 7.267    5.85 |13.333    2.41 | 19.40    0.34
              1.217    0.34 | 7.283    5.85 |13.350    2.41 | 19.42    0.34
              1.233    0.34 | 7.300    5.85 |13.367    2.41 | 19.43    0.34
              1.250    0.34 | 7.317    5.85 |13.383    2.41 | 19.45    0.34
              1.267    0.34 | 7.333    5.85 |13.400    2.41 | 19.47    0.34
              1.283    0.34 | 7.350    5.85 |13.417    2.41 | 19.48    0.34
              1.300    0.34 | 7.367    5.85 |13.433    2.41 | 19.50    0.34
              1.317    0.34 | 7.383    5.85 |13.450    2.41 | 19.52    0.34
              1.333    0.34 | 7.400    5.85 |13.467    2.41 | 19.53    0.34
              1.350    0.34 | 7.417    5.85 |13.483    2.41 | 19.55    0.34
              1.367    0.34 | 7.433    5.85 |13.500    2.41 | 19.57    0.34
              1.383    0.34 | 7.450    5.85 |13.517    2.41 | 19.58    0.34
              1.400    0.34 | 7.467    5.85 |13.533    2.41 | 19.60    0.34
              1.417    0.34 | 7.483    5.85 |13.550    2.41 | 19.62    0.34
              1.433    0.34 | 7.500    5.85 |13.567    2.41 | 19.63    0.34
              1.450    0.34 | 7.517    5.85 |13.583    2.41 | 19.65    0.34
              1.467    0.34 | 7.533    5.85 |13.600    2.41 | 19.67    0.34
              1.483    0.34 | 7.550    5.85 |13.617    2.41 | 19.68    0.34
              1.500    0.34 | 7.567    5.85 |13.633    2.41 | 19.70    0.34
              1.517    0.34 | 7.583    5.85 |13.650    2.41 | 19.72    0.34
              1.533    0.34 | 7.600    5.85 |13.667    2.41 | 19.73    0.34
              1.550    0.34 | 7.617    5.85 |13.683    2.41 | 19.75    0.34
              1.567    0.34 | 7.633    5.85 |13.700    2.41 | 19.77    0.34
              1.583    0.34 | 7.650    5.85 |13.717    2.41 | 19.78    0.34
              1.600    0.34 | 7.667    5.85 |13.733    2.41 | 19.80    0.34
              1.617    0.34 | 7.683    5.85 |13.750    2.41 | 19.82    0.34
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1.633	0.34	7.700	5.85	13.767	2.41	19.83	0.34	2.900	0.34	8.967	15.82	15.033	1.38	21.10	0.34
1.650	0.34	7.717	5.85	13.783	2.41	19.85	0.34	2.917	0.34	8.983	15.82	15.050	1.38	21.12	0.34
1.667	0.34	7.733	5.85	13.800	2.41	19.87	0.34	2.933	0.34	9.000	15.82	15.067	1.38	21.13	0.34
1.683	0.34	7.750	5.85	13.817	2.41	19.88	0.34	2.950	0.34	9.017	15.82	15.083	1.38	21.15	0.34
1.700	0.34	7.767	5.85	13.833	2.41	19.90	0.34	2.967	0.34	9.033	15.82	15.100	1.38	21.17	0.34
1.717	0.34	7.783	5.85	13.850	2.41	19.92	0.34	2.983	0.34	9.050	15.82	15.117	1.38	21.18	0.34
1.733	0.34	7.800	5.85	13.867	2.41	19.93	0.34	3.000	0.34	9.067	15.82	15.133	1.38	21.20	0.34
1.750	0.34	7.817	5.85	13.883	2.41	19.95	0.34	3.017	0.34	9.083	15.82	15.150	1.38	21.22	0.34
1.767	0.34	7.833	5.85	13.900	2.41	19.97	0.34	3.033	0.34	9.100	15.82	15.167	1.38	21.23	0.34
1.783	0.34	7.850	5.85	13.917	2.41	19.98	0.34	3.050	0.34	9.117	15.82	15.183	1.38	21.25	0.34
1.800	0.34	7.867	5.85	13.933	2.41	20.00	0.34	3.067	0.34	9.133	15.82	15.200	1.38	21.27	0.34
1.817	0.34	7.883	5.85	13.950	2.41	20.02	0.34	3.083	0.34	9.150	15.82	15.217	1.38	21.28	0.34
1.833	0.34	7.900	5.85	13.967	2.41	20.03	0.34	3.100	0.34	9.167	15.82	15.233	1.38	21.30	0.34
1.850	0.34	7.917	5.85	13.983	2.41	20.05	0.34	3.117	0.34	9.183	15.82	15.250	1.38	21.32	0.34
1.867	0.34	7.933	5.85	14.000	2.41	20.07	0.34	3.133	0.34	9.200	15.82	15.267	1.38	21.33	0.34
1.883	0.34	7.950	5.85	14.017	2.41	20.08	0.34	3.150	0.34	9.217	15.82	15.283	1.38	21.35	0.34
1.900	0.34	7.967	5.85	14.033	2.41	20.10	0.34	3.167	0.34	9.233	15.82	15.300	1.38	21.37	0.34
1.917	0.34	7.983	5.85	14.050	2.41	20.12	0.34	3.183	0.34	9.250	15.82	15.317	1.38	21.38	0.34
1.933	0.34	8.000	5.85	14.067	2.41	20.13	0.34	3.200	0.34	9.267	15.82	15.333	1.38	21.40	0.34
1.950	0.34	8.017	5.85	14.083	2.41	20.15	0.34	3.217	0.34	9.283	15.82	15.350	1.38	21.42	0.34
1.967	0.34	8.033	5.85	14.100	2.41	20.17	0.34	3.233	0.34	9.300	15.82	15.367	1.38	21.43	0.34
1.983	0.34	8.050	5.85	14.117	2.41	20.18	0.34	3.250	0.34	9.317	15.82	15.383	1.38	21.45	0.34
2.000	0.34	8.067	5.85	14.133	2.41	20.20	0.34	3.267	0.34	9.333	15.82	15.400	1.38	21.47	0.34
2.017	0.34	8.083	5.85	14.150	2.41	20.22	0.34	3.283	0.34	9.350	15.82	15.417	1.38	21.48	0.34
2.033	0.34	8.100	5.85	14.167	2.41	20.23	0.34	3.300	0.34	9.367	15.82	15.433	1.38	21.50	0.34
2.050	0.34	8.117	5.85	14.183	2.41	20.25	0.34	3.317	0.34	9.383	15.82	15.450	1.38	21.52	0.34
2.067	0.34	8.133	5.85	14.200	2.41	20.27	0.34	3.333	0.34	9.400	15.82	15.467	1.38	21.53	0.34
2.083	0.34	8.150	5.85	14.217	2.41	20.28	0.34	3.350	0.34	9.417	15.82	15.483	1.38	21.55	0.34
2.100	0.34	8.167	5.85	14.233	2.41	20.30	0.34	3.367	0.34	9.433	15.82	15.500	1.38	21.57	0.34
2.117	0.34	8.183	5.85	14.250	2.41	20.32	0.34	3.383	0.34	9.450	15.82	15.517	1.38	21.58	0.34
2.133	0.34	8.200	5.85	14.267	1.38	20.33	0.34	3.400	0.34	9.467	15.82	15.533	1.38	21.60	0.34
2.150	0.34	8.217	5.85	14.283	1.38	20.35	0.34	3.417	0.34	9.483	15.82	15.550	1.38	21.62	0.34
2.167	0.34	8.233	5.85	14.300	1.38	20.37	0.34	3.433	0.34	9.500	15.82	15.567	1.38	21.63	0.34
2.183	0.34	8.250	5.88	14.317	1.38	20.38	0.34	3.450	0.34	9.517	15.82	15.583	1.38	21.65	0.34
2.200	0.34	8.267	15.82	14.333	1.38	20.40	0.34	3.467	0.34	9.533	15.82	15.600	1.38	21.67	0.34
2.217	0.34	8.283	15.82	14.350	1.38	20.42	0.34	3.483	0.34	9.550	15.82	15.617	1.38	21.68	0.34
2.233	0.34	8.300	15.82	14.367	1.38	20.43	0.34	3.500	0.34	9.567	15.82	15.633	1.38	21.70	0.34
2.250	0.34	8.317	15.82	14.383	1.38	20.45	0.34	3.517	0.34	9.583	15.82	15.650	1.38	21.72	0.34
2.267	0.34	8.333	15.82	14.400	1.38	20.47	0.34	3.533	0.34	9.600	15.82	15.667	1.38	21.73	0.34
2.283	0.34	8.350	15.82	14.417	1.38	20.48	0.34	3.550	0.34	9.617	15.82	15.683	1.38	21.75	0.34
2.300	0.34	8.367	15.82	14.433	1.38	20.50	0.34	3.567	0.34	9.633	15.82	15.700	1.38	21.77	0.34
2.317	0.34	8.383	15.82	14.450	1.38	20.52	0.34	3.583	0.34	9.650	15.82	15.717	1.38	21.78	0.34
2.333	0.34	8.400	15.82	14.467	1.38	20.53	0.34	3.600	0.34	9.667	15.82	15.733	1.38	21.80	0.34
2.350	0.34	8.417	15.82	14.483	1.38	20.55	0.34	3.617	0.34	9.683	15.82	15.750	1.38	21.82	0.34
2.367	0.34	8.433	15.82	14.500	1.38	20.57	0.34	3.633	0.34	9.700	15.82	15.767	1.38	21.83	0.34
2.383	0.34	8.450	15.82	14.517	1.38	20.58	0.34	3.650	0.34	9.717	15.82	15.783	1.38	21.85	0.34
2.400	0.34	8.467	15.82	14.533	1.38	20.60	0.34	3.667	0.34	9.733	15.82	15.800	1.38	21.87	0.34
2.417	0.34	8.483	15.82	14.550	1.38	20.62	0.34	3.683	0.34	9.750	15.82	15.817	1.38	21.88	0.34
2.433	0.34	8.500	15.82	14.567	1.38	20.63	0.34	3.700	0.34	9.767	15.82	15.833	1.38	21.90	0.34
2.450	0.34	8.517	15.82	14.583	1.38	20.65	0.34	3.717	0.34	9.783	15.82	15.850	1.38	21.92	0.34
2.467	0.34	8.533	15.82	14.600	1.38	20.67	0.34	3.733	0.34	9.800	15.82	15.867	1.38	21.93	0.34
2.483	0.34	8.550	15.82	14.617	1.38	20.68	0.34	3.750	0.34	9.817	15.82	15.883	1.38	21.95	0.34
2.500	0.34	8.567	15.82	14.633	1.38	20.70	0.34	3.767	0.34	9.833	15.82	15.900	1.38	21.97	0.34
2.517	0.34	8.583	15.82	14.650	1.38	20.72	0.34	3.783	0.34	9.850	15.82	15.917	1.38	21.98	0.34
2.533	0.34	8.600	15.82	14.667	1.38	20.73	0.34	3.800	0.34	9.867	15.82	15.933	1.38	22.00	0.34
2.550	0.34	8.617	15.82	14.683	1.38	20.75	0.34	3.817	0.34	9.883	15.82	15.950	1.38	22.02	0.34
2.567	0.34	8.633	15.82	14.700	1.38	20.77	0.34	3.833	0.34	9.900	15.82	15.967	1.38	22.03	0.34
2.583	0.34	8.650	15.82	14.717	1.38	20.78	0.34	3.850	0.34	9.917	15.82	15.983	1.38	22.05	0.34
2.600	0.34	8.667	15.82	14.733	1.38	20.80	0.34	3.867	0.34	9.933	15.82	16.000	1.38	22.07	0.34
2.617	0.34	8.683	15.82	14.750	1.38	20.82	0.34	3.883	0.34	9.950	15.82	16.017	1.38	22.08	0.34
2.633	0.34	8.700	15.82	14.767	1.38	20.83	0.34	3.900	0.34	9.967	15.82	16.033	1.38	22.10	0.34
2.650	0.34	8.717	15.82	14.783	1.38	20.85	0.34	3.917	0.34	9.983	15.82	16.050	1.38	22.12	0.34
2.667	0.34	8.733	15.82	14.800	1.38	20.87	0.34	3.933	0.34	10.000	15.82	16.067	1.38	22.13	0.34
2.683	0.34	8.750	15.82	14.817	1.38	20.88	0.34	3.950	0.34	10.017	15.82	16.083	1.38	22.15	0.34
2.700	0.34	8.767	15.82	14.833	1.38	20.90	0.34	3.967	0.34	10.033	15.82	16.100	1.38	22.17	0.34
2.717	0.34	8.783	15.82	14.850	1.38	20.92	0.34	3.983	0.34	10.050	15.82	16.117	1.38	22.18	0.34
2.733	0.34	8.800	15.82	14.867	1.38	20.93	0.34	4.000	0.34	10.067	15.82	16.133	1.38	22.20	0.34
2.750	0.34	8.817	15.82	14.883	1.38	20.95	0.34	4.017	0.34	10.083	15.82	16.150	1.38	22.22	0.34
2.767	0.34	8.833	15.82	14.900	1.38	20.97	0.34	4.033	0.34	10.100	15.82	16.167	1.38	22.23	0.34
2.783	0.34	8.850	15.82	14.917	1.38	20.98	0.34	4.050	0.34	10.117	15.82	16.183	1.38	22.25	0.34
2.800	0.34	8.867	15.82	14.933	1.38	21.00	0.34	4.067	0.34	10.133	15.82	16.200	1.38	22.27	0.34
2.817	0.34	8.883	15.82	14.950	1.38	21.02	0.34	4.083	0.34	10.150	15.82	16.217	1.38	22.28	0.34
2.833	0.34	8.900	15.82	14.967	1.38	21.03	0.34	4.100	0.34	10.167	15.82	16.233	1.38	22.30	0.34
2.850	0.34	8.917	15.82	14.983	1.38	21.05	0.34	4.117	0.34	10.183	15.82	16.250	1.38	22.32	0.34
2.867	0.34	8.933	15.82	15.000	1.38	21.07	0.34	4.133	0.34	10.200	15.82	16.267	0.69	22.33	0.34
2.883	0.34	8.950	15.82	15.017	1.38	21.08	0.34	4.150	0.34	10.217	15.82	16.283	0.69	22.35	0.34

4.167	0.34	10.233	15.82	16.300	0.69	22.37	0.34
4.183	0.34	10.250	15.81	16.317	0.69	22.38	0.34
4.200	0.34	10.267	4.47	16.333	0.69	22.40	0.34
4.217	0.34	10.283	4.47	16.350	0.69	22.42	0.34
4.233	0.34	10.300	4.47	16.367	0.69	22.43	0.34
4.250	0.34	10.317	4.47	16.383	0.69	22.45	0.34
4.267	2.06	10.333	4.47	16.400	0.69	22.47	0.34
4.283	2.06	10.350	4.47	16.417	0.69	22.48	0.34
4.300	2.06	10.367	4.47	16.433	0.69	22.50	0.34
4.317	2.06	10.383	4.47	16.450	0.69	22.52	0.34
4.333	2.06	10.400	4.47	16.467	0.69	22.53	0.34
4.350	2.06	10.417	4.47	16.483	0.69	22.55	0.34
4.367	2.06	10.433	4.47	16.500	0.69	22.57	0.34
4.383	2.06	10.450	4.47	16.517	0.69	22.58	0.34
4.400	2.06	10.467	4.47	16.533	0.69	22.60	0.34
4.417	2.06	10.483	4.47	16.550	0.69	22.62	0.34
4.433	2.06	10.500	4.47	16.567	0.69	22.63	0.34
4.450	2.06	10.517	4.47	16.583	0.69	22.65	0.34
4.467	2.06	10.533	4.47	16.600	0.69	22.67	0.34
4.483	2.06	10.550	4.47	16.617	0.69	22.68	0.34
4.500	2.06	10.567	4.47	16.633	0.69	22.70	0.34
4.517	2.06	10.583	4.47	16.650	0.69	22.72	0.34
4.533	2.06	10.600	4.47	16.667	0.69	22.73	0.34
4.550	2.06	10.617	4.47	16.683	0.69	22.75	0.34
4.567	2.06	10.633	4.47	16.700	0.69	22.77	0.34
4.583	2.06	10.650	4.47	16.717	0.69	22.78	0.34
4.600	2.06	10.667	4.47	16.733	0.69	22.80	0.34
4.617	2.06	10.683	4.47	16.750	0.69	22.82	0.34
4.633	2.06	10.700	4.47	16.767	0.69	22.83	0.34
4.650	2.06	10.717	4.47	16.783	0.69	22.85	0.34
4.667	2.06	10.733	4.47	16.800	0.69	22.87	0.34
4.683	2.06	10.750	4.47	16.817	0.69	22.88	0.34
4.700	2.06	10.767	4.47	16.833	0.69	22.90	0.34
4.717	2.06	10.783	4.47	16.850	0.69	22.92	0.34
4.733	2.06	10.800	4.47	16.867	0.69	22.93	0.34
4.750	2.06	10.817	4.47	16.883	0.69	22.95	0.34
4.767	2.06	10.833	4.47	16.900	0.69	22.97	0.34
4.783	2.06	10.850	4.47	16.917	0.69	22.98	0.34
4.800	2.06	10.867	4.47	16.933	0.69	23.00	0.34
4.817	2.06	10.883	4.47	16.950	0.69	23.02	0.34
4.833	2.06	10.900	4.47	16.967	0.69	23.03	0.34
4.850	2.06	10.917	4.47	16.983	0.69	23.05	0.34
4.867	2.06	10.933	4.47	17.000	0.69	23.07	0.34
4.883	2.06	10.950	4.47	17.017	0.69	23.08	0.34
4.900	2.06	10.967	4.47	17.033	0.69	23.10	0.34
4.917	2.06	10.983	4.47	17.050	0.69	23.12	0.34
4.933	2.06	11.000	4.47	17.067	0.69	23.13	0.34
4.950	2.06	11.017	4.47	17.083	0.69	23.15	0.34
4.967	2.06	11.033	4.47	17.100	0.69	23.17	0.34
4.983	2.06	11.050	4.47	17.117	0.69	23.18	0.34
5.000	2.06	11.067	4.47	17.133	0.69	23.20	0.34
5.017	2.06	11.083	4.47	17.150	0.69	23.22	0.34
5.033	2.06	11.100	4.47	17.167	0.69	23.23	0.34
5.050	2.06	11.117	4.47	17.183	0.69	23.25	0.34
5.067	2.06	11.133	4.47	17.200	0.69	23.27	0.34
5.083	2.06	11.150	4.47	17.217	0.69	23.28	0.34
5.100	2.06	11.167	4.47	17.233	0.69	23.30	0.34
5.117	2.06	11.183	4.47	17.250	0.69	23.32	0.34
5.133	2.06	11.200	4.47	17.267	0.69	23.33	0.34
5.150	2.06	11.217	4.47	17.283	0.69	23.35	0.34
5.167	2.06	11.233	4.47	17.300	0.69	23.37	0.34
5.183	2.06	11.250	4.47	17.317	0.69	23.38	0.34
5.200	2.06	11.267	4.47	17.333	0.69	23.40	0.34
5.217	2.06	11.283	4.47	17.350	0.69	23.42	0.34
5.233	2.06	11.300	4.47	17.367	0.69	23.43	0.34
5.250	2.06	11.317	4.47	17.383	0.69	23.45	0.34
5.267	2.06	11.333	4.47	17.400	0.69	23.47	0.34
5.283	2.06	11.350	4.47	17.417	0.69	23.48	0.34
5.300	2.06	11.367	4.47	17.433	0.69	23.50	0.34
5.317	2.06	11.383	4.47	17.450	0.69	23.52	0.34
5.333	2.06	11.400	4.47	17.467	0.69	23.53	0.34
5.350	2.06	11.417	4.47	17.483	0.69	23.55	0.34
5.367	2.06	11.433	4.47	17.500	0.69	23.57	0.34
5.383	2.06	11.450	4.47	17.517	0.69	23.58	0.34
5.400	2.06	11.467	4.47	17.533	0.69	23.60	0.34
5.417	2.06	11.483	4.47	17.550	0.69	23.62	0.34
5.433	2.06	11.500	4.47	17.567	0.69	23.63	0.34
5.450	2.06	11.517	4.47	17.583	0.69	23.65	0.34
5.467	2.06	11.533	4.47	17.600	0.69	23.67	0.34
5.483	2.06	11.550	4.47	17.617	0.69	23.68	0.34
5.500	2.06	11.567	4.47	17.633	0.69	23.70	0.34
5.517	2.06	11.583	4.47	17.650	0.69	23.72	0.34
5.533	2.06	11.600	4.47	17.667	0.69	23.73	0.34
5.550	2.06	11.617	4.47	17.683	0.69	23.75	0.34
5.567	2.06	11.633	4.47	17.700	0.69	23.77	0.34
5.583	2.06	11.650	4.47	17.717	0.69	23.78	0.34
5.600	2.06	11.667	4.47	17.733	0.69	23.80	0.34
5.617	2.06	11.683	4.47	17.750	0.69	23.82	0.34
5.633	2.06	11.700	4.47	17.767	0.69	23.83	0.34
5.650	2.06	11.717	4.47	17.783	0.69	23.85	0.34
5.667	2.06	11.733	4.47	17.800	0.69	23.87	0.34
5.683	2.06	11.750	4.47	17.817	0.69	23.88	0.34
5.700	2.06	11.767	4.47	17.833	0.69	23.90	0.34
5.717	2.06	11.783	4.47	17.850	0.69	23.92	0.34
5.733	2.06	11.800	4.47	17.867	0.69	23.93	0.34
5.750	2.06	11.817	4.47	17.883	0.69	23.95	0.34
5.767	2.06	11.833	4.47	17.900	0.69	23.97	0.34
5.783	2.06	11.850	4.47	17.917	0.69	23.98	0.34
5.800	2.06	11.867	4.47	17.933	0.69	24.00	0.34
5.817	2.06	11.883	4.47	17.950	0.69	24.02	0.34
5.833	2.06	11.900	4.47	17.967	0.69	24.03	0.34
5.850	2.06	11.917	4.47	17.983	0.69	24.05	0.34
5.867	2.06	11.933	4.47	18.000	0.69	24.07	0.34
5.883	2.06	11.950	4.47	18.017	0.69	24.08	0.34
5.900	2.06	11.967	4.47	18.033	0.69	24.10	0.34
5.917	2.06	11.983	4.47	18.050	0.69	24.12	0.34
5.933	2.06	12.000	4.47	18.067	0.69	24.13	0.34
5.950	2.06	12.017	4.47	18.083	0.69	24.15	0.34
5.967	2.06	12.033	4.47	18.100	0.69	24.17	0.34
5.983	2.06	12.050	4.47	18.117	0.69	24.18	0.34
6.000	2.06	12.067	4.47	18.133	0.69	24.20	0.34
6.017	2.06	12.083	4.47	18.150	0.69	24.22	0.34
6.033	2.06	12.100	4.47	18.167	0.69	24.23	0.34
6.050	2.06	12.117	4.47	18.183	0.69	24.25	0.34
6.067	2.06	12.133	4.47	18.200	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	11.97	
over (min)	7.00	11.00	
Storage Coeff. (min)=	7.22 (ii)	10.78 (ii)	
Unit Hyd. Tpeak (min)=	7.00	11.00	
Unit Hyd. peak (cms)=	0.16	0.10	
			TOTALS
PEAK FLOW (cms)=	0.18	0.00	0.179 (iii)
TIME TO PEAK (hrs)=	9.98	10.25	10.25
RUNOFF VOLUME (mm)=	67.75	40.35	67.49
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.59	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1 |				
DT= 1.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940
	0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.179	10.25	67.49
OUTFLOW: ID= 1 (7630)	4.090	0.054	10.75	61.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.13

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TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.1596

CALIB	
STANDHYD (7631)	Area (ha)= 3.91
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.06	12.150	4.47	18.22	0.69
0.033	0.00	6.100	2.06	12.167	4.47	18.23	0.69
0.050	0.00	6.117	2.06	12.183	4.47	18.25	0.69
0.067	0.00	6.133	2.06	12.200	4.47	18.27	0.34
0.083	0.00	6.150	2.06	12.217	4.47	18.28	0.34
0.100	0.00	6.167	2.06	12.233	4.47	18.30	0.34
0.117	0.00	6.183	2.06	12.250	4.47	18.32	0.34
0.133	0.00	6.200	2.06	12.267	2.41	18.33	0.34
0.150	0.00	6.217	2.06	12.283	2.41	18.35	0.34
0.167	0.00	6.233	2.06	12.300	2.41	18.37	0.34
0.183	0.00	6.250	2.07	12.317	2.41	18.38	0.34
0.200	0.00	6.267	5.85	12.333	2.41	18.40	0.34
0.217	0.00	6.283	5.85	12.350	2.41	18.42	0.34
0.233	0.00	6.300	5.85	12.367	2.41	18.43	0.34
0.250	0.00	6.317	5.85	12.383	2.41	18.45	0.34
0.267	0.34	6.333	5.85	12.400	2.41	18.47	0.34
0.283	0.34	6.350	5.85	12.417	2.41	18.48	0.34
0.300	0.34	6.367	5.85	12.433	2.41	18.50	0.34
0.317	0.34	6.383	5.85	12.450	2.41	18.52	0.34
0.333	0.34	6.400	5.85	12.467	2.41	18.53	0.34
0.350	0.34	6.417	5.85	12.483	2.41	18.55	0.34
0.367	0.34	6.433	5.85	12.500	2.41	18.57	0.34
0.383	0.34	6.450	5.85	12.517	2.41	18.58	0.34
0.400	0.34	6.467	5.85	12.533	2.41	18.60	0.34
0.417	0.34	6.483	5.85	12.550	2.41	18.62	0.34
0.433	0.34	6.500	5.85	12.567	2.41	18.63	0.34
0.450	0.34	6.517	5.85	12.583	2.41	18.65	0.34
0.467	0.34	6.533	5.85	12.600	2.41	18.67	0.34
0.483	0.34	6.550	5.85	12.617	2.41	18.68	0.34
0.500	0.34	6.567	5.85	12.633	2.41	18.70	0.34
0.517	0.34	6.583	5.85	12.650	2.41	18.72	0.34
0.533	0.34	6.600	5.85	12.667	2.41	18.73	0.34
0.550	0.34	6.617	5.85	12.683	2.41	18.75	0.34
0.567	0.34	6.633	5.85	12.700	2.41	18.77	0.34
0.583	0.34	6.650	5.85	12.717	2.41	18.78	0.34
0.600	0.34	6.667	5.85	12.733	2.41	18.80	0.34
0.617	0.34	6.683	5.85	12.750	2.41	18.82	0.34
0.633	0.34	6.700	5.85	12.767	2.41	18.83	0.34
0.650	0.34	6.717	5.85	12.783	2.41	18.85	0.34
0.667	0.34	6.733	5.85	12.800	2.41	18.87	0.34
0.683	0.34	6.750	5.85	12.817	2.41	18.88	0.34
0.700	0.34	6.767	5.85	12.833	2.41	18.90	0.34
0.717	0.34	6.783	5.85	12.850	2.41	18.92	0.34
0.733	0.34	6.800	5.85	12.867	2.41	18.93	0.34
0.750	0.34	6.817	5.85	12.883	2.41	18.95	0.34
0.767	0.34	6.833	5.85	12.900	2.41	18.97	0.34
0.783	0.34	6.850	5.85	12.917	2.41	18.98	0.34
0.800	0.34	6.867	5.85	12.933	2.41	19.00	0.34
0.817	0.34	6.883	5.85	12.950	2.41	19.02	0.34
0.833	0.34	6.900	5.85	12.967	2.41	19.03	0.34
0.850	0.34	6.917	5.85	12.983	2.41	19.05	0.34
0.867	0.34	6.933	5.85	13.000	2.41	19.07	0.34
0.883	0.34	6.950	5.85	13.017	2.41	19.08	0.34
0.900	0.34	6.967	5.85	13.033	2.41	19.10	0.34
0.917	0.34	6.983	5.85	13.050	2.41	19.12	0.34
0.933	0.34	7.000	5.85	13.067	2.41	19.13	0.34
0.950	0.34	7.017	5.85	13.083	2.41	19.15	0.34
0.967	0.34	7.033	5.85	13.100	2.41	19.17	0.34
0.983	0.34	7.050	5.85	13.117	2.41	19.18	0.34
1.000	0.34	7.067	5.85	13.133	2.41	19.20	0.34
1.017	0.34	7.083	5.85	13.150	2.41	19.22	0.34
1.033	0.34	7.100	5.85	13.167	2.41	19.23	0.34
1.050	0.34	7.117	5.85	13.183	2.41	19.25	0.34
1.067	0.34	7.133	5.85	13.200	2.41	19.27	0.34
1.083	0.34	7.150	5.85	13.217	2.41	19.28	0.34
1.100	0.34	7.167	5.85	13.233	2.41	19.30	0.34
1.117	0.34	7.183	5.85	13.250	2.41	19.32	0.34
1.133	0.34	7.200	5.85	13.267	2.41	19.33	0.34
1.150	0.34	7.217	5.85	13.283	2.41	19.35	0.34
1.167	0.34	7.233	5.85	13.300	2.41	19.37	0.34
1.183	0.34	7.250	5.85	13.317	2.41	19.38	0.34
1.200	0.34	7.267	5.85	13.333	2.41	19.40	0.34
1.217	0.34	7.283	5.85	13.350	2.41	19.42	0.34
1.233	0.34	7.300	5.85	13.367	2.41	19.43	0.34
1.250	0.34	7.317	5.85	13.383	2.41	19.45	0.34
1.267	0.34	7.333	5.85	13.400	2.41	19.47	0.34
1.283	0.34	7.350	5.85	13.417	2.41	19.48	0.34
1.300	0.34	7.367	5.85	13.433	2.41	19.50	0.34
1.317	0.34	7.383	5.85	13.450	2.41	19.52	0.34
1.333	0.34	7.400	5.85	13.467	2.41	19.53	0.34
1.350	0.34	7.417	5.85	13.483	2.41	19.55	0.34
1.367	0.34	7.433	5.85	13.500	2.41	19.57	0.34
1.383	0.34	7.450	5.85	13.517	2.41	19.58	0.34
1.400	0.34	7.467	5.85	13.533	2.41	19.60	0.34
1.417	0.34	7.483	5.85	13.550	2.41	19.62	0.34
1.433	0.34	7.500	5.85	13.567	2.41	19.63	0.34
1.450	0.34	7.517	5.85	13.583	2.41	19.65	0.34
1.467	0.34	7.533	5.85	13.600	2.41	19.67	0.34
1.483	0.34	7.550	5.85	13.617	2.41	19.68	0.34
1.500	0.34	7.567	5.85	13.633	2.41	19.70	0.34
1.517	0.34	7.583	5.85	13.650	2.41	19.72	0.34
1.533	0.34	7.600	5.85	13.667	2.41	19.73	0.34
1.550	0.34	7.617	5.85	13.683	2.41	19.75	0.34
1.567	0.34	7.633	5.85	13.700	2.41	19.77	0.34
1.583	0.34	7.650	5.85	13.717	2.41	19.78	0.34
1.600	0.34	7.667	5.85	13.733	2.41	19.80	0.34
1.617	0.34	7.683	5.85	13.750	2.41	19.82	0.34
1.633	0.34	7.700	5.85	13.767	2.41	19.83	0.34
1.650	0.34	7.717	5.85	13.783	2.41	19.85	0.34
1.667	0.34	7.733	5.85	13.800	2.41	19.87	0.34
1.683	0.34	7.750	5.85	13.817	2.41	19.88	0.34
1.700	0.34	7.767	5.85	13.833	2.41	19.90	0.34
1.717	0.34	7.783	5.85	13.850	2.41	19.92	0.34
1.733	0.34	7.800	5.85	13.867	2.41	19.93	0.34
1.750	0.34	7.817	5.85	13.883	2.41	19.95	0.34
1.767	0.34	7.833	5.85	13.900	2.41	19.97	0.34
1.783	0.34	7.850	5.85	13.917	2.41	19.98	0.34
1.800	0.34	7.867	5.85	13.933	2.41	20.00	0.34
1.817	0.34	7.883	5.85	13.950	2.41	20.02	0.34
1.833	0.34	7.900	5.85	13.967	2.41	20.03	0.34
1.850	0.34	7.917	5.85	13.983	2.41	20.05	0.34
1.867	0.34	7.933	5.85	14.000	2.41	20.07	0.34
1.883	0.34	7.950	5.85	14.017	2.41	20.08	0.34
1.900	0.34	7.967	5.85	14.033	2.41	20.10	0.34
1.917	0.34	7.983	5.85	14.050	2.41	20.12	0.34
1.933	0.34	8.000	5.85	14.067	2.41	20.13	0.34
1.950	0.34	8.017	5.85	14.083	2.41	20.15	0.34
1.967	0.34	8.033	5.85	14.100	2.41	20.17	0.34
1.983	0.34	8.050	5.85	14.117	2.41	20.18	0.34
2.000	0.34	8.067	5.85	14.133	2.41	20.20	0.34
2.017	0.34	8.083	5.85	14.150	2.41	20.22	0.34
2.033	0.34	8.100	5.85	14.167	2.41	20.23	0.34
2.050	0.34	8.117	5.85	14.183	2.41	20.25	0.34
2.067	0.34	8.133	5.85	14.200	2.41	20.27	0.34
2.083	0.34	8.150	5.85	14.217	2.41	20.28	0.34
2.100	0.34	8.167	5.85	14.233	2.41	20.30	0.34
2.117	0.34	8.183	5.85	14.250	2.41	20.32	0.34
2.133	0.34	8.200	5.85	14.267	1.38	20.33	0.34
2.150	0.34	8.217	5.85	14.283	1.38	20.35	0.34
2.167	0.34	8.233	5.85	14.300	1.38	20.37	0.34

2.183	0.34	8.250	5.88	14.317	1.38	20.38	0.34
2.200	0.34	8.267	15.82	14.333	1.38	20.40	0.34
2.217	0.34	8.283	15.82	14.350	1.38	20.42	0.34
2.233	0.34	8.300	15.82	14.367	1.38	20.43	0.34
2.250	0.34	8.317	15.82	14.383	1.38	20.45	0.34
2.267	0.34	8.333	15.82	14.400	1.38	20.47	0.34
2.283	0.34	8.350	15.82	14.417	1.38	20.48	0.34
2.300	0.34	8.367	15.82	14.433	1.38	20.50	0.34
2.317	0.34	8.383	15.82	14.450	1.38	20.52	0.34
2.333	0.34	8.400	15.82	14.467	1.38	20.53	0.34
2.350	0.34	8.417	15.82	14.483	1.38	20.55	0.34
2.367	0.34	8.433	15.82	14.500	1.38	20.57	0.34
2.383	0.34	8.450	15.82	14.517	1.38	20.58	0.34
2.400	0.34	8.467	15.82	14.533	1.38	20.60	0.34
2.417	0.34	8.483	15.82	14.550	1.38	20.62	0.34
2.433	0.34	8.500	15.82	14.567	1.38	20.63	0.34
2.450	0.34	8.517	15.82	14.583	1.38	20.65	0.34
2.467	0.34	8.533	15.82	14.600	1.38	20.67	0.34
2.483	0.34	8.550	15.82	14.617	1.38	20.68	0.34
2.500	0.34	8.567	15.82	14.633	1.38	20.70	0.34
2.517	0.34	8.583	15.82	14.650	1.38	20.72	0.34
2.533	0.34	8.600	15.82	14.667	1.38	20.73	0.34
2.550	0.34	8.617	15.82	14.683	1.38	20.75	0.34
2.567	0.34	8.633	15.82	14.700	1.38	20.77	0.34
2.583	0.34	8.650	15.82	14.717	1.38	20.78	0.34
2.600	0.34	8.667	15.82	14.733	1.38	20.80	0.34
2.617	0.34	8.683	15.82	14.750	1.38	20.82	0.34
2.633	0.34	8.700	15.82	14.767	1.38	20.83	0.34
2.650	0.34	8.717	15.82	14.783	1.38	20.85	0.34
2.667	0.34	8.733	15.82	14.800	1.38	20.87	0.34
2.683	0.34	8.750	15.82	14.817	1.38	20.88	0.34
2.700	0.34	8.767	15.82	14.833	1.38	20.90	0.34
2.717	0.34	8.783	15.82	14.850	1.38	20.92	0.34
2.733	0.34	8.800	15.82	14.867	1.38	20.93	0.34
2.750	0.34	8.817	15.82	14.883	1.38	20.95	0.34
2.767	0.34	8.833	15.82	14.900	1.38	20.97	0.34
2.783	0.34	8.850	15.82	14.917	1.38	20.98	0.34
2.800	0.34	8.867	15.82	14.933	1.38	21.00	0.34
2.817	0.34	8.883	15.82	14.950	1.38	21.02	0.34
2.833	0.34	8.900	15.82	14.967	1.38	21.03	0.34
2.850	0.34	8.917	15.82	14.983	1.38	21.05	0.34
2.867	0.34	8.933	15.82	15.000	1.38	21.07	0.34
2.883	0.34	8.950	15.82	15.017	1.38	21.08	0.34
2.900	0.34	8.967	15.82	15.033	1.38	21.10	0.34
2.917	0.34	8.983	15.82	15.050	1.38	21.12	0.34
2.933	0.34	9.000	15.82	15.067	1.38	21.13	0.34
2.950	0.34	9.017	15.82	15.083	1.38	21.15	0.34
2.967	0.34	9.033	15.82	15.100	1.38	21.17	0.34
2.983	0.34	9.050	15.82	15.117	1.38	21.18	0.34
3.000	0.34	9.067	15.82	15.133	1.38	21.20	0.34
3.017	0.34	9.083	15.82	15.150	1.38	21.22	0.34
3.033	0.34	9.100	15.82	15.167	1.38	21.23	0.34
3.050	0.34	9.117	15.82	15.183	1.38	21.25	0.34
3.067	0.34	9.133	15.82	15.200	1.38	21.27	0.34
3.083	0.34	9.150	15.82	15.217	1.38	21.28	0.34
3.100	0.34	9.167	15.82	15.233	1.38	21.30	0.34
3.117	0.34	9.183	15.82	15.250	1.38	21.32	0.34
3.133	0.34	9.200	15.82	15.267	1.38	21.33	0.34
3.150	0.34	9.217	15.82	15.283	1.38	21.35	0.34
3.167	0.34	9.233	15.82	15.300	1.38	21.37	0.34
3.183	0.34	9.250	15.82	15.317	1.38	21.38	0.34
3.200	0.34	9.267	15.82	15.333	1.38	21.40	0.34
3.217	0.34	9.283	15.82	15.350	1.38	21.42	0.34
3.233	0.34	9.300	15.82	15.367	1.38	21.43	0.34
3.250	0.34	9.317	15.82	15.383	1.38	21.45	0.34
3.267	0.34	9.333	15.82	15.400	1.38	21.47	0.34
3.283	0.34	9.350	15.82	15.417	1.38	21.48	0.34
3.300	0.34	9.367	15.82	15.433	1.38	21.50	0.34
3.317	0.34	9.383	15.82	15.450	1.38	21.52	0.34
3.333	0.34	9.400	15.82	15.467	1.38	21.53	0.34
3.350	0.34	9.417	15.82	15.483	1.38	21.55	0.34
3.367	0.34	9.433	15.82	15.500	1.38	21.57	0.34
3.383	0.34	9.450	15.82	15.517	1.38	21.58	0.34
3.400	0.34	9.467	15.82	15.533	1.38	21.60	0.34
3.417	0.34	9.483	15.82	15.550	1.38	21.62	0.34
3.433	0.34	9.500	15.82	15.567	1.38	21.63	0.34
3.450	0.34	9.517	15.82	15.583	1.38	21.65	0.34
3.467	0.34	9.533	15.82	15.600	1.38	21.67	0.34
3.483	0.34	9.550	15.82	15.617	1.38	21.68	0.34
3.500	0.34	9.567	15.82	15.633	1.38	21.70	0.34
3.517	0.34	9.583	15.82	15.650	1.38	21.72	0.34
3.533	0.34	9.600	15.82	15.667	1.38	21.73	0.34
3.550	0.34	9.617	15.82	15.683	1.38	21.75	0.34
3.567	0.34	9.633	15.82	15.700	1.38	21.77	0.34
3.583	0.34	9.650	15.82	15.717	1.38	21.78	0.34
3.600	0.34	9.667	15.82	15.733	1.38	21.80	0.34
3.617	0.34	9.683	15.82	15.750	1.38	21.82	0.34
3.633	0.34	9.700	15.82	15.767	1.38	21.83	0.34
3.650	0.34	9.717	15.82	15.783	1.38	21.85	0.34
3.667	0.34	9.733	15.82	15.800	1.38	21.87	0.34
3.683	0.34	9.750	15.82	15.817	1.38	21.88	0.34
3.700	0.34	9.767	15.82	15.833	1.38	21.90	0.34
3.717	0.34	9.783	15.82	15.850	1.38	21.92	0.34
3.733	0.34	9.800	15.82	15.867	1.38	21.93	0.34
3.750	0.34	9.817	15.82	15.883	1.38	21.95	0.34
3.767	0.34	9.833	15.82	15.900	1.38	21.97	0.34
3.783	0.34	9.850	15.82	15.917	1.38	21.98	0.34
3.800	0.34	9.867	15.82	15.933	1.38	22.00	0.34
3.817	0.34	9.883	15.82	15.950	1.38	22.02	0.34
3.833	0.34	9.900	15.82	15.967	1.38	22.03	0.34
3.850	0.34	9.917	15.82	15.983	1.38	22.05	0.34
3.867	0.34	9.933	15.82	16.000	1.38	22.07	0.34
3.883	0.34	9.950	15.82	16.017	1.38	22.08	0.34
3.900	0.34	9.967	15.82	16.033	1.38	22.10	0.34
3.917	0.34	9.983	15.82	16.050	1.38	22.12	0.34
3.933	0.34	10.000	15.82	16.067	1.38	22.13	0.34
3.950	0.34	10.017	15.82	16.083	1.38	22.15	0.34
3.967	0.34	10.033	15.82	16.100	1.38	22.17	0.34
3.983	0.34	10.050	15.82	16.117	1.38	22.18	0.34
4.000	0.34	10.067	15.82	16.133	1.38	22.20	0.34
4.017	0.34	10.083	15.82	16.150	1.38	22.22	0.34
4.033	0.34	10.100	15.82	16.167	1.38	22.23	0.34
4.050	0.34	10.117	15.82	16.183	1.38	22.25	0.34
4.067	0.34	10.133	15.82	16.200	1.38	22.27	0.34
4.083	0.34	10.150	15.82	16.217	1.38	22.28	0.34
4.100	0.34	10.167	15.82	16.233	1.38	22.30	0.34
4.117	0.34	10.183	15.82	16.250	1.38	22.32	0.34
4.133	0.34	10.200	15.82	16.267	0.69	22.33	0.34
4.150	0.34	10.217	15.82	16.283	0.69	22.35	0.34
4.167	0.34	10.233	15.82	16.300	0.69	22.37	0.34
4.183	0.34	10.250	15.81	16.317	0.69	22.38	0.34
4.200	0.34	10.267	4.47	16.333	0.69	22.40	0.34
4.217	0.34	10.283	4.47	16.350	0.69	22.42	0.34
4.233	0.34	10.300	4.47	16.367	0.69	22.43	0.34
4.250	0.34	10.317	4.47	16.383	0.69	22.45	0.34
4.267	2.06	10.333	4.47	16.400	0.69	22.47	0.34
4.283	2.06	10.350	4.47	16.417	0.69	22.48	0.34
4.300	2.06	10.367	4.47	16.433	0.69	22.50	0.34
4.317	2.06	10.383	4.47	16.450	0.69	22.52	0.34
4.333	2.06	10.400	4.47	16.467	0.69	22.53	0.34
4.350	2.06	10.417	4.47	16.483	0.69	22.55	0.34
4.367	2.06	10.433	4.47	16.500	0.69	22.57	0.34
4.383	2.06	10.450	4.47	16.517	0.69	22.58	0.34
4.400	2.06	10.467	4.47	16.533	0.69	22.60	0.34
4.417	2.06	10.483	4.47	16.550	0.69	22.62	0.34
4.433	2.06	10.500	4.47	16.567	0.69	22.63	0.34
4.450	2.06	10.517	4.47	16.583	0.69	22.65	0.34
4.467	2.06	10.533	4.47	16.600	0.69	22.67	0.34
4.483	2.06	10.550	4.47	16.617	0.69	22.68	0.34
4.500	2.06	10.567	4.47	16.633	0.69	22.70	0.34
4.517	2.06	10.583	4.47	16.650	0.69	22.72	0.34
4.533	2.06	10.600	4.47	16.667	0.69	22.73	0.34
4.550	2.06	10.617	4.47	16.683	0.69	22.75	0.34
4.567	2.06	10.633	4.47	16.700	0.69	22.77	0.34
4.583	2.06	10.650	4.47	16.717	0.69	22.78	0.34
4.600	2.06	10.667	4.47	16.733	0.69	22.80	0.34
4.617	2.06	10.683	4.47	16.750	0.69	22.82	0.34
4.633	2.06	10.700	4.47	16.767	0.69	22.83	0.34
4.650	2.06	10.717	4.47	16.783	0.69	22.85	0.34
4.667	2.06	10.733	4.47	16.800	0.69	22.87	0.34
4.683	2.06	10.750	4.47	16.817	0.69	22.88	0.34
4.700	2.06	10.767	4.47	16.833	0.69	22.90	0.34

4.717	2.06	10.783	4.47	16.850	0.69	22.92	0.34
4.733	2.06	10.800	4.47	16.867	0.69	22.93	0.34
4.750	2.06	10.817	4.47	16.883	0.69	22.95	0.34
4.767	2.06	10.833	4.47	16.900	0.69	22.97	0.34
4.783	2.06	10.850	4.47	16.917	0.69	22.98	0.34
4.800	2.06	10.867	4.47	16.933	0.69	23.00	0.34
4.817	2.06	10.883	4.47	16.950	0.69	23.02	0.34
4.833	2.06	10.900	4.47	16.967	0.69	23.03	0.34
4.850	2.06	10.917	4.47	16.983	0.69	23.05	0.34
4.867	2.06	10.933	4.47	17.000	0.69	23.07	0.34
4.883	2.06	10.950	4.47	17.017	0.69	23.08	0.34
4.900	2.06	10.967	4.47	17.033	0.69	23.10	0.34
4.917	2.06	10.983	4.47	17.050	0.69	23.12	0.34
4.933	2.06	11.000	4.47	17.067	0.69	23.13	0.34
4.950	2.06	11.017	4.47	17.083	0.69	23.15	0.34
4.967	2.06	11.033	4.47	17.100	0.69	23.17	0.34
4.983	2.06	11.050	4.47	17.117	0.69	23.18	0.34
5.000	2.06	11.067	4.47	17.133	0.69	23.20	0.34
5.017	2.06	11.083	4.47	17.150	0.69	23.22	0.34
5.033	2.06	11.100	4.47	17.167	0.69	23.23	0.34
5.050	2.06	11.117	4.47	17.183	0.69	23.25	0.34
5.067	2.06	11.133	4.47	17.200	0.69	23.27	0.34
5.083	2.06	11.150	4.47	17.217	0.69	23.28	0.34
5.100	2.06	11.167	4.47	17.233	0.69	23.30	0.34
5.117	2.06	11.183	4.47	17.250	0.69	23.32	0.34
5.133	2.06	11.200	4.47	17.267	0.69	23.33	0.34
5.150	2.06	11.217	4.47	17.283	0.69	23.35	0.34
5.167	2.06	11.233	4.47	17.300	0.69	23.37	0.34
5.183	2.06	11.250	4.47	17.317	0.69	23.38	0.34
5.200	2.06	11.267	4.47	17.333	0.69	23.40	0.34
5.217	2.06	11.283	4.47	17.350	0.69	23.42	0.34
5.233	2.06	11.300	4.47	17.367	0.69	23.43	0.34
5.250	2.06	11.317	4.47	17.383	0.69	23.45	0.34
5.267	2.06	11.333	4.47	17.400	0.69	23.47	0.34
5.283	2.06	11.350	4.47	17.417	0.69	23.48	0.34
5.300	2.06	11.367	4.47	17.433	0.69	23.50	0.34
5.317	2.06	11.383	4.47	17.450	0.69	23.52	0.34
5.333	2.06	11.400	4.47	17.467	0.69	23.53	0.34
5.350	2.06	11.417	4.47	17.483	0.69	23.55	0.34
5.367	2.06	11.433	4.47	17.500	0.69	23.57	0.34
5.383	2.06	11.450	4.47	17.517	0.69	23.58	0.34
5.400	2.06	11.467	4.47	17.533	0.69	23.60	0.34
5.417	2.06	11.483	4.47	17.550	0.69	23.62	0.34
5.433	2.06	11.500	4.47	17.567	0.69	23.63	0.34
5.450	2.06	11.517	4.47	17.583	0.69	23.65	0.34
5.467	2.06	11.533	4.47	17.600	0.69	23.67	0.34
5.483	2.06	11.550	4.47	17.617	0.69	23.68	0.34
5.500	2.06	11.567	4.47	17.633	0.69	23.70	0.34
5.517	2.06	11.583	4.47	17.650	0.69	23.72	0.34
5.533	2.06	11.600	4.47	17.667	0.69	23.73	0.34
5.550	2.06	11.617	4.47	17.683	0.69	23.75	0.34
5.567	2.06	11.633	4.47	17.700	0.69	23.77	0.34
5.583	2.06	11.650	4.47	17.717	0.69	23.78	0.34
5.600	2.06	11.667	4.47	17.733	0.69	23.80	0.34
5.617	2.06	11.683	4.47	17.750	0.69	23.82	0.34
5.633	2.06	11.700	4.47	17.767	0.69	23.83	0.34
5.650	2.06	11.717	4.47	17.783	0.69	23.85	0.34
5.667	2.06	11.733	4.47	17.800	0.69	23.87	0.34
5.683	2.06	11.750	4.47	17.817	0.69	23.88	0.34
5.700	2.06	11.767	4.47	17.833	0.69	23.90	0.34
5.717	2.06	11.783	4.47	17.850	0.69	23.92	0.34
5.733	2.06	11.800	4.47	17.867	0.69	23.93	0.34
5.750	2.06	11.817	4.47	17.883	0.69	23.95	0.34
5.767	2.06	11.833	4.47	17.900	0.69	23.97	0.34
5.783	2.06	11.850	4.47	17.917	0.69	23.98	0.34
5.800	2.06	11.867	4.47	17.933	0.69	24.00	0.34
5.817	2.06	11.883	4.47	17.950	0.69	24.02	0.34
5.833	2.06	11.900	4.47	17.967	0.69	24.03	0.34
5.850	2.06	11.917	4.47	17.983	0.69	24.05	0.34
5.867	2.06	11.933	4.47	18.000	0.69	24.07	0.34
5.883	2.06	11.950	4.47	18.017	0.69	24.08	0.34
5.900	2.06	11.967	4.47	18.033	0.69	24.10	0.34
5.917	2.06	11.983	4.47	18.050	0.69	24.12	0.34
5.933	2.06	12.000	4.47	18.067	0.69	24.13	0.34
5.950	2.06	12.017	4.47	18.083	0.69	24.15	0.34
5.967	2.06	12.033	4.47	18.100	0.69	24.17	0.34
5.983	2.06	12.050	4.47	18.117	0.69	24.18	0.34
6.000	2.06	12.067	4.47	18.133	0.69	24.20	0.34
6.017	2.06	12.083	4.47	18.150	0.69	24.22	0.34
6.033	2.06	12.100	4.47	18.167	0.69	24.23	0.34
6.050	2.06	12.117	4.47	18.183	0.69	24.25	0.34
6.067	2.06	12.133	4.47	18.200	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	11.97	
over (min)	7.00	11.00	
Storage Coeff. (min)=	7.12 (ii)	10.68 (ii)	
Unit Hyd. Tpeak (min)=	7.00	11.00	
Unit Hyd. peak (cms)=	0.16	0.10	
			TOTALS
PEAK FLOW (cms)=	0.17	0.00	0.171 (iii)
TIME TO PEAK (hrs)=	9.98	10.25	10.25
RUNOFF VOLUME (mm)=	67.74	40.35	67.49
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.59	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.171	10.25	67.49
OUTFLOW: ID= 1 (7632)	3.910	0.052	10.73	61.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.25
TIME SHIFT OF PEAK FLOW (min)= 29.00
MAXIMUM STORAGE USED (ha.m.)= 0.1527

CALIB		
STANDHYD (7641)	Area (ha)= 2.21	
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.06	12.150	4.47	18.22	0.69
0.033	0.00	6.100	2.06	12.167	4.47	18.23	0.69
0.050	0.00	6.117	2.06	12.183	4.47	18.25	0.69
0.067	0.00	6.133	2.06	12.200	4.47	18.27	0.34
0.083	0.00	6.150	2.06	12.217	4.47	18.28	0.34
0.100	0.00	6.167	2.06	12.233	4.47	18.30	0.34
0.117	0.00	6.183	2.06	12.250	4.47	18.32	0.34
0.133	0.00	6.200	2.06	12.267	2.41	18.33	0.34
0.150	0.00	6.217	2.06	12.283	2.41	18.35	0.34
0.167	0.00	6.233	2.06	12.300	2.41	18.37	0.34
0.183	0.00	6.250	2.07	12.317	2.41	18.38	0.34

0.200	0.00	6.267	5.85	12.333	2.41	18.40	0.34		1.467	0.34	7.533	5.85	13.600	2.41	19.67	0.34
0.217	0.00	6.283	5.85	12.350	2.41	18.42	0.34		1.483	0.34	7.550	5.85	13.617	2.41	19.68	0.34
0.233	0.00	6.300	5.85	12.367	2.41	18.43	0.34		1.500	0.34	7.567	5.85	13.633	2.41	19.70	0.34
0.250	0.00	6.317	5.85	12.383	2.41	18.45	0.34		1.517	0.34	7.583	5.85	13.650	2.41	19.72	0.34
0.267	0.34	6.333	5.85	12.400	2.41	18.47	0.34		1.533	0.34	7.600	5.85	13.667	2.41	19.73	0.34
0.283	0.34	6.350	5.85	12.417	2.41	18.48	0.34		1.550	0.34	7.617	5.85	13.683	2.41	19.75	0.34
0.300	0.34	6.367	5.85	12.433	2.41	18.50	0.34		1.567	0.34	7.633	5.85	13.700	2.41	19.77	0.34
0.317	0.34	6.383	5.85	12.450	2.41	18.52	0.34		1.583	0.34	7.650	5.85	13.717	2.41	19.78	0.34
0.333	0.34	6.400	5.85	12.467	2.41	18.53	0.34		1.600	0.34	7.667	5.85	13.733	2.41	19.80	0.34
0.350	0.34	6.417	5.85	12.483	2.41	18.55	0.34		1.617	0.34	7.683	5.85	13.750	2.41	19.82	0.34
0.367	0.34	6.433	5.85	12.500	2.41	18.57	0.34		1.633	0.34	7.700	5.85	13.767	2.41	19.83	0.34
0.383	0.34	6.450	5.85	12.517	2.41	18.58	0.34		1.650	0.34	7.717	5.85	13.783	2.41	19.85	0.34
0.400	0.34	6.467	5.85	12.533	2.41	18.60	0.34		1.667	0.34	7.733	5.85	13.800	2.41	19.87	0.34
0.417	0.34	6.483	5.85	12.550	2.41	18.62	0.34		1.683	0.34	7.750	5.85	13.817	2.41	19.88	0.34
0.433	0.34	6.500	5.85	12.567	2.41	18.63	0.34		1.700	0.34	7.767	5.85	13.833	2.41	19.90	0.34
0.450	0.34	6.517	5.85	12.583	2.41	18.65	0.34		1.717	0.34	7.783	5.85	13.850	2.41	19.92	0.34
0.467	0.34	6.533	5.85	12.600	2.41	18.67	0.34		1.733	0.34	7.800	5.85	13.867	2.41	19.93	0.34
0.483	0.34	6.550	5.85	12.617	2.41	18.68	0.34		1.750	0.34	7.817	5.85	13.883	2.41	19.95	0.34
0.500	0.34	6.567	5.85	12.633	2.41	18.70	0.34		1.767	0.34	7.833	5.85	13.900	2.41	19.97	0.34
0.517	0.34	6.583	5.85	12.650	2.41	18.72	0.34		1.783	0.34	7.850	5.85	13.917	2.41	19.98	0.34
0.533	0.34	6.600	5.85	12.667	2.41	18.73	0.34		1.800	0.34	7.867	5.85	13.933	2.41	20.00	0.34
0.550	0.34	6.617	5.85	12.683	2.41	18.75	0.34		1.817	0.34	7.883	5.85	13.950	2.41	20.02	0.34
0.567	0.34	6.633	5.85	12.700	2.41	18.77	0.34		1.833	0.34	7.900	5.85	13.967	2.41	20.03	0.34
0.583	0.34	6.650	5.85	12.717	2.41	18.78	0.34		1.850	0.34	7.917	5.85	13.983	2.41	20.05	0.34
0.600	0.34	6.667	5.85	12.733	2.41	18.80	0.34		1.867	0.34	7.933	5.85	14.000	2.41	20.07	0.34
0.617	0.34	6.683	5.85	12.750	2.41	18.82	0.34		1.883	0.34	7.950	5.85	14.017	2.41	20.08	0.34
0.633	0.34	6.700	5.85	12.767	2.41	18.83	0.34		1.900	0.34	7.967	5.85	14.033	2.41	20.10	0.34
0.650	0.34	6.717	5.85	12.783	2.41	18.85	0.34		1.917	0.34	7.983	5.85	14.050	2.41	20.12	0.34
0.667	0.34	6.733	5.85	12.800	2.41	18.87	0.34		1.933	0.34	8.000	5.85	14.067	2.41	20.13	0.34
0.683	0.34	6.750	5.85	12.817	2.41	18.88	0.34		1.950	0.34	8.017	5.85	14.083	2.41	20.15	0.34
0.700	0.34	6.767	5.85	12.833	2.41	18.90	0.34		1.967	0.34	8.033	5.85	14.100	2.41	20.17	0.34
0.717	0.34	6.783	5.85	12.850	2.41	18.92	0.34		1.983	0.34	8.050	5.85	14.117	2.41	20.18	0.34
0.733	0.34	6.800	5.85	12.867	2.41	18.93	0.34		2.000	0.34	8.067	5.85	14.133	2.41	20.20	0.34
0.750	0.34	6.817	5.85	12.883	2.41	18.95	0.34		2.017	0.34	8.083	5.85	14.150	2.41	20.22	0.34
0.767	0.34	6.833	5.85	12.900	2.41	18.97	0.34		2.033	0.34	8.100	5.85	14.167	2.41	20.23	0.34
0.783	0.34	6.850	5.85	12.917	2.41	18.98	0.34		2.050	0.34	8.117	5.85	14.183	2.41	20.25	0.34
0.800	0.34	6.867	5.85	12.933	2.41	19.00	0.34		2.067	0.34	8.133	5.85	14.200	2.41	20.27	0.34
0.817	0.34	6.883	5.85	12.950	2.41	19.02	0.34		2.083	0.34	8.150	5.85	14.217	2.41	20.28	0.34
0.833	0.34	6.900	5.85	12.967	2.41	19.03	0.34		2.100	0.34	8.167	5.85	14.233	2.41	20.30	0.34
0.850	0.34	6.917	5.85	12.983	2.41	19.05	0.34		2.117	0.34	8.183	5.85	14.250	2.41	20.32	0.34
0.867	0.34	6.933	5.85	13.000	2.41	19.07	0.34		2.133	0.34	8.200	5.85	14.267	1.38	20.33	0.34
0.883	0.34	6.950	5.85	13.017	2.41	19.08	0.34		2.150	0.34	8.217	5.85	14.283	1.38	20.35	0.34
0.900	0.34	6.967	5.85	13.033	2.41	19.10	0.34		2.167	0.34	8.233	5.85	14.300	1.38	20.37	0.34
0.917	0.34	6.983	5.85	13.050	2.41	19.12	0.34		2.183	0.34	8.250	5.88	14.317	1.38	20.38	0.34
0.933	0.34	7.000	5.85	13.067	2.41	19.13	0.34		2.200	0.34	8.267	15.82	14.333	1.38	20.40	0.34
0.950	0.34	7.017	5.85	13.083	2.41	19.15	0.34		2.217	0.34	8.283	15.82	14.350	1.38	20.42	0.34
0.967	0.34	7.033	5.85	13.100	2.41	19.17	0.34		2.233	0.34	8.300	15.82	14.367	1.38	20.43	0.34
0.983	0.34	7.050	5.85	13.117	2.41	19.18	0.34		2.250	0.34	8.317	15.82	14.383	1.38	20.45	0.34
1.000	0.34	7.067	5.85	13.133	2.41	19.20	0.34		2.267	0.34	8.333	15.82	14.400	1.38	20.47	0.34
1.017	0.34	7.083	5.85	13.150	2.41	19.22	0.34		2.283	0.34	8.350	15.82	14.417	1.38	20.48	0.34
1.033	0.34	7.100	5.85	13.167	2.41	19.23	0.34		2.300	0.34	8.367	15.82	14.433	1.38	20.50	0.34
1.050	0.34	7.117	5.85	13.183	2.41	19.25	0.34		2.317	0.34	8.383	15.82	14.450	1.38	20.52	0.34
1.067	0.34	7.133	5.85	13.200	2.41	19.27	0.34		2.333	0.34	8.400	15.82	14.467	1.38	20.53	0.34
1.083	0.34	7.150	5.85	13.217	2.41	19.28	0.34		2.350	0.34	8.417	15.82	14.483	1.38	20.55	0.34
1.100	0.34	7.167	5.85	13.233	2.41	19.30	0.34		2.367	0.34	8.433	15.82	14.500	1.38	20.57	0.34
1.117	0.34	7.183	5.85	13.250	2.41	19.32	0.34		2.383	0.34	8.450	15.82	14.517	1.38	20.58	0.34
1.133	0.34	7.200	5.85	13.267	2.41	19.33	0.34		2.400	0.34	8.467	15.82	14.533	1.38	20.60	0.34
1.150	0.34	7.217	5.85	13.283	2.41	19.35	0.34		2.417	0.34	8.483	15.82	14.550	1.38	20.62	0.34
1.167	0.34	7.233	5.85	13.300	2.41	19.37	0.34		2.433	0.34	8.500	15.82	14.567	1.38	20.63	0.34
1.183	0.34	7.250	5.85	13.317	2.41	19.38	0.34		2.450	0.34	8.517	15.82	14.583	1.38	20.65	0.34
1.200	0.34	7.267	5.85	13.333	2.41	19.40	0.34		2.467	0.34	8.533	15.82	14.600	1.38	20.67	0.34
1.217	0.34	7.283	5.85	13.350	2.41	19.42	0.34		2.483	0.34	8.550	15.82	14.617	1.38	20.68	0.34
1.233	0.34	7.300	5.85	13.367	2.41	19.43	0.34		2.500	0.34	8.567	15.82	14.633	1.38	20.70	0.34
1.250	0.34	7.317	5.85	13.383	2.41	19.45	0.34		2.517	0.34	8.583	15.82	14.650	1.38	20.72	0.34
1.267	0.34	7.333	5.85	13.400	2.41	19.47	0.34		2.533	0.34	8.600	15.82	14.667	1.38	20.73	0.34
1.283	0.34	7.350	5.85	13.417	2.41	19.48	0.34		2.550	0.34	8.617	15.82	14.683	1.38	20.75	0.34
1.300	0.34	7.367	5.85	13.433	2.41	19.50	0.34		2.567	0.34	8.633	15.82	14.700	1.38	20.77	0.34
1.317	0.34	7.383	5.85	13.450	2.41	19.52	0.34		2.583	0.34	8.650	15.82	14.717	1.38	20.78	0.34
1.333	0.34	7.400	5.85	13.467	2.41	19.53	0.34		2.600	0.34	8.667	15.82	14.733	1.38	20.80	0.34
1.350	0.34	7.417	5.85	13.483	2.41	19.55	0.34		2.617	0.34	8.683	15.82	14.750	1.38	20.82	0.34
1.367	0.34	7.433	5.85	13.500	2.41	19.57	0.34		2.633	0.34	8.700	15.82	14.767	1.38	20.83	0.34
1.383	0.34	7.450	5.85	13.517	2.41	19.58	0.34		2.650	0.34	8.717	15.82	14.783	1.38	20.85	0.34
1.400	0.34	7.467	5.85	13.533	2.41	19.60	0.34		2.667	0.34	8.733	15.82	14.800	1.38	20.87	0.34
1.417	0.34	7.483	5.85	13.550	2.41	19.62	0.34		2.683	0.34	8.750	15.82	14.817	1.38	20.88	0.34
1.433	0.34	7.500	5.85	13.567	2.41	19.63	0.34		2.700	0.34	8.767	15.82	14.833	1.38	20.90	0.34
1.450	0.34	7.517	5.85	13.583	2.41	19.65	0.34		2.717	0.34	8.783	15.82	14.850	1.38	20.92	0.34

2.733	0.34	8.800	15.82	14.867	1.38	20.93	0.34
2.750	0.34	8.817	15.82	14.883	1.38	20.95	0.34
2.767	0.34	8.833	15.82	14.900	1.38	20.97	0.34
2.783	0.34	8.850	15.82	14.917	1.38	20.98	0.34
2.800	0.34	8.867	15.82	14.933	1.38	21.00	0.34
2.817	0.34	8.883	15.82	14.950	1.38	21.02	0.34
2.833	0.34	8.900	15.82	14.967	1.38	21.03	0.34
2.850	0.34	8.917	15.82	14.983	1.38	21.05	0.34
2.867	0.34	8.933	15.82	15.000	1.38	21.07	0.34
2.883	0.34	8.950	15.82	15.017	1.38	21.08	0.34
2.900	0.34	8.967	15.82	15.033	1.38	21.10	0.34
2.917	0.34	8.983	15.82	15.050	1.38	21.12	0.34
2.933	0.34	9.000	15.82	15.067	1.38	21.13	0.34
2.950	0.34	9.017	15.82	15.083	1.38	21.15	0.34
2.967	0.34	9.033	15.82	15.100	1.38	21.17	0.34
2.983	0.34	9.050	15.82	15.117	1.38	21.18	0.34
3.000	0.34	9.067	15.82	15.133	1.38	21.20	0.34
3.017	0.34	9.083	15.82	15.150	1.38	21.22	0.34
3.033	0.34	9.100	15.82	15.167	1.38	21.23	0.34
3.050	0.34	9.117	15.82	15.183	1.38	21.25	0.34
3.067	0.34	9.133	15.82	15.200	1.38	21.27	0.34
3.083	0.34	9.150	15.82	15.217	1.38	21.28	0.34
3.100	0.34	9.167	15.82	15.233	1.38	21.30	0.34
3.117	0.34	9.183	15.82	15.250	1.38	21.32	0.34
3.133	0.34	9.200	15.82	15.267	1.38	21.33	0.34
3.150	0.34	9.217	15.82	15.283	1.38	21.35	0.34
3.167	0.34	9.233	15.82	15.300	1.38	21.37	0.34
3.183	0.34	9.250	15.82	15.317	1.38	21.38	0.34
3.200	0.34	9.267	15.82	15.333	1.38	21.40	0.34
3.217	0.34	9.283	15.82	15.350	1.38	21.42	0.34
3.233	0.34	9.300	15.82	15.367	1.38	21.43	0.34
3.250	0.34	9.317	15.82	15.383	1.38	21.45	0.34
3.267	0.34	9.333	15.82	15.400	1.38	21.47	0.34
3.283	0.34	9.350	15.82	15.417	1.38	21.48	0.34
3.300	0.34	9.367	15.82	15.433	1.38	21.50	0.34
3.317	0.34	9.383	15.82	15.450	1.38	21.52	0.34
3.333	0.34	9.400	15.82	15.467	1.38	21.53	0.34
3.350	0.34	9.417	15.82	15.483	1.38	21.55	0.34
3.367	0.34	9.433	15.82	15.500	1.38	21.57	0.34
3.383	0.34	9.450	15.82	15.517	1.38	21.58	0.34
3.400	0.34	9.467	15.82	15.533	1.38	21.60	0.34
3.417	0.34	9.483	15.82	15.550	1.38	21.62	0.34
3.433	0.34	9.500	15.82	15.567	1.38	21.63	0.34
3.450	0.34	9.517	15.82	15.583	1.38	21.65	0.34
3.467	0.34	9.533	15.82	15.600	1.38	21.67	0.34
3.483	0.34	9.550	15.82	15.617	1.38	21.68	0.34
3.500	0.34	9.567	15.82	15.633	1.38	21.70	0.34
3.517	0.34	9.583	15.82	15.650	1.38	21.72	0.34
3.533	0.34	9.600	15.82	15.667	1.38	21.73	0.34
3.550	0.34	9.617	15.82	15.683	1.38	21.75	0.34
3.567	0.34	9.633	15.82	15.700	1.38	21.77	0.34
3.583	0.34	9.650	15.82	15.717	1.38	21.78	0.34
3.600	0.34	9.667	15.82	15.733	1.38	21.80	0.34
3.617	0.34	9.683	15.82	15.750	1.38	21.82	0.34
3.633	0.34	9.700	15.82	15.767	1.38	21.83	0.34
3.650	0.34	9.717	15.82	15.783	1.38	21.85	0.34
3.667	0.34	9.733	15.82	15.800	1.38	21.87	0.34
3.683	0.34	9.750	15.82	15.817	1.38	21.88	0.34
3.700	0.34	9.767	15.82	15.833	1.38	21.90	0.34
3.717	0.34	9.783	15.82	15.850	1.38	21.92	0.34
3.733	0.34	9.800	15.82	15.867	1.38	21.93	0.34
3.750	0.34	9.817	15.82	15.883	1.38	21.95	0.34
3.767	0.34	9.833	15.82	15.900	1.38	21.97	0.34
3.783	0.34	9.850	15.82	15.917	1.38	21.98	0.34
3.800	0.34	9.867	15.82	15.933	1.38	22.00	0.34
3.817	0.34	9.883	15.82	15.950	1.38	22.02	0.34
3.833	0.34	9.900	15.82	15.967	1.38	22.03	0.34
3.850	0.34	9.917	15.82	15.983	1.38	22.05	0.34
3.867	0.34	9.933	15.82	16.000	1.38	22.07	0.34
3.883	0.34	9.950	15.82	16.017	1.38	22.08	0.34
3.900	0.34	9.967	15.82	16.033	1.38	22.10	0.34
3.917	0.34	9.983	15.82	16.050	1.38	22.12	0.34
3.933	0.34	10.000	15.82	16.067	1.38	22.13	0.34
3.950	0.34	10.017	15.82	16.083	1.38	22.15	0.34
3.967	0.34	10.033	15.82	16.100	1.38	22.17	0.34
3.983	0.34	10.050	15.82	16.117	1.38	22.18	0.34
4.000	0.34	10.067	15.82	16.133	1.38	22.20	0.34
4.017	0.34	10.083	15.82	16.150	1.38	22.22	0.34
4.033	0.34	10.100	15.82	16.167	1.38	22.23	0.34
4.050	0.34	10.117	15.82	16.183	1.38	22.25	0.34
4.067	0.34	10.133	15.82	16.200	1.38	22.27	0.34
4.083	0.34	10.150	15.82	16.217	1.38	22.28	0.34
4.100	0.34	10.167	15.82	16.233	1.38	22.30	0.34
4.117	0.34	10.183	15.82	16.250	1.38	22.32	0.34
4.133	0.34	10.200	15.82	16.267	0.69	22.33	0.34
4.150	0.34	10.217	15.82	16.283	0.69	22.35	0.34
4.167	0.34	10.233	15.82	16.300	0.69	22.37	0.34
4.183	0.34	10.250	15.81	16.317	0.69	22.38	0.34
4.200	0.34	10.267	4.47	16.333	0.69	22.40	0.34
4.217	0.34	10.283	4.47	16.350	0.69	22.42	0.34
4.233	0.34	10.300	4.47	16.367	0.69	22.43	0.34
4.250	0.34	10.317	4.47	16.383	0.69	22.45	0.34
4.267	2.06	10.333	4.47	16.400	0.69	22.47	0.34
4.283	2.06	10.350	4.47	16.417	0.69	22.48	0.34
4.300	2.06	10.367	4.47	16.433	0.69	22.50	0.34
4.317	2.06	10.383	4.47	16.450	0.69	22.52	0.34
4.333	2.06	10.400	4.47	16.467	0.69	22.53	0.34
4.350	2.06	10.417	4.47	16.483	0.69	22.55	0.34
4.367	2.06	10.433	4.47	16.500	0.69	22.57	0.34
4.383	2.06	10.450	4.47	16.517	0.69	22.58	0.34
4.400	2.06	10.467	4.47	16.533	0.69	22.60	0.34
4.417	2.06	10.483	4.47	16.550	0.69	22.62	0.34
4.433	2.06	10.500	4.47	16.567	0.69	22.63	0.34
4.450	2.06	10.517	4.47	16.583	0.69	22.65	0.34
4.467	2.06	10.533	4.47	16.600	0.69	22.67	0.34
4.483	2.06	10.550	4.47	16.617	0.69	22.68	0.34
4.500	2.06	10.567	4.47	16.633	0.69	22.70	0.34
4.517	2.06	10.583	4.47	16.650	0.69	22.72	0.34
4.533	2.06	10.600	4.47	16.667	0.69	22.73	0.34
4.550	2.06	10.617	4.47	16.683	0.69	22.75	0.34
4.567	2.06	10.633	4.47	16.700	0.69	22.77	0.34
4.583	2.06	10.650	4.47	16.717	0.69	22.78	0.34
4.600	2.06	10.667	4.47	16.733	0.69	22.80	0.34
4.617	2.06	10.683	4.47	16.750	0.69	22.82	0.34
4.633	2.06	10.700	4.47	16.767	0.69	22.83	0.34
4.650	2.06	10.717	4.47	16.783	0.69	22.85	0.34
4.667	2.06	10.733	4.47	16.800	0.69	22.87	0.34
4.683	2.06	10.750	4.47	16.817	0.69	22.88	0.34
4.700	2.06	10.767	4.47	16.833	0.69	22.90	0.34
4.717	2.06	10.783	4.47	16.850	0.69	22.92	0.34
4.733	2.06	10.800	4.47	16.867	0.69	22.93	0.34
4.750	2.06	10.817	4.47	16.883	0.69	22.95	0.34
4.767	2.06	10.833	4.47	16.900	0.69	22.97	0.34
4.783	2.06	10.850	4.47	16.917	0.69	22.98	0.34
4.800	2.06	10.867	4.47	16.933	0.69	23.00	0.34
4.817	2.06	10.883	4.47	16.950	0.69	23.02	0.34
4.833	2.06	10.900	4.47	16.967	0.69	23.03	0.34
4.850	2.06	10.917	4.47	16.983	0.69	23.05	0.34
4.867	2.06	10.933	4.47	17.000	0.69	23.07	0.34
4.883	2.06	10.950	4.47	17.017	0.69	23.08	0.34
4.900	2.06	10.967	4.47	17.033	0.69	23.10	0.34
4.917	2.06	10.983	4.47	17.050	0.69	23.12	0.34
4.933	2.06	11.000	4.47	17.067	0.69	23.13	0.34
4.950	2.06	11.017	4.47	17.083	0.69	23.15	0.34
4.967	2.06	11.033	4.47	17.100	0.69	23.17	0.34
4.983	2.06	11.050	4.47	17.117	0.69	23.18	0.34
5.000	2.06	11.067	4.47	17.133	0.69	23.20	0.34
5.017	2.06	11.083	4.47	17.150	0.69	23.22	0.34
5.033	2.06	11.100	4.47	17.167	0.69	23.23	0.34
5.050	2.06	11.117	4.47	17.183	0.69	23.25	0.34
5.067	2.06	11.133	4.47	17.200	0.69	23.27	0.34
5.083	2.06	11.150	4.47	17.217	0.69	23.28	0.34
5.100	2.06	11.167	4.47	17.233	0.69	23.30	0.34
5.117	2.06	11.183	4.47	17.250	0.69	23.32	0.34
5.133	2.06	11.200	4.47	17.267	0.69	23.33	0.34
5.150	2.06	11.217	4.47	17.283	0.69	23.35	0.34
5.167	2.06	11.233	4.47	17.300	0.69	23.37	0.34
5.183	2.06	11.250	4.47	17.317	0.69	23.38	0.34
5.200	2.06	11.267	4.47	17.333	0.69	23.40	0.34
5.217	2.06	11.283	4.47	17.350	0.69	23.42	0.34
5.233	2.06	11.300	4.47	17.367	0.69	23.43	0.34
5.250	2.06	11.317	4.47	17.383	0.69	23.45	0.34

5.267	2.06	11.333	4.47	17.400	0.69	23.47	0.34
5.283	2.06	11.350	4.47	17.417	0.69	23.48	0.34
5.300	2.06	11.367	4.47	17.433	0.69	23.50	0.34
5.317	2.06	11.383	4.47	17.450	0.69	23.52	0.34
5.333	2.06	11.400	4.47	17.467	0.69	23.53	0.34
5.350	2.06	11.417	4.47	17.483	0.69	23.55	0.34
5.367	2.06	11.433	4.47	17.500	0.69	23.57	0.34
5.383	2.06	11.450	4.47	17.517	0.69	23.58	0.34
5.400	2.06	11.467	4.47	17.533	0.69	23.60	0.34
5.417	2.06	11.483	4.47	17.550	0.69	23.62	0.34
5.433	2.06	11.500	4.47	17.567	0.69	23.63	0.34
5.450	2.06	11.517	4.47	17.583	0.69	23.65	0.34
5.467	2.06	11.533	4.47	17.600	0.69	23.67	0.34
5.483	2.06	11.550	4.47	17.617	0.69	23.68	0.34
5.500	2.06	11.567	4.47	17.633	0.69	23.70	0.34
5.517	2.06	11.583	4.47	17.650	0.69	23.72	0.34
5.533	2.06	11.600	4.47	17.667	0.69	23.73	0.34
5.550	2.06	11.617	4.47	17.683	0.69	23.75	0.34
5.567	2.06	11.633	4.47	17.700	0.69	23.77	0.34
5.583	2.06	11.650	4.47	17.717	0.69	23.78	0.34
5.600	2.06	11.667	4.47	17.733	0.69	23.80	0.34
5.617	2.06	11.683	4.47	17.750	0.69	23.82	0.34
5.633	2.06	11.700	4.47	17.767	0.69	23.83	0.34
5.650	2.06	11.717	4.47	17.783	0.69	23.85	0.34
5.667	2.06	11.733	4.47	17.800	0.69	23.87	0.34
5.683	2.06	11.750	4.47	17.817	0.69	23.88	0.34
5.700	2.06	11.767	4.47	17.833	0.69	23.90	0.34
5.717	2.06	11.783	4.47	17.850	0.69	23.92	0.34
5.733	2.06	11.800	4.47	17.867	0.69	23.93	0.34
5.750	2.06	11.817	4.47	17.883	0.69	23.95	0.34
5.767	2.06	11.833	4.47	17.900	0.69	23.97	0.34
5.783	2.06	11.850	4.47	17.917	0.69	23.98	0.34
5.800	2.06	11.867	4.47	17.933	0.69	24.00	0.34
5.817	2.06	11.883	4.47	17.950	0.69	24.02	0.34
5.833	2.06	11.900	4.47	17.967	0.69	24.03	0.34
5.850	2.06	11.917	4.47	17.983	0.69	24.05	0.34
5.867	2.06	11.933	4.47	18.000	0.69	24.07	0.34
5.883	2.06	11.950	4.47	18.017	0.69	24.08	0.34
5.900	2.06	11.967	4.47	18.033	0.69	24.10	0.34
5.917	2.06	11.983	4.47	18.050	0.69	24.12	0.34
5.933	2.06	12.000	4.47	18.067	0.69	24.13	0.34
5.950	2.06	12.017	4.47	18.083	0.69	24.15	0.34
5.967	2.06	12.033	4.47	18.100	0.69	24.17	0.34
5.983	2.06	12.050	4.47	18.117	0.69	24.18	0.34
6.000	2.06	12.067	4.47	18.133	0.69	24.20	0.34
6.017	2.06	12.083	4.47	18.150	0.69	24.22	0.34
6.033	2.06	12.100	4.47	18.167	0.69	24.23	0.34
6.050	2.06	12.117	4.47	18.183	0.69	24.25	0.34
6.067	2.06	12.133	4.47	18.200	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	11.97	
over (min)	6.00	10.00	
Storage Coeff. (min)=	6.00 (ii)	9.56 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.19	0.12	
			TOTALS
PEAK FLOW (cms)=	0.10	0.00	0.097 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	67.75	40.36	67.48
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.59	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.097	10.25	67.48
OUTFLOW: ID= 1 (7642)	2.210	0.031	10.62	62.39

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.51
TIME SHIFT OF PEAK FLOW (min)= 22.00
MAXIMUM STORAGE USED (ha.m.)= 0.0853

CALIB STANDHYD (7643) ID= 1 DT= 1.0 min	Area (ha)= 2.02 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.06	12.150	4.47	18.22	0.69
0.033	0.00	6.100	2.06	12.167	4.47	18.23	0.69
0.050	0.00	6.117	2.06	12.183	4.47	18.25	0.69
0.067	0.00	6.133	2.06	12.200	4.47	18.27	0.34
0.083	0.00	6.150	2.06	12.217	4.47	18.28	0.34
0.100	0.00	6.167	2.06	12.233	4.47	18.30	0.34
0.117	0.00	6.183	2.06	12.250	4.47	18.32	0.34
0.133	0.00	6.200	2.06	12.267	2.41	18.33	0.34
0.150	0.00	6.217	2.06	12.283	2.41	18.35	0.34
0.167	0.00	6.233	2.06	12.300	2.41	18.37	0.34
0.183	0.00	6.250	2.07	12.317	2.41	18.38	0.34
0.200	0.00	6.267	5.85	12.333	2.41	18.40	0.34
0.217	0.00	6.283	5.85	12.350	2.41	18.42	0.34
0.233	0.00	6.300	5.85	12.367	2.41	18.43	0.34
0.250	0.00	6.317	5.85	12.383	2.41	18.45	0.34
0.267	0.34	6.333	5.85	12.400	2.41	18.47	0.34
0.283	0.34	6.350	5.85	12.417	2.41	18.48	0.34
0.300	0.34	6.367	5.85	12.433	2.41	18.50	0.34
0.317	0.34	6.383	5.85	12.450	2.41	18.52	0.34
0.333	0.34	6.400	5.85	12.467	2.41	18.53	0.34
0.350	0.34	6.417	5.85	12.483	2.41	18.55	0.34
0.367	0.34	6.433	5.85	12.500	2.41	18.57	0.34
0.383	0.34	6.450	5.85	12.517	2.41	18.58	0.34
0.400	0.34	6.467	5.85	12.533	2.41	18.60	0.34
0.417	0.34	6.483	5.85	12.550	2.41	18.62	0.34
0.433	0.34	6.500	5.85	12.567	2.41	18.63	0.34
0.450	0.34	6.517	5.85	12.583	2.41	18.65	0.34
0.467	0.34	6.533	5.85	12.600	2.41	18.67	0.34
0.483	0.34	6.550	5.85	12.617	2.41	18.68	0.34
0.500	0.34	6.567	5.85	12.633	2.41	18.70	0.34
0.517	0.34	6.583	5.85	12.650	2.41	18.72	0.34
0.533	0.34	6.600	5.85	12.667	2.41	18.73	0.34
0.550	0.34	6.617	5.85	12.683	2.41	18.75	0.34
0.567	0.34	6.633	5.85	12.700	2.41	18.77	0.34
0.583	0.34	6.650	5.85	12.717	2.41	18.78	0.34
0.600	0.34	6.667	5.85	12.733	2.41	18.80	0.34
0.617	0.34	6.683	5.85	12.750	2.41	18.82	0.34
0.633	0.34	6.700	5.85	12.767	2.41	18.83	0.34
0.650	0.34	6.717	5.85	12.783	2.41	18.85	0.34
0.667	0.34	6.733	5.85	12.800	2.41	18.87	0.34
0.683	0.34	6.750	5.85	12.817	2.41	18.88	0.34
0.700	0.34	6.767	5.85	12.833	2.41	18.90	0.34
0.717	0.34	6.783	5.85	12.850	2.41	18.92	0.34
0.733	0.34	6.800	5.85	12.867	2.41	18.93	0.34

0.750	0.34	6.817	5.85	12.883	2.41	18.95	0.34	2.017	0.34	8.083	5.85	14.150	2.41	20.22	0.34
0.767	0.34	6.833	5.85	12.900	2.41	18.97	0.34	2.033	0.34	8.100	5.85	14.167	2.41	20.23	0.34
0.783	0.34	6.850	5.85	12.917	2.41	18.98	0.34	2.050	0.34	8.117	5.85	14.183	2.41	20.25	0.34
0.800	0.34	6.867	5.85	12.933	2.41	19.00	0.34	2.067	0.34	8.133	5.85	14.200	2.41	20.27	0.34
0.817	0.34	6.883	5.85	12.950	2.41	19.02	0.34	2.083	0.34	8.150	5.85	14.217	2.41	20.28	0.34
0.833	0.34	6.900	5.85	12.967	2.41	19.03	0.34	2.100	0.34	8.167	5.85	14.233	2.41	20.30	0.34
0.850	0.34	6.917	5.85	12.983	2.41	19.05	0.34	2.117	0.34	8.183	5.85	14.250	2.41	20.32	0.34
0.867	0.34	6.933	5.85	13.000	2.41	19.07	0.34	2.133	0.34	8.200	5.85	14.267	1.38	20.33	0.34
0.883	0.34	6.950	5.85	13.017	2.41	19.08	0.34	2.150	0.34	8.217	5.85	14.283	1.38	20.35	0.34
0.900	0.34	6.967	5.85	13.033	2.41	19.10	0.34	2.167	0.34	8.233	5.85	14.300	1.38	20.37	0.34
0.917	0.34	6.983	5.85	13.050	2.41	19.12	0.34	2.183	0.34	8.250	5.88	14.317	1.38	20.38	0.34
0.933	0.34	7.000	5.85	13.067	2.41	19.13	0.34	2.200	0.34	8.267	15.82	14.333	1.38	20.40	0.34
0.950	0.34	7.017	5.85	13.083	2.41	19.15	0.34	2.217	0.34	8.283	15.82	14.350	1.38	20.42	0.34
0.967	0.34	7.033	5.85	13.100	2.41	19.17	0.34	2.233	0.34	8.300	15.82	14.367	1.38	20.43	0.34
0.983	0.34	7.050	5.85	13.117	2.41	19.18	0.34	2.250	0.34	8.317	15.82	14.383	1.38	20.45	0.34
1.000	0.34	7.067	5.85	13.133	2.41	19.20	0.34	2.267	0.34	8.333	15.82	14.400	1.38	20.47	0.34
1.017	0.34	7.083	5.85	13.150	2.41	19.22	0.34	2.283	0.34	8.350	15.82	14.417	1.38	20.48	0.34
1.033	0.34	7.100	5.85	13.167	2.41	19.23	0.34	2.300	0.34	8.367	15.82	14.433	1.38	20.50	0.34
1.050	0.34	7.117	5.85	13.183	2.41	19.25	0.34	2.317	0.34	8.383	15.82	14.450	1.38	20.52	0.34
1.067	0.34	7.133	5.85	13.200	2.41	19.27	0.34	2.333	0.34	8.400	15.82	14.467	1.38	20.53	0.34
1.083	0.34	7.150	5.85	13.217	2.41	19.28	0.34	2.350	0.34	8.417	15.82	14.483	1.38	20.55	0.34
1.100	0.34	7.167	5.85	13.233	2.41	19.30	0.34	2.367	0.34	8.433	15.82	14.500	1.38	20.57	0.34
1.117	0.34	7.183	5.85	13.250	2.41	19.32	0.34	2.383	0.34	8.450	15.82	14.517	1.38	20.58	0.34
1.133	0.34	7.200	5.85	13.267	2.41	19.33	0.34	2.400	0.34	8.467	15.82	14.533	1.38	20.60	0.34
1.150	0.34	7.217	5.85	13.283	2.41	19.35	0.34	2.417	0.34	8.483	15.82	14.550	1.38	20.62	0.34
1.167	0.34	7.233	5.85	13.300	2.41	19.37	0.34	2.433	0.34	8.500	15.82	14.567	1.38	20.63	0.34
1.183	0.34	7.250	5.85	13.317	2.41	19.38	0.34	2.450	0.34	8.517	15.82	14.583	1.38	20.65	0.34
1.200	0.34	7.267	5.85	13.333	2.41	19.40	0.34	2.467	0.34	8.533	15.82	14.600	1.38	20.67	0.34
1.217	0.34	7.283	5.85	13.350	2.41	19.42	0.34	2.483	0.34	8.550	15.82	14.617	1.38	20.68	0.34
1.233	0.34	7.300	5.85	13.367	2.41	19.43	0.34	2.500	0.34	8.567	15.82	14.633	1.38	20.70	0.34
1.250	0.34	7.317	5.85	13.383	2.41	19.45	0.34	2.517	0.34	8.583	15.82	14.650	1.38	20.72	0.34
1.267	0.34	7.333	5.85	13.400	2.41	19.47	0.34	2.533	0.34	8.600	15.82	14.667	1.38	20.73	0.34
1.283	0.34	7.350	5.85	13.417	2.41	19.48	0.34	2.550	0.34	8.617	15.82	14.683	1.38	20.75	0.34
1.300	0.34	7.367	5.85	13.433	2.41	19.50	0.34	2.567	0.34	8.633	15.82	14.700	1.38	20.77	0.34
1.317	0.34	7.383	5.85	13.450	2.41	19.52	0.34	2.583	0.34	8.650	15.82	14.717	1.38	20.78	0.34
1.333	0.34	7.400	5.85	13.467	2.41	19.53	0.34	2.600	0.34	8.667	15.82	14.733	1.38	20.80	0.34
1.350	0.34	7.417	5.85	13.483	2.41	19.55	0.34	2.617	0.34	8.683	15.82	14.750	1.38	20.82	0.34
1.367	0.34	7.433	5.85	13.500	2.41	19.57	0.34	2.633	0.34	8.700	15.82	14.767	1.38	20.83	0.34
1.383	0.34	7.450	5.85	13.517	2.41	19.58	0.34	2.650	0.34	8.717	15.82	14.783	1.38	20.85	0.34
1.400	0.34	7.467	5.85	13.533	2.41	19.60	0.34	2.667	0.34	8.733	15.82	14.800	1.38	20.87	0.34
1.417	0.34	7.483	5.85	13.550	2.41	19.62	0.34	2.683	0.34	8.750	15.82	14.817	1.38	20.88	0.34
1.433	0.34	7.500	5.85	13.567	2.41	19.63	0.34	2.700	0.34	8.767	15.82	14.833	1.38	20.90	0.34
1.450	0.34	7.517	5.85	13.583	2.41	19.65	0.34	2.717	0.34	8.783	15.82	14.850	1.38	20.92	0.34
1.467	0.34	7.533	5.85	13.600	2.41	19.67	0.34	2.733	0.34	8.800	15.82	14.867	1.38	20.93	0.34
1.483	0.34	7.550	5.85	13.617	2.41	19.68	0.34	2.750	0.34	8.817	15.82	14.883	1.38	20.95	0.34
1.500	0.34	7.567	5.85	13.633	2.41	19.70	0.34	2.767	0.34	8.833	15.82	14.900	1.38	20.97	0.34
1.517	0.34	7.583	5.85	13.650	2.41	19.72	0.34	2.783	0.34	8.850	15.82	14.917	1.38	20.98	0.34
1.533	0.34	7.600	5.85	13.667	2.41	19.73	0.34	2.800	0.34	8.867	15.82	14.933	1.38	21.00	0.34
1.550	0.34	7.617	5.85	13.683	2.41	19.75	0.34	2.817	0.34	8.883	15.82	14.950	1.38	21.02	0.34
1.567	0.34	7.633	5.85	13.700	2.41	19.77	0.34	2.833	0.34	8.900	15.82	14.967	1.38	21.03	0.34
1.583	0.34	7.650	5.85	13.717	2.41	19.78	0.34	2.850	0.34	8.917	15.82	14.983	1.38	21.05	0.34
1.600	0.34	7.667	5.85	13.733	2.41	19.80	0.34	2.867	0.34	8.933	15.82	15.000	1.38	21.07	0.34
1.617	0.34	7.683	5.85	13.750	2.41	19.82	0.34	2.883	0.34	8.950	15.82	15.017	1.38	21.08	0.34
1.633	0.34	7.700	5.85	13.767	2.41	19.83	0.34	2.900	0.34	8.967	15.82	15.033	1.38	21.10	0.34
1.650	0.34	7.717	5.85	13.783	2.41	19.85	0.34	2.917	0.34	8.983	15.82	15.050	1.38	21.12	0.34
1.667	0.34	7.733	5.85	13.800	2.41	19.87	0.34	2.933	0.34	9.000	15.82	15.067	1.38	21.13	0.34
1.683	0.34	7.750	5.85	13.817	2.41	19.88	0.34	2.950	0.34	9.017	15.82	15.083	1.38	21.15	0.34
1.700	0.34	7.767	5.85	13.833	2.41	19.90	0.34	2.967	0.34	9.033	15.82	15.100	1.38	21.17	0.34
1.717	0.34	7.783	5.85	13.850	2.41	19.92	0.34	2.983	0.34	9.050	15.82	15.117	1.38	21.18	0.34
1.733	0.34	7.800	5.85	13.867	2.41	19.93	0.34	3.000	0.34	9.067	15.82	15.133	1.38	21.20	0.34
1.750	0.34	7.817	5.85	13.883	2.41	19.95	0.34	3.017	0.34	9.083	15.82	15.150	1.38	21.22	0.34
1.767	0.34	7.833	5.85	13.900	2.41	19.97	0.34	3.033	0.34	9.100	15.82	15.167	1.38	21.23	0.34
1.783	0.34	7.850	5.85	13.917	2.41	19.98	0.34	3.050	0.34	9.117	15.82	15.183	1.38	21.25	0.34
1.800	0.34	7.867	5.85	13.933	2.41	20.00	0.34	3.067	0.34	9.133	15.82	15.200	1.38	21.27	0.34
1.817	0.34	7.883	5.85	13.950	2.41	20.02	0.34	3.083	0.34	9.150	15.82	15.217	1.38	21.28	0.34
1.833	0.34	7.900	5.85	13.967	2.41	20.03	0.34	3.100	0.34	9.167	15.82	15.233	1.38	21.30	0.34
1.850	0.34	7.917	5.85	13.983	2.41	20.05	0.34	3.117	0.34	9.183	15.82	15.250	1.38	21.32	0.34
1.867	0.34	7.933	5.85	14.000	2.41	20.07	0.34	3.133	0.34	9.200	15.82	15.267	1.38	21.33	0.34
1.883	0.34	7.950	5.85	14.017	2.41	20.08	0.34	3.150	0.34	9.217	15.82	15.283	1.38	21.35	0.34
1.900	0.34	7.967	5.85	14.033	2.41	20.10	0.34	3.167	0.34	9.233	15.82	15.300	1.38	21.37	0.34
1.917	0.34	7.983	5.85	14.050	2.41	20.12	0.34	3.183	0.34	9.250	15.82	15.317	1.38	21.38	0.34
1.933	0.34	8.000	5.85	14.067	2.41	20.13	0.34	3.200	0.34	9.267	15.82	15.333	1.38	21.40	0.34
1.950	0.34	8.017	5.85	14.083	2.41	20.15	0.34	3.217	0.34	9.283	15.82	15.350	1.38	21.42	0.34
1.967	0.34	8.033	5.85	14.100	2.41	20.17	0.34	3.233	0.34	9.300	15.82	15.367	1.38	21.43	0.34
1.983	0.34	8.050	5.85	14.117	2.41	20.18	0.34	3.250	0.34	9.317	15.82	15.383	1.38	21.45	0.34
2.000	0.34	8.067	5.85	14.133	2.41	20.20	0.34	3.267	0.34	9.333	15.82	15.400	1.38	21.47	0.34

3.283	0.34	9.350	15.82	15.417	1.38	21.48	0.34	4.550	2.06	10.617	4.47	16.683	0.69	22.75	0.34
3.300	0.34	9.367	15.82	15.433	1.38	21.50	0.34	4.567	2.06	10.633	4.47	16.700	0.69	22.77	0.34
3.317	0.34	9.383	15.82	15.450	1.38	21.52	0.34	4.583	2.06	10.650	4.47	16.717	0.69	22.78	0.34
3.333	0.34	9.400	15.82	15.467	1.38	21.53	0.34	4.600	2.06	10.667	4.47	16.733	0.69	22.80	0.34
3.350	0.34	9.417	15.82	15.483	1.38	21.55	0.34	4.617	2.06	10.683	4.47	16.750	0.69	22.82	0.34
3.367	0.34	9.433	15.82	15.500	1.38	21.57	0.34	4.633	2.06	10.700	4.47	16.767	0.69	22.83	0.34
3.383	0.34	9.450	15.82	15.517	1.38	21.58	0.34	4.650	2.06	10.717	4.47	16.783	0.69	22.85	0.34
3.400	0.34	9.467	15.82	15.533	1.38	21.60	0.34	4.667	2.06	10.733	4.47	16.800	0.69	22.87	0.34
3.417	0.34	9.483	15.82	15.550	1.38	21.62	0.34	4.683	2.06	10.750	4.47	16.817	0.69	22.88	0.34
3.433	0.34	9.500	15.82	15.567	1.38	21.63	0.34	4.700	2.06	10.767	4.47	16.833	0.69	22.90	0.34
3.450	0.34	9.517	15.82	15.583	1.38	21.65	0.34	4.717	2.06	10.783	4.47	16.850	0.69	22.92	0.34
3.467	0.34	9.533	15.82	15.600	1.38	21.67	0.34	4.733	2.06	10.800	4.47	16.867	0.69	22.93	0.34
3.483	0.34	9.550	15.82	15.617	1.38	21.68	0.34	4.750	2.06	10.817	4.47	16.883	0.69	22.95	0.34
3.500	0.34	9.567	15.82	15.633	1.38	21.70	0.34	4.767	2.06	10.833	4.47	16.900	0.69	22.97	0.34
3.517	0.34	9.583	15.82	15.650	1.38	21.72	0.34	4.783	2.06	10.850	4.47	16.917	0.69	22.98	0.34
3.533	0.34	9.600	15.82	15.667	1.38	21.73	0.34	4.800	2.06	10.867	4.47	16.933	0.69	23.00	0.34
3.550	0.34	9.617	15.82	15.683	1.38	21.75	0.34	4.817	2.06	10.883	4.47	16.950	0.69	23.02	0.34
3.567	0.34	9.633	15.82	15.700	1.38	21.77	0.34	4.833	2.06	10.900	4.47	16.967	0.69	23.03	0.34
3.583	0.34	9.650	15.82	15.717	1.38	21.78	0.34	4.850	2.06	10.917	4.47	16.983	0.69	23.05	0.34
3.600	0.34	9.667	15.82	15.733	1.38	21.80	0.34	4.867	2.06	10.933	4.47	17.000	0.69	23.07	0.34
3.617	0.34	9.683	15.82	15.750	1.38	21.82	0.34	4.883	2.06	10.950	4.47	17.017	0.69	23.08	0.34
3.633	0.34	9.700	15.82	15.767	1.38	21.83	0.34	4.900	2.06	10.967	4.47	17.033	0.69	23.10	0.34
3.650	0.34	9.717	15.82	15.783	1.38	21.85	0.34	4.917	2.06	10.983	4.47	17.050	0.69	23.12	0.34
3.667	0.34	9.733	15.82	15.800	1.38	21.87	0.34	4.933	2.06	11.000	4.47	17.067	0.69	23.13	0.34
3.683	0.34	9.750	15.82	15.817	1.38	21.88	0.34	4.950	2.06	11.017	4.47	17.083	0.69	23.15	0.34
3.700	0.34	9.767	15.82	15.833	1.38	21.90	0.34	4.967	2.06	11.033	4.47	17.100	0.69	23.17	0.34
3.717	0.34	9.783	15.82	15.850	1.38	21.92	0.34	4.983	2.06	11.050	4.47	17.117	0.69	23.18	0.34
3.733	0.34	9.800	15.82	15.867	1.38	21.93	0.34	5.000	2.06	11.067	4.47	17.133	0.69	23.20	0.34
3.750	0.34	9.817	15.82	15.883	1.38	21.95	0.34	5.017	2.06	11.083	4.47	17.150	0.69	23.22	0.34
3.767	0.34	9.833	15.82	15.900	1.38	21.97	0.34	5.033	2.06	11.100	4.47	17.167	0.69	23.23	0.34
3.783	0.34	9.850	15.82	15.917	1.38	21.98	0.34	5.050	2.06	11.117	4.47	17.183	0.69	23.25	0.34
3.800	0.34	9.867	15.82	15.933	1.38	22.00	0.34	5.067	2.06	11.133	4.47	17.200	0.69	23.27	0.34
3.817	0.34	9.883	15.82	15.950	1.38	22.02	0.34	5.083	2.06	11.150	4.47	17.217	0.69	23.28	0.34
3.833	0.34	9.900	15.82	15.967	1.38	22.03	0.34	5.100	2.06	11.167	4.47	17.233	0.69	23.30	0.34
3.850	0.34	9.917	15.82	15.983	1.38	22.05	0.34	5.117	2.06	11.183	4.47	17.250	0.69	23.32	0.34
3.867	0.34	9.933	15.82	16.000	1.38	22.07	0.34	5.133	2.06	11.200	4.47	17.267	0.69	23.33	0.34
3.883	0.34	9.950	15.82	16.017	1.38	22.08	0.34	5.150	2.06	11.217	4.47	17.283	0.69	23.35	0.34
3.900	0.34	9.967	15.82	16.033	1.38	22.10	0.34	5.167	2.06	11.233	4.47	17.300	0.69	23.37	0.34
3.917	0.34	9.983	15.82	16.050	1.38	22.12	0.34	5.183	2.06	11.250	4.47	17.317	0.69	23.38	0.34
3.933	0.34	10.000	15.82	16.067	1.38	22.13	0.34	5.200	2.06	11.267	4.47	17.333	0.69	23.40	0.34
3.950	0.34	10.017	15.82	16.083	1.38	22.15	0.34	5.217	2.06	11.283	4.47	17.350	0.69	23.42	0.34
3.967	0.34	10.033	15.82	16.100	1.38	22.17	0.34	5.233	2.06	11.300	4.47	17.367	0.69	23.43	0.34
3.983	0.34	10.050	15.82	16.117	1.38	22.18	0.34	5.250	2.06	11.317	4.47	17.383	0.69	23.45	0.34
4.000	0.34	10.067	15.82	16.133	1.38	22.20	0.34	5.267	2.06	11.333	4.47	17.400	0.69	23.47	0.34
4.017	0.34	10.083	15.82	16.150	1.38	22.22	0.34	5.283	2.06	11.350	4.47	17.417	0.69	23.48	0.34
4.033	0.34	10.100	15.82	16.167	1.38	22.23	0.34	5.300	2.06	11.367	4.47	17.433	0.69	23.50	0.34
4.050	0.34	10.117	15.82	16.183	1.38	22.25	0.34	5.317	2.06	11.383	4.47	17.450	0.69	23.52	0.34
4.067	0.34	10.133	15.82	16.200	1.38	22.27	0.34	5.333	2.06	11.400	4.47	17.467	0.69	23.53	0.34
4.083	0.34	10.150	15.82	16.217	1.38	22.28	0.34	5.350	2.06	11.417	4.47	17.483	0.69	23.55	0.34
4.100	0.34	10.167	15.82	16.233	1.38	22.30	0.34	5.367	2.06	11.433	4.47	17.500	0.69	23.57	0.34
4.117	0.34	10.183	15.82	16.250	1.38	22.32	0.34	5.383	2.06	11.450	4.47	17.517	0.69	23.58	0.34
4.133	0.34	10.200	15.82	16.267	0.69	22.33	0.34	5.400	2.06	11.467	4.47	17.533	0.69	23.60	0.34
4.150	0.34	10.217	15.82	16.283	0.69	22.35	0.34	5.417	2.06	11.483	4.47	17.550	0.69	23.62	0.34
4.167	0.34	10.233	15.82	16.300	0.69	22.37	0.34	5.433	2.06	11.500	4.47	17.567	0.69	23.63	0.34
4.183	0.34	10.250	15.81	16.317	0.69	22.38	0.34	5.450	2.06	11.517	4.47	17.583	0.69	23.65	0.34
4.200	0.34	10.267	4.47	16.333	0.69	22.40	0.34	5.467	2.06	11.533	4.47	17.600	0.69	23.67	0.34
4.217	0.34	10.283	4.47	16.350	0.69	22.42	0.34	5.483	2.06	11.550	4.47	17.617	0.69	23.68	0.34
4.233	0.34	10.300	4.47	16.367	0.69	22.43	0.34	5.500	2.06	11.567	4.47	17.633	0.69	23.70	0.34
4.250	0.34	10.317	4.47	16.383	0.69	22.45	0.34	5.517	2.06	11.583	4.47	17.650	0.69	23.72	0.34
4.267	2.06	10.333	4.47	16.400	0.69	22.47	0.34	5.533	2.06	11.600	4.47	17.667	0.69	23.73	0.34
4.283	2.06	10.350	4.47	16.417	0.69	22.48	0.34	5.550	2.06	11.617	4.47	17.683	0.69	23.75	0.34
4.300	2.06	10.367	4.47	16.433	0.69	22.50	0.34	5.567	2.06	11.633	4.47	17.700	0.69	23.77	0.34
4.317	2.06	10.383	4.47	16.450	0.69	22.52	0.34	5.583	2.06	11.650	4.47	17.717	0.69	23.78	0.34
4.333	2.06	10.400	4.47	16.467	0.69	22.53	0.34	5.600	2.06	11.667	4.47	17.733	0.69	23.80	0.34
4.350	2.06	10.417	4.47	16.483	0.69	22.55	0.34	5.617	2.06	11.683	4.47	17.750	0.69	23.82	0.34
4.367	2.06	10.433	4.47	16.500	0.69	22.57	0.34	5.633	2.06	11.700	4.47	17.767	0.69	23.83	0.34
4.383	2.06	10.450	4.47	16.517	0.69	22.58	0.34	5.650	2.06	11.717	4.47	17.783	0.69	23.85	0.34
4.400	2.06	10.467	4.47	16.533	0.69	22.60	0.34	5.667	2.06	11.733	4.47	17.800	0.69	23.87	0.34
4.417	2.06	10.483	4.47	16.550	0.69	22.62	0.34	5.683	2.06	11.750	4.47	17.817	0.69	23.88	0.34
4.433	2.06	10.500	4.47	16.567	0.69	22.63	0.34	5.700	2.06	11.767	4.47	17.833	0.69	23.90	0.34
4.450	2.06	10.517	4.47	16.583	0.69	22.65	0.34	5.717	2.06	11.783	4.47	17.850	0.69	23.92	0.34
4.467	2.06	10.533	4.47	16.600	0.69	22.67	0.34	5.733	2.06	11.800	4.47	17.867	0.69	23.93	0.34
4.483	2.06	10.550	4.47	16.617	0.69	22.68	0.34	5.750	2.06	11.817	4.47	17.883	0.69	23.95	0.34
4.500	2.06	10.567	4.47	16.633	0.69	22.70	0.34	5.767	2.06	11.833	4.47	17.900	0.69	23.97	0.34
4.517	2.06	10.583	4.47	16.650	0.69	22.72	0.34	5.783	2.06	11.850	4.47	17.917	0.69	23.98	0.34
4.533	2.06	10.600	4.47	16.667	0.69	22.73	0.34	5.800	2.06	11.867	4.47	17.933	0.69	24.00	0.34

5.817	2.06	11.883	4.47	17.950	0.69	24.02	0.34
5.833	2.06	11.900	4.47	17.967	0.69	24.03	0.34
5.850	2.06	11.917	4.47	17.983	0.69	24.05	0.34
5.867	2.06	11.933	4.47	18.000	0.69	24.07	0.34
5.883	2.06	11.950	4.47	18.017	0.69	24.08	0.34
5.900	2.06	11.967	4.47	18.033	0.69	24.10	0.34
5.917	2.06	11.983	4.47	18.050	0.69	24.12	0.34
5.933	2.06	12.000	4.47	18.067	0.69	24.13	0.34
5.950	2.06	12.017	4.47	18.083	0.69	24.15	0.34
5.967	2.06	12.033	4.47	18.100	0.69	24.17	0.34
5.983	2.06	12.050	4.47	18.117	0.69	24.18	0.34
6.000	2.06	12.067	4.47	18.133	0.69	24.20	0.34
6.017	2.06	12.083	4.47	18.150	0.69	24.22	0.34
6.033	2.06	12.100	4.47	18.167	0.69	24.23	0.34
6.050	2.06	12.117	4.47	18.183	0.69	24.25	0.34
6.067	2.06	12.133	4.47	18.200	0.69		

Max.Eff.Inten.(mm/hr)=	15.82	11.97	
over (min)	6.00	10.00	
Storage Coeff. (min)=	5.84 (ii)	9.40 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.19	0.12	
			TOTALS
PEAK FLOW (cms)=	0.09	0.00	0.089 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	67.74	40.36	67.48
TOTAL RAINFALL (mm)=	68.76	68.76	68.76
RUNOFF COEFFICIENT =	0.99	0.59	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0433	0.1140
0.0182	0.0580	0.0507	0.1280
0.0280	0.0775	0.0571	0.1440
0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.089	10.25	67.48
OUTFLOW: ID= 1 (7644)	2.020	0.028	10.60	62.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.80
TIME SHIFT OF PEAK FLOW (min)= 21.00
MAXIMUM STORAGE USED (ha.m.)= 0.0779

****
** SIMULATION:93. 10yr 4hr 10min Chicago **
****

CHICAGO STORM	IDF curve parameters: A=2221.000
Ptotal= 58.62 mm	B= 12.000
	C= 0.908

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	2.39	1.00	37.17	2.00	8.06	3.00	3.05
0.17	2.89	1.17	134.16	2.17	6.42	3.17	2.75
0.33	3.65	1.33	50.03	2.33	5.30	3.33	2.50
0.50	4.89	1.50	24.37	2.50	4.50	3.50	2.29
0.67	7.23	1.67	15.14	2.67	3.89	3.67	2.11
0.83	12.87	1.83	10.64	2.83	3.42	3.83	1.96

CALIB	
STANDHYD (7567)	Area (ha)= 2.81
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.39	1.017	37.17	2.017	8.06	3.02	3.05
0.033	2.39	1.033	37.17	2.033	8.06	3.03	3.05
0.050	2.39	1.050	37.17	2.050	8.06	3.05	3.05
0.067	2.39	1.067	37.17	2.067	8.06	3.07	3.05
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.100	2.39	1.100	37.17	2.100	8.06	3.10	3.05
0.117	2.39	1.117	37.17	2.117	8.06	3.12	3.05
0.133	2.39	1.133	37.17	2.133	8.06	3.13	3.05
0.150	2.39	1.150	37.17	2.150	8.06	3.15	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.183	2.89	1.183	134.16	2.183	6.42	3.18	2.75
0.200	2.89	1.200	134.16	2.200	6.42	3.20	2.75
0.217	2.89	1.217	134.16	2.217	6.42	3.22	2.75
0.233	2.89	1.233	134.16	2.233	6.42	3.23	2.75
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.267	2.89	1.267	134.16	2.267	6.42	3.27	2.75
0.283	2.89	1.283	134.16	2.283	6.42	3.28	2.75
0.300	2.89	1.300	134.16	2.300	6.42	3.30	2.75
0.317	2.89	1.317	134.16	2.317	6.42	3.32	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.350	3.65	1.350	50.04	2.350	5.30	3.35	2.50
0.367	3.65	1.367	50.03	2.367	5.30	3.37	2.50
0.383	3.65	1.383	50.03	2.383	5.30	3.38	2.50
0.400	3.65	1.400	50.03	2.400	5.30	3.40	2.50
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.433	3.65	1.433	50.03	2.433	5.30	3.43	2.50
0.450	3.65	1.450	50.03	2.450	5.30	3.45	2.50
0.467	3.65	1.467	50.03	2.467	5.30	3.47	2.50
0.483	3.65	1.483	50.03	2.483	5.30	3.48	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.517	4.89	1.517	24.37	2.517	4.50	3.52	2.29
0.533	4.89	1.533	24.37	2.533	4.50	3.53	2.29
0.550	4.89	1.550	24.37	2.550	4.50	3.55	2.29
0.567	4.89	1.567	24.37	2.567	4.50	3.57	2.29
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.600	4.89	1.600	24.37	2.600	4.50	3.60	2.29
0.617	4.89	1.617	24.37	2.617	4.50	3.62	2.29
0.633	4.89	1.633	24.37	2.633	4.50	3.63	2.29
0.650	4.89	1.650	24.37	2.650	4.50	3.65	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.683	7.23	1.683	15.14	2.683	3.89	3.68	2.11
0.700	7.23	1.700	15.14	2.700	3.89	3.70	2.11
0.717	7.23	1.717	15.14	2.717	3.89	3.72	2.11
0.733	7.23	1.733	15.14	2.733	3.89	3.73	2.11
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.767	7.23	1.767	15.14	2.767	3.89	3.77	2.11
0.783	7.23	1.783	15.14	2.783	3.89	3.78	2.11
0.800	7.23	1.800	15.14	2.800	3.89	3.80	2.11
0.817	7.23	1.817	15.14	2.817	3.89	3.82	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.850	12.87	1.850	10.64	2.850	3.42	3.85	1.96
0.867	12.87	1.867	10.64	2.867	3.42	3.87	1.96
0.883	12.87	1.883	10.64	2.883	3.42	3.88	1.96

0.900	12.87	1.900	10.64	2.900	3.42	3.90	1.96
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
0.933	12.87	1.933	10.64	2.933	3.42	3.93	1.96
0.950	12.87	1.950	10.64	2.950	3.42	3.95	1.96
0.967	12.87	1.967	10.64	2.967	3.42	3.97	1.96
0.983	12.87	1.983	10.64	2.983	3.42	3.98	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

Max.Eff.Inten.(mm/hr)=	134.16	71.15	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.74 (ii)	4.26 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.32	0.25	
			TOTALS
PEAK FLOW (cms)=	0.98	0.01	0.989 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	57.62	32.00	57.36
TOTAL RAINFALL (mm)=	58.62	58.62	58.62
RUNOFF COEFFICIENT =	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.989	1.33	57.36
OUTFLOW: ID= 1 (7626)	2.810	0.047	2.40	55.77

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.72
TIME SHIFT OF PEAK FLOW (min)= 64.00
MAXIMUM STORAGE USED (ha.m.)= 0.1288

CALIB | STANDHYD (7624)| ID= 1 DT= 1.0 min	Area (ha)= 2.08	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00
		IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=		2.06	0.02
Dep. Storage (mm)=		1.00	1.50
Average Slope (%)=		1.00	0.50
Length (m)=		117.76	40.00
Mannings n =		0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.39	1.017	37.17	2.017	8.06	3.02	3.05
0.033	2.39	1.033	37.17	2.033	8.06	3.03	3.05
0.050	2.39	1.050	37.17	2.050	8.06	3.05	3.05
0.067	2.39	1.067	37.17	2.067	8.06	3.07	3.05
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.100	2.39	1.100	37.17	2.100	8.06	3.10	3.05
0.117	2.39	1.117	37.17	2.117	8.06	3.12	3.05
0.133	2.39	1.133	37.17	2.133	8.06	3.13	3.05
0.150	2.39	1.150	37.17	2.150	8.06	3.15	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.183	2.89	1.183	134.16	2.183	6.42	3.18	2.75
0.200	2.89	1.200	134.16	2.200	6.42	3.20	2.75
0.217	2.89	1.217	134.16	2.217	6.42	3.22	2.75
0.233	2.89	1.233	134.16	2.233	6.42	3.23	2.75
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.267	2.89	1.267	134.16	2.267	6.42	3.27	2.75
0.283	2.89	1.283	134.16	2.283	6.42	3.28	2.75
0.300	2.89	1.300	134.16	2.300	6.42	3.30	2.75
0.317	2.89	1.317	134.16	2.317	6.42	3.32	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.350	3.65	1.350	50.04	2.350	5.30	3.35	2.50
0.367	3.65	1.367	50.03	2.367	5.30	3.37	2.50
0.383	3.65	1.383	50.03	2.383	5.30	3.38	2.50
0.400	3.65	1.400	50.03	2.400	5.30	3.40	2.50
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.433	3.65	1.433	50.03	2.433	5.30	3.43	2.50
0.450	3.65	1.450	50.03	2.450	5.30	3.45	2.50
0.467	3.65	1.467	50.03	2.467	5.30	3.47	2.50
0.483	3.65	1.483	50.03	2.483	5.30	3.48	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.517	4.89	1.517	24.37	2.517	4.50	3.52	2.29
0.533	4.89	1.533	24.37	2.533	4.50	3.53	2.29
0.550	4.89	1.550	24.37	2.550	4.50	3.55	2.29
0.567	4.89	1.567	24.37	2.567	4.50	3.57	2.29
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.600	4.89	1.600	24.37	2.600	4.50	3.60	2.29
0.617	4.89	1.617	24.37	2.617	4.50	3.62	2.29
0.633	4.89	1.633	24.37	2.633	4.50	3.63	2.29
0.650	4.89	1.650	24.37	2.650	4.50	3.65	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.683	7.23	1.683	15.14	2.683	3.89	3.68	2.11
0.700	7.23	1.700	15.14	2.700	3.89	3.70	2.11
0.717	7.23	1.717	15.14	2.717	3.89	3.72	2.11
0.733	7.23	1.733	15.14	2.733	3.89	3.73	2.11
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.767	7.23	1.767	15.14	2.767	3.89	3.77	2.11
0.783	7.23	1.783	15.14	2.783	3.89	3.78	2.11
0.800	7.23	1.800	15.14	2.800	3.89	3.80	2.11
0.817	7.23	1.817	15.14	2.817	3.89	3.82	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.850	12.87	1.850	10.64	2.850	3.42	3.85	1.96
0.867	12.87	1.867	10.64	2.867	3.42	3.87	1.96
0.883	12.87	1.883	10.64	2.883	3.42	3.88	1.96
0.900	12.87	1.900	10.64	2.900	3.42	3.90	1.96
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
0.933	12.87	1.933	10.64	2.933	3.42	3.93	1.96
0.950	12.87	1.950	10.64	2.950	3.42	3.95	1.96
0.967	12.87	1.967	10.64	2.967	3.42	3.97	1.96
0.983	12.87	1.983	10.64	2.983	3.42	3.98	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

Max.Eff.Inten.(mm/hr)=	134.16	88.69	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.51 (ii)	4.02 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.34	0.26	
			TOTALS
PEAK FLOW (cms)=	0.74	0.00	0.741 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	57.62	38.23	57.42
TOTAL RAINFALL (mm)=	58.62	58.62	58.62
RUNOFF COEFFICIENT =	0.98	0.65	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7624)	2.080	0.741	1.33	57.42
OUTFLOW: ID= 1 (	7625)	2.080	0.036	2.37	56.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.88
TIME SHIFT OF PEAK FLOW (min)= 62.00
MAXIMUM STORAGE USED (ha.m.)= 0.0948

CALIB
STANDHYD (7623)| Area (ha)= 1.15
ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.39	1.017	37.17	2.017	8.06	3.02	3.05
0.033	2.39	1.033	37.17	2.033	8.06	3.03	3.05
0.050	2.39	1.050	37.17	2.050	8.06	3.05	3.05
0.067	2.39	1.067	37.17	2.067	8.06	3.07	3.05
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.100	2.39	1.100	37.17	2.100	8.06	3.10	3.05
0.117	2.39	1.117	37.17	2.117	8.06	3.12	3.05
0.133	2.39	1.133	37.17	2.133	8.06	3.13	3.05
0.150	2.39	1.150	37.17	2.150	8.06	3.15	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.183	2.89	1.183	134.16	2.183	6.42	3.18	2.75
0.200	2.89	1.200	134.16	2.200	6.42	3.20	2.75
0.217	2.89	1.217	134.16	2.217	6.42	3.22	2.75
0.233	2.89	1.233	134.16	2.233	6.42	3.23	2.75
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.267	2.89	1.267	134.16	2.267	6.42	3.27	2.75
0.283	2.89	1.283	134.16	2.283	6.42	3.28	2.75
0.300	2.89	1.300	134.16	2.300	6.42	3.30	2.75
0.317	2.89	1.317	134.16	2.317	6.42	3.32	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.350	3.65	1.350	50.04	2.350	5.30	3.35	2.50
0.367	3.65	1.367	50.03	2.367	5.30	3.37	2.50
0.383	3.65	1.383	50.03	2.383	5.30	3.38	2.50
0.400	3.65	1.400	50.03	2.400	5.30	3.40	2.50
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.433	3.65	1.433	50.03	2.433	5.30	3.43	2.50
0.450	3.65	1.450	50.03	2.450	5.30	3.45	2.50
0.467	3.65	1.467	50.03	2.467	5.30	3.47	2.50
0.483	3.65	1.483	50.03	2.483	5.30	3.48	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.517	4.89	1.517	24.37	2.517	4.50	3.52	2.29
0.533	4.89	1.533	24.37	2.533	4.50	3.53	2.29
0.550	4.89	1.550	24.37	2.550	4.50	3.55	2.29
0.567	4.89	1.567	24.37	2.567	4.50	3.57	2.29
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.600	4.89	1.600	24.37	2.600	4.50	3.60	2.29
0.617	4.89	1.617	24.37	2.617	4.50	3.62	2.29
0.633	4.89	1.633	24.37	2.633	4.50	3.63	2.29
0.650	4.89	1.650	24.37	2.650	4.50	3.65	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.683	7.23	1.683	15.14	2.683	3.89	3.68	2.11
0.700	7.23	1.700	15.14	2.700	3.89	3.70	2.11
0.717	7.23	1.717	15.14	2.717	3.89	3.72	2.11
0.733	7.23	1.733	15.14	2.733	3.89	3.73	2.11
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.767	7.23	1.767	15.14	2.767	3.89	3.77	2.11
0.783	7.23	1.783	15.14	2.783	3.89	3.78	2.11
0.800	7.23	1.800	15.14	2.800	3.89	3.80	2.11
0.817	7.23	1.817	15.14	2.817	3.89	3.82	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.850	12.87	1.850	10.64	2.850	3.42	3.85	1.96
0.867	12.87	1.867	10.64	2.867	3.42	3.87	1.96
0.883	12.87	1.883	10.64	2.883	3.42	3.88	1.96
0.900	12.87	1.900	10.64	2.900	3.42	3.90	1.96
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
0.933	12.87	1.933	10.64	2.933	3.42	3.93	1.96
0.950	12.87	1.950	10.64	2.950	3.42	3.95	1.96
0.967	12.87	1.967	10.64	2.967	3.42	3.97	1.96
0.983	12.87	1.983	10.64	2.983	3.42	3.98	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

Max.Eff.Inten.(mm/hr)=	134.16	71.15	
over (min)	5.00	4.00	
Storage Coeff. (min)=	2.10 (ii)	3.61 (ii)	
Unit Hyd. Tpeak (min)=	5.00	4.00	
Unit Hyd. peak (cms)=	0.37	0.30	
			TOTALS
PEAK FLOW (cms)=	0.41	0.00	0.416 (iii)
TIME TO PEAK (hrs)=	1.33	1.35	1.33
RUNOFF VOLUME (mm)=	57.62	32.00	57.36
TOTAL RAINFALL (mm)=	58.62	58.62	58.62
RUNOFF COEFFICIENT =	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)| OVERFLOW IS OFF
IN= 2---> OUT= 1 |
DT= 1.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0258	0.0650
0.0108	0.0330	0.0302	0.0725
0.0167	0.0440	0.0340	0.0820
0.0204	0.0525	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7623)	1.150	0.416	1.33	57.36
OUTFLOW: ID= 1 (	7622)	1.150	0.020	2.35	56.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.88
TIME SHIFT OF PEAK FLOW (min)= 61.00
MAXIMUM STORAGE USED (ha.m.)= 0.0523

CALIB
STANDHYD (7629)| Area (ha)= 4.09
ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.017	2.39	1.017	37.17	2.017	8.06	3.02	3.05
0.033	2.39	1.033	37.17	2.033	8.06	3.03	3.05
0.050	2.39	1.050	37.17	2.050	8.06	3.05	3.05
0.067	2.39	1.067	37.17	2.067	8.06	3.07	3.05
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.100	2.39	1.100	37.17	2.100	8.06	3.10	3.05
0.117	2.39	1.117	37.17	2.117	8.06	3.12	3.05
0.133	2.39	1.133	37.17	2.133	8.06	3.13	3.05
0.150	2.39	1.150	37.17	2.150	8.06	3.15	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.183	2.89	1.183	134.16	2.183	6.42	3.18	2.75
0.200	2.89	1.200	134.16	2.200	6.42	3.20	2.75
0.217	2.89	1.217	134.16	2.217	6.42	3.22	2.75
0.233	2.89	1.233	134.16	2.233	6.42	3.23	2.75
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.267	2.89	1.267	134.16	2.267	6.42	3.27	2.75
0.283	2.89	1.283	134.16	2.283	6.42	3.28	2.75
0.300	2.89	1.300	134.16	2.300	6.42	3.30	2.75
0.317	2.89	1.317	134.16	2.317	6.42	3.32	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.350	3.65	1.350	50.04	2.350	5.30	3.35	2.50
0.367	3.65	1.367	50.03	2.367	5.30	3.37	2.50
0.383	3.65	1.383	50.03	2.383	5.30	3.38	2.50
0.400	3.65	1.400	50.03	2.400	5.30	3.40	2.50
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.433	3.65	1.433	50.03	2.433	5.30	3.43	2.50
0.450	3.65	1.450	50.03	2.450	5.30	3.45	2.50
0.467	3.65	1.467	50.03	2.467	5.30	3.47	2.50
0.483	3.65	1.483	50.03	2.483	5.30	3.48	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.517	4.89	1.517	24.37	2.517	4.50	3.52	2.29
0.533	4.89	1.533	24.37	2.533	4.50	3.53	2.29
0.550	4.89	1.550	24.37	2.550	4.50	3.55	2.29
0.567	4.89	1.567	24.37	2.567	4.50	3.57	2.29
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.600	4.89	1.600	24.37	2.600	4.50	3.60	2.29
0.617	4.89	1.617	24.37	2.617	4.50	3.62	2.29
0.633	4.89	1.633	24.37	2.633	4.50	3.63	2.29
0.650	4.89	1.650	24.37	2.650	4.50	3.65	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.683	7.23	1.683	15.14	2.683	3.89	3.68	2.11
0.700	7.23	1.700	15.14	2.700	3.89	3.70	2.11
0.717	7.23	1.717	15.14	2.717	3.89	3.72	2.11
0.733	7.23	1.733	15.14	2.733	3.89	3.73	2.11
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.767	7.23	1.767	15.14	2.767	3.89	3.77	2.11
0.783	7.23	1.783	15.14	2.783	3.89	3.78	2.11
0.800	7.23	1.800	15.14	2.800	3.89	3.80	2.11
0.817	7.23	1.817	15.14	2.817	3.89	3.82	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.850	12.87	1.850	10.64	2.850	3.42	3.85	1.96
0.867	12.87	1.867	10.64	2.867	3.42	3.87	1.96
0.883	12.87	1.883	10.64	2.883	3.42	3.88	1.96
0.900	12.87	1.900	10.64	2.900	3.42	3.90	1.96
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
0.933	12.87	1.933	10.64	2.933	3.42	3.93	1.96
0.950	12.87	1.950	10.64	2.950	3.42	3.95	1.96
0.967	12.87	1.967	10.64	2.967	3.42	3.97	1.96
0.983	12.87	1.983	10.64	2.983	3.42	3.98	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

			TOTALS
Max.Eff.Inten.(mm/hr)=	134.16	71.15	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.07 (ii)	4.58 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.30	0.24	
PEAK FLOW (cms)=	1.41	0.01	1.416 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	57.62	32.00	57.36
TOTAL RAINFALL (mm)=	58.62	58.62	58.62
RUNOFF COEFFICIENT =	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0826	0.2320	
	0.0347	0.1170	0.0967	0.2609	
	0.0534	0.1580	0.1090	0.2940	
	0.0655	0.1890	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	1.416	1.33	57.36
OUTFLOW: ID= 1 (7630)	4.090	0.065	2.43	55.56

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.61
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.1886

CALIB			
STANDHYD (7631)		Area (ha)= 3.91	
ID= 1 DT= 1.0 min		Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.39	1.017	37.17	2.017	8.06	3.02	3.05
0.033	2.39	1.033	37.17	2.033	8.06	3.03	3.05
0.050	2.39	1.050	37.17	2.050	8.06	3.05	3.05
0.067	2.39	1.067	37.17	2.067	8.06	3.07	3.05
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.100	2.39	1.100	37.17	2.100	8.06	3.10	3.05
0.117	2.39	1.117	37.17	2.117	8.06	3.12	3.05
0.133	2.39	1.133	37.17	2.133	8.06	3.13	3.05
0.150	2.39	1.150	37.17	2.150	8.06	3.15	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.183	2.89	1.183	134.16	2.183	6.42	3.18	2.75
0.200	2.89	1.200	134.16	2.200	6.42	3.20	2.75
0.217	2.89	1.217	134.16	2.217	6.42	3.22	2.75
0.233	2.89	1.233	134.16	2.233	6.42	3.23	2.75
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.267	2.89	1.267	134.16	2.267	6.42	3.27	2.75
0.283	2.89	1.283	134.16	2.283	6.42	3.28	2.75
0.300	2.89	1.300	134.16	2.300	6.42	3.30	2.75
0.317	2.89	1.317	134.16	2.317	6.42	3.32	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.350	3.65	1.350	50.04	2.350	5.30	3.35	2.50
0.367	3.65	1.367	50.03	2.367	5.30	3.37	2.50
0.383	3.65	1.383	50.03	2.383	5.30	3.38	2.50
0.400	3.65	1.400	50.03	2.400	5.30	3.40	2.50
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.433	3.65	1.433	50.03	2.433	5.30	3.43	2.50
0.450	3.65	1.450	50.03	2.450	5.30	3.45	2.50
0.467	3.65	1.467	50.03	2.467	5.30	3.47	2.50
0.483	3.65	1.483	50.03	2.483	5.30	3.48	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.517	4.89	1.517	24.37	2.517	4.50	3.52	2.29
0.533	4.89	1.533	24.37	2.533	4.50	3.53	2.29
0.550	4.89	1.550	24.37	2.550	4.50	3.55	2.29

0.567	4.89	1.567	24.37	2.567	4.50	3.57	2.29
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.600	4.89	1.600	24.37	2.600	4.50	3.60	2.29
0.617	4.89	1.617	24.37	2.617	4.50	3.62	2.29
0.633	4.89	1.633	24.37	2.633	4.50	3.63	2.29
0.650	4.89	1.650	24.37	2.650	4.50	3.65	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.683	7.23	1.683	15.14	2.683	3.89	3.68	2.11
0.700	7.23	1.700	15.14	2.700	3.89	3.70	2.11
0.717	7.23	1.717	15.14	2.717	3.89	3.72	2.11
0.733	7.23	1.733	15.14	2.733	3.89	3.73	2.11
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.767	7.23	1.767	15.14	2.767	3.89	3.77	2.11
0.783	7.23	1.783	15.14	2.783	3.89	3.78	2.11
0.800	7.23	1.800	15.14	2.800	3.89	3.80	2.11
0.817	7.23	1.817	15.14	2.817	3.89	3.82	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.850	12.87	1.850	10.64	2.850	3.42	3.85	1.96
0.867	12.87	1.867	10.64	2.867	3.42	3.87	1.96
0.883	12.87	1.883	10.64	2.883	3.42	3.88	1.96
0.900	12.87	1.900	10.64	2.900	3.42	3.90	1.96
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
0.933	12.87	1.933	10.64	2.933	3.42	3.93	1.96
0.950	12.87	1.950	10.64	2.950	3.42	3.95	1.96
0.967	12.87	1.967	10.64	2.967	3.42	3.97	1.96
0.983	12.87	1.983	10.64	2.983	3.42	3.98	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

Max.Eff.Inten.(mm/hr)=	134.16	71.15	
over (min)	5.00	5.00	
Storage Coeff. (min)=	3.03 (ii)	4.54 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.31	0.24	
			TOTALS
PEAK FLOW (cms)=	1.35	0.01	1.356 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	57.61	32.00	57.36
TOTAL RAINFALL (mm)=	58.62	58.62	58.62
RUNOFF COEFFICIENT =	0.98	0.55	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	1.356	1.33	57.36
OUTFLOW: ID= 1 (7632)	3.910	0.063	2.42	55.52

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.62
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.1802

CALIB STANDHYD (7641) ID= 1 DT= 1.0 min	Area (ha)= 2.21 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.19	0.02	
Dep. Storage (mm)=	1.00	1.50	

Average Slope (%)=	1.00	0.50
Length (m)=	121.38	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.39	1.017	37.17	2.017	8.06	3.02	3.05
0.033	2.39	1.033	37.17	2.033	8.06	3.03	3.05
0.050	2.39	1.050	37.17	2.050	8.06	3.05	3.05
0.067	2.39	1.067	37.17	2.067	8.06	3.07	3.05
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.100	2.39	1.100	37.17	2.100	8.06	3.10	3.05
0.117	2.39	1.117	37.17	2.117	8.06	3.12	3.05
0.133	2.39	1.133	37.17	2.133	8.06	3.13	3.05
0.150	2.39	1.150	37.17	2.150	8.06	3.15	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.183	2.89	1.183	134.16	2.183	6.42	3.18	2.75
0.200	2.89	1.200	134.16	2.200	6.42	3.20	2.75
0.217	2.89	1.217	134.16	2.217	6.42	3.22	2.75
0.233	2.89	1.233	134.16	2.233	6.42	3.23	2.75
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.267	2.89	1.267	134.16	2.267	6.42	3.27	2.75
0.283	2.89	1.283	134.16	2.283	6.42	3.28	2.75
0.300	2.89	1.300	134.16	2.300	6.42	3.30	2.75
0.317	2.89	1.317	134.16	2.317	6.42	3.32	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.350	3.65	1.350	50.04	2.350	5.30	3.35	2.50
0.367	3.65	1.367	50.03	2.367	5.30	3.37	2.50
0.383	3.65	1.383	50.03	2.383	5.30	3.38	2.50
0.400	3.65	1.400	50.03	2.400	5.30	3.40	2.50
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.433	3.65	1.433	50.03	2.433	5.30	3.43	2.50
0.450	3.65	1.450	50.03	2.450	5.30	3.45	2.50
0.467	3.65	1.467	50.03	2.467	5.30	3.47	2.50
0.483	3.65	1.483	50.03	2.483	5.30	3.48	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.517	4.89	1.517	24.37	2.517	4.50	3.52	2.29
0.533	4.89	1.533	24.37	2.533	4.50	3.53	2.29
0.550	4.89	1.550	24.37	2.550	4.50	3.55	2.29
0.567	4.89	1.567	24.37	2.567	4.50	3.57	2.29
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.600	4.89	1.600	24.37	2.600	4.50	3.60	2.29
0.617	4.89	1.617	24.37	2.617	4.50	3.62	2.29
0.633	4.89	1.633	24.37	2.633	4.50	3.63	2.29
0.650	4.89	1.650	24.37	2.650	4.50	3.65	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.683	7.23	1.683	15.14	2.683	3.89	3.68	2.11
0.700	7.23	1.700	15.14	2.700	3.89	3.70	2.11
0.717	7.23	1.717	15.14	2.717	3.89	3.72	2.11
0.733	7.23	1.733	15.14	2.733	3.89	3.73	2.11
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.767	7.23	1.767	15.14	2.767	3.89	3.77	2.11
0.783	7.23	1.783	15.14	2.783	3.89	3.78	2.11
0.800	7.23	1.800	15.14	2.800	3.89	3.80	2.11
0.817	7.23	1.817	15.14	2.817	3.89	3.82	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.850	12.87	1.850	10.64	2.850	3.42	3.85	1.96
0.867	12.87	1.867	10.64	2.867	3.42	3.87	1.96
0.883	12.87	1.883	10.64	2.883	3.42	3.88	1.96
0.900	12.87	1.900	10.64	2.900	3.42	3.90	1.96
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
0.933	12.87	1.933	10.64	2.933	3.42	3.93	1.96
0.950	12.87	1.950	10.64	2.950	3.42	3.95	1.96
0.967	12.87	1.967	10.64	2.967	3.42	3.97	1.96
0.983	12.87	1.983	10.64	2.983	3.42	3.98	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

Max.Eff.Inten.(mm/hr)=	134.16	71.15
over (min)	5.00	5.00
Storage Coeff. (min)=	2.55 (ii)	4.06 (ii)
Unit Hyd. Tpeak (min)=	5.00	5.00
Unit Hyd. peak (cms)=	0.33	0.26

				TOTALS	
PEAK FLOW	(cms)=	0.78	0.00	0.785	(iii)
TIME TO PEAK	(hrs)=	1.33	1.37	1.33	
RUNOFF VOLUME	(mm)=	57.62	32.00	57.36	
TOTAL RAINFALL	(mm)=	58.62	58.62	58.62	
RUNOFF COEFFICIENT	=	0.98	0.55	0.98	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642) / IN= 2---> OUT= 1 / DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7641)	2.210	0.785	1.33	57.36
OUTFLOW: ID= 1 (	7642)	2.210	0.037	2.40	55.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.71
TIME SHIFT OF PEAK FLOW (min)= 64.00
MAXIMUM STORAGE USED (ha.m.)= 0.1012

CALIB / STANDHYD (7643) / ID= 1 DT= 1.0 min	Area (ha)= 2.02	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.39	1.017	37.17	2.017	8.06	3.02	3.05
0.033	2.39	1.033	37.17	2.033	8.06	3.03	3.05
0.050	2.39	1.050	37.17	2.050	8.06	3.05	3.05
0.067	2.39	1.067	37.17	2.067	8.06	3.07	3.05
0.083	2.39	1.083	37.17	2.083	8.06	3.08	3.05
0.100	2.39	1.100	37.17	2.100	8.06	3.10	3.05
0.117	2.39	1.117	37.17	2.117	8.06	3.12	3.05
0.133	2.39	1.133	37.17	2.133	8.06	3.13	3.05
0.150	2.39	1.150	37.17	2.150	8.06	3.15	3.05
0.167	2.39	1.167	37.17	2.167	8.06	3.17	3.05
0.183	2.89	1.183	134.16	2.183	6.42	3.18	2.75
0.200	2.89	1.200	134.16	2.200	6.42	3.20	2.75
0.217	2.89	1.217	134.16	2.217	6.42	3.22	2.75
0.233	2.89	1.233	134.16	2.233	6.42	3.23	2.75
0.250	2.89	1.250	134.16	2.250	6.42	3.25	2.75
0.267	2.89	1.267	134.16	2.267	6.42	3.27	2.75
0.283	2.89	1.283	134.16	2.283	6.42	3.28	2.75
0.300	2.89	1.300	134.16	2.300	6.42	3.30	2.75
0.317	2.89	1.317	134.16	2.317	6.42	3.32	2.75
0.333	2.89	1.333	134.16	2.333	6.42	3.33	2.75
0.350	3.65	1.350	50.04	2.350	5.30	3.35	2.50
0.367	3.65	1.367	50.03	2.367	5.30	3.37	2.50
0.383	3.65	1.383	50.03	2.383	5.30	3.38	2.50
0.400	3.65	1.400	50.03	2.400	5.30	3.40	2.50
0.417	3.65	1.417	50.03	2.417	5.30	3.42	2.50
0.433	3.65	1.433	50.03	2.433	5.30	3.43	2.50
0.450	3.65	1.450	50.03	2.450	5.30	3.45	2.50
0.467	3.65	1.467	50.03	2.467	5.30	3.47	2.50
0.483	3.65	1.483	50.03	2.483	5.30	3.48	2.50
0.500	3.65	1.500	50.03	2.500	5.30	3.50	2.50
0.517	4.89	1.517	24.37	2.517	4.50	3.52	2.29
0.533	4.89	1.533	24.37	2.533	4.50	3.53	2.29
0.550	4.89	1.550	24.37	2.550	4.50	3.55	2.29
0.567	4.89	1.567	24.37	2.567	4.50	3.57	2.29
0.583	4.89	1.583	24.37	2.583	4.50	3.58	2.29
0.600	4.89	1.600	24.37	2.600	4.50	3.60	2.29
0.617	4.89	1.617	24.37	2.617	4.50	3.62	2.29
0.633	4.89	1.633	24.37	2.633	4.50	3.63	2.29
0.650	4.89	1.650	24.37	2.650	4.50	3.65	2.29
0.667	4.89	1.667	24.37	2.667	4.50	3.67	2.29
0.683	7.23	1.683	15.14	2.683	3.89	3.68	2.11
0.700	7.23	1.700	15.14	2.700	3.89	3.70	2.11
0.717	7.23	1.717	15.14	2.717	3.89	3.72	2.11
0.733	7.23	1.733	15.14	2.733	3.89	3.73	2.11
0.750	7.23	1.750	15.14	2.750	3.89	3.75	2.11
0.767	7.23	1.767	15.14	2.767	3.89	3.77	2.11
0.783	7.23	1.783	15.14	2.783	3.89	3.78	2.11
0.800	7.23	1.800	15.14	2.800	3.89	3.80	2.11
0.817	7.23	1.817	15.14	2.817	3.89	3.82	2.11
0.833	7.23	1.833	15.14	2.833	3.89	3.83	2.11
0.850	12.87	1.850	10.64	2.850	3.42	3.85	1.96
0.867	12.87	1.867	10.64	2.867	3.42	3.87	1.96
0.883	12.87	1.883	10.64	2.883	3.42	3.88	1.96
0.900	12.87	1.900	10.64	2.900	3.42	3.90	1.96
0.917	12.87	1.917	10.64	2.917	3.42	3.92	1.96
0.933	12.87	1.933	10.64	2.933	3.42	3.93	1.96
0.950	12.87	1.950	10.64	2.950	3.42	3.95	1.96
0.967	12.87	1.967	10.64	2.967	3.42	3.97	1.96
0.983	12.87	1.983	10.64	2.983	3.42	3.98	1.96
1.000	12.87	2.000	10.64	3.000	3.42	4.00	1.96

				TOTALS	
Max.Eff.Inten.(mm/hr)=		134.16	71.15		
over (min)		5.00	4.00		
Storage Coeff. (min)=		2.48 (ii)	4.00 (ii)		
Unit Hyd. Tpeak (min)=		5.00	4.00		
Unit Hyd. peak (cms)=		0.34	0.28		
PEAK FLOW	(cms)=	0.72	0.00	0.720	(iii)
TIME TO PEAK	(hrs)=	1.33	1.35	1.33	
RUNOFF VOLUME	(mm)=	57.62	32.00	57.36	
TOTAL RAINFALL	(mm)=	58.62	58.62	58.62	
RUNOFF COEFFICIENT	=	0.98	0.55	0.98	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644) / IN= 2---> OUT= 1 / DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0433	0.1140
	0.0182	0.0580	0.0507	0.1280
	0.0280	0.0775	0.0571	0.1440
	0.0343	0.0930	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7643)	2.020	0.720	1.33	57.36
OUTFLOW: ID= 1 (	7644)	2.020	0.034	2.40	55.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.73
TIME SHIFT OF PEAK FLOW (min)= 64.00
MAXIMUM STORAGE USED (ha.m.)= 0.0924

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**************************************************
** SIMULATION:94. 25 Year 6 Hour AES (Bloor, TRCA) **
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--------------------
|    READ STORM    |    Filename: C:\Users\kevsur3650\AppD
|                  |              ata\Local\Temp\
|                  |              a38a8851-c36c-4932-84b4-c99a8b88bdf6\05ff30ee
| Ptotal= 65.59 mm |    Comments: 25 Year 6 Hour AES (Bloor, TRCA)
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    0.00 |  1.75   22.30 |  3.50    9.18 |  5.25    1.31
                0.25    1.31 |  2.00   22.30 |  3.75    5.25 |  5.50    1.31
                0.50    1.31 |  2.25   60.35 |  4.00    5.25 |  5.75    1.31
                0.75    1.31 |  2.50   60.35 |  4.25    2.62 |  6.00    1.31
                1.00    1.31 |  2.75   17.06 |  4.50    2.62 |
                1.25    7.87 |  3.00   17.06 |  4.75    1.31 |
                1.50    7.87 |  3.25    9.18 |  5.00    1.31 |

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| CALIB            |
| STANDHYD (  7567)|   Area    (ha)=   2.81
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.78         0.03
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     136.87        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 1.583    7.87 | 3.150   17.06 |  4.72    2.62
               0.033    0.00 | 1.600    7.87 | 3.167   17.06 |  4.73    2.62
               0.050    0.00 | 1.617    7.87 | 3.183   17.06 |  4.75    2.62
               0.067    0.00 | 1.633    7.87 | 3.200   17.06 |  4.77    1.31
               0.083    0.00 | 1.650    7.87 | 3.217   17.06 |  4.78    1.31
               0.100    0.00 | 1.667    7.87 | 3.233   17.06 |  4.80    1.31
               0.117    0.00 | 1.683    7.87 | 3.250   17.06 |  4.82    1.31
               0.133    0.00 | 1.700    7.87 | 3.267    9.18 |  4.83    1.31
               0.150    0.00 | 1.717    7.87 | 3.283    9.18 |  4.85    1.31
               0.167    0.00 | 1.733    7.87 | 3.300    9.18 |  4.87    1.31
               0.183    0.00 | 1.750    7.87 | 3.317    9.18 |  4.88    1.31
               0.200    0.00 | 1.767   22.30 | 3.333    9.18 |  4.90    1.31
               0.217    0.00 | 1.783   22.30 | 3.350    9.18 |  4.92    1.31
               0.233    0.00 | 1.800   22.30 | 3.367    9.18 |  4.93    1.31
               0.250    0.00 | 1.817   22.30 | 3.383    9.18 |  4.95    1.31
               0.267    1.31 | 1.833   22.30 | 3.400    9.18 |  4.97    1.31
               0.283    1.31 | 1.850   22.30 | 3.417    9.18 |  4.98    1.31
               0.300    1.31 | 1.867   22.30 | 3.433    9.18 |  5.00    1.31
               0.317    1.31 | 1.883   22.30 | 3.450    9.18 |  5.02    1.31
               0.333    1.31 | 1.900   22.30 | 3.467    9.18 |  5.03    1.31
               0.350    1.31 | 1.917   22.30 | 3.483    9.18 |  5.05    1.31
               0.367    1.31 | 1.933   22.30 | 3.500    9.18 |  5.07    1.31
               0.383    1.31 | 1.950   22.30 | 3.517    9.18 |  5.08    1.31
               0.400    1.31 | 1.967   22.30 | 3.533    9.18 |  5.10    1.31
               0.417    1.31 | 1.983   22.30 | 3.550    9.18 |  5.12    1.31
               0.433    1.31 | 2.000   22.30 | 3.567    9.18 |  5.13    1.31
               0.450    1.31 | 2.017   22.30 | 3.583    9.18 |  5.15    1.31
               0.467    1.31 | 2.033   22.30 | 3.600    9.18 |  5.17    1.31
               0.483    1.31 | 2.050   22.30 | 3.617    9.18 |  5.18    1.31
               0.500    1.31 | 2.067   22.30 | 3.633    9.18 |  5.20    1.31
               0.517    1.31 | 2.083   22.30 | 3.650    9.18 |  5.22    1.31
               0.533    1.31 | 2.100   22.30 | 3.667    9.18 |  5.23    1.31
               0.550    1.31 | 2.117   22.30 | 3.683    9.18 |  5.25    1.31
               0.567    1.31 | 2.133   22.30 | 3.700    9.18 |  5.27    1.31
               0.583    1.31 | 2.150   22.30 | 3.717    9.18 |  5.28    1.31
               0.600    1.31 | 2.167   22.30 | 3.733    9.18 |  5.30    1.31
               0.617    1.31 | 2.183   22.30 | 3.750    9.18 |  5.32    1.31
               0.633    1.31 | 2.200   22.30 | 3.767    5.25 |  5.33    1.31
               0.650    1.31 | 2.217   22.30 | 3.783    5.25 |  5.35    1.31
               0.667    1.31 | 2.233   22.30 | 3.800    5.25 |  5.37    1.31
               0.683    1.31 | 2.250   22.30 | 3.817    5.25 |  5.38    1.31
               0.700    1.31 | 2.267   60.35 | 3.833    5.25 |  5.40    1.31
               0.717    1.31 | 2.283   60.35 | 3.850    5.25 |  5.42    1.31
               0.733    1.31 | 2.300   60.35 | 3.867    5.25 |  5.43    1.31
               0.750    1.31 | 2.317   60.35 | 3.883    5.25 |  5.45    1.31
               0.767    1.31 | 2.333   60.35 | 3.900    5.25 |  5.47    1.31
               0.783    1.31 | 2.350   60.35 | 3.917    5.25 |  5.48    1.31
               0.800    1.31 | 2.367   60.35 | 3.933    5.25 |  5.50    1.31
               0.817    1.31 | 2.383   60.35 | 3.950    5.25 |  5.52    1.31
               0.833    1.31 | 2.400   60.35 | 3.967    5.25 |  5.53    1.31
               0.850    1.31 | 2.417   60.35 | 3.983    5.25 |  5.55    1.31
               0.867    1.31 | 2.433   60.35 | 4.000    5.25 |  5.57    1.31
               0.883    1.31 | 2.450   60.35 | 4.017    5.25 |  5.58    1.31
               0.900    1.31 | 2.467   60.35 | 4.033    5.25 |  5.60    1.31
               0.917    1.31 | 2.483   60.35 | 4.050    5.25 |  5.62    1.31
               0.933    1.31 | 2.500   60.35 | 4.067    5.25 |  5.63    1.31
               0.950    1.31 | 2.517   60.35 | 4.083    5.25 |  5.65    1.31
               0.967    1.31 | 2.533   60.35 | 4.100    5.25 |  5.67    1.31
               0.983    1.31 | 2.550   60.35 | 4.117    5.25 |  5.68    1.31
               1.000    1.31 | 2.567   60.35 | 4.133    5.25 |  5.70    1.31
               1.017    1.31 | 2.583   60.35 | 4.150    5.25 |  5.72    1.31
               1.033    1.31 | 2.600   60.35 | 4.167    5.25 |  5.73    1.31
               1.050    1.31 | 2.617   60.35 | 4.183    5.25 |  5.75    1.31
               1.067    1.31 | 2.633   60.35 | 4.200    5.25 |  5.77    1.31
               1.083    1.31 | 2.650   60.35 | 4.217    5.25 |  5.78    1.31
               1.100    1.31 | 2.667   60.35 | 4.233    5.25 |  5.80    1.31
               1.117    1.31 | 2.683   60.35 | 4.250    5.25 |  5.82    1.31
               1.133    1.31 | 2.700   60.35 | 4.267    2.62 |  5.83    1.31
               1.150    1.31 | 2.717   60.35 | 4.283    2.62 |  5.85    1.31
               1.167    1.31 | 2.733   60.35 | 4.300    2.62 |  5.87    1.31
               1.183    1.31 | 2.750   60.35 | 4.317    2.62 |  5.88    1.31
               1.200    1.31 | 2.767   17.06 | 4.333    2.62 |  5.90    1.31
               1.217    1.31 | 2.783   17.06 | 4.350    2.62 |  5.92    1.31
               1.233    1.31 | 2.800   17.06 | 4.367    2.62 |  5.93    1.31
               1.250    1.31 | 2.817   17.06 | 4.383    2.62 |  5.95    1.31
               1.267    7.87 | 2.833   17.06 | 4.400    2.62 |  5.97    1.31
               1.283    7.87 | 2.850   17.06 | 4.417    2.62 |  5.98    1.31
               1.300    7.87 | 2.867   17.06 | 4.433    2.62 |  6.00    1.31
               1.317    7.87 | 2.883   17.06 | 4.450    2.62 |  6.02    1.31
               1.333    7.87 | 2.900   17.06 | 4.467    2.62 |  6.03    1.31
               1.350    7.87 | 2.917   17.06 | 4.483    2.62 |  6.05    1.31
               1.367    7.87 | 2.933   17.06 | 4.500    2.62 |  6.07    1.31
               1.383    7.87 | 2.950   17.06 | 4.517    2.62 |  6.08    1.31
               1.400    7.87 | 2.967   17.06 | 4.533    2.62 |  6.10    1.31
               1.417    7.87 | 2.983   17.06 | 4.550    2.62 |  6.12    1.31
               1.433    7.87 | 3.000   17.06 | 4.567    2.62 |  6.13    1.31
               1.450    7.87 | 3.017   17.06 | 4.583    2.62 |  6.15    1.31
               1.467    7.87 | 3.033   17.06 | 4.600    2.62 |  6.17    1.31
               1.483    7.87 | 3.050   17.06 | 4.617    2.62 |  6.18    1.31
               1.500    7.87 | 3.067   17.06 | 4.633    2.62 |  6.20    1.31
               1.517    7.87 | 3.083   17.06 | 4.650    2.62 |  6.22    1.31
               1.533    7.87 | 3.100   17.06 | 4.667    2.62 |  6.23    1.31
               1.550    7.87 | 3.117   17.06 | 4.683    2.62 |  6.25    1.31
               1.567    7.87 | 3.133   17.06 | 4.700    2.62 |

Max.Eff.Inten.(mm/hr)=      60.35        43.45
          over (min)         5.00         6.00
Storage Coeff.  (min)=       3.77 (ii)    5.86 (ii)
Unit Hyd. Tpeak (min)=       5.00         6.00
Unit Hyd. peak  (cms)=       0.27         0.19
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.47         0.00          0.469 (iii)
TIME TO PEAK    (hrs)=       2.75         2.75          2.75
RUNOFF VOLUME    (mm)=      64.59        37.71         64.32
TOTAL RAINFALL   (mm)=      65.59        65.59         65.59
RUNOFF COEFFICIENT   =       0.98         0.57          0.98


  (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
      CN*  =  85.0    Ia = Dep. Storage  (Above)
```

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)| IN= 2---> OUT= 1	DT= 1.0 min		OVERFLOW IS OFF
OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0568	0.1530
0.0239	0.0780	0.0660	0.1730
0.0370	0.1040	0.0751	0.2000
0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.469	2.75	64.32
OUTFLOW: ID= 1 (7626)	2.810	0.051	3.87	62.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.92
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.1398

CALIB	STANDHYD (7624)	ID= 1 DT= 1.0 min	Area (ha)= 2.08 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.06	0.02
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	117.76	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	7.87	3.150	17.06	4.72	2.62
0.033	0.00	1.600	7.87	3.167	17.06	4.73	2.62
0.050	0.00	1.617	7.87	3.183	17.06	4.75	2.62
0.067	0.00	1.633	7.87	3.200	17.06	4.77	1.31
0.083	0.00	1.650	7.87	3.217	17.06	4.78	1.31
0.100	0.00	1.667	7.87	3.233	17.06	4.80	1.31
0.117	0.00	1.683	7.87	3.250	17.06	4.82	1.31
0.133	0.00	1.700	7.87	3.267	9.18	4.83	1.31
0.150	0.00	1.717	7.87	3.283	9.18	4.85	1.31
0.167	0.00	1.733	7.87	3.300	9.18	4.87	1.31
0.183	0.00	1.750	7.87	3.317	9.18	4.88	1.31
0.200	0.00	1.767	22.30	3.333	9.18	4.90	1.31
0.217	0.00	1.783	22.30	3.350	9.18	4.92	1.31
0.233	0.00	1.800	22.30	3.367	9.18	4.93	1.31
0.250	0.00	1.817	22.30	3.383	9.18	4.95	1.31
0.267	1.31	1.833	22.30	3.400	9.18	4.97	1.31
0.283	1.31	1.850	22.30	3.417	9.18	4.98	1.31
0.300	1.31	1.867	22.30	3.433	9.18	5.00	1.31
0.317	1.31	1.883	22.30	3.450	9.18	5.02	1.31
0.333	1.31	1.900	22.30	3.467	9.18	5.03	1.31
0.350	1.31	1.917	22.30	3.483	9.18	5.05	1.31
0.367	1.31	1.933	22.30	3.500	9.18	5.07	1.31
0.383	1.31	1.950	22.30	3.517	9.18	5.08	1.31
0.400	1.31	1.967	22.30	3.533	9.18	5.10	1.31
0.417	1.31	1.983	22.30	3.550	9.18	5.12	1.31
0.433	1.31	2.000	22.30	3.567	9.18	5.13	1.31
0.450	1.31	2.017	22.30	3.583	9.18	5.15	1.31
0.467	1.31	2.033	22.30	3.600	9.18	5.17	1.31
0.483	1.31	2.050	22.30	3.617	9.18	5.18	1.31
0.500	1.31	2.067	22.30	3.633	9.18	5.20	1.31
0.517	1.31	2.083	22.30	3.650	9.18	5.22	1.31
0.533	1.31	2.100	22.30	3.667	9.18	5.23	1.31
0.550	1.31	2.117	22.30	3.683	9.18	5.25	1.31
0.567	1.31	2.133	22.30	3.700	9.18	5.27	1.31
0.583	1.31	2.150	22.30	3.717	9.18	5.28	1.31
0.600	1.31	2.167	22.30	3.733	9.18	5.30	1.31
0.617	1.31	2.183	22.30	3.750	9.18	5.32	1.31
0.633	1.31	2.200	22.30	3.767	5.25	5.33	1.31
0.650	1.31	2.217	22.30	3.783	5.25	5.35	1.31
0.667	1.31	2.233	22.30	3.800	5.25	5.37	1.31
0.683	1.31	2.250	22.30	3.817	5.25	5.38	1.31
0.700	1.31	2.267	60.35	3.833	5.25	5.40	1.31
0.717	1.31	2.283	60.35	3.850	5.25	5.42	1.31
0.733	1.31	2.300	60.35	3.867	5.25	5.43	1.31
0.750	1.31	2.317	60.35	3.883	5.25	5.45	1.31
0.767	1.31	2.333	60.35	3.900	5.25	5.47	1.31
0.783	1.31	2.350	60.35	3.917	5.25	5.48	1.31
0.800	1.31	2.367	60.35	3.933	5.25	5.50	1.31
0.817	1.31	2.383	60.35	3.950	5.25	5.52	1.31
0.833	1.31	2.400	60.35	3.967	5.25	5.53	1.31
0.850	1.31	2.417	60.35	3.983	5.25	5.55	1.31
0.867	1.31	2.433	60.35	4.000	5.25	5.57	1.31
0.883	1.31	2.450	60.35	4.017	5.25	5.58	1.31
0.900	1.31	2.467	60.35	4.033	5.25	5.60	1.31
0.917	1.31	2.483	60.35	4.050	5.25	5.62	1.31
0.933	1.31	2.500	60.35	4.067	5.25	5.63	1.31
0.950	1.31	2.517	60.35	4.083	5.25	5.65	1.31
0.967	1.31	2.533	60.35	4.100	5.25	5.67	1.31
0.983	1.31	2.550	60.35	4.117	5.25	5.68	1.31
1.000	1.31	2.567	60.35	4.133	5.25	5.70	1.31
1.017	1.31	2.583	60.35	4.150	5.25	5.72	1.31
1.033	1.31	2.600	60.35	4.167	5.25	5.73	1.31
1.050	1.31	2.617	60.35	4.183	5.25	5.75	1.31
1.067	1.31	2.633	60.35	4.200	5.25	5.77	1.31
1.083	1.31	2.650	60.35	4.217	5.25	5.78	1.31
1.100	1.31	2.667	60.35	4.233	5.25	5.80	1.31
1.117	1.31	2.683	60.35	4.250	5.25	5.82	1.31
1.133	1.31	2.700	60.35	4.267	2.62	5.83	1.31
1.150	1.31	2.717	60.35	4.283	2.62	5.85	1.31
1.167	1.31	2.733	60.35	4.300	2.62	5.87	1.31
1.183	1.31	2.750	60.35	4.317	2.62	5.88	1.31
1.200	1.31	2.767	17.06	4.333	2.62	5.90	1.31
1.217	1.31	2.783	17.06	4.350	2.62	5.92	1.31
1.233	1.31	2.800	17.06	4.367	2.62	5.93	1.31
1.250	1.31	2.817	17.06	4.383	2.62	5.95	1.31
1.267	7.87	2.833	17.06	4.400	2.62	5.97	1.31
1.283	7.87	2.850	17.06	4.417	2.62	5.98	1.31
1.300	7.87	2.867	17.06	4.433	2.62	6.00	1.31
1.317	7.87	2.883	17.06	4.450	2.62	6.02	1.31
1.333	7.87	2.900	17.06	4.467	2.62	6.03	1.31
1.350	7.87	2.917	17.06	4.483	2.62	6.05	1.31
1.367	7.87	2.933	17.06	4.500	2.62	6.07	1.31
1.383	7.87	2.950	17.06	4.517	2.62	6.08	1.31
1.400	7.87	2.967	17.06	4.533	2.62	6.10	1.31
1.417	7.87	2.983	17.06	4.550	2.62	6.12	1.31
1.433	7.87	3.000	17.06	4.567	2.62	6.13	1.31
1.450	7.87	3.017	17.06	4.583	2.62	6.15	1.31
1.467	7.87	3.033	17.06	4.600	2.62	6.17	1.31
1.483	7.87	3.050	17.06	4.617	2.62	6.18	1.31
1.500	7.87	3.067	17.06	4.633	2.62	6.20	1.31
1.517	7.87	3.083	17.06	4.650	2.62	6.22	1.31
1.533	7.87	3.100	17.06	4.667	2.62	6.23	1.31
1.550	7.87	3.117	17.06	4.683	2.62	6.25	1.31
1.567	7.87	3.133	17.06	4.700	2.62		

			TOTALS
Max.Eff.Inten.(mm/hr)=	60.35	49.98	
over (min)	5.00	6.00	
Storage Coeff. (min)=	3.45 (ii)	5.53 (ii)	
Unit Hyd. Tpeak (min)=	5.00	6.00	
Unit Hyd. peak (cms)=	0.28	0.20	
PEAK FLOW (cms)=	0.35	0.00	0.348 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	64.59	44.50	64.39
TOTAL RAINFALL (mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT =	0.98	0.68	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)| IN= 2---> OUT= 1 | DT= 1.0 min |	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.348	2.75	64.39
OUTFLOW: ID= 1 (7625)	2.080	0.040	3.85	62.67

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.40
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.1027

CALIB | STANDHYD (7623)| ID= 1 DT= 1.0 min |	Area (ha)= 1.15 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	7.87	3.150	17.06	4.72	2.62
0.033	0.00	1.600	7.87	3.167	17.06	4.73	2.62
0.050	0.00	1.617	7.87	3.183	17.06	4.75	2.62
0.067	0.00	1.633	7.87	3.200	17.06	4.77	1.31
0.083	0.00	1.650	7.87	3.217	17.06	4.78	1.31
0.100	0.00	1.667	7.87	3.233	17.06	4.80	1.31
0.117	0.00	1.683	7.87	3.250	17.06	4.82	1.31
0.133	0.00	1.700	7.87	3.267	9.18	4.83	1.31
0.150	0.00	1.717	7.87	3.283	9.18	4.85	1.31
0.167	0.00	1.733	7.87	3.300	9.18	4.87	1.31
0.183	0.00	1.750	7.87	3.317	9.18	4.88	1.31
0.200	0.00	1.767	22.30	3.333	9.18	4.90	1.31
0.217	0.00	1.783	22.30	3.350	9.18	4.92	1.31
0.233	0.00	1.800	22.30	3.367	9.18	4.93	1.31
0.250	0.00	1.817	22.30	3.383	9.18	4.95	1.31
0.267	1.31	1.833	22.30	3.400	9.18	4.97	1.31
0.283	1.31	1.850	22.30	3.417	9.18	4.98	1.31
0.300	1.31	1.867	22.30	3.433	9.18	5.00	1.31
0.317	1.31	1.883	22.30	3.450	9.18	5.02	1.31
0.333	1.31	1.900	22.30	3.467	9.18	5.03	1.31
0.350	1.31	1.917	22.30	3.483	9.18	5.05	1.31
0.367	1.31	1.933	22.30	3.500	9.18	5.07	1.31
0.383	1.31	1.950	22.30	3.517	9.18	5.08	1.31
0.400	1.31	1.967	22.30	3.533	9.18	5.10	1.31
0.417	1.31	1.983	22.30	3.550	9.18	5.12	1.31
0.433	1.31	2.000	22.30	3.567	9.18	5.13	1.31
0.450	1.31	2.017	22.30	3.583	9.18	5.15	1.31
0.467	1.31	2.033	22.30	3.600	9.18	5.17	1.31
0.483	1.31	2.050	22.30	3.617	9.18	5.18	1.31
0.500	1.31	2.067	22.30	3.633	9.18	5.20	1.31
0.517	1.31	2.083	22.30	3.650	9.18	5.22	1.31
0.533	1.31	2.100	22.30	3.667	9.18	5.23	1.31
0.550	1.31	2.117	22.30	3.683	9.18	5.25	1.31
0.567	1.31	2.133	22.30	3.700	9.18	5.27	1.31
0.583	1.31	2.150	22.30	3.717	9.18	5.28	1.31
0.600	1.31	2.167	22.30	3.733	9.18	5.30	1.31
0.617	1.31	2.183	22.30	3.750	9.18	5.32	1.31
0.633	1.31	2.200	22.30	3.767	5.25	5.33	1.31
0.650	1.31	2.217	22.30	3.783	5.25	5.35	1.31
0.667	1.31	2.233	22.30	3.800	5.25	5.37	1.31
0.683	1.31	2.250	22.30	3.817	5.25	5.38	1.31
0.700	1.31	2.267	60.35	3.833	5.25	5.40	1.31
0.717	1.31	2.283	60.35	3.850	5.25	5.42	1.31
0.733	1.31	2.300	60.35	3.867	5.25	5.43	1.31
0.750	1.31	2.317	60.35	3.883	5.25	5.45	1.31
0.767	1.31	2.333	60.35	3.900	5.25	5.47	1.31
0.783	1.31	2.350	60.35	3.917	5.25	5.48	1.31
0.800	1.31	2.367	60.35	3.933	5.25	5.50	1.31
0.817	1.31	2.383	60.35	3.950	5.25	5.52	1.31
0.833	1.31	2.400	60.35	3.967	5.25	5.53	1.31
0.850	1.31	2.417	60.35	3.983	5.25	5.55	1.31
0.867	1.31	2.433	60.35	4.000	5.25	5.57	1.31
0.883	1.31	2.450	60.35	4.017	5.25	5.58	1.31
0.900	1.31	2.467	60.35	4.033	5.25	5.60	1.31
0.917	1.31	2.483	60.35	4.050	5.25	5.62	1.31
0.933	1.31	2.500	60.35	4.067	5.25	5.63	1.31
0.950	1.31	2.517	60.35	4.083	5.25	5.65	1.31
0.967	1.31	2.533	60.35	4.100	5.25	5.67	1.31
0.983	1.31	2.550	60.35	4.117	5.25	5.68	1.31
1.000	1.31	2.567	60.35	4.133	5.25	5.70	1.31
1.017	1.31	2.583	60.35	4.150	5.25	5.72	1.31
1.033	1.31	2.600	60.35	4.167	5.25	5.73	1.31
1.050	1.31	2.617	60.35	4.183	5.25	5.75	1.31
1.067	1.31	2.633	60.35	4.200	5.25	5.77	1.31
1.083	1.31	2.650	60.35	4.217	5.25	5.78	1.31
1.100	1.31	2.667	60.35	4.233	5.25	5.80	1.31
1.117	1.31	2.683	60.35	4.250	5.25	5.82	1.31
1.133	1.31	2.700	60.35	4.267	2.62	5.83	1.31
1.150	1.31	2.717	60.35	4.283	2.62	5.85	1.31
1.167	1.31	2.733	60.35	4.300	2.62	5.87	1.31
1.183	1.31	2.750	60.35	4.317	2.62	5.88	1.31
1.200	1.31	2.767	17.06	4.333	2.62	5.90	1.31
1.217	1.31	2.783	17.06	4.350	2.62	5.92	1.31
1.233	1.31	2.800	17.06	4.367	2.62	5.93	1.31
1.250	1.31	2.817	17.06	4.383	2.62	5.95	1.31
1.267	7.87	2.833	17.06	4.400	2.62	5.97	1.31
1.283	7.87	2.850	17.06	4.417	2.62	5.98	1.31
1.300	7.87	2.867	17.06	4.433	2.62	6.00	1.31
1.317	7.87	2.883	17.06	4.450	2.62	6.02	1.31
1.333	7.87	2.900	17.06	4.467	2.62	6.03	1.31
1.350	7.87	2.917	17.06	4.483	2.62	6.05	1.31
1.367	7.87	2.933	17.06	4.500	2.62	6.07	1.31
1.383	7.87	2.950	17.06	4.517	2.62	6.08	1.31
1.400	7.87	2.967	17.06	4.533	2.62	6.10	1.31
1.417	7.87	2.983	17.06	4.550	2.62	6.12	1.31
1.433	7.87	3.000	17.06	4.567	2.62	6.13	1.31
1.450	7.87	3.017	17.06	4.583	2.62	6.15	1.31
1.467	7.87	3.033	17.06	4.600	2.62	6.17	1.31
1.483	7.87	3.050	17.06	4.617	2.62	6.18	1.31
1.500	7.87	3.067	17.06	4.633	2.62	6.20	1.31
1.517	7.87	3.083	17.06	4.650	2.62	6.22	1.31
1.533	7.87	3.100	17.06	4.667	2.62	6.23	1.31
1.550	7.87	3.117	17.06	4.683	2.62	6.25	1.31
1.567	7.87	3.133	17.06	4.700	2.62		

				TOTALS
Max.Eff.Inten.(mm/hr)=		60.35	43.45	
over (min)		5.00	5.00	
Storage Coeff. (min)=		2.89 (ii)	4.97 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.31	0.23	
PEAK FLOW	(cms)=	0.19	0.00	0.192 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	64.59	37.71	64.32
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.98	0.57	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(7622)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT= 1.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0258	0.0650
0.0108	0.0330	0.0302	0.0725
0.0167	0.0440	0.0340	0.0820
0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.192	2.75	64.32
OUTFLOW: ID= 1 (7622)	1.150	0.022	3.83	62.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.54
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0566

| CALIB |
| STANDHYD (7629)| Area (ha)= 4.09
|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	7.87	3.150	17.06	4.72	2.62
0.033	0.00	1.600	7.87	3.167	17.06	4.73	2.62
0.050	0.00	1.617	7.87	3.183	17.06	4.75	2.62
0.067	0.00	1.633	7.87	3.200	17.06	4.77	1.31
0.083	0.00	1.650	7.87	3.217	17.06	4.78	1.31
0.100	0.00	1.667	7.87	3.233	17.06	4.80	1.31
0.117	0.00	1.683	7.87	3.250	17.06	4.82	1.31
0.133	0.00	1.700	7.87	3.267	9.18	4.83	1.31
0.150	0.00	1.717	7.87	3.283	9.18	4.85	1.31
0.167	0.00	1.733	7.87	3.300	9.18	4.87	1.31
0.183	0.00	1.750	7.87	3.317	9.18	4.88	1.31
0.200	0.00	1.767	22.30	3.333	9.18	4.90	1.31
0.217	0.00	1.783	22.30	3.350	9.18	4.92	1.31
0.233	0.00	1.800	22.30	3.367	9.18	4.93	1.31
0.250	0.00	1.817	22.30	3.383	9.18	4.95	1.31
0.267	1.31	1.833	22.30	3.400	9.18	4.97	1.31
0.283	1.31	1.850	22.30	3.417	9.18	4.98	1.31
0.300	1.31	1.867	22.30	3.433	9.18	5.00	1.31
0.317	1.31	1.883	22.30	3.450	9.18	5.02	1.31
0.333	1.31	1.900	22.30	3.467	9.18	5.03	1.31
0.350	1.31	1.917	22.30	3.483	9.18	5.05	1.31
0.367	1.31	1.933	22.30	3.500	9.18	5.07	1.31
0.383	1.31	1.950	22.30	3.517	9.18	5.08	1.31
0.400	1.31	1.967	22.30	3.533	9.18	5.10	1.31
0.417	1.31	1.983	22.30	3.550	9.18	5.12	1.31
0.433	1.31	2.000	22.30	3.567	9.18	5.13	1.31
0.450	1.31	2.017	22.30	3.583	9.18	5.15	1.31
0.467	1.31	2.033	22.30	3.600	9.18	5.17	1.31
0.483	1.31	2.050	22.30	3.617	9.18	5.18	1.31
0.500	1.31	2.067	22.30	3.633	9.18	5.20	1.31
0.517	1.31	2.083	22.30	3.650	9.18	5.22	1.31
0.533	1.31	2.100	22.30	3.667	9.18	5.23	1.31
0.550	1.31	2.117	22.30	3.683	9.18	5.25	1.31
0.567	1.31	2.133	22.30	3.700	9.18	5.27	1.31
0.583	1.31	2.150	22.30	3.717	9.18	5.28	1.31
0.600	1.31	2.167	22.30	3.733	9.18	5.30	1.31
0.617	1.31	2.183	22.30	3.750	9.18	5.32	1.31
0.633	1.31	2.200	22.30	3.767	5.25	5.33	1.31
0.650	1.31	2.217	22.30	3.783	5.25	5.35	1.31
0.667	1.31	2.233	22.30	3.800	5.25	5.37	1.31
0.683	1.31	2.250	22.30	3.817	5.25	5.38	1.31
0.700	1.31	2.267	60.35	3.833	5.25	5.40	1.31
0.717	1.31	2.283	60.35	3.850	5.25	5.42	1.31
0.733	1.31	2.300	60.35	3.867	5.25	5.43	1.31
0.750	1.31	2.317	60.35	3.883	5.25	5.45	1.31
0.767	1.31	2.333	60.35	3.900	5.25	5.47	1.31
0.783	1.31	2.350	60.35	3.917	5.25	5.48	1.31
0.800	1.31	2.367	60.35	3.933	5.25	5.50	1.31
0.817	1.31	2.383	60.35	3.950	5.25	5.52	1.31
0.833	1.31	2.400	60.35	3.967	5.25	5.53	1.31
0.850	1.31	2.417	60.35	3.983	5.25	5.55	1.31
0.867	1.31	2.433	60.35	4.000	5.25	5.57	1.31
0.883	1.31	2.450	60.35	4.017	5.25	5.58	1.31
0.900	1.31	2.467	60.35	4.033	5.25	5.60	1.31
0.917	1.31	2.483	60.35	4.050	5.25	5.62	1.31
0.933	1.31	2.500	60.35	4.067	5.25	5.63	1.31
0.950	1.31	2.517	60.35	4.083	5.25	5.65	1.31
0.967	1.31	2.533	60.35	4.100	5.25	5.67	1.31
0.983	1.31	2.550	60.35	4.117	5.25	5.68	1.31
1.000	1.31	2.567	60.35	4.133	5.25	5.70	1.31
1.017	1.31	2.583	60.35	4.150	5.25	5.72	1.31
1.033	1.31	2.600	60.35	4.167	5.25	5.73	1.31
1.050	1.31	2.617	60.35	4.183	5.25	5.75	1.31
1.067	1.31	2.633	60.35	4.200	5.25	5.77	1.31
1.083	1.31	2.650	60.35	4.217	5.25	5.78	1.31
1.100	1.31	2.667	60.35	4.233	5.25	5.80	1.31
1.117	1.31	2.683	60.35	4.250	5.25	5.82	1.31
1.133	1.31	2.700	60.35	4.267	2.62	5.83	1.31
1.150	1.31	2.717	60.35	4.283	2.62	5.85	1.31
1.167	1.31	2.733	60.35	4.300	2.62	5.87	1.31
1.183	1.31	2.750	60.35	4.317	2.62	5.88	1.31
1.200	1.31	2.767	17.06	4.333	2.62	5.90	1.31
1.217	1.31	2.783	17.06	4.350	2.62	5.92	1.31
1.233	1.31	2.800	17.06	4.367	2.62	5.93	1.31
1.250	1.31	2.817	17.06	4.383	2.62	5.95	1.31
1.267	7.87	2.833	17.06	4.400	2.62	5.97	1.31
1.283	7.87	2.850	17.06	4.417	2.62	5.98	1.31
1.300	7.87	2.867	17.06	4.433	2.62	6.00	1.31
1.317	7.87	2.883	17.06	4.450	2.62	6.02	1.31
1.333	7.87	2.900	17.06	4.467	2.62	6.03	1.31
1.350	7.87	2.917	17.06	4.483	2.62	6.05	1.31
1.367	7.87	2.933	17.06	4.500	2.62	6.07	1.31
1.383	7.87	2.950	17.06	4.517	2.62	6.08	1.31
1.400	7.87	2.967	17.06	4.533	2.62	6.10	1.31
1.417	7.87	2.983	17.06	4.550	2.62	6.12	1.31
1.433	7.87	3.000	17.06	4.567	2.62	6.13	1.31
1.450	7.87	3.017	17.06	4.583	2.62	6.15	1.31
1.467	7.87	3.033	17.06	4.600	2.62	6.17	1.31
1.483	7.87	3.050	17.06	4.617	2.62	6.18	1.31
1.500	7.87	3.067	17.06	4.633	2.62	6.20	1.31
1.517	7.87	3.083	17.06	4.650	2.62	6.22	1.31
1.533	7.87	3.100	17.06	4.667	2.62	6.23	1.31
1.550	7.87	3.117	17.06	4.683	2.62	6.25	1.31
1.567	7.87	3.133	17.06	4.700	2.62		

Max.Eff.Inten.(mm/hr)=		60.35	43.45	
over (min)		5.00	7.00	
Storage Coeff. (min)=		4.22 (ii)	6.31 (ii)	
Unit Hyd. Tpeak (min)=		5.00	7.00	
Unit Hyd. peak (cms)=		0.25	0.17	
				TOTALS
PEAK FLOW	(cms)=	0.68	0.00	0.683 (iii)
TIME TO PEAK	(hrs)=	2.75	2.77	2.75
RUNOFF VOLUME	(mm)=	64.59	37.71	64.32
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.98	0.57	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(7630)| IN= 2---> OUT= 1 | DT= 1.0 min | OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0826	0.2320
0.0347	0.1170	0.0967	0.2609
0.0534	0.1580	0.1090	0.2940
0.0655	0.1890	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7629)	4.090	0.683	2.75	64.32
OUTFLOW: ID= 1 (	7630)	4.090	0.072	3.88	62.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.51
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.2048

| CALIB | STANDHYD (7631)| ID= 1 DT= 1.0 min | Area (ha)= 3.91 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	7.87	3.150	17.06	4.72	2.62
0.033	0.00	1.600	7.87	3.167	17.06	4.73	2.62
0.050	0.00	1.617	7.87	3.183	17.06	4.75	2.62
0.067	0.00	1.633	7.87	3.200	17.06	4.77	1.31
0.083	0.00	1.650	7.87	3.217	17.06	4.78	1.31
0.100	0.00	1.667	7.87	3.233	17.06	4.80	1.31
0.117	0.00	1.683	7.87	3.250	17.06	4.82	1.31
0.133	0.00	1.700	7.87	3.267	9.18	4.83	1.31
0.150	0.00	1.717	7.87	3.283	9.18	4.85	1.31
0.167	0.00	1.733	7.87	3.300	9.18	4.87	1.31
0.183	0.00	1.750	7.87	3.317	9.18	4.88	1.31
0.200	0.00	1.767	22.30	3.333	9.18	4.90	1.31
0.217	0.00	1.783	22.30	3.350	9.18	4.92	1.31
0.233	0.00	1.800	22.30	3.367	9.18	4.93	1.31
0.250	0.00	1.817	22.30	3.383	9.18	4.95	1.31
0.267	1.31	1.833	22.30	3.400	9.18	4.97	1.31
0.283	1.31	1.850	22.30	3.417	9.18	4.98	1.31
0.300	1.31	1.867	22.30	3.433	9.18	5.00	1.31
0.317	1.31	1.883	22.30	3.450	9.18	5.02	1.31
0.333	1.31	1.900	22.30	3.467	9.18	5.03	1.31
0.350	1.31	1.917	22.30	3.483	9.18	5.05	1.31
0.367	1.31	1.933	22.30	3.500	9.18	5.07	1.31
0.383	1.31	1.950	22.30	3.517	9.18	5.08	1.31
0.400	1.31	1.967	22.30	3.533	9.18	5.10	1.31
0.417	1.31	1.983	22.30	3.550	9.18	5.12	1.31
0.433	1.31	2.000	22.30	3.567	9.18	5.13	1.31
0.450	1.31	2.017	22.30	3.583	9.18	5.15	1.31
0.467	1.31	2.033	22.30	3.600	9.18	5.17	1.31
0.483	1.31	2.050	22.30	3.617	9.18	5.18	1.31
0.500	1.31	2.067	22.30	3.633	9.18	5.20	1.31
0.517	1.31	2.083	22.30	3.650	9.18	5.22	1.31
0.533	1.31	2.100	22.30	3.667	9.18	5.23	1.31
0.550	1.31	2.117	22.30	3.683	9.18	5.25	1.31
0.567	1.31	2.133	22.30	3.700	9.18	5.27	1.31
0.583	1.31	2.150	22.30	3.717	9.18	5.28	1.31
0.600	1.31	2.167	22.30	3.733	9.18	5.30	1.31
0.617	1.31	2.183	22.30	3.750	9.18	5.32	1.31
0.633	1.31	2.200	22.30	3.767	5.25	5.33	1.31
0.650	1.31	2.217	22.30	3.783	5.25	5.35	1.31
0.667	1.31	2.233	22.30	3.800	5.25	5.37	1.31
0.683	1.31	2.250	22.30	3.817	5.25	5.38	1.31
0.700	1.31	2.267	60.35	3.833	5.25	5.40	1.31
0.717	1.31	2.283	60.35	3.850	5.25	5.42	1.31
0.733	1.31	2.300	60.35	3.867	5.25	5.43	1.31
0.750	1.31	2.317	60.35	3.883	5.25	5.45	1.31
0.767	1.31	2.333	60.35	3.900	5.25	5.47	1.31
0.783	1.31	2.350	60.35	3.917	5.25	5.48	1.31
0.800	1.31	2.367	60.35	3.933	5.25	5.50	1.31
0.817	1.31	2.383	60.35	3.950	5.25	5.52	1.31
0.833	1.31	2.400	60.35	3.967	5.25	5.53	1.31
0.850	1.31	2.417	60.35	3.983	5.25	5.55	1.31
0.867	1.31	2.433	60.35	4.000	5.25	5.57	1.31
0.883	1.31	2.450	60.35	4.017	5.25	5.58	1.31
0.900	1.31	2.467	60.35	4.033	5.25	5.60	1.31
0.917	1.31	2.483	60.35	4.050	5.25	5.62	1.31
0.933	1.31	2.500	60.35	4.067	5.25	5.63	1.31
0.950	1.31	2.517	60.35	4.083	5.25	5.65	1.31
0.967	1.31	2.533	60.35	4.100	5.25	5.67	1.31
0.983	1.31	2.550	60.35	4.117	5.25	5.68	1.31
1.000	1.31	2.567	60.35	4.133	5.25	5.70	1.31
1.017	1.31	2.583	60.35	4.150	5.25	5.72	1.31
1.033	1.31	2.600	60.35	4.167	5.25	5.73	1.31
1.050	1.31	2.617	60.35	4.183	5.25	5.75	1.31
1.067	1.31	2.633	60.35	4.200	5.25	5.77	1.31
1.083	1.31	2.650	60.35	4.217	5.25	5.78	1.31
1.100	1.31	2.667	60.35	4.233	5.25	5.80	1.31
1.117	1.31	2.683	60.35	4.250	5.25	5.82	1.31
1.133	1.31	2.700	60.35	4.267	2.62	5.83	1.31
1.150	1.31	2.717	60.35	4.283	2.62	5.85	1.31
1.167	1.31	2.733	60.35	4.300	2.62	5.87	1.31
1.183	1.31	2.750	60.35	4.317	2.62	5.88	1.31
1.200	1.31	2.767	17.06	4.333	2.62	5.90	1.31
1.217	1.31	2.783	17.06	4.350	2.62	5.92	1.31
1.233	1.31	2.800	17.06	4.367	2.62	5.93	1.31
1.250	1.31	2.817	17.06	4.383	2.62	5.95	1.31
1.267	7.87	2.833	17.06	4.400	2.62	5.97	1.31
1.283	7.87	2.850	17.06	4.417	2.62	5.98	1.31
1.300	7.87	2.867	17.06	4.433	2.62	6.00	1.31
1.317	7.87	2.883	17.06	4.450	2.62	6.02	1.31
1.333	7.87	2.900	17.06	4.467	2.62	6.03	1.31
1.350	7.87	2.917	17.06	4.483	2.62	6.05	1.31
1.367	7.87	2.933	17.06	4.500	2.62	6.07	1.31
1.383	7.87	2.950	17.06	4.517	2.62	6.08	1.31
1.400	7.87	2.967	17.06	4.533	2.62	6.10	1.31
1.417	7.87	2.983	17.06	4.550	2.62	6.12	1.31
1.433	7.87	3.000	17.06	4.567	2.62	6.13	1.31
1.450	7.87	3.017	17.06	4.583	2.62	6.15	1.31
1.467	7.87	3.033	17.06	4.600	2.62	6.17	1.31
1.483	7.87	3.050	17.06	4.617	2.62	6.18	1.31
1.500	7.87	3.067	17.06	4.633	2.62	6.20	1.31
1.517	7.87	3.083	17.06	4.650	2.62	6.22	1.31
1.533	7.87	3.100	17.06	4.667	2.62	6.23	1.31
1.550	7.87	3.117	17.06	4.683	2.62	6.25	1.31
1.567	7.87	3.133	17.06	4.700	2.62		

				TOTALS
Max.Eff.Inten.(mm/hr)=		60.35	43.45	
over (min)		5.00	7.00	
Storage Coeff. (min)=		4.17 (ii)	6.25 (ii)	
Unit Hyd. Tpeak (min)=		5.00	7.00	
Unit Hyd. peak (cms)=		0.25	0.17	
PEAK FLOW	(cms)=	0.65	0.00	0.653 (iii)
TIME TO PEAK	(hrs)=	2.75	2.77	2.75
RUNOFF VOLUME	(mm)=	64.59	37.71	64.32
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59
RUNOFF COEFFICIENT	=	0.98	0.57	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	IN= 2---> OUT= 1	DT= 1.0 min		OVERFLOW IS OFF			
			OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.0792	0.2220
			0.0333	0.1130	0.0928	0.2500
			0.0512	0.1510	0.1046	0.2810
			0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.653	2.75	64.32
OUTFLOW: ID= 1 (7632)	3.910	0.069	3.88	62.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.54
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.1958

CALIB | STANDHYD (7641)| ID= 1 DT= 1.0 min |	Area (ha)= 2.21	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	7.87	3.150	17.06	4.72	2.62
0.033	0.00	1.600	7.87	3.167	17.06	4.73	2.62
0.050	0.00	1.617	7.87	3.183	17.06	4.75	2.62
0.067	0.00	1.633	7.87	3.200	17.06	4.77	1.31
0.083	0.00	1.650	7.87	3.217	17.06	4.78	1.31
0.100	0.00	1.667	7.87	3.233	17.06	4.80	1.31
0.117	0.00	1.683	7.87	3.250	17.06	4.82	1.31
0.133	0.00	1.700	7.87	3.267	9.18	4.83	1.31
0.150	0.00	1.717	7.87	3.283	9.18	4.85	1.31
0.167	0.00	1.733	7.87	3.300	9.18	4.87	1.31
0.183	0.00	1.750	7.87	3.317	9.18	4.88	1.31
0.200	0.00	1.767	22.30	3.333	9.18	4.90	1.31
0.217	0.00	1.783	22.30	3.350	9.18	4.92	1.31
0.233	0.00	1.800	22.30	3.367	9.18	4.93	1.31
0.250	0.00	1.817	22.30	3.383	9.18	4.95	1.31
0.267	1.31	1.833	22.30	3.400	9.18	4.97	1.31
0.283	1.31	1.850	22.30	3.417	9.18	4.98	1.31
0.300	1.31	1.867	22.30	3.433	9.18	5.00	1.31
0.317	1.31	1.883	22.30	3.450	9.18	5.02	1.31
0.333	1.31	1.900	22.30	3.467	9.18	5.03	1.31
0.350	1.31	1.917	22.30	3.483	9.18	5.05	1.31
0.367	1.31	1.933	22.30	3.500	9.18	5.07	1.31
0.383	1.31	1.950	22.30	3.517	9.18	5.08	1.31
0.400	1.31	1.967	22.30	3.533	9.18	5.10	1.31
0.417	1.31	1.983	22.30	3.550	9.18	5.12	1.31
0.433	1.31	2.000	22.30	3.567	9.18	5.13	1.31
0.450	1.31	2.017	22.30	3.583	9.18	5.15	1.31
0.467	1.31	2.033	22.30	3.600	9.18	5.17	1.31
0.483	1.31	2.050	22.30	3.617	9.18	5.18	1.31
0.500	1.31	2.067	22.30	3.633	9.18	5.20	1.31
0.517	1.31	2.083	22.30	3.650	9.18	5.22	1.31
0.533	1.31	2.100	22.30	3.667	9.18	5.23	1.31
0.550	1.31	2.117	22.30	3.683	9.18	5.25	1.31
0.567	1.31	2.133	22.30	3.700	9.18	5.27	1.31
0.583	1.31	2.150	22.30	3.717	9.18	5.28	1.31
0.600	1.31	2.167	22.30	3.733	9.18	5.30	1.31
0.617	1.31	2.183	22.30	3.750	9.18	5.32	1.31
0.633	1.31	2.200	22.30	3.767	5.25	5.33	1.31
0.650	1.31	2.217	22.30	3.783	5.25	5.35	1.31
0.667	1.31	2.233	22.30	3.800	5.25	5.37	1.31
0.683	1.31	2.250	22.30	3.817	5.25	5.38	1.31
0.700	1.31	2.267	60.35	3.833	5.25	5.40	1.31
0.717	1.31	2.283	60.35	3.850	5.25	5.42	1.31
0.733	1.31	2.300	60.35	3.867	5.25	5.43	1.31
0.750	1.31	2.317	60.35	3.883	5.25	5.45	1.31
0.767	1.31	2.333	60.35	3.900	5.25	5.47	1.31
0.783	1.31	2.350	60.35	3.917	5.25	5.48	1.31
0.800	1.31	2.367	60.35	3.933	5.25	5.50	1.31
0.817	1.31	2.383	60.35	3.950	5.25	5.52	1.31
0.833	1.31	2.400	60.35	3.967	5.25	5.53	1.31
0.850	1.31	2.417	60.35	3.983	5.25	5.55	1.31
0.867	1.31	2.433	60.35	4.000	5.25	5.57	1.31
0.883	1.31	2.450	60.35	4.017	5.25	5.58	1.31
0.900	1.31	2.467	60.35	4.033	5.25	5.60	1.31
0.917	1.31	2.483	60.35	4.050	5.25	5.62	1.31
0.933	1.31	2.500	60.35	4.067	5.25	5.63	1.31
0.950	1.31	2.517	60.35	4.083	5.25	5.65	1.31
0.967	1.31	2.533	60.35	4.100	5.25	5.67	1.31
0.983	1.31	2.550	60.35	4.117	5.25	5.68	1.31
1.000	1.31	2.567	60.35	4.133	5.25	5.70	1.31
1.017	1.31	2.583	60.35	4.150	5.25	5.72	1.31
1.033	1.31	2.600	60.35	4.167	5.25	5.73	1.31
1.050	1.31	2.617	60.35	4.183	5.25	5.75	1.31
1.067	1.31	2.633	60.35	4.200	5.25	5.77	1.31
1.083	1.31	2.650	60.35	4.217	5.25	5.78	1.31
1.100	1.31	2.667	60.35	4.233	5.25	5.80	1.31
1.117	1.31	2.683	60.35	4.250	5.25	5.82	1.31
1.133	1.31	2.700	60.35	4.267	2.62	5.83	1.31
1.150	1.31	2.717	60.35	4.283	2.62	5.85	1.31
1.167	1.31	2.733	60.35	4.300	2.62	5.87	1.31
1.183	1.31	2.750	60.35	4.317	2.62	5.88	1.31
1.200	1.31	2.767	17.06	4.333	2.62	5.90	1.31
1.217	1.31	2.783	17.06	4.350	2.62	5.92	1.31
1.233	1.31	2.800	17.06	4.367	2.62	5.93	1.31
1.250	1.31	2.817	17.06	4.383	2.62	5.95	1.31
1.267	7.87	2.833	17.06	4.400	2.62	5.97	1.31
1.283	7.87	2.850	17.06	4.417	2.62	5.98	1.31
1.300	7.87	2.867	17.06	4.433	2.62	6.00	1.31
1.317	7.87	2.883	17.06	4.450	2.62	6.02	1.31
1.333	7.87	2.900	17.06	4.467	2.62	6.03	1.31
1.350	7.87	2.917	17.06	4.483	2.62	6.05	1.31
1.367	7.87	2.933	17.06	4.500	2.62	6.07	1.31
1.383	7.87	2.950	17.06	4.517	2.62	6.08	1.31
1.400	7.87	2.967	17.06	4.533	2.62	6.10	1.31
1.417	7.87	2.983	17.06	4.550	2.62	6.12	1.31
1.433	7.87	3.000	17.06	4.567	2.62	6.13	1.31
1.450	7.87	3.017	17.06	4.583	2.62	6.15	1.31
1.467	7.87	3.033	17.06	4.600	2.62	6.17	1.31
1.483	7.87	3.050	17.06	4.617	2.62	6.18	1.31
1.500	7.87	3.067	17.06	4.633	2.62	6.20	1.31
1.517	7.87	3.083	17.06	4.650	2.62	6.22	1.31
1.533	7.87	3.100	17.06	4.667	2.62	6.23	1.31
1.550	7.87	3.117	17.06	4.683	2.62	6.25	1.31
1.567	7.87	3.133	17.06	4.700	2.62		

				TOTALS
Max.Eff.Inten.(mm/hr)=		60.35	43.45	
over (min)		5.00	6.00	
Storage Coeff. (min)=		3.51 (ii)	5.60 (ii)	
Unit Hyd. Tpeak (min)=		5.00	6.00	
Unit Hyd. peak (cms)=		0.28	0.20	
PEAK FLOW	(cms)=	0.37	0.00	0.369 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	64.59	37.71	64.32
TOTAL RAINFALL	(mm)=	65.59	65.59	65.59

RUNOFF COEFFICIENT = 0.98 0.57 0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(7642)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT= 1.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0470	0.1250
0.0197	0.0630	0.0551	0.1410
0.0304	0.0850	0.0620	0.1580
0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.369	2.75	64.32
OUTFLOW: ID= 1 (7642)	2.210	0.041	3.85	62.43

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.99
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.1098

| CALIB |
| STANDHYD (7643)| Area (ha)= 2.02
|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	7.87	3.150	17.06	4.72	2.62
0.033	0.00	1.600	7.87	3.167	17.06	4.73	2.62
0.050	0.00	1.617	7.87	3.183	17.06	4.75	2.62
0.067	0.00	1.633	7.87	3.200	17.06	4.77	1.31
0.083	0.00	1.650	7.87	3.217	17.06	4.78	1.31
0.100	0.00	1.667	7.87	3.233	17.06	4.80	1.31
0.117	0.00	1.683	7.87	3.250	17.06	4.82	1.31
0.133	0.00	1.700	7.87	3.267	9.18	4.83	1.31
0.150	0.00	1.717	7.87	3.283	9.18	4.85	1.31
0.167	0.00	1.733	7.87	3.300	9.18	4.87	1.31
0.183	0.00	1.750	7.87	3.317	9.18	4.88	1.31
0.200	0.00	1.767	22.30	3.333	9.18	4.90	1.31
0.217	0.00	1.783	22.30	3.350	9.18	4.92	1.31
0.233	0.00	1.800	22.30	3.367	9.18	4.93	1.31
0.250	0.00	1.817	22.30	3.383	9.18	4.95	1.31
0.267	1.31	1.833	22.30	3.400	9.18	4.97	1.31
0.283	1.31	1.850	22.30	3.417	9.18	4.98	1.31
0.300	1.31	1.867	22.30	3.433	9.18	5.00	1.31
0.317	1.31	1.883	22.30	3.450	9.18	5.02	1.31
0.333	1.31	1.900	22.30	3.467	9.18	5.03	1.31
0.350	1.31	1.917	22.30	3.483	9.18	5.05	1.31
0.367	1.31	1.933	22.30	3.500	9.18	5.07	1.31
0.383	1.31	1.950	22.30	3.517	9.18	5.08	1.31
0.400	1.31	1.967	22.30	3.533	9.18	5.10	1.31
0.417	1.31	1.983	22.30	3.550	9.18	5.12	1.31
0.433	1.31	2.000	22.30	3.567	9.18	5.13	1.31
0.450	1.31	2.017	22.30	3.583	9.18	5.15	1.31
0.467	1.31	2.033	22.30	3.600	9.18	5.17	1.31
0.483	1.31	2.050	22.30	3.617	9.18	5.18	1.31
0.500	1.31	2.067	22.30	3.633	9.18	5.20	1.31
0.517	1.31	2.083	22.30	3.650	9.18	5.22	1.31
0.533	1.31	2.100	22.30	3.667	9.18	5.23	1.31
0.550	1.31	2.117	22.30	3.683	9.18	5.25	1.31
0.567	1.31	2.133	22.30	3.700	9.18	5.27	1.31
0.583	1.31	2.150	22.30	3.717	9.18	5.28	1.31
0.600	1.31	2.167	22.30	3.733	9.18	5.30	1.31
0.617	1.31	2.183	22.30	3.750	9.18	5.32	1.31
0.633	1.31	2.200	22.30	3.767	5.25	5.33	1.31
0.650	1.31	2.217	22.30	3.783	5.25	5.35	1.31
0.667	1.31	2.233	22.30	3.800	5.25	5.37	1.31
0.683	1.31	2.250	22.30	3.817	5.25	5.38	1.31
0.700	1.31	2.267	60.35	3.833	5.25	5.40	1.31
0.717	1.31	2.283	60.35	3.850	5.25	5.42	1.31
0.733	1.31	2.300	60.35	3.867	5.25	5.43	1.31
0.750	1.31	2.317	60.35	3.883	5.25	5.45	1.31
0.767	1.31	2.333	60.35	3.900	5.25	5.47	1.31
0.783	1.31	2.350	60.35	3.917	5.25	5.48	1.31
0.800	1.31	2.367	60.35	3.933	5.25	5.50	1.31
0.817	1.31	2.383	60.35	3.950	5.25	5.52	1.31
0.833	1.31	2.400	60.35	3.967	5.25	5.53	1.31
0.850	1.31	2.417	60.35	3.983	5.25	5.55	1.31
0.867	1.31	2.433	60.35	4.000	5.25	5.57	1.31
0.883	1.31	2.450	60.35	4.017	5.25	5.58	1.31
0.900	1.31	2.467	60.35	4.033	5.25	5.60	1.31
0.917	1.31	2.483	60.35	4.050	5.25	5.62	1.31
0.933	1.31	2.500	60.35	4.067	5.25	5.63	1.31
0.950	1.31	2.517	60.35	4.083	5.25	5.65	1.31
0.967	1.31	2.533	60.35	4.100	5.25	5.67	1.31
0.983	1.31	2.550	60.35	4.117	5.25	5.68	1.31
1.000	1.31	2.567	60.35	4.133	5.25	5.70	1.31
1.017	1.31	2.583	60.35	4.150	5.25	5.72	1.31
1.033	1.31	2.600	60.35	4.167	5.25	5.73	1.31
1.050	1.31	2.617	60.35	4.183	5.25	5.75	1.31
1.067	1.31	2.633	60.35	4.200	5.25	5.77	1.31
1.083	1.31	2.650	60.35	4.217	5.25	5.78	1.31
1.100	1.31	2.667	60.35	4.233	5.25	5.80	1.31
1.117	1.31	2.683	60.35	4.250	5.25	5.82	1.31
1.133	1.31	2.700	60.35	4.267	2.62	5.83	1.31
1.150	1.31	2.717	60.35	4.283	2.62	5.85	1.31
1.167	1.31	2.733	60.35	4.300	2.62	5.87	1.31
1.183	1.31	2.750	60.35	4.317	2.62	5.88	1.31
1.200	1.31	2.767	17.06	4.333	2.62	5.90	1.31
1.217	1.31	2.783	17.06	4.350	2.62	5.92	1.31
1.233	1.31	2.800	17.06	4.367	2.62	5.93	1.31
1.250	1.31	2.817	17.06	4.383	2.62	5.95	1.31
1.267	7.87	2.833	17.06	4.400	2.62	5.97	1.31
1.283	7.87	2.850	17.06	4.417	2.62	5.98	1.31
1.300	7.87	2.867	17.06	4.433	2.62	6.00	1.31
1.317	7.87	2.883	17.06	4.450	2.62	6.02	1.31
1.333	7.87	2.900	17.06	4.467	2.62	6.03	1.31
1.350	7.87	2.917	17.06	4.483	2.62	6.05	1.31
1.367	7.87	2.933	17.06	4.500	2.62	6.07	1.31
1.383	7.87	2.950	17.06	4.517	2.62	6.08	1.31
1.400	7.87	2.967	17.06	4.533	2.62	6.10	1.31
1.417	7.87	2.983	17.06	4.550	2.62	6.12	1.31
1.433	7.87	3.000	17.06	4.567	2.62	6.13	1.31
1.450	7.87	3.017	17.06	4.583	2.62	6.15	1.31
1.467	7.87	3.033	17.06	4.600	2.62	6.17	1.31
1.483	7.87	3.050	17.06	4.617	2.62	6.18	1.31
1.500	7.87	3.067	17.06	4.633	2.62	6.20	1.31
1.517	7.87	3.083	17.06	4.650	2.62	6.22	1.31
1.533	7.87	3.100	17.06	4.667	2.62	6.23	1.31
1.550	7.87	3.117	17.06	4.683	2.62	6.25	1.31
1.567	7.87	3.133	17.06	4.700	2.62		

				TOTALS
Max.Eff.Inten.(mm/hr)=		60.35	43.45	
over (min)		5.00	6.00	
Storage Coeff. (min)=		3.42 (ii)	5.50 (ii)	
Unit Hyd. Tpeak (min)=		5.00	6.00	
Unit Hyd. peak (cms)=		0.29	0.20	
PEAK FLOW	(cms)=	0.34	0.00	0.338 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	64.59	37.71	64.32

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     TOTAL RAINFALL   (mm)=      65.59        65.59          65.59
     RUNOFF COEFFICIENT   =       0.98         0.58           0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR(  7644)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |    0.0433      0.1140
                          0.0182     0.0580   |    0.0507      0.1280
                          0.0280     0.0775   |    0.0571      0.1440
                          0.0343     0.0930   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7643)     2.020     0.338      2.75      64.32
   OUTFLOW: ID= 1 (  7644)     2.020     0.037      3.85      62.45

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.08
                  TIME SHIFT OF PEAK FLOW         (min)= 66.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1002

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**************************************************
** SIMULATION:95. 25 Year 12 Hour AES (Bloor, TRCA) **
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|    READ STORM    |    Filename: C:\Users\kevsur3650\AppD
|                  |              ata\Local\Temp\
|                  |              a38a8851-c36c-4932-84b4-c99a8b88bdf6\74cd624d
| Ptotal= 73.10 mm |    Comments: 25 Year 12 Hour AES (Bloor, TRCA)
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    0.00 |  3.25   12.43 |  6.50    5.12 |  9.75    0.73
                0.25    0.73 |  3.50   12.43 |  6.75    5.12 | 10.00    0.73
                0.50    0.73 |  3.75   12.43 |  7.00    5.12 | 10.25    0.73
                0.75    0.73 |  4.00   12.43 |  7.25    2.92 | 10.50    0.73
                1.00    0.73 |  4.25   33.63 |  7.50    2.92 | 10.75    0.73
                1.25    0.73 |  4.50   33.63 |  7.75    2.92 | 11.00    0.73
                1.50    0.73 |  4.75   33.63 |  8.00    2.92 | 11.25    0.73
                1.75    0.73 |  5.00   33.63 |  8.25    1.46 | 11.50    0.73
                2.00    0.73 |  5.25    9.50 |  8.50    1.46 | 11.75    0.73
                2.25    4.39 |  5.50    9.50 |  8.75    1.46 | 12.00    0.73
                2.50    4.39 |  5.75    9.50 |  9.00    1.46 |
                2.75    4.39 |  6.00    9.50 |  9.25    0.73 |
                3.00    4.39 |  6.25    5.12 |  9.50    0.73 |

--------------------------------------------------------------------------------
-------------------
| CALIB            |
| STANDHYD (  7567)|   Area    (ha)=   2.81
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.78         0.03
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     136.87        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
```

```
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.017    0.00 | 3.083    4.39 | 6.150    9.50 |  9.22    1.46
0.033    0.00 | 3.100    4.39 | 6.167    9.50 |  9.23    1.46
0.050    0.00 | 3.117    4.39 | 6.183    9.50 |  9.25    1.46
0.067    0.00 | 3.133    4.39 | 6.200    9.50 |  9.27    0.73
0.083    0.00 | 3.150    4.39 | 6.217    9.50 |  9.28    0.73
0.100    0.00 | 3.167    4.39 | 6.233    9.50 |  9.30    0.73
0.117    0.00 | 3.183    4.39 | 6.250    9.49 |  9.32    0.73
0.133    0.00 | 3.200    4.39 | 6.267    5.12 |  9.33    0.73
0.150    0.00 | 3.217    4.39 | 6.283    5.12 |  9.35    0.73
0.167    0.00 | 3.233    4.39 | 6.300    5.12 |  9.37    0.73
0.183    0.00 | 3.250    4.39 | 6.317    5.12 |  9.38    0.73
0.200    0.00 | 3.267   12.43 | 6.333    5.12 |  9.40    0.73
0.217    0.00 | 3.283   12.43 | 6.350    5.12 |  9.42    0.73
0.233    0.00 | 3.300   12.43 | 6.367    5.12 |  9.43    0.73
0.250    0.00 | 3.317   12.43 | 6.383    5.12 |  9.45    0.73
0.267    0.73 | 3.333   12.43 | 6.400    5.12 |  9.47    0.73
0.283    0.73 | 3.350   12.43 | 6.417    5.12 |  9.48    0.73
0.300    0.73 | 3.367   12.43 | 6.433    5.12 |  9.50    0.73
0.317    0.73 | 3.383   12.43 | 6.450    5.12 |  9.52    0.73
0.333    0.73 | 3.400   12.43 | 6.467    5.12 |  9.53    0.73
0.350    0.73 | 3.417   12.43 | 6.483    5.12 |  9.55    0.73
0.367    0.73 | 3.433   12.43 | 6.500    5.12 |  9.57    0.73
0.383    0.73 | 3.450   12.43 | 6.517    5.12 |  9.58    0.73
0.400    0.73 | 3.467   12.43 | 6.533    5.12 |  9.60    0.73
0.417    0.73 | 3.483   12.43 | 6.550    5.12 |  9.62    0.73
0.433    0.73 | 3.500   12.43 | 6.567    5.12 |  9.63    0.73
0.450    0.73 | 3.517   12.43 | 6.583    5.12 |  9.65    0.73
0.467    0.73 | 3.533   12.43 | 6.600    5.12 |  9.67    0.73
0.483    0.73 | 3.550   12.43 | 6.617    5.12 |  9.68    0.73
0.500    0.73 | 3.567   12.43 | 6.633    5.12 |  9.70    0.73
0.517    0.73 | 3.583   12.43 | 6.650    5.12 |  9.72    0.73
0.533    0.73 | 3.600   12.43 | 6.667    5.12 |  9.73    0.73
0.550    0.73 | 3.617   12.43 | 6.683    5.12 |  9.75    0.73
0.567    0.73 | 3.633   12.43 | 6.700    5.12 |  9.77    0.73
0.583    0.73 | 3.650   12.43 | 6.717    5.12 |  9.78    0.73
0.600    0.73 | 3.667   12.43 | 6.733    5.12 |  9.80    0.73
0.617    0.73 | 3.683   12.43 | 6.750    5.12 |  9.82    0.73
0.633    0.73 | 3.700   12.43 | 6.767    5.12 |  9.83    0.73
0.650    0.73 | 3.717   12.43 | 6.783    5.12 |  9.85    0.73
0.667    0.73 | 3.733   12.43 | 6.800    5.12 |  9.87    0.73
0.683    0.73 | 3.750   12.43 | 6.817    5.12 |  9.88    0.73
0.700    0.73 | 3.767   12.43 | 6.833    5.12 |  9.90    0.73
0.717    0.73 | 3.783   12.43 | 6.850    5.12 |  9.92    0.73
0.733    0.73 | 3.800   12.43 | 6.867    5.12 |  9.93    0.73
0.750    0.73 | 3.817   12.43 | 6.883    5.12 |  9.95    0.73
0.767    0.73 | 3.833   12.43 | 6.900    5.12 |  9.97    0.73
0.783    0.73 | 3.850   12.43 | 6.917    5.12 |  9.98    0.73
0.800    0.73 | 3.867   12.43 | 6.933    5.12 | 10.00    0.73
0.817    0.73 | 3.883   12.43 | 6.950    5.12 | 10.02    0.73
0.833    0.73 | 3.900   12.43 | 6.967    5.12 | 10.03    0.73
0.850    0.73 | 3.917   12.43 | 6.983    5.12 | 10.05    0.73
0.867    0.73 | 3.933   12.43 | 7.000    5.12 | 10.07    0.73
0.883    0.73 | 3.950   12.43 | 7.017    5.12 | 10.08    0.73
0.900    0.73 | 3.967   12.43 | 7.033    5.12 | 10.10    0.73
0.917    0.73 | 3.983   12.43 | 7.050    5.12 | 10.12    0.73
0.933    0.73 | 4.000   12.43 | 7.067    5.12 | 10.13    0.73
0.950    0.73 | 4.017   12.43 | 7.083    5.12 | 10.15    0.73
0.967    0.73 | 4.033   12.43 | 7.100    5.12 | 10.17    0.73
0.983    0.73 | 4.050   12.43 | 7.117    5.12 | 10.18    0.73
1.000    0.73 | 4.067   12.43 | 7.133    5.12 | 10.20    0.73
1.017    0.73 | 4.083   12.43 | 7.150    5.12 | 10.22    0.73
1.033    0.73 | 4.100   12.43 | 7.167    5.12 | 10.23    0.73
1.050    0.73 | 4.117   12.43 | 7.183    5.12 | 10.25    0.73
1.067    0.73 | 4.133   12.43 | 7.200    5.12 | 10.27    0.73
1.083    0.73 | 4.150   12.43 | 7.217    5.12 | 10.28    0.73
1.100    0.73 | 4.167   12.43 | 7.233    5.12 | 10.30    0.73
1.117    0.73 | 4.183   12.43 | 7.250    5.11 | 10.32    0.73
1.133    0.73 | 4.200   12.43 | 7.267    2.92 | 10.33    0.73
1.150    0.73 | 4.217   12.43 | 7.283    2.92 | 10.35    0.73
1.167    0.73 | 4.233   12.43 | 7.300    2.92 | 10.37    0.73
1.183    0.73 | 4.250   12.43 | 7.317    2.92 | 10.38    0.73
1.200    0.73 | 4.267   33.63 | 7.333    2.92 | 10.40    0.73
1.217    0.73 | 4.283   33.63 | 7.350    2.92 | 10.42    0.73
1.233    0.73 | 4.300   33.63 | 7.367    2.92 | 10.43    0.73
1.250    0.73 | 4.317   33.63 | 7.383    2.92 | 10.45    0.73
```

1.267	0.73	4.333	33.63	7.400	2.92	10.47	0.73
1.283	0.73	4.350	33.63	7.417	2.92	10.48	0.73
1.300	0.73	4.367	33.63	7.433	2.92	10.50	0.73
1.317	0.73	4.383	33.63	7.450	2.92	10.52	0.73
1.333	0.73	4.400	33.63	7.467	2.92	10.53	0.73
1.350	0.73	4.417	33.63	7.483	2.92	10.55	0.73
1.367	0.73	4.433	33.63	7.500	2.92	10.57	0.73
1.383	0.73	4.450	33.63	7.517	2.92	10.58	0.73
1.400	0.73	4.467	33.63	7.533	2.92	10.60	0.73
1.417	0.73	4.483	33.63	7.550	2.92	10.62	0.73
1.433	0.73	4.500	33.63	7.567	2.92	10.63	0.73
1.450	0.73	4.517	33.63	7.583	2.92	10.65	0.73
1.467	0.73	4.533	33.63	7.600	2.92	10.67	0.73
1.483	0.73	4.550	33.63	7.617	2.92	10.68	0.73
1.500	0.73	4.567	33.63	7.633	2.92	10.70	0.73
1.517	0.73	4.583	33.63	7.650	2.92	10.72	0.73
1.533	0.73	4.600	33.63	7.667	2.92	10.73	0.73
1.550	0.73	4.617	33.63	7.683	2.92	10.75	0.73
1.567	0.73	4.633	33.63	7.700	2.92	10.77	0.73
1.583	0.73	4.650	33.63	7.717	2.92	10.78	0.73
1.600	0.73	4.667	33.63	7.733	2.92	10.80	0.73
1.617	0.73	4.683	33.63	7.750	2.92	10.82	0.73
1.633	0.73	4.700	33.63	7.767	2.92	10.83	0.73
1.650	0.73	4.717	33.63	7.783	2.92	10.85	0.73
1.667	0.73	4.733	33.63	7.800	2.92	10.87	0.73
1.683	0.73	4.750	33.63	7.817	2.92	10.88	0.73
1.700	0.73	4.767	33.63	7.833	2.92	10.90	0.73
1.717	0.73	4.783	33.63	7.850	2.92	10.92	0.73
1.733	0.73	4.800	33.63	7.867	2.92	10.93	0.73
1.750	0.73	4.817	33.63	7.883	2.92	10.95	0.73
1.767	0.73	4.833	33.63	7.900	2.92	10.97	0.73
1.783	0.73	4.850	33.63	7.917	2.92	10.98	0.73
1.800	0.73	4.867	33.63	7.933	2.92	11.00	0.73
1.817	0.73	4.883	33.63	7.950	2.92	11.02	0.73
1.833	0.73	4.900	33.63	7.967	2.92	11.03	0.73
1.850	0.73	4.917	33.63	7.983	2.92	11.05	0.73
1.867	0.73	4.933	33.63	8.000	2.92	11.07	0.73
1.883	0.73	4.950	33.63	8.017	2.92	11.08	0.73
1.900	0.73	4.967	33.63	8.033	2.92	11.10	0.73
1.917	0.73	4.983	33.63	8.050	2.92	11.12	0.73
1.933	0.73	5.000	33.63	8.067	2.92	11.13	0.73
1.950	0.73	5.017	33.63	8.083	2.92	11.15	0.73
1.967	0.73	5.033	33.63	8.100	2.92	11.17	0.73
1.983	0.73	5.050	33.63	8.117	2.92	11.18	0.73
2.000	0.73	5.067	33.63	8.133	2.92	11.20	0.73
2.017	0.73	5.083	33.63	8.150	2.92	11.22	0.73
2.033	0.73	5.100	33.63	8.167	2.92	11.23	0.73
2.050	0.73	5.117	33.63	8.183	2.92	11.25	0.73
2.067	0.73	5.133	33.63	8.200	2.92	11.27	0.73
2.083	0.73	5.150	33.63	8.217	2.92	11.28	0.73
2.100	0.73	5.167	33.63	8.233	2.92	11.30	0.73
2.117	0.73	5.183	33.63	8.250	2.92	11.32	0.73
2.133	0.73	5.200	33.63	8.267	1.46	11.33	0.73
2.150	0.73	5.217	33.63	8.283	1.46	11.35	0.73
2.167	0.73	5.233	33.63	8.300	1.46	11.37	0.73
2.183	0.73	5.250	33.61	8.317	1.46	11.38	0.73
2.200	0.73	5.267	9.50	8.333	1.46	11.40	0.73
2.217	0.73	5.283	9.50	8.350	1.46	11.42	0.73
2.233	0.73	5.300	9.50	8.367	1.46	11.43	0.73
2.250	0.73	5.317	9.50	8.383	1.46	11.45	0.73
2.267	4.39	5.333	9.50	8.400	1.46	11.47	0.73
2.283	4.39	5.350	9.50	8.417	1.46	11.48	0.73
2.300	4.39	5.367	9.50	8.433	1.46	11.50	0.73
2.317	4.39	5.383	9.50	8.450	1.46	11.52	0.73
2.333	4.39	5.400	9.50	8.467	1.46	11.53	0.73
2.350	4.39	5.417	9.50	8.483	1.46	11.55	0.73
2.367	4.39	5.433	9.50	8.500	1.46	11.57	0.73
2.383	4.39	5.450	9.50	8.517	1.46	11.58	0.73
2.400	4.39	5.467	9.50	8.533	1.46	11.60	0.73
2.417	4.39	5.483	9.50	8.550	1.46	11.62	0.73
2.433	4.39	5.500	9.50	8.567	1.46	11.63	0.73
2.450	4.39	5.517	9.50	8.583	1.46	11.65	0.73
2.467	4.39	5.533	9.50	8.600	1.46	11.67	0.73
2.483	4.39	5.550	9.50	8.617	1.46	11.68	0.73
2.500	4.39	5.567	9.50	8.633	1.46	11.70	0.73
2.517	4.39	5.583	9.50	8.650	1.46	11.72	0.73
2.533	4.39	5.600	9.50	8.667	1.46	11.73	0.73
2.550	4.39	5.617	9.50	8.683	1.46	11.75	0.73
2.567	4.39	5.633	9.50	8.700	1.46	11.77	0.73
2.583	4.39	5.650	9.50	8.717	1.46	11.78	0.73
2.600	4.39	5.667	9.50	8.733	1.46	11.80	0.73
2.617	4.39	5.683	9.50	8.750	1.46	11.82	0.73
2.633	4.39	5.700	9.50	8.767	1.46	11.83	0.73
2.650	4.39	5.717	9.50	8.783	1.46	11.85	0.73
2.667	4.39	5.733	9.50	8.800	1.46	11.87	0.73
2.683	4.39	5.750	9.50	8.817	1.46	11.88	0.73
2.700	4.39	5.767	9.50	8.833	1.46	11.90	0.73
2.717	4.39	5.783	9.50	8.850	1.46	11.92	0.73
2.733	4.39	5.800	9.50	8.867	1.46	11.93	0.73
2.750	4.39	5.817	9.50	8.883	1.46	11.95	0.73
2.767	4.39	5.833	9.50	8.900	1.46	11.97	0.73
2.783	4.39	5.850	9.50	8.917	1.46	11.98	0.73
2.800	4.39	5.867	9.50	8.933	1.46	12.00	0.73
2.817	4.39	5.883	9.50	8.950	1.46	12.02	0.73
2.833	4.39	5.900	9.50	8.967	1.46	12.03	0.73
2.850	4.39	5.917	9.50	8.983	1.46	12.05	0.73
2.867	4.39	5.933	9.50	9.000	1.46	12.07	0.73
2.883	4.39	5.950	9.50	9.017	1.46	12.08	0.73
2.900	4.39	5.967	9.50	9.033	1.46	12.10	0.73
2.917	4.39	5.983	9.50	9.050	1.46	12.12	0.73
2.933	4.39	6.000	9.50	9.067	1.46	12.13	0.73
2.950	4.39	6.017	9.50	9.083	1.46	12.15	0.73
2.967	4.39	6.033	9.50	9.100	1.46	12.17	0.73
2.983	4.39	6.050	9.50	9.117	1.46	12.18	0.73
3.000	4.39	6.067	9.50	9.133	1.46	12.20	0.73
3.017	4.39	6.083	9.50	9.150	1.46	12.22	0.73
3.033	4.39	6.100	9.50	9.167	1.46	12.23	0.73
3.050	4.39	6.117	9.50	9.183	1.46	12.25	0.73
3.067	4.39	6.133	9.50	9.200	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	25.71	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.77 (ii)	7.40 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.23	0.15	
			TOTALS
PEAK FLOW (cms)=	0.26	0.00	0.262 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	44.03	71.82
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1 |				
DT= 1.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.262	5.25	71.82
OUTFLOW: ID= 1 (7626)	2.810	0.050	6.38	68.87

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.10
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.1367

CALIB |

| STANDHYD (7624)| Area (ha)= 2.08
|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	4.39	6.150	9.50	9.22	1.46
0.033	0.00	3.100	4.39	6.167	9.50	9.23	1.46
0.050	0.00	3.117	4.39	6.183	9.50	9.25	1.46
0.067	0.00	3.133	4.39	6.200	9.50	9.27	0.73
0.083	0.00	3.150	4.39	6.217	9.50	9.28	0.73
0.100	0.00	3.167	4.39	6.233	9.50	9.30	0.73
0.117	0.00	3.183	4.39	6.250	9.49	9.32	0.73
0.133	0.00	3.200	4.39	6.267	5.12	9.33	0.73
0.150	0.00	3.217	4.39	6.283	5.12	9.35	0.73
0.167	0.00	3.233	4.39	6.300	5.12	9.37	0.73
0.183	0.00	3.250	4.39	6.317	5.12	9.38	0.73
0.200	0.00	3.267	12.43	6.333	5.12	9.40	0.73
0.217	0.00	3.283	12.43	6.350	5.12	9.42	0.73
0.233	0.00	3.300	12.43	6.367	5.12	9.43	0.73
0.250	0.00	3.317	12.43	6.383	5.12	9.45	0.73
0.267	0.73	3.333	12.43	6.400	5.12	9.47	0.73
0.283	0.73	3.350	12.43	6.417	5.12	9.48	0.73
0.300	0.73	3.367	12.43	6.433	5.12	9.50	0.73
0.317	0.73	3.383	12.43	6.450	5.12	9.52	0.73
0.333	0.73	3.400	12.43	6.467	5.12	9.53	0.73
0.350	0.73	3.417	12.43	6.483	5.12	9.55	0.73
0.367	0.73	3.433	12.43	6.500	5.12	9.57	0.73
0.383	0.73	3.450	12.43	6.517	5.12	9.58	0.73
0.400	0.73	3.467	12.43	6.533	5.12	9.60	0.73
0.417	0.73	3.483	12.43	6.550	5.12	9.62	0.73
0.433	0.73	3.500	12.43	6.567	5.12	9.63	0.73
0.450	0.73	3.517	12.43	6.583	5.12	9.65	0.73
0.467	0.73	3.533	12.43	6.600	5.12	9.67	0.73
0.483	0.73	3.550	12.43	6.617	5.12	9.68	0.73
0.500	0.73	3.567	12.43	6.633	5.12	9.70	0.73
0.517	0.73	3.583	12.43	6.650	5.12	9.72	0.73
0.533	0.73	3.600	12.43	6.667	5.12	9.73	0.73
0.550	0.73	3.617	12.43	6.683	5.12	9.75	0.73
0.567	0.73	3.633	12.43	6.700	5.12	9.77	0.73
0.583	0.73	3.650	12.43	6.717	5.12	9.78	0.73
0.600	0.73	3.667	12.43	6.733	5.12	9.80	0.73
0.617	0.73	3.683	12.43	6.750	5.12	9.82	0.73
0.633	0.73	3.700	12.43	6.767	5.12	9.83	0.73
0.650	0.73	3.717	12.43	6.783	5.12	9.85	0.73
0.667	0.73	3.733	12.43	6.800	5.12	9.87	0.73
0.683	0.73	3.750	12.43	6.817	5.12	9.88	0.73
0.700	0.73	3.767	12.43	6.833	5.12	9.90	0.73
0.717	0.73	3.783	12.43	6.850	5.12	9.92	0.73
0.733	0.73	3.800	12.43	6.867	5.12	9.93	0.73
0.750	0.73	3.817	12.43	6.883	5.12	9.95	0.73
0.767	0.73	3.833	12.43	6.900	5.12	9.97	0.73
0.783	0.73	3.850	12.43	6.917	5.12	9.98	0.73
0.800	0.73	3.867	12.43	6.933	5.12	10.00	0.73
0.817	0.73	3.883	12.43	6.950	5.12	10.02	0.73
0.833	0.73	3.900	12.43	6.967	5.12	10.03	0.73
0.850	0.73	3.917	12.43	6.983	5.12	10.05	0.73
0.867	0.73	3.933	12.43	7.000	5.12	10.07	0.73
0.883	0.73	3.950	12.43	7.017	5.12	10.08	0.73
0.900	0.73	3.967	12.43	7.033	5.12	10.10	0.73
0.917	0.73	3.983	12.43	7.050	5.12	10.12	0.73
0.933	0.73	4.000	12.43	7.067	5.12	10.13	0.73
0.950	0.73	4.017	12.43	7.083	5.12	10.15	0.73
0.967	0.73	4.033	12.43	7.100	5.12	10.17	0.73
0.983	0.73	4.050	12.43	7.117	5.12	10.18	0.73
1.000	0.73	4.067	12.43	7.133	5.12	10.20	0.73
1.017	0.73	4.083	12.43	7.150	5.12	10.22	0.73
1.033	0.73	4.100	12.43	7.167	5.12	10.23	0.73
1.050	0.73	4.117	12.43	7.183	5.12	10.25	0.73
1.067	0.73	4.133	12.43	7.200	5.12	10.27	0.73
1.083	0.73	4.150	12.43	7.217	5.12	10.28	0.73
1.100	0.73	4.167	12.43	7.233	5.12	10.30	0.73
1.117	0.73	4.183	12.43	7.250	5.11	10.32	0.73
1.133	0.73	4.200	12.43	7.267	2.92	10.33	0.73
1.150	0.73	4.217	12.43	7.283	2.92	10.35	0.73
1.167	0.73	4.233	12.43	7.300	2.92	10.37	0.73
1.183	0.73	4.250	12.43	7.317	2.92	10.38	0.73
1.200	0.73	4.267	33.63	7.333	2.92	10.40	0.73
1.217	0.73	4.283	33.63	7.350	2.92	10.42	0.73
1.233	0.73	4.300	33.63	7.367	2.92	10.43	0.73
1.250	0.73	4.317	33.63	7.383	2.92	10.45	0.73
1.267	0.73	4.333	33.63	7.400	2.92	10.47	0.73
1.283	0.73	4.350	33.63	7.417	2.92	10.48	0.73
1.300	0.73	4.367	33.63	7.433	2.92	10.50	0.73
1.317	0.73	4.383	33.63	7.450	2.92	10.52	0.73
1.333	0.73	4.400	33.63	7.467	2.92	10.53	0.73
1.350	0.73	4.417	33.63	7.483	2.92	10.55	0.73
1.367	0.73	4.433	33.63	7.500	2.92	10.57	0.73
1.383	0.73	4.450	33.63	7.517	2.92	10.58	0.73
1.400	0.73	4.467	33.63	7.533	2.92	10.60	0.73
1.417	0.73	4.483	33.63	7.550	2.92	10.62	0.73
1.433	0.73	4.500	33.63	7.567	2.92	10.63	0.73
1.450	0.73	4.517	33.63	7.583	2.92	10.65	0.73
1.467	0.73	4.533	33.63	7.600	2.92	10.67	0.73
1.483	0.73	4.550	33.63	7.617	2.92	10.68	0.73
1.500	0.73	4.567	33.63	7.633	2.92	10.70	0.73
1.517	0.73	4.583	33.63	7.650	2.92	10.72	0.73
1.533	0.73	4.600	33.63	7.667	2.92	10.73	0.73
1.550	0.73	4.617	33.63	7.683	2.92	10.75	0.73
1.567	0.73	4.633	33.63	7.700	2.92	10.77	0.73
1.583	0.73	4.650	33.63	7.717	2.92	10.78	0.73
1.600	0.73	4.667	33.63	7.733	2.92	10.80	0.73
1.617	0.73	4.683	33.63	7.750	2.92	10.82	0.73
1.633	0.73	4.700	33.63	7.767	2.92	10.83	0.73
1.650	0.73	4.717	33.63	7.783	2.92	10.85	0.73
1.667	0.73	4.733	33.63	7.800	2.92	10.87	0.73
1.683	0.73	4.750	33.63	7.817	2.92	10.88	0.73
1.700	0.73	4.767	33.63	7.833	2.92	10.90	0.73
1.717	0.73	4.783	33.63	7.850	2.92	10.92	0.73
1.733	0.73	4.800	33.63	7.867	2.92	10.93	0.73
1.750	0.73	4.817	33.63	7.883	2.92	10.95	0.73
1.767	0.73	4.833	33.63	7.900	2.92	10.97	0.73
1.783	0.73	4.850	33.63	7.917	2.92	10.98	0.73
1.800	0.73	4.867	33.63	7.933	2.92	11.00	0.73
1.817	0.73	4.883	33.63	7.950	2.92	11.02	0.73
1.833	0.73	4.900	33.63	7.967	2.92	11.03	0.73
1.850	0.73	4.917	33.63	7.983	2.92	11.05	0.73
1.867	0.73	4.933	33.63	8.000	2.92	11.07	0.73
1.883	0.73	4.950	33.63	8.017	2.92	11.08	0.73
1.900	0.73	4.967	33.63	8.033	2.92	11.10	0.73
1.917	0.73	4.983	33.63	8.050	2.92	11.12	0.73
1.933	0.73	5.000	33.63	8.067	2.92	11.13	0.73
1.950	0.73	5.017	33.63	8.083	2.92	11.15	0.73
1.967	0.73	5.033	33.63	8.100	2.92	11.17	0.73
1.983	0.73	5.050	33.63	8.117	2.92	11.18	0.73
2.000	0.73	5.067	33.63	8.133	2.92	11.20	0.73
2.017	0.73	5.083	33.63	8.150	2.92	11.22	0.73
2.033	0.73	5.100	33.63	8.167	2.92	11.23	0.73
2.050	0.73	5.117	33.63	8.183	2.92	11.25	0.73
2.067	0.73	5.133	33.63	8.200	2.92	11.27	0.73
2.083	0.73	5.150	33.63	8.217	2.92	11.28	0.73
2.100	0.73	5.167	33.63	8.233	2.92	11.30	0.73
2.117	0.73	5.183	33.63	8.250	2.92	11.32	0.73
2.133	0.73	5.200	33.63	8.267	1.46	11.33	0.73
2.150	0.73	5.217	33.63	8.283	1.46	11.35	0.73
2.167	0.73	5.233	33.63	8.300	1.46	11.37	0.73
2.183	0.73	5.250	33.61	8.317	1.46	11.38	0.73
2.200	0.73	5.267	9.50	8.333	1.46	11.40	0.73
2.217	0.73	5.283	9.50	8.350	1.46	11.42	0.73
2.233	0.73	5.300	9.50	8.367	1.46	11.43	0.73
2.250	0.73	5.317	9.50	8.383	1.46	11.45	0.73
2.267	4.39	5.333	9.50	8.400	1.46	11.47	0.73

2.283	4.39	5.350	9.50	8.417	1.46	11.48	0.73
2.300	4.39	5.367	9.50	8.433	1.46	11.50	0.73
2.317	4.39	5.383	9.50	8.450	1.46	11.52	0.73
2.333	4.39	5.400	9.50	8.467	1.46	11.53	0.73
2.350	4.39	5.417	9.50	8.483	1.46	11.55	0.73
2.367	4.39	5.433	9.50	8.500	1.46	11.57	0.73
2.383	4.39	5.450	9.50	8.517	1.46	11.58	0.73
2.400	4.39	5.467	9.50	8.533	1.46	11.60	0.73
2.417	4.39	5.483	9.50	8.550	1.46	11.62	0.73
2.433	4.39	5.500	9.50	8.567	1.46	11.63	0.73
2.450	4.39	5.517	9.50	8.583	1.46	11.65	0.73
2.467	4.39	5.533	9.50	8.600	1.46	11.67	0.73
2.483	4.39	5.550	9.50	8.617	1.46	11.68	0.73
2.500	4.39	5.567	9.50	8.633	1.46	11.70	0.73
2.517	4.39	5.583	9.50	8.650	1.46	11.72	0.73
2.533	4.39	5.600	9.50	8.667	1.46	11.73	0.73
2.550	4.39	5.617	9.50	8.683	1.46	11.75	0.73
2.567	4.39	5.633	9.50	8.700	1.46	11.77	0.73
2.583	4.39	5.650	9.50	8.717	1.46	11.78	0.73
2.600	4.39	5.667	9.50	8.733	1.46	11.80	0.73
2.617	4.39	5.683	9.50	8.750	1.46	11.82	0.73
2.633	4.39	5.700	9.50	8.767	1.46	11.83	0.73
2.650	4.39	5.717	9.50	8.783	1.46	11.85	0.73
2.667	4.39	5.733	9.50	8.800	1.46	11.87	0.73
2.683	4.39	5.750	9.50	8.817	1.46	11.88	0.73
2.700	4.39	5.767	9.50	8.833	1.46	11.90	0.73
2.717	4.39	5.783	9.50	8.850	1.46	11.92	0.73
2.733	4.39	5.800	9.50	8.867	1.46	11.93	0.73
2.750	4.39	5.817	9.50	8.883	1.46	11.95	0.73
2.767	4.39	5.833	9.50	8.900	1.46	11.97	0.73
2.783	4.39	5.850	9.50	8.917	1.46	11.98	0.73
2.800	4.39	5.867	9.50	8.933	1.46	12.00	0.73
2.817	4.39	5.883	9.50	8.950	1.46	12.02	0.73
2.833	4.39	5.900	9.50	8.967	1.46	12.03	0.73
2.850	4.39	5.917	9.50	8.983	1.46	12.05	0.73
2.867	4.39	5.933	9.50	9.000	1.46	12.07	0.73
2.883	4.39	5.950	9.50	9.017	1.46	12.08	0.73
2.900	4.39	5.967	9.50	9.033	1.46	12.10	0.73
2.917	4.39	5.983	9.50	9.050	1.46	12.12	0.73
2.933	4.39	6.000	9.50	9.067	1.46	12.13	0.73
2.950	4.39	6.017	9.50	9.083	1.46	12.15	0.73
2.967	4.39	6.033	9.50	9.100	1.46	12.17	0.73
2.983	4.39	6.050	9.50	9.117	1.46	12.18	0.73
3.000	4.39	6.067	9.50	9.133	1.46	12.20	0.73
3.017	4.39	6.083	9.50	9.150	1.46	12.22	0.73
3.033	4.39	6.100	9.50	9.167	1.46	12.23	0.73
3.050	4.39	6.117	9.50	9.183	1.46	12.25	0.73
3.067	4.39	6.133	9.50	9.200	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	28.96	
over (min)	5.00	7.00	
Storage Coeff. (min)=	4.36 (ii)	6.99 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.25	0.16	
			TOTALS
PEAK FLOW (cms)=	0.19	0.00	0.194 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	72.09	51.36	71.89
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.70	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.194	5.25	71.89
OUTFLOW: ID= 1 (7625)	2.080	0.038	6.37	69.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.83
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.1003

CALIB	
STANDHYD (7623)	Area (ha)= 1.15
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	4.39	6.150	9.50	9.22	1.46
0.033	0.00	3.100	4.39	6.167	9.50	9.23	1.46
0.050	0.00	3.117	4.39	6.183	9.50	9.25	1.46
0.067	0.00	3.133	4.39	6.200	9.50	9.27	0.73
0.083	0.00	3.150	4.39	6.217	9.50	9.28	0.73
0.100	0.00	3.167	4.39	6.233	9.50	9.30	0.73
0.117	0.00	3.183	4.39	6.250	9.49	9.32	0.73
0.133	0.00	3.200	4.39	6.267	5.12	9.33	0.73
0.150	0.00	3.217	4.39	6.283	5.12	9.35	0.73
0.167	0.00	3.233	4.39	6.300	5.12	9.37	0.73
0.183	0.00	3.250	4.39	6.317	5.12	9.38	0.73
0.200	0.00	3.267	12.43	6.333	5.12	9.40	0.73
0.217	0.00	3.283	12.43	6.350	5.12	9.42	0.73
0.233	0.00	3.300	12.43	6.367	5.12	9.43	0.73
0.250	0.00	3.317	12.43	6.383	5.12	9.45	0.73
0.267	0.73	3.333	12.43	6.400	5.12	9.47	0.73
0.283	0.73	3.350	12.43	6.417	5.12	9.48	0.73
0.300	0.73	3.367	12.43	6.433	5.12	9.50	0.73
0.317	0.73	3.383	12.43	6.450	5.12	9.52	0.73
0.333	0.73	3.400	12.43	6.467	5.12	9.53	0.73
0.350	0.73	3.417	12.43	6.483	5.12	9.55	0.73
0.367	0.73	3.433	12.43	6.500	5.12	9.57	0.73
0.383	0.73	3.450	12.43	6.517	5.12	9.58	0.73
0.400	0.73	3.467	12.43	6.533	5.12	9.60	0.73
0.417	0.73	3.483	12.43	6.550	5.12	9.62	0.73
0.433	0.73	3.500	12.43	6.567	5.12	9.63	0.73
0.450	0.73	3.517	12.43	6.583	5.12	9.65	0.73
0.467	0.73	3.533	12.43	6.600	5.12	9.67	0.73
0.483	0.73	3.550	12.43	6.617	5.12	9.68	0.73
0.500	0.73	3.567	12.43	6.633	5.12	9.70	0.73
0.517	0.73	3.583	12.43	6.650	5.12	9.72	0.73
0.533	0.73	3.600	12.43	6.667	5.12	9.73	0.73
0.550	0.73	3.617	12.43	6.683	5.12	9.75	0.73
0.567	0.73	3.633	12.43	6.700	5.12	9.77	0.73
0.583	0.73	3.650	12.43	6.717	5.12	9.78	0.73
0.600	0.73	3.667	12.43	6.733	5.12	9.80	0.73
0.617	0.73	3.683	12.43	6.750	5.12	9.82	0.73
0.633	0.73	3.700	12.43	6.767	5.12	9.83	0.73
0.650	0.73	3.717	12.43	6.783	5.12	9.85	0.73
0.667	0.73	3.733	12.43	6.800	5.12	9.87	0.73
0.683	0.73	3.750	12.43	6.817	5.12	9.88	0.73
0.700	0.73	3.767	12.43	6.833	5.12	9.90	0.73
0.717	0.73	3.783	12.43	6.850	5.12	9.92	0.73
0.733	0.73	3.800	12.43	6.867	5.12	9.93	0.73
0.750	0.73	3.817	12.43	6.883	5.12	9.95	0.73

0.767	0.73	3.833	12.43	6.900	5.12	9.97	0.73	2.033	0.73	5.100	33.63	8.167	2.92	11.23	0.73
0.783	0.73	3.850	12.43	6.917	5.12	9.98	0.73	2.050	0.73	5.117	33.63	8.183	2.92	11.25	0.73
0.800	0.73	3.867	12.43	6.933	5.12	10.00	0.73	2.067	0.73	5.133	33.63	8.200	2.92	11.27	0.73
0.817	0.73	3.883	12.43	6.950	5.12	10.02	0.73	2.083	0.73	5.150	33.63	8.217	2.92	11.28	0.73
0.833	0.73	3.900	12.43	6.967	5.12	10.03	0.73	2.100	0.73	5.167	33.63	8.233	2.92	11.30	0.73
0.850	0.73	3.917	12.43	6.983	5.12	10.05	0.73	2.117	0.73	5.183	33.63	8.250	2.92	11.32	0.73
0.867	0.73	3.933	12.43	7.000	5.12	10.07	0.73	2.133	0.73	5.200	33.63	8.267	1.46	11.33	0.73
0.883	0.73	3.950	12.43	7.017	5.12	10.08	0.73	2.150	0.73	5.217	33.63	8.283	1.46	11.35	0.73
0.900	0.73	3.967	12.43	7.033	5.12	10.10	0.73	2.167	0.73	5.233	33.63	8.300	1.46	11.37	0.73
0.917	0.73	3.983	12.43	7.050	5.12	10.12	0.73	2.183	0.73	5.250	33.61	8.317	1.46	11.38	0.73
0.933	0.73	4.000	12.43	7.067	5.12	10.13	0.73	2.200	0.73	5.267	9.50	8.333	1.46	11.40	0.73
0.950	0.73	4.017	12.43	7.083	5.12	10.15	0.73	2.217	0.73	5.283	9.50	8.350	1.46	11.42	0.73
0.967	0.73	4.033	12.43	7.100	5.12	10.17	0.73	2.233	0.73	5.300	9.50	8.367	1.46	11.43	0.73
0.983	0.73	4.050	12.43	7.117	5.12	10.18	0.73	2.250	0.73	5.317	9.50	8.383	1.46	11.45	0.73
1.000	0.73	4.067	12.43	7.133	5.12	10.20	0.73	2.267	4.39	5.333	9.50	8.400	1.46	11.47	0.73
1.017	0.73	4.083	12.43	7.150	5.12	10.22	0.73	2.283	4.39	5.350	9.50	8.417	1.46	11.48	0.73
1.033	0.73	4.100	12.43	7.167	5.12	10.23	0.73	2.300	4.39	5.367	9.50	8.433	1.46	11.50	0.73
1.050	0.73	4.117	12.43	7.183	5.12	10.25	0.73	2.317	4.39	5.383	9.50	8.450	1.46	11.52	0.73
1.067	0.73	4.133	12.43	7.200	5.12	10.27	0.73	2.333	4.39	5.400	9.50	8.467	1.46	11.53	0.73
1.083	0.73	4.150	12.43	7.217	5.12	10.28	0.73	2.350	4.39	5.417	9.50	8.483	1.46	11.55	0.73
1.100	0.73	4.167	12.43	7.233	5.12	10.30	0.73	2.367	4.39	5.433	9.50	8.500	1.46	11.57	0.73
1.117	0.73	4.183	12.43	7.250	5.11	10.32	0.73	2.383	4.39	5.450	9.50	8.517	1.46	11.58	0.73
1.133	0.73	4.200	12.43	7.267	2.92	10.33	0.73	2.400	4.39	5.467	9.50	8.533	1.46	11.60	0.73
1.150	0.73	4.217	12.43	7.283	2.92	10.35	0.73	2.417	4.39	5.483	9.50	8.550	1.46	11.62	0.73
1.167	0.73	4.233	12.43	7.300	2.92	10.37	0.73	2.433	4.39	5.500	9.50	8.567	1.46	11.63	0.73
1.183	0.73	4.250	12.43	7.317	2.92	10.38	0.73	2.450	4.39	5.517	9.50	8.583	1.46	11.65	0.73
1.200	0.73	4.267	33.63	7.333	2.92	10.40	0.73	2.467	4.39	5.533	9.50	8.600	1.46	11.67	0.73
1.217	0.73	4.283	33.63	7.350	2.92	10.42	0.73	2.483	4.39	5.550	9.50	8.617	1.46	11.68	0.73
1.233	0.73	4.300	33.63	7.367	2.92	10.43	0.73	2.500	4.39	5.567	9.50	8.633	1.46	11.70	0.73
1.250	0.73	4.317	33.63	7.383	2.92	10.45	0.73	2.517	4.39	5.583	9.50	8.650	1.46	11.72	0.73
1.267	0.73	4.333	33.63	7.400	2.92	10.47	0.73	2.533	4.39	5.600	9.50	8.667	1.46	11.73	0.73
1.283	0.73	4.350	33.63	7.417	2.92	10.48	0.73	2.550	4.39	5.617	9.50	8.683	1.46	11.75	0.73
1.300	0.73	4.367	33.63	7.433	2.92	10.50	0.73	2.567	4.39	5.633	9.50	8.700	1.46	11.77	0.73
1.317	0.73	4.383	33.63	7.450	2.92	10.52	0.73	2.583	4.39	5.650	9.50	8.717	1.46	11.78	0.73
1.333	0.73	4.400	33.63	7.467	2.92	10.53	0.73	2.600	4.39	5.667	9.50	8.733	1.46	11.80	0.73
1.350	0.73	4.417	33.63	7.483	2.92	10.55	0.73	2.617	4.39	5.683	9.50	8.750	1.46	11.82	0.73
1.367	0.73	4.433	33.63	7.500	2.92	10.57	0.73	2.633	4.39	5.700	9.50	8.767	1.46	11.83	0.73
1.383	0.73	4.450	33.63	7.517	2.92	10.58	0.73	2.650	4.39	5.717	9.50	8.783	1.46	11.85	0.73
1.400	0.73	4.467	33.63	7.533	2.92	10.60	0.73	2.667	4.39	5.733	9.50	8.800	1.46	11.87	0.73
1.417	0.73	4.483	33.63	7.550	2.92	10.62	0.73	2.683	4.39	5.750	9.50	8.817	1.46	11.88	0.73
1.433	0.73	4.500	33.63	7.567	2.92	10.63	0.73	2.700	4.39	5.767	9.50	8.833	1.46	11.90	0.73
1.450	0.73	4.517	33.63	7.583	2.92	10.65	0.73	2.717	4.39	5.783	9.50	8.850	1.46	11.92	0.73
1.467	0.73	4.533	33.63	7.600	2.92	10.67	0.73	2.733	4.39	5.800	9.50	8.867	1.46	11.93	0.73
1.483	0.73	4.550	33.63	7.617	2.92	10.68	0.73	2.750	4.39	5.817	9.50	8.883	1.46	11.95	0.73
1.500	0.73	4.567	33.63	7.633	2.92	10.70	0.73	2.767	4.39	5.833	9.50	8.900	1.46	11.97	0.73
1.517	0.73	4.583	33.63	7.650	2.92	10.72	0.73	2.783	4.39	5.850	9.50	8.917	1.46	11.98	0.73
1.533	0.73	4.600	33.63	7.667	2.92	10.73	0.73	2.800	4.39	5.867	9.50	8.933	1.46	12.00	0.73
1.550	0.73	4.617	33.63	7.683	2.92	10.75	0.73	2.817	4.39	5.883	9.50	8.950	1.46	12.02	0.73
1.567	0.73	4.633	33.63	7.700	2.92	10.77	0.73	2.833	4.39	5.900	9.50	8.967	1.46	12.03	0.73
1.583	0.73	4.650	33.63	7.717	2.92	10.78	0.73	2.850	4.39	5.917	9.50	8.983	1.46	12.05	0.73
1.600	0.73	4.667	33.63	7.733	2.92	10.80	0.73	2.867	4.39	5.933	9.50	9.000	1.46	12.07	0.73
1.617	0.73	4.683	33.63	7.750	2.92	10.82	0.73	2.883	4.39	5.950	9.50	9.017	1.46	12.08	0.73
1.633	0.73	4.700	33.63	7.767	2.92	10.83	0.73	2.900	4.39	5.967	9.50	9.033	1.46	12.10	0.73
1.650	0.73	4.717	33.63	7.783	2.92	10.85	0.73	2.917	4.39	5.983	9.50	9.050	1.46	12.12	0.73
1.667	0.73	4.733	33.63	7.800	2.92	10.87	0.73	2.933	4.39	6.000	9.50	9.067	1.46	12.13	0.73
1.683	0.73	4.750	33.63	7.817	2.92	10.88	0.73	2.950	4.39	6.017	9.50	9.083	1.46	12.15	0.73
1.700	0.73	4.767	33.63	7.833	2.92	10.90	0.73	2.967	4.39	6.033	9.50	9.100	1.46	12.17	0.73
1.717	0.73	4.783	33.63	7.850	2.92	10.92	0.73	2.983	4.39	6.050	9.50	9.117	1.46	12.18	0.73
1.733	0.73	4.800	33.63	7.867	2.92	10.93	0.73	3.000	4.39	6.067	9.50	9.133	1.46	12.20	0.73
1.750	0.73	4.817	33.63	7.883	2.92	10.95	0.73	3.017	4.39	6.083	9.50	9.150	1.46	12.22	0.73
1.767	0.73	4.833	33.63	7.900	2.92	10.97	0.73	3.033	4.39	6.100	9.50	9.167	1.46	12.23	0.73
1.783	0.73	4.850	33.63	7.917	2.92	10.98	0.73	3.050	4.39	6.117	9.50	9.183	1.46	12.25	0.73
1.800	0.73	4.867	33.63	7.933	2.92	11.00	0.73	3.067	4.39	6.133	9.50	9.200	1.46		
1.817	0.73	4.883	33.63	7.950	2.92	11.02	0.73								
1.833	0.73	4.900	33.63	7.967	2.92	11.03	0.73								
1.850	0.73	4.917	33.63	7.983	2.92	11.05	0.73								
1.867	0.73	4.933	33.63	8.000	2.92	11.07	0.73								
1.883	0.73	4.950	33.63	8.017	2.92	11.08	0.73								
1.900	0.73	4.967	33.63	8.033	2.92	11.10	0.73								
1.917	0.73	4.983	33.63	8.050	2.92	11.12	0.73								
1.933	0.73	5.000	33.63	8.067	2.92	11.13	0.73								
1.950	0.73	5.017	33.63	8.083	2.92	11.15	0.73								
1.967	0.73	5.033	33.63	8.100	2.92	11.17	0.73								
1.983	0.73	5.050	33.63	8.117	2.92	11.18	0.73								
2.000	0.73	5.067	33.63	8.133	2.92	11.20	0.73								
2.017	0.73	5.083	33.63	8.150	2.92	11.22	0.73								

Max.Eff.Inten.(mm/hr)=	33.63	25.71	
over (min)	5.00	7.00	
Storage Coeff. (min)=	3.65 (ii)	6.28 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.28	0.17	
			TOTALS
PEAK FLOW (cms)=	0.11	0.00	0.107 (iii)
TIME TO PEAK (hrs)=	5.07	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	44.03	71.82
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.60	0.98

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      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7622)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0258      0.0650
                          0.0108      0.0330   |    0.0302      0.0725
                          0.0167      0.0440   |    0.0340      0.0820
                          0.0204      0.0525   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7623)     1.150     0.107      5.25      71.82
   OUTFLOW: ID= 1 (  7622)     1.150     0.022      6.35      69.41

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.14
                  TIME SHIFT OF PEAK FLOW         (min)= 66.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0552

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| CALIB           |
| STANDHYD (  7629)|   Area    (ha)=   4.09
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     165.13        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 3.083    4.39 | 6.150    9.50 |  9.22    1.46
               0.033    0.00 | 3.100    4.39 | 6.167    9.50 |  9.23    1.46
               0.050    0.00 | 3.117    4.39 | 6.183    9.50 |  9.25    1.46
               0.067    0.00 | 3.133    4.39 | 6.200    9.50 |  9.27    0.73
               0.083    0.00 | 3.150    4.39 | 6.217    9.50 |  9.28    0.73
               0.100    0.00 | 3.167    4.39 | 6.233    9.50 |  9.30    0.73
               0.117    0.00 | 3.183    4.39 | 6.250    9.49 |  9.32    0.73
               0.133    0.00 | 3.200    4.39 | 6.267    5.12 |  9.33    0.73
               0.150    0.00 | 3.217    4.39 | 6.283    5.12 |  9.35    0.73
               0.167    0.00 | 3.233    4.39 | 6.300    5.12 |  9.37    0.73
               0.183    0.00 | 3.250    4.39 | 6.317    5.12 |  9.38    0.73
               0.200    0.00 | 3.267   12.43 | 6.333    5.12 |  9.40    0.73
               0.217    0.00 | 3.283   12.43 | 6.350    5.12 |  9.42    0.73
               0.233    0.00 | 3.300   12.43 | 6.367    5.12 |  9.43    0.73
               0.250    0.00 | 3.317   12.43 | 6.383    5.12 |  9.45    0.73
               0.267    0.73 | 3.333   12.43 | 6.400    5.12 |  9.47    0.73
               0.283    0.73 | 3.350   12.43 | 6.417    5.12 |  9.48    0.73
               0.300    0.73 | 3.367   12.43 | 6.433    5.12 |  9.50    0.73
               0.317    0.73 | 3.383   12.43 | 6.450    5.12 |  9.52    0.73
               0.333    0.73 | 3.400   12.43 | 6.467    5.12 |  9.53    0.73
               0.350    0.73 | 3.417   12.43 | 6.483    5.12 |  9.55    0.73
               0.367    0.73 | 3.433   12.43 | 6.500    5.12 |  9.57    0.73
               0.383    0.73 | 3.450   12.43 | 6.517    5.12 |  9.58    0.73
               0.400    0.73 | 3.467   12.43 | 6.533    5.12 |  9.60    0.73
               0.417    0.73 | 3.483   12.43 | 6.550    5.12 |  9.62    0.73
               0.433    0.73 | 3.500   12.43 | 6.567    5.12 |  9.63    0.73
               0.450    0.73 | 3.517   12.43 | 6.583    5.12 |  9.65    0.73
               0.467    0.73 | 3.533   12.43 | 6.600    5.12 |  9.67    0.73
               0.483    0.73 | 3.550   12.43 | 6.617    5.12 |  9.68    0.73
               0.500    0.73 | 3.567   12.43 | 6.633    5.12 |  9.70    0.73
               0.517    0.73 | 3.583   12.43 | 6.650    5.12 |  9.72    0.73
               0.533    0.73 | 3.600   12.43 | 6.667    5.12 |  9.73    0.73
               0.550    0.73 | 3.617   12.43 | 6.683    5.12 |  9.75    0.73
               0.567    0.73 | 3.633   12.43 | 6.700    5.12 |  9.77    0.73
               0.583    0.73 | 3.650   12.43 | 6.717    5.12 |  9.78    0.73
               0.600    0.73 | 3.667   12.43 | 6.733    5.12 |  9.80    0.73
               0.617    0.73 | 3.683   12.43 | 6.750    5.12 |  9.82    0.73
               0.633    0.73 | 3.700   12.43 | 6.767    5.12 |  9.83    0.73
               0.650    0.73 | 3.717   12.43 | 6.783    5.12 |  9.85    0.73
               0.667    0.73 | 3.733   12.43 | 6.800    5.12 |  9.87    0.73
               0.683    0.73 | 3.750   12.43 | 6.817    5.12 |  9.88    0.73
               0.700    0.73 | 3.767   12.43 | 6.833    5.12 |  9.90    0.73
               0.717    0.73 | 3.783   12.43 | 6.850    5.12 |  9.92    0.73
               0.733    0.73 | 3.800   12.43 | 6.867    5.12 |  9.93    0.73
               0.750    0.73 | 3.817   12.43 | 6.883    5.12 |  9.95    0.73
               0.767    0.73 | 3.833   12.43 | 6.900    5.12 |  9.97    0.73
               0.783    0.73 | 3.850   12.43 | 6.917    5.12 |  9.98    0.73
               0.800    0.73 | 3.867   12.43 | 6.933    5.12 | 10.00    0.73
               0.817    0.73 | 3.883   12.43 | 6.950    5.12 | 10.02    0.73
               0.833    0.73 | 3.900   12.43 | 6.967    5.12 | 10.03    0.73
               0.850    0.73 | 3.917   12.43 | 6.983    5.12 | 10.05    0.73
               0.867    0.73 | 3.933   12.43 | 7.000    5.12 | 10.07    0.73
               0.883    0.73 | 3.950   12.43 | 7.017    5.12 | 10.08    0.73
               0.900    0.73 | 3.967   12.43 | 7.033    5.12 | 10.10    0.73
               0.917    0.73 | 3.983   12.43 | 7.050    5.12 | 10.12    0.73
               0.933    0.73 | 4.000   12.43 | 7.067    5.12 | 10.13    0.73
               0.950    0.73 | 4.017   12.43 | 7.083    5.12 | 10.15    0.73
               0.967    0.73 | 4.033   12.43 | 7.100    5.12 | 10.17    0.73
               0.983    0.73 | 4.050   12.43 | 7.117    5.12 | 10.18    0.73
               1.000    0.73 | 4.067   12.43 | 7.133    5.12 | 10.20    0.73
               1.017    0.73 | 4.083   12.43 | 7.150    5.12 | 10.22    0.73
               1.033    0.73 | 4.100   12.43 | 7.167    5.12 | 10.23    0.73
               1.050    0.73 | 4.117   12.43 | 7.183    5.12 | 10.25    0.73
               1.067    0.73 | 4.133   12.43 | 7.200    5.12 | 10.27    0.73
               1.083    0.73 | 4.150   12.43 | 7.217    5.12 | 10.28    0.73
               1.100    0.73 | 4.167   12.43 | 7.233    5.12 | 10.30    0.73
               1.117    0.73 | 4.183   12.43 | 7.250    5.11 | 10.32    0.73
               1.133    0.73 | 4.200   12.43 | 7.267    2.92 | 10.33    0.73
               1.150    0.73 | 4.217   12.43 | 7.283    2.92 | 10.35    0.73
               1.167    0.73 | 4.233   12.43 | 7.300    2.92 | 10.37    0.73
               1.183    0.73 | 4.250   12.43 | 7.317    2.92 | 10.38    0.73
               1.200    0.73 | 4.267   33.63 | 7.333    2.92 | 10.40    0.73
               1.217    0.73 | 4.283   33.63 | 7.350    2.92 | 10.42    0.73
               1.233    0.73 | 4.300   33.63 | 7.367    2.92 | 10.43    0.73
               1.250    0.73 | 4.317   33.63 | 7.383    2.92 | 10.45    0.73
               1.267    0.73 | 4.333   33.63 | 7.400    2.92 | 10.47    0.73
               1.283    0.73 | 4.350   33.63 | 7.417    2.92 | 10.48    0.73
               1.300    0.73 | 4.367   33.63 | 7.433    2.92 | 10.50    0.73
               1.317    0.73 | 4.383   33.63 | 7.450    2.92 | 10.52    0.73
               1.333    0.73 | 4.400   33.63 | 7.467    2.92 | 10.53    0.73
               1.350    0.73 | 4.417   33.63 | 7.483    2.92 | 10.55    0.73
               1.367    0.73 | 4.433   33.63 | 7.500    2.92 | 10.57    0.73
               1.383    0.73 | 4.450   33.63 | 7.517    2.92 | 10.58    0.73
               1.400    0.73 | 4.467   33.63 | 7.533    2.92 | 10.60    0.73
               1.417    0.73 | 4.483   33.63 | 7.550    2.92 | 10.62    0.73
               1.433    0.73 | 4.500   33.63 | 7.567    2.92 | 10.63    0.73
               1.450    0.73 | 4.517   33.63 | 7.583    2.92 | 10.65    0.73
               1.467    0.73 | 4.533   33.63 | 7.600    2.92 | 10.67    0.73
               1.483    0.73 | 4.550   33.63 | 7.617    2.92 | 10.68    0.73
               1.500    0.73 | 4.567   33.63 | 7.633    2.92 | 10.70    0.73
               1.517    0.73 | 4.583   33.63 | 7.650    2.92 | 10.72    0.73
               1.533    0.73 | 4.600   33.63 | 7.667    2.92 | 10.73    0.73
               1.550    0.73 | 4.617   33.63 | 7.683    2.92 | 10.75    0.73
               1.567    0.73 | 4.633   33.63 | 7.700    2.92 | 10.77    0.73
               1.583    0.73 | 4.650   33.63 | 7.717    2.92 | 10.78    0.73
               1.600    0.73 | 4.667   33.63 | 7.733    2.92 | 10.80    0.73
               1.617    0.73 | 4.683   33.63 | 7.750    2.92 | 10.82    0.73
               1.633    0.73 | 4.700   33.63 | 7.767    2.92 | 10.83    0.73
               1.650    0.73 | 4.717   33.63 | 7.783    2.92 | 10.85    0.73
               1.667    0.73 | 4.733   33.63 | 7.800    2.92 | 10.87    0.73
               1.683    0.73 | 4.750   33.63 | 7.817    2.92 | 10.88    0.73
               1.700    0.73 | 4.767   33.63 | 7.833    2.92 | 10.90    0.73
               1.717    0.73 | 4.783   33.63 | 7.850    2.92 | 10.92    0.73
               1.733    0.73 | 4.800   33.63 | 7.867    2.92 | 10.93    0.73
               1.750    0.73 | 4.817   33.63 | 7.883    2.92 | 10.95    0.73
               1.767    0.73 | 4.833   33.63 | 7.900    2.92 | 10.97    0.73
```

1.783	0.73	4.850	33.63	7.917	2.92	10.98	0.73
1.800	0.73	4.867	33.63	7.933	2.92	11.00	0.73
1.817	0.73	4.883	33.63	7.950	2.92	11.02	0.73
1.833	0.73	4.900	33.63	7.967	2.92	11.03	0.73
1.850	0.73	4.917	33.63	7.983	2.92	11.05	0.73
1.867	0.73	4.933	33.63	8.000	2.92	11.07	0.73
1.883	0.73	4.950	33.63	8.017	2.92	11.08	0.73
1.900	0.73	4.967	33.63	8.033	2.92	11.10	0.73
1.917	0.73	4.983	33.63	8.050	2.92	11.12	0.73
1.933	0.73	5.000	33.63	8.067	2.92	11.13	0.73
1.950	0.73	5.017	33.63	8.083	2.92	11.15	0.73
1.967	0.73	5.033	33.63	8.100	2.92	11.17	0.73
1.983	0.73	5.050	33.63	8.117	2.92	11.18	0.73
2.000	0.73	5.067	33.63	8.133	2.92	11.20	0.73
2.017	0.73	5.083	33.63	8.150	2.92	11.22	0.73
2.033	0.73	5.100	33.63	8.167	2.92	11.23	0.73
2.050	0.73	5.117	33.63	8.183	2.92	11.25	0.73
2.067	0.73	5.133	33.63	8.200	2.92	11.27	0.73
2.083	0.73	5.150	33.63	8.217	2.92	11.28	0.73
2.100	0.73	5.167	33.63	8.233	2.92	11.30	0.73
2.117	0.73	5.183	33.63	8.250	2.92	11.32	0.73
2.133	0.73	5.200	33.63	8.267	1.46	11.33	0.73
2.150	0.73	5.217	33.63	8.283	1.46	11.35	0.73
2.167	0.73	5.233	33.63	8.300	1.46	11.37	0.73
2.183	0.73	5.250	33.61	8.317	1.46	11.38	0.73
2.200	0.73	5.267	9.50	8.333	1.46	11.40	0.73
2.217	0.73	5.283	9.50	8.350	1.46	11.42	0.73
2.233	0.73	5.300	9.50	8.367	1.46	11.43	0.73
2.250	0.73	5.317	9.50	8.383	1.46	11.45	0.73
2.267	4.39	5.333	9.50	8.400	1.46	11.47	0.73
2.283	4.39	5.350	9.50	8.417	1.46	11.48	0.73
2.300	4.39	5.367	9.50	8.433	1.46	11.50	0.73
2.317	4.39	5.383	9.50	8.450	1.46	11.52	0.73
2.333	4.39	5.400	9.50	8.467	1.46	11.53	0.73
2.350	4.39	5.417	9.50	8.483	1.46	11.55	0.73
2.367	4.39	5.433	9.50	8.500	1.46	11.57	0.73
2.383	4.39	5.450	9.50	8.517	1.46	11.58	0.73
2.400	4.39	5.467	9.50	8.533	1.46	11.60	0.73
2.417	4.39	5.483	9.50	8.550	1.46	11.62	0.73
2.433	4.39	5.500	9.50	8.567	1.46	11.63	0.73
2.450	4.39	5.517	9.50	8.583	1.46	11.65	0.73
2.467	4.39	5.533	9.50	8.600	1.46	11.67	0.73
2.483	4.39	5.550	9.50	8.617	1.46	11.68	0.73
2.500	4.39	5.567	9.50	8.633	1.46	11.70	0.73
2.517	4.39	5.583	9.50	8.650	1.46	11.72	0.73
2.533	4.39	5.600	9.50	8.667	1.46	11.73	0.73
2.550	4.39	5.617	9.50	8.683	1.46	11.75	0.73
2.567	4.39	5.633	9.50	8.700	1.46	11.77	0.73
2.583	4.39	5.650	9.50	8.717	1.46	11.78	0.73
2.600	4.39	5.667	9.50	8.733	1.46	11.80	0.73
2.617	4.39	5.683	9.50	8.750	1.46	11.82	0.73
2.633	4.39	5.700	9.50	8.767	1.46	11.83	0.73
2.650	4.39	5.717	9.50	8.783	1.46	11.85	0.73
2.667	4.39	5.733	9.50	8.800	1.46	11.87	0.73
2.683	4.39	5.750	9.50	8.817	1.46	11.88	0.73
2.700	4.39	5.767	9.50	8.833	1.46	11.90	0.73
2.717	4.39	5.783	9.50	8.850	1.46	11.92	0.73
2.733	4.39	5.800	9.50	8.867	1.46	11.93	0.73
2.750	4.39	5.817	9.50	8.883	1.46	11.95	0.73
2.767	4.39	5.833	9.50	8.900	1.46	11.97	0.73
2.783	4.39	5.850	9.50	8.917	1.46	11.98	0.73
2.800	4.39	5.867	9.50	8.933	1.46	12.00	0.73
2.817	4.39	5.883	9.50	8.950	1.46	12.02	0.73
2.833	4.39	5.900	9.50	8.967	1.46	12.03	0.73
2.850	4.39	5.917	9.50	8.983	1.46	12.05	0.73
2.867	4.39	5.933	9.50	9.000	1.46	12.07	0.73
2.883	4.39	5.950	9.50	9.017	1.46	12.08	0.73
2.900	4.39	5.967	9.50	9.033	1.46	12.10	0.73
2.917	4.39	5.983	9.50	9.050	1.46	12.12	0.73
2.933	4.39	6.000	9.50	9.067	1.46	12.13	0.73
2.950	4.39	6.017	9.50	9.083	1.46	12.15	0.73
2.967	4.39	6.033	9.50	9.100	1.46	12.17	0.73
2.983	4.39	6.050	9.50	9.117	1.46	12.18	0.73
3.000	4.39	6.067	9.50	9.133	1.46	12.20	0.73
3.017	4.39	6.083	9.50	9.150	1.46	12.22	0.73
3.033	4.39	6.100	9.50	9.167	1.46	12.23	0.73
3.050	4.39	6.117	9.50	9.183	1.46	12.25	0.73
3.067	4.39	6.133	9.50	9.200	1.46		

```
     Max.Eff.Inten.(mm/hr)=      33.63        25.71
               over (min)         5.00         8.00
     Storage Coeff.  (min)=       5.34 (ii)    7.97 (ii)
     Unit Hyd. Tpeak (min)=       5.00         8.00
     Unit Hyd. peak  (cms)=       0.22         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.38         0.00         0.381 (iii)
     TIME TO PEAK    (hrs)=       5.23         5.25         5.25
     RUNOFF VOLUME    (mm)=      72.10        44.03        71.82
     TOTAL RAINFALL   (mm)=      73.10        73.10        73.10
     RUNOFF COEFFICIENT   =       0.99         0.60         0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR(  7630)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0826      0.2320
                          0.0347      0.1170   |    0.0967      0.2609
                          0.0534      0.1580   |    0.1090      0.2940
                          0.0655      0.1890   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7629)      4.090      0.381      5.25      71.82
   OUTFLOW: ID= 1 (  7630)      4.090      0.070      6.42      68.52

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.42
                  TIME SHIFT OF PEAK FLOW         (min)= 70.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2008

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-------------------
| CALIB            |
| STANDHYD (  7631)|   Area    (ha)=   3.91
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.87         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     161.45        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 3.083    4.39 | 6.150    9.50 |  9.22    1.46
               0.033    0.00 | 3.100    4.39 | 6.167    9.50 |  9.23    1.46
               0.050    0.00 | 3.117    4.39 | 6.183    9.50 |  9.25    1.46
               0.067    0.00 | 3.133    4.39 | 6.200    9.50 |  9.27    0.73
               0.083    0.00 | 3.150    4.39 | 6.217    9.50 |  9.28    0.73
               0.100    0.00 | 3.167    4.39 | 6.233    9.50 |  9.30    0.73
               0.117    0.00 | 3.183    4.39 | 6.250    9.49 |  9.32    0.73
               0.133    0.00 | 3.200    4.39 | 6.267    5.12 |  9.33    0.73
               0.150    0.00 | 3.217    4.39 | 6.283    5.12 |  9.35    0.73
               0.167    0.00 | 3.233    4.39 | 6.300    5.12 |  9.37    0.73
               0.183    0.00 | 3.250    4.39 | 6.317    5.12 |  9.38    0.73
               0.200    0.00 | 3.267   12.43 | 6.333    5.12 |  9.40    0.73
               0.217    0.00 | 3.283   12.43 | 6.350    5.12 |  9.42    0.73
               0.233    0.00 | 3.300   12.43 | 6.367    5.12 |  9.43    0.73
               0.250    0.00 | 3.317   12.43 | 6.383    5.12 |  9.45    0.73
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0.267	0.73	3.333	12.43	6.400	5.12	9.47	0.73
0.283	0.73	3.350	12.43	6.417	5.12	9.48	0.73
0.300	0.73	3.367	12.43	6.433	5.12	9.50	0.73
0.317	0.73	3.383	12.43	6.450	5.12	9.52	0.73
0.333	0.73	3.400	12.43	6.467	5.12	9.53	0.73
0.350	0.73	3.417	12.43	6.483	5.12	9.55	0.73
0.367	0.73	3.433	12.43	6.500	5.12	9.57	0.73
0.383	0.73	3.450	12.43	6.517	5.12	9.58	0.73
0.400	0.73	3.467	12.43	6.533	5.12	9.60	0.73
0.417	0.73	3.483	12.43	6.550	5.12	9.62	0.73
0.433	0.73	3.500	12.43	6.567	5.12	9.63	0.73
0.450	0.73	3.517	12.43	6.583	5.12	9.65	0.73
0.467	0.73	3.533	12.43	6.600	5.12	9.67	0.73
0.483	0.73	3.550	12.43	6.617	5.12	9.68	0.73
0.500	0.73	3.567	12.43	6.633	5.12	9.70	0.73
0.517	0.73	3.583	12.43	6.650	5.12	9.72	0.73
0.533	0.73	3.600	12.43	6.667	5.12	9.73	0.73
0.550	0.73	3.617	12.43	6.683	5.12	9.75	0.73
0.567	0.73	3.633	12.43	6.700	5.12	9.77	0.73
0.583	0.73	3.650	12.43	6.717	5.12	9.78	0.73
0.600	0.73	3.667	12.43	6.733	5.12	9.80	0.73
0.617	0.73	3.683	12.43	6.750	5.12	9.82	0.73
0.633	0.73	3.700	12.43	6.767	5.12	9.83	0.73
0.650	0.73	3.717	12.43	6.783	5.12	9.85	0.73
0.667	0.73	3.733	12.43	6.800	5.12	9.87	0.73
0.683	0.73	3.750	12.43	6.817	5.12	9.88	0.73
0.700	0.73	3.767	12.43	6.833	5.12	9.90	0.73
0.717	0.73	3.783	12.43	6.850	5.12	9.92	0.73
0.733	0.73	3.800	12.43	6.867	5.12	9.93	0.73
0.750	0.73	3.817	12.43	6.883	5.12	9.95	0.73
0.767	0.73	3.833	12.43	6.900	5.12	9.97	0.73
0.783	0.73	3.850	12.43	6.917	5.12	9.98	0.73
0.800	0.73	3.867	12.43	6.933	5.12	10.00	0.73
0.817	0.73	3.883	12.43	6.950	5.12	10.02	0.73
0.833	0.73	3.900	12.43	6.967	5.12	10.03	0.73
0.850	0.73	3.917	12.43	6.983	5.12	10.05	0.73
0.867	0.73	3.933	12.43	7.000	5.12	10.07	0.73
0.883	0.73	3.950	12.43	7.017	5.12	10.08	0.73
0.900	0.73	3.967	12.43	7.033	5.12	10.10	0.73
0.917	0.73	3.983	12.43	7.050	5.12	10.12	0.73
0.933	0.73	4.000	12.43	7.067	5.12	10.13	0.73
0.950	0.73	4.017	12.43	7.083	5.12	10.15	0.73
0.967	0.73	4.033	12.43	7.100	5.12	10.17	0.73
0.983	0.73	4.050	12.43	7.117	5.12	10.18	0.73
1.000	0.73	4.067	12.43	7.133	5.12	10.20	0.73
1.017	0.73	4.083	12.43	7.150	5.12	10.22	0.73
1.033	0.73	4.100	12.43	7.167	5.12	10.23	0.73
1.050	0.73	4.117	12.43	7.183	5.12	10.25	0.73
1.067	0.73	4.133	12.43	7.200	5.12	10.27	0.73
1.083	0.73	4.150	12.43	7.217	5.12	10.28	0.73
1.100	0.73	4.167	12.43	7.233	5.12	10.30	0.73
1.117	0.73	4.183	12.43	7.250	5.11	10.32	0.73
1.133	0.73	4.200	12.43	7.267	2.92	10.33	0.73
1.150	0.73	4.217	12.43	7.283	2.92	10.35	0.73
1.167	0.73	4.233	12.43	7.300	2.92	10.37	0.73
1.183	0.73	4.250	12.43	7.317	2.92	10.38	0.73
1.200	0.73	4.267	33.63	7.333	2.92	10.40	0.73
1.217	0.73	4.283	33.63	7.350	2.92	10.42	0.73
1.233	0.73	4.300	33.63	7.367	2.92	10.43	0.73
1.250	0.73	4.317	33.63	7.383	2.92	10.45	0.73
1.267	0.73	4.333	33.63	7.400	2.92	10.47	0.73
1.283	0.73	4.350	33.63	7.417	2.92	10.48	0.73
1.300	0.73	4.367	33.63	7.433	2.92	10.50	0.73
1.317	0.73	4.383	33.63	7.450	2.92	10.52	0.73
1.333	0.73	4.400	33.63	7.467	2.92	10.53	0.73
1.350	0.73	4.417	33.63	7.483	2.92	10.55	0.73
1.367	0.73	4.433	33.63	7.500	2.92	10.57	0.73
1.383	0.73	4.450	33.63	7.517	2.92	10.58	0.73
1.400	0.73	4.467	33.63	7.533	2.92	10.60	0.73
1.417	0.73	4.483	33.63	7.550	2.92	10.62	0.73
1.433	0.73	4.500	33.63	7.567	2.92	10.63	0.73
1.450	0.73	4.517	33.63	7.583	2.92	10.65	0.73
1.467	0.73	4.533	33.63	7.600	2.92	10.67	0.73
1.483	0.73	4.550	33.63	7.617	2.92	10.68	0.73
1.500	0.73	4.567	33.63	7.633	2.92	10.70	0.73
1.517	0.73	4.583	33.63	7.650	2.92	10.72	0.73
1.533	0.73	4.600	33.63	7.667	2.92	10.73	0.73
1.550	0.73	4.617	33.63	7.683	2.92	10.75	0.73
1.567	0.73	4.633	33.63	7.700	2.92	10.77	0.73
1.583	0.73	4.650	33.63	7.717	2.92	10.78	0.73
1.600	0.73	4.667	33.63	7.733	2.92	10.80	0.73
1.617	0.73	4.683	33.63	7.750	2.92	10.82	0.73
1.633	0.73	4.700	33.63	7.767	2.92	10.83	0.73
1.650	0.73	4.717	33.63	7.783	2.92	10.85	0.73
1.667	0.73	4.733	33.63	7.800	2.92	10.87	0.73
1.683	0.73	4.750	33.63	7.817	2.92	10.88	0.73
1.700	0.73	4.767	33.63	7.833	2.92	10.90	0.73
1.717	0.73	4.783	33.63	7.850	2.92	10.92	0.73
1.733	0.73	4.800	33.63	7.867	2.92	10.93	0.73
1.750	0.73	4.817	33.63	7.883	2.92	10.95	0.73
1.767	0.73	4.833	33.63	7.900	2.92	10.97	0.73
1.783	0.73	4.850	33.63	7.917	2.92	10.98	0.73
1.800	0.73	4.867	33.63	7.933	2.92	11.00	0.73
1.817	0.73	4.883	33.63	7.950	2.92	11.02	0.73
1.833	0.73	4.900	33.63	7.967	2.92	11.03	0.73
1.850	0.73	4.917	33.63	7.983	2.92	11.05	0.73
1.867	0.73	4.933	33.63	8.000	2.92	11.07	0.73
1.883	0.73	4.950	33.63	8.017	2.92	11.08	0.73
1.900	0.73	4.967	33.63	8.033	2.92	11.10	0.73
1.917	0.73	4.983	33.63	8.050	2.92	11.12	0.73
1.933	0.73	5.000	33.63	8.067	2.92	11.13	0.73
1.950	0.73	5.017	33.63	8.083	2.92	11.15	0.73
1.967	0.73	5.033	33.63	8.100	2.92	11.17	0.73
1.983	0.73	5.050	33.63	8.117	2.92	11.18	0.73
2.000	0.73	5.067	33.63	8.133	2.92	11.20	0.73
2.017	0.73	5.083	33.63	8.150	2.92	11.22	0.73
2.033	0.73	5.100	33.63	8.167	2.92	11.23	0.73
2.050	0.73	5.117	33.63	8.183	2.92	11.25	0.73
2.067	0.73	5.133	33.63	8.200	2.92	11.27	0.73
2.083	0.73	5.150	33.63	8.217	2.92	11.28	0.73
2.100	0.73	5.167	33.63	8.233	2.92	11.30	0.73
2.117	0.73	5.183	33.63	8.250	2.92	11.32	0.73
2.133	0.73	5.200	33.63	8.267	1.46	11.33	0.73
2.150	0.73	5.217	33.63	8.283	1.46	11.35	0.73
2.167	0.73	5.233	33.63	8.300	1.46	11.37	0.73
2.183	0.73	5.250	33.61	8.317	1.46	11.38	0.73
2.200	0.73	5.267	9.50	8.333	1.46	11.40	0.73
2.217	0.73	5.283	9.50	8.350	1.46	11.42	0.73
2.233	0.73	5.300	9.50	8.367	1.46	11.43	0.73
2.250	0.73	5.317	9.50	8.383	1.46	11.45	0.73
2.267	4.39	5.333	9.50	8.400	1.46	11.47	0.73
2.283	4.39	5.350	9.50	8.417	1.46	11.48	0.73
2.300	4.39	5.367	9.50	8.433	1.46	11.50	0.73
2.317	4.39	5.383	9.50	8.450	1.46	11.52	0.73
2.333	4.39	5.400	9.50	8.467	1.46	11.53	0.73
2.350	4.39	5.417	9.50	8.483	1.46	11.55	0.73
2.367	4.39	5.433	9.50	8.500	1.46	11.57	0.73
2.383	4.39	5.450	9.50	8.517	1.46	11.58	0.73
2.400	4.39	5.467	9.50	8.533	1.46	11.60	0.73
2.417	4.39	5.483	9.50	8.550	1.46	11.62	0.73
2.433	4.39	5.500	9.50	8.567	1.46	11.63	0.73
2.450	4.39	5.517	9.50	8.583	1.46	11.65	0.73
2.467	4.39	5.533	9.50	8.600	1.46	11.67	0.73
2.483	4.39	5.550	9.50	8.617	1.46	11.68	0.73
2.500	4.39	5.567	9.50	8.633	1.46	11.70	0.73
2.517	4.39	5.583	9.50	8.650	1.46	11.72	0.73
2.533	4.39	5.600	9.50	8.667	1.46	11.73	0.73
2.550	4.39	5.617	9.50	8.683	1.46	11.75	0.73
2.567	4.39	5.633	9.50	8.700	1.46	11.77	0.73
2.583	4.39	5.650	9.50	8.717	1.46	11.78	0.73
2.600	4.39	5.667	9.50	8.733	1.46	11.80	0.73
2.617	4.39	5.683	9.50	8.750	1.46	11.82	0.73
2.633	4.39	5.700	9.50	8.767	1.46	11.83	0.73
2.650	4.39	5.717	9.50	8.783	1.46	11.85	0.73
2.667	4.39	5.733	9.50	8.800	1.46	11.87	0.73
2.683	4.39	5.750	9.50	8.817	1.46	11.88	0.73
2.700	4.39	5.767	9.50	8.833	1.46	11.90	0.73
2.717	4.39	5.783	9.50	8.850	1.46	11.92	0.73
2.733	4.39	5.800	9.50	8.867	1.46	11.93	0.73
2.750	4.39	5.817	9.50	8.883	1.46	11.95	0.73
2.767	4.39	5.833	9.50	8.900	1.46	11.97	0.73
2.783	4.39	5.850	9.50	8.917	1.46	11.98	0.73

2.800	4.39	5.867	9.50	8.933	1.46	12.00	0.73
2.817	4.39	5.883	9.50	8.950	1.46	12.02	0.73
2.833	4.39	5.900	9.50	8.967	1.46	12.03	0.73
2.850	4.39	5.917	9.50	8.983	1.46	12.05	0.73
2.867	4.39	5.933	9.50	9.000	1.46	12.07	0.73
2.883	4.39	5.950	9.50	9.017	1.46	12.08	0.73
2.900	4.39	5.967	9.50	9.033	1.46	12.10	0.73
2.917	4.39	5.983	9.50	9.050	1.46	12.12	0.73
2.933	4.39	6.000	9.50	9.067	1.46	12.13	0.73
2.950	4.39	6.017	9.50	9.083	1.46	12.15	0.73
2.967	4.39	6.033	9.50	9.100	1.46	12.17	0.73
2.983	4.39	6.050	9.50	9.117	1.46	12.18	0.73
3.000	4.39	6.067	9.50	9.133	1.46	12.20	0.73
3.017	4.39	6.083	9.50	9.150	1.46	12.22	0.73
3.033	4.39	6.100	9.50	9.167	1.46	12.23	0.73
3.050	4.39	6.117	9.50	9.183	1.46	12.25	0.73
3.067	4.39	6.133	9.50	9.200	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	25.71	
over (min)	5.00	8.00	
Storage Coeff. (min)=	5.27 (ii)	7.90 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.22	0.14	
			TOTALS
PEAK FLOW (cms)=	0.36	0.00	0.364 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	44.03	71.82
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0792	0.2220
0.0333	0.1130	0.0928	0.2500
0.0512	0.1510	0.1046	0.2810
0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.364	5.25	71.82
OUTFLOW: ID= 1 (7632)	3.910	0.067	6.42	68.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.46
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.1920

CALIB	
STANDHYD (7641)	Area (ha)= 2.21
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.19	0.02
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	121.38	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	4.39	6.150	9.50	9.22	1.46
0.033	0.00	3.100	4.39	6.167	9.50	9.23	1.46
0.050	0.00	3.117	4.39	6.183	9.50	9.25	1.46
0.067	0.00	3.133	4.39	6.200	9.50	9.27	0.73
0.083	0.00	3.150	4.39	6.217	9.50	9.28	0.73
0.100	0.00	3.167	4.39	6.233	9.50	9.30	0.73
0.117	0.00	3.183	4.39	6.250	9.49	9.32	0.73
0.133	0.00	3.200	4.39	6.267	5.12	9.33	0.73
0.150	0.00	3.217	4.39	6.283	5.12	9.35	0.73
0.167	0.00	3.233	4.39	6.300	5.12	9.37	0.73
0.183	0.00	3.250	4.39	6.317	5.12	9.38	0.73
0.200	0.00	3.267	12.43	6.333	5.12	9.40	0.73
0.217	0.00	3.283	12.43	6.350	5.12	9.42	0.73
0.233	0.00	3.300	12.43	6.367	5.12	9.43	0.73
0.250	0.00	3.317	12.43	6.383	5.12	9.45	0.73
0.267	0.73	3.333	12.43	6.400	5.12	9.47	0.73
0.283	0.73	3.350	12.43	6.417	5.12	9.48	0.73
0.300	0.73	3.367	12.43	6.433	5.12	9.50	0.73
0.317	0.73	3.383	12.43	6.450	5.12	9.52	0.73
0.333	0.73	3.400	12.43	6.467	5.12	9.53	0.73
0.350	0.73	3.417	12.43	6.483	5.12	9.55	0.73
0.367	0.73	3.433	12.43	6.500	5.12	9.57	0.73
0.383	0.73	3.450	12.43	6.517	5.12	9.58	0.73
0.400	0.73	3.467	12.43	6.533	5.12	9.60	0.73
0.417	0.73	3.483	12.43	6.550	5.12	9.62	0.73
0.433	0.73	3.500	12.43	6.567	5.12	9.63	0.73
0.450	0.73	3.517	12.43	6.583	5.12	9.65	0.73
0.467	0.73	3.533	12.43	6.600	5.12	9.67	0.73
0.483	0.73	3.550	12.43	6.617	5.12	9.68	0.73
0.500	0.73	3.567	12.43	6.633	5.12	9.70	0.73
0.517	0.73	3.583	12.43	6.650	5.12	9.72	0.73
0.533	0.73	3.600	12.43	6.667	5.12	9.73	0.73
0.550	0.73	3.617	12.43	6.683	5.12	9.75	0.73
0.567	0.73	3.633	12.43	6.700	5.12	9.77	0.73
0.583	0.73	3.650	12.43	6.717	5.12	9.78	0.73
0.600	0.73	3.667	12.43	6.733	5.12	9.80	0.73
0.617	0.73	3.683	12.43	6.750	5.12	9.82	0.73
0.633	0.73	3.700	12.43	6.767	5.12	9.83	0.73
0.650	0.73	3.717	12.43	6.783	5.12	9.85	0.73
0.667	0.73	3.733	12.43	6.800	5.12	9.87	0.73
0.683	0.73	3.750	12.43	6.817	5.12	9.88	0.73
0.700	0.73	3.767	12.43	6.833	5.12	9.90	0.73
0.717	0.73	3.783	12.43	6.850	5.12	9.92	0.73
0.733	0.73	3.800	12.43	6.867	5.12	9.93	0.73
0.750	0.73	3.817	12.43	6.883	5.12	9.95	0.73
0.767	0.73	3.833	12.43	6.900	5.12	9.97	0.73
0.783	0.73	3.850	12.43	6.917	5.12	9.98	0.73
0.800	0.73	3.867	12.43	6.933	5.12	10.00	0.73
0.817	0.73	3.883	12.43	6.950	5.12	10.02	0.73
0.833	0.73	3.900	12.43	6.967	5.12	10.03	0.73
0.850	0.73	3.917	12.43	6.983	5.12	10.05	0.73
0.867	0.73	3.933	12.43	7.000	5.12	10.07	0.73
0.883	0.73	3.950	12.43	7.017	5.12	10.08	0.73
0.900	0.73	3.967	12.43	7.033	5.12	10.10	0.73
0.917	0.73	3.983	12.43	7.050	5.12	10.12	0.73
0.933	0.73	4.000	12.43	7.067	5.12	10.13	0.73
0.950	0.73	4.017	12.43	7.083	5.12	10.15	0.73
0.967	0.73	4.033	12.43	7.100	5.12	10.17	0.73
0.983	0.73	4.050	12.43	7.117	5.12	10.18	0.73
1.000	0.73	4.067	12.43	7.133	5.12	10.20	0.73
1.017	0.73	4.083	12.43	7.150	5.12	10.22	0.73
1.033	0.73	4.100	12.43	7.167	5.12	10.23	0.73
1.050	0.73	4.117	12.43	7.183	5.12	10.25	0.73
1.067	0.73	4.133	12.43	7.200	5.12	10.27	0.73
1.083	0.73	4.150	12.43	7.217	5.12	10.28	0.73
1.100	0.73	4.167	12.43	7.233	5.12	10.30	0.73
1.117	0.73	4.183	12.43	7.250	5.11	10.32	0.73
1.133	0.73	4.200	12.43	7.267	2.92	10.33	0.73
1.150	0.73	4.217	12.43	7.283	2.92	10.35	0.73
1.167	0.73	4.233	12.43	7.300	2.92	10.37	0.73
1.183	0.73	4.250	12.43	7.317	2.92	10.38	0.73
1.200	0.73	4.267	33.63	7.333	2.92	10.40	0.73
1.217	0.73	4.283	33.63	7.350	2.92	10.42	0.73
1.233	0.73	4.300	33.63	7.367	2.92	10.43	0.73
1.250	0.73	4.317	33.63	7.383	2.92	10.45	0.73
1.267	0.73	4.333	33.63	7.400	2.92	10.47	0.73

1.283	0.73	4.350	33.63	7.417	2.92	10.48	0.73
1.300	0.73	4.367	33.63	7.433	2.92	10.50	0.73
1.317	0.73	4.383	33.63	7.450	2.92	10.52	0.73
1.333	0.73	4.400	33.63	7.467	2.92	10.53	0.73
1.350	0.73	4.417	33.63	7.483	2.92	10.55	0.73
1.367	0.73	4.433	33.63	7.500	2.92	10.57	0.73
1.383	0.73	4.450	33.63	7.517	2.92	10.58	0.73
1.400	0.73	4.467	33.63	7.533	2.92	10.60	0.73
1.417	0.73	4.483	33.63	7.550	2.92	10.62	0.73
1.433	0.73	4.500	33.63	7.567	2.92	10.63	0.73
1.450	0.73	4.517	33.63	7.583	2.92	10.65	0.73
1.467	0.73	4.533	33.63	7.600	2.92	10.67	0.73
1.483	0.73	4.550	33.63	7.617	2.92	10.68	0.73
1.500	0.73	4.567	33.63	7.633	2.92	10.70	0.73
1.517	0.73	4.583	33.63	7.650	2.92	10.72	0.73
1.533	0.73	4.600	33.63	7.667	2.92	10.73	0.73
1.550	0.73	4.617	33.63	7.683	2.92	10.75	0.73
1.567	0.73	4.633	33.63	7.700	2.92	10.77	0.73
1.583	0.73	4.650	33.63	7.717	2.92	10.78	0.73
1.600	0.73	4.667	33.63	7.733	2.92	10.80	0.73
1.617	0.73	4.683	33.63	7.750	2.92	10.82	0.73
1.633	0.73	4.700	33.63	7.767	2.92	10.83	0.73
1.650	0.73	4.717	33.63	7.783	2.92	10.85	0.73
1.667	0.73	4.733	33.63	7.800	2.92	10.87	0.73
1.683	0.73	4.750	33.63	7.817	2.92	10.88	0.73
1.700	0.73	4.767	33.63	7.833	2.92	10.90	0.73
1.717	0.73	4.783	33.63	7.850	2.92	10.92	0.73
1.733	0.73	4.800	33.63	7.867	2.92	10.93	0.73
1.750	0.73	4.817	33.63	7.883	2.92	10.95	0.73
1.767	0.73	4.833	33.63	7.900	2.92	10.97	0.73
1.783	0.73	4.850	33.63	7.917	2.92	10.98	0.73
1.800	0.73	4.867	33.63	7.933	2.92	11.00	0.73
1.817	0.73	4.883	33.63	7.950	2.92	11.02	0.73
1.833	0.73	4.900	33.63	7.967	2.92	11.03	0.73
1.850	0.73	4.917	33.63	7.983	2.92	11.05	0.73
1.867	0.73	4.933	33.63	8.000	2.92	11.07	0.73
1.883	0.73	4.950	33.63	8.017	2.92	11.08	0.73
1.900	0.73	4.967	33.63	8.033	2.92	11.10	0.73
1.917	0.73	4.983	33.63	8.050	2.92	11.12	0.73
1.933	0.73	5.000	33.63	8.067	2.92	11.13	0.73
1.950	0.73	5.017	33.63	8.083	2.92	11.15	0.73
1.967	0.73	5.033	33.63	8.100	2.92	11.17	0.73
1.983	0.73	5.050	33.63	8.117	2.92	11.18	0.73
2.000	0.73	5.067	33.63	8.133	2.92	11.20	0.73
2.017	0.73	5.083	33.63	8.150	2.92	11.22	0.73
2.033	0.73	5.100	33.63	8.167	2.92	11.23	0.73
2.050	0.73	5.117	33.63	8.183	2.92	11.25	0.73
2.067	0.73	5.133	33.63	8.200	2.92	11.27	0.73
2.083	0.73	5.150	33.63	8.217	2.92	11.28	0.73
2.100	0.73	5.167	33.63	8.233	2.92	11.30	0.73
2.117	0.73	5.183	33.63	8.250	2.92	11.32	0.73
2.133	0.73	5.200	33.63	8.267	1.46	11.33	0.73
2.150	0.73	5.217	33.63	8.283	1.46	11.35	0.73
2.167	0.73	5.233	33.63	8.300	1.46	11.37	0.73
2.183	0.73	5.250	33.61	8.317	1.46	11.38	0.73
2.200	0.73	5.267	9.50	8.333	1.46	11.40	0.73
2.217	0.73	5.283	9.50	8.350	1.46	11.42	0.73
2.233	0.73	5.300	9.50	8.367	1.46	11.43	0.73
2.250	0.73	5.317	9.50	8.383	1.46	11.45	0.73
2.267	4.39	5.333	9.50	8.400	1.46	11.47	0.73
2.283	4.39	5.350	9.50	8.417	1.46	11.48	0.73
2.300	4.39	5.367	9.50	8.433	1.46	11.50	0.73
2.317	4.39	5.383	9.50	8.450	1.46	11.52	0.73
2.333	4.39	5.400	9.50	8.467	1.46	11.53	0.73
2.350	4.39	5.417	9.50	8.483	1.46	11.55	0.73
2.367	4.39	5.433	9.50	8.500	1.46	11.57	0.73
2.383	4.39	5.450	9.50	8.517	1.46	11.58	0.73
2.400	4.39	5.467	9.50	8.533	1.46	11.60	0.73
2.417	4.39	5.483	9.50	8.550	1.46	11.62	0.73
2.433	4.39	5.500	9.50	8.567	1.46	11.63	0.73
2.450	4.39	5.517	9.50	8.583	1.46	11.65	0.73
2.467	4.39	5.533	9.50	8.600	1.46	11.67	0.73
2.483	4.39	5.550	9.50	8.617	1.46	11.68	0.73
2.500	4.39	5.567	9.50	8.633	1.46	11.70	0.73
2.517	4.39	5.583	9.50	8.650	1.46	11.72	0.73
2.533	4.39	5.600	9.50	8.667	1.46	11.73	0.73
2.550	4.39	5.617	9.50	8.683	1.46	11.75	0.73
2.567	4.39	5.633	9.50	8.700	1.46	11.77	0.73
2.583	4.39	5.650	9.50	8.717	1.46	11.78	0.73
2.600	4.39	5.667	9.50	8.733	1.46	11.80	0.73
2.617	4.39	5.683	9.50	8.750	1.46	11.82	0.73
2.633	4.39	5.700	9.50	8.767	1.46	11.83	0.73
2.650	4.39	5.717	9.50	8.783	1.46	11.85	0.73
2.667	4.39	5.733	9.50	8.800	1.46	11.87	0.73
2.683	4.39	5.750	9.50	8.817	1.46	11.88	0.73
2.700	4.39	5.767	9.50	8.833	1.46	11.90	0.73
2.717	4.39	5.783	9.50	8.850	1.46	11.92	0.73
2.733	4.39	5.800	9.50	8.867	1.46	11.93	0.73
2.750	4.39	5.817	9.50	8.883	1.46	11.95	0.73
2.767	4.39	5.833	9.50	8.900	1.46	11.97	0.73
2.783	4.39	5.850	9.50	8.917	1.46	11.98	0.73
2.800	4.39	5.867	9.50	8.933	1.46	12.00	0.73
2.817	4.39	5.883	9.50	8.950	1.46	12.02	0.73
2.833	4.39	5.900	9.50	8.967	1.46	12.03	0.73
2.850	4.39	5.917	9.50	8.983	1.46	12.05	0.73
2.867	4.39	5.933	9.50	9.000	1.46	12.07	0.73
2.883	4.39	5.950	9.50	9.017	1.46	12.08	0.73
2.900	4.39	5.967	9.50	9.033	1.46	12.10	0.73
2.917	4.39	5.983	9.50	9.050	1.46	12.12	0.73
2.933	4.39	6.000	9.50	9.067	1.46	12.13	0.73
2.950	4.39	6.017	9.50	9.083	1.46	12.15	0.73
2.967	4.39	6.033	9.50	9.100	1.46	12.17	0.73
2.983	4.39	6.050	9.50	9.117	1.46	12.18	0.73
3.000	4.39	6.067	9.50	9.133	1.46	12.20	0.73
3.017	4.39	6.083	9.50	9.150	1.46	12.22	0.73
3.033	4.39	6.100	9.50	9.167	1.46	12.23	0.73
3.050	4.39	6.117	9.50	9.183	1.46	12.25	0.73
3.067	4.39	6.133	9.50	9.200	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	25.71	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.44 (ii)	7.07 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.24	0.15	
			TOTALS
PEAK FLOW (cms)=	0.20	0.00	0.206 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	44.03	71.82
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0470	0.1250	
	0.0197	0.0630	0.0551	0.1410	
	0.0304	0.0850	0.0620	0.1580	
	0.0373	0.1020	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.206	5.25	71.82
OUTFLOW: ID= 1 (7642)	2.210	0.040	6.38	69.01

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.21
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.1074

CALIB		
STANDHYD (7643)	Area (ha)= 2.02	

|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	4.39	6.150	9.50	9.22	1.46
0.033	0.00	3.100	4.39	6.167	9.50	9.23	1.46
0.050	0.00	3.117	4.39	6.183	9.50	9.25	1.46
0.067	0.00	3.133	4.39	6.200	9.50	9.27	0.73
0.083	0.00	3.150	4.39	6.217	9.50	9.28	0.73
0.100	0.00	3.167	4.39	6.233	9.50	9.30	0.73
0.117	0.00	3.183	4.39	6.250	9.49	9.32	0.73
0.133	0.00	3.200	4.39	6.267	5.12	9.33	0.73
0.150	0.00	3.217	4.39	6.283	5.12	9.35	0.73
0.167	0.00	3.233	4.39	6.300	5.12	9.37	0.73
0.183	0.00	3.250	4.39	6.317	5.12	9.38	0.73
0.200	0.00	3.267	12.43	6.333	5.12	9.40	0.73
0.217	0.00	3.283	12.43	6.350	5.12	9.42	0.73
0.233	0.00	3.300	12.43	6.367	5.12	9.43	0.73
0.250	0.00	3.317	12.43	6.383	5.12	9.45	0.73
0.267	0.73	3.333	12.43	6.400	5.12	9.47	0.73
0.283	0.73	3.350	12.43	6.417	5.12	9.48	0.73
0.300	0.73	3.367	12.43	6.433	5.12	9.50	0.73
0.317	0.73	3.383	12.43	6.450	5.12	9.52	0.73
0.333	0.73	3.400	12.43	6.467	5.12	9.53	0.73
0.350	0.73	3.417	12.43	6.483	5.12	9.55	0.73
0.367	0.73	3.433	12.43	6.500	5.12	9.57	0.73
0.383	0.73	3.450	12.43	6.517	5.12	9.58	0.73
0.400	0.73	3.467	12.43	6.533	5.12	9.60	0.73
0.417	0.73	3.483	12.43	6.550	5.12	9.62	0.73
0.433	0.73	3.500	12.43	6.567	5.12	9.63	0.73
0.450	0.73	3.517	12.43	6.583	5.12	9.65	0.73
0.467	0.73	3.533	12.43	6.600	5.12	9.67	0.73
0.483	0.73	3.550	12.43	6.617	5.12	9.68	0.73
0.500	0.73	3.567	12.43	6.633	5.12	9.70	0.73
0.517	0.73	3.583	12.43	6.650	5.12	9.72	0.73
0.533	0.73	3.600	12.43	6.667	5.12	9.73	0.73
0.550	0.73	3.617	12.43	6.683	5.12	9.75	0.73
0.567	0.73	3.633	12.43	6.700	5.12	9.77	0.73
0.583	0.73	3.650	12.43	6.717	5.12	9.78	0.73
0.600	0.73	3.667	12.43	6.733	5.12	9.80	0.73
0.617	0.73	3.683	12.43	6.750	5.12	9.82	0.73
0.633	0.73	3.700	12.43	6.767	5.12	9.83	0.73
0.650	0.73	3.717	12.43	6.783	5.12	9.85	0.73
0.667	0.73	3.733	12.43	6.800	5.12	9.87	0.73
0.683	0.73	3.750	12.43	6.817	5.12	9.88	0.73
0.700	0.73	3.767	12.43	6.833	5.12	9.90	0.73
0.717	0.73	3.783	12.43	6.850	5.12	9.92	0.73
0.733	0.73	3.800	12.43	6.867	5.12	9.93	0.73
0.750	0.73	3.817	12.43	6.883	5.12	9.95	0.73
0.767	0.73	3.833	12.43	6.900	5.12	9.97	0.73
0.783	0.73	3.850	12.43	6.917	5.12	9.98	0.73
0.800	0.73	3.867	12.43	6.933	5.12	10.00	0.73
0.817	0.73	3.883	12.43	6.950	5.12	10.02	0.73
0.833	0.73	3.900	12.43	6.967	5.12	10.03	0.73
0.850	0.73	3.917	12.43	6.983	5.12	10.05	0.73
0.867	0.73	3.933	12.43	7.000	5.12	10.07	0.73
0.883	0.73	3.950	12.43	7.017	5.12	10.08	0.73
0.900	0.73	3.967	12.43	7.033	5.12	10.10	0.73
0.917	0.73	3.983	12.43	7.050	5.12	10.12	0.73
0.933	0.73	4.000	12.43	7.067	5.12	10.13	0.73
0.950	0.73	4.017	12.43	7.083	5.12	10.15	0.73
0.967	0.73	4.033	12.43	7.100	5.12	10.17	0.73
0.983	0.73	4.050	12.43	7.117	5.12	10.18	0.73
1.000	0.73	4.067	12.43	7.133	5.12	10.20	0.73
1.017	0.73	4.083	12.43	7.150	5.12	10.22	0.73
1.033	0.73	4.100	12.43	7.167	5.12	10.23	0.73
1.050	0.73	4.117	12.43	7.183	5.12	10.25	0.73
1.067	0.73	4.133	12.43	7.200	5.12	10.27	0.73
1.083	0.73	4.150	12.43	7.217	5.12	10.28	0.73
1.100	0.73	4.167	12.43	7.233	5.12	10.30	0.73
1.117	0.73	4.183	12.43	7.250	5.11	10.32	0.73
1.133	0.73	4.200	12.43	7.267	2.92	10.33	0.73
1.150	0.73	4.217	12.43	7.283	2.92	10.35	0.73
1.167	0.73	4.233	12.43	7.300	2.92	10.37	0.73
1.183	0.73	4.250	12.43	7.317	2.92	10.38	0.73
1.200	0.73	4.267	33.63	7.333	2.92	10.40	0.73
1.217	0.73	4.283	33.63	7.350	2.92	10.42	0.73
1.233	0.73	4.300	33.63	7.367	2.92	10.43	0.73
1.250	0.73	4.317	33.63	7.383	2.92	10.45	0.73
1.267	0.73	4.333	33.63	7.400	2.92	10.47	0.73
1.283	0.73	4.350	33.63	7.417	2.92	10.48	0.73
1.300	0.73	4.367	33.63	7.433	2.92	10.50	0.73
1.317	0.73	4.383	33.63	7.450	2.92	10.52	0.73
1.333	0.73	4.400	33.63	7.467	2.92	10.53	0.73
1.350	0.73	4.417	33.63	7.483	2.92	10.55	0.73
1.367	0.73	4.433	33.63	7.500	2.92	10.57	0.73
1.383	0.73	4.450	33.63	7.517	2.92	10.58	0.73
1.400	0.73	4.467	33.63	7.533	2.92	10.60	0.73
1.417	0.73	4.483	33.63	7.550	2.92	10.62	0.73
1.433	0.73	4.500	33.63	7.567	2.92	10.63	0.73
1.450	0.73	4.517	33.63	7.583	2.92	10.65	0.73
1.467	0.73	4.533	33.63	7.600	2.92	10.67	0.73
1.483	0.73	4.550	33.63	7.617	2.92	10.68	0.73
1.500	0.73	4.567	33.63	7.633	2.92	10.70	0.73
1.517	0.73	4.583	33.63	7.650	2.92	10.72	0.73
1.533	0.73	4.600	33.63	7.667	2.92	10.73	0.73
1.550	0.73	4.617	33.63	7.683	2.92	10.75	0.73
1.567	0.73	4.633	33.63	7.700	2.92	10.77	0.73
1.583	0.73	4.650	33.63	7.717	2.92	10.78	0.73
1.600	0.73	4.667	33.63	7.733	2.92	10.80	0.73
1.617	0.73	4.683	33.63	7.750	2.92	10.82	0.73
1.633	0.73	4.700	33.63	7.767	2.92	10.83	0.73
1.650	0.73	4.717	33.63	7.783	2.92	10.85	0.73
1.667	0.73	4.733	33.63	7.800	2.92	10.87	0.73
1.683	0.73	4.750	33.63	7.817	2.92	10.88	0.73
1.700	0.73	4.767	33.63	7.833	2.92	10.90	0.73
1.717	0.73	4.783	33.63	7.850	2.92	10.92	0.73
1.733	0.73	4.800	33.63	7.867	2.92	10.93	0.73
1.750	0.73	4.817	33.63	7.883	2.92	10.95	0.73
1.767	0.73	4.833	33.63	7.900	2.92	10.97	0.73
1.783	0.73	4.850	33.63	7.917	2.92	10.98	0.73
1.800	0.73	4.867	33.63	7.933	2.92	11.00	0.73
1.817	0.73	4.883	33.63	7.950	2.92	11.02	0.73
1.833	0.73	4.900	33.63	7.967	2.92	11.03	0.73
1.850	0.73	4.917	33.63	7.983	2.92	11.05	0.73
1.867	0.73	4.933	33.63	8.000	2.92	11.07	0.73
1.883	0.73	4.950	33.63	8.017	2.92	11.08	0.73
1.900	0.73	4.967	33.63	8.033	2.92	11.10	0.73
1.917	0.73	4.983	33.63	8.050	2.92	11.12	0.73
1.933	0.73	5.000	33.63	8.067	2.92	11.13	0.73
1.950	0.73	5.017	33.63	8.083	2.92	11.15	0.73
1.967	0.73	5.033	33.63	8.100	2.92	11.17	0.73
1.983	0.73	5.050	33.63	8.117	2.92	11.18	0.73
2.000	0.73	5.067	33.63	8.133	2.92	11.20	0.73
2.017	0.73	5.083	33.63	8.150	2.92	11.22	0.73
2.033	0.73	5.100	33.63	8.167	2.92	11.23	0.73
2.050	0.73	5.117	33.63	8.183	2.92	11.25	0.73
2.067	0.73	5.133	33.63	8.200	2.92	11.27	0.73
2.083	0.73	5.150	33.63	8.217	2.92	11.28	0.73
2.100	0.73	5.167	33.63	8.233	2.92	11.30	0.73
2.117	0.73	5.183	33.63	8.250	2.92	11.32	0.73
2.133	0.73	5.200	33.63	8.267	1.46	11.33	0.73
2.150	0.73	5.217	33.63	8.283	1.46	11.35	0.73
2.167	0.73	5.233	33.63	8.300	1.46	11.37	0.73
2.183	0.73	5.250	33.61	8.317	1.46	11.38	0.73
2.200	0.73	5.267	9.50	8.333	1.46	11.40	0.73
2.217	0.73	5.283	9.50	8.350	1.46	11.42	0.73
2.233	0.73	5.300	9.50	8.367	1.46	11.43	0.73
2.250	0.73	5.317	9.50	8.383	1.46	11.45	0.73
2.267	4.39	5.333	9.50	8.400	1.46	11.47	0.73
2.283	4.39	5.350	9.50	8.417	1.46	11.48	0.73

2.300	4.39	5.367	9.50	8.433	1.46	11.50	0.73
2.317	4.39	5.383	9.50	8.450	1.46	11.52	0.73
2.333	4.39	5.400	9.50	8.467	1.46	11.53	0.73
2.350	4.39	5.417	9.50	8.483	1.46	11.55	0.73
2.367	4.39	5.433	9.50	8.500	1.46	11.57	0.73
2.383	4.39	5.450	9.50	8.517	1.46	11.58	0.73
2.400	4.39	5.467	9.50	8.533	1.46	11.60	0.73
2.417	4.39	5.483	9.50	8.550	1.46	11.62	0.73
2.433	4.39	5.500	9.50	8.567	1.46	11.63	0.73
2.450	4.39	5.517	9.50	8.583	1.46	11.65	0.73
2.467	4.39	5.533	9.50	8.600	1.46	11.67	0.73
2.483	4.39	5.550	9.50	8.617	1.46	11.68	0.73
2.500	4.39	5.567	9.50	8.633	1.46	11.70	0.73
2.517	4.39	5.583	9.50	8.650	1.46	11.72	0.73
2.533	4.39	5.600	9.50	8.667	1.46	11.73	0.73
2.550	4.39	5.617	9.50	8.683	1.46	11.75	0.73
2.567	4.39	5.633	9.50	8.700	1.46	11.77	0.73
2.583	4.39	5.650	9.50	8.717	1.46	11.78	0.73
2.600	4.39	5.667	9.50	8.733	1.46	11.80	0.73
2.617	4.39	5.683	9.50	8.750	1.46	11.82	0.73
2.633	4.39	5.700	9.50	8.767	1.46	11.83	0.73
2.650	4.39	5.717	9.50	8.783	1.46	11.85	0.73
2.667	4.39	5.733	9.50	8.800	1.46	11.87	0.73
2.683	4.39	5.750	9.50	8.817	1.46	11.88	0.73
2.700	4.39	5.767	9.50	8.833	1.46	11.90	0.73
2.717	4.39	5.783	9.50	8.850	1.46	11.92	0.73
2.733	4.39	5.800	9.50	8.867	1.46	11.93	0.73
2.750	4.39	5.817	9.50	8.883	1.46	11.95	0.73
2.767	4.39	5.833	9.50	8.900	1.46	11.97	0.73
2.783	4.39	5.850	9.50	8.917	1.46	11.98	0.73
2.800	4.39	5.867	9.50	8.933	1.46	12.00	0.73
2.817	4.39	5.883	9.50	8.950	1.46	12.02	0.73
2.833	4.39	5.900	9.50	8.967	1.46	12.03	0.73
2.850	4.39	5.917	9.50	8.983	1.46	12.05	0.73
2.867	4.39	5.933	9.50	9.000	1.46	12.07	0.73
2.883	4.39	5.950	9.50	9.017	1.46	12.08	0.73
2.900	4.39	5.967	9.50	9.033	1.46	12.10	0.73
2.917	4.39	5.983	9.50	9.050	1.46	12.12	0.73
2.933	4.39	6.000	9.50	9.067	1.46	12.13	0.73
2.950	4.39	6.017	9.50	9.083	1.46	12.15	0.73
2.967	4.39	6.033	9.50	9.100	1.46	12.17	0.73
2.983	4.39	6.050	9.50	9.117	1.46	12.18	0.73
3.000	4.39	6.067	9.50	9.133	1.46	12.20	0.73
3.017	4.39	6.083	9.50	9.150	1.46	12.22	0.73
3.033	4.39	6.100	9.50	9.167	1.46	12.23	0.73
3.050	4.39	6.117	9.50	9.183	1.46	12.25	0.73
3.067	4.39	6.133	9.50	9.200	1.46		

Max.Eff.Inten.(mm/hr)=	33.63	25.71	
over (min)	5.00	7.00	
Storage Coeff. (min)=	4.32 (ii)	6.95 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.25	0.16	
			TOTALS
PEAK FLOW (cms)=	0.19	0.00	0.188 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	72.10	44.03	71.82
TOTAL RAINFALL (mm)=	73.10	73.10	73.10
RUNOFF COEFFICIENT =	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0433	0.1140
	0.0182	0.0580	0.0507	0.1280
	0.0280	0.0775	0.0571	0.1440
	0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.188	5.25	71.82
OUTFLOW: ID= 1 (7644)	2.020	0.036	6.38	69.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.36
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.0980

****
** SIMULATION:96. 25 Year 24 Hour AES (Bloor, TRCA) **
****

READ STORM	Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\b98d6b81
Ptotal= 79.70 mm	Comments: 25 Year 24 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.25	6.77	12.50	2.79	18.75	0.40
0.25	0.40	6.50	6.77	12.75	2.79	19.00	0.40
0.50	0.40	6.75	6.77	13.00	2.79	19.25	0.40
0.75	0.40	7.00	6.77	13.25	2.79	19.50	0.40
1.00	0.40	7.25	6.77	13.50	2.79	19.75	0.40
1.25	0.40	7.50	6.77	13.75	2.79	20.00	0.40
1.50	0.40	7.75	6.77	14.00	2.79	20.25	0.40
1.75	0.40	8.00	6.77	14.25	1.59	20.50	0.40
2.00	0.40	8.25	18.33	14.50	1.59	20.75	0.40
2.25	0.40	8.50	18.33	14.75	1.59	21.00	0.40
2.50	0.40	8.75	18.33	15.00	1.59	21.25	0.40
2.75	0.40	9.00	18.33	15.25	1.59	21.50	0.40
3.00	0.40	9.25	18.33	15.50	1.59	21.75	0.40
3.25	0.40	9.50	18.33	15.75	1.59	22.00	0.40
3.50	0.40	9.75	18.33	16.00	1.59	22.25	0.40
3.75	0.40	10.00	18.33	16.25	0.80	22.50	0.40
4.00	0.40	10.25	5.18	16.50	0.80	22.75	0.40
4.25	2.39	10.50	5.18	16.75	0.80	23.00	0.40
4.50	2.39	10.75	5.18	17.00	0.80	23.25	0.40
4.75	2.39	11.00	5.18	17.25	0.80	23.50	0.40
5.00	2.39	11.25	5.18	17.50	0.80	23.75	0.40
5.25	2.39	11.50	5.18	17.75	0.80	24.00	0.40
5.50	2.39	11.75	5.18	18.00	0.80		
5.75	2.39	12.00	5.18	18.25	0.40		
6.00	2.39	12.25	2.79	18.50	0.40		

CALIB			
STANDHYD (7567)	Area (ha)= 2.81		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.78	0.03	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	136.87	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.39	12.150	5.18	18.22	0.80
0.033	0.00	6.100	2.39	12.167	5.18	18.23	0.80
0.050	0.00	6.117	2.39	12.183	5.18	18.25	0.80
0.067	0.00	6.133	2.39	12.200	5.18	18.27	0.40
0.083	0.00	6.150	2.39	12.217	5.18	18.28	0.40
0.100	0.00	6.167	2.39	12.233	5.18	18.30	0.40

0.117	0.00	6.183	2.39	12.250	5.18	18.32	0.40
0.133	0.00	6.200	2.39	12.267	2.79	18.33	0.40
0.150	0.00	6.217	2.39	12.283	2.79	18.35	0.40
0.167	0.00	6.233	2.39	12.300	2.79	18.37	0.40
0.183	0.00	6.250	2.40	12.317	2.79	18.38	0.40
0.200	0.00	6.267	6.77	12.333	2.79	18.40	0.40
0.217	0.00	6.283	6.77	12.350	2.79	18.42	0.40
0.233	0.00	6.300	6.77	12.367	2.79	18.43	0.40
0.250	0.00	6.317	6.77	12.383	2.79	18.45	0.40
0.267	0.40	6.333	6.77	12.400	2.79	18.47	0.40
0.283	0.40	6.350	6.77	12.417	2.79	18.48	0.40
0.300	0.40	6.367	6.77	12.433	2.79	18.50	0.40
0.317	0.40	6.383	6.77	12.450	2.79	18.52	0.40
0.333	0.40	6.400	6.77	12.467	2.79	18.53	0.40
0.350	0.40	6.417	6.77	12.483	2.79	18.55	0.40
0.367	0.40	6.433	6.77	12.500	2.79	18.57	0.40
0.383	0.40	6.450	6.77	12.517	2.79	18.58	0.40
0.400	0.40	6.467	6.77	12.533	2.79	18.60	0.40
0.417	0.40	6.483	6.77	12.550	2.79	18.62	0.40
0.433	0.40	6.500	6.77	12.567	2.79	18.63	0.40
0.450	0.40	6.517	6.77	12.583	2.79	18.65	0.40
0.467	0.40	6.533	6.77	12.600	2.79	18.67	0.40
0.483	0.40	6.550	6.77	12.617	2.79	18.68	0.40
0.500	0.40	6.567	6.77	12.633	2.79	18.70	0.40
0.517	0.40	6.583	6.77	12.650	2.79	18.72	0.40
0.533	0.40	6.600	6.77	12.667	2.79	18.73	0.40
0.550	0.40	6.617	6.77	12.683	2.79	18.75	0.40
0.567	0.40	6.633	6.77	12.700	2.79	18.77	0.40
0.583	0.40	6.650	6.77	12.717	2.79	18.78	0.40
0.600	0.40	6.667	6.77	12.733	2.79	18.80	0.40
0.617	0.40	6.683	6.77	12.750	2.79	18.82	0.40
0.633	0.40	6.700	6.77	12.767	2.79	18.83	0.40
0.650	0.40	6.717	6.77	12.783	2.79	18.85	0.40
0.667	0.40	6.733	6.77	12.800	2.79	18.87	0.40
0.683	0.40	6.750	6.77	12.817	2.79	18.88	0.40
0.700	0.40	6.767	6.77	12.833	2.79	18.90	0.40
0.717	0.40	6.783	6.77	12.850	2.79	18.92	0.40
0.733	0.40	6.800	6.77	12.867	2.79	18.93	0.40
0.750	0.40	6.817	6.77	12.883	2.79	18.95	0.40
0.767	0.40	6.833	6.77	12.900	2.79	18.97	0.40
0.783	0.40	6.850	6.77	12.917	2.79	18.98	0.40
0.800	0.40	6.867	6.77	12.933	2.79	19.00	0.40
0.817	0.40	6.883	6.77	12.950	2.79	19.02	0.40
0.833	0.40	6.900	6.77	12.967	2.79	19.03	0.40
0.850	0.40	6.917	6.77	12.983	2.79	19.05	0.40
0.867	0.40	6.933	6.77	13.000	2.79	19.07	0.40
0.883	0.40	6.950	6.77	13.017	2.79	19.08	0.40
0.900	0.40	6.967	6.77	13.033	2.79	19.10	0.40
0.917	0.40	6.983	6.77	13.050	2.79	19.12	0.40
0.933	0.40	7.000	6.77	13.067	2.79	19.13	0.40
0.950	0.40	7.017	6.77	13.083	2.79	19.15	0.40
0.967	0.40	7.033	6.77	13.100	2.79	19.17	0.40
0.983	0.40	7.050	6.77	13.117	2.79	19.18	0.40
1.000	0.40	7.067	6.77	13.133	2.79	19.20	0.40
1.017	0.40	7.083	6.77	13.150	2.79	19.22	0.40
1.033	0.40	7.100	6.77	13.167	2.79	19.23	0.40
1.050	0.40	7.117	6.77	13.183	2.79	19.25	0.40
1.067	0.40	7.133	6.77	13.200	2.79	19.27	0.40
1.083	0.40	7.150	6.77	13.217	2.79	19.28	0.40
1.100	0.40	7.167	6.77	13.233	2.79	19.30	0.40
1.117	0.40	7.183	6.77	13.250	2.79	19.32	0.40
1.133	0.40	7.200	6.77	13.267	2.79	19.33	0.40
1.150	0.40	7.217	6.77	13.283	2.79	19.35	0.40
1.167	0.40	7.233	6.77	13.300	2.79	19.37	0.40
1.183	0.40	7.250	6.77	13.317	2.79	19.38	0.40
1.200	0.40	7.267	6.77	13.333	2.79	19.40	0.40
1.217	0.40	7.283	6.77	13.350	2.79	19.42	0.40
1.233	0.40	7.300	6.77	13.367	2.79	19.43	0.40
1.250	0.40	7.317	6.77	13.383	2.79	19.45	0.40
1.267	0.40	7.333	6.77	13.400	2.79	19.47	0.40
1.283	0.40	7.350	6.77	13.417	2.79	19.48	0.40
1.300	0.40	7.367	6.77	13.433	2.79	19.50	0.40
1.317	0.40	7.383	6.77	13.450	2.79	19.52	0.40
1.333	0.40	7.400	6.77	13.467	2.79	19.53	0.40
1.350	0.40	7.417	6.77	13.483	2.79	19.55	0.40
1.367	0.40	7.433	6.77	13.500	2.79	19.57	0.40
1.383	0.40	7.450	6.77	13.517	2.79	19.58	0.40
1.400	0.40	7.467	6.77	13.533	2.79	19.60	0.40
1.417	0.40	7.483	6.77	13.550	2.79	19.62	0.40
1.433	0.40	7.500	6.77	13.567	2.79	19.63	0.40
1.450	0.40	7.517	6.77	13.583	2.79	19.65	0.40
1.467	0.40	7.533	6.77	13.600	2.79	19.67	0.40
1.483	0.40	7.550	6.77	13.617	2.79	19.68	0.40
1.500	0.40	7.567	6.77	13.633	2.79	19.70	0.40
1.517	0.40	7.583	6.77	13.650	2.79	19.72	0.40
1.533	0.40	7.600	6.77	13.667	2.79	19.73	0.40
1.550	0.40	7.617	6.77	13.683	2.79	19.75	0.40
1.567	0.40	7.633	6.77	13.700	2.79	19.77	0.40
1.583	0.40	7.650	6.77	13.717	2.79	19.78	0.40
1.600	0.40	7.667	6.77	13.733	2.79	19.80	0.40
1.617	0.40	7.683	6.77	13.750	2.79	19.82	0.40
1.633	0.40	7.700	6.77	13.767	2.79	19.83	0.40
1.650	0.40	7.717	6.77	13.783	2.79	19.85	0.40
1.667	0.40	7.733	6.77	13.800	2.79	19.87	0.40
1.683	0.40	7.750	6.77	13.817	2.79	19.88	0.40
1.700	0.40	7.767	6.77	13.833	2.79	19.90	0.40
1.717	0.40	7.783	6.77	13.850	2.79	19.92	0.40
1.733	0.40	7.800	6.77	13.867	2.79	19.93	0.40
1.750	0.40	7.817	6.77	13.883	2.79	19.95	0.40
1.767	0.40	7.833	6.77	13.900	2.79	19.97	0.40
1.783	0.40	7.850	6.77	13.917	2.79	19.98	0.40
1.800	0.40	7.867	6.77	13.933	2.79	20.00	0.40
1.817	0.40	7.883	6.77	13.950	2.79	20.02	0.40
1.833	0.40	7.900	6.77	13.967	2.79	20.03	0.40
1.850	0.40	7.917	6.77	13.983	2.79	20.05	0.40
1.867	0.40	7.933	6.77	14.000	2.79	20.07	0.40
1.883	0.40	7.950	6.77	14.017	2.79	20.08	0.40
1.900	0.40	7.967	6.77	14.033	2.79	20.10	0.40
1.917	0.40	7.983	6.77	14.050	2.79	20.12	0.40
1.933	0.40	8.000	6.77	14.067	2.79	20.13	0.40
1.950	0.40	8.017	6.77	14.083	2.79	20.15	0.40
1.967	0.40	8.033	6.77	14.100	2.79	20.17	0.40
1.983	0.40	8.050	6.77	14.117	2.79	20.18	0.40
2.000	0.40	8.067	6.77	14.133	2.79	20.20	0.40
2.017	0.40	8.083	6.77	14.150	2.79	20.22	0.40
2.033	0.40	8.100	6.77	14.167	2.79	20.23	0.40
2.050	0.40	8.117	6.77	14.183	2.79	20.25	0.40
2.067	0.40	8.133	6.77	14.200	2.79	20.27	0.40
2.083	0.40	8.150	6.77	14.217	2.79	20.28	0.40
2.100	0.40	8.167	6.77	14.233	2.79	20.30	0.40
2.117	0.40	8.183	6.77	14.250	2.79	20.32	0.40
2.133	0.40	8.200	6.77	14.267	1.59	20.33	0.40
2.150	0.40	8.217	6.77	14.283	1.59	20.35	0.40
2.167	0.40	8.233	6.77	14.300	1.59	20.37	0.40
2.183	0.40	8.250	6.80	14.317	1.59	20.38	0.40
2.200	0.40	8.267	18.33	14.333	1.59	20.40	0.40
2.217	0.40	8.283	18.33	14.350	1.59	20.42	0.40
2.233	0.40	8.300	18.33	14.367	1.59	20.43	0.40
2.250	0.40	8.317	18.33	14.383	1.59	20.45	0.40
2.267	0.40	8.333	18.33	14.400	1.59	20.47	0.40
2.283	0.40	8.350	18.33	14.417	1.59	20.48	0.40
2.300	0.40	8.367	18.33	14.433	1.59	20.50	0.40
2.317	0.40	8.383	18.33	14.450	1.59	20.52	0.40
2.333	0.40	8.400	18.33	14.467	1.59	20.53	0.40
2.350	0.40	8.417	18.33	14.483	1.59	20.55	0.40
2.367	0.40	8.433	18.33	14.500	1.59	20.57	0.40
2.383	0.40	8.450	18.33	14.517	1.59	20.58	0.40
2.400	0.40	8.467	18.33	14.533	1.59	20.60	0.40
2.417	0.40	8.483	18.33	14.550	1.59	20.62	0.40
2.433	0.40	8.500	18.33	14.567	1.59	20.63	0.40
2.450	0.40	8.517	18.33	14.583	1.59	20.65	0.40
2.467	0.40	8.533	18.33	14.600	1.59	20.67	0.40
2.483	0.40	8.550	18.33	14.617	1.59	20.68	0.40
2.500	0.40	8.567	18.33	14.633	1.59	20.70	0.40
2.517	0.40	8.583	18.33	14.650	1.59	20.72	0.40
2.533	0.40	8.600	18.33	14.667	1.59	20.73	0.40
2.550	0.40	8.617	18.33	14.683	1.59	20.75	0.40
2.567	0.40	8.633	18.33	14.700	1.59	20.77	0.40
2.583	0.40	8.650	18.33	14.717	1.59	20.78	0.40
2.600	0.40	8.667	18.33	14.733	1.59	20.80	0.40
2.617	0.40	8.683	18.33	14.750	1.59	20.82	0.40
2.633	0.40	8.700	18.33	14.767	1.59	20.83	0.40

2.650	0.40	8.717	18.33	14.783	1.59	20.85	0.40
2.667	0.40	8.733	18.33	14.800	1.59	20.87	0.40
2.683	0.40	8.750	18.33	14.817	1.59	20.88	0.40
2.700	0.40	8.767	18.33	14.833	1.59	20.90	0.40
2.717	0.40	8.783	18.33	14.850	1.59	20.92	0.40
2.733	0.40	8.800	18.33	14.867	1.59	20.93	0.40
2.750	0.40	8.817	18.33	14.883	1.59	20.95	0.40
2.767	0.40	8.833	18.33	14.900	1.59	20.97	0.40
2.783	0.40	8.850	18.33	14.917	1.59	20.98	0.40
2.800	0.40	8.867	18.33	14.933	1.59	21.00	0.40
2.817	0.40	8.883	18.33	14.950	1.59	21.02	0.40
2.833	0.40	8.900	18.33	14.967	1.59	21.03	0.40
2.850	0.40	8.917	18.33	14.983	1.59	21.05	0.40
2.867	0.40	8.933	18.33	15.000	1.59	21.07	0.40
2.883	0.40	8.950	18.33	15.017	1.59	21.08	0.40
2.900	0.40	8.967	18.33	15.033	1.59	21.10	0.40
2.917	0.40	8.983	18.33	15.050	1.59	21.12	0.40
2.933	0.40	9.000	18.33	15.067	1.59	21.13	0.40
2.950	0.40	9.017	18.33	15.083	1.59	21.15	0.40
2.967	0.40	9.033	18.33	15.100	1.59	21.17	0.40
2.983	0.40	9.050	18.33	15.117	1.59	21.18	0.40
3.000	0.40	9.067	18.33	15.133	1.59	21.20	0.40
3.017	0.40	9.083	18.33	15.150	1.59	21.22	0.40
3.033	0.40	9.100	18.33	15.167	1.59	21.23	0.40
3.050	0.40	9.117	18.33	15.183	1.59	21.25	0.40
3.067	0.40	9.133	18.33	15.200	1.59	21.27	0.40
3.083	0.40	9.150	18.33	15.217	1.59	21.28	0.40
3.100	0.40	9.167	18.33	15.233	1.59	21.30	0.40
3.117	0.40	9.183	18.33	15.250	1.59	21.32	0.40
3.133	0.40	9.200	18.33	15.267	1.59	21.33	0.40
3.150	0.40	9.217	18.33	15.283	1.59	21.35	0.40
3.167	0.40	9.233	18.33	15.300	1.59	21.37	0.40
3.183	0.40	9.250	18.33	15.317	1.59	21.38	0.40
3.200	0.40	9.267	18.33	15.333	1.59	21.40	0.40
3.217	0.40	9.283	18.33	15.350	1.59	21.42	0.40
3.233	0.40	9.300	18.33	15.367	1.59	21.43	0.40
3.250	0.40	9.317	18.33	15.383	1.59	21.45	0.40
3.267	0.40	9.333	18.33	15.400	1.59	21.47	0.40
3.283	0.40	9.350	18.33	15.417	1.59	21.48	0.40
3.300	0.40	9.367	18.33	15.433	1.59	21.50	0.40
3.317	0.40	9.383	18.33	15.450	1.59	21.52	0.40
3.333	0.40	9.400	18.33	15.467	1.59	21.53	0.40
3.350	0.40	9.417	18.33	15.483	1.59	21.55	0.40
3.367	0.40	9.433	18.33	15.500	1.59	21.57	0.40
3.383	0.40	9.450	18.33	15.517	1.59	21.58	0.40
3.400	0.40	9.467	18.33	15.533	1.59	21.60	0.40
3.417	0.40	9.483	18.33	15.550	1.59	21.62	0.40
3.433	0.40	9.500	18.33	15.567	1.59	21.63	0.40
3.450	0.40	9.517	18.33	15.583	1.59	21.65	0.40
3.467	0.40	9.533	18.33	15.600	1.59	21.67	0.40
3.483	0.40	9.550	18.33	15.617	1.59	21.68	0.40
3.500	0.40	9.567	18.33	15.633	1.59	21.70	0.40
3.517	0.40	9.583	18.33	15.650	1.59	21.72	0.40
3.533	0.40	9.600	18.33	15.667	1.59	21.73	0.40
3.550	0.40	9.617	18.33	15.683	1.59	21.75	0.40
3.567	0.40	9.633	18.33	15.700	1.59	21.77	0.40
3.583	0.40	9.650	18.33	15.717	1.59	21.78	0.40
3.600	0.40	9.667	18.33	15.733	1.59	21.80	0.40
3.617	0.40	9.683	18.33	15.750	1.59	21.82	0.40
3.633	0.40	9.700	18.33	15.767	1.59	21.83	0.40
3.650	0.40	9.717	18.33	15.783	1.59	21.85	0.40
3.667	0.40	9.733	18.33	15.800	1.59	21.87	0.40
3.683	0.40	9.750	18.33	15.817	1.59	21.88	0.40
3.700	0.40	9.767	18.33	15.833	1.59	21.90	0.40
3.717	0.40	9.783	18.33	15.850	1.59	21.92	0.40
3.733	0.40	9.800	18.33	15.867	1.59	21.93	0.40
3.750	0.40	9.817	18.33	15.883	1.59	21.95	0.40
3.767	0.40	9.833	18.33	15.900	1.59	21.97	0.40
3.783	0.40	9.850	18.33	15.917	1.59	21.98	0.40
3.800	0.40	9.867	18.33	15.933	1.59	22.00	0.40
3.817	0.40	9.883	18.33	15.950	1.59	22.02	0.40
3.833	0.40	9.900	18.33	15.967	1.59	22.03	0.40
3.850	0.40	9.917	18.33	15.983	1.59	22.05	0.40
3.867	0.40	9.933	18.33	16.000	1.59	22.07	0.40
3.883	0.40	9.950	18.33	16.017	1.59	22.08	0.40
3.900	0.40	9.967	18.33	16.033	1.59	22.10	0.40
3.917	0.40	9.983	18.33	16.050	1.59	22.12	0.40
3.933	0.40	10.000	18.33	16.067	1.59	22.13	0.40
3.950	0.40	10.017	18.33	16.083	1.59	22.15	0.40
3.967	0.40	10.033	18.33	16.100	1.59	22.17	0.40
3.983	0.40	10.050	18.33	16.117	1.59	22.18	0.40
4.000	0.40	10.067	18.33	16.133	1.59	22.20	0.40
4.017	0.40	10.083	18.33	16.150	1.59	22.22	0.40
4.033	0.40	10.100	18.33	16.167	1.59	22.23	0.40
4.050	0.40	10.117	18.33	16.183	1.59	22.25	0.40
4.067	0.40	10.133	18.33	16.200	1.59	22.27	0.40
4.083	0.40	10.150	18.33	16.217	1.59	22.28	0.40
4.100	0.40	10.167	18.33	16.233	1.59	22.30	0.40
4.117	0.40	10.183	18.33	16.250	1.59	22.32	0.40
4.133	0.40	10.200	18.33	16.267	0.80	22.33	0.40
4.150	0.40	10.217	18.33	16.283	0.80	22.35	0.40
4.167	0.40	10.233	18.33	16.300	0.80	22.37	0.40
4.183	0.40	10.250	18.32	16.317	0.80	22.38	0.40
4.200	0.40	10.267	5.18	16.333	0.80	22.40	0.40
4.217	0.40	10.283	5.18	16.350	0.80	22.42	0.40
4.233	0.40	10.300	5.18	16.367	0.80	22.43	0.40
4.250	0.40	10.317	5.18	16.383	0.80	22.45	0.40
4.267	2.39	10.333	5.18	16.400	0.80	22.47	0.40
4.283	2.39	10.350	5.18	16.417	0.80	22.48	0.40
4.300	2.39	10.367	5.18	16.433	0.80	22.50	0.40
4.317	2.39	10.383	5.18	16.450	0.80	22.52	0.40
4.333	2.39	10.400	5.18	16.467	0.80	22.53	0.40
4.350	2.39	10.417	5.18	16.483	0.80	22.55	0.40
4.367	2.39	10.433	5.18	16.500	0.80	22.57	0.40
4.383	2.39	10.450	5.18	16.517	0.80	22.58	0.40
4.400	2.39	10.467	5.18	16.533	0.80	22.60	0.40
4.417	2.39	10.483	5.18	16.550	0.80	22.62	0.40
4.433	2.39	10.500	5.18	16.567	0.80	22.63	0.40
4.450	2.39	10.517	5.18	16.583	0.80	22.65	0.40
4.467	2.39	10.533	5.18	16.600	0.80	22.67	0.40
4.483	2.39	10.550	5.18	16.617	0.80	22.68	0.40
4.500	2.39	10.567	5.18	16.633	0.80	22.70	0.40
4.517	2.39	10.583	5.18	16.650	0.80	22.72	0.40
4.533	2.39	10.600	5.18	16.667	0.80	22.73	0.40
4.550	2.39	10.617	5.18	16.683	0.80	22.75	0.40
4.567	2.39	10.633	5.18	16.700	0.80	22.77	0.40
4.583	2.39	10.650	5.18	16.717	0.80	22.78	0.40
4.600	2.39	10.667	5.18	16.733	0.80	22.80	0.40
4.617	2.39	10.683	5.18	16.750	0.80	22.82	0.40
4.633	2.39	10.700	5.18	16.767	0.80	22.83	0.40
4.650	2.39	10.717	5.18	16.783	0.80	22.85	0.40
4.667	2.39	10.733	5.18	16.800	0.80	22.87	0.40
4.683	2.39	10.750	5.18	16.817	0.80	22.88	0.40
4.700	2.39	10.767	5.18	16.833	0.80	22.90	0.40
4.717	2.39	10.783	5.18	16.850	0.80	22.92	0.40
4.733	2.39	10.800	5.18	16.867	0.80	22.93	0.40
4.750	2.39	10.817	5.18	16.883	0.80	22.95	0.40
4.767	2.39	10.833	5.18	16.900	0.80	22.97	0.40
4.783	2.39	10.850	5.18	16.917	0.80	22.98	0.40
4.800	2.39	10.867	5.18	16.933	0.80	23.00	0.40
4.817	2.39	10.883	5.18	16.950	0.80	23.02	0.40
4.833	2.39	10.900	5.18	16.967	0.80	23.03	0.40
4.850	2.39	10.917	5.18	16.983	0.80	23.05	0.40
4.867	2.39	10.933	5.18	17.000	0.80	23.07	0.40
4.883	2.39	10.950	5.18	17.017	0.80	23.08	0.40
4.900	2.39	10.967	5.18	17.033	0.80	23.10	0.40
4.917	2.39	10.983	5.18	17.050	0.80	23.12	0.40
4.933	2.39	11.000	5.18	17.067	0.80	23.13	0.40
4.950	2.39	11.017	5.18	17.083	0.80	23.15	0.40
4.967	2.39	11.033	5.18	17.100	0.80	23.17	0.40
4.983	2.39	11.050	5.18	17.117	0.80	23.18	0.40
5.000	2.39	11.067	5.18	17.133	0.80	23.20	0.40
5.017	2.39	11.083	5.18	17.150	0.80	23.22	0.40
5.033	2.39	11.100	5.18	17.167	0.80	23.23	0.40
5.050	2.39	11.117	5.18	17.183	0.80	23.25	0.40
5.067	2.39	11.133	5.18	17.200	0.80	23.27	0.40
5.083	2.39	11.150	5.18	17.217	0.80	23.28	0.40
5.100	2.39	11.167	5.18	17.233	0.80	23.30	0.40
5.117	2.39	11.183	5.18	17.250	0.80	23.32	0.40
5.133	2.39	11.200	5.18	17.267	0.80	23.33	0.40
5.150	2.39	11.217	5.18	17.283	0.80	23.35	0.40
5.167	2.39	11.233	5.18	17.300	0.80	23.37	0.40

5.183	2.39	11.250	5.18	17.317	0.80	23.38	0.40
5.200	2.39	11.267	5.18	17.333	0.80	23.40	0.40
5.217	2.39	11.283	5.18	17.350	0.80	23.42	0.40
5.233	2.39	11.300	5.18	17.367	0.80	23.43	0.40
5.250	2.39	11.317	5.18	17.383	0.80	23.45	0.40
5.267	2.39	11.333	5.18	17.400	0.80	23.47	0.40
5.283	2.39	11.350	5.18	17.417	0.80	23.48	0.40
5.300	2.39	11.367	5.18	17.433	0.80	23.50	0.40
5.317	2.39	11.383	5.18	17.450	0.80	23.52	0.40
5.333	2.39	11.400	5.18	17.467	0.80	23.53	0.40
5.350	2.39	11.417	5.18	17.483	0.80	23.55	0.40
5.367	2.39	11.433	5.18	17.500	0.80	23.57	0.40
5.383	2.39	11.450	5.18	17.517	0.80	23.58	0.40
5.400	2.39	11.467	5.18	17.533	0.80	23.60	0.40
5.417	2.39	11.483	5.18	17.550	0.80	23.62	0.40
5.433	2.39	11.500	5.18	17.567	0.80	23.63	0.40
5.450	2.39	11.517	5.18	17.583	0.80	23.65	0.40
5.467	2.39	11.533	5.18	17.600	0.80	23.67	0.40
5.483	2.39	11.550	5.18	17.617	0.80	23.68	0.40
5.500	2.39	11.567	5.18	17.633	0.80	23.70	0.40
5.517	2.39	11.583	5.18	17.650	0.80	23.72	0.40
5.533	2.39	11.600	5.18	17.667	0.80	23.73	0.40
5.550	2.39	11.617	5.18	17.683	0.80	23.75	0.40
5.567	2.39	11.633	5.18	17.700	0.80	23.77	0.40
5.583	2.39	11.650	5.18	17.717	0.80	23.78	0.40
5.600	2.39	11.667	5.18	17.733	0.80	23.80	0.40
5.617	2.39	11.683	5.18	17.750	0.80	23.82	0.40
5.633	2.39	11.700	5.18	17.767	0.80	23.83	0.40
5.650	2.39	11.717	5.18	17.783	0.80	23.85	0.40
5.667	2.39	11.733	5.18	17.800	0.80	23.87	0.40
5.683	2.39	11.750	5.18	17.817	0.80	23.88	0.40
5.700	2.39	11.767	5.18	17.833	0.80	23.90	0.40
5.717	2.39	11.783	5.18	17.850	0.80	23.92	0.40
5.733	2.39	11.800	5.18	17.867	0.80	23.93	0.40
5.750	2.39	11.817	5.18	17.883	0.80	23.95	0.40
5.767	2.39	11.833	5.18	17.900	0.80	23.97	0.40
5.783	2.39	11.850	5.18	17.917	0.80	23.98	0.40
5.800	2.39	11.867	5.18	17.933	0.80	24.00	0.40
5.817	2.39	11.883	5.18	17.950	0.80	24.02	0.40
5.833	2.39	11.900	5.18	17.967	0.80	24.03	0.40
5.850	2.39	11.917	5.18	17.983	0.80	24.05	0.40
5.867	2.39	11.933	5.18	18.000	0.80	24.07	0.40
5.883	2.39	11.950	5.18	18.017	0.80	24.08	0.40
5.900	2.39	11.967	5.18	18.033	0.80	24.10	0.40
5.917	2.39	11.983	5.18	18.050	0.80	24.12	0.40
5.933	2.39	12.000	5.18	18.067	0.80	24.13	0.40
5.950	2.39	12.017	5.18	18.083	0.80	24.15	0.40
5.967	2.39	12.033	5.18	18.100	0.80	24.17	0.40
5.983	2.39	12.050	5.18	18.117	0.80	24.18	0.40
6.000	2.39	12.067	5.18	18.133	0.80	24.20	0.40
6.017	2.39	12.083	5.18	18.150	0.80	24.22	0.40
6.033	2.39	12.100	5.18	18.167	0.80	24.23	0.40
6.050	2.39	12.117	5.18	18.183	0.80	24.25	0.40
6.067	2.39	12.133	5.18	18.200	0.80		

Max.Eff.Inten.(mm/hr)=	18.33	14.52	
over (min)	6.00	10.00	
Storage Coeff. (min)=	6.08 (ii)	9.43 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.19	0.12	
			TOTALS
PEAK FLOW (cms)=	0.14	0.00	0.143 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	78.69	49.70	78.41
TOTAL RAINFALL (mm)=	79.70	79.70	79.70
RUNOFF COEFFICIENT =	0.99	0.62	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0568	0.1530	
	0.0239	0.0780	0.0660	0.1730	
	0.0370	0.1040	0.0751	0.2000	
	0.0451	0.1250	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.143	10.25	78.41
OUTFLOW: ID= 1 (7626)	2.810	0.045	10.62	72.45

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.72
TIME SHIFT OF PEAK FLOW (min)= 22.00
MAXIMUM STORAGE USED (ha.m.)= 0.1255

CALIB		
STANDHYD (7624)| ID= 1 DT= 1.0 min	Area (ha)= 2.08	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.39	12.150	5.18	18.22	0.80
0.033	0.00	6.100	2.39	12.167	5.18	18.23	0.80
0.050	0.00	6.117	2.39	12.183	5.18	18.25	0.80
0.067	0.00	6.133	2.39	12.200	5.18	18.27	0.40
0.083	0.00	6.150	2.39	12.217	5.18	18.28	0.40
0.100	0.00	6.167	2.39	12.233	5.18	18.30	0.40
0.117	0.00	6.183	2.39	12.250	5.18	18.32	0.40
0.133	0.00	6.200	2.39	12.267	2.79	18.33	0.40
0.150	0.00	6.217	2.39	12.283	2.79	18.35	0.40
0.167	0.00	6.233	2.39	12.300	2.79	18.37	0.40
0.183	0.00	6.250	2.40	12.317	2.79	18.38	0.40
0.200	0.00	6.267	6.77	12.333	2.79	18.40	0.40
0.217	0.00	6.283	6.77	12.350	2.79	18.42	0.40
0.233	0.00	6.300	6.77	12.367	2.79	18.43	0.40
0.250	0.00	6.317	6.77	12.383	2.79	18.45	0.40
0.267	0.40	6.333	6.77	12.400	2.79	18.47	0.40
0.283	0.40	6.350	6.77	12.417	2.79	18.48	0.40
0.300	0.40	6.367	6.77	12.433	2.79	18.50	0.40
0.317	0.40	6.383	6.77	12.450	2.79	18.52	0.40
0.333	0.40	6.400	6.77	12.467	2.79	18.53	0.40
0.350	0.40	6.417	6.77	12.483	2.79	18.55	0.40
0.367	0.40	6.433	6.77	12.500	2.79	18.57	0.40
0.383	0.40	6.450	6.77	12.517	2.79	18.58	0.40
0.400	0.40	6.467	6.77	12.533	2.79	18.60	0.40
0.417	0.40	6.483	6.77	12.550	2.79	18.62	0.40
0.433	0.40	6.500	6.77	12.567	2.79	18.63	0.40
0.450	0.40	6.517	6.77	12.583	2.79	18.65	0.40
0.467	0.40	6.533	6.77	12.600	2.79	18.67	0.40
0.483	0.40	6.550	6.77	12.617	2.79	18.68	0.40
0.500	0.40	6.567	6.77	12.633	2.79	18.70	0.40
0.517	0.40	6.583	6.77	12.650	2.79	18.72	0.40
0.533	0.40	6.600	6.77	12.667	2.79	18.73	0.40
0.550	0.40	6.617	6.77	12.683	2.79	18.75	0.40
0.567	0.40	6.633	6.77	12.700	2.79	18.77	0.40
0.583	0.40	6.650	6.77	12.717	2.79	18.78	0.40
0.600	0.40	6.667	6.77	12.733	2.79	18.80	0.40
0.617	0.40	6.683	6.77	12.750	2.79	18.82	0.40
0.633	0.40	6.700	6.77	12.767	2.79	18.83	0.40
0.650	0.40	6.717	6.77	12.783	2.79	18.85	0.40

0.667	0.40	6.733	6.77	12.800	2.79	18.87	0.40		1.933	0.40	8.000	6.77	14.067	2.79	20.13	0.40
0.683	0.40	6.750	6.77	12.817	2.79	18.88	0.40		1.950	0.40	8.017	6.77	14.083	2.79	20.15	0.40
0.700	0.40	6.767	6.77	12.833	2.79	18.90	0.40		1.967	0.40	8.033	6.77	14.100	2.79	20.17	0.40
0.717	0.40	6.783	6.77	12.850	2.79	18.92	0.40		1.983	0.40	8.050	6.77	14.117	2.79	20.18	0.40
0.733	0.40	6.800	6.77	12.867	2.79	18.93	0.40		2.000	0.40	8.067	6.77	14.133	2.79	20.20	0.40
0.750	0.40	6.817	6.77	12.883	2.79	18.95	0.40		2.017	0.40	8.083	6.77	14.150	2.79	20.22	0.40
0.767	0.40	6.833	6.77	12.900	2.79	18.97	0.40		2.033	0.40	8.100	6.77	14.167	2.79	20.23	0.40
0.783	0.40	6.850	6.77	12.917	2.79	18.98	0.40		2.050	0.40	8.117	6.77	14.183	2.79	20.25	0.40
0.800	0.40	6.867	6.77	12.933	2.79	19.00	0.40		2.067	0.40	8.133	6.77	14.200	2.79	20.27	0.40
0.817	0.40	6.883	6.77	12.950	2.79	19.02	0.40		2.083	0.40	8.150	6.77	14.217	2.79	20.28	0.40
0.833	0.40	6.900	6.77	12.967	2.79	19.03	0.40		2.100	0.40	8.167	6.77	14.233	2.79	20.30	0.40
0.850	0.40	6.917	6.77	12.983	2.79	19.05	0.40		2.117	0.40	8.183	6.77	14.250	2.79	20.32	0.40
0.867	0.40	6.933	6.77	13.000	2.79	19.07	0.40		2.133	0.40	8.200	6.77	14.267	1.59	20.33	0.40
0.883	0.40	6.950	6.77	13.017	2.79	19.08	0.40		2.150	0.40	8.217	6.77	14.283	1.59	20.35	0.40
0.900	0.40	6.967	6.77	13.033	2.79	19.10	0.40		2.167	0.40	8.233	6.77	14.300	1.59	20.37	0.40
0.917	0.40	6.983	6.77	13.050	2.79	19.12	0.40		2.183	0.40	8.250	6.80	14.317	1.59	20.38	0.40
0.933	0.40	7.000	6.77	13.067	2.79	19.13	0.40		2.200	0.40	8.267	18.33	14.333	1.59	20.40	0.40
0.950	0.40	7.017	6.77	13.083	2.79	19.15	0.40		2.217	0.40	8.283	18.33	14.350	1.59	20.42	0.40
0.967	0.40	7.033	6.77	13.100	2.79	19.17	0.40		2.233	0.40	8.300	18.33	14.367	1.59	20.43	0.40
0.983	0.40	7.050	6.77	13.117	2.79	19.18	0.40		2.250	0.40	8.317	18.33	14.383	1.59	20.45	0.40
1.000	0.40	7.067	6.77	13.133	2.79	19.20	0.40		2.267	0.40	8.333	18.33	14.400	1.59	20.47	0.40
1.017	0.40	7.083	6.77	13.150	2.79	19.22	0.40		2.283	0.40	8.350	18.33	14.417	1.59	20.48	0.40
1.033	0.40	7.100	6.77	13.167	2.79	19.23	0.40		2.300	0.40	8.367	18.33	14.433	1.59	20.50	0.40
1.050	0.40	7.117	6.77	13.183	2.79	19.25	0.40		2.317	0.40	8.383	18.33	14.450	1.59	20.52	0.40
1.067	0.40	7.133	6.77	13.200	2.79	19.27	0.40		2.333	0.40	8.400	18.33	14.467	1.59	20.53	0.40
1.083	0.40	7.150	6.77	13.217	2.79	19.28	0.40		2.350	0.40	8.417	18.33	14.483	1.59	20.55	0.40
1.100	0.40	7.167	6.77	13.233	2.79	19.30	0.40		2.367	0.40	8.433	18.33	14.500	1.59	20.57	0.40
1.117	0.40	7.183	6.77	13.250	2.79	19.32	0.40		2.383	0.40	8.450	18.33	14.517	1.59	20.58	0.40
1.133	0.40	7.200	6.77	13.267	2.79	19.33	0.40		2.400	0.40	8.467	18.33	14.533	1.59	20.60	0.40
1.150	0.40	7.217	6.77	13.283	2.79	19.35	0.40		2.417	0.40	8.483	18.33	14.550	1.59	20.62	0.40
1.167	0.40	7.233	6.77	13.300	2.79	19.37	0.40		2.433	0.40	8.500	18.33	14.567	1.59	20.63	0.40
1.183	0.40	7.250	6.77	13.317	2.79	19.38	0.40		2.450	0.40	8.517	18.33	14.583	1.59	20.65	0.40
1.200	0.40	7.267	6.77	13.333	2.79	19.40	0.40		2.467	0.40	8.533	18.33	14.600	1.59	20.67	0.40
1.217	0.40	7.283	6.77	13.350	2.79	19.42	0.40		2.483	0.40	8.550	18.33	14.617	1.59	20.68	0.40
1.233	0.40	7.300	6.77	13.367	2.79	19.43	0.40		2.500	0.40	8.567	18.33	14.633	1.59	20.70	0.40
1.250	0.40	7.317	6.77	13.383	2.79	19.45	0.40		2.517	0.40	8.583	18.33	14.650	1.59	20.72	0.40
1.267	0.40	7.333	6.77	13.400	2.79	19.47	0.40		2.533	0.40	8.600	18.33	14.667	1.59	20.73	0.40
1.283	0.40	7.350	6.77	13.417	2.79	19.48	0.40		2.550	0.40	8.617	18.33	14.683	1.59	20.75	0.40
1.300	0.40	7.367	6.77	13.433	2.79	19.50	0.40		2.567	0.40	8.633	18.33	14.700	1.59	20.77	0.40
1.317	0.40	7.383	6.77	13.450	2.79	19.52	0.40		2.583	0.40	8.650	18.33	14.717	1.59	20.78	0.40
1.333	0.40	7.400	6.77	13.467	2.79	19.53	0.40		2.600	0.40	8.667	18.33	14.733	1.59	20.80	0.40
1.350	0.40	7.417	6.77	13.483	2.79	19.55	0.40		2.617	0.40	8.683	18.33	14.750	1.59	20.82	0.40
1.367	0.40	7.433	6.77	13.500	2.79	19.57	0.40		2.633	0.40	8.700	18.33	14.767	1.59	20.83	0.40
1.383	0.40	7.450	6.77	13.517	2.79	19.58	0.40		2.650	0.40	8.717	18.33	14.783	1.59	20.85	0.40
1.400	0.40	7.467	6.77	13.533	2.79	19.60	0.40		2.667	0.40	8.733	18.33	14.800	1.59	20.87	0.40
1.417	0.40	7.483	6.77	13.550	2.79	19.62	0.40		2.683	0.40	8.750	18.33	14.817	1.59	20.88	0.40
1.433	0.40	7.500	6.77	13.567	2.79	19.63	0.40		2.700	0.40	8.767	18.33	14.833	1.59	20.90	0.40
1.450	0.40	7.517	6.77	13.583	2.79	19.65	0.40		2.717	0.40	8.783	18.33	14.850	1.59	20.92	0.40
1.467	0.40	7.533	6.77	13.600	2.79	19.67	0.40		2.733	0.40	8.800	18.33	14.867	1.59	20.93	0.40
1.483	0.40	7.550	6.77	13.617	2.79	19.68	0.40		2.750	0.40	8.817	18.33	14.883	1.59	20.95	0.40
1.500	0.40	7.567	6.77	13.633	2.79	19.70	0.40		2.767	0.40	8.833	18.33	14.900	1.59	20.97	0.40
1.517	0.40	7.583	6.77	13.650	2.79	19.72	0.40		2.783	0.40	8.850	18.33	14.917	1.59	20.98	0.40
1.533	0.40	7.600	6.77	13.667	2.79	19.73	0.40		2.800	0.40	8.867	18.33	14.933	1.59	21.00	0.40
1.550	0.40	7.617	6.77	13.683	2.79	19.75	0.40		2.817	0.40	8.883	18.33	14.950	1.59	21.02	0.40
1.567	0.40	7.633	6.77	13.700	2.79	19.77	0.40		2.833	0.40	8.900	18.33	14.967	1.59	21.03	0.40
1.583	0.40	7.650	6.77	13.717	2.79	19.78	0.40		2.850	0.40	8.917	18.33	14.983	1.59	21.05	0.40
1.600	0.40	7.667	6.77	13.733	2.79	19.80	0.40		2.867	0.40	8.933	18.33	15.000	1.59	21.07	0.40
1.617	0.40	7.683	6.77	13.750	2.79	19.82	0.40		2.883	0.40	8.950	18.33	15.017	1.59	21.08	0.40
1.633	0.40	7.700	6.77	13.767	2.79	19.83	0.40		2.900	0.40	8.967	18.33	15.033	1.59	21.10	0.40
1.650	0.40	7.717	6.77	13.783	2.79	19.85	0.40		2.917	0.40	8.983	18.33	15.050	1.59	21.12	0.40
1.667	0.40	7.733	6.77	13.800	2.79	19.87	0.40		2.933	0.40	9.000	18.33	15.067	1.59	21.13	0.40
1.683	0.40	7.750	6.77	13.817	2.79	19.88	0.40		2.950	0.40	9.017	18.33	15.083	1.59	21.15	0.40
1.700	0.40	7.767	6.77	13.833	2.79	19.90	0.40		2.967	0.40	9.033	18.33	15.100	1.59	21.17	0.40
1.717	0.40	7.783	6.77	13.850	2.79	19.92	0.40		2.983	0.40	9.050	18.33	15.117	1.59	21.18	0.40
1.733	0.40	7.800	6.77	13.867	2.79	19.93	0.40		3.000	0.40	9.067	18.33	15.133	1.59	21.20	0.40
1.750	0.40	7.817	6.77	13.883	2.79	19.95	0.40		3.017	0.40	9.083	18.33	15.150	1.59	21.22	0.40
1.767	0.40	7.833	6.77	13.900	2.79	19.97	0.40		3.033	0.40	9.100	18.33	15.167	1.59	21.23	0.40
1.783	0.40	7.850	6.77	13.917	2.79	19.98	0.40		3.050	0.40	9.117	18.33	15.183	1.59	21.25	0.40
1.800	0.40	7.867	6.77	13.933	2.79	20.00	0.40		3.067	0.40	9.133	18.33	15.200	1.59	21.27	0.40
1.817	0.40	7.883	6.77	13.950	2.79	20.02	0.40		3.083	0.40	9.150	18.33	15.217	1.59	21.28	0.40
1.833	0.40	7.900	6.77	13.967	2.79	20.03	0.40		3.100	0.40	9.167	18.33	15.233	1.59	21.30	0.40
1.850	0.40	7.917	6.77	13.983	2.79	20.05	0.40		3.117	0.40	9.183	18.33	15.250	1.59	21.32	0.40
1.867	0.40	7.933	6.77	14.000	2.79	20.07	0.40		3.133	0.40	9.200	18.33	15.267	1.59	21.33	0.40
1.883	0.40	7.950	6.77	14.017	2.79	20.08	0.40		3.150	0.40	9.217	18.33	15.283	1.59	21.35	0.40
1.900	0.40	7.967	6.77	14.033	2.79	20.10	0.40		3.167	0.40	9.233	18.33	15.300	1.59	21.37	0.40
1.917	0.40	7.983	6.77	14.050	2.79	20.12	0.40		3.183	0.40	9.250	18.33	15.317	1.59	21.38	0.40

3.200	0.40	9.267	18.33	15.333	1.59	21.40	0.40		4.467	2.39	10.533	5.18	16.600	0.80	22.67	0.40
3.217	0.40	9.283	18.33	15.350	1.59	21.42	0.40		4.483	2.39	10.550	5.18	16.617	0.80	22.68	0.40
3.233	0.40	9.300	18.33	15.367	1.59	21.43	0.40		4.500	2.39	10.567	5.18	16.633	0.80	22.70	0.40
3.250	0.40	9.317	18.33	15.383	1.59	21.45	0.40		4.517	2.39	10.583	5.18	16.650	0.80	22.72	0.40
3.267	0.40	9.333	18.33	15.400	1.59	21.47	0.40		4.533	2.39	10.600	5.18	16.667	0.80	22.73	0.40
3.283	0.40	9.350	18.33	15.417	1.59	21.48	0.40		4.550	2.39	10.617	5.18	16.683	0.80	22.75	0.40
3.300	0.40	9.367	18.33	15.433	1.59	21.50	0.40		4.567	2.39	10.633	5.18	16.700	0.80	22.77	0.40
3.317	0.40	9.383	18.33	15.450	1.59	21.52	0.40		4.583	2.39	10.650	5.18	16.717	0.80	22.78	0.40
3.333	0.40	9.400	18.33	15.467	1.59	21.53	0.40		4.600	2.39	10.667	5.18	16.733	0.80	22.80	0.40
3.350	0.40	9.417	18.33	15.483	1.59	21.55	0.40		4.617	2.39	10.683	5.18	16.750	0.80	22.82	0.40
3.367	0.40	9.433	18.33	15.500	1.59	21.57	0.40		4.633	2.39	10.700	5.18	16.767	0.80	22.83	0.40
3.383	0.40	9.450	18.33	15.517	1.59	21.58	0.40		4.650	2.39	10.717	5.18	16.783	0.80	22.85	0.40
3.400	0.40	9.467	18.33	15.533	1.59	21.60	0.40		4.667	2.39	10.733	5.18	16.800	0.80	22.87	0.40
3.417	0.40	9.483	18.33	15.550	1.59	21.62	0.40		4.683	2.39	10.750	5.18	16.817	0.80	22.88	0.40
3.433	0.40	9.500	18.33	15.567	1.59	21.63	0.40		4.700	2.39	10.767	5.18	16.833	0.80	22.90	0.40
3.450	0.40	9.517	18.33	15.583	1.59	21.65	0.40		4.717	2.39	10.783	5.18	16.850	0.80	22.92	0.40
3.467	0.40	9.533	18.33	15.600	1.59	21.67	0.40		4.733	2.39	10.800	5.18	16.867	0.80	22.93	0.40
3.483	0.40	9.550	18.33	15.617	1.59	21.68	0.40		4.750	2.39	10.817	5.18	16.883	0.80	22.95	0.40
3.500	0.40	9.567	18.33	15.633	1.59	21.70	0.40		4.767	2.39	10.833	5.18	16.900	0.80	22.97	0.40
3.517	0.40	9.583	18.33	15.650	1.59	21.72	0.40		4.783	2.39	10.850	5.18	16.917	0.80	22.98	0.40
3.533	0.40	9.600	18.33	15.667	1.59	21.73	0.40		4.800	2.39	10.867	5.18	16.933	0.80	23.00	0.40
3.550	0.40	9.617	18.33	15.683	1.59	21.75	0.40		4.817	2.39	10.883	5.18	16.950	0.80	23.02	0.40
3.567	0.40	9.633	18.33	15.700	1.59	21.77	0.40		4.833	2.39	10.900	5.18	16.967	0.80	23.03	0.40
3.583	0.40	9.650	18.33	15.717	1.59	21.78	0.40		4.850	2.39	10.917	5.18	16.983	0.80	23.05	0.40
3.600	0.40	9.667	18.33	15.733	1.59	21.80	0.40		4.867	2.39	10.933	5.18	17.000	0.80	23.07	0.40
3.617	0.40	9.683	18.33	15.750	1.59	21.82	0.40		4.883	2.39	10.950	5.18	17.017	0.80	23.08	0.40
3.633	0.40	9.700	18.33	15.767	1.59	21.83	0.40		4.900	2.39	10.967	5.18	17.033	0.80	23.10	0.40
3.650	0.40	9.717	18.33	15.783	1.59	21.85	0.40		4.917	2.39	10.983	5.18	17.050	0.80	23.12	0.40
3.667	0.40	9.733	18.33	15.800	1.59	21.87	0.40		4.933	2.39	11.000	5.18	17.067	0.80	23.13	0.40
3.683	0.40	9.750	18.33	15.817	1.59	21.88	0.40		4.950	2.39	11.017	5.18	17.083	0.80	23.15	0.40
3.700	0.40	9.767	18.33	15.833	1.59	21.90	0.40		4.967	2.39	11.033	5.18	17.100	0.80	23.17	0.40
3.717	0.40	9.783	18.33	15.850	1.59	21.92	0.40		4.983	2.39	11.050	5.18	17.117	0.80	23.18	0.40
3.733	0.40	9.800	18.33	15.867	1.59	21.93	0.40		5.000	2.39	11.067	5.18	17.133	0.80	23.20	0.40
3.750	0.40	9.817	18.33	15.883	1.59	21.95	0.40		5.017	2.39	11.083	5.18	17.150	0.80	23.22	0.40
3.767	0.40	9.833	18.33	15.900	1.59	21.97	0.40		5.033	2.39	11.100	5.18	17.167	0.80	23.23	0.40
3.783	0.40	9.850	18.33	15.917	1.59	21.98	0.40		5.050	2.39	11.117	5.18	17.183	0.80	23.25	0.40
3.800	0.40	9.867	18.33	15.933	1.59	22.00	0.40		5.067	2.39	11.133	5.18	17.200	0.80	23.27	0.40
3.817	0.40	9.883	18.33	15.950	1.59	22.02	0.40		5.083	2.39	11.150	5.18	17.217	0.80	23.28	0.40
3.833	0.40	9.900	18.33	15.967	1.59	22.03	0.40		5.100	2.39	11.167	5.18	17.233	0.80	23.30	0.40
3.850	0.40	9.917	18.33	15.983	1.59	22.05	0.40		5.117	2.39	11.183	5.18	17.250	0.80	23.32	0.40
3.867	0.40	9.933	18.33	16.000	1.59	22.07	0.40		5.133	2.39	11.200	5.18	17.267	0.80	23.33	0.40
3.883	0.40	9.950	18.33	16.017	1.59	22.08	0.40		5.150	2.39	11.217	5.18	17.283	0.80	23.35	0.40
3.900	0.40	9.967	18.33	16.033	1.59	22.10	0.40		5.167	2.39	11.233	5.18	17.300	0.80	23.37	0.40
3.917	0.40	9.983	18.33	16.050	1.59	22.12	0.40		5.183	2.39	11.250	5.18	17.317	0.80	23.38	0.40
3.933	0.40	10.000	18.33	16.067	1.59	22.13	0.40		5.200	2.39	11.267	5.18	17.333	0.80	23.40	0.40
3.950	0.40	10.017	18.33	16.083	1.59	22.15	0.40		5.217	2.39	11.283	5.18	17.350	0.80	23.42	0.40
3.967	0.40	10.033	18.33	16.100	1.59	22.17	0.40		5.233	2.39	11.300	5.18	17.367	0.80	23.43	0.40
3.983	0.40	10.050	18.33	16.117	1.59	22.18	0.40		5.250	2.39	11.317	5.18	17.383	0.80	23.45	0.40
4.000	0.40	10.067	18.33	16.133	1.59	22.20	0.40		5.267	2.39	11.333	5.18	17.400	0.80	23.47	0.40
4.017	0.40	10.083	18.33	16.150	1.59	22.22	0.40		5.283	2.39	11.350	5.18	17.417	0.80	23.48	0.40
4.033	0.40	10.100	18.33	16.167	1.59	22.23	0.40		5.300	2.39	11.367	5.18	17.433	0.80	23.50	0.40
4.050	0.40	10.117	18.33	16.183	1.59	22.25	0.40		5.317	2.39	11.383	5.18	17.450	0.80	23.52	0.40
4.067	0.40	10.133	18.33	16.200	1.59	22.27	0.40		5.333	2.39	11.400	5.18	17.467	0.80	23.53	0.40
4.083	0.40	10.150	18.33	16.217	1.59	22.28	0.40		5.350	2.39	11.417	5.18	17.483	0.80	23.55	0.40
4.100	0.40	10.167	18.33	16.233	1.59	22.30	0.40		5.367	2.39	11.433	5.18	17.500	0.80	23.57	0.40
4.117	0.40	10.183	18.33	16.250	1.59	22.32	0.40		5.383	2.39	11.450	5.18	17.517	0.80	23.58	0.40
4.133	0.40	10.200	18.33	16.267	0.80	22.33	0.40		5.400	2.39	11.467	5.18	17.533	0.80	23.60	0.40
4.150	0.40	10.217	18.33	16.283	0.80	22.35	0.40		5.417	2.39	11.483	5.18	17.550	0.80	23.62	0.40
4.167	0.40	10.233	18.33	16.300	0.80	22.37	0.40		5.433	2.39	11.500	5.18	17.567	0.80	23.63	0.40
4.183	0.40	10.250	18.32	16.317	0.80	22.38	0.40		5.450	2.39	11.517	5.18	17.583	0.80	23.65	0.40
4.200	0.40	10.267	5.18	16.333	0.80	22.40	0.40		5.467	2.39	11.533	5.18	17.600	0.80	23.67	0.40
4.217	0.40	10.283	5.18	16.350	0.80	22.42	0.40		5.483	2.39	11.550	5.18	17.617	0.80	23.68	0.40
4.233	0.40	10.300	5.18	16.367	0.80	22.43	0.40		5.500	2.39	11.567	5.18	17.633	0.80	23.70	0.40
4.250	0.40	10.317	5.18	16.383	0.80	22.45	0.40		5.517	2.39	11.583	5.18	17.650	0.80	23.72	0.40
4.267	2.39	10.333	5.18	16.400	0.80	22.47	0.40		5.533	2.39	11.600	5.18	17.667	0.80	23.73	0.40
4.283	2.39	10.350	5.18	16.417	0.80	22.48	0.40		5.550	2.39	11.617	5.18	17.683	0.80	23.75	0.40
4.300	2.39	10.367	5.18	16.433	0.80	22.50	0.40		5.567	2.39	11.633	5.18	17.700	0.80	23.77	0.40
4.317	2.39	10.383	5.18	16.450	0.80	22.52	0.40		5.583	2.39	11.650	5.18	17.717	0.80	23.78	0.40
4.333	2.39	10.400	5.18	16.467	0.80	22.53	0.40		5.600	2.39	11.667	5.18	17.733	0.80	23.80	0.40
4.350	2.39	10.417	5.18	16.483	0.80	22.55	0.40		5.617	2.39	11.683	5.18	17.750	0.80	23.82	0.40
4.367	2.39	10.433	5.18	16.500	0.80	22.57	0.40		5.633	2.39	11.700	5.18	17.767	0.80	23.83	0.40
4.383	2.39	10.450	5.18	16.517	0.80	22.58	0.40		5.650	2.39	11.717	5.18	17.783	0.80	23.85	0.40
4.400	2.39	10.467	5.18	16.533	0.80	22.60	0.40		5.667	2.39	11.733	5.18	17.800	0.80	23.87	0.40
4.417	2.39	10.483	5.18	16.550	0.80	22.62	0.40		5.683	2.39	11.750	5.18	17.817	0.80	23.88	0.40
4.433	2.39	10.500	5.18	16.567	0.80	22.63	0.40		5.700	2.39	11.767	5.18	17.833	0.80	23.90	0.40
4.450	2.39	10.517	5.18	16.583	0.80	22.65	0.40		5.717	2.39	11.783	5.18	17.850	0.80	23.92	0.40

5.733	2.39	11.800	5.18	17.867	0.80	23.93	0.40
5.750	2.39	11.817	5.18	17.883	0.80	23.95	0.40
5.767	2.39	11.833	5.18	17.900	0.80	23.97	0.40
5.783	2.39	11.850	5.18	17.917	0.80	23.98	0.40
5.800	2.39	11.867	5.18	17.933	0.80	24.00	0.40
5.817	2.39	11.883	5.18	17.950	0.80	24.02	0.40
5.833	2.39	11.900	5.18	17.967	0.80	24.03	0.40
5.850	2.39	11.917	5.18	17.983	0.80	24.05	0.40
5.867	2.39	11.933	5.18	18.000	0.80	24.07	0.40
5.883	2.39	11.950	5.18	18.017	0.80	24.08	0.40
5.900	2.39	11.967	5.18	18.033	0.80	24.10	0.40
5.917	2.39	11.983	5.18	18.050	0.80	24.12	0.40
5.933	2.39	12.000	5.18	18.067	0.80	24.13	0.40
5.950	2.39	12.017	5.18	18.083	0.80	24.15	0.40
5.967	2.39	12.033	5.18	18.100	0.80	24.17	0.40
5.983	2.39	12.050	5.18	18.117	0.80	24.18	0.40
6.000	2.39	12.067	5.18	18.133	0.80	24.20	0.40
6.017	2.39	12.083	5.18	18.150	0.80	24.22	0.40
6.033	2.39	12.100	5.18	18.167	0.80	24.23	0.40
6.050	2.39	12.117	5.18	18.183	0.80	24.25	0.40
6.067	2.39	12.133	5.18	18.200	0.80		

Max.Eff.Inten.(mm/hr)=	18.33	16.14	
over (min)	6.00	9.00	
Storage Coeff. (min)=	5.55 (ii)	8.91 (ii)	
Unit Hyd. Tpeak (min)=	6.00	9.00	
Unit Hyd. peak (cms)=	0.20	0.13	
			TOTALS
PEAK FLOW (cms)=	0.10	0.00	0.106 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.23
RUNOFF VOLUME (mm)=	78.69	57.46	78.49
TOTAL RAINFALL (mm)=	79.70	79.70	79.70
RUNOFF COEFFICIENT =	0.99	0.72	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0389	0.1013
0.0164	0.0514	0.0456	0.1141
0.0252	0.0690	0.0514	0.1288
0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.106	10.23	78.49
OUTFLOW: ID= 1 (7625)	2.080	0.035	10.55	73.17

PEAK FLOW REDUCTION [Qout/Qin](%)= 33.01
TIME SHIFT OF PEAK FLOW (min)= 19.00
MAXIMUM STORAGE USED (ha.m.)= 0.0919

CALIB	
STANDHYD (7623)	Area (ha)= 1.15
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.14	0.01
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	87.56	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.39	12.150	5.18	18.22	0.80
0.033	0.00	6.100	2.39	12.167	5.18	18.23	0.80
0.050	0.00	6.117	2.39	12.183	5.18	18.25	0.80
0.067	0.00	6.133	2.39	12.200	5.18	18.27	0.40
0.083	0.00	6.150	2.39	12.217	5.18	18.28	0.40
0.100	0.00	6.167	2.39	12.233	5.18	18.30	0.40
0.117	0.00	6.183	2.39	12.250	5.18	18.32	0.40
0.133	0.00	6.200	2.39	12.267	2.79	18.33	0.40
0.150	0.00	6.217	2.39	12.283	2.79	18.35	0.40
0.167	0.00	6.233	2.39	12.300	2.79	18.37	0.40
0.183	0.00	6.250	2.40	12.317	2.79	18.38	0.40
0.200	0.00	6.267	6.77	12.333	2.79	18.40	0.40
0.217	0.00	6.283	6.77	12.350	2.79	18.42	0.40
0.233	0.00	6.300	6.77	12.367	2.79	18.43	0.40
0.250	0.00	6.317	6.77	12.383	2.79	18.45	0.40
0.267	0.40	6.333	6.77	12.400	2.79	18.47	0.40
0.283	0.40	6.350	6.77	12.417	2.79	18.48	0.40
0.300	0.40	6.367	6.77	12.433	2.79	18.50	0.40
0.317	0.40	6.383	6.77	12.450	2.79	18.52	0.40
0.333	0.40	6.400	6.77	12.467	2.79	18.53	0.40
0.350	0.40	6.417	6.77	12.483	2.79	18.55	0.40
0.367	0.40	6.433	6.77	12.500	2.79	18.57	0.40
0.383	0.40	6.450	6.77	12.517	2.79	18.58	0.40
0.400	0.40	6.467	6.77	12.533	2.79	18.60	0.40
0.417	0.40	6.483	6.77	12.550	2.79	18.62	0.40
0.433	0.40	6.500	6.77	12.567	2.79	18.63	0.40
0.450	0.40	6.517	6.77	12.583	2.79	18.65	0.40
0.467	0.40	6.533	6.77	12.600	2.79	18.67	0.40
0.483	0.40	6.550	6.77	12.617	2.79	18.68	0.40
0.500	0.40	6.567	6.77	12.633	2.79	18.70	0.40
0.517	0.40	6.583	6.77	12.650	2.79	18.72	0.40
0.533	0.40	6.600	6.77	12.667	2.79	18.73	0.40
0.550	0.40	6.617	6.77	12.683	2.79	18.75	0.40
0.567	0.40	6.633	6.77	12.700	2.79	18.77	0.40
0.583	0.40	6.650	6.77	12.717	2.79	18.78	0.40
0.600	0.40	6.667	6.77	12.733	2.79	18.80	0.40
0.617	0.40	6.683	6.77	12.750	2.79	18.82	0.40
0.633	0.40	6.700	6.77	12.767	2.79	18.83	0.40
0.650	0.40	6.717	6.77	12.783	2.79	18.85	0.40
0.667	0.40	6.733	6.77	12.800	2.79	18.87	0.40
0.683	0.40	6.750	6.77	12.817	2.79	18.88	0.40
0.700	0.40	6.767	6.77	12.833	2.79	18.90	0.40
0.717	0.40	6.783	6.77	12.850	2.79	18.92	0.40
0.733	0.40	6.800	6.77	12.867	2.79	18.93	0.40
0.750	0.40	6.817	6.77	12.883	2.79	18.95	0.40
0.767	0.40	6.833	6.77	12.900	2.79	18.97	0.40
0.783	0.40	6.850	6.77	12.917	2.79	18.98	0.40
0.800	0.40	6.867	6.77	12.933	2.79	19.00	0.40
0.817	0.40	6.883	6.77	12.950	2.79	19.02	0.40
0.833	0.40	6.900	6.77	12.967	2.79	19.03	0.40
0.850	0.40	6.917	6.77	12.983	2.79	19.05	0.40
0.867	0.40	6.933	6.77	13.000	2.79	19.07	0.40
0.883	0.40	6.950	6.77	13.017	2.79	19.08	0.40
0.900	0.40	6.967	6.77	13.033	2.79	19.10	0.40
0.917	0.40	6.983	6.77	13.050	2.79	19.12	0.40
0.933	0.40	7.000	6.77	13.067	2.79	19.13	0.40
0.950	0.40	7.017	6.77	13.083	2.79	19.15	0.40
0.967	0.40	7.033	6.77	13.100	2.79	19.17	0.40
0.983	0.40	7.050	6.77	13.117	2.79	19.18	0.40
1.000	0.40	7.067	6.77	13.133	2.79	19.20	0.40
1.017	0.40	7.083	6.77	13.150	2.79	19.22	0.40
1.033	0.40	7.100	6.77	13.167	2.79	19.23	0.40
1.050	0.40	7.117	6.77	13.183	2.79	19.25	0.40
1.067	0.40	7.133	6.77	13.200	2.79	19.27	0.40
1.083	0.40	7.150	6.77	13.217	2.79	19.28	0.40
1.100	0.40	7.167	6.77	13.233	2.79	19.30	0.40
1.117	0.40	7.183	6.77	13.250	2.79	19.32	0.40
1.133	0.40	7.200	6.77	13.267	2.79	19.33	0.40
1.150	0.40	7.217	6.77	13.283	2.79	19.35	0.40
1.167	0.40	7.233	6.77	13.300	2.79	19.37	0.40
1.183	0.40	7.250	6.77	13.317	2.79	19.38	0.40
1.200	0.40	7.267	6.77	13.333	2.79	19.40	0.40

1.217	0.40	7.283	6.77	13.350	2.79	19.42	0.40
1.233	0.40	7.300	6.77	13.367	2.79	19.43	0.40
1.250	0.40	7.317	6.77	13.383	2.79	19.45	0.40
1.267	0.40	7.333	6.77	13.400	2.79	19.47	0.40
1.283	0.40	7.350	6.77	13.417	2.79	19.48	0.40
1.300	0.40	7.367	6.77	13.433	2.79	19.50	0.40
1.317	0.40	7.383	6.77	13.450	2.79	19.52	0.40
1.333	0.40	7.400	6.77	13.467	2.79	19.53	0.40
1.350	0.40	7.417	6.77	13.483	2.79	19.55	0.40
1.367	0.40	7.433	6.77	13.500	2.79	19.57	0.40
1.383	0.40	7.450	6.77	13.517	2.79	19.58	0.40
1.400	0.40	7.467	6.77	13.533	2.79	19.60	0.40
1.417	0.40	7.483	6.77	13.550	2.79	19.62	0.40
1.433	0.40	7.500	6.77	13.567	2.79	19.63	0.40
1.450	0.40	7.517	6.77	13.583	2.79	19.65	0.40
1.467	0.40	7.533	6.77	13.600	2.79	19.67	0.40
1.483	0.40	7.550	6.77	13.617	2.79	19.68	0.40
1.500	0.40	7.567	6.77	13.633	2.79	19.70	0.40
1.517	0.40	7.583	6.77	13.650	2.79	19.72	0.40
1.533	0.40	7.600	6.77	13.667	2.79	19.73	0.40
1.550	0.40	7.617	6.77	13.683	2.79	19.75	0.40
1.567	0.40	7.633	6.77	13.700	2.79	19.77	0.40
1.583	0.40	7.650	6.77	13.717	2.79	19.78	0.40
1.600	0.40	7.667	6.77	13.733	2.79	19.80	0.40
1.617	0.40	7.683	6.77	13.750	2.79	19.82	0.40
1.633	0.40	7.700	6.77	13.767	2.79	19.83	0.40
1.650	0.40	7.717	6.77	13.783	2.79	19.85	0.40
1.667	0.40	7.733	6.77	13.800	2.79	19.87	0.40
1.683	0.40	7.750	6.77	13.817	2.79	19.88	0.40
1.700	0.40	7.767	6.77	13.833	2.79	19.90	0.40
1.717	0.40	7.783	6.77	13.850	2.79	19.92	0.40
1.733	0.40	7.800	6.77	13.867	2.79	19.93	0.40
1.750	0.40	7.817	6.77	13.883	2.79	19.95	0.40
1.767	0.40	7.833	6.77	13.900	2.79	19.97	0.40
1.783	0.40	7.850	6.77	13.917	2.79	19.98	0.40
1.800	0.40	7.867	6.77	13.933	2.79	20.00	0.40
1.817	0.40	7.883	6.77	13.950	2.79	20.02	0.40
1.833	0.40	7.900	6.77	13.967	2.79	20.03	0.40
1.850	0.40	7.917	6.77	13.983	2.79	20.05	0.40
1.867	0.40	7.933	6.77	14.000	2.79	20.07	0.40
1.883	0.40	7.950	6.77	14.017	2.79	20.08	0.40
1.900	0.40	7.967	6.77	14.033	2.79	20.10	0.40
1.917	0.40	7.983	6.77	14.050	2.79	20.12	0.40
1.933	0.40	8.000	6.77	14.067	2.79	20.13	0.40
1.950	0.40	8.017	6.77	14.083	2.79	20.15	0.40
1.967	0.40	8.033	6.77	14.100	2.79	20.17	0.40
1.983	0.40	8.050	6.77	14.117	2.79	20.18	0.40
2.000	0.40	8.067	6.77	14.133	2.79	20.20	0.40
2.017	0.40	8.083	6.77	14.150	2.79	20.22	0.40
2.033	0.40	8.100	6.77	14.167	2.79	20.23	0.40
2.050	0.40	8.117	6.77	14.183	2.79	20.25	0.40
2.067	0.40	8.133	6.77	14.200	2.79	20.27	0.40
2.083	0.40	8.150	6.77	14.217	2.79	20.28	0.40
2.100	0.40	8.167	6.77	14.233	2.79	20.30	0.40
2.117	0.40	8.183	6.77	14.250	2.79	20.32	0.40
2.133	0.40	8.200	6.77	14.267	1.59	20.33	0.40
2.150	0.40	8.217	6.77	14.283	1.59	20.35	0.40
2.167	0.40	8.233	6.77	14.300	1.59	20.37	0.40
2.183	0.40	8.250	6.80	14.317	1.59	20.38	0.40
2.200	0.40	8.267	18.33	14.333	1.59	20.40	0.40
2.217	0.40	8.283	18.33	14.350	1.59	20.42	0.40
2.233	0.40	8.300	18.33	14.367	1.59	20.43	0.40
2.250	0.40	8.317	18.33	14.383	1.59	20.45	0.40
2.267	0.40	8.333	18.33	14.400	1.59	20.47	0.40
2.283	0.40	8.350	18.33	14.417	1.59	20.48	0.40
2.300	0.40	8.367	18.33	14.433	1.59	20.50	0.40
2.317	0.40	8.383	18.33	14.450	1.59	20.52	0.40
2.333	0.40	8.400	18.33	14.467	1.59	20.53	0.40
2.350	0.40	8.417	18.33	14.483	1.59	20.55	0.40
2.367	0.40	8.433	18.33	14.500	1.59	20.57	0.40
2.383	0.40	8.450	18.33	14.517	1.59	20.58	0.40
2.400	0.40	8.467	18.33	14.533	1.59	20.60	0.40
2.417	0.40	8.483	18.33	14.550	1.59	20.62	0.40
2.433	0.40	8.500	18.33	14.567	1.59	20.63	0.40
2.450	0.40	8.517	18.33	14.583	1.59	20.65	0.40
2.467	0.40	8.533	18.33	14.600	1.59	20.67	0.40
2.483	0.40	8.550	18.33	14.617	1.59	20.68	0.40
2.500	0.40	8.567	18.33	14.633	1.59	20.70	0.40
2.517	0.40	8.583	18.33	14.650	1.59	20.72	0.40
2.533	0.40	8.600	18.33	14.667	1.59	20.73	0.40
2.550	0.40	8.617	18.33	14.683	1.59	20.75	0.40
2.567	0.40	8.633	18.33	14.700	1.59	20.77	0.40
2.583	0.40	8.650	18.33	14.717	1.59	20.78	0.40
2.600	0.40	8.667	18.33	14.733	1.59	20.80	0.40
2.617	0.40	8.683	18.33	14.750	1.59	20.82	0.40
2.633	0.40	8.700	18.33	14.767	1.59	20.83	0.40
2.650	0.40	8.717	18.33	14.783	1.59	20.85	0.40
2.667	0.40	8.733	18.33	14.800	1.59	20.87	0.40
2.683	0.40	8.750	18.33	14.817	1.59	20.88	0.40
2.700	0.40	8.767	18.33	14.833	1.59	20.90	0.40
2.717	0.40	8.783	18.33	14.850	1.59	20.92	0.40
2.733	0.40	8.800	18.33	14.867	1.59	20.93	0.40
2.750	0.40	8.817	18.33	14.883	1.59	20.95	0.40
2.767	0.40	8.833	18.33	14.900	1.59	20.97	0.40
2.783	0.40	8.850	18.33	14.917	1.59	20.98	0.40
2.800	0.40	8.867	18.33	14.933	1.59	21.00	0.40
2.817	0.40	8.883	18.33	14.950	1.59	21.02	0.40
2.833	0.40	8.900	18.33	14.967	1.59	21.03	0.40
2.850	0.40	8.917	18.33	14.983	1.59	21.05	0.40
2.867	0.40	8.933	18.33	15.000	1.59	21.07	0.40
2.883	0.40	8.950	18.33	15.017	1.59	21.08	0.40
2.900	0.40	8.967	18.33	15.033	1.59	21.10	0.40
2.917	0.40	8.983	18.33	15.050	1.59	21.12	0.40
2.933	0.40	9.000	18.33	15.067	1.59	21.13	0.40
2.950	0.40	9.017	18.33	15.083	1.59	21.15	0.40
2.967	0.40	9.033	18.33	15.100	1.59	21.17	0.40
2.983	0.40	9.050	18.33	15.117	1.59	21.18	0.40
3.000	0.40	9.067	18.33	15.133	1.59	21.20	0.40
3.017	0.40	9.083	18.33	15.150	1.59	21.22	0.40
3.033	0.40	9.100	18.33	15.167	1.59	21.23	0.40
3.050	0.40	9.117	18.33	15.183	1.59	21.25	0.40
3.067	0.40	9.133	18.33	15.200	1.59	21.27	0.40
3.083	0.40	9.150	18.33	15.217	1.59	21.28	0.40
3.100	0.40	9.167	18.33	15.233	1.59	21.30	0.40
3.117	0.40	9.183	18.33	15.250	1.59	21.32	0.40
3.133	0.40	9.200	18.33	15.267	1.59	21.33	0.40
3.150	0.40	9.217	18.33	15.283	1.59	21.35	0.40
3.167	0.40	9.233	18.33	15.300	1.59	21.37	0.40
3.183	0.40	9.250	18.33	15.317	1.59	21.38	0.40
3.200	0.40	9.267	18.33	15.333	1.59	21.40	0.40
3.217	0.40	9.283	18.33	15.350	1.59	21.42	0.40
3.233	0.40	9.300	18.33	15.367	1.59	21.43	0.40
3.250	0.40	9.317	18.33	15.383	1.59	21.45	0.40
3.267	0.40	9.333	18.33	15.400	1.59	21.47	0.40
3.283	0.40	9.350	18.33	15.417	1.59	21.48	0.40
3.300	0.40	9.367	18.33	15.433	1.59	21.50	0.40
3.317	0.40	9.383	18.33	15.450	1.59	21.52	0.40
3.333	0.40	9.400	18.33	15.467	1.59	21.53	0.40
3.350	0.40	9.417	18.33	15.483	1.59	21.55	0.40
3.367	0.40	9.433	18.33	15.500	1.59	21.57	0.40
3.383	0.40	9.450	18.33	15.517	1.59	21.58	0.40
3.400	0.40	9.467	18.33	15.533	1.59	21.60	0.40
3.417	0.40	9.483	18.33	15.550	1.59	21.62	0.40
3.433	0.40	9.500	18.33	15.567	1.59	21.63	0.40
3.450	0.40	9.517	18.33	15.583	1.59	21.65	0.40
3.467	0.40	9.533	18.33	15.600	1.59	21.67	0.40
3.483	0.40	9.550	18.33	15.617	1.59	21.68	0.40
3.500	0.40	9.567	18.33	15.633	1.59	21.70	0.40
3.517	0.40	9.583	18.33	15.650	1.59	21.72	0.40
3.533	0.40	9.600	18.33	15.667	1.59	21.73	0.40
3.550	0.40	9.617	18.33	15.683	1.59	21.75	0.40
3.567	0.40	9.633	18.33	15.700	1.59	21.77	0.40
3.583	0.40	9.650	18.33	15.717	1.59	21.78	0.40
3.600	0.40	9.667	18.33	15.733	1.59	21.80	0.40
3.617	0.40	9.683	18.33	15.750	1.59	21.82	0.40
3.633	0.40	9.700	18.33	15.767	1.59	21.83	0.40
3.650	0.40	9.717	18.33	15.783	1.59	21.85	0.40
3.667	0.40	9.733	18.33	15.800	1.59	21.87	0.40
3.683	0.40	9.750	18.33	15.817	1.59	21.88	0.40
3.700	0.40	9.767	18.33	15.833	1.59	21.90	0.40
3.717	0.40	9.783	18.33	15.850	1.59	21.92	0.40
3.733	0.40	9.800	18.33	15.867	1.59	21.93	0.40

3.750	0.40	9.817	18.33	15.883	1.59	21.95	0.40
3.767	0.40	9.833	18.33	15.900	1.59	21.97	0.40
3.783	0.40	9.850	18.33	15.917	1.59	21.98	0.40
3.800	0.40	9.867	18.33	15.933	1.59	22.00	0.40
3.817	0.40	9.883	18.33	15.950	1.59	22.02	0.40
3.833	0.40	9.900	18.33	15.967	1.59	22.03	0.40
3.850	0.40	9.917	18.33	15.983	1.59	22.05	0.40
3.867	0.40	9.933	18.33	16.000	1.59	22.07	0.40
3.883	0.40	9.950	18.33	16.017	1.59	22.08	0.40
3.900	0.40	9.967	18.33	16.033	1.59	22.10	0.40
3.917	0.40	9.983	18.33	16.050	1.59	22.12	0.40
3.933	0.40	10.000	18.33	16.067	1.59	22.13	0.40
3.950	0.40	10.017	18.33	16.083	1.59	22.15	0.40
3.967	0.40	10.033	18.33	16.100	1.59	22.17	0.40
3.983	0.40	10.050	18.33	16.117	1.59	22.18	0.40
4.000	0.40	10.067	18.33	16.133	1.59	22.20	0.40
4.017	0.40	10.083	18.33	16.150	1.59	22.22	0.40
4.033	0.40	10.100	18.33	16.167	1.59	22.23	0.40
4.050	0.40	10.117	18.33	16.183	1.59	22.25	0.40
4.067	0.40	10.133	18.33	16.200	1.59	22.27	0.40
4.083	0.40	10.150	18.33	16.217	1.59	22.28	0.40
4.100	0.40	10.167	18.33	16.233	1.59	22.30	0.40
4.117	0.40	10.183	18.33	16.250	1.59	22.32	0.40
4.133	0.40	10.200	18.33	16.267	0.80	22.33	0.40
4.150	0.40	10.217	18.33	16.283	0.80	22.35	0.40
4.167	0.40	10.233	18.33	16.300	0.80	22.37	0.40
4.183	0.40	10.250	18.32	16.317	0.80	22.38	0.40
4.200	0.40	10.267	5.18	16.333	0.80	22.40	0.40
4.217	0.40	10.283	5.18	16.350	0.80	22.42	0.40
4.233	0.40	10.300	5.18	16.367	0.80	22.43	0.40
4.250	0.40	10.317	5.18	16.383	0.80	22.45	0.40
4.267	2.39	10.333	5.18	16.400	0.80	22.47	0.40
4.283	2.39	10.350	5.18	16.417	0.80	22.48	0.40
4.300	2.39	10.367	5.18	16.433	0.80	22.50	0.40
4.317	2.39	10.383	5.18	16.450	0.80	22.52	0.40
4.333	2.39	10.400	5.18	16.467	0.80	22.53	0.40
4.350	2.39	10.417	5.18	16.483	0.80	22.55	0.40
4.367	2.39	10.433	5.18	16.500	0.80	22.57	0.40
4.383	2.39	10.450	5.18	16.517	0.80	22.58	0.40
4.400	2.39	10.467	5.18	16.533	0.80	22.60	0.40
4.417	2.39	10.483	5.18	16.550	0.80	22.62	0.40
4.433	2.39	10.500	5.18	16.567	0.80	22.63	0.40
4.450	2.39	10.517	5.18	16.583	0.80	22.65	0.40
4.467	2.39	10.533	5.18	16.600	0.80	22.67	0.40
4.483	2.39	10.550	5.18	16.617	0.80	22.68	0.40
4.500	2.39	10.567	5.18	16.633	0.80	22.70	0.40
4.517	2.39	10.583	5.18	16.650	0.80	22.72	0.40
4.533	2.39	10.600	5.18	16.667	0.80	22.73	0.40
4.550	2.39	10.617	5.18	16.683	0.80	22.75	0.40
4.567	2.39	10.633	5.18	16.700	0.80	22.77	0.40
4.583	2.39	10.650	5.18	16.717	0.80	22.78	0.40
4.600	2.39	10.667	5.18	16.733	0.80	22.80	0.40
4.617	2.39	10.683	5.18	16.750	0.80	22.82	0.40
4.633	2.39	10.700	5.18	16.767	0.80	22.83	0.40
4.650	2.39	10.717	5.18	16.783	0.80	22.85	0.40
4.667	2.39	10.733	5.18	16.800	0.80	22.87	0.40
4.683	2.39	10.750	5.18	16.817	0.80	22.88	0.40
4.700	2.39	10.767	5.18	16.833	0.80	22.90	0.40
4.717	2.39	10.783	5.18	16.850	0.80	22.92	0.40
4.733	2.39	10.800	5.18	16.867	0.80	22.93	0.40
4.750	2.39	10.817	5.18	16.883	0.80	22.95	0.40
4.767	2.39	10.833	5.18	16.900	0.80	22.97	0.40
4.783	2.39	10.850	5.18	16.917	0.80	22.98	0.40
4.800	2.39	10.867	5.18	16.933	0.80	23.00	0.40
4.817	2.39	10.883	5.18	16.950	0.80	23.02	0.40
4.833	2.39	10.900	5.18	16.967	0.80	23.03	0.40
4.850	2.39	10.917	5.18	16.983	0.80	23.05	0.40
4.867	2.39	10.933	5.18	17.000	0.80	23.07	0.40
4.883	2.39	10.950	5.18	17.017	0.80	23.08	0.40
4.900	2.39	10.967	5.18	17.033	0.80	23.10	0.40
4.917	2.39	10.983	5.18	17.050	0.80	23.12	0.40
4.933	2.39	11.000	5.18	17.067	0.80	23.13	0.40
4.950	2.39	11.017	5.18	17.083	0.80	23.15	0.40
4.967	2.39	11.033	5.18	17.100	0.80	23.17	0.40
4.983	2.39	11.050	5.18	17.117	0.80	23.18	0.40
5.000	2.39	11.067	5.18	17.133	0.80	23.20	0.40
5.017	2.39	11.083	5.18	17.150	0.80	23.22	0.40
5.033	2.39	11.100	5.18	17.167	0.80	23.23	0.40
5.050	2.39	11.117	5.18	17.183	0.80	23.25	0.40
5.067	2.39	11.133	5.18	17.200	0.80	23.27	0.40
5.083	2.39	11.150	5.18	17.217	0.80	23.28	0.40
5.100	2.39	11.167	5.18	17.233	0.80	23.30	0.40
5.117	2.39	11.183	5.18	17.250	0.80	23.32	0.40
5.133	2.39	11.200	5.18	17.267	0.80	23.33	0.40
5.150	2.39	11.217	5.18	17.283	0.80	23.35	0.40
5.167	2.39	11.233	5.18	17.300	0.80	23.37	0.40
5.183	2.39	11.250	5.18	17.317	0.80	23.38	0.40
5.200	2.39	11.267	5.18	17.333	0.80	23.40	0.40
5.217	2.39	11.283	5.18	17.350	0.80	23.42	0.40
5.233	2.39	11.300	5.18	17.367	0.80	23.43	0.40
5.250	2.39	11.317	5.18	17.383	0.80	23.45	0.40
5.267	2.39	11.333	5.18	17.400	0.80	23.47	0.40
5.283	2.39	11.350	5.18	17.417	0.80	23.48	0.40
5.300	2.39	11.367	5.18	17.433	0.80	23.50	0.40
5.317	2.39	11.383	5.18	17.450	0.80	23.52	0.40
5.333	2.39	11.400	5.18	17.467	0.80	23.53	0.40
5.350	2.39	11.417	5.18	17.483	0.80	23.55	0.40
5.367	2.39	11.433	5.18	17.500	0.80	23.57	0.40
5.383	2.39	11.450	5.18	17.517	0.80	23.58	0.40
5.400	2.39	11.467	5.18	17.533	0.80	23.60	0.40
5.417	2.39	11.483	5.18	17.550	0.80	23.62	0.40
5.433	2.39	11.500	5.18	17.567	0.80	23.63	0.40
5.450	2.39	11.517	5.18	17.583	0.80	23.65	0.40
5.467	2.39	11.533	5.18	17.600	0.80	23.67	0.40
5.483	2.39	11.550	5.18	17.617	0.80	23.68	0.40
5.500	2.39	11.567	5.18	17.633	0.80	23.70	0.40
5.517	2.39	11.583	5.18	17.650	0.80	23.72	0.40
5.533	2.39	11.600	5.18	17.667	0.80	23.73	0.40
5.550	2.39	11.617	5.18	17.683	0.80	23.75	0.40
5.567	2.39	11.633	5.18	17.700	0.80	23.77	0.40
5.583	2.39	11.650	5.18	17.717	0.80	23.78	0.40
5.600	2.39	11.667	5.18	17.733	0.80	23.80	0.40
5.617	2.39	11.683	5.18	17.750	0.80	23.82	0.40
5.633	2.39	11.700	5.18	17.767	0.80	23.83	0.40
5.650	2.39	11.717	5.18	17.783	0.80	23.85	0.40
5.667	2.39	11.733	5.18	17.800	0.80	23.87	0.40
5.683	2.39	11.750	5.18	17.817	0.80	23.88	0.40
5.700	2.39	11.767	5.18	17.833	0.80	23.90	0.40
5.717	2.39	11.783	5.18	17.850	0.80	23.92	0.40
5.733	2.39	11.800	5.18	17.867	0.80	23.93	0.40
5.750	2.39	11.817	5.18	17.883	0.80	23.95	0.40
5.767	2.39	11.833	5.18	17.900	0.80	23.97	0.40
5.783	2.39	11.850	5.18	17.917	0.80	23.98	0.40
5.800	2.39	11.867	5.18	17.933	0.80	24.00	0.40
5.817	2.39	11.883	5.18	17.950	0.80	24.02	0.40
5.833	2.39	11.900	5.18	17.967	0.80	24.03	0.40
5.850	2.39	11.917	5.18	17.983	0.80	24.05	0.40
5.867	2.39	11.933	5.18	18.000	0.80	24.07	0.40
5.883	2.39	11.950	5.18	18.017	0.80	24.08	0.40
5.900	2.39	11.967	5.18	18.033	0.80	24.10	0.40
5.917	2.39	11.983	5.18	18.050	0.80	24.12	0.40
5.933	2.39	12.000	5.18	18.067	0.80	24.13	0.40
5.950	2.39	12.017	5.18	18.083	0.80	24.15	0.40
5.967	2.39	12.033	5.18	18.100	0.80	24.17	0.40
5.983	2.39	12.050	5.18	18.117	0.80	24.18	0.40
6.000	2.39	12.067	5.18	18.133	0.80	24.20	0.40
6.017	2.39	12.083	5.18	18.150	0.80	24.22	0.40
6.033	2.39	12.100	5.18	18.167	0.80	24.23	0.40
6.050	2.39	12.117	5.18	18.183	0.80	24.25	0.40
6.067	2.39	12.133	5.18	18.200	0.80		

Max.Eff.Inten.(mm/hr)=	18.33	14.52		
over (min)	5.00	9.00		
Storage Coeff. (min)=	4.65 (ii)	8.01 (ii)		
Unit Hyd. Tpeak (min)=	5.00	9.00		
Unit Hyd. peak (cms)=	0.24	0.14		
			TOTALS	
PEAK FLOW (cms)=	0.06	0.00	0.058 (iii)	
TIME TO PEAK (hrs)=	9.48	10.25	10.23	
RUNOFF VOLUME (mm)=	78.69	49.71	78.41	
TOTAL RAINFALL (mm)=	79.70	79.70	79.70	
RUNOFF COEFFICIENT =	0.99	0.62	0.98	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(7622)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT= 1.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0258	0.0650
0.0108	0.0330	0.0302	0.0725
0.0167	0.0440	0.0340	0.0820
0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.058	10.23	78.41
OUTFLOW: ID= 1 (7622)	1.150	0.020	10.50	73.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 33.59
TIME SHIFT OF PEAK FLOW (min)= 16.00
MAXIMUM STORAGE USED (ha.m.)= 0.0507

| CALIB |
| STANDHYD (7629)| Area (ha)= 4.09
|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.39	12.150	5.18	18.22	0.80
0.033	0.00	6.100	2.39	12.167	5.18	18.23	0.80
0.050	0.00	6.117	2.39	12.183	5.18	18.25	0.80
0.067	0.00	6.133	2.39	12.200	5.18	18.27	0.40
0.083	0.00	6.150	2.39	12.217	5.18	18.28	0.40
0.100	0.00	6.167	2.39	12.233	5.18	18.30	0.40
0.117	0.00	6.183	2.39	12.250	5.18	18.32	0.40
0.133	0.00	6.200	2.39	12.267	2.79	18.33	0.40
0.150	0.00	6.217	2.39	12.283	2.79	18.35	0.40
0.167	0.00	6.233	2.39	12.300	2.79	18.37	0.40
0.183	0.00	6.250	2.40	12.317	2.79	18.38	0.40
0.200	0.00	6.267	6.77	12.333	2.79	18.40	0.40
0.217	0.00	6.283	6.77	12.350	2.79	18.42	0.40
0.233	0.00	6.300	6.77	12.367	2.79	18.43	0.40
0.250	0.00	6.317	6.77	12.383	2.79	18.45	0.40
0.267	0.40	6.333	6.77	12.400	2.79	18.47	0.40
0.283	0.40	6.350	6.77	12.417	2.79	18.48	0.40
0.300	0.40	6.367	6.77	12.433	2.79	18.50	0.40
0.317	0.40	6.383	6.77	12.450	2.79	18.52	0.40
0.333	0.40	6.400	6.77	12.467	2.79	18.53	0.40
0.350	0.40	6.417	6.77	12.483	2.79	18.55	0.40
0.367	0.40	6.433	6.77	12.500	2.79	18.57	0.40
0.383	0.40	6.450	6.77	12.517	2.79	18.58	0.40
0.400	0.40	6.467	6.77	12.533	2.79	18.60	0.40
0.417	0.40	6.483	6.77	12.550	2.79	18.62	0.40
0.433	0.40	6.500	6.77	12.567	2.79	18.63	0.40
0.450	0.40	6.517	6.77	12.583	2.79	18.65	0.40
0.467	0.40	6.533	6.77	12.600	2.79	18.67	0.40
0.483	0.40	6.550	6.77	12.617	2.79	18.68	0.40
0.500	0.40	6.567	6.77	12.633	2.79	18.70	0.40
0.517	0.40	6.583	6.77	12.650	2.79	18.72	0.40
0.533	0.40	6.600	6.77	12.667	2.79	18.73	0.40
0.550	0.40	6.617	6.77	12.683	2.79	18.75	0.40
0.567	0.40	6.633	6.77	12.700	2.79	18.77	0.40
0.583	0.40	6.650	6.77	12.717	2.79	18.78	0.40
0.600	0.40	6.667	6.77	12.733	2.79	18.80	0.40
0.617	0.40	6.683	6.77	12.750	2.79	18.82	0.40
0.633	0.40	6.700	6.77	12.767	2.79	18.83	0.40
0.650	0.40	6.717	6.77	12.783	2.79	18.85	0.40
0.667	0.40	6.733	6.77	12.800	2.79	18.87	0.40
0.683	0.40	6.750	6.77	12.817	2.79	18.88	0.40
0.700	0.40	6.767	6.77	12.833	2.79	18.90	0.40
0.717	0.40	6.783	6.77	12.850	2.79	18.92	0.40
0.733	0.40	6.800	6.77	12.867	2.79	18.93	0.40
0.750	0.40	6.817	6.77	12.883	2.79	18.95	0.40
0.767	0.40	6.833	6.77	12.900	2.79	18.97	0.40
0.783	0.40	6.850	6.77	12.917	2.79	18.98	0.40
0.800	0.40	6.867	6.77	12.933	2.79	19.00	0.40
0.817	0.40	6.883	6.77	12.950	2.79	19.02	0.40
0.833	0.40	6.900	6.77	12.967	2.79	19.03	0.40
0.850	0.40	6.917	6.77	12.983	2.79	19.05	0.40
0.867	0.40	6.933	6.77	13.000	2.79	19.07	0.40
0.883	0.40	6.950	6.77	13.017	2.79	19.08	0.40
0.900	0.40	6.967	6.77	13.033	2.79	19.10	0.40
0.917	0.40	6.983	6.77	13.050	2.79	19.12	0.40
0.933	0.40	7.000	6.77	13.067	2.79	19.13	0.40
0.950	0.40	7.017	6.77	13.083	2.79	19.15	0.40
0.967	0.40	7.033	6.77	13.100	2.79	19.17	0.40
0.983	0.40	7.050	6.77	13.117	2.79	19.18	0.40
1.000	0.40	7.067	6.77	13.133	2.79	19.20	0.40
1.017	0.40	7.083	6.77	13.150	2.79	19.22	0.40
1.033	0.40	7.100	6.77	13.167	2.79	19.23	0.40
1.050	0.40	7.117	6.77	13.183	2.79	19.25	0.40
1.067	0.40	7.133	6.77	13.200	2.79	19.27	0.40
1.083	0.40	7.150	6.77	13.217	2.79	19.28	0.40
1.100	0.40	7.167	6.77	13.233	2.79	19.30	0.40
1.117	0.40	7.183	6.77	13.250	2.79	19.32	0.40
1.133	0.40	7.200	6.77	13.267	2.79	19.33	0.40
1.150	0.40	7.217	6.77	13.283	2.79	19.35	0.40
1.167	0.40	7.233	6.77	13.300	2.79	19.37	0.40
1.183	0.40	7.250	6.77	13.317	2.79	19.38	0.40
1.200	0.40	7.267	6.77	13.333	2.79	19.40	0.40
1.217	0.40	7.283	6.77	13.350	2.79	19.42	0.40
1.233	0.40	7.300	6.77	13.367	2.79	19.43	0.40
1.250	0.40	7.317	6.77	13.383	2.79	19.45	0.40
1.267	0.40	7.333	6.77	13.400	2.79	19.47	0.40
1.283	0.40	7.350	6.77	13.417	2.79	19.48	0.40
1.300	0.40	7.367	6.77	13.433	2.79	19.50	0.40
1.317	0.40	7.383	6.77	13.450	2.79	19.52	0.40
1.333	0.40	7.400	6.77	13.467	2.79	19.53	0.40
1.350	0.40	7.417	6.77	13.483	2.79	19.55	0.40
1.367	0.40	7.433	6.77	13.500	2.79	19.57	0.40
1.383	0.40	7.450	6.77	13.517	2.79	19.58	0.40
1.400	0.40	7.467	6.77	13.533	2.79	19.60	0.40
1.417	0.40	7.483	6.77	13.550	2.79	19.62	0.40
1.433	0.40	7.500	6.77	13.567	2.79	19.63	0.40
1.450	0.40	7.517	6.77	13.583	2.79	19.65	0.40
1.467	0.40	7.533	6.77	13.600	2.79	19.67	0.40
1.483	0.40	7.550	6.77	13.617	2.79	19.68	0.40
1.500	0.40	7.567	6.77	13.633	2.79	19.70	0.40
1.517	0.40	7.583	6.77	13.650	2.79	19.72	0.40
1.533	0.40	7.600	6.77	13.667	2.79	19.73	0.40
1.550	0.40	7.617	6.77	13.683	2.79	19.75	0.40
1.567	0.40	7.633	6.77	13.700	2.79	19.77	0.40
1.583	0.40	7.650	6.77	13.717	2.79	19.78	0.40
1.600	0.40	7.667	6.77	13.733	2.79	19.80	0.40
1.617	0.40	7.683	6.77	13.750	2.79	19.82	0.40
1.633	0.40	7.700	6.77	13.767	2.79	19.83	0.40
1.650	0.40	7.717	6.77	13.783	2.79	19.85	0.40
1.667	0.40	7.733	6.77	13.800	2.79	19.87	0.40
1.683	0.40	7.750	6.77	13.817	2.79	19.88	0.40
1.700	0.40	7.767	6.77	13.833	2.79	19.90	0.40
1.717	0.40	7.783	6.77	13.850	2.79	19.92	0.40
1.733	0.40	7.800	6.77	13.867	2.79	19.93	0.40
1.750	0.40	7.817	6.77	13.883	2.79	19.95	0.40

1.767	0.40	7.833	6.77	13.900	2.79	19.97	0.40
1.783	0.40	7.850	6.77	13.917	2.79	19.98	0.40
1.800	0.40	7.867	6.77	13.933	2.79	20.00	0.40
1.817	0.40	7.883	6.77	13.950	2.79	20.02	0.40
1.833	0.40	7.900	6.77	13.967	2.79	20.03	0.40
1.850	0.40	7.917	6.77	13.983	2.79	20.05	0.40
1.867	0.40	7.933	6.77	14.000	2.79	20.07	0.40
1.883	0.40	7.950	6.77	14.017	2.79	20.08	0.40
1.900	0.40	7.967	6.77	14.033	2.79	20.10	0.40
1.917	0.40	7.983	6.77	14.050	2.79	20.12	0.40
1.933	0.40	8.000	6.77	14.067	2.79	20.13	0.40
1.950	0.40	8.017	6.77	14.083	2.79	20.15	0.40
1.967	0.40	8.033	6.77	14.100	2.79	20.17	0.40
1.983	0.40	8.050	6.77	14.117	2.79	20.18	0.40
2.000	0.40	8.067	6.77	14.133	2.79	20.20	0.40
2.017	0.40	8.083	6.77	14.150	2.79	20.22	0.40
2.033	0.40	8.100	6.77	14.167	2.79	20.23	0.40
2.050	0.40	8.117	6.77	14.183	2.79	20.25	0.40
2.067	0.40	8.133	6.77	14.200	2.79	20.27	0.40
2.083	0.40	8.150	6.77	14.217	2.79	20.28	0.40
2.100	0.40	8.167	6.77	14.233	2.79	20.30	0.40
2.117	0.40	8.183	6.77	14.250	2.79	20.32	0.40
2.133	0.40	8.200	6.77	14.267	1.59	20.33	0.40
2.150	0.40	8.217	6.77	14.283	1.59	20.35	0.40
2.167	0.40	8.233	6.77	14.300	1.59	20.37	0.40
2.183	0.40	8.250	6.80	14.317	1.59	20.38	0.40
2.200	0.40	8.267	18.33	14.333	1.59	20.40	0.40
2.217	0.40	8.283	18.33	14.350	1.59	20.42	0.40
2.233	0.40	8.300	18.33	14.367	1.59	20.43	0.40
2.250	0.40	8.317	18.33	14.383	1.59	20.45	0.40
2.267	0.40	8.333	18.33	14.400	1.59	20.47	0.40
2.283	0.40	8.350	18.33	14.417	1.59	20.48	0.40
2.300	0.40	8.367	18.33	14.433	1.59	20.50	0.40
2.317	0.40	8.383	18.33	14.450	1.59	20.52	0.40
2.333	0.40	8.400	18.33	14.467	1.59	20.53	0.40
2.350	0.40	8.417	18.33	14.483	1.59	20.55	0.40
2.367	0.40	8.433	18.33	14.500	1.59	20.57	0.40
2.383	0.40	8.450	18.33	14.517	1.59	20.58	0.40
2.400	0.40	8.467	18.33	14.533	1.59	20.60	0.40
2.417	0.40	8.483	18.33	14.550	1.59	20.62	0.40
2.433	0.40	8.500	18.33	14.567	1.59	20.63	0.40
2.450	0.40	8.517	18.33	14.583	1.59	20.65	0.40
2.467	0.40	8.533	18.33	14.600	1.59	20.67	0.40
2.483	0.40	8.550	18.33	14.617	1.59	20.68	0.40
2.500	0.40	8.567	18.33	14.633	1.59	20.70	0.40
2.517	0.40	8.583	18.33	14.650	1.59	20.72	0.40
2.533	0.40	8.600	18.33	14.667	1.59	20.73	0.40
2.550	0.40	8.617	18.33	14.683	1.59	20.75	0.40
2.567	0.40	8.633	18.33	14.700	1.59	20.77	0.40
2.583	0.40	8.650	18.33	14.717	1.59	20.78	0.40
2.600	0.40	8.667	18.33	14.733	1.59	20.80	0.40
2.617	0.40	8.683	18.33	14.750	1.59	20.82	0.40
2.633	0.40	8.700	18.33	14.767	1.59	20.83	0.40
2.650	0.40	8.717	18.33	14.783	1.59	20.85	0.40
2.667	0.40	8.733	18.33	14.800	1.59	20.87	0.40
2.683	0.40	8.750	18.33	14.817	1.59	20.88	0.40
2.700	0.40	8.767	18.33	14.833	1.59	20.90	0.40
2.717	0.40	8.783	18.33	14.850	1.59	20.92	0.40
2.733	0.40	8.800	18.33	14.867	1.59	20.93	0.40
2.750	0.40	8.817	18.33	14.883	1.59	20.95	0.40
2.767	0.40	8.833	18.33	14.900	1.59	20.97	0.40
2.783	0.40	8.850	18.33	14.917	1.59	20.98	0.40
2.800	0.40	8.867	18.33	14.933	1.59	21.00	0.40
2.817	0.40	8.883	18.33	14.950	1.59	21.02	0.40
2.833	0.40	8.900	18.33	14.967	1.59	21.03	0.40
2.850	0.40	8.917	18.33	14.983	1.59	21.05	0.40
2.867	0.40	8.933	18.33	15.000	1.59	21.07	0.40
2.883	0.40	8.950	18.33	15.017	1.59	21.08	0.40
2.900	0.40	8.967	18.33	15.033	1.59	21.10	0.40
2.917	0.40	8.983	18.33	15.050	1.59	21.12	0.40
2.933	0.40	9.000	18.33	15.067	1.59	21.13	0.40
2.950	0.40	9.017	18.33	15.083	1.59	21.15	0.40
2.967	0.40	9.033	18.33	15.100	1.59	21.17	0.40
2.983	0.40	9.050	18.33	15.117	1.59	21.18	0.40
3.000	0.40	9.067	18.33	15.133	1.59	21.20	0.40
3.017	0.40	9.083	18.33	15.150	1.59	21.22	0.40
3.033	0.40	9.100	18.33	15.167	1.59	21.23	0.40
3.050	0.40	9.117	18.33	15.183	1.59	21.25	0.40
3.067	0.40	9.133	18.33	15.200	1.59	21.27	0.40
3.083	0.40	9.150	18.33	15.217	1.59	21.28	0.40
3.100	0.40	9.167	18.33	15.233	1.59	21.30	0.40
3.117	0.40	9.183	18.33	15.250	1.59	21.32	0.40
3.133	0.40	9.200	18.33	15.267	1.59	21.33	0.40
3.150	0.40	9.217	18.33	15.283	1.59	21.35	0.40
3.167	0.40	9.233	18.33	15.300	1.59	21.37	0.40
3.183	0.40	9.250	18.33	15.317	1.59	21.38	0.40
3.200	0.40	9.267	18.33	15.333	1.59	21.40	0.40
3.217	0.40	9.283	18.33	15.350	1.59	21.42	0.40
3.233	0.40	9.300	18.33	15.367	1.59	21.43	0.40
3.250	0.40	9.317	18.33	15.383	1.59	21.45	0.40
3.267	0.40	9.333	18.33	15.400	1.59	21.47	0.40
3.283	0.40	9.350	18.33	15.417	1.59	21.48	0.40
3.300	0.40	9.367	18.33	15.433	1.59	21.50	0.40
3.317	0.40	9.383	18.33	15.450	1.59	21.52	0.40
3.333	0.40	9.400	18.33	15.467	1.59	21.53	0.40
3.350	0.40	9.417	18.33	15.483	1.59	21.55	0.40
3.367	0.40	9.433	18.33	15.500	1.59	21.57	0.40
3.383	0.40	9.450	18.33	15.517	1.59	21.58	0.40
3.400	0.40	9.467	18.33	15.533	1.59	21.60	0.40
3.417	0.40	9.483	18.33	15.550	1.59	21.62	0.40
3.433	0.40	9.500	18.33	15.567	1.59	21.63	0.40
3.450	0.40	9.517	18.33	15.583	1.59	21.65	0.40
3.467	0.40	9.533	18.33	15.600	1.59	21.67	0.40
3.483	0.40	9.550	18.33	15.617	1.59	21.68	0.40
3.500	0.40	9.567	18.33	15.633	1.59	21.70	0.40
3.517	0.40	9.583	18.33	15.650	1.59	21.72	0.40
3.533	0.40	9.600	18.33	15.667	1.59	21.73	0.40
3.550	0.40	9.617	18.33	15.683	1.59	21.75	0.40
3.567	0.40	9.633	18.33	15.700	1.59	21.77	0.40
3.583	0.40	9.650	18.33	15.717	1.59	21.78	0.40
3.600	0.40	9.667	18.33	15.733	1.59	21.80	0.40
3.617	0.40	9.683	18.33	15.750	1.59	21.82	0.40
3.633	0.40	9.700	18.33	15.767	1.59	21.83	0.40
3.650	0.40	9.717	18.33	15.783	1.59	21.85	0.40
3.667	0.40	9.733	18.33	15.800	1.59	21.87	0.40
3.683	0.40	9.750	18.33	15.817	1.59	21.88	0.40
3.700	0.40	9.767	18.33	15.833	1.59	21.90	0.40
3.717	0.40	9.783	18.33	15.850	1.59	21.92	0.40
3.733	0.40	9.800	18.33	15.867	1.59	21.93	0.40
3.750	0.40	9.817	18.33	15.883	1.59	21.95	0.40
3.767	0.40	9.833	18.33	15.900	1.59	21.97	0.40
3.783	0.40	9.850	18.33	15.917	1.59	21.98	0.40
3.800	0.40	9.867	18.33	15.933	1.59	22.00	0.40
3.817	0.40	9.883	18.33	15.950	1.59	22.02	0.40
3.833	0.40	9.900	18.33	15.967	1.59	22.03	0.40
3.850	0.40	9.917	18.33	15.983	1.59	22.05	0.40
3.867	0.40	9.933	18.33	16.000	1.59	22.07	0.40
3.883	0.40	9.950	18.33	16.017	1.59	22.08	0.40
3.900	0.40	9.967	18.33	16.033	1.59	22.10	0.40
3.917	0.40	9.983	18.33	16.050	1.59	22.12	0.40
3.933	0.40	10.000	18.33	16.067	1.59	22.13	0.40
3.950	0.40	10.017	18.33	16.083	1.59	22.15	0.40
3.967	0.40	10.033	18.33	16.100	1.59	22.17	0.40
3.983	0.40	10.050	18.33	16.117	1.59	22.18	0.40
4.000	0.40	10.067	18.33	16.133	1.59	22.20	0.40
4.017	0.40	10.083	18.33	16.150	1.59	22.22	0.40
4.033	0.40	10.100	18.33	16.167	1.59	22.23	0.40
4.050	0.40	10.117	18.33	16.183	1.59	22.25	0.40
4.067	0.40	10.133	18.33	16.200	1.59	22.27	0.40
4.083	0.40	10.150	18.33	16.217	1.59	22.28	0.40
4.100	0.40	10.167	18.33	16.233	1.59	22.30	0.40
4.117	0.40	10.183	18.33	16.250	1.59	22.32	0.40
4.133	0.40	10.200	18.33	16.267	0.80	22.33	0.40
4.150	0.40	10.217	18.33	16.283	0.80	22.35	0.40
4.167	0.40	10.233	18.33	16.300	0.80	22.37	0.40
4.183	0.40	10.250	18.32	16.317	0.80	22.38	0.40
4.200	0.40	10.267	5.18	16.333	0.80	22.40	0.40
4.217	0.40	10.283	5.18	16.350	0.80	22.42	0.40
4.233	0.40	10.300	5.18	16.367	0.80	22.43	0.40
4.250	0.40	10.317	5.18	16.383	0.80	22.45	0.40
4.267	2.39	10.333	5.18	16.400	0.80	22.47	0.40
4.283	2.39	10.350	5.18	16.417	0.80	22.48	0.40

4.300	2.39	10.367	5.18	16.433	0.80	22.50	0.40
4.317	2.39	10.383	5.18	16.450	0.80	22.52	0.40
4.333	2.39	10.400	5.18	16.467	0.80	22.53	0.40
4.350	2.39	10.417	5.18	16.483	0.80	22.55	0.40
4.367	2.39	10.433	5.18	16.500	0.80	22.57	0.40
4.383	2.39	10.450	5.18	16.517	0.80	22.58	0.40
4.400	2.39	10.467	5.18	16.533	0.80	22.60	0.40
4.417	2.39	10.483	5.18	16.550	0.80	22.62	0.40
4.433	2.39	10.500	5.18	16.567	0.80	22.63	0.40
4.450	2.39	10.517	5.18	16.583	0.80	22.65	0.40
4.467	2.39	10.533	5.18	16.600	0.80	22.67	0.40
4.483	2.39	10.550	5.18	16.617	0.80	22.68	0.40
4.500	2.39	10.567	5.18	16.633	0.80	22.70	0.40
4.517	2.39	10.583	5.18	16.650	0.80	22.72	0.40
4.533	2.39	10.600	5.18	16.667	0.80	22.73	0.40
4.550	2.39	10.617	5.18	16.683	0.80	22.75	0.40
4.567	2.39	10.633	5.18	16.700	0.80	22.77	0.40
4.583	2.39	10.650	5.18	16.717	0.80	22.78	0.40
4.600	2.39	10.667	5.18	16.733	0.80	22.80	0.40
4.617	2.39	10.683	5.18	16.750	0.80	22.82	0.40
4.633	2.39	10.700	5.18	16.767	0.80	22.83	0.40
4.650	2.39	10.717	5.18	16.783	0.80	22.85	0.40
4.667	2.39	10.733	5.18	16.800	0.80	22.87	0.40
4.683	2.39	10.750	5.18	16.817	0.80	22.88	0.40
4.700	2.39	10.767	5.18	16.833	0.80	22.90	0.40
4.717	2.39	10.783	5.18	16.850	0.80	22.92	0.40
4.733	2.39	10.800	5.18	16.867	0.80	22.93	0.40
4.750	2.39	10.817	5.18	16.883	0.80	22.95	0.40
4.767	2.39	10.833	5.18	16.900	0.80	22.97	0.40
4.783	2.39	10.850	5.18	16.917	0.80	22.98	0.40
4.800	2.39	10.867	5.18	16.933	0.80	23.00	0.40
4.817	2.39	10.883	5.18	16.950	0.80	23.02	0.40
4.833	2.39	10.900	5.18	16.967	0.80	23.03	0.40
4.850	2.39	10.917	5.18	16.983	0.80	23.05	0.40
4.867	2.39	10.933	5.18	17.000	0.80	23.07	0.40
4.883	2.39	10.950	5.18	17.017	0.80	23.08	0.40
4.900	2.39	10.967	5.18	17.033	0.80	23.10	0.40
4.917	2.39	10.983	5.18	17.050	0.80	23.12	0.40
4.933	2.39	11.000	5.18	17.067	0.80	23.13	0.40
4.950	2.39	11.017	5.18	17.083	0.80	23.15	0.40
4.967	2.39	11.033	5.18	17.100	0.80	23.17	0.40
4.983	2.39	11.050	5.18	17.117	0.80	23.18	0.40
5.000	2.39	11.067	5.18	17.133	0.80	23.20	0.40
5.017	2.39	11.083	5.18	17.150	0.80	23.22	0.40
5.033	2.39	11.100	5.18	17.167	0.80	23.23	0.40
5.050	2.39	11.117	5.18	17.183	0.80	23.25	0.40
5.067	2.39	11.133	5.18	17.200	0.80	23.27	0.40
5.083	2.39	11.150	5.18	17.217	0.80	23.28	0.40
5.100	2.39	11.167	5.18	17.233	0.80	23.30	0.40
5.117	2.39	11.183	5.18	17.250	0.80	23.32	0.40
5.133	2.39	11.200	5.18	17.267	0.80	23.33	0.40
5.150	2.39	11.217	5.18	17.283	0.80	23.35	0.40
5.167	2.39	11.233	5.18	17.300	0.80	23.37	0.40
5.183	2.39	11.250	5.18	17.317	0.80	23.38	0.40
5.200	2.39	11.267	5.18	17.333	0.80	23.40	0.40
5.217	2.39	11.283	5.18	17.350	0.80	23.42	0.40
5.233	2.39	11.300	5.18	17.367	0.80	23.43	0.40
5.250	2.39	11.317	5.18	17.383	0.80	23.45	0.40
5.267	2.39	11.333	5.18	17.400	0.80	23.47	0.40
5.283	2.39	11.350	5.18	17.417	0.80	23.48	0.40
5.300	2.39	11.367	5.18	17.433	0.80	23.50	0.40
5.317	2.39	11.383	5.18	17.450	0.80	23.52	0.40
5.333	2.39	11.400	5.18	17.467	0.80	23.53	0.40
5.350	2.39	11.417	5.18	17.483	0.80	23.55	0.40
5.367	2.39	11.433	5.18	17.500	0.80	23.57	0.40
5.383	2.39	11.450	5.18	17.517	0.80	23.58	0.40
5.400	2.39	11.467	5.18	17.533	0.80	23.60	0.40
5.417	2.39	11.483	5.18	17.550	0.80	23.62	0.40
5.433	2.39	11.500	5.18	17.567	0.80	23.63	0.40
5.450	2.39	11.517	5.18	17.583	0.80	23.65	0.40
5.467	2.39	11.533	5.18	17.600	0.80	23.67	0.40
5.483	2.39	11.550	5.18	17.617	0.80	23.68	0.40
5.500	2.39	11.567	5.18	17.633	0.80	23.70	0.40
5.517	2.39	11.583	5.18	17.650	0.80	23.72	0.40
5.533	2.39	11.600	5.18	17.667	0.80	23.73	0.40
5.550	2.39	11.617	5.18	17.683	0.80	23.75	0.40
5.567	2.39	11.633	5.18	17.700	0.80	23.77	0.40
5.583	2.39	11.650	5.18	17.717	0.80	23.78	0.40
5.600	2.39	11.667	5.18	17.733	0.80	23.80	0.40
5.617	2.39	11.683	5.18	17.750	0.80	23.82	0.40
5.633	2.39	11.700	5.18	17.767	0.80	23.83	0.40
5.650	2.39	11.717	5.18	17.783	0.80	23.85	0.40
5.667	2.39	11.733	5.18	17.800	0.80	23.87	0.40
5.683	2.39	11.750	5.18	17.817	0.80	23.88	0.40
5.700	2.39	11.767	5.18	17.833	0.80	23.90	0.40
5.717	2.39	11.783	5.18	17.850	0.80	23.92	0.40
5.733	2.39	11.800	5.18	17.867	0.80	23.93	0.40
5.750	2.39	11.817	5.18	17.883	0.80	23.95	0.40
5.767	2.39	11.833	5.18	17.900	0.80	23.97	0.40
5.783	2.39	11.850	5.18	17.917	0.80	23.98	0.40
5.800	2.39	11.867	5.18	17.933	0.80	24.00	0.40
5.817	2.39	11.883	5.18	17.950	0.80	24.02	0.40
5.833	2.39	11.900	5.18	17.967	0.80	24.03	0.40
5.850	2.39	11.917	5.18	17.983	0.80	24.05	0.40
5.867	2.39	11.933	5.18	18.000	0.80	24.07	0.40
5.883	2.39	11.950	5.18	18.017	0.80	24.08	0.40
5.900	2.39	11.967	5.18	18.033	0.80	24.10	0.40
5.917	2.39	11.983	5.18	18.050	0.80	24.12	0.40
5.933	2.39	12.000	5.18	18.067	0.80	24.13	0.40
5.950	2.39	12.017	5.18	18.083	0.80	24.15	0.40
5.967	2.39	12.033	5.18	18.100	0.80	24.17	0.40
5.983	2.39	12.050	5.18	18.117	0.80	24.18	0.40
6.000	2.39	12.067	5.18	18.133	0.80	24.20	0.40
6.017	2.39	12.083	5.18	18.150	0.80	24.22	0.40
6.033	2.39	12.100	5.18	18.167	0.80	24.23	0.40
6.050	2.39	12.117	5.18	18.183	0.80	24.25	0.40
6.067	2.39	12.133	5.18	18.200	0.80		

Max.Eff.Inten.(mm/hr)=	18.33	14.52		
over (min)	7.00	11.00		
Storage Coeff. (min)=	6.80 (ii)	10.16 (ii)		
Unit Hyd. Tpeak (min)=	7.00	11.00		
Unit Hyd. peak (cms)=	0.16	0.11		
			TOTALS	
PEAK FLOW (cms)=	0.21	0.00	0.208 (iii)	
TIME TO PEAK (hrs)=	9.98	10.25	10.25	
RUNOFF VOLUME (mm)=	78.69	49.70	78.41	
TOTAL RAINFALL (mm)=	79.70	79.70	79.70	
RUNOFF COEFFICIENT =	0.99	0.62	0.98	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940
	0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.208	10.25	78.41
OUTFLOW: ID= 1 (7630)	4.090	0.064	10.70	71.88

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.64
TIME SHIFT OF PEAK FLOW (min)= 27.00
MAXIMUM STORAGE USED (ha.m.)= 0.1843

CALIB		
STANDHYD (7631)	Area (ha)=	3.91
ID= 1 DT= 1.0 min	Total Imp(%)=	99.00 Dir. Conn.(%)= 99.00

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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.39	12.150	5.18	18.22	0.80
0.033	0.00	6.100	2.39	12.167	5.18	18.23	0.80
0.050	0.00	6.117	2.39	12.183	5.18	18.25	0.80
0.067	0.00	6.133	2.39	12.200	5.18	18.27	0.40
0.083	0.00	6.150	2.39	12.217	5.18	18.28	0.40
0.100	0.00	6.167	2.39	12.233	5.18	18.30	0.40
0.117	0.00	6.183	2.39	12.250	5.18	18.32	0.40
0.133	0.00	6.200	2.39	12.267	2.79	18.33	0.40
0.150	0.00	6.217	2.39	12.283	2.79	18.35	0.40
0.167	0.00	6.233	2.39	12.300	2.79	18.37	0.40
0.183	0.00	6.250	2.40	12.317	2.79	18.38	0.40
0.200	0.00	6.267	6.77	12.333	2.79	18.40	0.40
0.217	0.00	6.283	6.77	12.350	2.79	18.42	0.40
0.233	0.00	6.300	6.77	12.367	2.79	18.43	0.40
0.250	0.00	6.317	6.77	12.383	2.79	18.45	0.40
0.267	0.40	6.333	6.77	12.400	2.79	18.47	0.40
0.283	0.40	6.350	6.77	12.417	2.79	18.48	0.40
0.300	0.40	6.367	6.77	12.433	2.79	18.50	0.40
0.317	0.40	6.383	6.77	12.450	2.79	18.52	0.40
0.333	0.40	6.400	6.77	12.467	2.79	18.53	0.40
0.350	0.40	6.417	6.77	12.483	2.79	18.55	0.40
0.367	0.40	6.433	6.77	12.500	2.79	18.57	0.40
0.383	0.40	6.450	6.77	12.517	2.79	18.58	0.40
0.400	0.40	6.467	6.77	12.533	2.79	18.60	0.40
0.417	0.40	6.483	6.77	12.550	2.79	18.62	0.40
0.433	0.40	6.500	6.77	12.567	2.79	18.63	0.40
0.450	0.40	6.517	6.77	12.583	2.79	18.65	0.40
0.467	0.40	6.533	6.77	12.600	2.79	18.67	0.40
0.483	0.40	6.550	6.77	12.617	2.79	18.68	0.40
0.500	0.40	6.567	6.77	12.633	2.79	18.70	0.40
0.517	0.40	6.583	6.77	12.650	2.79	18.72	0.40
0.533	0.40	6.600	6.77	12.667	2.79	18.73	0.40
0.550	0.40	6.617	6.77	12.683	2.79	18.75	0.40
0.567	0.40	6.633	6.77	12.700	2.79	18.77	0.40
0.583	0.40	6.650	6.77	12.717	2.79	18.78	0.40
0.600	0.40	6.667	6.77	12.733	2.79	18.80	0.40
0.617	0.40	6.683	6.77	12.750	2.79	18.82	0.40
0.633	0.40	6.700	6.77	12.767	2.79	18.83	0.40
0.650	0.40	6.717	6.77	12.783	2.79	18.85	0.40
0.667	0.40	6.733	6.77	12.800	2.79	18.87	0.40
0.683	0.40	6.750	6.77	12.817	2.79	18.88	0.40
0.700	0.40	6.767	6.77	12.833	2.79	18.90	0.40
0.717	0.40	6.783	6.77	12.850	2.79	18.92	0.40
0.733	0.40	6.800	6.77	12.867	2.79	18.93	0.40
0.750	0.40	6.817	6.77	12.883	2.79	18.95	0.40
0.767	0.40	6.833	6.77	12.900	2.79	18.97	0.40
0.783	0.40	6.850	6.77	12.917	2.79	18.98	0.40
0.800	0.40	6.867	6.77	12.933	2.79	19.00	0.40
0.817	0.40	6.883	6.77	12.950	2.79	19.02	0.40
0.833	0.40	6.900	6.77	12.967	2.79	19.03	0.40
0.850	0.40	6.917	6.77	12.983	2.79	19.05	0.40
0.867	0.40	6.933	6.77	13.000	2.79	19.07	0.40
0.883	0.40	6.950	6.77	13.017	2.79	19.08	0.40
0.900	0.40	6.967	6.77	13.033	2.79	19.10	0.40
0.917	0.40	6.983	6.77	13.050	2.79	19.12	0.40
0.933	0.40	7.000	6.77	13.067	2.79	19.13	0.40
0.950	0.40	7.017	6.77	13.083	2.79	19.15	0.40
0.967	0.40	7.033	6.77	13.100	2.79	19.17	0.40
0.983	0.40	7.050	6.77	13.117	2.79	19.18	0.40
1.000	0.40	7.067	6.77	13.133	2.79	19.20	0.40
1.017	0.40	7.083	6.77	13.150	2.79	19.22	0.40
1.033	0.40	7.100	6.77	13.167	2.79	19.23	0.40
1.050	0.40	7.117	6.77	13.183	2.79	19.25	0.40
1.067	0.40	7.133	6.77	13.200	2.79	19.27	0.40
1.083	0.40	7.150	6.77	13.217	2.79	19.28	0.40
1.100	0.40	7.167	6.77	13.233	2.79	19.30	0.40
1.117	0.40	7.183	6.77	13.250	2.79	19.32	0.40
1.133	0.40	7.200	6.77	13.267	2.79	19.33	0.40
1.150	0.40	7.217	6.77	13.283	2.79	19.35	0.40
1.167	0.40	7.233	6.77	13.300	2.79	19.37	0.40
1.183	0.40	7.250	6.77	13.317	2.79	19.38	0.40
1.200	0.40	7.267	6.77	13.333	2.79	19.40	0.40
1.217	0.40	7.283	6.77	13.350	2.79	19.42	0.40
1.233	0.40	7.300	6.77	13.367	2.79	19.43	0.40
1.250	0.40	7.317	6.77	13.383	2.79	19.45	0.40
1.267	0.40	7.333	6.77	13.400	2.79	19.47	0.40
1.283	0.40	7.350	6.77	13.417	2.79	19.48	0.40
1.300	0.40	7.367	6.77	13.433	2.79	19.50	0.40
1.317	0.40	7.383	6.77	13.450	2.79	19.52	0.40
1.333	0.40	7.400	6.77	13.467	2.79	19.53	0.40
1.350	0.40	7.417	6.77	13.483	2.79	19.55	0.40
1.367	0.40	7.433	6.77	13.500	2.79	19.57	0.40
1.383	0.40	7.450	6.77	13.517	2.79	19.58	0.40
1.400	0.40	7.467	6.77	13.533	2.79	19.60	0.40
1.417	0.40	7.483	6.77	13.550	2.79	19.62	0.40
1.433	0.40	7.500	6.77	13.567	2.79	19.63	0.40
1.450	0.40	7.517	6.77	13.583	2.79	19.65	0.40
1.467	0.40	7.533	6.77	13.600	2.79	19.67	0.40
1.483	0.40	7.550	6.77	13.617	2.79	19.68	0.40
1.500	0.40	7.567	6.77	13.633	2.79	19.70	0.40
1.517	0.40	7.583	6.77	13.650	2.79	19.72	0.40
1.533	0.40	7.600	6.77	13.667	2.79	19.73	0.40
1.550	0.40	7.617	6.77	13.683	2.79	19.75	0.40
1.567	0.40	7.633	6.77	13.700	2.79	19.77	0.40
1.583	0.40	7.650	6.77	13.717	2.79	19.78	0.40
1.600	0.40	7.667	6.77	13.733	2.79	19.80	0.40
1.617	0.40	7.683	6.77	13.750	2.79	19.82	0.40
1.633	0.40	7.700	6.77	13.767	2.79	19.83	0.40
1.650	0.40	7.717	6.77	13.783	2.79	19.85	0.40
1.667	0.40	7.733	6.77	13.800	2.79	19.87	0.40
1.683	0.40	7.750	6.77	13.817	2.79	19.88	0.40
1.700	0.40	7.767	6.77	13.833	2.79	19.90	0.40
1.717	0.40	7.783	6.77	13.850	2.79	19.92	0.40
1.733	0.40	7.800	6.77	13.867	2.79	19.93	0.40
1.750	0.40	7.817	6.77	13.883	2.79	19.95	0.40
1.767	0.40	7.833	6.77	13.900	2.79	19.97	0.40
1.783	0.40	7.850	6.77	13.917	2.79	19.98	0.40
1.800	0.40	7.867	6.77	13.933	2.79	20.00	0.40
1.817	0.40	7.883	6.77	13.950	2.79	20.02	0.40
1.833	0.40	7.900	6.77	13.967	2.79	20.03	0.40
1.850	0.40	7.917	6.77	13.983	2.79	20.05	0.40
1.867	0.40	7.933	6.77	14.000	2.79	20.07	0.40
1.883	0.40	7.950	6.77	14.017	2.79	20.08	0.40
1.900	0.40	7.967	6.77	14.033	2.79	20.10	0.40
1.917	0.40	7.983	6.77	14.050	2.79	20.12	0.40
1.933	0.40	8.000	6.77	14.067	2.79	20.13	0.40
1.950	0.40	8.017	6.77	14.083	2.79	20.15	0.40
1.967	0.40	8.033	6.77	14.100	2.79	20.17	0.40
1.983	0.40	8.050	6.77	14.117	2.79	20.18	0.40
2.000	0.40	8.067	6.77	14.133	2.79	20.20	0.40
2.017	0.40	8.083	6.77	14.150	2.79	20.22	0.40
2.033	0.40	8.100	6.77	14.167	2.79	20.23	0.40
2.050	0.40	8.117	6.77	14.183	2.79	20.25	0.40
2.067	0.40	8.133	6.77	14.200	2.79	20.27	0.40
2.083	0.40	8.150	6.77	14.217	2.79	20.28	0.40
2.100	0.40	8.167	6.77	14.233	2.79	20.30	0.40
2.117	0.40	8.183	6.77	14.250	2.79	20.32	0.40
2.133	0.40	8.200	6.77	14.267	1.59	20.33	0.40
2.150	0.40	8.217	6.77	14.283	1.59	20.35	0.40
2.167	0.40	8.233	6.77	14.300	1.59	20.37	0.40
2.183	0.40	8.250	6.80	14.317	1.59	20.38	0.40
2.200	0.40	8.267	18.33	14.333	1.59	20.40	0.40
2.217	0.40	8.283	18.33	14.350	1.59	20.42	0.40
2.233	0.40	8.300	18.33	14.367	1.59	20.43	0.40
2.250	0.40	8.317	18.33	14.383	1.59	20.45	0.40
2.267	0.40	8.333	18.33	14.400	1.59	20.47	0.40
2.283	0.40	8.350	18.33	14.417	1.59	20.48	0.40
2.300	0.40	8.367	18.33	14.433	1.59	20.50	0.40

2.317	0.40	8.383	18.33	14.450	1.59	20.52	0.40	3.583	0.40	9.650	18.33	15.717	1.59	21.78	0.40
2.333	0.40	8.400	18.33	14.467	1.59	20.53	0.40	3.600	0.40	9.667	18.33	15.733	1.59	21.80	0.40
2.350	0.40	8.417	18.33	14.483	1.59	20.55	0.40	3.617	0.40	9.683	18.33	15.750	1.59	21.82	0.40
2.367	0.40	8.433	18.33	14.500	1.59	20.57	0.40	3.633	0.40	9.700	18.33	15.767	1.59	21.83	0.40
2.383	0.40	8.450	18.33	14.517	1.59	20.58	0.40	3.650	0.40	9.717	18.33	15.783	1.59	21.85	0.40
2.400	0.40	8.467	18.33	14.533	1.59	20.60	0.40	3.667	0.40	9.733	18.33	15.800	1.59	21.87	0.40
2.417	0.40	8.483	18.33	14.550	1.59	20.62	0.40	3.683	0.40	9.750	18.33	15.817	1.59	21.88	0.40
2.433	0.40	8.500	18.33	14.567	1.59	20.63	0.40	3.700	0.40	9.767	18.33	15.833	1.59	21.90	0.40
2.450	0.40	8.517	18.33	14.583	1.59	20.65	0.40	3.717	0.40	9.783	18.33	15.850	1.59	21.92	0.40
2.467	0.40	8.533	18.33	14.600	1.59	20.67	0.40	3.733	0.40	9.800	18.33	15.867	1.59	21.93	0.40
2.483	0.40	8.550	18.33	14.617	1.59	20.68	0.40	3.750	0.40	9.817	18.33	15.883	1.59	21.95	0.40
2.500	0.40	8.567	18.33	14.633	1.59	20.70	0.40	3.767	0.40	9.833	18.33	15.900	1.59	21.97	0.40
2.517	0.40	8.583	18.33	14.650	1.59	20.72	0.40	3.783	0.40	9.850	18.33	15.917	1.59	21.98	0.40
2.533	0.40	8.600	18.33	14.667	1.59	20.73	0.40	3.800	0.40	9.867	18.33	15.933	1.59	22.00	0.40
2.550	0.40	8.617	18.33	14.683	1.59	20.75	0.40	3.817	0.40	9.883	18.33	15.950	1.59	22.02	0.40
2.567	0.40	8.633	18.33	14.700	1.59	20.77	0.40	3.833	0.40	9.900	18.33	15.967	1.59	22.03	0.40
2.583	0.40	8.650	18.33	14.717	1.59	20.78	0.40	3.850	0.40	9.917	18.33	15.983	1.59	22.05	0.40
2.600	0.40	8.667	18.33	14.733	1.59	20.80	0.40	3.867	0.40	9.933	18.33	16.000	1.59	22.07	0.40
2.617	0.40	8.683	18.33	14.750	1.59	20.82	0.40	3.883	0.40	9.950	18.33	16.017	1.59	22.08	0.40
2.633	0.40	8.700	18.33	14.767	1.59	20.83	0.40	3.900	0.40	9.967	18.33	16.033	1.59	22.10	0.40
2.650	0.40	8.717	18.33	14.783	1.59	20.85	0.40	3.917	0.40	9.983	18.33	16.050	1.59	22.12	0.40
2.667	0.40	8.733	18.33	14.800	1.59	20.87	0.40	3.933	0.40	10.000	18.33	16.067	1.59	22.13	0.40
2.683	0.40	8.750	18.33	14.817	1.59	20.88	0.40	3.950	0.40	10.017	18.33	16.083	1.59	22.15	0.40
2.700	0.40	8.767	18.33	14.833	1.59	20.90	0.40	3.967	0.40	10.033	18.33	16.100	1.59	22.17	0.40
2.717	0.40	8.783	18.33	14.850	1.59	20.92	0.40	3.983	0.40	10.050	18.33	16.117	1.59	22.18	0.40
2.733	0.40	8.800	18.33	14.867	1.59	20.93	0.40	4.000	0.40	10.067	18.33	16.133	1.59	22.20	0.40
2.750	0.40	8.817	18.33	14.883	1.59	20.95	0.40	4.017	0.40	10.083	18.33	16.150	1.59	22.22	0.40
2.767	0.40	8.833	18.33	14.900	1.59	20.97	0.40	4.033	0.40	10.100	18.33	16.167	1.59	22.23	0.40
2.783	0.40	8.850	18.33	14.917	1.59	20.98	0.40	4.050	0.40	10.117	18.33	16.183	1.59	22.25	0.40
2.800	0.40	8.867	18.33	14.933	1.59	21.00	0.40	4.067	0.40	10.133	18.33	16.200	1.59	22.27	0.40
2.817	0.40	8.883	18.33	14.950	1.59	21.02	0.40	4.083	0.40	10.150	18.33	16.217	1.59	22.28	0.40
2.833	0.40	8.900	18.33	14.967	1.59	21.03	0.40	4.100	0.40	10.167	18.33	16.233	1.59	22.30	0.40
2.850	0.40	8.917	18.33	14.983	1.59	21.05	0.40	4.117	0.40	10.183	18.33	16.250	1.59	22.32	0.40
2.867	0.40	8.933	18.33	15.000	1.59	21.07	0.40	4.133	0.40	10.200	18.33	16.267	0.80	22.33	0.40
2.883	0.40	8.950	18.33	15.017	1.59	21.08	0.40	4.150	0.40	10.217	18.33	16.283	0.80	22.35	0.40
2.900	0.40	8.967	18.33	15.033	1.59	21.10	0.40	4.167	0.40	10.233	18.33	16.300	0.80	22.37	0.40
2.917	0.40	8.983	18.33	15.050	1.59	21.12	0.40	4.183	0.40	10.250	18.32	16.317	0.80	22.38	0.40
2.933	0.40	9.000	18.33	15.067	1.59	21.13	0.40	4.200	0.40	10.267	5.18	16.333	0.80	22.40	0.40
2.950	0.40	9.017	18.33	15.083	1.59	21.15	0.40	4.217	0.40	10.283	5.18	16.350	0.80	22.42	0.40
2.967	0.40	9.033	18.33	15.100	1.59	21.17	0.40	4.233	0.40	10.300	5.18	16.367	0.80	22.43	0.40
2.983	0.40	9.050	18.33	15.117	1.59	21.18	0.40	4.250	0.40	10.317	5.18	16.383	0.80	22.45	0.40
3.000	0.40	9.067	18.33	15.133	1.59	21.20	0.40	4.267	2.39	10.333	5.18	16.400	0.80	22.47	0.40
3.017	0.40	9.083	18.33	15.150	1.59	21.22	0.40	4.283	2.39	10.350	5.18	16.417	0.80	22.48	0.40
3.033	0.40	9.100	18.33	15.167	1.59	21.23	0.40	4.300	2.39	10.367	5.18	16.433	0.80	22.50	0.40
3.050	0.40	9.117	18.33	15.183	1.59	21.25	0.40	4.317	2.39	10.383	5.18	16.450	0.80	22.52	0.40
3.067	0.40	9.133	18.33	15.200	1.59	21.27	0.40	4.333	2.39	10.400	5.18	16.467	0.80	22.53	0.40
3.083	0.40	9.150	18.33	15.217	1.59	21.28	0.40	4.350	2.39	10.417	5.18	16.483	0.80	22.55	0.40
3.100	0.40	9.167	18.33	15.233	1.59	21.30	0.40	4.367	2.39	10.433	5.18	16.500	0.80	22.57	0.40
3.117	0.40	9.183	18.33	15.250	1.59	21.32	0.40	4.383	2.39	10.450	5.18	16.517	0.80	22.58	0.40
3.133	0.40	9.200	18.33	15.267	1.59	21.33	0.40	4.400	2.39	10.467	5.18	16.533	0.80	22.60	0.40
3.150	0.40	9.217	18.33	15.283	1.59	21.35	0.40	4.417	2.39	10.483	5.18	16.550	0.80	22.62	0.40
3.167	0.40	9.233	18.33	15.300	1.59	21.37	0.40	4.433	2.39	10.500	5.18	16.567	0.80	22.63	0.40
3.183	0.40	9.250	18.33	15.317	1.59	21.38	0.40	4.450	2.39	10.517	5.18	16.583	0.80	22.65	0.40
3.200	0.40	9.267	18.33	15.333	1.59	21.40	0.40	4.467	2.39	10.533	5.18	16.600	0.80	22.67	0.40
3.217	0.40	9.283	18.33	15.350	1.59	21.42	0.40	4.483	2.39	10.550	5.18	16.617	0.80	22.68	0.40
3.233	0.40	9.300	18.33	15.367	1.59	21.43	0.40	4.500	2.39	10.567	5.18	16.633	0.80	22.70	0.40
3.250	0.40	9.317	18.33	15.383	1.59	21.45	0.40	4.517	2.39	10.583	5.18	16.650	0.80	22.72	0.40
3.267	0.40	9.333	18.33	15.400	1.59	21.47	0.40	4.533	2.39	10.600	5.18	16.667	0.80	22.73	0.40
3.283	0.40	9.350	18.33	15.417	1.59	21.48	0.40	4.550	2.39	10.617	5.18	16.683	0.80	22.75	0.40
3.300	0.40	9.367	18.33	15.433	1.59	21.50	0.40	4.567	2.39	10.633	5.18	16.700	0.80	22.77	0.40
3.317	0.40	9.383	18.33	15.450	1.59	21.52	0.40	4.583	2.39	10.650	5.18	16.717	0.80	22.78	0.40
3.333	0.40	9.400	18.33	15.467	1.59	21.53	0.40	4.600	2.39	10.667	5.18	16.733	0.80	22.80	0.40
3.350	0.40	9.417	18.33	15.483	1.59	21.55	0.40	4.617	2.39	10.683	5.18	16.750	0.80	22.82	0.40
3.367	0.40	9.433	18.33	15.500	1.59	21.57	0.40	4.633	2.39	10.700	5.18	16.767	0.80	22.83	0.40
3.383	0.40	9.450	18.33	15.517	1.59	21.58	0.40	4.650	2.39	10.717	5.18	16.783	0.80	22.85	0.40
3.400	0.40	9.467	18.33	15.533	1.59	21.60	0.40	4.667	2.39	10.733	5.18	16.800	0.80	22.87	0.40
3.417	0.40	9.483	18.33	15.550	1.59	21.62	0.40	4.683	2.39	10.750	5.18	16.817	0.80	22.88	0.40
3.433	0.40	9.500	18.33	15.567	1.59	21.63	0.40	4.700	2.39	10.767	5.18	16.833	0.80	22.90	0.40
3.450	0.40	9.517	18.33	15.583	1.59	21.65	0.40	4.717	2.39	10.783	5.18	16.850	0.80	22.92	0.40
3.467	0.40	9.533	18.33	15.600	1.59	21.67	0.40	4.733	2.39	10.800	5.18	16.867	0.80	22.93	0.40
3.483	0.40	9.550	18.33	15.617	1.59	21.68	0.40	4.750	2.39	10.817	5.18	16.883	0.80	22.95	0.40
3.500	0.40	9.567	18.33	15.633	1.59	21.70	0.40	4.767	2.39	10.833	5.18	16.900	0.80	22.97	0.40
3.517	0.40	9.583	18.33	15.650	1.59	21.72	0.40	4.783	2.39	10.850	5.18	16.917	0.80	22.98	0.40
3.533	0.40	9.600	18.33	15.667	1.59	21.73	0.40	4.800	2.39	10.867	5.18	16.933	0.80	23.00	0.40
3.550	0.40	9.617	18.33	15.683	1.59	21.75	0.40	4.817	2.39	10.883	5.18	16.950	0.80	23.02	0.40
3.567	0.40	9.633	18.33	15.700	1.59	21.77	0.40	4.833	2.39	10.900	5.18	16.967	0.80	23.03	0.40

4.850	2.39	10.917	5.18	16.983	0.80	23.05	0.40
4.867	2.39	10.933	5.18	17.000	0.80	23.07	0.40
4.883	2.39	10.950	5.18	17.017	0.80	23.08	0.40
4.900	2.39	10.967	5.18	17.033	0.80	23.10	0.40
4.917	2.39	10.983	5.18	17.050	0.80	23.12	0.40
4.933	2.39	11.000	5.18	17.067	0.80	23.13	0.40
4.950	2.39	11.017	5.18	17.083	0.80	23.15	0.40
4.967	2.39	11.033	5.18	17.100	0.80	23.17	0.40
4.983	2.39	11.050	5.18	17.117	0.80	23.18	0.40
5.000	2.39	11.067	5.18	17.133	0.80	23.20	0.40
5.017	2.39	11.083	5.18	17.150	0.80	23.22	0.40
5.033	2.39	11.100	5.18	17.167	0.80	23.23	0.40
5.050	2.39	11.117	5.18	17.183	0.80	23.25	0.40
5.067	2.39	11.133	5.18	17.200	0.80	23.27	0.40
5.083	2.39	11.150	5.18	17.217	0.80	23.28	0.40
5.100	2.39	11.167	5.18	17.233	0.80	23.30	0.40
5.117	2.39	11.183	5.18	17.250	0.80	23.32	0.40
5.133	2.39	11.200	5.18	17.267	0.80	23.33	0.40
5.150	2.39	11.217	5.18	17.283	0.80	23.35	0.40
5.167	2.39	11.233	5.18	17.300	0.80	23.37	0.40
5.183	2.39	11.250	5.18	17.317	0.80	23.38	0.40
5.200	2.39	11.267	5.18	17.333	0.80	23.40	0.40
5.217	2.39	11.283	5.18	17.350	0.80	23.42	0.40
5.233	2.39	11.300	5.18	17.367	0.80	23.43	0.40
5.250	2.39	11.317	5.18	17.383	0.80	23.45	0.40
5.267	2.39	11.333	5.18	17.400	0.80	23.47	0.40
5.283	2.39	11.350	5.18	17.417	0.80	23.48	0.40
5.300	2.39	11.367	5.18	17.433	0.80	23.50	0.40
5.317	2.39	11.383	5.18	17.450	0.80	23.52	0.40
5.333	2.39	11.400	5.18	17.467	0.80	23.53	0.40
5.350	2.39	11.417	5.18	17.483	0.80	23.55	0.40
5.367	2.39	11.433	5.18	17.500	0.80	23.57	0.40
5.383	2.39	11.450	5.18	17.517	0.80	23.58	0.40
5.400	2.39	11.467	5.18	17.533	0.80	23.60	0.40
5.417	2.39	11.483	5.18	17.550	0.80	23.62	0.40
5.433	2.39	11.500	5.18	17.567	0.80	23.63	0.40
5.450	2.39	11.517	5.18	17.583	0.80	23.65	0.40
5.467	2.39	11.533	5.18	17.600	0.80	23.67	0.40
5.483	2.39	11.550	5.18	17.617	0.80	23.68	0.40
5.500	2.39	11.567	5.18	17.633	0.80	23.70	0.40
5.517	2.39	11.583	5.18	17.650	0.80	23.72	0.40
5.533	2.39	11.600	5.18	17.667	0.80	23.73	0.40
5.550	2.39	11.617	5.18	17.683	0.80	23.75	0.40
5.567	2.39	11.633	5.18	17.700	0.80	23.77	0.40
5.583	2.39	11.650	5.18	17.717	0.80	23.78	0.40
5.600	2.39	11.667	5.18	17.733	0.80	23.80	0.40
5.617	2.39	11.683	5.18	17.750	0.80	23.82	0.40
5.633	2.39	11.700	5.18	17.767	0.80	23.83	0.40
5.650	2.39	11.717	5.18	17.783	0.80	23.85	0.40
5.667	2.39	11.733	5.18	17.800	0.80	23.87	0.40
5.683	2.39	11.750	5.18	17.817	0.80	23.88	0.40
5.700	2.39	11.767	5.18	17.833	0.80	23.90	0.40
5.717	2.39	11.783	5.18	17.850	0.80	23.92	0.40
5.733	2.39	11.800	5.18	17.867	0.80	23.93	0.40
5.750	2.39	11.817	5.18	17.883	0.80	23.95	0.40
5.767	2.39	11.833	5.18	17.900	0.80	23.97	0.40
5.783	2.39	11.850	5.18	17.917	0.80	23.98	0.40
5.800	2.39	11.867	5.18	17.933	0.80	24.00	0.40
5.817	2.39	11.883	5.18	17.950	0.80	24.02	0.40
5.833	2.39	11.900	5.18	17.967	0.80	24.03	0.40
5.850	2.39	11.917	5.18	17.983	0.80	24.05	0.40
5.867	2.39	11.933	5.18	18.000	0.80	24.07	0.40
5.883	2.39	11.950	5.18	18.017	0.80	24.08	0.40
5.900	2.39	11.967	5.18	18.033	0.80	24.10	0.40
5.917	2.39	11.983	5.18	18.050	0.80	24.12	0.40
5.933	2.39	12.000	5.18	18.067	0.80	24.13	0.40
5.950	2.39	12.017	5.18	18.083	0.80	24.15	0.40
5.967	2.39	12.033	5.18	18.100	0.80	24.17	0.40
5.983	2.39	12.050	5.18	18.117	0.80	24.18	0.40
6.000	2.39	12.067	5.18	18.133	0.80	24.20	0.40
6.017	2.39	12.083	5.18	18.150	0.80	24.22	0.40
6.033	2.39	12.100	5.18	18.167	0.80	24.23	0.40
6.050	2.39	12.117	5.18	18.183	0.80	24.25	0.40
6.067	2.39	12.133	5.18	18.200	0.80		

Max.Eff.Inten.(mm/hr)= 18.33 14.52

over (min) 7.00 11.00
Storage Coeff. (min)= 6.71 (ii) 10.07 (ii)
Unit Hyd. Tpeak (min)= 7.00 11.00
Unit Hyd. peak (cms)= 0.17 0.11

			TOTALS
PEAK FLOW	(cms)=	0.20	0.00	0.199 (iii)
TIME TO PEAK	(hrs)=	9.98	10.25	10.25
RUNOFF VOLUME	(mm)=	78.69	49.70	78.41
TOTAL RAINFALL	(mm)=	79.70	79.70	79.70
RUNOFF COEFFICIENT	=	0.99	0.62	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)		3.910	0.199	10.25	78.41
OUTFLOW: ID= 1 (7632)		3.910	0.061	10.68	71.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.74
TIME SHIFT OF PEAK FLOW (min)= 26.00
MAXIMUM STORAGE USED (ha.m.)= 0.1763

CALIB			
STANDHYD (7641)	Area (ha)= 2.21		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.39	12.150	5.18	18.22	0.80
0.033	0.00	6.100	2.39	12.167	5.18	18.23	0.80
0.050	0.00	6.117	2.39	12.183	5.18	18.25	0.80
0.067	0.00	6.133	2.39	12.200	5.18	18.27	0.40
0.083	0.00	6.150	2.39	12.217	5.18	18.28	0.40
0.100	0.00	6.167	2.39	12.233	5.18	18.30	0.40
0.117	0.00	6.183	2.39	12.250	5.18	18.32	0.40
0.133	0.00	6.200	2.39	12.267	2.79	18.33	0.40
0.150	0.00	6.217	2.39	12.283	2.79	18.35	0.40
0.167	0.00	6.233	2.39	12.300	2.79	18.37	0.40
0.183	0.00	6.250	2.40	12.317	2.79	18.38	0.40
0.200	0.00	6.267	6.77	12.333	2.79	18.40	0.40
0.217	0.00	6.283	6.77	12.350	2.79	18.42	0.40
0.233	0.00	6.300	6.77	12.367	2.79	18.43	0.40
0.250	0.00	6.317	6.77	12.383	2.79	18.45	0.40
0.267	0.40	6.333	6.77	12.400	2.79	18.47	0.40
0.283	0.40	6.350	6.77	12.417	2.79	18.48	0.40
0.300	0.40	6.367	6.77	12.433	2.79	18.50	0.40
0.317	0.40	6.383	6.77	12.450	2.79	18.52	0.40

0.333	0.40	6.400	6.77	12.467	2.79	18.53	0.40
0.350	0.40	6.417	6.77	12.483	2.79	18.55	0.40
0.367	0.40	6.433	6.77	12.500	2.79	18.57	0.40
0.383	0.40	6.450	6.77	12.517	2.79	18.58	0.40
0.400	0.40	6.467	6.77	12.533	2.79	18.60	0.40
0.417	0.40	6.483	6.77	12.550	2.79	18.62	0.40
0.433	0.40	6.500	6.77	12.567	2.79	18.63	0.40
0.450	0.40	6.517	6.77	12.583	2.79	18.65	0.40
0.467	0.40	6.533	6.77	12.600	2.79	18.67	0.40
0.483	0.40	6.550	6.77	12.617	2.79	18.68	0.40
0.500	0.40	6.567	6.77	12.633	2.79	18.70	0.40
0.517	0.40	6.583	6.77	12.650	2.79	18.72	0.40
0.533	0.40	6.600	6.77	12.667	2.79	18.73	0.40
0.550	0.40	6.617	6.77	12.683	2.79	18.75	0.40
0.567	0.40	6.633	6.77	12.700	2.79	18.77	0.40
0.583	0.40	6.650	6.77	12.717	2.79	18.78	0.40
0.600	0.40	6.667	6.77	12.733	2.79	18.80	0.40
0.617	0.40	6.683	6.77	12.750	2.79	18.82	0.40
0.633	0.40	6.700	6.77	12.767	2.79	18.83	0.40
0.650	0.40	6.717	6.77	12.783	2.79	18.85	0.40
0.667	0.40	6.733	6.77	12.800	2.79	18.87	0.40
0.683	0.40	6.750	6.77	12.817	2.79	18.88	0.40
0.700	0.40	6.767	6.77	12.833	2.79	18.90	0.40
0.717	0.40	6.783	6.77	12.850	2.79	18.92	0.40
0.733	0.40	6.800	6.77	12.867	2.79	18.93	0.40
0.750	0.40	6.817	6.77	12.883	2.79	18.95	0.40
0.767	0.40	6.833	6.77	12.900	2.79	18.97	0.40
0.783	0.40	6.850	6.77	12.917	2.79	18.98	0.40
0.800	0.40	6.867	6.77	12.933	2.79	19.00	0.40
0.817	0.40	6.883	6.77	12.950	2.79	19.02	0.40
0.833	0.40	6.900	6.77	12.967	2.79	19.03	0.40
0.850	0.40	6.917	6.77	12.983	2.79	19.05	0.40
0.867	0.40	6.933	6.77	13.000	2.79	19.07	0.40
0.883	0.40	6.950	6.77	13.017	2.79	19.08	0.40
0.900	0.40	6.967	6.77	13.033	2.79	19.10	0.40
0.917	0.40	6.983	6.77	13.050	2.79	19.12	0.40
0.933	0.40	7.000	6.77	13.067	2.79	19.13	0.40
0.950	0.40	7.017	6.77	13.083	2.79	19.15	0.40
0.967	0.40	7.033	6.77	13.100	2.79	19.17	0.40
0.983	0.40	7.050	6.77	13.117	2.79	19.18	0.40
1.000	0.40	7.067	6.77	13.133	2.79	19.20	0.40
1.017	0.40	7.083	6.77	13.150	2.79	19.22	0.40
1.033	0.40	7.100	6.77	13.167	2.79	19.23	0.40
1.050	0.40	7.117	6.77	13.183	2.79	19.25	0.40
1.067	0.40	7.133	6.77	13.200	2.79	19.27	0.40
1.083	0.40	7.150	6.77	13.217	2.79	19.28	0.40
1.100	0.40	7.167	6.77	13.233	2.79	19.30	0.40
1.117	0.40	7.183	6.77	13.250	2.79	19.32	0.40
1.133	0.40	7.200	6.77	13.267	2.79	19.33	0.40
1.150	0.40	7.217	6.77	13.283	2.79	19.35	0.40
1.167	0.40	7.233	6.77	13.300	2.79	19.37	0.40
1.183	0.40	7.250	6.77	13.317	2.79	19.38	0.40
1.200	0.40	7.267	6.77	13.333	2.79	19.40	0.40
1.217	0.40	7.283	6.77	13.350	2.79	19.42	0.40
1.233	0.40	7.300	6.77	13.367	2.79	19.43	0.40
1.250	0.40	7.317	6.77	13.383	2.79	19.45	0.40
1.267	0.40	7.333	6.77	13.400	2.79	19.47	0.40
1.283	0.40	7.350	6.77	13.417	2.79	19.48	0.40
1.300	0.40	7.367	6.77	13.433	2.79	19.50	0.40
1.317	0.40	7.383	6.77	13.450	2.79	19.52	0.40
1.333	0.40	7.400	6.77	13.467	2.79	19.53	0.40
1.350	0.40	7.417	6.77	13.483	2.79	19.55	0.40
1.367	0.40	7.433	6.77	13.500	2.79	19.57	0.40
1.383	0.40	7.450	6.77	13.517	2.79	19.58	0.40
1.400	0.40	7.467	6.77	13.533	2.79	19.60	0.40
1.417	0.40	7.483	6.77	13.550	2.79	19.62	0.40
1.433	0.40	7.500	6.77	13.567	2.79	19.63	0.40
1.450	0.40	7.517	6.77	13.583	2.79	19.65	0.40
1.467	0.40	7.533	6.77	13.600	2.79	19.67	0.40
1.483	0.40	7.550	6.77	13.617	2.79	19.68	0.40
1.500	0.40	7.567	6.77	13.633	2.79	19.70	0.40
1.517	0.40	7.583	6.77	13.650	2.79	19.72	0.40
1.533	0.40	7.600	6.77	13.667	2.79	19.73	0.40
1.550	0.40	7.617	6.77	13.683	2.79	19.75	0.40
1.567	0.40	7.633	6.77	13.700	2.79	19.77	0.40
1.583	0.40	7.650	6.77	13.717	2.79	19.78	0.40
1.600	0.40	7.667	6.77	13.733	2.79	19.80	0.40
1.617	0.40	7.683	6.77	13.750	2.79	19.82	0.40
1.633	0.40	7.700	6.77	13.767	2.79	19.83	0.40
1.650	0.40	7.717	6.77	13.783	2.79	19.85	0.40
1.667	0.40	7.733	6.77	13.800	2.79	19.87	0.40
1.683	0.40	7.750	6.77	13.817	2.79	19.88	0.40
1.700	0.40	7.767	6.77	13.833	2.79	19.90	0.40
1.717	0.40	7.783	6.77	13.850	2.79	19.92	0.40
1.733	0.40	7.800	6.77	13.867	2.79	19.93	0.40
1.750	0.40	7.817	6.77	13.883	2.79	19.95	0.40
1.767	0.40	7.833	6.77	13.900	2.79	19.97	0.40
1.783	0.40	7.850	6.77	13.917	2.79	19.98	0.40
1.800	0.40	7.867	6.77	13.933	2.79	20.00	0.40
1.817	0.40	7.883	6.77	13.950	2.79	20.02	0.40
1.833	0.40	7.900	6.77	13.967	2.79	20.03	0.40
1.850	0.40	7.917	6.77	13.983	2.79	20.05	0.40
1.867	0.40	7.933	6.77	14.000	2.79	20.07	0.40
1.883	0.40	7.950	6.77	14.017	2.79	20.08	0.40
1.900	0.40	7.967	6.77	14.033	2.79	20.10	0.40
1.917	0.40	7.983	6.77	14.050	2.79	20.12	0.40
1.933	0.40	8.000	6.77	14.067	2.79	20.13	0.40
1.950	0.40	8.017	6.77	14.083	2.79	20.15	0.40
1.967	0.40	8.033	6.77	14.100	2.79	20.17	0.40
1.983	0.40	8.050	6.77	14.117	2.79	20.18	0.40
2.000	0.40	8.067	6.77	14.133	2.79	20.20	0.40
2.017	0.40	8.083	6.77	14.150	2.79	20.22	0.40
2.033	0.40	8.100	6.77	14.167	2.79	20.23	0.40
2.050	0.40	8.117	6.77	14.183	2.79	20.25	0.40
2.067	0.40	8.133	6.77	14.200	2.79	20.27	0.40
2.083	0.40	8.150	6.77	14.217	2.79	20.28	0.40
2.100	0.40	8.167	6.77	14.233	2.79	20.30	0.40
2.117	0.40	8.183	6.77	14.250	2.79	20.32	0.40
2.133	0.40	8.200	6.77	14.267	1.59	20.33	0.40
2.150	0.40	8.217	6.77	14.283	1.59	20.35	0.40
2.167	0.40	8.233	6.77	14.300	1.59	20.37	0.40
2.183	0.40	8.250	6.80	14.317	1.59	20.38	0.40
2.200	0.40	8.267	18.33	14.333	1.59	20.40	0.40
2.217	0.40	8.283	18.33	14.350	1.59	20.42	0.40
2.233	0.40	8.300	18.33	14.367	1.59	20.43	0.40
2.250	0.40	8.317	18.33	14.383	1.59	20.45	0.40
2.267	0.40	8.333	18.33	14.400	1.59	20.47	0.40
2.283	0.40	8.350	18.33	14.417	1.59	20.48	0.40
2.300	0.40	8.367	18.33	14.433	1.59	20.50	0.40
2.317	0.40	8.383	18.33	14.450	1.59	20.52	0.40
2.333	0.40	8.400	18.33	14.467	1.59	20.53	0.40
2.350	0.40	8.417	18.33	14.483	1.59	20.55	0.40
2.367	0.40	8.433	18.33	14.500	1.59	20.57	0.40
2.383	0.40	8.450	18.33	14.517	1.59	20.58	0.40
2.400	0.40	8.467	18.33	14.533	1.59	20.60	0.40
2.417	0.40	8.483	18.33	14.550	1.59	20.62	0.40
2.433	0.40	8.500	18.33	14.567	1.59	20.63	0.40
2.450	0.40	8.517	18.33	14.583	1.59	20.65	0.40
2.467	0.40	8.533	18.33	14.600	1.59	20.67	0.40
2.483	0.40	8.550	18.33	14.617	1.59	20.68	0.40
2.500	0.40	8.567	18.33	14.633	1.59	20.70	0.40
2.517	0.40	8.583	18.33	14.650	1.59	20.72	0.40
2.533	0.40	8.600	18.33	14.667	1.59	20.73	0.40
2.550	0.40	8.617	18.33	14.683	1.59	20.75	0.40
2.567	0.40	8.633	18.33	14.700	1.59	20.77	0.40
2.583	0.40	8.650	18.33	14.717	1.59	20.78	0.40
2.600	0.40	8.667	18.33	14.733	1.59	20.80	0.40
2.617	0.40	8.683	18.33	14.750	1.59	20.82	0.40
2.633	0.40	8.700	18.33	14.767	1.59	20.83	0.40
2.650	0.40	8.717	18.33	14.783	1.59	20.85	0.40
2.667	0.40	8.733	18.33	14.800	1.59	20.87	0.40
2.683	0.40	8.750	18.33	14.817	1.59	20.88	0.40
2.700	0.40	8.767	18.33	14.833	1.59	20.90	0.40
2.717	0.40	8.783	18.33	14.850	1.59	20.92	0.40
2.733	0.40	8.800	18.33	14.867	1.59	20.93	0.40
2.750	0.40	8.817	18.33	14.883	1.59	20.95	0.40
2.767	0.40	8.833	18.33	14.900	1.59	20.97	0.40
2.783	0.40	8.850	18.33	14.917	1.59	20.98	0.40
2.800	0.40	8.867	18.33	14.933	1.59	21.00	0.40
2.817	0.40	8.883	18.33	14.950	1.59	21.02	0.40
2.833	0.40	8.900	18.33	14.967	1.59	21.03	0.40
2.850	0.40	8.917	18.33	14.983	1.59	21.05	0.40

2.867	0.40	8.933	18.33	15.000	1.59	21.07	0.40
2.883	0.40	8.950	18.33	15.017	1.59	21.08	0.40
2.900	0.40	8.967	18.33	15.033	1.59	21.10	0.40
2.917	0.40	8.983	18.33	15.050	1.59	21.12	0.40
2.933	0.40	9.000	18.33	15.067	1.59	21.13	0.40
2.950	0.40	9.017	18.33	15.083	1.59	21.15	0.40
2.967	0.40	9.033	18.33	15.100	1.59	21.17	0.40
2.983	0.40	9.050	18.33	15.117	1.59	21.18	0.40
3.000	0.40	9.067	18.33	15.133	1.59	21.20	0.40
3.017	0.40	9.083	18.33	15.150	1.59	21.22	0.40
3.033	0.40	9.100	18.33	15.167	1.59	21.23	0.40
3.050	0.40	9.117	18.33	15.183	1.59	21.25	0.40
3.067	0.40	9.133	18.33	15.200	1.59	21.27	0.40
3.083	0.40	9.150	18.33	15.217	1.59	21.28	0.40
3.100	0.40	9.167	18.33	15.233	1.59	21.30	0.40
3.117	0.40	9.183	18.33	15.250	1.59	21.32	0.40
3.133	0.40	9.200	18.33	15.267	1.59	21.33	0.40
3.150	0.40	9.217	18.33	15.283	1.59	21.35	0.40
3.167	0.40	9.233	18.33	15.300	1.59	21.37	0.40
3.183	0.40	9.250	18.33	15.317	1.59	21.38	0.40
3.200	0.40	9.267	18.33	15.333	1.59	21.40	0.40
3.217	0.40	9.283	18.33	15.350	1.59	21.42	0.40
3.233	0.40	9.300	18.33	15.367	1.59	21.43	0.40
3.250	0.40	9.317	18.33	15.383	1.59	21.45	0.40
3.267	0.40	9.333	18.33	15.400	1.59	21.47	0.40
3.283	0.40	9.350	18.33	15.417	1.59	21.48	0.40
3.300	0.40	9.367	18.33	15.433	1.59	21.50	0.40
3.317	0.40	9.383	18.33	15.450	1.59	21.52	0.40
3.333	0.40	9.400	18.33	15.467	1.59	21.53	0.40
3.350	0.40	9.417	18.33	15.483	1.59	21.55	0.40
3.367	0.40	9.433	18.33	15.500	1.59	21.57	0.40
3.383	0.40	9.450	18.33	15.517	1.59	21.58	0.40
3.400	0.40	9.467	18.33	15.533	1.59	21.60	0.40
3.417	0.40	9.483	18.33	15.550	1.59	21.62	0.40
3.433	0.40	9.500	18.33	15.567	1.59	21.63	0.40
3.450	0.40	9.517	18.33	15.583	1.59	21.65	0.40
3.467	0.40	9.533	18.33	15.600	1.59	21.67	0.40
3.483	0.40	9.550	18.33	15.617	1.59	21.68	0.40
3.500	0.40	9.567	18.33	15.633	1.59	21.70	0.40
3.517	0.40	9.583	18.33	15.650	1.59	21.72	0.40
3.533	0.40	9.600	18.33	15.667	1.59	21.73	0.40
3.550	0.40	9.617	18.33	15.683	1.59	21.75	0.40
3.567	0.40	9.633	18.33	15.700	1.59	21.77	0.40
3.583	0.40	9.650	18.33	15.717	1.59	21.78	0.40
3.600	0.40	9.667	18.33	15.733	1.59	21.80	0.40
3.617	0.40	9.683	18.33	15.750	1.59	21.82	0.40
3.633	0.40	9.700	18.33	15.767	1.59	21.83	0.40
3.650	0.40	9.717	18.33	15.783	1.59	21.85	0.40
3.667	0.40	9.733	18.33	15.800	1.59	21.87	0.40
3.683	0.40	9.750	18.33	15.817	1.59	21.88	0.40
3.700	0.40	9.767	18.33	15.833	1.59	21.90	0.40
3.717	0.40	9.783	18.33	15.850	1.59	21.92	0.40
3.733	0.40	9.800	18.33	15.867	1.59	21.93	0.40
3.750	0.40	9.817	18.33	15.883	1.59	21.95	0.40
3.767	0.40	9.833	18.33	15.900	1.59	21.97	0.40
3.783	0.40	9.850	18.33	15.917	1.59	21.98	0.40
3.800	0.40	9.867	18.33	15.933	1.59	22.00	0.40
3.817	0.40	9.883	18.33	15.950	1.59	22.02	0.40
3.833	0.40	9.900	18.33	15.967	1.59	22.03	0.40
3.850	0.40	9.917	18.33	15.983	1.59	22.05	0.40
3.867	0.40	9.933	18.33	16.000	1.59	22.07	0.40
3.883	0.40	9.950	18.33	16.017	1.59	22.08	0.40
3.900	0.40	9.967	18.33	16.033	1.59	22.10	0.40
3.917	0.40	9.983	18.33	16.050	1.59	22.12	0.40
3.933	0.40	10.000	18.33	16.067	1.59	22.13	0.40
3.950	0.40	10.017	18.33	16.083	1.59	22.15	0.40
3.967	0.40	10.033	18.33	16.100	1.59	22.17	0.40
3.983	0.40	10.050	18.33	16.117	1.59	22.18	0.40
4.000	0.40	10.067	18.33	16.133	1.59	22.20	0.40
4.017	0.40	10.083	18.33	16.150	1.59	22.22	0.40
4.033	0.40	10.100	18.33	16.167	1.59	22.23	0.40
4.050	0.40	10.117	18.33	16.183	1.59	22.25	0.40
4.067	0.40	10.133	18.33	16.200	1.59	22.27	0.40
4.083	0.40	10.150	18.33	16.217	1.59	22.28	0.40
4.100	0.40	10.167	18.33	16.233	1.59	22.30	0.40
4.117	0.40	10.183	18.33	16.250	1.59	22.32	0.40
4.133	0.40	10.200	18.33	16.267	0.80	22.33	0.40
4.150	0.40	10.217	18.33	16.283	0.80	22.35	0.40
4.167	0.40	10.233	18.33	16.300	0.80	22.37	0.40
4.183	0.40	10.250	18.32	16.317	0.80	22.38	0.40
4.200	0.40	10.267	5.18	16.333	0.80	22.40	0.40
4.217	0.40	10.283	5.18	16.350	0.80	22.42	0.40
4.233	0.40	10.300	5.18	16.367	0.80	22.43	0.40
4.250	0.40	10.317	5.18	16.383	0.80	22.45	0.40
4.267	2.39	10.333	5.18	16.400	0.80	22.47	0.40
4.283	2.39	10.350	5.18	16.417	0.80	22.48	0.40
4.300	2.39	10.367	5.18	16.433	0.80	22.50	0.40
4.317	2.39	10.383	5.18	16.450	0.80	22.52	0.40
4.333	2.39	10.400	5.18	16.467	0.80	22.53	0.40
4.350	2.39	10.417	5.18	16.483	0.80	22.55	0.40
4.367	2.39	10.433	5.18	16.500	0.80	22.57	0.40
4.383	2.39	10.450	5.18	16.517	0.80	22.58	0.40
4.400	2.39	10.467	5.18	16.533	0.80	22.60	0.40
4.417	2.39	10.483	5.18	16.550	0.80	22.62	0.40
4.433	2.39	10.500	5.18	16.567	0.80	22.63	0.40
4.450	2.39	10.517	5.18	16.583	0.80	22.65	0.40
4.467	2.39	10.533	5.18	16.600	0.80	22.67	0.40
4.483	2.39	10.550	5.18	16.617	0.80	22.68	0.40
4.500	2.39	10.567	5.18	16.633	0.80	22.70	0.40
4.517	2.39	10.583	5.18	16.650	0.80	22.72	0.40
4.533	2.39	10.600	5.18	16.667	0.80	22.73	0.40
4.550	2.39	10.617	5.18	16.683	0.80	22.75	0.40
4.567	2.39	10.633	5.18	16.700	0.80	22.77	0.40
4.583	2.39	10.650	5.18	16.717	0.80	22.78	0.40
4.600	2.39	10.667	5.18	16.733	0.80	22.80	0.40
4.617	2.39	10.683	5.18	16.750	0.80	22.82	0.40
4.633	2.39	10.700	5.18	16.767	0.80	22.83	0.40
4.650	2.39	10.717	5.18	16.783	0.80	22.85	0.40
4.667	2.39	10.733	5.18	16.800	0.80	22.87	0.40
4.683	2.39	10.750	5.18	16.817	0.80	22.88	0.40
4.700	2.39	10.767	5.18	16.833	0.80	22.90	0.40
4.717	2.39	10.783	5.18	16.850	0.80	22.92	0.40
4.733	2.39	10.800	5.18	16.867	0.80	22.93	0.40
4.750	2.39	10.817	5.18	16.883	0.80	22.95	0.40
4.767	2.39	10.833	5.18	16.900	0.80	22.97	0.40
4.783	2.39	10.850	5.18	16.917	0.80	22.98	0.40
4.800	2.39	10.867	5.18	16.933	0.80	23.00	0.40
4.817	2.39	10.883	5.18	16.950	0.80	23.02	0.40
4.833	2.39	10.900	5.18	16.967	0.80	23.03	0.40
4.850	2.39	10.917	5.18	16.983	0.80	23.05	0.40
4.867	2.39	10.933	5.18	17.000	0.80	23.07	0.40
4.883	2.39	10.950	5.18	17.017	0.80	23.08	0.40
4.900	2.39	10.967	5.18	17.033	0.80	23.10	0.40
4.917	2.39	10.983	5.18	17.050	0.80	23.12	0.40
4.933	2.39	11.000	5.18	17.067	0.80	23.13	0.40
4.950	2.39	11.017	5.18	17.083	0.80	23.15	0.40
4.967	2.39	11.033	5.18	17.100	0.80	23.17	0.40
4.983	2.39	11.050	5.18	17.117	0.80	23.18	0.40
5.000	2.39	11.067	5.18	17.133	0.80	23.20	0.40
5.017	2.39	11.083	5.18	17.150	0.80	23.22	0.40
5.033	2.39	11.100	5.18	17.167	0.80	23.23	0.40
5.050	2.39	11.117	5.18	17.183	0.80	23.25	0.40
5.067	2.39	11.133	5.18	17.200	0.80	23.27	0.40
5.083	2.39	11.150	5.18	17.217	0.80	23.28	0.40
5.100	2.39	11.167	5.18	17.233	0.80	23.30	0.40
5.117	2.39	11.183	5.18	17.250	0.80	23.32	0.40
5.133	2.39	11.200	5.18	17.267	0.80	23.33	0.40
5.150	2.39	11.217	5.18	17.283	0.80	23.35	0.40
5.167	2.39	11.233	5.18	17.300	0.80	23.37	0.40
5.183	2.39	11.250	5.18	17.317	0.80	23.38	0.40
5.200	2.39	11.267	5.18	17.333	0.80	23.40	0.40
5.217	2.39	11.283	5.18	17.350	0.80	23.42	0.40
5.233	2.39	11.300	5.18	17.367	0.80	23.43	0.40
5.250	2.39	11.317	5.18	17.383	0.80	23.45	0.40
5.267	2.39	11.333	5.18	17.400	0.80	23.47	0.40
5.283	2.39	11.350	5.18	17.417	0.80	23.48	0.40
5.300	2.39	11.367	5.18	17.433	0.80	23.50	0.40
5.317	2.39	11.383	5.18	17.450	0.80	23.52	0.40
5.333	2.39	11.400	5.18	17.467	0.80	23.53	0.40
5.350	2.39	11.417	5.18	17.483	0.80	23.55	0.40
5.367	2.39	11.433	5.18	17.500	0.80	23.57	0.40
5.383	2.39	11.450	5.18	17.517	0.80	23.58	0.40

5.400	2.39	11.467	5.18	17.533	0.80	23.60	0.40
5.417	2.39	11.483	5.18	17.550	0.80	23.62	0.40
5.433	2.39	11.500	5.18	17.567	0.80	23.63	0.40
5.450	2.39	11.517	5.18	17.583	0.80	23.65	0.40
5.467	2.39	11.533	5.18	17.600	0.80	23.67	0.40
5.483	2.39	11.550	5.18	17.617	0.80	23.68	0.40
5.500	2.39	11.567	5.18	17.633	0.80	23.70	0.40
5.517	2.39	11.583	5.18	17.650	0.80	23.72	0.40
5.533	2.39	11.600	5.18	17.667	0.80	23.73	0.40
5.550	2.39	11.617	5.18	17.683	0.80	23.75	0.40
5.567	2.39	11.633	5.18	17.700	0.80	23.77	0.40
5.583	2.39	11.650	5.18	17.717	0.80	23.78	0.40
5.600	2.39	11.667	5.18	17.733	0.80	23.80	0.40
5.617	2.39	11.683	5.18	17.750	0.80	23.82	0.40
5.633	2.39	11.700	5.18	17.767	0.80	23.83	0.40
5.650	2.39	11.717	5.18	17.783	0.80	23.85	0.40
5.667	2.39	11.733	5.18	17.800	0.80	23.87	0.40
5.683	2.39	11.750	5.18	17.817	0.80	23.88	0.40
5.700	2.39	11.767	5.18	17.833	0.80	23.90	0.40
5.717	2.39	11.783	5.18	17.850	0.80	23.92	0.40
5.733	2.39	11.800	5.18	17.867	0.80	23.93	0.40
5.750	2.39	11.817	5.18	17.883	0.80	23.95	0.40
5.767	2.39	11.833	5.18	17.900	0.80	23.97	0.40
5.783	2.39	11.850	5.18	17.917	0.80	23.98	0.40
5.800	2.39	11.867	5.18	17.933	0.80	24.00	0.40
5.817	2.39	11.883	5.18	17.950	0.80	24.02	0.40
5.833	2.39	11.900	5.18	17.967	0.80	24.03	0.40
5.850	2.39	11.917	5.18	17.983	0.80	24.05	0.40
5.867	2.39	11.933	5.18	18.000	0.80	24.07	0.40
5.883	2.39	11.950	5.18	18.017	0.80	24.08	0.40
5.900	2.39	11.967	5.18	18.033	0.80	24.10	0.40
5.917	2.39	11.983	5.18	18.050	0.80	24.12	0.40
5.933	2.39	12.000	5.18	18.067	0.80	24.13	0.40
5.950	2.39	12.017	5.18	18.083	0.80	24.15	0.40
5.967	2.39	12.033	5.18	18.100	0.80	24.17	0.40
5.983	2.39	12.050	5.18	18.117	0.80	24.18	0.40
6.000	2.39	12.067	5.18	18.133	0.80	24.20	0.40
6.017	2.39	12.083	5.18	18.150	0.80	24.22	0.40
6.033	2.39	12.100	5.18	18.167	0.80	24.23	0.40
6.050	2.39	12.117	5.18	18.183	0.80	24.25	0.40
6.067	2.39	12.133	5.18	18.200	0.80		

Max.Eff.Inten.(mm/hr)=	18.33	14.52	
over (min)	6.00	10.00	
Storage Coeff. (min)=	5.66 (ii)	9.01 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.20	0.12	
			TOTALS
PEAK FLOW (cms)=	0.11	0.00	0.112 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	78.69	49.70	78.41
TOTAL RAINFALL (mm)=	79.70	79.70	79.70
RUNOFF COEFFICIENT =	0.99	0.62	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.112	10.25	78.41
OUTFLOW: ID= 1 (7642)	2.210	0.036	10.58	72.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.96
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.0985

CALIB	Area (ha)= 2.02
STANDHYD (7643)	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00
ID= 1 DT= 1.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.39	12.150	5.18	18.22	0.80
0.033	0.00	6.100	2.39	12.167	5.18	18.23	0.80
0.050	0.00	6.117	2.39	12.183	5.18	18.25	0.80
0.067	0.00	6.133	2.39	12.200	5.18	18.27	0.40
0.083	0.00	6.150	2.39	12.217	5.18	18.28	0.40
0.100	0.00	6.167	2.39	12.233	5.18	18.30	0.40
0.117	0.00	6.183	2.39	12.250	5.18	18.32	0.40
0.133	0.00	6.200	2.39	12.267	2.79	18.33	0.40
0.150	0.00	6.217	2.39	12.283	2.79	18.35	0.40
0.167	0.00	6.233	2.39	12.300	2.79	18.37	0.40
0.183	0.00	6.250	2.40	12.317	2.79	18.38	0.40
0.200	0.00	6.267	6.77	12.333	2.79	18.40	0.40
0.217	0.00	6.283	6.77	12.350	2.79	18.42	0.40
0.233	0.00	6.300	6.77	12.367	2.79	18.43	0.40
0.250	0.00	6.317	6.77	12.383	2.79	18.45	0.40
0.267	0.40	6.333	6.77	12.400	2.79	18.47	0.40
0.283	0.40	6.350	6.77	12.417	2.79	18.48	0.40
0.300	0.40	6.367	6.77	12.433	2.79	18.50	0.40
0.317	0.40	6.383	6.77	12.450	2.79	18.52	0.40
0.333	0.40	6.400	6.77	12.467	2.79	18.53	0.40
0.350	0.40	6.417	6.77	12.483	2.79	18.55	0.40
0.367	0.40	6.433	6.77	12.500	2.79	18.57	0.40
0.383	0.40	6.450	6.77	12.517	2.79	18.58	0.40
0.400	0.40	6.467	6.77	12.533	2.79	18.60	0.40
0.417	0.40	6.483	6.77	12.550	2.79	18.62	0.40
0.433	0.40	6.500	6.77	12.567	2.79	18.63	0.40
0.450	0.40	6.517	6.77	12.583	2.79	18.65	0.40
0.467	0.40	6.533	6.77	12.600	2.79	18.67	0.40
0.483	0.40	6.550	6.77	12.617	2.79	18.68	0.40
0.500	0.40	6.567	6.77	12.633	2.79	18.70	0.40
0.517	0.40	6.583	6.77	12.650	2.79	18.72	0.40
0.533	0.40	6.600	6.77	12.667	2.79	18.73	0.40
0.550	0.40	6.617	6.77	12.683	2.79	18.75	0.40
0.567	0.40	6.633	6.77	12.700	2.79	18.77	0.40
0.583	0.40	6.650	6.77	12.717	2.79	18.78	0.40
0.600	0.40	6.667	6.77	12.733	2.79	18.80	0.40
0.617	0.40	6.683	6.77	12.750	2.79	18.82	0.40
0.633	0.40	6.700	6.77	12.767	2.79	18.83	0.40
0.650	0.40	6.717	6.77	12.783	2.79	18.85	0.40
0.667	0.40	6.733	6.77	12.800	2.79	18.87	0.40
0.683	0.40	6.750	6.77	12.817	2.79	18.88	0.40
0.700	0.40	6.767	6.77	12.833	2.79	18.90	0.40
0.717	0.40	6.783	6.77	12.850	2.79	18.92	0.40
0.733	0.40	6.800	6.77	12.867	2.79	18.93	0.40
0.750	0.40	6.817	6.77	12.883	2.79	18.95	0.40
0.767	0.40	6.833	6.77	12.900	2.79	18.97	0.40
0.783	0.40	6.850	6.77	12.917	2.79	18.98	0.40
0.800	0.40	6.867	6.77	12.933	2.79	19.00	0.40
0.817	0.40	6.883	6.77	12.950	2.79	19.02	0.40
0.833	0.40	6.900	6.77	12.967	2.79	19.03	0.40
0.850	0.40	6.917	6.77	12.983	2.79	19.05	0.40
0.867	0.40	6.933	6.77	13.000	2.79	19.07	0.40

0.883	0.40	6.950	6.77	13.017	2.79	19.08	0.40
0.900	0.40	6.967	6.77	13.033	2.79	19.10	0.40
0.917	0.40	6.983	6.77	13.050	2.79	19.12	0.40
0.933	0.40	7.000	6.77	13.067	2.79	19.13	0.40
0.950	0.40	7.017	6.77	13.083	2.79	19.15	0.40
0.967	0.40	7.033	6.77	13.100	2.79	19.17	0.40
0.983	0.40	7.050	6.77	13.117	2.79	19.18	0.40
1.000	0.40	7.067	6.77	13.133	2.79	19.20	0.40
1.017	0.40	7.083	6.77	13.150	2.79	19.22	0.40
1.033	0.40	7.100	6.77	13.167	2.79	19.23	0.40
1.050	0.40	7.117	6.77	13.183	2.79	19.25	0.40
1.067	0.40	7.133	6.77	13.200	2.79	19.27	0.40
1.083	0.40	7.150	6.77	13.217	2.79	19.28	0.40
1.100	0.40	7.167	6.77	13.233	2.79	19.30	0.40
1.117	0.40	7.183	6.77	13.250	2.79	19.32	0.40
1.133	0.40	7.200	6.77	13.267	2.79	19.33	0.40
1.150	0.40	7.217	6.77	13.283	2.79	19.35	0.40
1.167	0.40	7.233	6.77	13.300	2.79	19.37	0.40
1.183	0.40	7.250	6.77	13.317	2.79	19.38	0.40
1.200	0.40	7.267	6.77	13.333	2.79	19.40	0.40
1.217	0.40	7.283	6.77	13.350	2.79	19.42	0.40
1.233	0.40	7.300	6.77	13.367	2.79	19.43	0.40
1.250	0.40	7.317	6.77	13.383	2.79	19.45	0.40
1.267	0.40	7.333	6.77	13.400	2.79	19.47	0.40
1.283	0.40	7.350	6.77	13.417	2.79	19.48	0.40
1.300	0.40	7.367	6.77	13.433	2.79	19.50	0.40
1.317	0.40	7.383	6.77	13.450	2.79	19.52	0.40
1.333	0.40	7.400	6.77	13.467	2.79	19.53	0.40
1.350	0.40	7.417	6.77	13.483	2.79	19.55	0.40
1.367	0.40	7.433	6.77	13.500	2.79	19.57	0.40
1.383	0.40	7.450	6.77	13.517	2.79	19.58	0.40
1.400	0.40	7.467	6.77	13.533	2.79	19.60	0.40
1.417	0.40	7.483	6.77	13.550	2.79	19.62	0.40
1.433	0.40	7.500	6.77	13.567	2.79	19.63	0.40
1.450	0.40	7.517	6.77	13.583	2.79	19.65	0.40
1.467	0.40	7.533	6.77	13.600	2.79	19.67	0.40
1.483	0.40	7.550	6.77	13.617	2.79	19.68	0.40
1.500	0.40	7.567	6.77	13.633	2.79	19.70	0.40
1.517	0.40	7.583	6.77	13.650	2.79	19.72	0.40
1.533	0.40	7.600	6.77	13.667	2.79	19.73	0.40
1.550	0.40	7.617	6.77	13.683	2.79	19.75	0.40
1.567	0.40	7.633	6.77	13.700	2.79	19.77	0.40
1.583	0.40	7.650	6.77	13.717	2.79	19.78	0.40
1.600	0.40	7.667	6.77	13.733	2.79	19.80	0.40
1.617	0.40	7.683	6.77	13.750	2.79	19.82	0.40
1.633	0.40	7.700	6.77	13.767	2.79	19.83	0.40
1.650	0.40	7.717	6.77	13.783	2.79	19.85	0.40
1.667	0.40	7.733	6.77	13.800	2.79	19.87	0.40
1.683	0.40	7.750	6.77	13.817	2.79	19.88	0.40
1.700	0.40	7.767	6.77	13.833	2.79	19.90	0.40
1.717	0.40	7.783	6.77	13.850	2.79	19.92	0.40
1.733	0.40	7.800	6.77	13.867	2.79	19.93	0.40
1.750	0.40	7.817	6.77	13.883	2.79	19.95	0.40
1.767	0.40	7.833	6.77	13.900	2.79	19.97	0.40
1.783	0.40	7.850	6.77	13.917	2.79	19.98	0.40
1.800	0.40	7.867	6.77	13.933	2.79	20.00	0.40
1.817	0.40	7.883	6.77	13.950	2.79	20.02	0.40
1.833	0.40	7.900	6.77	13.967	2.79	20.03	0.40
1.850	0.40	7.917	6.77	13.983	2.79	20.05	0.40
1.867	0.40	7.933	6.77	14.000	2.79	20.07	0.40
1.883	0.40	7.950	6.77	14.017	2.79	20.08	0.40
1.900	0.40	7.967	6.77	14.033	2.79	20.10	0.40
1.917	0.40	7.983	6.77	14.050	2.79	20.12	0.40
1.933	0.40	8.000	6.77	14.067	2.79	20.13	0.40
1.950	0.40	8.017	6.77	14.083	2.79	20.15	0.40
1.967	0.40	8.033	6.77	14.100	2.79	20.17	0.40
1.983	0.40	8.050	6.77	14.117	2.79	20.18	0.40
2.000	0.40	8.067	6.77	14.133	2.79	20.20	0.40
2.017	0.40	8.083	6.77	14.150	2.79	20.22	0.40
2.033	0.40	8.100	6.77	14.167	2.79	20.23	0.40
2.050	0.40	8.117	6.77	14.183	2.79	20.25	0.40
2.067	0.40	8.133	6.77	14.200	2.79	20.27	0.40
2.083	0.40	8.150	6.77	14.217	2.79	20.28	0.40
2.100	0.40	8.167	6.77	14.233	2.79	20.30	0.40
2.117	0.40	8.183	6.77	14.250	2.79	20.32	0.40
2.133	0.40	8.200	6.77	14.267	1.59	20.33	0.40
2.150	0.40	8.217	6.77	14.283	1.59	20.35	0.40
2.167	0.40	8.233	6.77	14.300	1.59	20.37	0.40
2.183	0.40	8.250	6.80	14.317	1.59	20.38	0.40
2.200	0.40	8.267	18.33	14.333	1.59	20.40	0.40
2.217	0.40	8.283	18.33	14.350	1.59	20.42	0.40
2.233	0.40	8.300	18.33	14.367	1.59	20.43	0.40
2.250	0.40	8.317	18.33	14.383	1.59	20.45	0.40
2.267	0.40	8.333	18.33	14.400	1.59	20.47	0.40
2.283	0.40	8.350	18.33	14.417	1.59	20.48	0.40
2.300	0.40	8.367	18.33	14.433	1.59	20.50	0.40
2.317	0.40	8.383	18.33	14.450	1.59	20.52	0.40
2.333	0.40	8.400	18.33	14.467	1.59	20.53	0.40
2.350	0.40	8.417	18.33	14.483	1.59	20.55	0.40
2.367	0.40	8.433	18.33	14.500	1.59	20.57	0.40
2.383	0.40	8.450	18.33	14.517	1.59	20.58	0.40
2.400	0.40	8.467	18.33	14.533	1.59	20.60	0.40
2.417	0.40	8.483	18.33	14.550	1.59	20.62	0.40
2.433	0.40	8.500	18.33	14.567	1.59	20.63	0.40
2.450	0.40	8.517	18.33	14.583	1.59	20.65	0.40
2.467	0.40	8.533	18.33	14.600	1.59	20.67	0.40
2.483	0.40	8.550	18.33	14.617	1.59	20.68	0.40
2.500	0.40	8.567	18.33	14.633	1.59	20.70	0.40
2.517	0.40	8.583	18.33	14.650	1.59	20.72	0.40
2.533	0.40	8.600	18.33	14.667	1.59	20.73	0.40
2.550	0.40	8.617	18.33	14.683	1.59	20.75	0.40
2.567	0.40	8.633	18.33	14.700	1.59	20.77	0.40
2.583	0.40	8.650	18.33	14.717	1.59	20.78	0.40
2.600	0.40	8.667	18.33	14.733	1.59	20.80	0.40
2.617	0.40	8.683	18.33	14.750	1.59	20.82	0.40
2.633	0.40	8.700	18.33	14.767	1.59	20.83	0.40
2.650	0.40	8.717	18.33	14.783	1.59	20.85	0.40
2.667	0.40	8.733	18.33	14.800	1.59	20.87	0.40
2.683	0.40	8.750	18.33	14.817	1.59	20.88	0.40
2.700	0.40	8.767	18.33	14.833	1.59	20.90	0.40
2.717	0.40	8.783	18.33	14.850	1.59	20.92	0.40
2.733	0.40	8.800	18.33	14.867	1.59	20.93	0.40
2.750	0.40	8.817	18.33	14.883	1.59	20.95	0.40
2.767	0.40	8.833	18.33	14.900	1.59	20.97	0.40
2.783	0.40	8.850	18.33	14.917	1.59	20.98	0.40
2.800	0.40	8.867	18.33	14.933	1.59	21.00	0.40
2.817	0.40	8.883	18.33	14.950	1.59	21.02	0.40
2.833	0.40	8.900	18.33	14.967	1.59	21.03	0.40
2.850	0.40	8.917	18.33	14.983	1.59	21.05	0.40
2.867	0.40	8.933	18.33	15.000	1.59	21.07	0.40
2.883	0.40	8.950	18.33	15.017	1.59	21.08	0.40
2.900	0.40	8.967	18.33	15.033	1.59	21.10	0.40
2.917	0.40	8.983	18.33	15.050	1.59	21.12	0.40
2.933	0.40	9.000	18.33	15.067	1.59	21.13	0.40
2.950	0.40	9.017	18.33	15.083	1.59	21.15	0.40
2.967	0.40	9.033	18.33	15.100	1.59	21.17	0.40
2.983	0.40	9.050	18.33	15.117	1.59	21.18	0.40
3.000	0.40	9.067	18.33	15.133	1.59	21.20	0.40
3.017	0.40	9.083	18.33	15.150	1.59	21.22	0.40
3.033	0.40	9.100	18.33	15.167	1.59	21.23	0.40
3.050	0.40	9.117	18.33	15.183	1.59	21.25	0.40
3.067	0.40	9.133	18.33	15.200	1.59	21.27	0.40
3.083	0.40	9.150	18.33	15.217	1.59	21.28	0.40
3.100	0.40	9.167	18.33	15.233	1.59	21.30	0.40
3.117	0.40	9.183	18.33	15.250	1.59	21.32	0.40
3.133	0.40	9.200	18.33	15.267	1.59	21.33	0.40
3.150	0.40	9.217	18.33	15.283	1.59	21.35	0.40
3.167	0.40	9.233	18.33	15.300	1.59	21.37	0.40
3.183	0.40	9.250	18.33	15.317	1.59	21.38	0.40
3.200	0.40	9.267	18.33	15.333	1.59	21.40	0.40
3.217	0.40	9.283	18.33	15.350	1.59	21.42	0.40
3.233	0.40	9.300	18.33	15.367	1.59	21.43	0.40
3.250	0.40	9.317	18.33	15.383	1.59	21.45	0.40
3.267	0.40	9.333	18.33	15.400	1.59	21.47	0.40
3.283	0.40	9.350	18.33	15.417	1.59	21.48	0.40
3.300	0.40	9.367	18.33	15.433	1.59	21.50	0.40
3.317	0.40	9.383	18.33	15.450	1.59	21.52	0.40
3.333	0.40	9.400	18.33	15.467	1.59	21.53	0.40
3.350	0.40	9.417	18.33	15.483	1.59	21.55	0.40
3.367	0.40	9.433	18.33	15.500	1.59	21.57	0.40
3.383	0.40	9.450	18.33	15.517	1.59	21.58	0.40
3.400	0.40	9.467	18.33	15.533	1.59	21.60	0.40

3.417	0.40	9.483	18.33	15.550	1.59	21.62	0.40		4.683	2.39	10.750	5.18	16.817	0.80	22.88	0.40
3.433	0.40	9.500	18.33	15.567	1.59	21.63	0.40		4.700	2.39	10.767	5.18	16.833	0.80	22.90	0.40
3.450	0.40	9.517	18.33	15.583	1.59	21.65	0.40		4.717	2.39	10.783	5.18	16.850	0.80	22.92	0.40
3.467	0.40	9.533	18.33	15.600	1.59	21.67	0.40		4.733	2.39	10.800	5.18	16.867	0.80	22.93	0.40
3.483	0.40	9.550	18.33	15.617	1.59	21.68	0.40		4.750	2.39	10.817	5.18	16.883	0.80	22.95	0.40
3.500	0.40	9.567	18.33	15.633	1.59	21.70	0.40		4.767	2.39	10.833	5.18	16.900	0.80	22.97	0.40
3.517	0.40	9.583	18.33	15.650	1.59	21.72	0.40		4.783	2.39	10.850	5.18	16.917	0.80	22.98	0.40
3.533	0.40	9.600	18.33	15.667	1.59	21.73	0.40		4.800	2.39	10.867	5.18	16.933	0.80	23.00	0.40
3.550	0.40	9.617	18.33	15.683	1.59	21.75	0.40		4.817	2.39	10.883	5.18	16.950	0.80	23.02	0.40
3.567	0.40	9.633	18.33	15.700	1.59	21.77	0.40		4.833	2.39	10.900	5.18	16.967	0.80	23.03	0.40
3.583	0.40	9.650	18.33	15.717	1.59	21.78	0.40		4.850	2.39	10.917	5.18	16.983	0.80	23.05	0.40
3.600	0.40	9.667	18.33	15.733	1.59	21.80	0.40		4.867	2.39	10.933	5.18	17.000	0.80	23.07	0.40
3.617	0.40	9.683	18.33	15.750	1.59	21.82	0.40		4.883	2.39	10.950	5.18	17.017	0.80	23.08	0.40
3.633	0.40	9.700	18.33	15.767	1.59	21.83	0.40		4.900	2.39	10.967	5.18	17.033	0.80	23.10	0.40
3.650	0.40	9.717	18.33	15.783	1.59	21.85	0.40		4.917	2.39	10.983	5.18	17.050	0.80	23.12	0.40
3.667	0.40	9.733	18.33	15.800	1.59	21.87	0.40		4.933	2.39	11.000	5.18	17.067	0.80	23.13	0.40
3.683	0.40	9.750	18.33	15.817	1.59	21.88	0.40		4.950	2.39	11.017	5.18	17.083	0.80	23.15	0.40
3.700	0.40	9.767	18.33	15.833	1.59	21.90	0.40		4.967	2.39	11.033	5.18	17.100	0.80	23.17	0.40
3.717	0.40	9.783	18.33	15.850	1.59	21.92	0.40		4.983	2.39	11.050	5.18	17.117	0.80	23.18	0.40
3.733	0.40	9.800	18.33	15.867	1.59	21.93	0.40		5.000	2.39	11.067	5.18	17.133	0.80	23.20	0.40
3.750	0.40	9.817	18.33	15.883	1.59	21.95	0.40		5.017	2.39	11.083	5.18	17.150	0.80	23.22	0.40
3.767	0.40	9.833	18.33	15.900	1.59	21.97	0.40		5.033	2.39	11.100	5.18	17.167	0.80	23.23	0.40
3.783	0.40	9.850	18.33	15.917	1.59	21.98	0.40		5.050	2.39	11.117	5.18	17.183	0.80	23.25	0.40
3.800	0.40	9.867	18.33	15.933	1.59	22.00	0.40		5.067	2.39	11.133	5.18	17.200	0.80	23.27	0.40
3.817	0.40	9.883	18.33	15.950	1.59	22.02	0.40		5.083	2.39	11.150	5.18	17.217	0.80	23.28	0.40
3.833	0.40	9.900	18.33	15.967	1.59	22.03	0.40		5.100	2.39	11.167	5.18	17.233	0.80	23.30	0.40
3.850	0.40	9.917	18.33	15.983	1.59	22.05	0.40		5.117	2.39	11.183	5.18	17.250	0.80	23.32	0.40
3.867	0.40	9.933	18.33	16.000	1.59	22.07	0.40		5.133	2.39	11.200	5.18	17.267	0.80	23.33	0.40
3.883	0.40	9.950	18.33	16.017	1.59	22.08	0.40		5.150	2.39	11.217	5.18	17.283	0.80	23.35	0.40
3.900	0.40	9.967	18.33	16.033	1.59	22.10	0.40		5.167	2.39	11.233	5.18	17.300	0.80	23.37	0.40
3.917	0.40	9.983	18.33	16.050	1.59	22.12	0.40		5.183	2.39	11.250	5.18	17.317	0.80	23.38	0.40
3.933	0.40	10.000	18.33	16.067	1.59	22.13	0.40		5.200	2.39	11.267	5.18	17.333	0.80	23.40	0.40
3.950	0.40	10.017	18.33	16.083	1.59	22.15	0.40		5.217	2.39	11.283	5.18	17.350	0.80	23.42	0.40
3.967	0.40	10.033	18.33	16.100	1.59	22.17	0.40		5.233	2.39	11.300	5.18	17.367	0.80	23.43	0.40
3.983	0.40	10.050	18.33	16.117	1.59	22.18	0.40		5.250	2.39	11.317	5.18	17.383	0.80	23.45	0.40
4.000	0.40	10.067	18.33	16.133	1.59	22.20	0.40		5.267	2.39	11.333	5.18	17.400	0.80	23.47	0.40
4.017	0.40	10.083	18.33	16.150	1.59	22.22	0.40		5.283	2.39	11.350	5.18	17.417	0.80	23.48	0.40
4.033	0.40	10.100	18.33	16.167	1.59	22.23	0.40		5.300	2.39	11.367	5.18	17.433	0.80	23.50	0.40
4.050	0.40	10.117	18.33	16.183	1.59	22.25	0.40		5.317	2.39	11.383	5.18	17.450	0.80	23.52	0.40
4.067	0.40	10.133	18.33	16.200	1.59	22.27	0.40		5.333	2.39	11.400	5.18	17.467	0.80	23.53	0.40
4.083	0.40	10.150	18.33	16.217	1.59	22.28	0.40		5.350	2.39	11.417	5.18	17.483	0.80	23.55	0.40
4.100	0.40	10.167	18.33	16.233	1.59	22.30	0.40		5.367	2.39	11.433	5.18	17.500	0.80	23.57	0.40
4.117	0.40	10.183	18.33	16.250	1.59	22.32	0.40		5.383	2.39	11.450	5.18	17.517	0.80	23.58	0.40
4.133	0.40	10.200	18.33	16.267	0.80	22.33	0.40		5.400	2.39	11.467	5.18	17.533	0.80	23.60	0.40
4.150	0.40	10.217	18.33	16.283	0.80	22.35	0.40		5.417	2.39	11.483	5.18	17.550	0.80	23.62	0.40
4.167	0.40	10.233	18.33	16.300	0.80	22.37	0.40		5.433	2.39	11.500	5.18	17.567	0.80	23.63	0.40
4.183	0.40	10.250	18.32	16.317	0.80	22.38	0.40		5.450	2.39	11.517	5.18	17.583	0.80	23.65	0.40
4.200	0.40	10.267	5.18	16.333	0.80	22.40	0.40		5.467	2.39	11.533	5.18	17.600	0.80	23.67	0.40
4.217	0.40	10.283	5.18	16.350	0.80	22.42	0.40		5.483	2.39	11.550	5.18	17.617	0.80	23.68	0.40
4.233	0.40	10.300	5.18	16.367	0.80	22.43	0.40		5.500	2.39	11.567	5.18	17.633	0.80	23.70	0.40
4.250	0.40	10.317	5.18	16.383	0.80	22.45	0.40		5.517	2.39	11.583	5.18	17.650	0.80	23.72	0.40
4.267	2.39	10.333	5.18	16.400	0.80	22.47	0.40		5.533	2.39	11.600	5.18	17.667	0.80	23.73	0.40
4.283	2.39	10.350	5.18	16.417	0.80	22.48	0.40		5.550	2.39	11.617	5.18	17.683	0.80	23.75	0.40
4.300	2.39	10.367	5.18	16.433	0.80	22.50	0.40		5.567	2.39	11.633	5.18	17.700	0.80	23.77	0.40
4.317	2.39	10.383	5.18	16.450	0.80	22.52	0.40		5.583	2.39	11.650	5.18	17.717	0.80	23.78	0.40
4.333	2.39	10.400	5.18	16.467	0.80	22.53	0.40		5.600	2.39	11.667	5.18	17.733	0.80	23.80	0.40
4.350	2.39	10.417	5.18	16.483	0.80	22.55	0.40		5.617	2.39	11.683	5.18	17.750	0.80	23.82	0.40
4.367	2.39	10.433	5.18	16.500	0.80	22.57	0.40		5.633	2.39	11.700	5.18	17.767	0.80	23.83	0.40
4.383	2.39	10.450	5.18	16.517	0.80	22.58	0.40		5.650	2.39	11.717	5.18	17.783	0.80	23.85	0.40
4.400	2.39	10.467	5.18	16.533	0.80	22.60	0.40		5.667	2.39	11.733	5.18	17.800	0.80	23.87	0.40
4.417	2.39	10.483	5.18	16.550	0.80	22.62	0.40		5.683	2.39	11.750	5.18	17.817	0.80	23.88	0.40
4.433	2.39	10.500	5.18	16.567	0.80	22.63	0.40		5.700	2.39	11.767	5.18	17.833	0.80	23.90	0.40
4.450	2.39	10.517	5.18	16.583	0.80	22.65	0.40		5.717	2.39	11.783	5.18	17.850	0.80	23.92	0.40
4.467	2.39	10.533	5.18	16.600	0.80	22.67	0.40		5.733	2.39	11.800	5.18	17.867	0.80	23.93	0.40
4.483	2.39	10.550	5.18	16.617	0.80	22.68	0.40		5.750	2.39	11.817	5.18	17.883	0.80	23.95	0.40
4.500	2.39	10.567	5.18	16.633	0.80	22.70	0.40		5.767	2.39	11.833	5.18	17.900	0.80	23.97	0.40
4.517	2.39	10.583	5.18	16.650	0.80	22.72	0.40		5.783	2.39	11.850	5.18	17.917	0.80	23.98	0.40
4.533	2.39	10.600	5.18	16.667	0.80	22.73	0.40		5.800	2.39	11.867	5.18	17.933	0.80	24.00	0.40
4.550	2.39	10.617	5.18	16.683	0.80	22.75	0.40		5.817	2.39	11.883	5.18	17.950	0.80	24.02	0.40
4.567	2.39	10.633	5.18	16.700	0.80	22.77	0.40		5.833	2.39	11.900	5.18	17.967	0.80	24.03	0.40
4.583	2.39	10.650	5.18	16.717	0.80	22.78	0.40		5.850	2.39	11.917	5.18	17.983	0.80	24.05	0.40
4.600	2.39	10.667	5.18	16.733	0.80	22.80	0.40		5.867	2.39	11.933	5.18	18.000	0.80	24.07	0.40
4.617	2.39	10.683	5.18	16.750	0.80	22.82	0.40		5.883	2.39	11.950	5.18	18.017	0.80	24.08	0.40
4.633	2.39	10.700	5.18	16.767	0.80	22.83	0.40		5.900	2.39	11.967	5.18	18.033	0.80	24.10	0.40
4.650	2.39	10.717	5.18	16.783	0.80	22.85	0.40		5.917	2.39	11.983	5.18	18.050	0.80	24.12	0.40
4.667	2.39	10.733	5.18	16.800	0.80	22.87	0.40		5.933	2.39	12.000	5.18	18.067	0.80	24.13	0.40

	5.950	2.39	12.017	5.18	18.083	0.80	24.15	0.40
	5.967	2.39	12.033	5.18	18.100	0.80	24.17	0.40
	5.983	2.39	12.050	5.18	18.117	0.80	24.18	0.40
	6.000	2.39	12.067	5.18	18.133	0.80	24.20	0.40
	6.017	2.39	12.083	5.18	18.150	0.80	24.22	0.40
	6.033	2.39	12.100	5.18	18.167	0.80	24.23	0.40
	6.050	2.39	12.117	5.18	18.183	0.80	24.25	0.40
	6.067	2.39	12.133	5.18	18.200	0.80		

Max.Eff.Inten.(mm/hr)=	18.33	14.52		
over (min)	6.00	9.00		
Storage Coeff. (min)=	5.51 (ii)	8.86 (ii)		
Unit Hyd. Tpeak (min)=	6.00	9.00		
Unit Hyd. peak (cms)=	0.20	0.13		
			TOTALS	
PEAK FLOW (cms)=	0.10	0.00	0.103 (iii)	
TIME TO PEAK (hrs)=	9.72	10.25	10.25	
RUNOFF VOLUME (mm)=	78.69	49.71	78.41	
TOTAL RAINFALL (mm)=	79.70	79.70	79.70	
RUNOFF COEFFICIENT =	0.99	0.62	0.98	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0433	0.1140
0.0182	0.0580	0.0507	0.1280
0.0280	0.0775	0.0571	0.1440
0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.103	10.25	78.41
OUTFLOW: ID= 1 (7644)	2.020	0.033	10.57	72.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.20
TIME SHIFT OF PEAK FLOW (min)= 19.00
MAXIMUM STORAGE USED (ha.m.)= 0.0899

****
** SIMULATION:97. 25yr 4hr 10min Chicago **
****

CHICAGO STORM	IDF curve parameters: A=3158.000
Ptotal= 71.59 mm	B= 15.000
	C= 0.933

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	2.68	1.00	47.76	2.00	10.11	3.00	3.51
0.17	3.31	1.17	156.47	2.17	7.92	3.17	3.13
0.33	4.28	1.33	63.86	2.33	6.44	3.33	2.81
0.50	5.90	1.50	31.72	2.50	5.38	3.50	2.55
0.67	9.00	1.67	19.56	2.67	4.59	3.67	2.33
0.83	16.53	1.83	13.56	2.83	3.99	3.83	2.15

CALIB	
STANDHYD (7567)	Area (ha)= 2.81

|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.68	1.017	47.75	2.017	10.11	3.02	3.51
0.033	2.68	1.033	47.76	2.033	10.11	3.03	3.51
0.050	2.68	1.050	47.76	2.050	10.11	3.05	3.51
0.067	2.68	1.067	47.76	2.067	10.11	3.07	3.51
0.083	2.68	1.083	47.76	2.083	10.11	3.08	3.51
0.100	2.68	1.100	47.76	2.100	10.11	3.10	3.51
0.117	2.68	1.117	47.76	2.117	10.11	3.12	3.51
0.133	2.68	1.133	47.76	2.133	10.11	3.13	3.51
0.150	2.68	1.150	47.76	2.150	10.11	3.15	3.51
0.167	2.68	1.167	47.76	2.167	10.11	3.17	3.51
0.183	3.31	1.183	156.47	2.183	7.92	3.18	3.13
0.200	3.31	1.200	156.47	2.200	7.92	3.20	3.13
0.217	3.31	1.217	156.47	2.217	7.92	3.22	3.13
0.233	3.31	1.233	156.47	2.233	7.92	3.23	3.13
0.250	3.31	1.250	156.47	2.250	7.92	3.25	3.13
0.267	3.31	1.267	156.47	2.267	7.92	3.27	3.13
0.283	3.31	1.283	156.47	2.283	7.92	3.28	3.13
0.300	3.31	1.300	156.47	2.300	7.92	3.30	3.13
0.317	3.31	1.317	156.47	2.317	7.92	3.32	3.13
0.333	3.31	1.333	156.47	2.333	7.92	3.33	3.13
0.350	4.28	1.350	63.87	2.350	6.44	3.35	2.81
0.367	4.28	1.367	63.86	2.367	6.44	3.37	2.81
0.383	4.28	1.383	63.86	2.383	6.44	3.38	2.81
0.400	4.28	1.400	63.86	2.400	6.44	3.40	2.81
0.417	4.28	1.417	63.86	2.417	6.44	3.42	2.81
0.433	4.28	1.433	63.86	2.433	6.44	3.43	2.81
0.450	4.28	1.450	63.86	2.450	6.44	3.45	2.81
0.467	4.28	1.467	63.86	2.467	6.44	3.47	2.81
0.483	4.28	1.483	63.86	2.483	6.44	3.48	2.81
0.500	4.28	1.500	63.86	2.500	6.44	3.50	2.81
0.517	5.90	1.517	31.72	2.517	5.38	3.52	2.55
0.533	5.90	1.533	31.72	2.533	5.38	3.53	2.55
0.550	5.90	1.550	31.72	2.550	5.38	3.55	2.55
0.567	5.90	1.567	31.72	2.567	5.38	3.57	2.55
0.583	5.90	1.583	31.72	2.583	5.38	3.58	2.55
0.600	5.90	1.600	31.72	2.600	5.38	3.60	2.55
0.617	5.90	1.617	31.72	2.617	5.38	3.62	2.55
0.633	5.90	1.633	31.72	2.633	5.38	3.63	2.55
0.650	5.90	1.650	31.72	2.650	5.38	3.65	2.55
0.667	5.90	1.667	31.72	2.667	5.38	3.67	2.55
0.683	9.00	1.683	19.56	2.683	4.59	3.68	2.33
0.700	9.00	1.700	19.56	2.700	4.59	3.70	2.33
0.717	9.00	1.717	19.56	2.717	4.59	3.72	2.33
0.733	9.00	1.733	19.56	2.733	4.59	3.73	2.33
0.750	9.00	1.750	19.56	2.750	4.59	3.75	2.33
0.767	9.00	1.767	19.56	2.767	4.59	3.77	2.33
0.783	9.00	1.783	19.56	2.783	4.59	3.78	2.33
0.800	9.00	1.800	19.56	2.800	4.59	3.80	2.33
0.817	9.00	1.817	19.56	2.817	4.59	3.82	2.33
0.833	9.00	1.833	19.56	2.833	4.59	3.83	2.33
0.850	16.53	1.850	13.56	2.850	3.99	3.85	2.15
0.867	16.53	1.867	13.56	2.867	3.99	3.87	2.15
0.883	16.53	1.883	13.56	2.883	3.99	3.88	2.15
0.900	16.53	1.900	13.56	2.900	3.99	3.90	2.15
0.917	16.53	1.917	13.56	2.917	3.99	3.92	2.15
0.933	16.53	1.933	13.56	2.933	3.99	3.93	2.15
0.950	16.53	1.950	13.56	2.950	3.99	3.95	2.15
0.967	16.53	1.967	13.56	2.967	3.99	3.97	2.15
0.983	16.53	1.983	13.56	2.983	3.99	3.98	2.15
1.000	16.53	2.000	13.56	3.000	3.99	4.00	2.15

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     Max.Eff.Inten.(mm/hr)=     156.47        92.44
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      2.58 (ii)    4.00 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.33         0.26
                                                    *TOTALS*
     PEAK FLOW       (cms)=      1.16         0.01          1.165 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.37          1.33
     RUNOFF VOLUME    (mm)=     70.59        42.75         70.31
     TOTAL RAINFALL   (mm)=     71.59        71.59         71.59
     RUNOFF COEFFICIENT   =      0.99         0.60          0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7626)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0568      0.1530
                          0.0239      0.0780   |    0.0660      0.1730
                          0.0370      0.1040   |    0.0751      0.2000
                          0.0451      0.1250   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (  7567)    2.810     1.165      1.33      70.31
    OUTFLOW: ID= 1 (  7626)    2.810     0.059      2.38      68.44

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.08
                   TIME SHIFT OF PEAK FLOW         (min)= 63.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.1582

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| CALIB            |
| STANDHYD (  7624)|   Area    (ha)=   2.08
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.06         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     117.76        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    2.68 | 1.017   47.75 | 2.017   10.11 |  3.02    3.51
               0.033    2.68 | 1.033   47.76 | 2.033   10.11 |  3.03    3.51
               0.050    2.68 | 1.050   47.76 | 2.050   10.11 |  3.05    3.51
               0.067    2.68 | 1.067   47.76 | 2.067   10.11 |  3.07    3.51
               0.083    2.68 | 1.083   47.76 | 2.083   10.11 |  3.08    3.51
               0.100    2.68 | 1.100   47.76 | 2.100   10.11 |  3.10    3.51
               0.117    2.68 | 1.117   47.76 | 2.117   10.11 |  3.12    3.51
               0.133    2.68 | 1.133   47.76 | 2.133   10.11 |  3.13    3.51
               0.150    2.68 | 1.150   47.76 | 2.150   10.11 |  3.15    3.51
               0.167    2.68 | 1.167   47.76 | 2.167   10.11 |  3.17    3.51
               0.183    3.31 | 1.183  156.47 | 2.183    7.92 |  3.18    3.13
               0.200    3.31 | 1.200  156.47 | 2.200    7.92 |  3.20    3.13
               0.217    3.31 | 1.217  156.47 | 2.217    7.92 |  3.22    3.13
               0.233    3.31 | 1.233  156.47 | 2.233    7.92 |  3.23    3.13
               0.250    3.31 | 1.250  156.47 | 2.250    7.92 |  3.25    3.13
               0.267    3.31 | 1.267  156.47 | 2.267    7.92 |  3.27    3.13
               0.283    3.31 | 1.283  156.47 | 2.283    7.92 |  3.28    3.13
               0.300    3.31 | 1.300  156.47 | 2.300    7.92 |  3.30    3.13
               0.317    3.31 | 1.317  156.47 | 2.317    7.92 |  3.32    3.13
               0.333    3.31 | 1.333  156.47 | 2.333    7.92 |  3.33    3.13
               0.350    4.28 | 1.350   63.87 | 2.350    6.44 |  3.35    2.81
               0.367    4.28 | 1.367   63.86 | 2.367    6.44 |  3.37    2.81
               0.383    4.28 | 1.383   63.86 | 2.383    6.44 |  3.38    2.81
               0.400    4.28 | 1.400   63.86 | 2.400    6.44 |  3.40    2.81
               0.417    4.28 | 1.417   63.86 | 2.417    6.44 |  3.42    2.81
               0.433    4.28 | 1.433   63.86 | 2.433    6.44 |  3.43    2.81
               0.450    4.28 | 1.450   63.86 | 2.450    6.44 |  3.45    2.81
               0.467    4.28 | 1.467   63.86 | 2.467    6.44 |  3.47    2.81
               0.483    4.28 | 1.483   63.86 | 2.483    6.44 |  3.48    2.81
               0.500    4.28 | 1.500   63.86 | 2.500    6.44 |  3.50    2.81
               0.517    5.90 | 1.517   31.72 | 2.517    5.38 |  3.52    2.55
               0.533    5.90 | 1.533   31.72 | 2.533    5.38 |  3.53    2.55
               0.550    5.90 | 1.550   31.72 | 2.550    5.38 |  3.55    2.55
               0.567    5.90 | 1.567   31.72 | 2.567    5.38 |  3.57    2.55
               0.583    5.90 | 1.583   31.72 | 2.583    5.38 |  3.58    2.55
               0.600    5.90 | 1.600   31.72 | 2.600    5.38 |  3.60    2.55
               0.617    5.90 | 1.617   31.72 | 2.617    5.38 |  3.62    2.55
               0.633    5.90 | 1.633   31.72 | 2.633    5.38 |  3.63    2.55
               0.650    5.90 | 1.650   31.72 | 2.650    5.38 |  3.65    2.55
               0.667    5.90 | 1.667   31.72 | 2.667    5.38 |  3.67    2.55
               0.683    9.00 | 1.683   19.56 | 2.683    4.59 |  3.68    2.33
               0.700    9.00 | 1.700   19.56 | 2.700    4.59 |  3.70    2.33
               0.717    9.00 | 1.717   19.56 | 2.717    4.59 |  3.72    2.33
               0.733    9.00 | 1.733   19.56 | 2.733    4.59 |  3.73    2.33
               0.750    9.00 | 1.750   19.56 | 2.750    4.59 |  3.75    2.33
               0.767    9.00 | 1.767   19.56 | 2.767    4.59 |  3.77    2.33
               0.783    9.00 | 1.783   19.56 | 2.783    4.59 |  3.78    2.33
               0.800    9.00 | 1.800   19.56 | 2.800    4.59 |  3.80    2.33
               0.817    9.00 | 1.817   19.56 | 2.817    4.59 |  3.82    2.33
               0.833    9.00 | 1.833   19.56 | 2.833    4.59 |  3.83    2.33
               0.850   16.53 | 1.850   13.56 | 2.850    3.99 |  3.85    2.15
               0.867   16.53 | 1.867   13.56 | 2.867    3.99 |  3.87    2.15
               0.883   16.53 | 1.883   13.56 | 2.883    3.99 |  3.88    2.15
               0.900   16.53 | 1.900   13.56 | 2.900    3.99 |  3.90    2.15
               0.917   16.53 | 1.917   13.56 | 2.917    3.99 |  3.92    2.15
               0.933   16.53 | 1.933   13.56 | 2.933    3.99 |  3.93    2.15
               0.950   16.53 | 1.950   13.56 | 2.950    3.99 |  3.95    2.15
               0.967   16.53 | 1.967   13.56 | 2.967    3.99 |  3.97    2.15
               0.983   16.53 | 1.983   13.56 | 2.983    3.99 |  3.98    2.15
               1.000   16.53 | 2.000   13.56 | 3.000    3.99 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=     156.47       112.26
               over (min)        5.00         4.00
     Storage Coeff.  (min)=      2.36 (ii)    3.78 (ii)
     Unit Hyd. Tpeak (min)=      5.00         4.00
     Unit Hyd. peak  (cms)=      0.35         0.29
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.87         0.01          0.872 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.35          1.33
     RUNOFF VOLUME    (mm)=     70.59        49.97         70.38
     TOTAL RAINFALL   (mm)=     71.59        71.59         71.59
     RUNOFF COEFFICIENT   =      0.99         0.70          0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR(  7625)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0389      0.1013
                          0.0164      0.0514   |    0.0456      0.1141
                          0.0252      0.0690   |    0.0514      0.1288
                          0.0309      0.0825   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
    INFLOW : ID= 2 (  7624)    2.080     0.872      1.33      70.38
```

OUTFLOW: ID= 1 (7625) 2.080 0.046 2.33 68.80

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.33
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.1163

CALIB	Area (ha)= 1.15
STANDHYD (7623)	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00
ID= 1 DT= 1.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.68	1.017	47.75	2.017	10.11	3.02	3.51
0.033	2.68	1.033	47.76	2.033	10.11	3.03	3.51
0.050	2.68	1.050	47.76	2.050	10.11	3.05	3.51
0.067	2.68	1.067	47.76	2.067	10.11	3.07	3.51
0.083	2.68	1.083	47.76	2.083	10.11	3.08	3.51
0.100	2.68	1.100	47.76	2.100	10.11	3.10	3.51
0.117	2.68	1.117	47.76	2.117	10.11	3.12	3.51
0.133	2.68	1.133	47.76	2.133	10.11	3.13	3.51
0.150	2.68	1.150	47.76	2.150	10.11	3.15	3.51
0.167	2.68	1.167	47.76	2.167	10.11	3.17	3.51
0.183	3.31	1.183	156.47	2.183	7.92	3.18	3.13
0.200	3.31	1.200	156.47	2.200	7.92	3.20	3.13
0.217	3.31	1.217	156.47	2.217	7.92	3.22	3.13
0.233	3.31	1.233	156.47	2.233	7.92	3.23	3.13
0.250	3.31	1.250	156.47	2.250	7.92	3.25	3.13
0.267	3.31	1.267	156.47	2.267	7.92	3.27	3.13
0.283	3.31	1.283	156.47	2.283	7.92	3.28	3.13
0.300	3.31	1.300	156.47	2.300	7.92	3.30	3.13
0.317	3.31	1.317	156.47	2.317	7.92	3.32	3.13
0.333	3.31	1.333	156.47	2.333	7.92	3.33	3.13
0.350	4.28	1.350	63.87	2.350	6.44	3.35	2.81
0.367	4.28	1.367	63.86	2.367	6.44	3.37	2.81
0.383	4.28	1.383	63.86	2.383	6.44	3.38	2.81
0.400	4.28	1.400	63.86	2.400	6.44	3.40	2.81
0.417	4.28	1.417	63.86	2.417	6.44	3.42	2.81
0.433	4.28	1.433	63.86	2.433	6.44	3.43	2.81
0.450	4.28	1.450	63.86	2.450	6.44	3.45	2.81
0.467	4.28	1.467	63.86	2.467	6.44	3.47	2.81
0.483	4.28	1.483	63.86	2.483	6.44	3.48	2.81
0.500	4.28	1.500	63.86	2.500	6.44	3.50	2.81
0.517	5.90	1.517	31.72	2.517	5.38	3.52	2.55
0.533	5.90	1.533	31.72	2.533	5.38	3.53	2.55
0.550	5.90	1.550	31.72	2.550	5.38	3.55	2.55
0.567	5.90	1.567	31.72	2.567	5.38	3.57	2.55
0.583	5.90	1.583	31.72	2.583	5.38	3.58	2.55
0.600	5.90	1.600	31.72	2.600	5.38	3.60	2.55
0.617	5.90	1.617	31.72	2.617	5.38	3.62	2.55
0.633	5.90	1.633	31.72	2.633	5.38	3.63	2.55
0.650	5.90	1.650	31.72	2.650	5.38	3.65	2.55
0.667	5.90	1.667	31.72	2.667	5.38	3.67	2.55
0.683	9.00	1.683	19.56	2.683	4.59	3.68	2.33
0.700	9.00	1.700	19.56	2.700	4.59	3.70	2.33
0.717	9.00	1.717	19.56	2.717	4.59	3.72	2.33
0.733	9.00	1.733	19.56	2.733	4.59	3.73	2.33
0.750	9.00	1.750	19.56	2.750	4.59	3.75	2.33
0.767	9.00	1.767	19.56	2.767	4.59	3.77	2.33
0.783	9.00	1.783	19.56	2.783	4.59	3.78	2.33
0.800	9.00	1.800	19.56	2.800	4.59	3.80	2.33
0.817	9.00	1.817	19.56	2.817	4.59	3.82	2.33
0.833	9.00	1.833	19.56	2.833	4.59	3.83	2.33
0.850	16.53	1.850	13.56	2.850	3.99	3.85	2.15
0.867	16.53	1.867	13.56	2.867	3.99	3.87	2.15
0.883	16.53	1.883	13.56	2.883	3.99	3.88	2.15
0.900	16.53	1.900	13.56	2.900	3.99	3.90	2.15
0.917	16.53	1.917	13.56	2.917	3.99	3.92	2.15
0.933	16.53	1.933	13.56	2.933	3.99	3.93	2.15
0.950	16.53	1.950	13.56	2.950	3.99	3.95	2.15
0.967	16.53	1.967	13.56	2.967	3.99	3.97	2.15
0.983	16.53	1.983	13.56	2.983	3.99	3.98	2.15
1.000	16.53	2.000	13.56	3.000	3.99	4.00	2.15

				TOTALS
Max.Eff.Inten.(mm/hr)=		156.47	92.44	
over (min)		5.00	4.00	
Storage Coeff. (min)=		1.97 (ii)	3.40 (ii)	
Unit Hyd. Tpeak (min)=		5.00	4.00	
Unit Hyd. peak (cms)=		0.38	0.31	
PEAK FLOW	(cms)=	0.49	0.00	0.489 (iii)
TIME TO PEAK	(hrs)=	1.33	1.35	1.33
RUNOFF VOLUME	(mm)=	70.59	42.75	70.31
TOTAL RAINFALL	(mm)=	71.59	71.59	71.59
RUNOFF COEFFICIENT	=	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0258	0.0650
0.0108	0.0330	0.0302	0.0725
0.0167	0.0440	0.0340	0.0820
0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.489	1.33	70.31
OUTFLOW: ID= 1 (7622)	1.150	0.025	2.33	68.83

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.21
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0642

CALIB	Area (ha)= 4.09
STANDHYD (7629)	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00
ID= 1 DT= 1.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.68	1.017	47.75	2.017	10.11	3.02	3.51
0.033	2.68	1.033	47.76	2.033	10.11	3.03	3.51
0.050	2.68	1.050	47.76	2.050	10.11	3.05	3.51
0.067	2.68	1.067	47.76	2.067	10.11	3.07	3.51
0.083	2.68	1.083	47.76	2.083	10.11	3.08	3.51
0.100	2.68	1.100	47.76	2.100	10.11	3.10	3.51
0.117	2.68	1.117	47.76	2.117	10.11	3.12	3.51
0.133	2.68	1.133	47.76	2.133	10.11	3.13	3.51

0.150	2.68	1.150	47.76	2.150	10.11	3.15	3.51
0.167	2.68	1.167	47.76	2.167	10.11	3.17	3.51
0.183	3.31	1.183	156.47	2.183	7.92	3.18	3.13
0.200	3.31	1.200	156.47	2.200	7.92	3.20	3.13
0.217	3.31	1.217	156.47	2.217	7.92	3.22	3.13
0.233	3.31	1.233	156.47	2.233	7.92	3.23	3.13
0.250	3.31	1.250	156.47	2.250	7.92	3.25	3.13
0.267	3.31	1.267	156.47	2.267	7.92	3.27	3.13
0.283	3.31	1.283	156.47	2.283	7.92	3.28	3.13
0.300	3.31	1.300	156.47	2.300	7.92	3.30	3.13
0.317	3.31	1.317	156.47	2.317	7.92	3.32	3.13
0.333	3.31	1.333	156.47	2.333	7.92	3.33	3.13
0.350	4.28	1.350	63.87	2.350	6.44	3.35	2.81
0.367	4.28	1.367	63.86	2.367	6.44	3.37	2.81
0.383	4.28	1.383	63.86	2.383	6.44	3.38	2.81
0.400	4.28	1.400	63.86	2.400	6.44	3.40	2.81
0.417	4.28	1.417	63.86	2.417	6.44	3.42	2.81
0.433	4.28	1.433	63.86	2.433	6.44	3.43	2.81
0.450	4.28	1.450	63.86	2.450	6.44	3.45	2.81
0.467	4.28	1.467	63.86	2.467	6.44	3.47	2.81
0.483	4.28	1.483	63.86	2.483	6.44	3.48	2.81
0.500	4.28	1.500	63.86	2.500	6.44	3.50	2.81
0.517	5.90	1.517	31.72	2.517	5.38	3.52	2.55
0.533	5.90	1.533	31.72	2.533	5.38	3.53	2.55
0.550	5.90	1.550	31.72	2.550	5.38	3.55	2.55
0.567	5.90	1.567	31.72	2.567	5.38	3.57	2.55
0.583	5.90	1.583	31.72	2.583	5.38	3.58	2.55
0.600	5.90	1.600	31.72	2.600	5.38	3.60	2.55
0.617	5.90	1.617	31.72	2.617	5.38	3.62	2.55
0.633	5.90	1.633	31.72	2.633	5.38	3.63	2.55
0.650	5.90	1.650	31.72	2.650	5.38	3.65	2.55
0.667	5.90	1.667	31.72	2.667	5.38	3.67	2.55
0.683	9.00	1.683	19.56	2.683	4.59	3.68	2.33
0.700	9.00	1.700	19.56	2.700	4.59	3.70	2.33
0.717	9.00	1.717	19.56	2.717	4.59	3.72	2.33
0.733	9.00	1.733	19.56	2.733	4.59	3.73	2.33
0.750	9.00	1.750	19.56	2.750	4.59	3.75	2.33
0.767	9.00	1.767	19.56	2.767	4.59	3.77	2.33
0.783	9.00	1.783	19.56	2.783	4.59	3.78	2.33
0.800	9.00	1.800	19.56	2.800	4.59	3.80	2.33
0.817	9.00	1.817	19.56	2.817	4.59	3.82	2.33
0.833	9.00	1.833	19.56	2.833	4.59	3.83	2.33
0.850	16.53	1.850	13.56	2.850	3.99	3.85	2.15
0.867	16.53	1.867	13.56	2.867	3.99	3.87	2.15
0.883	16.53	1.883	13.56	2.883	3.99	3.88	2.15
0.900	16.53	1.900	13.56	2.900	3.99	3.90	2.15
0.917	16.53	1.917	13.56	2.917	3.99	3.92	2.15
0.933	16.53	1.933	13.56	2.933	3.99	3.93	2.15
0.950	16.53	1.950	13.56	2.950	3.99	3.95	2.15
0.967	16.53	1.967	13.56	2.967	3.99	3.97	2.15
0.983	16.53	1.983	13.56	2.983	3.99	3.98	2.15
1.000	16.53	2.000	13.56	3.000	3.99	4.00	2.15

Max.Eff.Inten.(mm/hr)=	156.47	92.44	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.89 (ii)	4.31 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.31	0.25	
			TOTALS
PEAK FLOW (cms)=	1.66	0.01	1.672 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	70.59	42.75	70.31
TOTAL RAINFALL (mm)=	71.59	71.59	71.59
RUNOFF COEFFICIENT =	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF
IN= 2---> OUT= 1	

DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940
	0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	1.672	1.33	70.31
OUTFLOW: ID= 1 (7630)	4.090	0.082	2.42	68.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.93
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.2316

CALIB	
STANDHYD (7631)	Area (ha)= 3.91
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.68	1.017	47.75	2.017	10.11	3.02	3.51
0.033	2.68	1.033	47.76	2.033	10.11	3.03	3.51
0.050	2.68	1.050	47.76	2.050	10.11	3.05	3.51
0.067	2.68	1.067	47.76	2.067	10.11	3.07	3.51
0.083	2.68	1.083	47.76	2.083	10.11	3.08	3.51
0.100	2.68	1.100	47.76	2.100	10.11	3.10	3.51
0.117	2.68	1.117	47.76	2.117	10.11	3.12	3.51
0.133	2.68	1.133	47.76	2.133	10.11	3.13	3.51
0.150	2.68	1.150	47.76	2.150	10.11	3.15	3.51
0.167	2.68	1.167	47.76	2.167	10.11	3.17	3.51
0.183	3.31	1.183	156.47	2.183	7.92	3.18	3.13
0.200	3.31	1.200	156.47	2.200	7.92	3.20	3.13
0.217	3.31	1.217	156.47	2.217	7.92	3.22	3.13
0.233	3.31	1.233	156.47	2.233	7.92	3.23	3.13
0.250	3.31	1.250	156.47	2.250	7.92	3.25	3.13
0.267	3.31	1.267	156.47	2.267	7.92	3.27	3.13
0.283	3.31	1.283	156.47	2.283	7.92	3.28	3.13
0.300	3.31	1.300	156.47	2.300	7.92	3.30	3.13
0.317	3.31	1.317	156.47	2.317	7.92	3.32	3.13
0.333	3.31	1.333	156.47	2.333	7.92	3.33	3.13
0.350	4.28	1.350	63.87	2.350	6.44	3.35	2.81
0.367	4.28	1.367	63.86	2.367	6.44	3.37	2.81
0.383	4.28	1.383	63.86	2.383	6.44	3.38	2.81
0.400	4.28	1.400	63.86	2.400	6.44	3.40	2.81
0.417	4.28	1.417	63.86	2.417	6.44	3.42	2.81
0.433	4.28	1.433	63.86	2.433	6.44	3.43	2.81
0.450	4.28	1.450	63.86	2.450	6.44	3.45	2.81
0.467	4.28	1.467	63.86	2.467	6.44	3.47	2.81
0.483	4.28	1.483	63.86	2.483	6.44	3.48	2.81
0.500	4.28	1.500	63.86	2.500	6.44	3.50	2.81
0.517	5.90	1.517	31.72	2.517	5.38	3.52	2.55
0.533	5.90	1.533	31.72	2.533	5.38	3.53	2.55
0.550	5.90	1.550	31.72	2.550	5.38	3.55	2.55
0.567	5.90	1.567	31.72	2.567	5.38	3.57	2.55
0.583	5.90	1.583	31.72	2.583	5.38	3.58	2.55
0.600	5.90	1.600	31.72	2.600	5.38	3.60	2.55
0.617	5.90	1.617	31.72	2.617	5.38	3.62	2.55
0.633	5.90	1.633	31.72	2.633	5.38	3.63	2.55
0.650	5.90	1.650	31.72	2.650	5.38	3.65	2.55
0.667	5.90	1.667	31.72	2.667	5.38	3.67	2.55
0.683	9.00	1.683	19.56	2.683	4.59	3.68	2.33

0.700	9.00	1.700	19.56	2.700	4.59	3.70	2.33
0.717	9.00	1.717	19.56	2.717	4.59	3.72	2.33
0.733	9.00	1.733	19.56	2.733	4.59	3.73	2.33
0.750	9.00	1.750	19.56	2.750	4.59	3.75	2.33
0.767	9.00	1.767	19.56	2.767	4.59	3.77	2.33
0.783	9.00	1.783	19.56	2.783	4.59	3.78	2.33
0.800	9.00	1.800	19.56	2.800	4.59	3.80	2.33
0.817	9.00	1.817	19.56	2.817	4.59	3.82	2.33
0.833	9.00	1.833	19.56	2.833	4.59	3.83	2.33
0.850	16.53	1.850	13.56	2.850	3.99	3.85	2.15
0.867	16.53	1.867	13.56	2.867	3.99	3.87	2.15
0.883	16.53	1.883	13.56	2.883	3.99	3.88	2.15
0.900	16.53	1.900	13.56	2.900	3.99	3.90	2.15
0.917	16.53	1.917	13.56	2.917	3.99	3.92	2.15
0.933	16.53	1.933	13.56	2.933	3.99	3.93	2.15
0.950	16.53	1.950	13.56	2.950	3.99	3.95	2.15
0.967	16.53	1.967	13.56	2.967	3.99	3.97	2.15
0.983	16.53	1.983	13.56	2.983	3.99	3.98	2.15
1.000	16.53	2.000	13.56	3.000	3.99	4.00	2.15

Max.Eff.Inten.(mm/hr)=	156.47	92.44	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.85 (ii)	4.27 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.32	0.25	
			TOTALS
PEAK FLOW (cms)=	1.59	0.01	1.601 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	70.59	42.75	70.31
TOTAL RAINFALL (mm)=	71.59	71.59	71.59
RUNOFF COEFFICIENT =	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7631)	3.910	1.601	1.33	70.31
OUTFLOW: ID= 1 (	7632)	3.910	0.079	2.40	68.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.93
TIME SHIFT OF PEAK FLOW (min)= 64.00
MAXIMUM STORAGE USED (ha.m.)= 0.2214

CALIB		
STANDHYD (7641)	Area (ha)= 2.21	
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00
	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.19	0.02
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	121.38	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.68	1.017	47.75	2.017	10.11	3.02	3.51
0.033	2.68	1.033	47.76	2.033	10.11	3.03	3.51
0.050	2.68	1.050	47.76	2.050	10.11	3.05	3.51
0.067	2.68	1.067	47.76	2.067	10.11	3.07	3.51
0.083	2.68	1.083	47.76	2.083	10.11	3.08	3.51
0.100	2.68	1.100	47.76	2.100	10.11	3.10	3.51
0.117	2.68	1.117	47.76	2.117	10.11	3.12	3.51
0.133	2.68	1.133	47.76	2.133	10.11	3.13	3.51
0.150	2.68	1.150	47.76	2.150	10.11	3.15	3.51
0.167	2.68	1.167	47.76	2.167	10.11	3.17	3.51
0.183	3.31	1.183	156.47	2.183	7.92	3.18	3.13
0.200	3.31	1.200	156.47	2.200	7.92	3.20	3.13
0.217	3.31	1.217	156.47	2.217	7.92	3.22	3.13
0.233	3.31	1.233	156.47	2.233	7.92	3.23	3.13
0.250	3.31	1.250	156.47	2.250	7.92	3.25	3.13
0.267	3.31	1.267	156.47	2.267	7.92	3.27	3.13
0.283	3.31	1.283	156.47	2.283	7.92	3.28	3.13
0.300	3.31	1.300	156.47	2.300	7.92	3.30	3.13
0.317	3.31	1.317	156.47	2.317	7.92	3.32	3.13
0.333	3.31	1.333	156.47	2.333	7.92	3.33	3.13
0.350	4.28	1.350	63.87	2.350	6.44	3.35	2.81
0.367	4.28	1.367	63.86	2.367	6.44	3.37	2.81
0.383	4.28	1.383	63.86	2.383	6.44	3.38	2.81
0.400	4.28	1.400	63.86	2.400	6.44	3.40	2.81
0.417	4.28	1.417	63.86	2.417	6.44	3.42	2.81
0.433	4.28	1.433	63.86	2.433	6.44	3.43	2.81
0.450	4.28	1.450	63.86	2.450	6.44	3.45	2.81
0.467	4.28	1.467	63.86	2.467	6.44	3.47	2.81
0.483	4.28	1.483	63.86	2.483	6.44	3.48	2.81
0.500	4.28	1.500	63.86	2.500	6.44	3.50	2.81
0.517	5.90	1.517	31.72	2.517	5.38	3.52	2.55
0.533	5.90	1.533	31.72	2.533	5.38	3.53	2.55
0.550	5.90	1.550	31.72	2.550	5.38	3.55	2.55
0.567	5.90	1.567	31.72	2.567	5.38	3.57	2.55
0.583	5.90	1.583	31.72	2.583	5.38	3.58	2.55
0.600	5.90	1.600	31.72	2.600	5.38	3.60	2.55
0.617	5.90	1.617	31.72	2.617	5.38	3.62	2.55
0.633	5.90	1.633	31.72	2.633	5.38	3.63	2.55
0.650	5.90	1.650	31.72	2.650	5.38	3.65	2.55
0.667	5.90	1.667	31.72	2.667	5.38	3.67	2.55
0.683	9.00	1.683	19.56	2.683	4.59	3.68	2.33
0.700	9.00	1.700	19.56	2.700	4.59	3.70	2.33
0.717	9.00	1.717	19.56	2.717	4.59	3.72	2.33
0.733	9.00	1.733	19.56	2.733	4.59	3.73	2.33
0.750	9.00	1.750	19.56	2.750	4.59	3.75	2.33
0.767	9.00	1.767	19.56	2.767	4.59	3.77	2.33
0.783	9.00	1.783	19.56	2.783	4.59	3.78	2.33
0.800	9.00	1.800	19.56	2.800	4.59	3.80	2.33
0.817	9.00	1.817	19.56	2.817	4.59	3.82	2.33
0.833	9.00	1.833	19.56	2.833	4.59	3.83	2.33
0.850	16.53	1.850	13.56	2.850	3.99	3.85	2.15
0.867	16.53	1.867	13.56	2.867	3.99	3.87	2.15
0.883	16.53	1.883	13.56	2.883	3.99	3.88	2.15
0.900	16.53	1.900	13.56	2.900	3.99	3.90	2.15
0.917	16.53	1.917	13.56	2.917	3.99	3.92	2.15
0.933	16.53	1.933	13.56	2.933	3.99	3.93	2.15
0.950	16.53	1.950	13.56	2.950	3.99	3.95	2.15
0.967	16.53	1.967	13.56	2.967	3.99	3.97	2.15
0.983	16.53	1.983	13.56	2.983	3.99	3.98	2.15
1.000	16.53	2.000	13.56	3.000	3.99	4.00	2.15

Max.Eff.Inten.(mm/hr)=	156.47	92.44	
over (min)	5.00	4.00	
Storage Coeff. (min)=	2.40 (ii)	3.82 (ii)	
Unit Hyd. Tpeak (min)=	5.00	4.00	
Unit Hyd. peak (cms)=	0.34	0.29	
			TOTALS
PEAK FLOW (cms)=	0.92	0.01	0.924 (iii)
TIME TO PEAK (hrs)=	1.33	1.35	1.33
RUNOFF VOLUME (mm)=	70.59	42.75	70.31
TOTAL RAINFALL (mm)=	71.59	71.59	71.59
RUNOFF COEFFICIENT =	0.99	0.60	0.98

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      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7642)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0470      0.1250
                          0.0197      0.0630   |    0.0551      0.1410
                          0.0304      0.0850   |    0.0620      0.1580
                          0.0373      0.1020   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7641)      2.210      0.924      1.33      70.31
   OUTFLOW: ID= 1 (  7642)      2.210      0.047      2.38      68.54

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.06
                  TIME SHIFT OF PEAK FLOW         (min)= 63.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1243

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| CALIB           |
| STANDHYD (  7643)|   Area    (ha)=   2.02
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.00         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     116.05        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                    ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.017    2.68 | 1.017   47.75 | 2.017   10.11 |  3.02    3.51
0.033    2.68 | 1.033   47.76 | 2.033   10.11 |  3.03    3.51
0.050    2.68 | 1.050   47.76 | 2.050   10.11 |  3.05    3.51
0.067    2.68 | 1.067   47.76 | 2.067   10.11 |  3.07    3.51
0.083    2.68 | 1.083   47.76 | 2.083   10.11 |  3.08    3.51
0.100    2.68 | 1.100   47.76 | 2.100   10.11 |  3.10    3.51
0.117    2.68 | 1.117   47.76 | 2.117   10.11 |  3.12    3.51
0.133    2.68 | 1.133   47.76 | 2.133   10.11 |  3.13    3.51
0.150    2.68 | 1.150   47.76 | 2.150   10.11 |  3.15    3.51
0.167    2.68 | 1.167   47.76 | 2.167   10.11 |  3.17    3.51
0.183    3.31 | 1.183  156.47 | 2.183    7.92 |  3.18    3.13
0.200    3.31 | 1.200  156.47 | 2.200    7.92 |  3.20    3.13
0.217    3.31 | 1.217  156.47 | 2.217    7.92 |  3.22    3.13
0.233    3.31 | 1.233  156.47 | 2.233    7.92 |  3.23    3.13
0.250    3.31 | 1.250  156.47 | 2.250    7.92 |  3.25    3.13
0.267    3.31 | 1.267  156.47 | 2.267    7.92 |  3.27    3.13
0.283    3.31 | 1.283  156.47 | 2.283    7.92 |  3.28    3.13
0.300    3.31 | 1.300  156.47 | 2.300    7.92 |  3.30    3.13
0.317    3.31 | 1.317  156.47 | 2.317    7.92 |  3.32    3.13
0.333    3.31 | 1.333  156.47 | 2.333    7.92 |  3.33    3.13
0.350    4.28 | 1.350   63.87 | 2.350    6.44 |  3.35    2.81
0.367    4.28 | 1.367   63.86 | 2.367    6.44 |  3.37    2.81
0.383    4.28 | 1.383   63.86 | 2.383    6.44 |  3.38    2.81
0.400    4.28 | 1.400   63.86 | 2.400    6.44 |  3.40    2.81
0.417    4.28 | 1.417   63.86 | 2.417    6.44 |  3.42    2.81
0.433    4.28 | 1.433   63.86 | 2.433    6.44 |  3.43    2.81
0.450    4.28 | 1.450   63.86 | 2.450    6.44 |  3.45    2.81
0.467    4.28 | 1.467   63.86 | 2.467    6.44 |  3.47    2.81
0.483    4.28 | 1.483   63.86 | 2.483    6.44 |  3.48    2.81
0.500    4.28 | 1.500   63.86 | 2.500    6.44 |  3.50    2.81
0.517    5.90 | 1.517   31.72 | 2.517    5.38 |  3.52    2.55
0.533    5.90 | 1.533   31.72 | 2.533    5.38 |  3.53    2.55
0.550    5.90 | 1.550   31.72 | 2.550    5.38 |  3.55    2.55
0.567    5.90 | 1.567   31.72 | 2.567    5.38 |  3.57    2.55
0.583    5.90 | 1.583   31.72 | 2.583    5.38 |  3.58    2.55
0.600    5.90 | 1.600   31.72 | 2.600    5.38 |  3.60    2.55
0.617    5.90 | 1.617   31.72 | 2.617    5.38 |  3.62    2.55
0.633    5.90 | 1.633   31.72 | 2.633    5.38 |  3.63    2.55
0.650    5.90 | 1.650   31.72 | 2.650    5.38 |  3.65    2.55
0.667    5.90 | 1.667   31.72 | 2.667    5.38 |  3.67    2.55
0.683    9.00 | 1.683   19.56 | 2.683    4.59 |  3.68    2.33
0.700    9.00 | 1.700   19.56 | 2.700    4.59 |  3.70    2.33
0.717    9.00 | 1.717   19.56 | 2.717    4.59 |  3.72    2.33
0.733    9.00 | 1.733   19.56 | 2.733    4.59 |  3.73    2.33
0.750    9.00 | 1.750   19.56 | 2.750    4.59 |  3.75    2.33
0.767    9.00 | 1.767   19.56 | 2.767    4.59 |  3.77    2.33
0.783    9.00 | 1.783   19.56 | 2.783    4.59 |  3.78    2.33
0.800    9.00 | 1.800   19.56 | 2.800    4.59 |  3.80    2.33
0.817    9.00 | 1.817   19.56 | 2.817    4.59 |  3.82    2.33
0.833    9.00 | 1.833   19.56 | 2.833    4.59 |  3.83    2.33
0.850   16.53 | 1.850   13.56 | 2.850    3.99 |  3.85    2.15
0.867   16.53 | 1.867   13.56 | 2.867    3.99 |  3.87    2.15
0.883   16.53 | 1.883   13.56 | 2.883    3.99 |  3.88    2.15
0.900   16.53 | 1.900   13.56 | 2.900    3.99 |  3.90    2.15
0.917   16.53 | 1.917   13.56 | 2.917    3.99 |  3.92    2.15
0.933   16.53 | 1.933   13.56 | 2.933    3.99 |  3.93    2.15
0.950   16.53 | 1.950   13.56 | 2.950    3.99 |  3.95    2.15
0.967   16.53 | 1.967   13.56 | 2.967    3.99 |  3.97    2.15
0.983   16.53 | 1.983   13.56 | 2.983    3.99 |  3.98    2.15
1.000   16.53 | 2.000   13.56 | 3.000    3.99 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=     156.47        92.44
               over (min)         5.00         4.00
     Storage Coeff.  (min)=       2.34 (ii)    3.76 (ii)
     Unit Hyd. Tpeak (min)=       5.00         4.00
     Unit Hyd. peak  (cms)=       0.35         0.29
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.84         0.00          0.847 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.35          1.33
     RUNOFF VOLUME    (mm)=      70.59        42.75         70.31
     TOTAL RAINFALL   (mm)=      71.59        71.59         71.59
     RUNOFF COEFFICIENT   =       0.99         0.60          0.98

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7644)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0433      0.1140
                          0.0182      0.0580   |    0.0507      0.1280
                          0.0280      0.0775   |    0.0571      0.1440
                          0.0343      0.0930   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7643)      2.020      0.847      1.33      70.31
   OUTFLOW: ID= 1 (  7644)      2.020      0.043      2.37      68.57

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.09
                  TIME SHIFT OF PEAK FLOW         (min)= 62.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1135

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**************************************************
** SIMULATION:98. 50 Year 6 Hour AES (Bloor, TRCA) **
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|    READ STORM    |    Filename: C:\Users\kevsur3650\AppD
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GEI Consultants

| | ata\Local\Temp\
| | a38a8851-c36c-4932-84b4-c99a8b88bdf6\ebbaf00c
| Ptotal= 73.00 mm | Comments: 50 Year 6 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	1.75	24.82	3.50	10.22	5.25	1.46
0.25	1.46	2.00	24.82	3.75	5.84	5.50	1.46
0.50	1.46	2.25	67.16	4.00	5.84	5.75	1.46
0.75	1.46	2.50	67.16	4.25	2.92	6.00	1.46
1.00	1.46	2.75	18.98	4.50	2.92		
1.25	8.76	3.00	18.98	4.75	1.46		
1.50	8.76	3.25	10.22	5.00	1.46		

| CALIB
| STANDHYD (7567)| Area (ha)= 2.81
|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	8.76	3.150	18.98	4.72	2.92
0.033	0.00	1.600	8.76	3.167	18.98	4.73	2.92
0.050	0.00	1.617	8.76	3.183	18.98	4.75	2.92
0.067	0.00	1.633	8.76	3.200	18.98	4.77	1.46
0.083	0.00	1.650	8.76	3.217	18.98	4.78	1.46
0.100	0.00	1.667	8.76	3.233	18.98	4.80	1.46
0.117	0.00	1.683	8.76	3.250	18.98	4.82	1.46
0.133	0.00	1.700	8.76	3.267	10.22	4.83	1.46
0.150	0.00	1.717	8.76	3.283	10.22	4.85	1.46
0.167	0.00	1.733	8.76	3.300	10.22	4.87	1.46
0.183	0.00	1.750	8.76	3.317	10.22	4.88	1.46
0.200	0.00	1.767	24.82	3.333	10.22	4.90	1.46
0.217	0.00	1.783	24.82	3.350	10.22	4.92	1.46
0.233	0.00	1.800	24.82	3.367	10.22	4.93	1.46
0.250	0.00	1.817	24.82	3.383	10.22	4.95	1.46
0.267	1.46	1.833	24.82	3.400	10.22	4.97	1.46
0.283	1.46	1.850	24.82	3.417	10.22	4.98	1.46
0.300	1.46	1.867	24.82	3.433	10.22	5.00	1.46
0.317	1.46	1.883	24.82	3.450	10.22	5.02	1.46
0.333	1.46	1.900	24.82	3.467	10.22	5.03	1.46
0.350	1.46	1.917	24.82	3.483	10.22	5.05	1.46
0.367	1.46	1.933	24.82	3.500	10.22	5.07	1.46
0.383	1.46	1.950	24.82	3.517	10.22	5.08	1.46
0.400	1.46	1.967	24.82	3.533	10.22	5.10	1.46
0.417	1.46	1.983	24.82	3.550	10.22	5.12	1.46
0.433	1.46	2.000	24.82	3.567	10.22	5.13	1.46
0.450	1.46	2.017	24.82	3.583	10.22	5.15	1.46
0.467	1.46	2.033	24.82	3.600	10.22	5.17	1.46
0.483	1.46	2.050	24.82	3.617	10.22	5.18	1.46
0.500	1.46	2.067	24.82	3.633	10.22	5.20	1.46
0.517	1.46	2.083	24.82	3.650	10.22	5.22	1.46
0.533	1.46	2.100	24.82	3.667	10.22	5.23	1.46
0.550	1.46	2.117	24.82	3.683	10.22	5.25	1.46
0.567	1.46	2.133	24.82	3.700	10.22	5.27	1.46
0.583	1.46	2.150	24.82	3.717	10.22	5.28	1.46
0.600	1.46	2.167	24.82	3.733	10.22	5.30	1.46
0.617	1.46	2.183	24.82	3.750	10.22	5.32	1.46
0.633	1.46	2.200	24.82	3.767	5.84	5.33	1.46
0.650	1.46	2.217	24.82	3.783	5.84	5.35	1.46
0.667	1.46	2.233	24.82	3.800	5.84	5.37	1.46
0.683	1.46	2.250	24.82	3.817	5.84	5.38	1.46
0.700	1.46	2.267	67.16	3.833	5.84	5.40	1.46
0.717	1.46	2.283	67.16	3.850	5.84	5.42	1.46
0.733	1.46	2.300	67.16	3.867	5.84	5.43	1.46
0.750	1.46	2.317	67.16	3.883	5.84	5.45	1.46
0.767	1.46	2.333	67.16	3.900	5.84	5.47	1.46
0.783	1.46	2.350	67.16	3.917	5.84	5.48	1.46
0.800	1.46	2.367	67.16	3.933	5.84	5.50	1.46
0.817	1.46	2.383	67.16	3.950	5.84	5.52	1.46
0.833	1.46	2.400	67.16	3.967	5.84	5.53	1.46
0.850	1.46	2.417	67.16	3.983	5.84	5.55	1.46
0.867	1.46	2.433	67.16	4.000	5.84	5.57	1.46
0.883	1.46	2.450	67.16	4.017	5.84	5.58	1.46
0.900	1.46	2.467	67.16	4.033	5.84	5.60	1.46
0.917	1.46	2.483	67.16	4.050	5.84	5.62	1.46
0.933	1.46	2.500	67.16	4.067	5.84	5.63	1.46
0.950	1.46	2.517	67.16	4.083	5.84	5.65	1.46
0.967	1.46	2.533	67.16	4.100	5.84	5.67	1.46
0.983	1.46	2.550	67.16	4.117	5.84	5.68	1.46
1.000	1.46	2.567	67.16	4.133	5.84	5.70	1.46
1.017	1.46	2.583	67.16	4.150	5.84	5.72	1.46
1.033	1.46	2.600	67.16	4.167	5.84	5.73	1.46
1.050	1.46	2.617	67.16	4.183	5.84	5.75	1.46
1.067	1.46	2.633	67.16	4.200	5.84	5.77	1.46
1.083	1.46	2.650	67.16	4.217	5.84	5.78	1.46
1.100	1.46	2.667	67.16	4.233	5.84	5.80	1.46
1.117	1.46	2.683	67.16	4.250	5.84	5.82	1.46
1.133	1.46	2.700	67.16	4.267	2.92	5.83	1.46
1.150	1.46	2.717	67.16	4.283	2.92	5.85	1.46
1.167	1.46	2.733	67.16	4.300	2.92	5.87	1.46
1.183	1.46	2.750	67.16	4.317	2.92	5.88	1.46
1.200	1.46	2.767	18.99	4.333	2.92	5.90	1.46
1.217	1.46	2.783	18.98	4.350	2.92	5.92	1.46
1.233	1.46	2.800	18.98	4.367	2.92	5.93	1.46
1.250	1.46	2.817	18.98	4.383	2.92	5.95	1.46
1.267	8.76	2.833	18.98	4.400	2.92	5.97	1.46
1.283	8.76	2.850	18.98	4.417	2.92	5.98	1.46
1.300	8.76	2.867	18.98	4.433	2.92	6.00	1.46
1.317	8.76	2.883	18.98	4.450	2.92	6.02	1.46
1.333	8.76	2.900	18.98	4.467	2.92	6.03	1.46
1.350	8.76	2.917	18.98	4.483	2.92	6.05	1.46
1.367	8.76	2.933	18.98	4.500	2.92	6.07	1.46
1.383	8.76	2.950	18.98	4.517	2.92	6.08	1.46
1.400	8.76	2.967	18.98	4.533	2.92	6.10	1.46
1.417	8.76	2.983	18.98	4.550	2.92	6.12	1.46
1.433	8.76	3.000	18.98	4.567	2.92	6.13	1.46
1.450	8.76	3.017	18.98	4.583	2.92	6.15	1.46
1.467	8.76	3.033	18.98	4.600	2.92	6.17	1.46
1.483	8.76	3.050	18.98	4.617	2.92	6.18	1.46
1.500	8.76	3.067	18.98	4.633	2.92	6.20	1.46
1.517	8.76	3.083	18.98	4.650	2.92	6.22	1.46
1.533	8.76	3.100	18.98	4.667	2.92	6.23	1.46
1.550	8.76	3.117	18.98	4.683	2.92	6.25	1.46
1.567	8.76	3.133	18.98	4.700	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	50.27	
over (min)		5.00	6.00	
Storage Coeff. (min)=		3.62 (ii)	5.61 (ii)	
Unit Hyd. Tpeak (min)=		5.00	6.00	
Unit Hyd. peak (cms)=		0.28	0.20	
				TOTALS
PEAK FLOW	(cms)=	0.52	0.00	0.523 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	72.00	43.95	71.72
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(7626)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |

DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.523	2.75	71.72
OUTFLOW: ID= 1 (7626)	2.810	0.058	3.85	69.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.08
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.1554

CALIB / STANDHYD (7624) / ID= 1 DT= 1.0 min	Area (ha)= 2.08	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	8.76	3.150	18.98	4.72	2.92
0.033	0.00	1.600	8.76	3.167	18.98	4.73	2.92
0.050	0.00	1.617	8.76	3.183	18.98	4.75	2.92
0.067	0.00	1.633	8.76	3.200	18.98	4.77	1.46
0.083	0.00	1.650	8.76	3.217	18.98	4.78	1.46
0.100	0.00	1.667	8.76	3.233	18.98	4.80	1.46
0.117	0.00	1.683	8.76	3.250	18.98	4.82	1.46
0.133	0.00	1.700	8.76	3.267	10.22	4.83	1.46
0.150	0.00	1.717	8.76	3.283	10.22	4.85	1.46
0.167	0.00	1.733	8.76	3.300	10.22	4.87	1.46
0.183	0.00	1.750	8.76	3.317	10.22	4.88	1.46
0.200	0.00	1.767	24.82	3.333	10.22	4.90	1.46
0.217	0.00	1.783	24.82	3.350	10.22	4.92	1.46
0.233	0.00	1.800	24.82	3.367	10.22	4.93	1.46
0.250	0.00	1.817	24.82	3.383	10.22	4.95	1.46
0.267	1.46	1.833	24.82	3.400	10.22	4.97	1.46
0.283	1.46	1.850	24.82	3.417	10.22	4.98	1.46
0.300	1.46	1.867	24.82	3.433	10.22	5.00	1.46
0.317	1.46	1.883	24.82	3.450	10.22	5.02	1.46
0.333	1.46	1.900	24.82	3.467	10.22	5.03	1.46
0.350	1.46	1.917	24.82	3.483	10.22	5.05	1.46
0.367	1.46	1.933	24.82	3.500	10.22	5.07	1.46
0.383	1.46	1.950	24.82	3.517	10.22	5.08	1.46
0.400	1.46	1.967	24.82	3.533	10.22	5.10	1.46
0.417	1.46	1.983	24.82	3.550	10.22	5.12	1.46
0.433	1.46	2.000	24.82	3.567	10.22	5.13	1.46
0.450	1.46	2.017	24.82	3.583	10.22	5.15	1.46
0.467	1.46	2.033	24.82	3.600	10.22	5.17	1.46
0.483	1.46	2.050	24.82	3.617	10.22	5.18	1.46
0.500	1.46	2.067	24.82	3.633	10.22	5.20	1.46
0.517	1.46	2.083	24.82	3.650	10.22	5.22	1.46
0.533	1.46	2.100	24.82	3.667	10.22	5.23	1.46
0.550	1.46	2.117	24.82	3.683	10.22	5.25	1.46
0.567	1.46	2.133	24.82	3.700	10.22	5.27	1.46
0.583	1.46	2.150	24.82	3.717	10.22	5.28	1.46
0.600	1.46	2.167	24.82	3.733	10.22	5.30	1.46
0.617	1.46	2.183	24.82	3.750	10.22	5.32	1.46
0.633	1.46	2.200	24.82	3.767	5.84	5.33	1.46
0.650	1.46	2.217	24.82	3.783	5.84	5.35	1.46
0.667	1.46	2.233	24.82	3.800	5.84	5.37	1.46
0.683	1.46	2.250	24.82	3.817	5.84	5.38	1.46
0.700	1.46	2.267	67.16	3.833	5.84	5.40	1.46
0.717	1.46	2.283	67.16	3.850	5.84	5.42	1.46
0.733	1.46	2.300	67.16	3.867	5.84	5.43	1.46
0.750	1.46	2.317	67.16	3.883	5.84	5.45	1.46
0.767	1.46	2.333	67.16	3.900	5.84	5.47	1.46
0.783	1.46	2.350	67.16	3.917	5.84	5.48	1.46
0.800	1.46	2.367	67.16	3.933	5.84	5.50	1.46
0.817	1.46	2.383	67.16	3.950	5.84	5.52	1.46
0.833	1.46	2.400	67.16	3.967	5.84	5.53	1.46
0.850	1.46	2.417	67.16	3.983	5.84	5.55	1.46
0.867	1.46	2.433	67.16	4.000	5.84	5.57	1.46
0.883	1.46	2.450	67.16	4.017	5.84	5.58	1.46
0.900	1.46	2.467	67.16	4.033	5.84	5.60	1.46
0.917	1.46	2.483	67.16	4.050	5.84	5.62	1.46
0.933	1.46	2.500	67.16	4.067	5.84	5.63	1.46
0.950	1.46	2.517	67.16	4.083	5.84	5.65	1.46
0.967	1.46	2.533	67.16	4.100	5.84	5.67	1.46
0.983	1.46	2.550	67.16	4.117	5.84	5.68	1.46
1.000	1.46	2.567	67.16	4.133	5.84	5.70	1.46
1.017	1.46	2.583	67.16	4.150	5.84	5.72	1.46
1.033	1.46	2.600	67.16	4.167	5.84	5.73	1.46
1.050	1.46	2.617	67.16	4.183	5.84	5.75	1.46
1.067	1.46	2.633	67.16	4.200	5.84	5.77	1.46
1.083	1.46	2.650	67.16	4.217	5.84	5.78	1.46
1.100	1.46	2.667	67.16	4.233	5.84	5.80	1.46
1.117	1.46	2.683	67.16	4.250	5.84	5.82	1.46
1.133	1.46	2.700	67.16	4.267	2.92	5.83	1.46
1.150	1.46	2.717	67.16	4.283	2.92	5.85	1.46
1.167	1.46	2.733	67.16	4.300	2.92	5.87	1.46
1.183	1.46	2.750	67.16	4.317	2.92	5.88	1.46
1.200	1.46	2.767	18.99	4.333	2.92	5.90	1.46
1.217	1.46	2.783	18.98	4.350	2.92	5.92	1.46
1.233	1.46	2.800	18.98	4.367	2.92	5.93	1.46
1.250	1.46	2.817	18.98	4.383	2.92	5.95	1.46
1.267	8.76	2.833	18.98	4.400	2.92	5.97	1.46
1.283	8.76	2.850	18.98	4.417	2.92	5.98	1.46
1.300	8.76	2.867	18.98	4.433	2.92	6.00	1.46
1.317	8.76	2.883	18.98	4.450	2.92	6.02	1.46
1.333	8.76	2.900	18.98	4.467	2.92	6.03	1.46
1.350	8.76	2.917	18.98	4.483	2.92	6.05	1.46
1.367	8.76	2.933	18.98	4.500	2.92	6.07	1.46
1.383	8.76	2.950	18.98	4.517	2.92	6.08	1.46
1.400	8.76	2.967	18.98	4.533	2.92	6.10	1.46
1.417	8.76	2.983	18.98	4.550	2.92	6.12	1.46
1.433	8.76	3.000	18.98	4.567	2.92	6.13	1.46
1.450	8.76	3.017	18.98	4.583	2.92	6.15	1.46
1.467	8.76	3.033	18.98	4.600	2.92	6.17	1.46
1.483	8.76	3.050	18.98	4.617	2.92	6.18	1.46
1.500	8.76	3.067	18.98	4.633	2.92	6.20	1.46
1.517	8.76	3.083	18.98	4.650	2.92	6.22	1.46
1.533	8.76	3.100	18.98	4.667	2.92	6.23	1.46
1.550	8.76	3.117	18.98	4.683	2.92	6.25	1.46
1.567	8.76	3.133	18.98	4.700	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	57.05	
over (min)		5.00	6.00	
Storage Coeff. (min)=		3.30 (ii)	5.30 (ii)	
Unit Hyd. Tpeak (min)=		5.00	6.00	
Unit Hyd. peak (cms)=		0.29	0.20	
				TOTALS
PEAK FLOW	(cms)=	0.38	0.00	0.387 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	72.00	51.26	71.79
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.70	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF

IN= 2---> OUT= 1
DT= 1.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0389	0.1013
0.0164	0.0514	0.0456	0.1141
0.0252	0.0690	0.0514	0.1288
0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.387	2.75	71.79
OUTFLOW: ID= 1 (7625)	2.080	0.046	3.83	69.93

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.77
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.1140

CALIB
STANDHYD (7623)
ID= 1 DT= 1.0 min

Area (ha)= 1.15
Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	8.76	3.150	18.98	4.72	2.92
0.033	0.00	1.600	8.76	3.167	18.98	4.73	2.92
0.050	0.00	1.617	8.76	3.183	18.98	4.75	2.92
0.067	0.00	1.633	8.76	3.200	18.98	4.77	1.46
0.083	0.00	1.650	8.76	3.217	18.98	4.78	1.46
0.100	0.00	1.667	8.76	3.233	18.98	4.80	1.46
0.117	0.00	1.683	8.76	3.250	18.98	4.82	1.46
0.133	0.00	1.700	8.76	3.267	10.22	4.83	1.46
0.150	0.00	1.717	8.76	3.283	10.22	4.85	1.46
0.167	0.00	1.733	8.76	3.300	10.22	4.87	1.46
0.183	0.00	1.750	8.76	3.317	10.22	4.88	1.46
0.200	0.00	1.767	24.82	3.333	10.22	4.90	1.46
0.217	0.00	1.783	24.82	3.350	10.22	4.92	1.46
0.233	0.00	1.800	24.82	3.367	10.22	4.93	1.46
0.250	0.00	1.817	24.82	3.383	10.22	4.95	1.46
0.267	1.46	1.833	24.82	3.400	10.22	4.97	1.46
0.283	1.46	1.850	24.82	3.417	10.22	4.98	1.46
0.300	1.46	1.867	24.82	3.433	10.22	5.00	1.46
0.317	1.46	1.883	24.82	3.450	10.22	5.02	1.46
0.333	1.46	1.900	24.82	3.467	10.22	5.03	1.46
0.350	1.46	1.917	24.82	3.483	10.22	5.05	1.46
0.367	1.46	1.933	24.82	3.500	10.22	5.07	1.46
0.383	1.46	1.950	24.82	3.517	10.22	5.08	1.46
0.400	1.46	1.967	24.82	3.533	10.22	5.10	1.46
0.417	1.46	1.983	24.82	3.550	10.22	5.12	1.46
0.433	1.46	2.000	24.82	3.567	10.22	5.13	1.46
0.450	1.46	2.017	24.82	3.583	10.22	5.15	1.46
0.467	1.46	2.033	24.82	3.600	10.22	5.17	1.46
0.483	1.46	2.050	24.82	3.617	10.22	5.18	1.46
0.500	1.46	2.067	24.82	3.633	10.22	5.20	1.46
0.517	1.46	2.083	24.82	3.650	10.22	5.22	1.46
0.533	1.46	2.100	24.82	3.667	10.22	5.23	1.46
0.550	1.46	2.117	24.82	3.683	10.22	5.25	1.46
0.567	1.46	2.133	24.82	3.700	10.22	5.27	1.46
0.583	1.46	2.150	24.82	3.717	10.22	5.28	1.46
0.600	1.46	2.167	24.82	3.733	10.22	5.30	1.46
0.617	1.46	2.183	24.82	3.750	10.22	5.32	1.46
0.633	1.46	2.200	24.82	3.767	5.84	5.33	1.46
0.650	1.46	2.217	24.82	3.783	5.84	5.35	1.46
0.667	1.46	2.233	24.82	3.800	5.84	5.37	1.46
0.683	1.46	2.250	24.82	3.817	5.84	5.38	1.46
0.700	1.46	2.267	67.16	3.833	5.84	5.40	1.46
0.717	1.46	2.283	67.16	3.850	5.84	5.42	1.46
0.733	1.46	2.300	67.16	3.867	5.84	5.43	1.46
0.750	1.46	2.317	67.16	3.883	5.84	5.45	1.46
0.767	1.46	2.333	67.16	3.900	5.84	5.47	1.46
0.783	1.46	2.350	67.16	3.917	5.84	5.48	1.46
0.800	1.46	2.367	67.16	3.933	5.84	5.50	1.46
0.817	1.46	2.383	67.16	3.950	5.84	5.52	1.46
0.833	1.46	2.400	67.16	3.967	5.84	5.53	1.46
0.850	1.46	2.417	67.16	3.983	5.84	5.55	1.46
0.867	1.46	2.433	67.16	4.000	5.84	5.57	1.46
0.883	1.46	2.450	67.16	4.017	5.84	5.58	1.46
0.900	1.46	2.467	67.16	4.033	5.84	5.60	1.46
0.917	1.46	2.483	67.16	4.050	5.84	5.62	1.46
0.933	1.46	2.500	67.16	4.067	5.84	5.63	1.46
0.950	1.46	2.517	67.16	4.083	5.84	5.65	1.46
0.967	1.46	2.533	67.16	4.100	5.84	5.67	1.46
0.983	1.46	2.550	67.16	4.117	5.84	5.68	1.46
1.000	1.46	2.567	67.16	4.133	5.84	5.70	1.46
1.017	1.46	2.583	67.16	4.150	5.84	5.72	1.46
1.033	1.46	2.600	67.16	4.167	5.84	5.73	1.46
1.050	1.46	2.617	67.16	4.183	5.84	5.75	1.46
1.067	1.46	2.633	67.16	4.200	5.84	5.77	1.46
1.083	1.46	2.650	67.16	4.217	5.84	5.78	1.46
1.100	1.46	2.667	67.16	4.233	5.84	5.80	1.46
1.117	1.46	2.683	67.16	4.250	5.84	5.82	1.46
1.133	1.46	2.700	67.16	4.267	2.92	5.83	1.46
1.150	1.46	2.717	67.16	4.283	2.92	5.85	1.46
1.167	1.46	2.733	67.16	4.300	2.92	5.87	1.46
1.183	1.46	2.750	67.16	4.317	2.92	5.88	1.46
1.200	1.46	2.767	18.99	4.333	2.92	5.90	1.46
1.217	1.46	2.783	18.98	4.350	2.92	5.92	1.46
1.233	1.46	2.800	18.98	4.367	2.92	5.93	1.46
1.250	1.46	2.817	18.98	4.383	2.92	5.95	1.46
1.267	8.76	2.833	18.98	4.400	2.92	5.97	1.46
1.283	8.76	2.850	18.98	4.417	2.92	5.98	1.46
1.300	8.76	2.867	18.98	4.433	2.92	6.00	1.46
1.317	8.76	2.883	18.98	4.450	2.92	6.02	1.46
1.333	8.76	2.900	18.98	4.467	2.92	6.03	1.46
1.350	8.76	2.917	18.98	4.483	2.92	6.05	1.46
1.367	8.76	2.933	18.98	4.500	2.92	6.07	1.46
1.383	8.76	2.950	18.98	4.517	2.92	6.08	1.46
1.400	8.76	2.967	18.98	4.533	2.92	6.10	1.46
1.417	8.76	2.983	18.98	4.550	2.92	6.12	1.46
1.433	8.76	3.000	18.98	4.567	2.92	6.13	1.46
1.450	8.76	3.017	18.98	4.583	2.92	6.15	1.46
1.467	8.76	3.033	18.98	4.600	2.92	6.17	1.46
1.483	8.76	3.050	18.98	4.617	2.92	6.18	1.46
1.500	8.76	3.067	18.98	4.633	2.92	6.20	1.46
1.517	8.76	3.083	18.98	4.650	2.92	6.22	1.46
1.533	8.76	3.100	18.98	4.667	2.92	6.23	1.46
1.550	8.76	3.117	18.98	4.683	2.92	6.25	1.46
1.567	8.76	3.133	18.98	4.700	2.92		

				TOTALS
Max.Eff.Inten.(mm/hr)=		67.16	50.27	
over (min)		5.00	5.00	
Storage Coeff. (min)=		2.77 (ii)	4.76 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.32	0.23	
PEAK FLOW	(cms)=	0.21	0.00	0.214 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	72.00	43.95	71.72
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(7622)| OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT= 1.0 min | OUTFLOW STORAGE | OUTFLOW STORAGE
(cms) (ha.m.) | (cms) (ha.m.)
0.0000 0.0000 | 0.0258 0.0650
0.0108 0.0330 | 0.0302 0.0725
0.0167 0.0440 | 0.0340 0.0820
0.0204 0.0525 | 0.0000 0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.214	2.75	71.72
OUTFLOW: ID= 1 (7622)	1.150	0.025	3.83	69.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.65
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.0630

| CALIB |
| STANDHYD (7629)| Area (ha)= 4.09
|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	8.76	3.150	18.98	4.72	2.92
0.033	0.00	1.600	8.76	3.167	18.98	4.73	2.92
0.050	0.00	1.617	8.76	3.183	18.98	4.75	2.92
0.067	0.00	1.633	8.76	3.200	18.98	4.77	1.46
0.083	0.00	1.650	8.76	3.217	18.98	4.78	1.46
0.100	0.00	1.667	8.76	3.233	18.98	4.80	1.46
0.117	0.00	1.683	8.76	3.250	18.98	4.82	1.46
0.133	0.00	1.700	8.76	3.267	10.22	4.83	1.46
0.150	0.00	1.717	8.76	3.283	10.22	4.85	1.46
0.167	0.00	1.733	8.76	3.300	10.22	4.87	1.46
0.183	0.00	1.750	8.76	3.317	10.22	4.88	1.46
0.200	0.00	1.767	24.82	3.333	10.22	4.90	1.46
0.217	0.00	1.783	24.82	3.350	10.22	4.92	1.46
0.233	0.00	1.800	24.82	3.367	10.22	4.93	1.46
0.250	0.00	1.817	24.82	3.383	10.22	4.95	1.46
0.267	1.46	1.833	24.82	3.400	10.22	4.97	1.46
0.283	1.46	1.850	24.82	3.417	10.22	4.98	1.46
0.300	1.46	1.867	24.82	3.433	10.22	5.00	1.46
0.317	1.46	1.883	24.82	3.450	10.22	5.02	1.46
0.333	1.46	1.900	24.82	3.467	10.22	5.03	1.46
0.350	1.46	1.917	24.82	3.483	10.22	5.05	1.46
0.367	1.46	1.933	24.82	3.500	10.22	5.07	1.46
0.383	1.46	1.950	24.82	3.517	10.22	5.08	1.46
0.400	1.46	1.967	24.82	3.533	10.22	5.10	1.46
0.417	1.46	1.983	24.82	3.550	10.22	5.12	1.46
0.433	1.46	2.000	24.82	3.567	10.22	5.13	1.46
0.450	1.46	2.017	24.82	3.583	10.22	5.15	1.46
0.467	1.46	2.033	24.82	3.600	10.22	5.17	1.46
0.483	1.46	2.050	24.82	3.617	10.22	5.18	1.46
0.500	1.46	2.067	24.82	3.633	10.22	5.20	1.46
0.517	1.46	2.083	24.82	3.650	10.22	5.22	1.46
0.533	1.46	2.100	24.82	3.667	10.22	5.23	1.46
0.550	1.46	2.117	24.82	3.683	10.22	5.25	1.46
0.567	1.46	2.133	24.82	3.700	10.22	5.27	1.46
0.583	1.46	2.150	24.82	3.717	10.22	5.28	1.46
0.600	1.46	2.167	24.82	3.733	10.22	5.30	1.46
0.617	1.46	2.183	24.82	3.750	10.22	5.32	1.46
0.633	1.46	2.200	24.82	3.767	5.84	5.33	1.46
0.650	1.46	2.217	24.82	3.783	5.84	5.35	1.46
0.667	1.46	2.233	24.82	3.800	5.84	5.37	1.46
0.683	1.46	2.250	24.82	3.817	5.84	5.38	1.46
0.700	1.46	2.267	67.16	3.833	5.84	5.40	1.46
0.717	1.46	2.283	67.16	3.850	5.84	5.42	1.46
0.733	1.46	2.300	67.16	3.867	5.84	5.43	1.46
0.750	1.46	2.317	67.16	3.883	5.84	5.45	1.46
0.767	1.46	2.333	67.16	3.900	5.84	5.47	1.46
0.783	1.46	2.350	67.16	3.917	5.84	5.48	1.46
0.800	1.46	2.367	67.16	3.933	5.84	5.50	1.46
0.817	1.46	2.383	67.16	3.950	5.84	5.52	1.46
0.833	1.46	2.400	67.16	3.967	5.84	5.53	1.46
0.850	1.46	2.417	67.16	3.983	5.84	5.55	1.46
0.867	1.46	2.433	67.16	4.000	5.84	5.57	1.46
0.883	1.46	2.450	67.16	4.017	5.84	5.58	1.46
0.900	1.46	2.467	67.16	4.033	5.84	5.60	1.46
0.917	1.46	2.483	67.16	4.050	5.84	5.62	1.46
0.933	1.46	2.500	67.16	4.067	5.84	5.63	1.46
0.950	1.46	2.517	67.16	4.083	5.84	5.65	1.46
0.967	1.46	2.533	67.16	4.100	5.84	5.67	1.46
0.983	1.46	2.550	67.16	4.117	5.84	5.68	1.46
1.000	1.46	2.567	67.16	4.133	5.84	5.70	1.46
1.017	1.46	2.583	67.16	4.150	5.84	5.72	1.46
1.033	1.46	2.600	67.16	4.167	5.84	5.73	1.46
1.050	1.46	2.617	67.16	4.183	5.84	5.75	1.46
1.067	1.46	2.633	67.16	4.200	5.84	5.77	1.46
1.083	1.46	2.650	67.16	4.217	5.84	5.78	1.46
1.100	1.46	2.667	67.16	4.233	5.84	5.80	1.46
1.117	1.46	2.683	67.16	4.250	5.84	5.82	1.46
1.133	1.46	2.700	67.16	4.267	2.92	5.83	1.46
1.150	1.46	2.717	67.16	4.283	2.92	5.85	1.46
1.167	1.46	2.733	67.16	4.300	2.92	5.87	1.46
1.183	1.46	2.750	67.16	4.317	2.92	5.88	1.46
1.200	1.46	2.767	18.99	4.333	2.92	5.90	1.46
1.217	1.46	2.783	18.98	4.350	2.92	5.92	1.46
1.233	1.46	2.800	18.98	4.367	2.92	5.93	1.46
1.250	1.46	2.817	18.98	4.383	2.92	5.95	1.46
1.267	8.76	2.833	18.98	4.400	2.92	5.97	1.46
1.283	8.76	2.850	18.98	4.417	2.92	5.98	1.46
1.300	8.76	2.867	18.98	4.433	2.92	6.00	1.46
1.317	8.76	2.883	18.98	4.450	2.92	6.02	1.46
1.333	8.76	2.900	18.98	4.467	2.92	6.03	1.46
1.350	8.76	2.917	18.98	4.483	2.92	6.05	1.46
1.367	8.76	2.933	18.98	4.500	2.92	6.07	1.46
1.383	8.76	2.950	18.98	4.517	2.92	6.08	1.46
1.400	8.76	2.967	18.98	4.533	2.92	6.10	1.46
1.417	8.76	2.983	18.98	4.550	2.92	6.12	1.46
1.433	8.76	3.000	18.98	4.567	2.92	6.13	1.46
1.450	8.76	3.017	18.98	4.583	2.92	6.15	1.46
1.467	8.76	3.033	18.98	4.600	2.92	6.17	1.46
1.483	8.76	3.050	18.98	4.617	2.92	6.18	1.46
1.500	8.76	3.067	18.98	4.633	2.92	6.20	1.46
1.517	8.76	3.083	18.98	4.650	2.92	6.22	1.46
1.533	8.76	3.100	18.98	4.667	2.92	6.23	1.46
1.550	8.76	3.117	18.98	4.683	2.92	6.25	1.46
1.567	8.76	3.133	18.98	4.700	2.92		

Max.Eff.Inten.(mm/hr)=		67.16	50.27	
over (min)		5.00	7.00	
Storage Coeff. (min)=		4.05 (ii)	6.04 (ii)	
Unit Hyd. Tpeak (min)=		5.00	7.00	
Unit Hyd. peak (cms)=		0.26	0.18	
				TOTALS
PEAK FLOW	(cms)=	0.75	0.01	0.760 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	72.00	43.95	71.72
TOTAL RAINFALL	(mm)=	73.00	73.00	73.00
RUNOFF COEFFICIENT	=	0.99	0.60	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7630)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000      0.0000   |    0.0826      0.2320
                           0.0347      0.1170   |    0.0967      0.2609
                           0.0534      0.1580   |    0.1090      0.2940
                           0.0655      0.1890   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7629)      4.090     0.760      2.75      71.72
   OUTFLOW: ID= 1 (  7630)      4.090     0.081      3.88      69.24

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.65
                TIME SHIFT OF PEAK FLOW          (min)= 68.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.2278

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| CALIB            |
| STANDHYD (  7631)|   Area    (ha)=   3.91
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.87         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     161.45        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 1.583    8.76 | 3.150   18.98 |  4.72    2.92
               0.033    0.00 | 1.600    8.76 | 3.167   18.98 |  4.73    2.92
               0.050    0.00 | 1.617    8.76 | 3.183   18.98 |  4.75    2.92
               0.067    0.00 | 1.633    8.76 | 3.200   18.98 |  4.77    1.46
               0.083    0.00 | 1.650    8.76 | 3.217   18.98 |  4.78    1.46
               0.100    0.00 | 1.667    8.76 | 3.233   18.98 |  4.80    1.46
               0.117    0.00 | 1.683    8.76 | 3.250   18.98 |  4.82    1.46
               0.133    0.00 | 1.700    8.76 | 3.267   10.22 |  4.83    1.46
               0.150    0.00 | 1.717    8.76 | 3.283   10.22 |  4.85    1.46
               0.167    0.00 | 1.733    8.76 | 3.300   10.22 |  4.87    1.46
               0.183    0.00 | 1.750    8.76 | 3.317   10.22 |  4.88    1.46
               0.200    0.00 | 1.767   24.82 | 3.333   10.22 |  4.90    1.46
               0.217    0.00 | 1.783   24.82 | 3.350   10.22 |  4.92    1.46
               0.233    0.00 | 1.800   24.82 | 3.367   10.22 |  4.93    1.46
               0.250    0.00 | 1.817   24.82 | 3.383   10.22 |  4.95    1.46
               0.267    1.46 | 1.833   24.82 | 3.400   10.22 |  4.97    1.46
               0.283    1.46 | 1.850   24.82 | 3.417   10.22 |  4.98    1.46
               0.300    1.46 | 1.867   24.82 | 3.433   10.22 |  5.00    1.46
               0.317    1.46 | 1.883   24.82 | 3.450   10.22 |  5.02    1.46
               0.333    1.46 | 1.900   24.82 | 3.467   10.22 |  5.03    1.46
               0.350    1.46 | 1.917   24.82 | 3.483   10.22 |  5.05    1.46
               0.367    1.46 | 1.933   24.82 | 3.500   10.22 |  5.07    1.46
               0.383    1.46 | 1.950   24.82 | 3.517   10.22 |  5.08    1.46
               0.400    1.46 | 1.967   24.82 | 3.533   10.22 |  5.10    1.46
               0.417    1.46 | 1.983   24.82 | 3.550   10.22 |  5.12    1.46
               0.433    1.46 | 2.000   24.82 | 3.567   10.22 |  5.13    1.46
               0.450    1.46 | 2.017   24.82 | 3.583   10.22 |  5.15    1.46
               0.467    1.46 | 2.033   24.82 | 3.600   10.22 |  5.17    1.46
               0.483    1.46 | 2.050   24.82 | 3.617   10.22 |  5.18    1.46
               0.500    1.46 | 2.067   24.82 | 3.633   10.22 |  5.20    1.46
               0.517    1.46 | 2.083   24.82 | 3.650   10.22 |  5.22    1.46
               0.533    1.46 | 2.100   24.82 | 3.667   10.22 |  5.23    1.46
               0.550    1.46 | 2.117   24.82 | 3.683   10.22 |  5.25    1.46
               0.567    1.46 | 2.133   24.82 | 3.700   10.22 |  5.27    1.46
               0.583    1.46 | 2.150   24.82 | 3.717   10.22 |  5.28    1.46
               0.600    1.46 | 2.167   24.82 | 3.733   10.22 |  5.30    1.46
               0.617    1.46 | 2.183   24.82 | 3.750   10.22 |  5.32    1.46
               0.633    1.46 | 2.200   24.82 | 3.767    5.84 |  5.33    1.46
               0.650    1.46 | 2.217   24.82 | 3.783    5.84 |  5.35    1.46
               0.667    1.46 | 2.233   24.82 | 3.800    5.84 |  5.37    1.46
               0.683    1.46 | 2.250   24.82 | 3.817    5.84 |  5.38    1.46
               0.700    1.46 | 2.267   67.16 | 3.833    5.84 |  5.40    1.46
               0.717    1.46 | 2.283   67.16 | 3.850    5.84 |  5.42    1.46
               0.733    1.46 | 2.300   67.16 | 3.867    5.84 |  5.43    1.46
               0.750    1.46 | 2.317   67.16 | 3.883    5.84 |  5.45    1.46
               0.767    1.46 | 2.333   67.16 | 3.900    5.84 |  5.47    1.46
               0.783    1.46 | 2.350   67.16 | 3.917    5.84 |  5.48    1.46
               0.800    1.46 | 2.367   67.16 | 3.933    5.84 |  5.50    1.46
               0.817    1.46 | 2.383   67.16 | 3.950    5.84 |  5.52    1.46
               0.833    1.46 | 2.400   67.16 | 3.967    5.84 |  5.53    1.46
               0.850    1.46 | 2.417   67.16 | 3.983    5.84 |  5.55    1.46
               0.867    1.46 | 2.433   67.16 | 4.000    5.84 |  5.57    1.46
               0.883    1.46 | 2.450   67.16 | 4.017    5.84 |  5.58    1.46
               0.900    1.46 | 2.467   67.16 | 4.033    5.84 |  5.60    1.46
               0.917    1.46 | 2.483   67.16 | 4.050    5.84 |  5.62    1.46
               0.933    1.46 | 2.500   67.16 | 4.067    5.84 |  5.63    1.46
               0.950    1.46 | 2.517   67.16 | 4.083    5.84 |  5.65    1.46
               0.967    1.46 | 2.533   67.16 | 4.100    5.84 |  5.67    1.46
               0.983    1.46 | 2.550   67.16 | 4.117    5.84 |  5.68    1.46
               1.000    1.46 | 2.567   67.16 | 4.133    5.84 |  5.70    1.46
               1.017    1.46 | 2.583   67.16 | 4.150    5.84 |  5.72    1.46
               1.033    1.46 | 2.600   67.16 | 4.167    5.84 |  5.73    1.46
               1.050    1.46 | 2.617   67.16 | 4.183    5.84 |  5.75    1.46
               1.067    1.46 | 2.633   67.16 | 4.200    5.84 |  5.77    1.46
               1.083    1.46 | 2.650   67.16 | 4.217    5.84 |  5.78    1.46
               1.100    1.46 | 2.667   67.16 | 4.233    5.84 |  5.80    1.46
               1.117    1.46 | 2.683   67.16 | 4.250    5.84 |  5.82    1.46
               1.133    1.46 | 2.700   67.16 | 4.267    2.92 |  5.83    1.46
               1.150    1.46 | 2.717   67.16 | 4.283    2.92 |  5.85    1.46
               1.167    1.46 | 2.733   67.16 | 4.300    2.92 |  5.87    1.46
               1.183    1.46 | 2.750   67.16 | 4.317    2.92 |  5.88    1.46
               1.200    1.46 | 2.767   18.99 | 4.333    2.92 |  5.90    1.46
               1.217    1.46 | 2.783   18.98 | 4.350    2.92 |  5.92    1.46
               1.233    1.46 | 2.800   18.98 | 4.367    2.92 |  5.93    1.46
               1.250    1.46 | 2.817   18.98 | 4.383    2.92 |  5.95    1.46
               1.267    8.76 | 2.833   18.98 | 4.400    2.92 |  5.97    1.46
               1.283    8.76 | 2.850   18.98 | 4.417    2.92 |  5.98    1.46
               1.300    8.76 | 2.867   18.98 | 4.433    2.92 |  6.00    1.46
               1.317    8.76 | 2.883   18.98 | 4.450    2.92 |  6.02    1.46
               1.333    8.76 | 2.900   18.98 | 4.467    2.92 |  6.03    1.46
               1.350    8.76 | 2.917   18.98 | 4.483    2.92 |  6.05    1.46
               1.367    8.76 | 2.933   18.98 | 4.500    2.92 |  6.07    1.46
               1.383    8.76 | 2.950   18.98 | 4.517    2.92 |  6.08    1.46
               1.400    8.76 | 2.967   18.98 | 4.533    2.92 |  6.10    1.46
               1.417    8.76 | 2.983   18.98 | 4.550    2.92 |  6.12    1.46
               1.433    8.76 | 3.000   18.98 | 4.567    2.92 |  6.13    1.46
               1.450    8.76 | 3.017   18.98 | 4.583    2.92 |  6.15    1.46
               1.467    8.76 | 3.033   18.98 | 4.600    2.92 |  6.17    1.46
               1.483    8.76 | 3.050   18.98 | 4.617    2.92 |  6.18    1.46
               1.500    8.76 | 3.067   18.98 | 4.633    2.92 |  6.20    1.46
               1.517    8.76 | 3.083   18.98 | 4.650    2.92 |  6.22    1.46
               1.533    8.76 | 3.100   18.98 | 4.667    2.92 |  6.23    1.46
               1.550    8.76 | 3.117   18.98 | 4.683    2.92 |  6.25    1.46
               1.567    8.76 | 3.133   18.98 | 4.700    2.92 |

Max.Eff.Inten.(mm/hr)=      67.16        50.27
          over (min)         5.00         6.00
Storage Coeff.  (min)=       3.99 (ii)    5.99 (ii)
Unit Hyd. Tpeak (min)=       5.00         6.00
Unit Hyd. peak  (cms)=       0.26         0.19
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.72         0.01       0.727 (iii)
TIME TO PEAK    (hrs)=       2.75         2.75        2.75
RUNOFF VOLUME    (mm)=      72.00        43.95       71.72
TOTAL RAINFALL   (mm)=      73.00        73.00       73.00
RUNOFF COEFFICIENT   =       0.99         0.60        0.98

  (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
      CN*  =  85.0    Ia = Dep. Storage  (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
      THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR(  7632)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |    0.0792      0.2220
                          0.0333     0.1130   |    0.0928      0.2500
                          0.0512     0.1510   |    0.1046      0.2810
                          0.0629     0.1810   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7631)     3.910     0.727      2.75      71.72
   OUTFLOW: ID= 1 (  7632)     3.910     0.078      3.87      69.20

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.67
                  TIME SHIFT OF PEAK FLOW         (min)= 67.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2178

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| CALIB            |
| STANDHYD (  7641)|   Area    (ha)=   2.21
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.19         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     121.38        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 1.583    8.76 | 3.150   18.98 |  4.72    2.92
               0.033    0.00 | 1.600    8.76 | 3.167   18.98 |  4.73    2.92
               0.050    0.00 | 1.617    8.76 | 3.183   18.98 |  4.75    2.92
               0.067    0.00 | 1.633    8.76 | 3.200   18.98 |  4.77    1.46
               0.083    0.00 | 1.650    8.76 | 3.217   18.98 |  4.78    1.46
               0.100    0.00 | 1.667    8.76 | 3.233   18.98 |  4.80    1.46
               0.117    0.00 | 1.683    8.76 | 3.250   18.98 |  4.82    1.46
               0.133    0.00 | 1.700    8.76 | 3.267   10.22 |  4.83    1.46
               0.150    0.00 | 1.717    8.76 | 3.283   10.22 |  4.85    1.46
               0.167    0.00 | 1.733    8.76 | 3.300   10.22 |  4.87    1.46
               0.183    0.00 | 1.750    8.76 | 3.317   10.22 |  4.88    1.46
               0.200    0.00 | 1.767   24.82 | 3.333   10.22 |  4.90    1.46
               0.217    0.00 | 1.783   24.82 | 3.350   10.22 |  4.92    1.46
               0.233    0.00 | 1.800   24.82 | 3.367   10.22 |  4.93    1.46
               0.250    0.00 | 1.817   24.82 | 3.383   10.22 |  4.95    1.46
               0.267    1.46 | 1.833   24.82 | 3.400   10.22 |  4.97    1.46
               0.283    1.46 | 1.850   24.82 | 3.417   10.22 |  4.98    1.46
               0.300    1.46 | 1.867   24.82 | 3.433   10.22 |  5.00    1.46
               0.317    1.46 | 1.883   24.82 | 3.450   10.22 |  5.02    1.46
               0.333    1.46 | 1.900   24.82 | 3.467   10.22 |  5.03    1.46
               0.350    1.46 | 1.917   24.82 | 3.483   10.22 |  5.05    1.46
               0.367    1.46 | 1.933   24.82 | 3.500   10.22 |  5.07    1.46
               0.383    1.46 | 1.950   24.82 | 3.517   10.22 |  5.08    1.46
               0.400    1.46 | 1.967   24.82 | 3.533   10.22 |  5.10    1.46
               0.417    1.46 | 1.983   24.82 | 3.550   10.22 |  5.12    1.46
               0.433    1.46 | 2.000   24.82 | 3.567   10.22 |  5.13    1.46
               0.450    1.46 | 2.017   24.82 | 3.583   10.22 |  5.15    1.46
               0.467    1.46 | 2.033   24.82 | 3.600   10.22 |  5.17    1.46
               0.483    1.46 | 2.050   24.82 | 3.617   10.22 |  5.18    1.46
               0.500    1.46 | 2.067   24.82 | 3.633   10.22 |  5.20    1.46
               0.517    1.46 | 2.083   24.82 | 3.650   10.22 |  5.22    1.46
               0.533    1.46 | 2.100   24.82 | 3.667   10.22 |  5.23    1.46
               0.550    1.46 | 2.117   24.82 | 3.683   10.22 |  5.25    1.46
               0.567    1.46 | 2.133   24.82 | 3.700   10.22 |  5.27    1.46
               0.583    1.46 | 2.150   24.82 | 3.717   10.22 |  5.28    1.46
               0.600    1.46 | 2.167   24.82 | 3.733   10.22 |  5.30    1.46
               0.617    1.46 | 2.183   24.82 | 3.750   10.22 |  5.32    1.46
               0.633    1.46 | 2.200   24.82 | 3.767    5.84 |  5.33    1.46
               0.650    1.46 | 2.217   24.82 | 3.783    5.84 |  5.35    1.46
               0.667    1.46 | 2.233   24.82 | 3.800    5.84 |  5.37    1.46
               0.683    1.46 | 2.250   24.82 | 3.817    5.84 |  5.38    1.46
               0.700    1.46 | 2.267   67.16 | 3.833    5.84 |  5.40    1.46
               0.717    1.46 | 2.283   67.16 | 3.850    5.84 |  5.42    1.46
               0.733    1.46 | 2.300   67.16 | 3.867    5.84 |  5.43    1.46
               0.750    1.46 | 2.317   67.16 | 3.883    5.84 |  5.45    1.46
               0.767    1.46 | 2.333   67.16 | 3.900    5.84 |  5.47    1.46
               0.783    1.46 | 2.350   67.16 | 3.917    5.84 |  5.48    1.46
               0.800    1.46 | 2.367   67.16 | 3.933    5.84 |  5.50    1.46
               0.817    1.46 | 2.383   67.16 | 3.950    5.84 |  5.52    1.46
               0.833    1.46 | 2.400   67.16 | 3.967    5.84 |  5.53    1.46
               0.850    1.46 | 2.417   67.16 | 3.983    5.84 |  5.55    1.46
               0.867    1.46 | 2.433   67.16 | 4.000    5.84 |  5.57    1.46
               0.883    1.46 | 2.450   67.16 | 4.017    5.84 |  5.58    1.46
               0.900    1.46 | 2.467   67.16 | 4.033    5.84 |  5.60    1.46
               0.917    1.46 | 2.483   67.16 | 4.050    5.84 |  5.62    1.46
               0.933    1.46 | 2.500   67.16 | 4.067    5.84 |  5.63    1.46
               0.950    1.46 | 2.517   67.16 | 4.083    5.84 |  5.65    1.46
               0.967    1.46 | 2.533   67.16 | 4.100    5.84 |  5.67    1.46
               0.983    1.46 | 2.550   67.16 | 4.117    5.84 |  5.68    1.46
               1.000    1.46 | 2.567   67.16 | 4.133    5.84 |  5.70    1.46
               1.017    1.46 | 2.583   67.16 | 4.150    5.84 |  5.72    1.46
               1.033    1.46 | 2.600   67.16 | 4.167    5.84 |  5.73    1.46
               1.050    1.46 | 2.617   67.16 | 4.183    5.84 |  5.75    1.46
               1.067    1.46 | 2.633   67.16 | 4.200    5.84 |  5.77    1.46
               1.083    1.46 | 2.650   67.16 | 4.217    5.84 |  5.78    1.46
               1.100    1.46 | 2.667   67.16 | 4.233    5.84 |  5.80    1.46
               1.117    1.46 | 2.683   67.16 | 4.250    5.84 |  5.82    1.46
               1.133    1.46 | 2.700   67.16 | 4.267    2.92 |  5.83    1.46
               1.150    1.46 | 2.717   67.16 | 4.283    2.92 |  5.85    1.46
               1.167    1.46 | 2.733   67.16 | 4.300    2.92 |  5.87    1.46
               1.183    1.46 | 2.750   67.16 | 4.317    2.92 |  5.88    1.46
               1.200    1.46 | 2.767   18.99 | 4.333    2.92 |  5.90    1.46
               1.217    1.46 | 2.783   18.98 | 4.350    2.92 |  5.92    1.46
               1.233    1.46 | 2.800   18.98 | 4.367    2.92 |  5.93    1.46
               1.250    1.46 | 2.817   18.98 | 4.383    2.92 |  5.95    1.46
               1.267    8.76 | 2.833   18.98 | 4.400    2.92 |  5.97    1.46
               1.283    8.76 | 2.850   18.98 | 4.417    2.92 |  5.98    1.46
               1.300    8.76 | 2.867   18.98 | 4.433    2.92 |  6.00    1.46
               1.317    8.76 | 2.883   18.98 | 4.450    2.92 |  6.02    1.46
               1.333    8.76 | 2.900   18.98 | 4.467    2.92 |  6.03    1.46
               1.350    8.76 | 2.917   18.98 | 4.483    2.92 |  6.05    1.46
               1.367    8.76 | 2.933   18.98 | 4.500    2.92 |  6.07    1.46
               1.383    8.76 | 2.950   18.98 | 4.517    2.92 |  6.08    1.46
               1.400    8.76 | 2.967   18.98 | 4.533    2.92 |  6.10    1.46
               1.417    8.76 | 2.983   18.98 | 4.550    2.92 |  6.12    1.46
               1.433    8.76 | 3.000   18.98 | 4.567    2.92 |  6.13    1.46
               1.450    8.76 | 3.017   18.98 | 4.583    2.92 |  6.15    1.46
               1.467    8.76 | 3.033   18.98 | 4.600    2.92 |  6.17    1.46
               1.483    8.76 | 3.050   18.98 | 4.617    2.92 |  6.18    1.46
               1.500    8.76 | 3.067   18.98 | 4.633    2.92 |  6.20    1.46
               1.517    8.76 | 3.083   18.98 | 4.650    2.92 |  6.22    1.46
               1.533    8.76 | 3.100   18.98 | 4.667    2.92 |  6.23    1.46
               1.550    8.76 | 3.117   18.98 | 4.683    2.92 |  6.25    1.46
               1.567    8.76 | 3.133   18.98 | 4.700    2.92 |

Max.Eff.Inten.(mm/hr)=      67.16        50.27
           over (min)        5.00         6.00
Storage Coeff.  (min)=       3.36 (ii)    5.36 (ii)
Unit Hyd. Tpeak (min)=       5.00         6.00
Unit Hyd. peak  (cms)=       0.29         0.20
                                                    *TOTALS*
PEAK FLOW       (cms)=       0.41         0.00          0.411 (iii)
TIME TO PEAK    (hrs)=       2.75         2.75          2.75
RUNOFF VOLUME    (mm)=      72.00        43.95         71.72
TOTAL RAINFALL   (mm)=      73.00        73.00         73.00
RUNOFF COEFFICIENT   =       0.99         0.60          0.98


  (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
       CN*  =  85.0    Ia = Dep. Storage  (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
      THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR(  7642)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0470      0.1250
                          0.0197      0.0630   |    0.0551      0.1410
                          0.0304      0.0850   |    0.0620      0.1580
                          0.0373      0.1020   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7641)     2.210     0.411      2.75      71.72
   OUTFLOW: ID= 1 (  7642)     2.210     0.046      3.85      69.65

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.14
                  TIME SHIFT OF PEAK FLOW         (min)= 66.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1221

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--------------------
| CALIB            |
| STANDHYD (  7643)|   Area    (ha)=   2.02
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      2.00          0.02
     Dep. Storage     (mm)=      1.00          1.50
     Average Slope     (%)=      1.00          0.50
     Length            (m)=    116.05         40.00
     Mannings n             =    0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 1.583    8.76 | 3.150   18.98 |  4.72    2.92
               0.033    0.00 | 1.600    8.76 | 3.167   18.98 |  4.73    2.92
               0.050    0.00 | 1.617    8.76 | 3.183   18.98 |  4.75    2.92
               0.067    0.00 | 1.633    8.76 | 3.200   18.98 |  4.77    1.46
               0.083    0.00 | 1.650    8.76 | 3.217   18.98 |  4.78    1.46
               0.100    0.00 | 1.667    8.76 | 3.233   18.98 |  4.80    1.46
               0.117    0.00 | 1.683    8.76 | 3.250   18.98 |  4.82    1.46
               0.133    0.00 | 1.700    8.76 | 3.267   10.22 |  4.83    1.46
               0.150    0.00 | 1.717    8.76 | 3.283   10.22 |  4.85    1.46
               0.167    0.00 | 1.733    8.76 | 3.300   10.22 |  4.87    1.46
               0.183    0.00 | 1.750    8.76 | 3.317   10.22 |  4.88    1.46
               0.200    0.00 | 1.767   24.82 | 3.333   10.22 |  4.90    1.46
               0.217    0.00 | 1.783   24.82 | 3.350   10.22 |  4.92    1.46
               0.233    0.00 | 1.800   24.82 | 3.367   10.22 |  4.93    1.46
               0.250    0.00 | 1.817   24.82 | 3.383   10.22 |  4.95    1.46
               0.267    1.46 | 1.833   24.82 | 3.400   10.22 |  4.97    1.46
               0.283    1.46 | 1.850   24.82 | 3.417   10.22 |  4.98    1.46
               0.300    1.46 | 1.867   24.82 | 3.433   10.22 |  5.00    1.46
               0.317    1.46 | 1.883   24.82 | 3.450   10.22 |  5.02    1.46
               0.333    1.46 | 1.900   24.82 | 3.467   10.22 |  5.03    1.46
               0.350    1.46 | 1.917   24.82 | 3.483   10.22 |  5.05    1.46
               0.367    1.46 | 1.933   24.82 | 3.500   10.22 |  5.07    1.46
               0.383    1.46 | 1.950   24.82 | 3.517   10.22 |  5.08    1.46
               0.400    1.46 | 1.967   24.82 | 3.533   10.22 |  5.10    1.46
               0.417    1.46 | 1.983   24.82 | 3.550   10.22 |  5.12    1.46
               0.433    1.46 | 2.000   24.82 | 3.567   10.22 |  5.13    1.46
               0.450    1.46 | 2.017   24.82 | 3.583   10.22 |  5.15    1.46
               0.467    1.46 | 2.033   24.82 | 3.600   10.22 |  5.17    1.46
               0.483    1.46 | 2.050   24.82 | 3.617   10.22 |  5.18    1.46
               0.500    1.46 | 2.067   24.82 | 3.633   10.22 |  5.20    1.46
               0.517    1.46 | 2.083   24.82 | 3.650   10.22 |  5.22    1.46
               0.533    1.46 | 2.100   24.82 | 3.667   10.22 |  5.23    1.46
               0.550    1.46 | 2.117   24.82 | 3.683   10.22 |  5.25    1.46
               0.567    1.46 | 2.133   24.82 | 3.700   10.22 |  5.27    1.46
               0.583    1.46 | 2.150   24.82 | 3.717   10.22 |  5.28    1.46
               0.600    1.46 | 2.167   24.82 | 3.733   10.22 |  5.30    1.46
               0.617    1.46 | 2.183   24.82 | 3.750   10.22 |  5.32    1.46
               0.633    1.46 | 2.200   24.82 | 3.767    5.84 |  5.33    1.46
               0.650    1.46 | 2.217   24.82 | 3.783    5.84 |  5.35    1.46
               0.667    1.46 | 2.233   24.82 | 3.800    5.84 |  5.37    1.46
               0.683    1.46 | 2.250   24.82 | 3.817    5.84 |  5.38    1.46
               0.700    1.46 | 2.267   67.16 | 3.833    5.84 |  5.40    1.46
               0.717    1.46 | 2.283   67.16 | 3.850    5.84 |  5.42    1.46
               0.733    1.46 | 2.300   67.16 | 3.867    5.84 |  5.43    1.46
               0.750    1.46 | 2.317   67.16 | 3.883    5.84 |  5.45    1.46
               0.767    1.46 | 2.333   67.16 | 3.900    5.84 |  5.47    1.46
               0.783    1.46 | 2.350   67.16 | 3.917    5.84 |  5.48    1.46
               0.800    1.46 | 2.367   67.16 | 3.933    5.84 |  5.50    1.46
               0.817    1.46 | 2.383   67.16 | 3.950    5.84 |  5.52    1.46
               0.833    1.46 | 2.400   67.16 | 3.967    5.84 |  5.53    1.46
               0.850    1.46 | 2.417   67.16 | 3.983    5.84 |  5.55    1.46
               0.867    1.46 | 2.433   67.16 | 4.000    5.84 |  5.57    1.46
               0.883    1.46 | 2.450   67.16 | 4.017    5.84 |  5.58    1.46
               0.900    1.46 | 2.467   67.16 | 4.033    5.84 |  5.60    1.46
               0.917    1.46 | 2.483   67.16 | 4.050    5.84 |  5.62    1.46
               0.933    1.46 | 2.500   67.16 | 4.067    5.84 |  5.63    1.46
               0.950    1.46 | 2.517   67.16 | 4.083    5.84 |  5.65    1.46
               0.967    1.46 | 2.533   67.16 | 4.100    5.84 |  5.67    1.46
               0.983    1.46 | 2.550   67.16 | 4.117    5.84 |  5.68    1.46
               1.000    1.46 | 2.567   67.16 | 4.133    5.84 |  5.70    1.46
               1.017    1.46 | 2.583   67.16 | 4.150    5.84 |  5.72    1.46
               1.033    1.46 | 2.600   67.16 | 4.167    5.84 |  5.73    1.46
               1.050    1.46 | 2.617   67.16 | 4.183    5.84 |  5.75    1.46
               1.067    1.46 | 2.633   67.16 | 4.200    5.84 |  5.77    1.46
               1.083    1.46 | 2.650   67.16 | 4.217    5.84 |  5.78    1.46
               1.100    1.46 | 2.667   67.16 | 4.233    5.84 |  5.80    1.46
               1.117    1.46 | 2.683   67.16 | 4.250    5.84 |  5.82    1.46
               1.133    1.46 | 2.700   67.16 | 4.267    2.92 |  5.83    1.46
               1.150    1.46 | 2.717   67.16 | 4.283    2.92 |  5.85    1.46
               1.167    1.46 | 2.733   67.16 | 4.300    2.92 |  5.87    1.46
               1.183    1.46 | 2.750   67.16 | 4.317    2.92 |  5.88    1.46
               1.200    1.46 | 2.767   18.99 | 4.333    2.92 |  5.90    1.46
               1.217    1.46 | 2.783   18.98 | 4.350    2.92 |  5.92    1.46
               1.233    1.46 | 2.800   18.98 | 4.367    2.92 |  5.93    1.46
               1.250    1.46 | 2.817   18.98 | 4.383    2.92 |  5.95    1.46
               1.267    8.76 | 2.833   18.98 | 4.400    2.92 |  5.97    1.46
               1.283    8.76 | 2.850   18.98 | 4.417    2.92 |  5.98    1.46
               1.300    8.76 | 2.867   18.98 | 4.433    2.92 |  6.00    1.46
               1.317    8.76 | 2.883   18.98 | 4.450    2.92 |  6.02    1.46
               1.333    8.76 | 2.900   18.98 | 4.467    2.92 |  6.03    1.46
               1.350    8.76 | 2.917   18.98 | 4.483    2.92 |  6.05    1.46
               1.367    8.76 | 2.933   18.98 | 4.500    2.92 |  6.07    1.46
               1.383    8.76 | 2.950   18.98 | 4.517    2.92 |  6.08    1.46
               1.400    8.76 | 2.967   18.98 | 4.533    2.92 |  6.10    1.46
               1.417    8.76 | 2.983   18.98 | 4.550    2.92 |  6.12    1.46
               1.433    8.76 | 3.000   18.98 | 4.567    2.92 |  6.13    1.46
               1.450    8.76 | 3.017   18.98 | 4.583    2.92 |  6.15    1.46
               1.467    8.76 | 3.033   18.98 | 4.600    2.92 |  6.17    1.46
               1.483    8.76 | 3.050   18.98 | 4.617    2.92 |  6.18    1.46
               1.500    8.76 | 3.067   18.98 | 4.633    2.92 |  6.20    1.46
               1.517    8.76 | 3.083   18.98 | 4.650    2.92 |  6.22    1.46
               1.533    8.76 | 3.100   18.98 | 4.667    2.92 |  6.23    1.46
               1.550    8.76 | 3.117   18.98 | 4.683    2.92 |  6.25    1.46
               1.567    8.76 | 3.133   18.98 | 4.700    2.92 |

Max.Eff.Inten.(mm/hr)=      67.16        50.27
          over (min)         5.00         6.00
Storage Coeff.  (min)=       3.28 (ii)    5.27 (ii)
Unit Hyd. Tpeak (min)=       5.00         6.00
Unit Hyd. peak  (cms)=       0.29         0.21
                                                    *TOTALS*
PEAK FLOW       (cms)=       0.37         0.00          0.376 (iii)
TIME TO PEAK    (hrs)=       2.75         2.75           2.75
RUNOFF VOLUME    (mm)=      72.00        43.95          71.72
TOTAL RAINFALL   (mm)=      73.00        73.00          73.00
RUNOFF COEFFICIENT   =        0.99         0.60           0.98

  (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
      CN*  =  85.0    Ia = Dep. Storage  (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
      THAN THE STORAGE COEFFICIENT.
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(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7644)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |    0.0433      0.1140
                          0.0182     0.0580   |    0.0507      0.1280
                          0.0280     0.0775   |    0.0571      0.1440
                          0.0343     0.0930   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7643)      2.020     0.376      2.75      71.72
   OUTFLOW: ID= 1 (  7644)      2.020     0.042      3.85      69.68

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.23
                  TIME SHIFT OF PEAK FLOW         (min)= 66.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1114

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*********************************************************
** SIMULATION:99. 50 Year 12 Hour AES (Bloor, TRCA) **
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|    READ STORM    |    Filename: C:\Users\kevsur3650\AppD
|                  |              ata\Local\Temp\
|                  |              a38a8851-c36c-4932-84b4-c99a8b88bdf6\2327b4a8
| Ptotal= 80.82 mm |    Comments: 50 Year 12 Hour AES (Bloor, TRCA)
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    0.00 |  3.25   13.74 |  6.50    5.66 |  9.75    0.81
                0.25    0.81 |  3.50   13.74 |  6.75    5.66 | 10.00    0.81
                0.50    0.81 |  3.75   13.74 |  7.00    5.66 | 10.25    0.81
                0.75    0.81 |  4.00   13.74 |  7.25    3.23 | 10.50    0.81
                1.00    0.81 |  4.25   37.17 |  7.50    3.23 | 10.75    0.81
                1.25    0.81 |  4.50   37.17 |  7.75    3.23 | 11.00    0.81
                1.50    0.81 |  4.75   37.17 |  8.00    3.23 | 11.25    0.81
                1.75    0.81 |  5.00   37.17 |  8.25    1.62 | 11.50    0.81
                2.00    0.81 |  5.25   10.50 |  8.50    1.62 | 11.75    0.81
                2.25    4.85 |  5.50   10.50 |  8.75    1.62 | 12.00    0.81
                2.50    4.85 |  5.75   10.50 |  9.00    1.62 |
                2.75    4.85 |  6.00   10.50 |  9.25    0.81 |
                3.00    4.85 |  6.25    5.66 |  9.50    0.81 |

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| CALIB            |
| STANDHYD (  7567)|   Area    (ha)=   2.81
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.78         0.03
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     136.87        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 3.083    4.85 | 6.150   10.50 |  9.22    1.62
               0.033    0.00 | 3.100    4.85 | 6.167   10.50 |  9.23    1.62
               0.050    0.00 | 3.117    4.85 | 6.183   10.50 |  9.25    1.62
               0.067    0.00 | 3.133    4.85 | 6.200   10.50 |  9.27    0.81
               0.083    0.00 | 3.150    4.85 | 6.217   10.50 |  9.28    0.81
               0.100    0.00 | 3.167    4.85 | 6.233   10.50 |  9.30    0.81
               0.117    0.00 | 3.183    4.85 | 6.250   10.49 |  9.32    0.81
               0.133    0.00 | 3.200    4.85 | 6.267    5.66 |  9.33    0.81
               0.150    0.00 | 3.217    4.85 | 6.283    5.66 |  9.35    0.81
               0.167    0.00 | 3.233    4.85 | 6.300    5.66 |  9.37    0.81
               0.183    0.00 | 3.250    4.85 | 6.317    5.66 |  9.38    0.81
               0.200    0.00 | 3.267   13.74 | 6.333    5.66 |  9.40    0.81
               0.217    0.00 | 3.283   13.74 | 6.350    5.66 |  9.42    0.81
               0.233    0.00 | 3.300   13.74 | 6.367    5.66 |  9.43    0.81
               0.250    0.00 | 3.317   13.74 | 6.383    5.66 |  9.45    0.81
               0.267    0.81 | 3.333   13.74 | 6.400    5.66 |  9.47    0.81
               0.283    0.81 | 3.350   13.74 | 6.417    5.66 |  9.48    0.81
               0.300    0.81 | 3.367   13.74 | 6.433    5.66 |  9.50    0.81
               0.317    0.81 | 3.383   13.74 | 6.450    5.66 |  9.52    0.81
               0.333    0.81 | 3.400   13.74 | 6.467    5.66 |  9.53    0.81
               0.350    0.81 | 3.417   13.74 | 6.483    5.66 |  9.55    0.81
               0.367    0.81 | 3.433   13.74 | 6.500    5.66 |  9.57    0.81
               0.383    0.81 | 3.450   13.74 | 6.517    5.66 |  9.58    0.81
               0.400    0.81 | 3.467   13.74 | 6.533    5.66 |  9.60    0.81
               0.417    0.81 | 3.483   13.74 | 6.550    5.66 |  9.62    0.81
               0.433    0.81 | 3.500   13.74 | 6.567    5.66 |  9.63    0.81
               0.450    0.81 | 3.517   13.74 | 6.583    5.66 |  9.65    0.81
               0.467    0.81 | 3.533   13.74 | 6.600    5.66 |  9.67    0.81
               0.483    0.81 | 3.550   13.74 | 6.617    5.66 |  9.68    0.81
               0.500    0.81 | 3.567   13.74 | 6.633    5.66 |  9.70    0.81
               0.517    0.81 | 3.583   13.74 | 6.650    5.66 |  9.72    0.81
               0.533    0.81 | 3.600   13.74 | 6.667    5.66 |  9.73    0.81
               0.550    0.81 | 3.617   13.74 | 6.683    5.66 |  9.75    0.81
               0.567    0.81 | 3.633   13.74 | 6.700    5.66 |  9.77    0.81
               0.583    0.81 | 3.650   13.74 | 6.717    5.66 |  9.78    0.81
               0.600    0.81 | 3.667   13.74 | 6.733    5.66 |  9.80    0.81
               0.617    0.81 | 3.683   13.74 | 6.750    5.66 |  9.82    0.81
               0.633    0.81 | 3.700   13.74 | 6.767    5.66 |  9.83    0.81
               0.650    0.81 | 3.717   13.74 | 6.783    5.66 |  9.85    0.81
               0.667    0.81 | 3.733   13.74 | 6.800    5.66 |  9.87    0.81
               0.683    0.81 | 3.750   13.74 | 6.817    5.66 |  9.88    0.81
               0.700    0.81 | 3.767   13.74 | 6.833    5.66 |  9.90    0.81
               0.717    0.81 | 3.783   13.74 | 6.850    5.66 |  9.92    0.81
               0.733    0.81 | 3.800   13.74 | 6.867    5.66 |  9.93    0.81
               0.750    0.81 | 3.817   13.74 | 6.883    5.66 |  9.95    0.81
               0.767    0.81 | 3.833   13.74 | 6.900    5.66 |  9.97    0.81
               0.783    0.81 | 3.850   13.74 | 6.917    5.66 |  9.98    0.81
               0.800    0.81 | 3.867   13.74 | 6.933    5.66 | 10.00    0.81
               0.817    0.81 | 3.883   13.74 | 6.950    5.66 | 10.02    0.81
               0.833    0.81 | 3.900   13.74 | 6.967    5.66 | 10.03    0.81
               0.850    0.81 | 3.917   13.74 | 6.983    5.66 | 10.05    0.81
               0.867    0.81 | 3.933   13.74 | 7.000    5.66 | 10.07    0.81
               0.883    0.81 | 3.950   13.74 | 7.017    5.66 | 10.08    0.81
               0.900    0.81 | 3.967   13.74 | 7.033    5.66 | 10.10    0.81
               0.917    0.81 | 3.983   13.74 | 7.050    5.66 | 10.12    0.81
               0.933    0.81 | 4.000   13.74 | 7.067    5.66 | 10.13    0.81
               0.950    0.81 | 4.017   13.74 | 7.083    5.66 | 10.15    0.81
               0.967    0.81 | 4.033   13.74 | 7.100    5.66 | 10.17    0.81
               0.983    0.81 | 4.050   13.74 | 7.117    5.66 | 10.18    0.81
               1.000    0.81 | 4.067   13.74 | 7.133    5.66 | 10.20    0.81
               1.017    0.81 | 4.083   13.74 | 7.150    5.66 | 10.22    0.81
               1.033    0.81 | 4.100   13.74 | 7.167    5.66 | 10.23    0.81
               1.050    0.81 | 4.117   13.74 | 7.183    5.66 | 10.25    0.81
               1.067    0.81 | 4.133   13.74 | 7.200    5.66 | 10.27    0.81
               1.083    0.81 | 4.150   13.74 | 7.217    5.66 | 10.28    0.81
               1.100    0.81 | 4.167   13.74 | 7.233    5.66 | 10.30    0.81
               1.117    0.81 | 4.183   13.74 | 7.250    5.65 | 10.32    0.81
               1.133    0.81 | 4.200   13.74 | 7.267    3.23 | 10.33    0.81
               1.150    0.81 | 4.217   13.74 | 7.283    3.23 | 10.35    0.81
               1.167    0.81 | 4.233   13.74 | 7.300    3.23 | 10.37    0.81
               1.183    0.81 | 4.250   13.74 | 7.317    3.23 | 10.38    0.81
               1.200    0.81 | 4.267   37.17 | 7.333    3.23 | 10.40    0.81
               1.217    0.81 | 4.283   37.17 | 7.350    3.23 | 10.42    0.81
               1.233    0.81 | 4.300   37.17 | 7.367    3.23 | 10.43    0.81
               1.250    0.81 | 4.317   37.17 | 7.383    3.23 | 10.45    0.81
               1.267    0.81 | 4.333   37.17 | 7.400    3.23 | 10.47    0.81
               1.283    0.81 | 4.350   37.17 | 7.417    3.23 | 10.48    0.81
               1.300    0.81 | 4.367   37.17 | 7.433    3.23 | 10.50    0.81
               1.317    0.81 | 4.383   37.17 | 7.450    3.23 | 10.52    0.81
               1.333    0.81 | 4.400   37.17 | 7.467    3.23 | 10.53    0.81
               1.350    0.81 | 4.417   37.17 | 7.483    3.23 | 10.55    0.81
               1.367    0.81 | 4.433   37.17 | 7.500    3.23 | 10.57    0.81
               1.383    0.81 | 4.450   37.17 | 7.517    3.23 | 10.58    0.81
```

1.400	0.81	4.467	37.17	7.533	3.23	10.60	0.81
1.417	0.81	4.483	37.17	7.550	3.23	10.62	0.81
1.433	0.81	4.500	37.17	7.567	3.23	10.63	0.81
1.450	0.81	4.517	37.17	7.583	3.23	10.65	0.81
1.467	0.81	4.533	37.17	7.600	3.23	10.67	0.81
1.483	0.81	4.550	37.17	7.617	3.23	10.68	0.81
1.500	0.81	4.567	37.17	7.633	3.23	10.70	0.81
1.517	0.81	4.583	37.17	7.650	3.23	10.72	0.81
1.533	0.81	4.600	37.17	7.667	3.23	10.73	0.81
1.550	0.81	4.617	37.17	7.683	3.23	10.75	0.81
1.567	0.81	4.633	37.17	7.700	3.23	10.77	0.81
1.583	0.81	4.650	37.17	7.717	3.23	10.78	0.81
1.600	0.81	4.667	37.17	7.733	3.23	10.80	0.81
1.617	0.81	4.683	37.17	7.750	3.23	10.82	0.81
1.633	0.81	4.700	37.17	7.767	3.23	10.83	0.81
1.650	0.81	4.717	37.17	7.783	3.23	10.85	0.81
1.667	0.81	4.733	37.17	7.800	3.23	10.87	0.81
1.683	0.81	4.750	37.17	7.817	3.23	10.88	0.81
1.700	0.81	4.767	37.17	7.833	3.23	10.90	0.81
1.717	0.81	4.783	37.17	7.850	3.23	10.92	0.81
1.733	0.81	4.800	37.17	7.867	3.23	10.93	0.81
1.750	0.81	4.817	37.17	7.883	3.23	10.95	0.81
1.767	0.81	4.833	37.17	7.900	3.23	10.97	0.81
1.783	0.81	4.850	37.17	7.917	3.23	10.98	0.81
1.800	0.81	4.867	37.17	7.933	3.23	11.00	0.81
1.817	0.81	4.883	37.17	7.950	3.23	11.02	0.81
1.833	0.81	4.900	37.17	7.967	3.23	11.03	0.81
1.850	0.81	4.917	37.17	7.983	3.23	11.05	0.81
1.867	0.81	4.933	37.17	8.000	3.23	11.07	0.81
1.883	0.81	4.950	37.17	8.017	3.23	11.08	0.81
1.900	0.81	4.967	37.17	8.033	3.23	11.10	0.81
1.917	0.81	4.983	37.17	8.050	3.23	11.12	0.81
1.933	0.81	5.000	37.17	8.067	3.23	11.13	0.81
1.950	0.81	5.017	37.17	8.083	3.23	11.15	0.81
1.967	0.81	5.033	37.17	8.100	3.23	11.17	0.81
1.983	0.81	5.050	37.17	8.117	3.23	11.18	0.81
2.000	0.81	5.067	37.17	8.133	3.23	11.20	0.81
2.017	0.81	5.083	37.17	8.150	3.23	11.22	0.81
2.033	0.81	5.100	37.17	8.167	3.23	11.23	0.81
2.050	0.81	5.117	37.17	8.183	3.23	11.25	0.81
2.067	0.81	5.133	37.17	8.200	3.23	11.27	0.81
2.083	0.81	5.150	37.17	8.217	3.23	11.28	0.81
2.100	0.81	5.167	37.17	8.233	3.23	11.30	0.81
2.117	0.81	5.183	37.17	8.250	3.23	11.32	0.81
2.133	0.81	5.200	37.17	8.267	1.62	11.33	0.81
2.150	0.81	5.217	37.17	8.283	1.62	11.35	0.81
2.167	0.81	5.233	37.17	8.300	1.62	11.37	0.81
2.183	0.81	5.250	37.15	8.317	1.62	11.38	0.81
2.200	0.81	5.267	10.50	8.333	1.62	11.40	0.81
2.217	0.81	5.283	10.50	8.350	1.62	11.42	0.81
2.233	0.81	5.300	10.50	8.367	1.62	11.43	0.81
2.250	0.81	5.317	10.50	8.383	1.62	11.45	0.81
2.267	4.85	5.333	10.50	8.400	1.62	11.47	0.81
2.283	4.85	5.350	10.50	8.417	1.62	11.48	0.81
2.300	4.85	5.367	10.50	8.433	1.62	11.50	0.81
2.317	4.85	5.383	10.50	8.450	1.62	11.52	0.81
2.333	4.85	5.400	10.50	8.467	1.62	11.53	0.81
2.350	4.85	5.417	10.50	8.483	1.62	11.55	0.81
2.367	4.85	5.433	10.50	8.500	1.62	11.57	0.81
2.383	4.85	5.450	10.50	8.517	1.62	11.58	0.81
2.400	4.85	5.467	10.50	8.533	1.62	11.60	0.81
2.417	4.85	5.483	10.50	8.550	1.62	11.62	0.81
2.433	4.85	5.500	10.50	8.567	1.62	11.63	0.81
2.450	4.85	5.517	10.50	8.583	1.62	11.65	0.81
2.467	4.85	5.533	10.50	8.600	1.62	11.67	0.81
2.483	4.85	5.550	10.50	8.617	1.62	11.68	0.81
2.500	4.85	5.567	10.50	8.633	1.62	11.70	0.81
2.517	4.85	5.583	10.50	8.650	1.62	11.72	0.81
2.533	4.85	5.600	10.50	8.667	1.62	11.73	0.81
2.550	4.85	5.617	10.50	8.683	1.62	11.75	0.81
2.567	4.85	5.633	10.50	8.700	1.62	11.77	0.81
2.583	4.85	5.650	10.50	8.717	1.62	11.78	0.81
2.600	4.85	5.667	10.50	8.733	1.62	11.80	0.81
2.617	4.85	5.683	10.50	8.750	1.62	11.82	0.81
2.633	4.85	5.700	10.50	8.767	1.62	11.83	0.81
2.650	4.85	5.717	10.50	8.783	1.62	11.85	0.81
2.667	4.85	5.733	10.50	8.800	1.62	11.87	0.81
2.683	4.85	5.750	10.50	8.817	1.62	11.88	0.81
2.700	4.85	5.767	10.50	8.833	1.62	11.90	0.81
2.717	4.85	5.783	10.50	8.850	1.62	11.92	0.81
2.733	4.85	5.800	10.50	8.867	1.62	11.93	0.81
2.750	4.85	5.817	10.50	8.883	1.62	11.95	0.81
2.767	4.85	5.833	10.50	8.900	1.62	11.97	0.81
2.783	4.85	5.850	10.50	8.917	1.62	11.98	0.81
2.800	4.85	5.867	10.50	8.933	1.62	12.00	0.81
2.817	4.85	5.883	10.50	8.950	1.62	12.02	0.81
2.833	4.85	5.900	10.50	8.967	1.62	12.03	0.81
2.850	4.85	5.917	10.50	8.983	1.62	12.05	0.81
2.867	4.85	5.933	10.50	9.000	1.62	12.07	0.81
2.883	4.85	5.950	10.50	9.017	1.62	12.08	0.81
2.900	4.85	5.967	10.50	9.033	1.62	12.10	0.81
2.917	4.85	5.983	10.50	9.050	1.62	12.12	0.81
2.933	4.85	6.000	10.50	9.067	1.62	12.13	0.81
2.950	4.85	6.017	10.50	9.083	1.62	12.15	0.81
2.967	4.85	6.033	10.50	9.100	1.62	12.17	0.81
2.983	4.85	6.050	10.50	9.117	1.62	12.18	0.81
3.000	4.85	6.067	10.50	9.133	1.62	12.20	0.81
3.017	4.85	6.083	10.50	9.150	1.62	12.22	0.81
3.033	4.85	6.100	10.50	9.167	1.62	12.23	0.81
3.050	4.85	6.117	10.50	9.183	1.62	12.25	0.81
3.067	4.85	6.133	10.50	9.200	1.62		

Max.Eff.Inten.(mm/hr)=		37.17	29.32
over (min)		5.00	8.00
Storage Coeff. (min)=		4.58 (ii)	7.11 (ii)
Unit Hyd. Tpeak (min)=		5.00	8.00
Unit Hyd. peak (cms)=		0.24	0.15
			TOTALS
PEAK FLOW	(cms)=	0.29	0.00 0.289 (iii)
TIME TO PEAK	(hrs)=	5.23	5.25 5.25
RUNOFF VOLUME	(mm)=	79.82	50.68 79.53
TOTAL RAINFALL	(mm)=	80.82	80.82 80.82
RUNOFF COEFFICIENT	=	0.99	0.63 0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.289	5.25	79.53
OUTFLOW: ID= 1 (7626)	2.810	0.056	6.38	76.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.32
TIME SHIFT OF PEAK FLOW (min)= 68.00
MAXIMUM STORAGE USED (ha.m.)= 0.1509

CALIB			
STANDHYD (7624)	Area (ha)= 2.08		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00

Mannings n = 0.013 0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	4.85	6.150	10.50	9.22	1.62
0.033	0.00	3.100	4.85	6.167	10.50	9.23	1.62
0.050	0.00	3.117	4.85	6.183	10.50	9.25	1.62
0.067	0.00	3.133	4.85	6.200	10.50	9.27	0.81
0.083	0.00	3.150	4.85	6.217	10.50	9.28	0.81
0.100	0.00	3.167	4.85	6.233	10.50	9.30	0.81
0.117	0.00	3.183	4.85	6.250	10.49	9.32	0.81
0.133	0.00	3.200	4.85	6.267	5.66	9.33	0.81
0.150	0.00	3.217	4.85	6.283	5.66	9.35	0.81
0.167	0.00	3.233	4.85	6.300	5.66	9.37	0.81
0.183	0.00	3.250	4.85	6.317	5.66	9.38	0.81
0.200	0.00	3.267	13.74	6.333	5.66	9.40	0.81
0.217	0.00	3.283	13.74	6.350	5.66	9.42	0.81
0.233	0.00	3.300	13.74	6.367	5.66	9.43	0.81
0.250	0.00	3.317	13.74	6.383	5.66	9.45	0.81
0.267	0.81	3.333	13.74	6.400	5.66	9.47	0.81
0.283	0.81	3.350	13.74	6.417	5.66	9.48	0.81
0.300	0.81	3.367	13.74	6.433	5.66	9.50	0.81
0.317	0.81	3.383	13.74	6.450	5.66	9.52	0.81
0.333	0.81	3.400	13.74	6.467	5.66	9.53	0.81
0.350	0.81	3.417	13.74	6.483	5.66	9.55	0.81
0.367	0.81	3.433	13.74	6.500	5.66	9.57	0.81
0.383	0.81	3.450	13.74	6.517	5.66	9.58	0.81
0.400	0.81	3.467	13.74	6.533	5.66	9.60	0.81
0.417	0.81	3.483	13.74	6.550	5.66	9.62	0.81
0.433	0.81	3.500	13.74	6.567	5.66	9.63	0.81
0.450	0.81	3.517	13.74	6.583	5.66	9.65	0.81
0.467	0.81	3.533	13.74	6.600	5.66	9.67	0.81
0.483	0.81	3.550	13.74	6.617	5.66	9.68	0.81
0.500	0.81	3.567	13.74	6.633	5.66	9.70	0.81
0.517	0.81	3.583	13.74	6.650	5.66	9.72	0.81
0.533	0.81	3.600	13.74	6.667	5.66	9.73	0.81
0.550	0.81	3.617	13.74	6.683	5.66	9.75	0.81
0.567	0.81	3.633	13.74	6.700	5.66	9.77	0.81
0.583	0.81	3.650	13.74	6.717	5.66	9.78	0.81
0.600	0.81	3.667	13.74	6.733	5.66	9.80	0.81
0.617	0.81	3.683	13.74	6.750	5.66	9.82	0.81
0.633	0.81	3.700	13.74	6.767	5.66	9.83	0.81
0.650	0.81	3.717	13.74	6.783	5.66	9.85	0.81
0.667	0.81	3.733	13.74	6.800	5.66	9.87	0.81
0.683	0.81	3.750	13.74	6.817	5.66	9.88	0.81
0.700	0.81	3.767	13.74	6.833	5.66	9.90	0.81
0.717	0.81	3.783	13.74	6.850	5.66	9.92	0.81
0.733	0.81	3.800	13.74	6.867	5.66	9.93	0.81
0.750	0.81	3.817	13.74	6.883	5.66	9.95	0.81
0.767	0.81	3.833	13.74	6.900	5.66	9.97	0.81
0.783	0.81	3.850	13.74	6.917	5.66	9.98	0.81
0.800	0.81	3.867	13.74	6.933	5.66	10.00	0.81
0.817	0.81	3.883	13.74	6.950	5.66	10.02	0.81
0.833	0.81	3.900	13.74	6.967	5.66	10.03	0.81
0.850	0.81	3.917	13.74	6.983	5.66	10.05	0.81
0.867	0.81	3.933	13.74	7.000	5.66	10.07	0.81
0.883	0.81	3.950	13.74	7.017	5.66	10.08	0.81
0.900	0.81	3.967	13.74	7.033	5.66	10.10	0.81
0.917	0.81	3.983	13.74	7.050	5.66	10.12	0.81
0.933	0.81	4.000	13.74	7.067	5.66	10.13	0.81
0.950	0.81	4.017	13.74	7.083	5.66	10.15	0.81
0.967	0.81	4.033	13.74	7.100	5.66	10.17	0.81
0.983	0.81	4.050	13.74	7.117	5.66	10.18	0.81
1.000	0.81	4.067	13.74	7.133	5.66	10.20	0.81
1.017	0.81	4.083	13.74	7.150	5.66	10.22	0.81
1.033	0.81	4.100	13.74	7.167	5.66	10.23	0.81
1.050	0.81	4.117	13.74	7.183	5.66	10.25	0.81
1.067	0.81	4.133	13.74	7.200	5.66	10.27	0.81
1.083	0.81	4.150	13.74	7.217	5.66	10.28	0.81
1.100	0.81	4.167	13.74	7.233	5.66	10.30	0.81
1.117	0.81	4.183	13.74	7.250	5.65	10.32	0.81
1.133	0.81	4.200	13.74	7.267	3.23	10.33	0.81
1.150	0.81	4.217	13.74	7.283	3.23	10.35	0.81
1.167	0.81	4.233	13.74	7.300	3.23	10.37	0.81
1.183	0.81	4.250	13.74	7.317	3.23	10.38	0.81
1.200	0.81	4.267	37.17	7.333	3.23	10.40	0.81
1.217	0.81	4.283	37.17	7.350	3.23	10.42	0.81
1.233	0.81	4.300	37.17	7.367	3.23	10.43	0.81
1.250	0.81	4.317	37.17	7.383	3.23	10.45	0.81
1.267	0.81	4.333	37.17	7.400	3.23	10.47	0.81
1.283	0.81	4.350	37.17	7.417	3.23	10.48	0.81
1.300	0.81	4.367	37.17	7.433	3.23	10.50	0.81
1.317	0.81	4.383	37.17	7.450	3.23	10.52	0.81
1.333	0.81	4.400	37.17	7.467	3.23	10.53	0.81
1.350	0.81	4.417	37.17	7.483	3.23	10.55	0.81
1.367	0.81	4.433	37.17	7.500	3.23	10.57	0.81
1.383	0.81	4.450	37.17	7.517	3.23	10.58	0.81
1.400	0.81	4.467	37.17	7.533	3.23	10.60	0.81
1.417	0.81	4.483	37.17	7.550	3.23	10.62	0.81
1.433	0.81	4.500	37.17	7.567	3.23	10.63	0.81
1.450	0.81	4.517	37.17	7.583	3.23	10.65	0.81
1.467	0.81	4.533	37.17	7.600	3.23	10.67	0.81
1.483	0.81	4.550	37.17	7.617	3.23	10.68	0.81
1.500	0.81	4.567	37.17	7.633	3.23	10.70	0.81
1.517	0.81	4.583	37.17	7.650	3.23	10.72	0.81
1.533	0.81	4.600	37.17	7.667	3.23	10.73	0.81
1.550	0.81	4.617	37.17	7.683	3.23	10.75	0.81
1.567	0.81	4.633	37.17	7.700	3.23	10.77	0.81
1.583	0.81	4.650	37.17	7.717	3.23	10.78	0.81
1.600	0.81	4.667	37.17	7.733	3.23	10.80	0.81
1.617	0.81	4.683	37.17	7.750	3.23	10.82	0.81
1.633	0.81	4.700	37.17	7.767	3.23	10.83	0.81
1.650	0.81	4.717	37.17	7.783	3.23	10.85	0.81
1.667	0.81	4.733	37.17	7.800	3.23	10.87	0.81
1.683	0.81	4.750	37.17	7.817	3.23	10.88	0.81
1.700	0.81	4.767	37.17	7.833	3.23	10.90	0.81
1.717	0.81	4.783	37.17	7.850	3.23	10.92	0.81
1.733	0.81	4.800	37.17	7.867	3.23	10.93	0.81
1.750	0.81	4.817	37.17	7.883	3.23	10.95	0.81
1.767	0.81	4.833	37.17	7.900	3.23	10.97	0.81
1.783	0.81	4.850	37.17	7.917	3.23	10.98	0.81
1.800	0.81	4.867	37.17	7.933	3.23	11.00	0.81
1.817	0.81	4.883	37.17	7.950	3.23	11.02	0.81
1.833	0.81	4.900	37.17	7.967	3.23	11.03	0.81
1.850	0.81	4.917	37.17	7.983	3.23	11.05	0.81
1.867	0.81	4.933	37.17	8.000	3.23	11.07	0.81
1.883	0.81	4.950	37.17	8.017	3.23	11.08	0.81
1.900	0.81	4.967	37.17	8.033	3.23	11.10	0.81
1.917	0.81	4.983	37.17	8.050	3.23	11.12	0.81
1.933	0.81	5.000	37.17	8.067	3.23	11.13	0.81
1.950	0.81	5.017	37.17	8.083	3.23	11.15	0.81
1.967	0.81	5.033	37.17	8.100	3.23	11.17	0.81
1.983	0.81	5.050	37.17	8.117	3.23	11.18	0.81
2.000	0.81	5.067	37.17	8.133	3.23	11.20	0.81
2.017	0.81	5.083	37.17	8.150	3.23	11.22	0.81
2.033	0.81	5.100	37.17	8.167	3.23	11.23	0.81
2.050	0.81	5.117	37.17	8.183	3.23	11.25	0.81
2.067	0.81	5.133	37.17	8.200	3.23	11.27	0.81
2.083	0.81	5.150	37.17	8.217	3.23	11.28	0.81
2.100	0.81	5.167	37.17	8.233	3.23	11.30	0.81
2.117	0.81	5.183	37.17	8.250	3.23	11.32	0.81
2.133	0.81	5.200	37.17	8.267	1.62	11.33	0.81
2.150	0.81	5.217	37.17	8.283	1.62	11.35	0.81
2.167	0.81	5.233	37.17	8.300	1.62	11.37	0.81
2.183	0.81	5.250	37.15	8.317	1.62	11.38	0.81
2.200	0.81	5.267	10.50	8.333	1.62	11.40	0.81
2.217	0.81	5.283	10.50	8.350	1.62	11.42	0.81
2.233	0.81	5.300	10.50	8.367	1.62	11.43	0.81
2.250	0.81	5.317	10.50	8.383	1.62	11.45	0.81
2.267	4.85	5.333	10.50	8.400	1.62	11.47	0.81
2.283	4.85	5.350	10.50	8.417	1.62	11.48	0.81
2.300	4.85	5.367	10.50	8.433	1.62	11.50	0.81
2.317	4.85	5.383	10.50	8.450	1.62	11.52	0.81
2.333	4.85	5.400	10.50	8.467	1.62	11.53	0.81
2.350	4.85	5.417	10.50	8.483	1.62	11.55	0.81
2.367	4.85	5.433	10.50	8.500	1.62	11.57	0.81
2.383	4.85	5.450	10.50	8.517	1.62	11.58	0.81
2.400	4.85	5.467	10.50	8.533	1.62	11.60	0.81

2.417	4.85	5.483	10.50	8.550	1.62	11.62	0.81
2.433	4.85	5.500	10.50	8.567	1.62	11.63	0.81
2.450	4.85	5.517	10.50	8.583	1.62	11.65	0.81
2.467	4.85	5.533	10.50	8.600	1.62	11.67	0.81
2.483	4.85	5.550	10.50	8.617	1.62	11.68	0.81
2.500	4.85	5.567	10.50	8.633	1.62	11.70	0.81
2.517	4.85	5.583	10.50	8.650	1.62	11.72	0.81
2.533	4.85	5.600	10.50	8.667	1.62	11.73	0.81
2.550	4.85	5.617	10.50	8.683	1.62	11.75	0.81
2.567	4.85	5.633	10.50	8.700	1.62	11.77	0.81
2.583	4.85	5.650	10.50	8.717	1.62	11.78	0.81
2.600	4.85	5.667	10.50	8.733	1.62	11.80	0.81
2.617	4.85	5.683	10.50	8.750	1.62	11.82	0.81
2.633	4.85	5.700	10.50	8.767	1.62	11.83	0.81
2.650	4.85	5.717	10.50	8.783	1.62	11.85	0.81
2.667	4.85	5.733	10.50	8.800	1.62	11.87	0.81
2.683	4.85	5.750	10.50	8.817	1.62	11.88	0.81
2.700	4.85	5.767	10.50	8.833	1.62	11.90	0.81
2.717	4.85	5.783	10.50	8.850	1.62	11.92	0.81
2.733	4.85	5.800	10.50	8.867	1.62	11.93	0.81
2.750	4.85	5.817	10.50	8.883	1.62	11.95	0.81
2.767	4.85	5.833	10.50	8.900	1.62	11.97	0.81
2.783	4.85	5.850	10.50	8.917	1.62	11.98	0.81
2.800	4.85	5.867	10.50	8.933	1.62	12.00	0.81
2.817	4.85	5.883	10.50	8.950	1.62	12.02	0.81
2.833	4.85	5.900	10.50	8.967	1.62	12.03	0.81
2.850	4.85	5.917	10.50	8.983	1.62	12.05	0.81
2.867	4.85	5.933	10.50	9.000	1.62	12.07	0.81
2.883	4.85	5.950	10.50	9.017	1.62	12.08	0.81
2.900	4.85	5.967	10.50	9.033	1.62	12.10	0.81
2.917	4.85	5.983	10.50	9.050	1.62	12.12	0.81
2.933	4.85	6.000	10.50	9.067	1.62	12.13	0.81
2.950	4.85	6.017	10.50	9.083	1.62	12.15	0.81
2.967	4.85	6.033	10.50	9.100	1.62	12.17	0.81
2.983	4.85	6.050	10.50	9.117	1.62	12.18	0.81
3.000	4.85	6.067	10.50	9.133	1.62	12.20	0.81
3.017	4.85	6.083	10.50	9.150	1.62	12.22	0.81
3.033	4.85	6.100	10.50	9.167	1.62	12.23	0.81
3.050	4.85	6.117	10.50	9.183	1.62	12.25	0.81
3.067	4.85	6.133	10.50	9.200	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	32.65	
over (min)	5.00	7.00	
Storage Coeff. (min)=	4.19 (ii)	6.72 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.25	0.17	
			TOTALS
PEAK FLOW (cms)=	0.21	0.00	0.214 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	58.50	79.60
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.72	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.214	5.25	79.60
OUTFLOW: ID= 1 (7625)	2.080	0.044	6.35	76.85

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.38
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.1105

CALIB STANDHYD (7623) ID= 1 DT= 1.0 min	Area (ha)= 1.15 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	4.85	6.150	10.50	9.22	1.62
0.033	0.00	3.100	4.85	6.167	10.50	9.23	1.62
0.050	0.00	3.117	4.85	6.183	10.50	9.25	1.62
0.067	0.00	3.133	4.85	6.200	10.50	9.27	0.81
0.083	0.00	3.150	4.85	6.217	10.50	9.28	0.81
0.100	0.00	3.167	4.85	6.233	10.50	9.30	0.81
0.117	0.00	3.183	4.85	6.250	10.49	9.32	0.81
0.133	0.00	3.200	4.85	6.267	5.66	9.33	0.81
0.150	0.00	3.217	4.85	6.283	5.66	9.35	0.81
0.167	0.00	3.233	4.85	6.300	5.66	9.37	0.81
0.183	0.00	3.250	4.85	6.317	5.66	9.38	0.81
0.200	0.00	3.267	13.74	6.333	5.66	9.40	0.81
0.217	0.00	3.283	13.74	6.350	5.66	9.42	0.81
0.233	0.00	3.300	13.74	6.367	5.66	9.43	0.81
0.250	0.00	3.317	13.74	6.383	5.66	9.45	0.81
0.267	0.81	3.333	13.74	6.400	5.66	9.47	0.81
0.283	0.81	3.350	13.74	6.417	5.66	9.48	0.81
0.300	0.81	3.367	13.74	6.433	5.66	9.50	0.81
0.317	0.81	3.383	13.74	6.450	5.66	9.52	0.81
0.333	0.81	3.400	13.74	6.467	5.66	9.53	0.81
0.350	0.81	3.417	13.74	6.483	5.66	9.55	0.81
0.367	0.81	3.433	13.74	6.500	5.66	9.57	0.81
0.383	0.81	3.450	13.74	6.517	5.66	9.58	0.81
0.400	0.81	3.467	13.74	6.533	5.66	9.60	0.81
0.417	0.81	3.483	13.74	6.550	5.66	9.62	0.81
0.433	0.81	3.500	13.74	6.567	5.66	9.63	0.81
0.450	0.81	3.517	13.74	6.583	5.66	9.65	0.81
0.467	0.81	3.533	13.74	6.600	5.66	9.67	0.81
0.483	0.81	3.550	13.74	6.617	5.66	9.68	0.81
0.500	0.81	3.567	13.74	6.633	5.66	9.70	0.81
0.517	0.81	3.583	13.74	6.650	5.66	9.72	0.81
0.533	0.81	3.600	13.74	6.667	5.66	9.73	0.81
0.550	0.81	3.617	13.74	6.683	5.66	9.75	0.81
0.567	0.81	3.633	13.74	6.700	5.66	9.77	0.81
0.583	0.81	3.650	13.74	6.717	5.66	9.78	0.81
0.600	0.81	3.667	13.74	6.733	5.66	9.80	0.81
0.617	0.81	3.683	13.74	6.750	5.66	9.82	0.81
0.633	0.81	3.700	13.74	6.767	5.66	9.83	0.81
0.650	0.81	3.717	13.74	6.783	5.66	9.85	0.81
0.667	0.81	3.733	13.74	6.800	5.66	9.87	0.81
0.683	0.81	3.750	13.74	6.817	5.66	9.88	0.81
0.700	0.81	3.767	13.74	6.833	5.66	9.90	0.81
0.717	0.81	3.783	13.74	6.850	5.66	9.92	0.81
0.733	0.81	3.800	13.74	6.867	5.66	9.93	0.81
0.750	0.81	3.817	13.74	6.883	5.66	9.95	0.81
0.767	0.81	3.833	13.74	6.900	5.66	9.97	0.81
0.783	0.81	3.850	13.74	6.917	5.66	9.98	0.81
0.800	0.81	3.867	13.74	6.933	5.66	10.00	0.81
0.817	0.81	3.883	13.74	6.950	5.66	10.02	0.81
0.833	0.81	3.900	13.74	6.967	5.66	10.03	0.81
0.850	0.81	3.917	13.74	6.983	5.66	10.05	0.81
0.867	0.81	3.933	13.74	7.000	5.66	10.07	0.81
0.883	0.81	3.950	13.74	7.017	5.66	10.08	0.81

0.900	0.81	3.967	13.74	7.033	5.66	10.10	0.81
0.917	0.81	3.983	13.74	7.050	5.66	10.12	0.81
0.933	0.81	4.000	13.74	7.067	5.66	10.13	0.81
0.950	0.81	4.017	13.74	7.083	5.66	10.15	0.81
0.967	0.81	4.033	13.74	7.100	5.66	10.17	0.81
0.983	0.81	4.050	13.74	7.117	5.66	10.18	0.81
1.000	0.81	4.067	13.74	7.133	5.66	10.20	0.81
1.017	0.81	4.083	13.74	7.150	5.66	10.22	0.81
1.033	0.81	4.100	13.74	7.167	5.66	10.23	0.81
1.050	0.81	4.117	13.74	7.183	5.66	10.25	0.81
1.067	0.81	4.133	13.74	7.200	5.66	10.27	0.81
1.083	0.81	4.150	13.74	7.217	5.66	10.28	0.81
1.100	0.81	4.167	13.74	7.233	5.66	10.30	0.81
1.117	0.81	4.183	13.74	7.250	5.65	10.32	0.81
1.133	0.81	4.200	13.74	7.267	3.23	10.33	0.81
1.150	0.81	4.217	13.74	7.283	3.23	10.35	0.81
1.167	0.81	4.233	13.74	7.300	3.23	10.37	0.81
1.183	0.81	4.250	13.74	7.317	3.23	10.38	0.81
1.200	0.81	4.267	37.17	7.333	3.23	10.40	0.81
1.217	0.81	4.283	37.17	7.350	3.23	10.42	0.81
1.233	0.81	4.300	37.17	7.367	3.23	10.43	0.81
1.250	0.81	4.317	37.17	7.383	3.23	10.45	0.81
1.267	0.81	4.333	37.17	7.400	3.23	10.47	0.81
1.283	0.81	4.350	37.17	7.417	3.23	10.48	0.81
1.300	0.81	4.367	37.17	7.433	3.23	10.50	0.81
1.317	0.81	4.383	37.17	7.450	3.23	10.52	0.81
1.333	0.81	4.400	37.17	7.467	3.23	10.53	0.81
1.350	0.81	4.417	37.17	7.483	3.23	10.55	0.81
1.367	0.81	4.433	37.17	7.500	3.23	10.57	0.81
1.383	0.81	4.450	37.17	7.517	3.23	10.58	0.81
1.400	0.81	4.467	37.17	7.533	3.23	10.60	0.81
1.417	0.81	4.483	37.17	7.550	3.23	10.62	0.81
1.433	0.81	4.500	37.17	7.567	3.23	10.63	0.81
1.450	0.81	4.517	37.17	7.583	3.23	10.65	0.81
1.467	0.81	4.533	37.17	7.600	3.23	10.67	0.81
1.483	0.81	4.550	37.17	7.617	3.23	10.68	0.81
1.500	0.81	4.567	37.17	7.633	3.23	10.70	0.81
1.517	0.81	4.583	37.17	7.650	3.23	10.72	0.81
1.533	0.81	4.600	37.17	7.667	3.23	10.73	0.81
1.550	0.81	4.617	37.17	7.683	3.23	10.75	0.81
1.567	0.81	4.633	37.17	7.700	3.23	10.77	0.81
1.583	0.81	4.650	37.17	7.717	3.23	10.78	0.81
1.600	0.81	4.667	37.17	7.733	3.23	10.80	0.81
1.617	0.81	4.683	37.17	7.750	3.23	10.82	0.81
1.633	0.81	4.700	37.17	7.767	3.23	10.83	0.81
1.650	0.81	4.717	37.17	7.783	3.23	10.85	0.81
1.667	0.81	4.733	37.17	7.800	3.23	10.87	0.81
1.683	0.81	4.750	37.17	7.817	3.23	10.88	0.81
1.700	0.81	4.767	37.17	7.833	3.23	10.90	0.81
1.717	0.81	4.783	37.17	7.850	3.23	10.92	0.81
1.733	0.81	4.800	37.17	7.867	3.23	10.93	0.81
1.750	0.81	4.817	37.17	7.883	3.23	10.95	0.81
1.767	0.81	4.833	37.17	7.900	3.23	10.97	0.81
1.783	0.81	4.850	37.17	7.917	3.23	10.98	0.81
1.800	0.81	4.867	37.17	7.933	3.23	11.00	0.81
1.817	0.81	4.883	37.17	7.950	3.23	11.02	0.81
1.833	0.81	4.900	37.17	7.967	3.23	11.03	0.81
1.850	0.81	4.917	37.17	7.983	3.23	11.05	0.81
1.867	0.81	4.933	37.17	8.000	3.23	11.07	0.81
1.883	0.81	4.950	37.17	8.017	3.23	11.08	0.81
1.900	0.81	4.967	37.17	8.033	3.23	11.10	0.81
1.917	0.81	4.983	37.17	8.050	3.23	11.12	0.81
1.933	0.81	5.000	37.17	8.067	3.23	11.13	0.81
1.950	0.81	5.017	37.17	8.083	3.23	11.15	0.81
1.967	0.81	5.033	37.17	8.100	3.23	11.17	0.81
1.983	0.81	5.050	37.17	8.117	3.23	11.18	0.81
2.000	0.81	5.067	37.17	8.133	3.23	11.20	0.81
2.017	0.81	5.083	37.17	8.150	3.23	11.22	0.81
2.033	0.81	5.100	37.17	8.167	3.23	11.23	0.81
2.050	0.81	5.117	37.17	8.183	3.23	11.25	0.81
2.067	0.81	5.133	37.17	8.200	3.23	11.27	0.81
2.083	0.81	5.150	37.17	8.217	3.23	11.28	0.81
2.100	0.81	5.167	37.17	8.233	3.23	11.30	0.81
2.117	0.81	5.183	37.17	8.250	3.23	11.32	0.81
2.133	0.81	5.200	37.17	8.267	1.62	11.33	0.81
2.150	0.81	5.217	37.17	8.283	1.62	11.35	0.81
2.167	0.81	5.233	37.17	8.300	1.62	11.37	0.81
2.183	0.81	5.250	37.15	8.317	1.62	11.38	0.81
2.200	0.81	5.267	10.50	8.333	1.62	11.40	0.81
2.217	0.81	5.283	10.50	8.350	1.62	11.42	0.81
2.233	0.81	5.300	10.50	8.367	1.62	11.43	0.81
2.250	0.81	5.317	10.50	8.383	1.62	11.45	0.81
2.267	4.85	5.333	10.50	8.400	1.62	11.47	0.81
2.283	4.85	5.350	10.50	8.417	1.62	11.48	0.81
2.300	4.85	5.367	10.50	8.433	1.62	11.50	0.81
2.317	4.85	5.383	10.50	8.450	1.62	11.52	0.81
2.333	4.85	5.400	10.50	8.467	1.62	11.53	0.81
2.350	4.85	5.417	10.50	8.483	1.62	11.55	0.81
2.367	4.85	5.433	10.50	8.500	1.62	11.57	0.81
2.383	4.85	5.450	10.50	8.517	1.62	11.58	0.81
2.400	4.85	5.467	10.50	8.533	1.62	11.60	0.81
2.417	4.85	5.483	10.50	8.550	1.62	11.62	0.81
2.433	4.85	5.500	10.50	8.567	1.62	11.63	0.81
2.450	4.85	5.517	10.50	8.583	1.62	11.65	0.81
2.467	4.85	5.533	10.50	8.600	1.62	11.67	0.81
2.483	4.85	5.550	10.50	8.617	1.62	11.68	0.81
2.500	4.85	5.567	10.50	8.633	1.62	11.70	0.81
2.517	4.85	5.583	10.50	8.650	1.62	11.72	0.81
2.533	4.85	5.600	10.50	8.667	1.62	11.73	0.81
2.550	4.85	5.617	10.50	8.683	1.62	11.75	0.81
2.567	4.85	5.633	10.50	8.700	1.62	11.77	0.81
2.583	4.85	5.650	10.50	8.717	1.62	11.78	0.81
2.600	4.85	5.667	10.50	8.733	1.62	11.80	0.81
2.617	4.85	5.683	10.50	8.750	1.62	11.82	0.81
2.633	4.85	5.700	10.50	8.767	1.62	11.83	0.81
2.650	4.85	5.717	10.50	8.783	1.62	11.85	0.81
2.667	4.85	5.733	10.50	8.800	1.62	11.87	0.81
2.683	4.85	5.750	10.50	8.817	1.62	11.88	0.81
2.700	4.85	5.767	10.50	8.833	1.62	11.90	0.81
2.717	4.85	5.783	10.50	8.850	1.62	11.92	0.81
2.733	4.85	5.800	10.50	8.867	1.62	11.93	0.81
2.750	4.85	5.817	10.50	8.883	1.62	11.95	0.81
2.767	4.85	5.833	10.50	8.900	1.62	11.97	0.81
2.783	4.85	5.850	10.50	8.917	1.62	11.98	0.81
2.800	4.85	5.867	10.50	8.933	1.62	12.00	0.81
2.817	4.85	5.883	10.50	8.950	1.62	12.02	0.81
2.833	4.85	5.900	10.50	8.967	1.62	12.03	0.81
2.850	4.85	5.917	10.50	8.983	1.62	12.05	0.81
2.867	4.85	5.933	10.50	9.000	1.62	12.07	0.81
2.883	4.85	5.950	10.50	9.017	1.62	12.08	0.81
2.900	4.85	5.967	10.50	9.033	1.62	12.10	0.81
2.917	4.85	5.983	10.50	9.050	1.62	12.12	0.81
2.933	4.85	6.000	10.50	9.067	1.62	12.13	0.81
2.950	4.85	6.017	10.50	9.083	1.62	12.15	0.81
2.967	4.85	6.033	10.50	9.100	1.62	12.17	0.81
2.983	4.85	6.050	10.50	9.117	1.62	12.18	0.81
3.000	4.85	6.067	10.50	9.133	1.62	12.20	0.81
3.017	4.85	6.083	10.50	9.150	1.62	12.22	0.81
3.033	4.85	6.100	10.50	9.167	1.62	12.23	0.81
3.050	4.85	6.117	10.50	9.183	1.62	12.25	0.81
3.067	4.85	6.133	10.50	9.200	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	29.32	
over (min)	5.00	7.00	
Storage Coeff. (min)=	3.50 (ii)	6.03 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.28	0.18	
			TOTALS
PEAK FLOW (cms)=	0.12	0.00	0.118 (iii)
TIME TO PEAK (hrs)=	5.07	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	50.68	79.53
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7622)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000      0.0000  |    0.0258      0.0650
                           0.0108      0.0330  |    0.0302      0.0725
                           0.0167      0.0440  |    0.0340      0.0820
                           0.0204      0.0525  |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7623)      1.150     0.118      5.25      79.53
   OUTFLOW: ID= 1 (  7622)      1.150     0.024      6.35      76.92

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.30
                TIME SHIFT OF PEAK FLOW          (min)= 66.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0610

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--------------------
| CALIB            |
| STANDHYD (  7629)|   Area    (ha)=   4.09
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     165.13        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 3.083    4.85 | 6.150   10.50 |  9.22    1.62
               0.033    0.00 | 3.100    4.85 | 6.167   10.50 |  9.23    1.62
               0.050    0.00 | 3.117    4.85 | 6.183   10.50 |  9.25    1.62
               0.067    0.00 | 3.133    4.85 | 6.200   10.50 |  9.27    0.81
               0.083    0.00 | 3.150    4.85 | 6.217   10.50 |  9.28    0.81
               0.100    0.00 | 3.167    4.85 | 6.233   10.50 |  9.30    0.81
               0.117    0.00 | 3.183    4.85 | 6.250   10.49 |  9.32    0.81
               0.133    0.00 | 3.200    4.85 | 6.267    5.66 |  9.33    0.81
               0.150    0.00 | 3.217    4.85 | 6.283    5.66 |  9.35    0.81
               0.167    0.00 | 3.233    4.85 | 6.300    5.66 |  9.37    0.81
               0.183    0.00 | 3.250    4.85 | 6.317    5.66 |  9.38    0.81
               0.200    0.00 | 3.267   13.74 | 6.333    5.66 |  9.40    0.81
               0.217    0.00 | 3.283   13.74 | 6.350    5.66 |  9.42    0.81
               0.233    0.00 | 3.300   13.74 | 6.367    5.66 |  9.43    0.81
               0.250    0.00 | 3.317   13.74 | 6.383    5.66 |  9.45    0.81
               0.267    0.81 | 3.333   13.74 | 6.400    5.66 |  9.47    0.81
               0.283    0.81 | 3.350   13.74 | 6.417    5.66 |  9.48    0.81
               0.300    0.81 | 3.367   13.74 | 6.433    5.66 |  9.50    0.81
               0.317    0.81 | 3.383   13.74 | 6.450    5.66 |  9.52    0.81
               0.333    0.81 | 3.400   13.74 | 6.467    5.66 |  9.53    0.81
               0.350    0.81 | 3.417   13.74 | 6.483    5.66 |  9.55    0.81
               0.367    0.81 | 3.433   13.74 | 6.500    5.66 |  9.57    0.81
               0.383    0.81 | 3.450   13.74 | 6.517    5.66 |  9.58    0.81
               0.400    0.81 | 3.467   13.74 | 6.533    5.66 |  9.60    0.81
               0.417    0.81 | 3.483   13.74 | 6.550    5.66 |  9.62    0.81
               0.433    0.81 | 3.500   13.74 | 6.567    5.66 |  9.63    0.81
               0.450    0.81 | 3.517   13.74 | 6.583    5.66 |  9.65    0.81
               0.467    0.81 | 3.533   13.74 | 6.600    5.66 |  9.67    0.81
               0.483    0.81 | 3.550   13.74 | 6.617    5.66 |  9.68    0.81
               0.500    0.81 | 3.567   13.74 | 6.633    5.66 |  9.70    0.81
               0.517    0.81 | 3.583   13.74 | 6.650    5.66 |  9.72    0.81
               0.533    0.81 | 3.600   13.74 | 6.667    5.66 |  9.73    0.81
               0.550    0.81 | 3.617   13.74 | 6.683    5.66 |  9.75    0.81
               0.567    0.81 | 3.633   13.74 | 6.700    5.66 |  9.77    0.81
               0.583    0.81 | 3.650   13.74 | 6.717    5.66 |  9.78    0.81
               0.600    0.81 | 3.667   13.74 | 6.733    5.66 |  9.80    0.81
               0.617    0.81 | 3.683   13.74 | 6.750    5.66 |  9.82    0.81
               0.633    0.81 | 3.700   13.74 | 6.767    5.66 |  9.83    0.81
               0.650    0.81 | 3.717   13.74 | 6.783    5.66 |  9.85    0.81
               0.667    0.81 | 3.733   13.74 | 6.800    5.66 |  9.87    0.81
               0.683    0.81 | 3.750   13.74 | 6.817    5.66 |  9.88    0.81
               0.700    0.81 | 3.767   13.74 | 6.833    5.66 |  9.90    0.81
               0.717    0.81 | 3.783   13.74 | 6.850    5.66 |  9.92    0.81
               0.733    0.81 | 3.800   13.74 | 6.867    5.66 |  9.93    0.81
               0.750    0.81 | 3.817   13.74 | 6.883    5.66 |  9.95    0.81
               0.767    0.81 | 3.833   13.74 | 6.900    5.66 |  9.97    0.81
               0.783    0.81 | 3.850   13.74 | 6.917    5.66 |  9.98    0.81
               0.800    0.81 | 3.867   13.74 | 6.933    5.66 | 10.00    0.81
               0.817    0.81 | 3.883   13.74 | 6.950    5.66 | 10.02    0.81
               0.833    0.81 | 3.900   13.74 | 6.967    5.66 | 10.03    0.81
               0.850    0.81 | 3.917   13.74 | 6.983    5.66 | 10.05    0.81
               0.867    0.81 | 3.933   13.74 | 7.000    5.66 | 10.07    0.81
               0.883    0.81 | 3.950   13.74 | 7.017    5.66 | 10.08    0.81
               0.900    0.81 | 3.967   13.74 | 7.033    5.66 | 10.10    0.81
               0.917    0.81 | 3.983   13.74 | 7.050    5.66 | 10.12    0.81
               0.933    0.81 | 4.000   13.74 | 7.067    5.66 | 10.13    0.81
               0.950    0.81 | 4.017   13.74 | 7.083    5.66 | 10.15    0.81
               0.967    0.81 | 4.033   13.74 | 7.100    5.66 | 10.17    0.81
               0.983    0.81 | 4.050   13.74 | 7.117    5.66 | 10.18    0.81
               1.000    0.81 | 4.067   13.74 | 7.133    5.66 | 10.20    0.81
               1.017    0.81 | 4.083   13.74 | 7.150    5.66 | 10.22    0.81
               1.033    0.81 | 4.100   13.74 | 7.167    5.66 | 10.23    0.81
               1.050    0.81 | 4.117   13.74 | 7.183    5.66 | 10.25    0.81
               1.067    0.81 | 4.133   13.74 | 7.200    5.66 | 10.27    0.81
               1.083    0.81 | 4.150   13.74 | 7.217    5.66 | 10.28    0.81
               1.100    0.81 | 4.167   13.74 | 7.233    5.66 | 10.30    0.81
               1.117    0.81 | 4.183   13.74 | 7.250    5.65 | 10.32    0.81
               1.133    0.81 | 4.200   13.74 | 7.267    3.23 | 10.33    0.81
               1.150    0.81 | 4.217   13.74 | 7.283    3.23 | 10.35    0.81
               1.167    0.81 | 4.233   13.74 | 7.300    3.23 | 10.37    0.81
               1.183    0.81 | 4.250   13.74 | 7.317    3.23 | 10.38    0.81
               1.200    0.81 | 4.267   37.17 | 7.333    3.23 | 10.40    0.81
               1.217    0.81 | 4.283   37.17 | 7.350    3.23 | 10.42    0.81
               1.233    0.81 | 4.300   37.17 | 7.367    3.23 | 10.43    0.81
               1.250    0.81 | 4.317   37.17 | 7.383    3.23 | 10.45    0.81
               1.267    0.81 | 4.333   37.17 | 7.400    3.23 | 10.47    0.81
               1.283    0.81 | 4.350   37.17 | 7.417    3.23 | 10.48    0.81
               1.300    0.81 | 4.367   37.17 | 7.433    3.23 | 10.50    0.81
               1.317    0.81 | 4.383   37.17 | 7.450    3.23 | 10.52    0.81
               1.333    0.81 | 4.400   37.17 | 7.467    3.23 | 10.53    0.81
               1.350    0.81 | 4.417   37.17 | 7.483    3.23 | 10.55    0.81
               1.367    0.81 | 4.433   37.17 | 7.500    3.23 | 10.57    0.81
               1.383    0.81 | 4.450   37.17 | 7.517    3.23 | 10.58    0.81
               1.400    0.81 | 4.467   37.17 | 7.533    3.23 | 10.60    0.81
               1.417    0.81 | 4.483   37.17 | 7.550    3.23 | 10.62    0.81
               1.433    0.81 | 4.500   37.17 | 7.567    3.23 | 10.63    0.81
               1.450    0.81 | 4.517   37.17 | 7.583    3.23 | 10.65    0.81
               1.467    0.81 | 4.533   37.17 | 7.600    3.23 | 10.67    0.81
               1.483    0.81 | 4.550   37.17 | 7.617    3.23 | 10.68    0.81
               1.500    0.81 | 4.567   37.17 | 7.633    3.23 | 10.70    0.81
               1.517    0.81 | 4.583   37.17 | 7.650    3.23 | 10.72    0.81
               1.533    0.81 | 4.600   37.17 | 7.667    3.23 | 10.73    0.81
               1.550    0.81 | 4.617   37.17 | 7.683    3.23 | 10.75    0.81
               1.567    0.81 | 4.633   37.17 | 7.700    3.23 | 10.77    0.81
               1.583    0.81 | 4.650   37.17 | 7.717    3.23 | 10.78    0.81
               1.600    0.81 | 4.667   37.17 | 7.733    3.23 | 10.80    0.81
               1.617    0.81 | 4.683   37.17 | 7.750    3.23 | 10.82    0.81
               1.633    0.81 | 4.700   37.17 | 7.767    3.23 | 10.83    0.81
               1.650    0.81 | 4.717   37.17 | 7.783    3.23 | 10.85    0.81
               1.667    0.81 | 4.733   37.17 | 7.800    3.23 | 10.87    0.81
               1.683    0.81 | 4.750   37.17 | 7.817    3.23 | 10.88    0.81
               1.700    0.81 | 4.767   37.17 | 7.833    3.23 | 10.90    0.81
               1.717    0.81 | 4.783   37.17 | 7.850    3.23 | 10.92    0.81
               1.733    0.81 | 4.800   37.17 | 7.867    3.23 | 10.93    0.81
               1.750    0.81 | 4.817   37.17 | 7.883    3.23 | 10.95    0.81
               1.767    0.81 | 4.833   37.17 | 7.900    3.23 | 10.97    0.81
               1.783    0.81 | 4.850   37.17 | 7.917    3.23 | 10.98    0.81
               1.800    0.81 | 4.867   37.17 | 7.933    3.23 | 11.00    0.81
               1.817    0.81 | 4.883   37.17 | 7.950    3.23 | 11.02    0.81
               1.833    0.81 | 4.900   37.17 | 7.967    3.23 | 11.03    0.81
               1.850    0.81 | 4.917   37.17 | 7.983    3.23 | 11.05    0.81
               1.867    0.81 | 4.933   37.17 | 8.000    3.23 | 11.07    0.81
               1.883    0.81 | 4.950   37.17 | 8.017    3.23 | 11.08    0.81
               1.900    0.81 | 4.967   37.17 | 8.033    3.23 | 11.10    0.81
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1.917	0.81	4.983	37.17	8.050	3.23	11.12	0.81
1.933	0.81	5.000	37.17	8.067	3.23	11.13	0.81
1.950	0.81	5.017	37.17	8.083	3.23	11.15	0.81
1.967	0.81	5.033	37.17	8.100	3.23	11.17	0.81
1.983	0.81	5.050	37.17	8.117	3.23	11.18	0.81
2.000	0.81	5.067	37.17	8.133	3.23	11.20	0.81
2.017	0.81	5.083	37.17	8.150	3.23	11.22	0.81
2.033	0.81	5.100	37.17	8.167	3.23	11.23	0.81
2.050	0.81	5.117	37.17	8.183	3.23	11.25	0.81
2.067	0.81	5.133	37.17	8.200	3.23	11.27	0.81
2.083	0.81	5.150	37.17	8.217	3.23	11.28	0.81
2.100	0.81	5.167	37.17	8.233	3.23	11.30	0.81
2.117	0.81	5.183	37.17	8.250	3.23	11.32	0.81
2.133	0.81	5.200	37.17	8.267	1.62	11.33	0.81
2.150	0.81	5.217	37.17	8.283	1.62	11.35	0.81
2.167	0.81	5.233	37.17	8.300	1.62	11.37	0.81
2.183	0.81	5.250	37.15	8.317	1.62	11.38	0.81
2.200	0.81	5.267	10.50	8.333	1.62	11.40	0.81
2.217	0.81	5.283	10.50	8.350	1.62	11.42	0.81
2.233	0.81	5.300	10.50	8.367	1.62	11.43	0.81
2.250	0.81	5.317	10.50	8.383	1.62	11.45	0.81
2.267	4.85	5.333	10.50	8.400	1.62	11.47	0.81
2.283	4.85	5.350	10.50	8.417	1.62	11.48	0.81
2.300	4.85	5.367	10.50	8.433	1.62	11.50	0.81
2.317	4.85	5.383	10.50	8.450	1.62	11.52	0.81
2.333	4.85	5.400	10.50	8.467	1.62	11.53	0.81
2.350	4.85	5.417	10.50	8.483	1.62	11.55	0.81
2.367	4.85	5.433	10.50	8.500	1.62	11.57	0.81
2.383	4.85	5.450	10.50	8.517	1.62	11.58	0.81
2.400	4.85	5.467	10.50	8.533	1.62	11.60	0.81
2.417	4.85	5.483	10.50	8.550	1.62	11.62	0.81
2.433	4.85	5.500	10.50	8.567	1.62	11.63	0.81
2.450	4.85	5.517	10.50	8.583	1.62	11.65	0.81
2.467	4.85	5.533	10.50	8.600	1.62	11.67	0.81
2.483	4.85	5.550	10.50	8.617	1.62	11.68	0.81
2.500	4.85	5.567	10.50	8.633	1.62	11.70	0.81
2.517	4.85	5.583	10.50	8.650	1.62	11.72	0.81
2.533	4.85	5.600	10.50	8.667	1.62	11.73	0.81
2.550	4.85	5.617	10.50	8.683	1.62	11.75	0.81
2.567	4.85	5.633	10.50	8.700	1.62	11.77	0.81
2.583	4.85	5.650	10.50	8.717	1.62	11.78	0.81
2.600	4.85	5.667	10.50	8.733	1.62	11.80	0.81
2.617	4.85	5.683	10.50	8.750	1.62	11.82	0.81
2.633	4.85	5.700	10.50	8.767	1.62	11.83	0.81
2.650	4.85	5.717	10.50	8.783	1.62	11.85	0.81
2.667	4.85	5.733	10.50	8.800	1.62	11.87	0.81
2.683	4.85	5.750	10.50	8.817	1.62	11.88	0.81
2.700	4.85	5.767	10.50	8.833	1.62	11.90	0.81
2.717	4.85	5.783	10.50	8.850	1.62	11.92	0.81
2.733	4.85	5.800	10.50	8.867	1.62	11.93	0.81
2.750	4.85	5.817	10.50	8.883	1.62	11.95	0.81
2.767	4.85	5.833	10.50	8.900	1.62	11.97	0.81
2.783	4.85	5.850	10.50	8.917	1.62	11.98	0.81
2.800	4.85	5.867	10.50	8.933	1.62	12.00	0.81
2.817	4.85	5.883	10.50	8.950	1.62	12.02	0.81
2.833	4.85	5.900	10.50	8.967	1.62	12.03	0.81
2.850	4.85	5.917	10.50	8.983	1.62	12.05	0.81
2.867	4.85	5.933	10.50	9.000	1.62	12.07	0.81
2.883	4.85	5.950	10.50	9.017	1.62	12.08	0.81
2.900	4.85	5.967	10.50	9.033	1.62	12.10	0.81
2.917	4.85	5.983	10.50	9.050	1.62	12.12	0.81
2.933	4.85	6.000	10.50	9.067	1.62	12.13	0.81
2.950	4.85	6.017	10.50	9.083	1.62	12.15	0.81
2.967	4.85	6.033	10.50	9.100	1.62	12.17	0.81
2.983	4.85	6.050	10.50	9.117	1.62	12.18	0.81
3.000	4.85	6.067	10.50	9.133	1.62	12.20	0.81
3.017	4.85	6.083	10.50	9.150	1.62	12.22	0.81
3.033	4.85	6.100	10.50	9.167	1.62	12.23	0.81
3.050	4.85	6.117	10.50	9.183	1.62	12.25	0.81
3.067	4.85	6.133	10.50	9.200	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	29.32
over (min)	5.00	8.00
Storage Coeff. (min)=	5.13 (ii)	7.66 (ii)
Unit Hyd. Tpeak (min)=	5.00	8.00
Unit Hyd. peak (cms)=	0.22	0.15

			TOTALS
PEAK FLOW (cms)=	0.42	0.00	0.421 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	79.81	50.68	79.53
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940
	0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.421	5.25	79.53
OUTFLOW: ID= 1 (7630)	4.090	0.078	6.40	75.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.63
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.2216

CALIB | STANDHYD (7631)| ID= 1 DT= 1.0 min |	Area (ha)= 3.91 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	4.85	6.150	10.50	9.22	1.62
0.033	0.00	3.100	4.85	6.167	10.50	9.23	1.62
0.050	0.00	3.117	4.85	6.183	10.50	9.25	1.62
0.067	0.00	3.133	4.85	6.200	10.50	9.27	0.81
0.083	0.00	3.150	4.85	6.217	10.50	9.28	0.81
0.100	0.00	3.167	4.85	6.233	10.50	9.30	0.81
0.117	0.00	3.183	4.85	6.250	10.49	9.32	0.81
0.133	0.00	3.200	4.85	6.267	5.66	9.33	0.81
0.150	0.00	3.217	4.85	6.283	5.66	9.35	0.81
0.167	0.00	3.233	4.85	6.300	5.66	9.37	0.81
0.183	0.00	3.250	4.85	6.317	5.66	9.38	0.81
0.200	0.00	3.267	13.74	6.333	5.66	9.40	0.81
0.217	0.00	3.283	13.74	6.350	5.66	9.42	0.81
0.233	0.00	3.300	13.74	6.367	5.66	9.43	0.81
0.250	0.00	3.317	13.74	6.383	5.66	9.45	0.81
0.267	0.81	3.333	13.74	6.400	5.66	9.47	0.81
0.283	0.81	3.350	13.74	6.417	5.66	9.48	0.81
0.300	0.81	3.367	13.74	6.433	5.66	9.50	0.81
0.317	0.81	3.383	13.74	6.450	5.66	9.52	0.81
0.333	0.81	3.400	13.74	6.467	5.66	9.53	0.81
0.350	0.81	3.417	13.74	6.483	5.66	9.55	0.81
0.367	0.81	3.433	13.74	6.500	5.66	9.57	0.81
0.383	0.81	3.450	13.74	6.517	5.66	9.58	0.81

0.400	0.81	3.467	13.74	6.533	5.66	9.60	0.81
0.417	0.81	3.483	13.74	6.550	5.66	9.62	0.81
0.433	0.81	3.500	13.74	6.567	5.66	9.63	0.81
0.450	0.81	3.517	13.74	6.583	5.66	9.65	0.81
0.467	0.81	3.533	13.74	6.600	5.66	9.67	0.81
0.483	0.81	3.550	13.74	6.617	5.66	9.68	0.81
0.500	0.81	3.567	13.74	6.633	5.66	9.70	0.81
0.517	0.81	3.583	13.74	6.650	5.66	9.72	0.81
0.533	0.81	3.600	13.74	6.667	5.66	9.73	0.81
0.550	0.81	3.617	13.74	6.683	5.66	9.75	0.81
0.567	0.81	3.633	13.74	6.700	5.66	9.77	0.81
0.583	0.81	3.650	13.74	6.717	5.66	9.78	0.81
0.600	0.81	3.667	13.74	6.733	5.66	9.80	0.81
0.617	0.81	3.683	13.74	6.750	5.66	9.82	0.81
0.633	0.81	3.700	13.74	6.767	5.66	9.83	0.81
0.650	0.81	3.717	13.74	6.783	5.66	9.85	0.81
0.667	0.81	3.733	13.74	6.800	5.66	9.87	0.81
0.683	0.81	3.750	13.74	6.817	5.66	9.88	0.81
0.700	0.81	3.767	13.74	6.833	5.66	9.90	0.81
0.717	0.81	3.783	13.74	6.850	5.66	9.92	0.81
0.733	0.81	3.800	13.74	6.867	5.66	9.93	0.81
0.750	0.81	3.817	13.74	6.883	5.66	9.95	0.81
0.767	0.81	3.833	13.74	6.900	5.66	9.97	0.81
0.783	0.81	3.850	13.74	6.917	5.66	9.98	0.81
0.800	0.81	3.867	13.74	6.933	5.66	10.00	0.81
0.817	0.81	3.883	13.74	6.950	5.66	10.02	0.81
0.833	0.81	3.900	13.74	6.967	5.66	10.03	0.81
0.850	0.81	3.917	13.74	6.983	5.66	10.05	0.81
0.867	0.81	3.933	13.74	7.000	5.66	10.07	0.81
0.883	0.81	3.950	13.74	7.017	5.66	10.08	0.81
0.900	0.81	3.967	13.74	7.033	5.66	10.10	0.81
0.917	0.81	3.983	13.74	7.050	5.66	10.12	0.81
0.933	0.81	4.000	13.74	7.067	5.66	10.13	0.81
0.950	0.81	4.017	13.74	7.083	5.66	10.15	0.81
0.967	0.81	4.033	13.74	7.100	5.66	10.17	0.81
0.983	0.81	4.050	13.74	7.117	5.66	10.18	0.81
1.000	0.81	4.067	13.74	7.133	5.66	10.20	0.81
1.017	0.81	4.083	13.74	7.150	5.66	10.22	0.81
1.033	0.81	4.100	13.74	7.167	5.66	10.23	0.81
1.050	0.81	4.117	13.74	7.183	5.66	10.25	0.81
1.067	0.81	4.133	13.74	7.200	5.66	10.27	0.81
1.083	0.81	4.150	13.74	7.217	5.66	10.28	0.81
1.100	0.81	4.167	13.74	7.233	5.66	10.30	0.81
1.117	0.81	4.183	13.74	7.250	5.65	10.32	0.81
1.133	0.81	4.200	13.74	7.267	3.23	10.33	0.81
1.150	0.81	4.217	13.74	7.283	3.23	10.35	0.81
1.167	0.81	4.233	13.74	7.300	3.23	10.37	0.81
1.183	0.81	4.250	13.74	7.317	3.23	10.38	0.81
1.200	0.81	4.267	37.17	7.333	3.23	10.40	0.81
1.217	0.81	4.283	37.17	7.350	3.23	10.42	0.81
1.233	0.81	4.300	37.17	7.367	3.23	10.43	0.81
1.250	0.81	4.317	37.17	7.383	3.23	10.45	0.81
1.267	0.81	4.333	37.17	7.400	3.23	10.47	0.81
1.283	0.81	4.350	37.17	7.417	3.23	10.48	0.81
1.300	0.81	4.367	37.17	7.433	3.23	10.50	0.81
1.317	0.81	4.383	37.17	7.450	3.23	10.52	0.81
1.333	0.81	4.400	37.17	7.467	3.23	10.53	0.81
1.350	0.81	4.417	37.17	7.483	3.23	10.55	0.81
1.367	0.81	4.433	37.17	7.500	3.23	10.57	0.81
1.383	0.81	4.450	37.17	7.517	3.23	10.58	0.81
1.400	0.81	4.467	37.17	7.533	3.23	10.60	0.81
1.417	0.81	4.483	37.17	7.550	3.23	10.62	0.81
1.433	0.81	4.500	37.17	7.567	3.23	10.63	0.81
1.450	0.81	4.517	37.17	7.583	3.23	10.65	0.81
1.467	0.81	4.533	37.17	7.600	3.23	10.67	0.81
1.483	0.81	4.550	37.17	7.617	3.23	10.68	0.81
1.500	0.81	4.567	37.17	7.633	3.23	10.70	0.81
1.517	0.81	4.583	37.17	7.650	3.23	10.72	0.81
1.533	0.81	4.600	37.17	7.667	3.23	10.73	0.81
1.550	0.81	4.617	37.17	7.683	3.23	10.75	0.81
1.567	0.81	4.633	37.17	7.700	3.23	10.77	0.81
1.583	0.81	4.650	37.17	7.717	3.23	10.78	0.81
1.600	0.81	4.667	37.17	7.733	3.23	10.80	0.81
1.617	0.81	4.683	37.17	7.750	3.23	10.82	0.81
1.633	0.81	4.700	37.17	7.767	3.23	10.83	0.81
1.650	0.81	4.717	37.17	7.783	3.23	10.85	0.81
1.667	0.81	4.733	37.17	7.800	3.23	10.87	0.81
1.683	0.81	4.750	37.17	7.817	3.23	10.88	0.81
1.700	0.81	4.767	37.17	7.833	3.23	10.90	0.81
1.717	0.81	4.783	37.17	7.850	3.23	10.92	0.81
1.733	0.81	4.800	37.17	7.867	3.23	10.93	0.81
1.750	0.81	4.817	37.17	7.883	3.23	10.95	0.81
1.767	0.81	4.833	37.17	7.900	3.23	10.97	0.81
1.783	0.81	4.850	37.17	7.917	3.23	10.98	0.81
1.800	0.81	4.867	37.17	7.933	3.23	11.00	0.81
1.817	0.81	4.883	37.17	7.950	3.23	11.02	0.81
1.833	0.81	4.900	37.17	7.967	3.23	11.03	0.81
1.850	0.81	4.917	37.17	7.983	3.23	11.05	0.81
1.867	0.81	4.933	37.17	8.000	3.23	11.07	0.81
1.883	0.81	4.950	37.17	8.017	3.23	11.08	0.81
1.900	0.81	4.967	37.17	8.033	3.23	11.10	0.81
1.917	0.81	4.983	37.17	8.050	3.23	11.12	0.81
1.933	0.81	5.000	37.17	8.067	3.23	11.13	0.81
1.950	0.81	5.017	37.17	8.083	3.23	11.15	0.81
1.967	0.81	5.033	37.17	8.100	3.23	11.17	0.81
1.983	0.81	5.050	37.17	8.117	3.23	11.18	0.81
2.000	0.81	5.067	37.17	8.133	3.23	11.20	0.81
2.017	0.81	5.083	37.17	8.150	3.23	11.22	0.81
2.033	0.81	5.100	37.17	8.167	3.23	11.23	0.81
2.050	0.81	5.117	37.17	8.183	3.23	11.25	0.81
2.067	0.81	5.133	37.17	8.200	3.23	11.27	0.81
2.083	0.81	5.150	37.17	8.217	3.23	11.28	0.81
2.100	0.81	5.167	37.17	8.233	3.23	11.30	0.81
2.117	0.81	5.183	37.17	8.250	3.23	11.32	0.81
2.133	0.81	5.200	37.17	8.267	1.62	11.33	0.81
2.150	0.81	5.217	37.17	8.283	1.62	11.35	0.81
2.167	0.81	5.233	37.17	8.300	1.62	11.37	0.81
2.183	0.81	5.250	37.15	8.317	1.62	11.38	0.81
2.200	0.81	5.267	10.50	8.333	1.62	11.40	0.81
2.217	0.81	5.283	10.50	8.350	1.62	11.42	0.81
2.233	0.81	5.300	10.50	8.367	1.62	11.43	0.81
2.250	0.81	5.317	10.50	8.383	1.62	11.45	0.81
2.267	4.85	5.333	10.50	8.400	1.62	11.47	0.81
2.283	4.85	5.350	10.50	8.417	1.62	11.48	0.81
2.300	4.85	5.367	10.50	8.433	1.62	11.50	0.81
2.317	4.85	5.383	10.50	8.450	1.62	11.52	0.81
2.333	4.85	5.400	10.50	8.467	1.62	11.53	0.81
2.350	4.85	5.417	10.50	8.483	1.62	11.55	0.81
2.367	4.85	5.433	10.50	8.500	1.62	11.57	0.81
2.383	4.85	5.450	10.50	8.517	1.62	11.58	0.81
2.400	4.85	5.467	10.50	8.533	1.62	11.60	0.81
2.417	4.85	5.483	10.50	8.550	1.62	11.62	0.81
2.433	4.85	5.500	10.50	8.567	1.62	11.63	0.81
2.450	4.85	5.517	10.50	8.583	1.62	11.65	0.81
2.467	4.85	5.533	10.50	8.600	1.62	11.67	0.81
2.483	4.85	5.550	10.50	8.617	1.62	11.68	0.81
2.500	4.85	5.567	10.50	8.633	1.62	11.70	0.81
2.517	4.85	5.583	10.50	8.650	1.62	11.72	0.81
2.533	4.85	5.600	10.50	8.667	1.62	11.73	0.81
2.550	4.85	5.617	10.50	8.683	1.62	11.75	0.81
2.567	4.85	5.633	10.50	8.700	1.62	11.77	0.81
2.583	4.85	5.650	10.50	8.717	1.62	11.78	0.81
2.600	4.85	5.667	10.50	8.733	1.62	11.80	0.81
2.617	4.85	5.683	10.50	8.750	1.62	11.82	0.81
2.633	4.85	5.700	10.50	8.767	1.62	11.83	0.81
2.650	4.85	5.717	10.50	8.783	1.62	11.85	0.81
2.667	4.85	5.733	10.50	8.800	1.62	11.87	0.81
2.683	4.85	5.750	10.50	8.817	1.62	11.88	0.81
2.700	4.85	5.767	10.50	8.833	1.62	11.90	0.81
2.717	4.85	5.783	10.50	8.850	1.62	11.92	0.81
2.733	4.85	5.800	10.50	8.867	1.62	11.93	0.81
2.750	4.85	5.817	10.50	8.883	1.62	11.95	0.81
2.767	4.85	5.833	10.50	8.900	1.62	11.97	0.81
2.783	4.85	5.850	10.50	8.917	1.62	11.98	0.81
2.800	4.85	5.867	10.50	8.933	1.62	12.00	0.81
2.817	4.85	5.883	10.50	8.950	1.62	12.02	0.81
2.833	4.85	5.900	10.50	8.967	1.62	12.03	0.81
2.850	4.85	5.917	10.50	8.983	1.62	12.05	0.81
2.867	4.85	5.933	10.50	9.000	1.62	12.07	0.81
2.883	4.85	5.950	10.50	9.017	1.62	12.08	0.81
2.900	4.85	5.967	10.50	9.033	1.62	12.10	0.81
2.917	4.85	5.983	10.50	9.050	1.62	12.12	0.81

2.933	4.85	6.000	10.50	9.067	1.62	12.13	0.81
2.950	4.85	6.017	10.50	9.083	1.62	12.15	0.81
2.967	4.85	6.033	10.50	9.100	1.62	12.17	0.81
2.983	4.85	6.050	10.50	9.117	1.62	12.18	0.81
3.000	4.85	6.067	10.50	9.133	1.62	12.20	0.81
3.017	4.85	6.083	10.50	9.150	1.62	12.22	0.81
3.033	4.85	6.100	10.50	9.167	1.62	12.23	0.81
3.050	4.85	6.117	10.50	9.183	1.62	12.25	0.81
3.067	4.85	6.133	10.50	9.200	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	29.32	
over (min)	5.00	8.00	
Storage Coeff. (min)=	5.06 (ii)	7.59 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.22	0.15	
			TOTALS
PEAK FLOW (cms)=	0.40	0.00	0.403 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	50.68	79.53
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.403	5.25	79.53
OUTFLOW: ID= 1 (7632)	3.910	0.075	6.40	75.90

PEAK FLOW REDUCTION [Qout/Qin](%)= 18.66
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.2119

CALIB					
STANDHYD (7641)	Area (ha)= 2.21				
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00			

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.19	0.02
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	121.38	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	4.85	6.150	10.50	9.22	1.62
0.033	0.00	3.100	4.85	6.167	10.50	9.23	1.62
0.050	0.00	3.117	4.85	6.183	10.50	9.25	1.62
0.067	0.00	3.133	4.85	6.200	10.50	9.27	0.81
0.083	0.00	3.150	4.85	6.217	10.50	9.28	0.81
0.100	0.00	3.167	4.85	6.233	10.50	9.30	0.81
0.117	0.00	3.183	4.85	6.250	10.49	9.32	0.81
0.133	0.00	3.200	4.85	6.267	5.66	9.33	0.81
0.150	0.00	3.217	4.85	6.283	5.66	9.35	0.81
0.167	0.00	3.233	4.85	6.300	5.66	9.37	0.81
0.183	0.00	3.250	4.85	6.317	5.66	9.38	0.81
0.200	0.00	3.267	13.74	6.333	5.66	9.40	0.81
0.217	0.00	3.283	13.74	6.350	5.66	9.42	0.81
0.233	0.00	3.300	13.74	6.367	5.66	9.43	0.81
0.250	0.00	3.317	13.74	6.383	5.66	9.45	0.81
0.267	0.81	3.333	13.74	6.400	5.66	9.47	0.81
0.283	0.81	3.350	13.74	6.417	5.66	9.48	0.81
0.300	0.81	3.367	13.74	6.433	5.66	9.50	0.81
0.317	0.81	3.383	13.74	6.450	5.66	9.52	0.81
0.333	0.81	3.400	13.74	6.467	5.66	9.53	0.81
0.350	0.81	3.417	13.74	6.483	5.66	9.55	0.81
0.367	0.81	3.433	13.74	6.500	5.66	9.57	0.81
0.383	0.81	3.450	13.74	6.517	5.66	9.58	0.81
0.400	0.81	3.467	13.74	6.533	5.66	9.60	0.81
0.417	0.81	3.483	13.74	6.550	5.66	9.62	0.81
0.433	0.81	3.500	13.74	6.567	5.66	9.63	0.81
0.450	0.81	3.517	13.74	6.583	5.66	9.65	0.81
0.467	0.81	3.533	13.74	6.600	5.66	9.67	0.81
0.483	0.81	3.550	13.74	6.617	5.66	9.68	0.81
0.500	0.81	3.567	13.74	6.633	5.66	9.70	0.81
0.517	0.81	3.583	13.74	6.650	5.66	9.72	0.81
0.533	0.81	3.600	13.74	6.667	5.66	9.73	0.81
0.550	0.81	3.617	13.74	6.683	5.66	9.75	0.81
0.567	0.81	3.633	13.74	6.700	5.66	9.77	0.81
0.583	0.81	3.650	13.74	6.717	5.66	9.78	0.81
0.600	0.81	3.667	13.74	6.733	5.66	9.80	0.81
0.617	0.81	3.683	13.74	6.750	5.66	9.82	0.81
0.633	0.81	3.700	13.74	6.767	5.66	9.83	0.81
0.650	0.81	3.717	13.74	6.783	5.66	9.85	0.81
0.667	0.81	3.733	13.74	6.800	5.66	9.87	0.81
0.683	0.81	3.750	13.74	6.817	5.66	9.88	0.81
0.700	0.81	3.767	13.74	6.833	5.66	9.90	0.81
0.717	0.81	3.783	13.74	6.850	5.66	9.92	0.81
0.733	0.81	3.800	13.74	6.867	5.66	9.93	0.81
0.750	0.81	3.817	13.74	6.883	5.66	9.95	0.81
0.767	0.81	3.833	13.74	6.900	5.66	9.97	0.81
0.783	0.81	3.850	13.74	6.917	5.66	9.98	0.81
0.800	0.81	3.867	13.74	6.933	5.66	10.00	0.81
0.817	0.81	3.883	13.74	6.950	5.66	10.02	0.81
0.833	0.81	3.900	13.74	6.967	5.66	10.03	0.81
0.850	0.81	3.917	13.74	6.983	5.66	10.05	0.81
0.867	0.81	3.933	13.74	7.000	5.66	10.07	0.81
0.883	0.81	3.950	13.74	7.017	5.66	10.08	0.81
0.900	0.81	3.967	13.74	7.033	5.66	10.10	0.81
0.917	0.81	3.983	13.74	7.050	5.66	10.12	0.81
0.933	0.81	4.000	13.74	7.067	5.66	10.13	0.81
0.950	0.81	4.017	13.74	7.083	5.66	10.15	0.81
0.967	0.81	4.033	13.74	7.100	5.66	10.17	0.81
0.983	0.81	4.050	13.74	7.117	5.66	10.18	0.81
1.000	0.81	4.067	13.74	7.133	5.66	10.20	0.81
1.017	0.81	4.083	13.74	7.150	5.66	10.22	0.81
1.033	0.81	4.100	13.74	7.167	5.66	10.23	0.81
1.050	0.81	4.117	13.74	7.183	5.66	10.25	0.81
1.067	0.81	4.133	13.74	7.200	5.66	10.27	0.81
1.083	0.81	4.150	13.74	7.217	5.66	10.28	0.81
1.100	0.81	4.167	13.74	7.233	5.66	10.30	0.81
1.117	0.81	4.183	13.74	7.250	5.65	10.32	0.81
1.133	0.81	4.200	13.74	7.267	3.23	10.33	0.81
1.150	0.81	4.217	13.74	7.283	3.23	10.35	0.81
1.167	0.81	4.233	13.74	7.300	3.23	10.37	0.81
1.183	0.81	4.250	13.74	7.317	3.23	10.38	0.81
1.200	0.81	4.267	37.17	7.333	3.23	10.40	0.81
1.217	0.81	4.283	37.17	7.350	3.23	10.42	0.81
1.233	0.81	4.300	37.17	7.367	3.23	10.43	0.81
1.250	0.81	4.317	37.17	7.383	3.23	10.45	0.81
1.267	0.81	4.333	37.17	7.400	3.23	10.47	0.81
1.283	0.81	4.350	37.17	7.417	3.23	10.48	0.81
1.300	0.81	4.367	37.17	7.433	3.23	10.50	0.81
1.317	0.81	4.383	37.17	7.450	3.23	10.52	0.81
1.333	0.81	4.400	37.17	7.467	3.23	10.53	0.81
1.350	0.81	4.417	37.17	7.483	3.23	10.55	0.81
1.367	0.81	4.433	37.17	7.500	3.23	10.57	0.81
1.383	0.81	4.450	37.17	7.517	3.23	10.58	0.81
1.400	0.81	4.467	37.17	7.533	3.23	10.60	0.81

1.417	0.81	4.483	37.17	7.550	3.23	10.62	0.81
1.433	0.81	4.500	37.17	7.567	3.23	10.63	0.81
1.450	0.81	4.517	37.17	7.583	3.23	10.65	0.81
1.467	0.81	4.533	37.17	7.600	3.23	10.67	0.81
1.483	0.81	4.550	37.17	7.617	3.23	10.68	0.81
1.500	0.81	4.567	37.17	7.633	3.23	10.70	0.81
1.517	0.81	4.583	37.17	7.650	3.23	10.72	0.81
1.533	0.81	4.600	37.17	7.667	3.23	10.73	0.81
1.550	0.81	4.617	37.17	7.683	3.23	10.75	0.81
1.567	0.81	4.633	37.17	7.700	3.23	10.77	0.81
1.583	0.81	4.650	37.17	7.717	3.23	10.78	0.81
1.600	0.81	4.667	37.17	7.733	3.23	10.80	0.81
1.617	0.81	4.683	37.17	7.750	3.23	10.82	0.81
1.633	0.81	4.700	37.17	7.767	3.23	10.83	0.81
1.650	0.81	4.717	37.17	7.783	3.23	10.85	0.81
1.667	0.81	4.733	37.17	7.800	3.23	10.87	0.81
1.683	0.81	4.750	37.17	7.817	3.23	10.88	0.81
1.700	0.81	4.767	37.17	7.833	3.23	10.90	0.81
1.717	0.81	4.783	37.17	7.850	3.23	10.92	0.81
1.733	0.81	4.800	37.17	7.867	3.23	10.93	0.81
1.750	0.81	4.817	37.17	7.883	3.23	10.95	0.81
1.767	0.81	4.833	37.17	7.900	3.23	10.97	0.81
1.783	0.81	4.850	37.17	7.917	3.23	10.98	0.81
1.800	0.81	4.867	37.17	7.933	3.23	11.00	0.81
1.817	0.81	4.883	37.17	7.950	3.23	11.02	0.81
1.833	0.81	4.900	37.17	7.967	3.23	11.03	0.81
1.850	0.81	4.917	37.17	7.983	3.23	11.05	0.81
1.867	0.81	4.933	37.17	8.000	3.23	11.07	0.81
1.883	0.81	4.950	37.17	8.017	3.23	11.08	0.81
1.900	0.81	4.967	37.17	8.033	3.23	11.10	0.81
1.917	0.81	4.983	37.17	8.050	3.23	11.12	0.81
1.933	0.81	5.000	37.17	8.067	3.23	11.13	0.81
1.950	0.81	5.017	37.17	8.083	3.23	11.15	0.81
1.967	0.81	5.033	37.17	8.100	3.23	11.17	0.81
1.983	0.81	5.050	37.17	8.117	3.23	11.18	0.81
2.000	0.81	5.067	37.17	8.133	3.23	11.20	0.81
2.017	0.81	5.083	37.17	8.150	3.23	11.22	0.81
2.033	0.81	5.100	37.17	8.167	3.23	11.23	0.81
2.050	0.81	5.117	37.17	8.183	3.23	11.25	0.81
2.067	0.81	5.133	37.17	8.200	3.23	11.27	0.81
2.083	0.81	5.150	37.17	8.217	3.23	11.28	0.81
2.100	0.81	5.167	37.17	8.233	3.23	11.30	0.81
2.117	0.81	5.183	37.17	8.250	3.23	11.32	0.81
2.133	0.81	5.200	37.17	8.267	1.62	11.33	0.81
2.150	0.81	5.217	37.17	8.283	1.62	11.35	0.81
2.167	0.81	5.233	37.17	8.300	1.62	11.37	0.81
2.183	0.81	5.250	37.15	8.317	1.62	11.38	0.81
2.200	0.81	5.267	10.50	8.333	1.62	11.40	0.81
2.217	0.81	5.283	10.50	8.350	1.62	11.42	0.81
2.233	0.81	5.300	10.50	8.367	1.62	11.43	0.81
2.250	0.81	5.317	10.50	8.383	1.62	11.45	0.81
2.267	4.85	5.333	10.50	8.400	1.62	11.47	0.81
2.283	4.85	5.350	10.50	8.417	1.62	11.48	0.81
2.300	4.85	5.367	10.50	8.433	1.62	11.50	0.81
2.317	4.85	5.383	10.50	8.450	1.62	11.52	0.81
2.333	4.85	5.400	10.50	8.467	1.62	11.53	0.81
2.350	4.85	5.417	10.50	8.483	1.62	11.55	0.81
2.367	4.85	5.433	10.50	8.500	1.62	11.57	0.81
2.383	4.85	5.450	10.50	8.517	1.62	11.58	0.81
2.400	4.85	5.467	10.50	8.533	1.62	11.60	0.81
2.417	4.85	5.483	10.50	8.550	1.62	11.62	0.81
2.433	4.85	5.500	10.50	8.567	1.62	11.63	0.81
2.450	4.85	5.517	10.50	8.583	1.62	11.65	0.81
2.467	4.85	5.533	10.50	8.600	1.62	11.67	0.81
2.483	4.85	5.550	10.50	8.617	1.62	11.68	0.81
2.500	4.85	5.567	10.50	8.633	1.62	11.70	0.81
2.517	4.85	5.583	10.50	8.650	1.62	11.72	0.81
2.533	4.85	5.600	10.50	8.667	1.62	11.73	0.81
2.550	4.85	5.617	10.50	8.683	1.62	11.75	0.81
2.567	4.85	5.633	10.50	8.700	1.62	11.77	0.81
2.583	4.85	5.650	10.50	8.717	1.62	11.78	0.81
2.600	4.85	5.667	10.50	8.733	1.62	11.80	0.81
2.617	4.85	5.683	10.50	8.750	1.62	11.82	0.81
2.633	4.85	5.700	10.50	8.767	1.62	11.83	0.81
2.650	4.85	5.717	10.50	8.783	1.62	11.85	0.81
2.667	4.85	5.733	10.50	8.800	1.62	11.87	0.81
2.683	4.85	5.750	10.50	8.817	1.62	11.88	0.81
2.700	4.85	5.767	10.50	8.833	1.62	11.90	0.81
2.717	4.85	5.783	10.50	8.850	1.62	11.92	0.81
2.733	4.85	5.800	10.50	8.867	1.62	11.93	0.81
2.750	4.85	5.817	10.50	8.883	1.62	11.95	0.81
2.767	4.85	5.833	10.50	8.900	1.62	11.97	0.81
2.783	4.85	5.850	10.50	8.917	1.62	11.98	0.81
2.800	4.85	5.867	10.50	8.933	1.62	12.00	0.81
2.817	4.85	5.883	10.50	8.950	1.62	12.02	0.81
2.833	4.85	5.900	10.50	8.967	1.62	12.03	0.81
2.850	4.85	5.917	10.50	8.983	1.62	12.05	0.81
2.867	4.85	5.933	10.50	9.000	1.62	12.07	0.81
2.883	4.85	5.950	10.50	9.017	1.62	12.08	0.81
2.900	4.85	5.967	10.50	9.033	1.62	12.10	0.81
2.917	4.85	5.983	10.50	9.050	1.62	12.12	0.81
2.933	4.85	6.000	10.50	9.067	1.62	12.13	0.81
2.950	4.85	6.017	10.50	9.083	1.62	12.15	0.81
2.967	4.85	6.033	10.50	9.100	1.62	12.17	0.81
2.983	4.85	6.050	10.50	9.117	1.62	12.18	0.81
3.000	4.85	6.067	10.50	9.133	1.62	12.20	0.81
3.017	4.85	6.083	10.50	9.150	1.62	12.22	0.81
3.033	4.85	6.100	10.50	9.167	1.62	12.23	0.81
3.050	4.85	6.117	10.50	9.183	1.62	12.25	0.81
3.067	4.85	6.133	10.50	9.200	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	29.32	
over (min)	5.00	7.00	
Storage Coeff. (min)=	4.26 (ii)	6.79 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.25	0.16	
			TOTALS
PEAK FLOW (cms)=	0.23	0.00	0.228 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	50.68	79.53
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.228	5.25	79.53
OUTFLOW: ID= 1 (7642)	2.210	0.044	6.37	76.49

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.44
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.1185

CALIB		
STANDHYD (7643)	Area (ha)= 2.02	
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.00	0.02
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	116.05	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	4.85	6.150	10.50	9.22	1.62
0.033	0.00	3.100	4.85	6.167	10.50	9.23	1.62
0.050	0.00	3.117	4.85	6.183	10.50	9.25	1.62
0.067	0.00	3.133	4.85	6.200	10.50	9.27	0.81
0.083	0.00	3.150	4.85	6.217	10.50	9.28	0.81
0.100	0.00	3.167	4.85	6.233	10.50	9.30	0.81
0.117	0.00	3.183	4.85	6.250	10.49	9.32	0.81
0.133	0.00	3.200	4.85	6.267	5.66	9.33	0.81
0.150	0.00	3.217	4.85	6.283	5.66	9.35	0.81
0.167	0.00	3.233	4.85	6.300	5.66	9.37	0.81
0.183	0.00	3.250	4.85	6.317	5.66	9.38	0.81
0.200	0.00	3.267	13.74	6.333	5.66	9.40	0.81
0.217	0.00	3.283	13.74	6.350	5.66	9.42	0.81
0.233	0.00	3.300	13.74	6.367	5.66	9.43	0.81
0.250	0.00	3.317	13.74	6.383	5.66	9.45	0.81
0.267	0.81	3.333	13.74	6.400	5.66	9.47	0.81
0.283	0.81	3.350	13.74	6.417	5.66	9.48	0.81
0.300	0.81	3.367	13.74	6.433	5.66	9.50	0.81
0.317	0.81	3.383	13.74	6.450	5.66	9.52	0.81
0.333	0.81	3.400	13.74	6.467	5.66	9.53	0.81
0.350	0.81	3.417	13.74	6.483	5.66	9.55	0.81
0.367	0.81	3.433	13.74	6.500	5.66	9.57	0.81
0.383	0.81	3.450	13.74	6.517	5.66	9.58	0.81
0.400	0.81	3.467	13.74	6.533	5.66	9.60	0.81
0.417	0.81	3.483	13.74	6.550	5.66	9.62	0.81
0.433	0.81	3.500	13.74	6.567	5.66	9.63	0.81
0.450	0.81	3.517	13.74	6.583	5.66	9.65	0.81
0.467	0.81	3.533	13.74	6.600	5.66	9.67	0.81
0.483	0.81	3.550	13.74	6.617	5.66	9.68	0.81
0.500	0.81	3.567	13.74	6.633	5.66	9.70	0.81
0.517	0.81	3.583	13.74	6.650	5.66	9.72	0.81
0.533	0.81	3.600	13.74	6.667	5.66	9.73	0.81
0.550	0.81	3.617	13.74	6.683	5.66	9.75	0.81
0.567	0.81	3.633	13.74	6.700	5.66	9.77	0.81
0.583	0.81	3.650	13.74	6.717	5.66	9.78	0.81
0.600	0.81	3.667	13.74	6.733	5.66	9.80	0.81
0.617	0.81	3.683	13.74	6.750	5.66	9.82	0.81
0.633	0.81	3.700	13.74	6.767	5.66	9.83	0.81
0.650	0.81	3.717	13.74	6.783	5.66	9.85	0.81
0.667	0.81	3.733	13.74	6.800	5.66	9.87	0.81
0.683	0.81	3.750	13.74	6.817	5.66	9.88	0.81
0.700	0.81	3.767	13.74	6.833	5.66	9.90	0.81
0.717	0.81	3.783	13.74	6.850	5.66	9.92	0.81
0.733	0.81	3.800	13.74	6.867	5.66	9.93	0.81
0.750	0.81	3.817	13.74	6.883	5.66	9.95	0.81
0.767	0.81	3.833	13.74	6.900	5.66	9.97	0.81
0.783	0.81	3.850	13.74	6.917	5.66	9.98	0.81
0.800	0.81	3.867	13.74	6.933	5.66	10.00	0.81
0.817	0.81	3.883	13.74	6.950	5.66	10.02	0.81
0.833	0.81	3.900	13.74	6.967	5.66	10.03	0.81
0.850	0.81	3.917	13.74	6.983	5.66	10.05	0.81
0.867	0.81	3.933	13.74	7.000	5.66	10.07	0.81
0.883	0.81	3.950	13.74	7.017	5.66	10.08	0.81
0.900	0.81	3.967	13.74	7.033	5.66	10.10	0.81
0.917	0.81	3.983	13.74	7.050	5.66	10.12	0.81
0.933	0.81	4.000	13.74	7.067	5.66	10.13	0.81
0.950	0.81	4.017	13.74	7.083	5.66	10.15	0.81
0.967	0.81	4.033	13.74	7.100	5.66	10.17	0.81
0.983	0.81	4.050	13.74	7.117	5.66	10.18	0.81
1.000	0.81	4.067	13.74	7.133	5.66	10.20	0.81
1.017	0.81	4.083	13.74	7.150	5.66	10.22	0.81
1.033	0.81	4.100	13.74	7.167	5.66	10.23	0.81
1.050	0.81	4.117	13.74	7.183	5.66	10.25	0.81
1.067	0.81	4.133	13.74	7.200	5.66	10.27	0.81
1.083	0.81	4.150	13.74	7.217	5.66	10.28	0.81
1.100	0.81	4.167	13.74	7.233	5.66	10.30	0.81
1.117	0.81	4.183	13.74	7.250	5.65	10.32	0.81
1.133	0.81	4.200	13.74	7.267	3.23	10.33	0.81
1.150	0.81	4.217	13.74	7.283	3.23	10.35	0.81
1.167	0.81	4.233	13.74	7.300	3.23	10.37	0.81
1.183	0.81	4.250	13.74	7.317	3.23	10.38	0.81
1.200	0.81	4.267	37.17	7.333	3.23	10.40	0.81
1.217	0.81	4.283	37.17	7.350	3.23	10.42	0.81
1.233	0.81	4.300	37.17	7.367	3.23	10.43	0.81
1.250	0.81	4.317	37.17	7.383	3.23	10.45	0.81
1.267	0.81	4.333	37.17	7.400	3.23	10.47	0.81
1.283	0.81	4.350	37.17	7.417	3.23	10.48	0.81
1.300	0.81	4.367	37.17	7.433	3.23	10.50	0.81
1.317	0.81	4.383	37.17	7.450	3.23	10.52	0.81
1.333	0.81	4.400	37.17	7.467	3.23	10.53	0.81
1.350	0.81	4.417	37.17	7.483	3.23	10.55	0.81
1.367	0.81	4.433	37.17	7.500	3.23	10.57	0.81
1.383	0.81	4.450	37.17	7.517	3.23	10.58	0.81
1.400	0.81	4.467	37.17	7.533	3.23	10.60	0.81
1.417	0.81	4.483	37.17	7.550	3.23	10.62	0.81
1.433	0.81	4.500	37.17	7.567	3.23	10.63	0.81
1.450	0.81	4.517	37.17	7.583	3.23	10.65	0.81
1.467	0.81	4.533	37.17	7.600	3.23	10.67	0.81
1.483	0.81	4.550	37.17	7.617	3.23	10.68	0.81
1.500	0.81	4.567	37.17	7.633	3.23	10.70	0.81
1.517	0.81	4.583	37.17	7.650	3.23	10.72	0.81
1.533	0.81	4.600	37.17	7.667	3.23	10.73	0.81
1.550	0.81	4.617	37.17	7.683	3.23	10.75	0.81
1.567	0.81	4.633	37.17	7.700	3.23	10.77	0.81
1.583	0.81	4.650	37.17	7.717	3.23	10.78	0.81
1.600	0.81	4.667	37.17	7.733	3.23	10.80	0.81
1.617	0.81	4.683	37.17	7.750	3.23	10.82	0.81
1.633	0.81	4.700	37.17	7.767	3.23	10.83	0.81
1.650	0.81	4.717	37.17	7.783	3.23	10.85	0.81
1.667	0.81	4.733	37.17	7.800	3.23	10.87	0.81
1.683	0.81	4.750	37.17	7.817	3.23	10.88	0.81
1.700	0.81	4.767	37.17	7.833	3.23	10.90	0.81
1.717	0.81	4.783	37.17	7.850	3.23	10.92	0.81
1.733	0.81	4.800	37.17	7.867	3.23	10.93	0.81
1.750	0.81	4.817	37.17	7.883	3.23	10.95	0.81
1.767	0.81	4.833	37.17	7.900	3.23	10.97	0.81
1.783	0.81	4.850	37.17	7.917	3.23	10.98	0.81
1.800	0.81	4.867	37.17	7.933	3.23	11.00	0.81
1.817	0.81	4.883	37.17	7.950	3.23	11.02	0.81
1.833	0.81	4.900	37.17	7.967	3.23	11.03	0.81
1.850	0.81	4.917	37.17	7.983	3.23	11.05	0.81
1.867	0.81	4.933	37.17	8.000	3.23	11.07	0.81
1.883	0.81	4.950	37.17	8.017	3.23	11.08	0.81
1.900	0.81	4.967	37.17	8.033	3.23	11.10	0.81
1.917	0.81	4.983	37.17	8.050	3.23	11.12	0.81
1.933	0.81	5.000	37.17	8.067	3.23	11.13	0.81
1.950	0.81	5.017	37.17	8.083	3.23	11.15	0.81
1.967	0.81	5.033	37.17	8.100	3.23	11.17	0.81
1.983	0.81	5.050	37.17	8.117	3.23	11.18	0.81
2.000	0.81	5.067	37.17	8.133	3.23	11.20	0.81
2.017	0.81	5.083	37.17	8.150	3.23	11.22	0.81
2.033	0.81	5.100	37.17	8.167	3.23	11.23	0.81
2.050	0.81	5.117	37.17	8.183	3.23	11.25	0.81
2.067	0.81	5.133	37.17	8.200	3.23	11.27	0.81
2.083	0.81	5.150	37.17	8.217	3.23	11.28	0.81
2.100	0.81	5.167	37.17	8.233	3.23	11.30	0.81
2.117	0.81	5.183	37.17	8.250	3.23	11.32	0.81
2.133	0.81	5.200	37.17	8.267	1.62	11.33	0.81
2.150	0.81	5.217	37.17	8.283	1.62	11.35	0.81
2.167	0.81	5.233	37.17	8.300	1.62	11.37	0.81
2.183	0.81	5.250	37.15	8.317	1.62	11.38	0.81
2.200	0.81	5.267	10.50	8.333	1.62	11.40	0.81
2.217	0.81	5.283	10.50	8.350	1.62	11.42	0.81
2.233	0.81	5.300	10.50	8.367	1.62	11.43	0.81
2.250	0.81	5.317	10.50	8.383	1.62	11.45	0.81
2.267	4.85	5.333	10.50	8.400	1.62	11.47	0.81
2.283	4.85	5.350	10.50	8.417	1.62	11.48	0.81
2.300	4.85	5.367	10.50	8.433	1.62	11.50	0.81
2.317	4.85	5.383	10.50	8.450	1.62	11.52	0.81
2.333	4.85	5.400	10.50	8.467	1.62	11.53	0.81
2.350	4.85	5.417	10.50	8.483	1.62	11.55	0.81
2.367	4.85	5.433	10.50	8.500	1.62	11.57	0.81
2.383	4.85	5.450	10.50	8.517	1.62	11.58	0.81
2.400	4.85	5.467	10.50	8.533	1.62	11.60	0.81
2.417	4.85	5.483	10.50	8.550	1.62	11.62	0.81

2.433	4.85	5.500	10.50	8.567	1.62	11.63	0.81
2.450	4.85	5.517	10.50	8.583	1.62	11.65	0.81
2.467	4.85	5.533	10.50	8.600	1.62	11.67	0.81
2.483	4.85	5.550	10.50	8.617	1.62	11.68	0.81
2.500	4.85	5.567	10.50	8.633	1.62	11.70	0.81
2.517	4.85	5.583	10.50	8.650	1.62	11.72	0.81
2.533	4.85	5.600	10.50	8.667	1.62	11.73	0.81
2.550	4.85	5.617	10.50	8.683	1.62	11.75	0.81
2.567	4.85	5.633	10.50	8.700	1.62	11.77	0.81
2.583	4.85	5.650	10.50	8.717	1.62	11.78	0.81
2.600	4.85	5.667	10.50	8.733	1.62	11.80	0.81
2.617	4.85	5.683	10.50	8.750	1.62	11.82	0.81
2.633	4.85	5.700	10.50	8.767	1.62	11.83	0.81
2.650	4.85	5.717	10.50	8.783	1.62	11.85	0.81
2.667	4.85	5.733	10.50	8.800	1.62	11.87	0.81
2.683	4.85	5.750	10.50	8.817	1.62	11.88	0.81
2.700	4.85	5.767	10.50	8.833	1.62	11.90	0.81
2.717	4.85	5.783	10.50	8.850	1.62	11.92	0.81
2.733	4.85	5.800	10.50	8.867	1.62	11.93	0.81
2.750	4.85	5.817	10.50	8.883	1.62	11.95	0.81
2.767	4.85	5.833	10.50	8.900	1.62	11.97	0.81
2.783	4.85	5.850	10.50	8.917	1.62	11.98	0.81
2.800	4.85	5.867	10.50	8.933	1.62	12.00	0.81
2.817	4.85	5.883	10.50	8.950	1.62	12.02	0.81
2.833	4.85	5.900	10.50	8.967	1.62	12.03	0.81
2.850	4.85	5.917	10.50	8.983	1.62	12.05	0.81
2.867	4.85	5.933	10.50	9.000	1.62	12.07	0.81
2.883	4.85	5.950	10.50	9.017	1.62	12.08	0.81
2.900	4.85	5.967	10.50	9.033	1.62	12.10	0.81
2.917	4.85	5.983	10.50	9.050	1.62	12.12	0.81
2.933	4.85	6.000	10.50	9.067	1.62	12.13	0.81
2.950	4.85	6.017	10.50	9.083	1.62	12.15	0.81
2.967	4.85	6.033	10.50	9.100	1.62	12.17	0.81
2.983	4.85	6.050	10.50	9.117	1.62	12.18	0.81
3.000	4.85	6.067	10.50	9.133	1.62	12.20	0.81
3.017	4.85	6.083	10.50	9.150	1.62	12.22	0.81
3.033	4.85	6.100	10.50	9.167	1.62	12.23	0.81
3.050	4.85	6.117	10.50	9.183	1.62	12.25	0.81
3.067	4.85	6.133	10.50	9.200	1.62		

Max.Eff.Inten.(mm/hr)=	37.17	29.32	
over (min)	5.00	7.00	
Storage Coeff. (min)=	4.15 (ii)	6.68 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.25	0.17	
			TOTALS
PEAK FLOW (cms)=	0.21	0.00	0.208 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	79.82	50.68	79.53
TOTAL RAINFALL (mm)=	80.82	80.82	80.82
RUNOFF COEFFICIENT =	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0433	0.1140
	0.0182	0.0580	0.0507	0.1280
	0.0280	0.0775	0.0571	0.1440
	0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.208	5.25	79.53
OUTFLOW: ID= 1 (7644)	2.020	0.041	6.37	76.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.60

TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.1081

****
** SIMULATION:991. 50 Year 24 Hour AES (Bloor, TRCA) **
****

READ STORM | Ptotal= 87.80 mm |
Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\5dbf17e4
Comments: 50 Year 24 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.25	7.46	12.50	3.07	18.75	0.44
0.25	0.44	6.50	7.46	12.75	3.07	19.00	0.44
0.50	0.44	6.75	7.46	13.00	3.07	19.25	0.44
0.75	0.44	7.00	7.46	13.25	3.07	19.50	0.44
1.00	0.44	7.25	7.46	13.50	3.07	19.75	0.44
1.25	0.44	7.50	7.46	13.75	3.07	20.00	0.44
1.50	0.44	7.75	7.46	14.00	3.07	20.25	0.44
1.75	0.44	8.00	7.46	14.25	1.76	20.50	0.44
2.00	0.44	8.25	20.19	14.50	1.76	20.75	0.44
2.25	0.44	8.50	20.19	14.75	1.76	21.00	0.44
2.50	0.44	8.75	20.19	15.00	1.76	21.25	0.44
2.75	0.44	9.00	20.19	15.25	1.76	21.50	0.44
3.00	0.44	9.25	20.19	15.50	1.76	21.75	0.44
3.25	0.44	9.50	20.19	15.75	1.76	22.00	0.44
3.50	0.44	9.75	20.19	16.00	1.76	22.25	0.44
3.75	0.44	10.00	20.19	16.25	0.88	22.50	0.44
4.00	0.44	10.25	5.71	16.50	0.88	22.75	0.44
4.25	2.63	10.50	5.71	16.75	0.88	23.00	0.44
4.50	2.63	10.75	5.71	17.00	0.88	23.25	0.44
4.75	2.63	11.00	5.71	17.25	0.88	23.50	0.44
5.00	2.63	11.25	5.71	17.50	0.88	23.75	0.44
5.25	2.63	11.50	5.71	17.75	0.88	24.00	0.44
5.50	2.63	11.75	5.71	18.00	0.88		
5.75	2.63	12.00	5.71	18.25	0.44		
6.00	2.63	12.25	3.07	18.50	0.44		

CALIB | STANDHYD (7567)| ID= 1 DT= 1.0 min |
Area (ha)= 2.81
Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.63	12.150	5.71	18.22	0.88
0.033	0.00	6.100	2.63	12.167	5.71	18.23	0.88
0.050	0.00	6.117	2.63	12.183	5.71	18.25	0.88
0.067	0.00	6.133	2.63	12.200	5.71	18.27	0.44
0.083	0.00	6.150	2.63	12.217	5.71	18.28	0.44
0.100	0.00	6.167	2.63	12.233	5.71	18.30	0.44
0.117	0.00	6.183	2.63	12.250	5.71	18.32	0.44
0.133	0.00	6.200	2.63	12.267	3.07	18.33	0.44
0.150	0.00	6.217	2.63	12.283	3.07	18.35	0.44
0.167	0.00	6.233	2.63	12.300	3.07	18.37	0.44
0.183	0.00	6.250	2.64	12.317	3.07	18.38	0.44
0.200	0.00	6.267	7.46	12.333	3.07	18.40	0.44
0.217	0.00	6.283	7.46	12.350	3.07	18.42	0.44
0.233	0.00	6.300	7.46	12.367	3.07	18.43	0.44

0.250	0.00	6.317	7.46	12.383	3.07	18.45	0.44
0.267	0.44	6.333	7.46	12.400	3.07	18.47	0.44
0.283	0.44	6.350	7.46	12.417	3.07	18.48	0.44
0.300	0.44	6.367	7.46	12.433	3.07	18.50	0.44
0.317	0.44	6.383	7.46	12.450	3.07	18.52	0.44
0.333	0.44	6.400	7.46	12.467	3.07	18.53	0.44
0.350	0.44	6.417	7.46	12.483	3.07	18.55	0.44
0.367	0.44	6.433	7.46	12.500	3.07	18.57	0.44
0.383	0.44	6.450	7.46	12.517	3.07	18.58	0.44
0.400	0.44	6.467	7.46	12.533	3.07	18.60	0.44
0.417	0.44	6.483	7.46	12.550	3.07	18.62	0.44
0.433	0.44	6.500	7.46	12.567	3.07	18.63	0.44
0.450	0.44	6.517	7.46	12.583	3.07	18.65	0.44
0.467	0.44	6.533	7.46	12.600	3.07	18.67	0.44
0.483	0.44	6.550	7.46	12.617	3.07	18.68	0.44
0.500	0.44	6.567	7.46	12.633	3.07	18.70	0.44
0.517	0.44	6.583	7.46	12.650	3.07	18.72	0.44
0.533	0.44	6.600	7.46	12.667	3.07	18.73	0.44
0.550	0.44	6.617	7.46	12.683	3.07	18.75	0.44
0.567	0.44	6.633	7.46	12.700	3.07	18.77	0.44
0.583	0.44	6.650	7.46	12.717	3.07	18.78	0.44
0.600	0.44	6.667	7.46	12.733	3.07	18.80	0.44
0.617	0.44	6.683	7.46	12.750	3.07	18.82	0.44
0.633	0.44	6.700	7.46	12.767	3.07	18.83	0.44
0.650	0.44	6.717	7.46	12.783	3.07	18.85	0.44
0.667	0.44	6.733	7.46	12.800	3.07	18.87	0.44
0.683	0.44	6.750	7.46	12.817	3.07	18.88	0.44
0.700	0.44	6.767	7.46	12.833	3.07	18.90	0.44
0.717	0.44	6.783	7.46	12.850	3.07	18.92	0.44
0.733	0.44	6.800	7.46	12.867	3.07	18.93	0.44
0.750	0.44	6.817	7.46	12.883	3.07	18.95	0.44
0.767	0.44	6.833	7.46	12.900	3.07	18.97	0.44
0.783	0.44	6.850	7.46	12.917	3.07	18.98	0.44
0.800	0.44	6.867	7.46	12.933	3.07	19.00	0.44
0.817	0.44	6.883	7.46	12.950	3.07	19.02	0.44
0.833	0.44	6.900	7.46	12.967	3.07	19.03	0.44
0.850	0.44	6.917	7.46	12.983	3.07	19.05	0.44
0.867	0.44	6.933	7.46	13.000	3.07	19.07	0.44
0.883	0.44	6.950	7.46	13.017	3.07	19.08	0.44
0.900	0.44	6.967	7.46	13.033	3.07	19.10	0.44
0.917	0.44	6.983	7.46	13.050	3.07	19.12	0.44
0.933	0.44	7.000	7.46	13.067	3.07	19.13	0.44
0.950	0.44	7.017	7.46	13.083	3.07	19.15	0.44
0.967	0.44	7.033	7.46	13.100	3.07	19.17	0.44
0.983	0.44	7.050	7.46	13.117	3.07	19.18	0.44
1.000	0.44	7.067	7.46	13.133	3.07	19.20	0.44
1.017	0.44	7.083	7.46	13.150	3.07	19.22	0.44
1.033	0.44	7.100	7.46	13.167	3.07	19.23	0.44
1.050	0.44	7.117	7.46	13.183	3.07	19.25	0.44
1.067	0.44	7.133	7.46	13.200	3.07	19.27	0.44
1.083	0.44	7.150	7.46	13.217	3.07	19.28	0.44
1.100	0.44	7.167	7.46	13.233	3.07	19.30	0.44
1.117	0.44	7.183	7.46	13.250	3.07	19.32	0.44
1.133	0.44	7.200	7.46	13.267	3.07	19.33	0.44
1.150	0.44	7.217	7.46	13.283	3.07	19.35	0.44
1.167	0.44	7.233	7.46	13.300	3.07	19.37	0.44
1.183	0.44	7.250	7.46	13.317	3.07	19.38	0.44
1.200	0.44	7.267	7.46	13.333	3.07	19.40	0.44
1.217	0.44	7.283	7.46	13.350	3.07	19.42	0.44
1.233	0.44	7.300	7.46	13.367	3.07	19.43	0.44
1.250	0.44	7.317	7.46	13.383	3.07	19.45	0.44
1.267	0.44	7.333	7.46	13.400	3.07	19.47	0.44
1.283	0.44	7.350	7.46	13.417	3.07	19.48	0.44
1.300	0.44	7.367	7.46	13.433	3.07	19.50	0.44
1.317	0.44	7.383	7.46	13.450	3.07	19.52	0.44
1.333	0.44	7.400	7.46	13.467	3.07	19.53	0.44
1.350	0.44	7.417	7.46	13.483	3.07	19.55	0.44
1.367	0.44	7.433	7.46	13.500	3.07	19.57	0.44
1.383	0.44	7.450	7.46	13.517	3.07	19.58	0.44
1.400	0.44	7.467	7.46	13.533	3.07	19.60	0.44
1.417	0.44	7.483	7.46	13.550	3.07	19.62	0.44
1.433	0.44	7.500	7.46	13.567	3.07	19.63	0.44
1.450	0.44	7.517	7.46	13.583	3.07	19.65	0.44
1.467	0.44	7.533	7.46	13.600	3.07	19.67	0.44
1.483	0.44	7.550	7.46	13.617	3.07	19.68	0.44
1.500	0.44	7.567	7.46	13.633	3.07	19.70	0.44
1.517	0.44	7.583	7.46	13.650	3.07	19.72	0.44
1.533	0.44	7.600	7.46	13.667	3.07	19.73	0.44
1.550	0.44	7.617	7.46	13.683	3.07	19.75	0.44
1.567	0.44	7.633	7.46	13.700	3.07	19.77	0.44
1.583	0.44	7.650	7.46	13.717	3.07	19.78	0.44
1.600	0.44	7.667	7.46	13.733	3.07	19.80	0.44
1.617	0.44	7.683	7.46	13.750	3.07	19.82	0.44
1.633	0.44	7.700	7.46	13.767	3.07	19.83	0.44
1.650	0.44	7.717	7.46	13.783	3.07	19.85	0.44
1.667	0.44	7.733	7.46	13.800	3.07	19.87	0.44
1.683	0.44	7.750	7.46	13.817	3.07	19.88	0.44
1.700	0.44	7.767	7.46	13.833	3.07	19.90	0.44
1.717	0.44	7.783	7.46	13.850	3.07	19.92	0.44
1.733	0.44	7.800	7.46	13.867	3.07	19.93	0.44
1.750	0.44	7.817	7.46	13.883	3.07	19.95	0.44
1.767	0.44	7.833	7.46	13.900	3.07	19.97	0.44
1.783	0.44	7.850	7.46	13.917	3.07	19.98	0.44
1.800	0.44	7.867	7.46	13.933	3.07	20.00	0.44
1.817	0.44	7.883	7.46	13.950	3.07	20.02	0.44
1.833	0.44	7.900	7.46	13.967	3.07	20.03	0.44
1.850	0.44	7.917	7.46	13.983	3.07	20.05	0.44
1.867	0.44	7.933	7.46	14.000	3.07	20.07	0.44
1.883	0.44	7.950	7.46	14.017	3.07	20.08	0.44
1.900	0.44	7.967	7.46	14.033	3.07	20.10	0.44
1.917	0.44	7.983	7.46	14.050	3.07	20.12	0.44
1.933	0.44	8.000	7.46	14.067	3.07	20.13	0.44
1.950	0.44	8.017	7.46	14.083	3.07	20.15	0.44
1.967	0.44	8.033	7.46	14.100	3.07	20.17	0.44
1.983	0.44	8.050	7.46	14.117	3.07	20.18	0.44
2.000	0.44	8.067	7.46	14.133	3.07	20.20	0.44
2.017	0.44	8.083	7.46	14.150	3.07	20.22	0.44
2.033	0.44	8.100	7.46	14.167	3.07	20.23	0.44
2.050	0.44	8.117	7.46	14.183	3.07	20.25	0.44
2.067	0.44	8.133	7.46	14.200	3.07	20.27	0.44
2.083	0.44	8.150	7.46	14.217	3.07	20.28	0.44
2.100	0.44	8.167	7.46	14.233	3.07	20.30	0.44
2.117	0.44	8.183	7.46	14.250	3.07	20.32	0.44
2.133	0.44	8.200	7.46	14.267	1.76	20.33	0.44
2.150	0.44	8.217	7.46	14.283	1.76	20.35	0.44
2.167	0.44	8.233	7.46	14.300	1.76	20.37	0.44
2.183	0.44	8.250	7.49	14.317	1.76	20.38	0.44
2.200	0.44	8.267	20.19	14.333	1.76	20.40	0.44
2.217	0.44	8.283	20.19	14.350	1.76	20.42	0.44
2.233	0.44	8.300	20.19	14.367	1.76	20.43	0.44
2.250	0.44	8.317	20.19	14.383	1.76	20.45	0.44
2.267	0.44	8.333	20.19	14.400	1.76	20.47	0.44
2.283	0.44	8.350	20.19	14.417	1.76	20.48	0.44
2.300	0.44	8.367	20.19	14.433	1.76	20.50	0.44
2.317	0.44	8.383	20.19	14.450	1.76	20.52	0.44
2.333	0.44	8.400	20.19	14.467	1.76	20.53	0.44
2.350	0.44	8.417	20.19	14.483	1.76	20.55	0.44
2.367	0.44	8.433	20.19	14.500	1.76	20.57	0.44
2.383	0.44	8.450	20.19	14.517	1.76	20.58	0.44
2.400	0.44	8.467	20.19	14.533	1.76	20.60	0.44
2.417	0.44	8.483	20.19	14.550	1.76	20.62	0.44
2.433	0.44	8.500	20.19	14.567	1.76	20.63	0.44
2.450	0.44	8.517	20.19	14.583	1.76	20.65	0.44
2.467	0.44	8.533	20.19	14.600	1.76	20.67	0.44
2.483	0.44	8.550	20.19	14.617	1.76	20.68	0.44
2.500	0.44	8.567	20.19	14.633	1.76	20.70	0.44
2.517	0.44	8.583	20.19	14.650	1.76	20.72	0.44
2.533	0.44	8.600	20.19	14.667	1.76	20.73	0.44
2.550	0.44	8.617	20.19	14.683	1.76	20.75	0.44
2.567	0.44	8.633	20.19	14.700	1.76	20.77	0.44
2.583	0.44	8.650	20.19	14.717	1.76	20.78	0.44
2.600	0.44	8.667	20.19	14.733	1.76	20.80	0.44
2.617	0.44	8.683	20.19	14.750	1.76	20.82	0.44
2.633	0.44	8.700	20.19	14.767	1.76	20.83	0.44
2.650	0.44	8.717	20.19	14.783	1.76	20.85	0.44
2.667	0.44	8.733	20.19	14.800	1.76	20.87	0.44
2.683	0.44	8.750	20.19	14.817	1.76	20.88	0.44
2.700	0.44	8.767	20.19	14.833	1.76	20.90	0.44
2.717	0.44	8.783	20.19	14.850	1.76	20.92	0.44
2.733	0.44	8.800	20.19	14.867	1.76	20.93	0.44
2.750	0.44	8.817	20.19	14.883	1.76	20.95	0.44
2.767	0.44	8.833	20.19	14.900	1.76	20.97	0.44

2.783	0.44	8.850	20.19	14.917	1.76	20.98	0.44
2.800	0.44	8.867	20.19	14.933	1.76	21.00	0.44
2.817	0.44	8.883	20.19	14.950	1.76	21.02	0.44
2.833	0.44	8.900	20.19	14.967	1.76	21.03	0.44
2.850	0.44	8.917	20.19	14.983	1.76	21.05	0.44
2.867	0.44	8.933	20.19	15.000	1.76	21.07	0.44
2.883	0.44	8.950	20.19	15.017	1.76	21.08	0.44
2.900	0.44	8.967	20.19	15.033	1.76	21.10	0.44
2.917	0.44	8.983	20.19	15.050	1.76	21.12	0.44
2.933	0.44	9.000	20.19	15.067	1.76	21.13	0.44
2.950	0.44	9.017	20.19	15.083	1.76	21.15	0.44
2.967	0.44	9.033	20.19	15.100	1.76	21.17	0.44
2.983	0.44	9.050	20.19	15.117	1.76	21.18	0.44
3.000	0.44	9.067	20.19	15.133	1.76	21.20	0.44
3.017	0.44	9.083	20.19	15.150	1.76	21.22	0.44
3.033	0.44	9.100	20.19	15.167	1.76	21.23	0.44
3.050	0.44	9.117	20.19	15.183	1.76	21.25	0.44
3.067	0.44	9.133	20.19	15.200	1.76	21.27	0.44
3.083	0.44	9.150	20.19	15.217	1.76	21.28	0.44
3.100	0.44	9.167	20.19	15.233	1.76	21.30	0.44
3.117	0.44	9.183	20.19	15.250	1.76	21.32	0.44
3.133	0.44	9.200	20.19	15.267	1.76	21.33	0.44
3.150	0.44	9.217	20.19	15.283	1.76	21.35	0.44
3.167	0.44	9.233	20.19	15.300	1.76	21.37	0.44
3.183	0.44	9.250	20.19	15.317	1.76	21.38	0.44
3.200	0.44	9.267	20.19	15.333	1.76	21.40	0.44
3.217	0.44	9.283	20.19	15.350	1.76	21.42	0.44
3.233	0.44	9.300	20.19	15.367	1.76	21.43	0.44
3.250	0.44	9.317	20.19	15.383	1.76	21.45	0.44
3.267	0.44	9.333	20.19	15.400	1.76	21.47	0.44
3.283	0.44	9.350	20.19	15.417	1.76	21.48	0.44
3.300	0.44	9.367	20.19	15.433	1.76	21.50	0.44
3.317	0.44	9.383	20.19	15.450	1.76	21.52	0.44
3.333	0.44	9.400	20.19	15.467	1.76	21.53	0.44
3.350	0.44	9.417	20.19	15.483	1.76	21.55	0.44
3.367	0.44	9.433	20.19	15.500	1.76	21.57	0.44
3.383	0.44	9.450	20.19	15.517	1.76	21.58	0.44
3.400	0.44	9.467	20.19	15.533	1.76	21.60	0.44
3.417	0.44	9.483	20.19	15.550	1.76	21.62	0.44
3.433	0.44	9.500	20.19	15.567	1.76	21.63	0.44
3.450	0.44	9.517	20.19	15.583	1.76	21.65	0.44
3.467	0.44	9.533	20.19	15.600	1.76	21.67	0.44
3.483	0.44	9.550	20.19	15.617	1.76	21.68	0.44
3.500	0.44	9.567	20.19	15.633	1.76	21.70	0.44
3.517	0.44	9.583	20.19	15.650	1.76	21.72	0.44
3.533	0.44	9.600	20.19	15.667	1.76	21.73	0.44
3.550	0.44	9.617	20.19	15.683	1.76	21.75	0.44
3.567	0.44	9.633	20.19	15.700	1.76	21.77	0.44
3.583	0.44	9.650	20.19	15.717	1.76	21.78	0.44
3.600	0.44	9.667	20.19	15.733	1.76	21.80	0.44
3.617	0.44	9.683	20.19	15.750	1.76	21.82	0.44
3.633	0.44	9.700	20.19	15.767	1.76	21.83	0.44
3.650	0.44	9.717	20.19	15.783	1.76	21.85	0.44
3.667	0.44	9.733	20.19	15.800	1.76	21.87	0.44
3.683	0.44	9.750	20.19	15.817	1.76	21.88	0.44
3.700	0.44	9.767	20.19	15.833	1.76	21.90	0.44
3.717	0.44	9.783	20.19	15.850	1.76	21.92	0.44
3.733	0.44	9.800	20.19	15.867	1.76	21.93	0.44
3.750	0.44	9.817	20.19	15.883	1.76	21.95	0.44
3.767	0.44	9.833	20.19	15.900	1.76	21.97	0.44
3.783	0.44	9.850	20.19	15.917	1.76	21.98	0.44
3.800	0.44	9.867	20.19	15.933	1.76	22.00	0.44
3.817	0.44	9.883	20.19	15.950	1.76	22.02	0.44
3.833	0.44	9.900	20.19	15.967	1.76	22.03	0.44
3.850	0.44	9.917	20.19	15.983	1.76	22.05	0.44
3.867	0.44	9.933	20.19	16.000	1.76	22.07	0.44
3.883	0.44	9.950	20.19	16.017	1.76	22.08	0.44
3.900	0.44	9.967	20.19	16.033	1.76	22.10	0.44
3.917	0.44	9.983	20.19	16.050	1.76	22.12	0.44
3.933	0.44	10.000	20.19	16.067	1.76	22.13	0.44
3.950	0.44	10.017	20.19	16.083	1.76	22.15	0.44
3.967	0.44	10.033	20.19	16.100	1.76	22.17	0.44
3.983	0.44	10.050	20.19	16.117	1.76	22.18	0.44
4.000	0.44	10.067	20.19	16.133	1.76	22.20	0.44
4.017	0.44	10.083	20.19	16.150	1.76	22.22	0.44
4.033	0.44	10.100	20.19	16.167	1.76	22.23	0.44
4.050	0.44	10.117	20.19	16.183	1.76	22.25	0.44
4.067	0.44	10.133	20.19	16.200	1.76	22.27	0.44
4.083	0.44	10.150	20.19	16.217	1.76	22.28	0.44
4.100	0.44	10.167	20.19	16.233	1.76	22.30	0.44
4.117	0.44	10.183	20.19	16.250	1.76	22.32	0.44
4.133	0.44	10.200	20.19	16.267	0.88	22.33	0.44
4.150	0.44	10.217	20.19	16.283	0.88	22.35	0.44
4.167	0.44	10.233	20.19	16.300	0.88	22.37	0.44
4.183	0.44	10.250	20.18	16.317	0.88	22.38	0.44
4.200	0.44	10.267	5.71	16.333	0.88	22.40	0.44
4.217	0.44	10.283	5.71	16.350	0.88	22.42	0.44
4.233	0.44	10.300	5.71	16.367	0.88	22.43	0.44
4.250	0.44	10.317	5.71	16.383	0.88	22.45	0.44
4.267	2.63	10.333	5.71	16.400	0.88	22.47	0.44
4.283	2.63	10.350	5.71	16.417	0.88	22.48	0.44
4.300	2.63	10.367	5.71	16.433	0.88	22.50	0.44
4.317	2.63	10.383	5.71	16.450	0.88	22.52	0.44
4.333	2.63	10.400	5.71	16.467	0.88	22.53	0.44
4.350	2.63	10.417	5.71	16.483	0.88	22.55	0.44
4.367	2.63	10.433	5.71	16.500	0.88	22.57	0.44
4.383	2.63	10.450	5.71	16.517	0.88	22.58	0.44
4.400	2.63	10.467	5.71	16.533	0.88	22.60	0.44
4.417	2.63	10.483	5.71	16.550	0.88	22.62	0.44
4.433	2.63	10.500	5.71	16.567	0.88	22.63	0.44
4.450	2.63	10.517	5.71	16.583	0.88	22.65	0.44
4.467	2.63	10.533	5.71	16.600	0.88	22.67	0.44
4.483	2.63	10.550	5.71	16.617	0.88	22.68	0.44
4.500	2.63	10.567	5.71	16.633	0.88	22.70	0.44
4.517	2.63	10.583	5.71	16.650	0.88	22.72	0.44
4.533	2.63	10.600	5.71	16.667	0.88	22.73	0.44
4.550	2.63	10.617	5.71	16.683	0.88	22.75	0.44
4.567	2.63	10.633	5.71	16.700	0.88	22.77	0.44
4.583	2.63	10.650	5.71	16.717	0.88	22.78	0.44
4.600	2.63	10.667	5.71	16.733	0.88	22.80	0.44
4.617	2.63	10.683	5.71	16.750	0.88	22.82	0.44
4.633	2.63	10.700	5.71	16.767	0.88	22.83	0.44
4.650	2.63	10.717	5.71	16.783	0.88	22.85	0.44
4.667	2.63	10.733	5.71	16.800	0.88	22.87	0.44
4.683	2.63	10.750	5.71	16.817	0.88	22.88	0.44
4.700	2.63	10.767	5.71	16.833	0.88	22.90	0.44
4.717	2.63	10.783	5.71	16.850	0.88	22.92	0.44
4.733	2.63	10.800	5.71	16.867	0.88	22.93	0.44
4.750	2.63	10.817	5.71	16.883	0.88	22.95	0.44
4.767	2.63	10.833	5.71	16.900	0.88	22.97	0.44
4.783	2.63	10.850	5.71	16.917	0.88	22.98	0.44
4.800	2.63	10.867	5.71	16.933	0.88	23.00	0.44
4.817	2.63	10.883	5.71	16.950	0.88	23.02	0.44
4.833	2.63	10.900	5.71	16.967	0.88	23.03	0.44
4.850	2.63	10.917	5.71	16.983	0.88	23.05	0.44
4.867	2.63	10.933	5.71	17.000	0.88	23.07	0.44
4.883	2.63	10.950	5.71	17.017	0.88	23.08	0.44
4.900	2.63	10.967	5.71	17.033	0.88	23.10	0.44
4.917	2.63	10.983	5.71	17.050	0.88	23.12	0.44
4.933	2.63	11.000	5.71	17.067	0.88	23.13	0.44
4.950	2.63	11.017	5.71	17.083	0.88	23.15	0.44
4.967	2.63	11.033	5.71	17.100	0.88	23.17	0.44
4.983	2.63	11.050	5.71	17.117	0.88	23.18	0.44
5.000	2.63	11.067	5.71	17.133	0.88	23.20	0.44
5.017	2.63	11.083	5.71	17.150	0.88	23.22	0.44
5.033	2.63	11.100	5.71	17.167	0.88	23.23	0.44
5.050	2.63	11.117	5.71	17.183	0.88	23.25	0.44
5.067	2.63	11.133	5.71	17.200	0.88	23.27	0.44
5.083	2.63	11.150	5.71	17.217	0.88	23.28	0.44
5.100	2.63	11.167	5.71	17.233	0.88	23.30	0.44
5.117	2.63	11.183	5.71	17.250	0.88	23.32	0.44
5.133	2.63	11.200	5.71	17.267	0.88	23.33	0.44
5.150	2.63	11.217	5.71	17.283	0.88	23.35	0.44
5.167	2.63	11.233	5.71	17.300	0.88	23.37	0.44
5.183	2.63	11.250	5.71	17.317	0.88	23.38	0.44
5.200	2.63	11.267	5.71	17.333	0.88	23.40	0.44
5.217	2.63	11.283	5.71	17.350	0.88	23.42	0.44
5.233	2.63	11.300	5.71	17.367	0.88	23.43	0.44
5.250	2.63	11.317	5.71	17.383	0.88	23.45	0.44
5.267	2.63	11.333	5.71	17.400	0.88	23.47	0.44
5.283	2.63	11.350	5.71	17.417	0.88	23.48	0.44
5.300	2.63	11.367	5.71	17.433	0.88	23.50	0.44

5.317	2.63	11.383	5.71	17.450	0.88	23.52	0.44
5.333	2.63	11.400	5.71	17.467	0.88	23.53	0.44
5.350	2.63	11.417	5.71	17.483	0.88	23.55	0.44
5.367	2.63	11.433	5.71	17.500	0.88	23.57	0.44
5.383	2.63	11.450	5.71	17.517	0.88	23.58	0.44
5.400	2.63	11.467	5.71	17.533	0.88	23.60	0.44
5.417	2.63	11.483	5.71	17.550	0.88	23.62	0.44
5.433	2.63	11.500	5.71	17.567	0.88	23.63	0.44
5.450	2.63	11.517	5.71	17.583	0.88	23.65	0.44
5.467	2.63	11.533	5.71	17.600	0.88	23.67	0.44
5.483	2.63	11.550	5.71	17.617	0.88	23.68	0.44
5.500	2.63	11.567	5.71	17.633	0.88	23.70	0.44
5.517	2.63	11.583	5.71	17.650	0.88	23.72	0.44
5.533	2.63	11.600	5.71	17.667	0.88	23.73	0.44
5.550	2.63	11.617	5.71	17.683	0.88	23.75	0.44
5.567	2.63	11.633	5.71	17.700	0.88	23.77	0.44
5.583	2.63	11.650	5.71	17.717	0.88	23.78	0.44
5.600	2.63	11.667	5.71	17.733	0.88	23.80	0.44
5.617	2.63	11.683	5.71	17.750	0.88	23.82	0.44
5.633	2.63	11.700	5.71	17.767	0.88	23.83	0.44
5.650	2.63	11.717	5.71	17.783	0.88	23.85	0.44
5.667	2.63	11.733	5.71	17.800	0.88	23.87	0.44
5.683	2.63	11.750	5.71	17.817	0.88	23.88	0.44
5.700	2.63	11.767	5.71	17.833	0.88	23.90	0.44
5.717	2.63	11.783	5.71	17.850	0.88	23.92	0.44
5.733	2.63	11.800	5.71	17.867	0.88	23.93	0.44
5.750	2.63	11.817	5.71	17.883	0.88	23.95	0.44
5.767	2.63	11.833	5.71	17.900	0.88	23.97	0.44
5.783	2.63	11.850	5.71	17.917	0.88	23.98	0.44
5.800	2.63	11.867	5.71	17.933	0.88	24.00	0.44
5.817	2.63	11.883	5.71	17.950	0.88	24.02	0.44
5.833	2.63	11.900	5.71	17.967	0.88	24.03	0.44
5.850	2.63	11.917	5.71	17.983	0.88	24.05	0.44
5.867	2.63	11.933	5.71	18.000	0.88	24.07	0.44
5.883	2.63	11.950	5.71	18.017	0.88	24.08	0.44
5.900	2.63	11.967	5.71	18.033	0.88	24.10	0.44
5.917	2.63	11.983	5.71	18.050	0.88	24.12	0.44
5.933	2.63	12.000	5.71	18.067	0.88	24.13	0.44
5.950	2.63	12.017	5.71	18.083	0.88	24.15	0.44
5.967	2.63	12.033	5.71	18.100	0.88	24.17	0.44
5.983	2.63	12.050	5.71	18.117	0.88	24.18	0.44
6.000	2.63	12.067	5.71	18.133	0.88	24.20	0.44
6.017	2.63	12.083	5.71	18.150	0.88	24.22	0.44
6.033	2.63	12.100	5.71	18.167	0.88	24.23	0.44
6.050	2.63	12.117	5.71	18.183	0.88	24.25	0.44
6.067	2.63	12.133	5.71	18.200	0.88		

Max.Eff.Inten.(mm/hr)=	20.19	16.43	
over (min)	6.00	10.00	
Storage Coeff. (min)=	5.85 (ii)	9.08 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.19	0.12	
			TOTALS
PEAK FLOW (cms)=	0.16	0.00	0.157 (iii)
TIME TO PEAK (hrs)=	9.72	10.25	10.25
RUNOFF VOLUME (mm)=	86.78	56.80	86.50
TOTAL RAINFALL (mm)=	87.80	87.80	87.80
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.157	10.25	86.50
OUTFLOW: ID= 1 (7626)	2.810	0.050	10.58	80.06

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.11
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.1379

CALIB		
STANDHYD (7624)	Area (ha)= 2.08	
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.63	12.150	5.71	18.22	0.88
0.033	0.00	6.100	2.63	12.167	5.71	18.23	0.88
0.050	0.00	6.117	2.63	12.183	5.71	18.25	0.88
0.067	0.00	6.133	2.63	12.200	5.71	18.27	0.44
0.083	0.00	6.150	2.63	12.217	5.71	18.28	0.44
0.100	0.00	6.167	2.63	12.233	5.71	18.30	0.44
0.117	0.00	6.183	2.63	12.250	5.71	18.32	0.44
0.133	0.00	6.200	2.63	12.267	3.07	18.33	0.44
0.150	0.00	6.217	2.63	12.283	3.07	18.35	0.44
0.167	0.00	6.233	2.63	12.300	3.07	18.37	0.44
0.183	0.00	6.250	2.64	12.317	3.07	18.38	0.44
0.200	0.00	6.267	7.46	12.333	3.07	18.40	0.44
0.217	0.00	6.283	7.46	12.350	3.07	18.42	0.44
0.233	0.00	6.300	7.46	12.367	3.07	18.43	0.44
0.250	0.00	6.317	7.46	12.383	3.07	18.45	0.44
0.267	0.44	6.333	7.46	12.400	3.07	18.47	0.44
0.283	0.44	6.350	7.46	12.417	3.07	18.48	0.44
0.300	0.44	6.367	7.46	12.433	3.07	18.50	0.44
0.317	0.44	6.383	7.46	12.450	3.07	18.52	0.44
0.333	0.44	6.400	7.46	12.467	3.07	18.53	0.44
0.350	0.44	6.417	7.46	12.483	3.07	18.55	0.44
0.367	0.44	6.433	7.46	12.500	3.07	18.57	0.44
0.383	0.44	6.450	7.46	12.517	3.07	18.58	0.44
0.400	0.44	6.467	7.46	12.533	3.07	18.60	0.44
0.417	0.44	6.483	7.46	12.550	3.07	18.62	0.44
0.433	0.44	6.500	7.46	12.567	3.07	18.63	0.44
0.450	0.44	6.517	7.46	12.583	3.07	18.65	0.44
0.467	0.44	6.533	7.46	12.600	3.07	18.67	0.44
0.483	0.44	6.550	7.46	12.617	3.07	18.68	0.44
0.500	0.44	6.567	7.46	12.633	3.07	18.70	0.44
0.517	0.44	6.583	7.46	12.650	3.07	18.72	0.44
0.533	0.44	6.600	7.46	12.667	3.07	18.73	0.44
0.550	0.44	6.617	7.46	12.683	3.07	18.75	0.44
0.567	0.44	6.633	7.46	12.700	3.07	18.77	0.44
0.583	0.44	6.650	7.46	12.717	3.07	18.78	0.44
0.600	0.44	6.667	7.46	12.733	3.07	18.80	0.44
0.617	0.44	6.683	7.46	12.750	3.07	18.82	0.44
0.633	0.44	6.700	7.46	12.767	3.07	18.83	0.44
0.650	0.44	6.717	7.46	12.783	3.07	18.85	0.44
0.667	0.44	6.733	7.46	12.800	3.07	18.87	0.44
0.683	0.44	6.750	7.46	12.817	3.07	18.88	0.44
0.700	0.44	6.767	7.46	12.833	3.07	18.90	0.44
0.717	0.44	6.783	7.46	12.850	3.07	18.92	0.44
0.733	0.44	6.800	7.46	12.867	3.07	18.93	0.44
0.750	0.44	6.817	7.46	12.883	3.07	18.95	0.44
0.767	0.44	6.833	7.46	12.900	3.07	18.97	0.44
0.783	0.44	6.850	7.46	12.917	3.07	18.98	0.44

0.800	0.44	6.867	7.46	12.933	3.07	19.00	0.44
0.817	0.44	6.883	7.46	12.950	3.07	19.02	0.44
0.833	0.44	6.900	7.46	12.967	3.07	19.03	0.44
0.850	0.44	6.917	7.46	12.983	3.07	19.05	0.44
0.867	0.44	6.933	7.46	13.000	3.07	19.07	0.44
0.883	0.44	6.950	7.46	13.017	3.07	19.08	0.44
0.900	0.44	6.967	7.46	13.033	3.07	19.10	0.44
0.917	0.44	6.983	7.46	13.050	3.07	19.12	0.44
0.933	0.44	7.000	7.46	13.067	3.07	19.13	0.44
0.950	0.44	7.017	7.46	13.083	3.07	19.15	0.44
0.967	0.44	7.033	7.46	13.100	3.07	19.17	0.44
0.983	0.44	7.050	7.46	13.117	3.07	19.18	0.44
1.000	0.44	7.067	7.46	13.133	3.07	19.20	0.44
1.017	0.44	7.083	7.46	13.150	3.07	19.22	0.44
1.033	0.44	7.100	7.46	13.167	3.07	19.23	0.44
1.050	0.44	7.117	7.46	13.183	3.07	19.25	0.44
1.067	0.44	7.133	7.46	13.200	3.07	19.27	0.44
1.083	0.44	7.150	7.46	13.217	3.07	19.28	0.44
1.100	0.44	7.167	7.46	13.233	3.07	19.30	0.44
1.117	0.44	7.183	7.46	13.250	3.07	19.32	0.44
1.133	0.44	7.200	7.46	13.267	3.07	19.33	0.44
1.150	0.44	7.217	7.46	13.283	3.07	19.35	0.44
1.167	0.44	7.233	7.46	13.300	3.07	19.37	0.44
1.183	0.44	7.250	7.46	13.317	3.07	19.38	0.44
1.200	0.44	7.267	7.46	13.333	3.07	19.40	0.44
1.217	0.44	7.283	7.46	13.350	3.07	19.42	0.44
1.233	0.44	7.300	7.46	13.367	3.07	19.43	0.44
1.250	0.44	7.317	7.46	13.383	3.07	19.45	0.44
1.267	0.44	7.333	7.46	13.400	3.07	19.47	0.44
1.283	0.44	7.350	7.46	13.417	3.07	19.48	0.44
1.300	0.44	7.367	7.46	13.433	3.07	19.50	0.44
1.317	0.44	7.383	7.46	13.450	3.07	19.52	0.44
1.333	0.44	7.400	7.46	13.467	3.07	19.53	0.44
1.350	0.44	7.417	7.46	13.483	3.07	19.55	0.44
1.367	0.44	7.433	7.46	13.500	3.07	19.57	0.44
1.383	0.44	7.450	7.46	13.517	3.07	19.58	0.44
1.400	0.44	7.467	7.46	13.533	3.07	19.60	0.44
1.417	0.44	7.483	7.46	13.550	3.07	19.62	0.44
1.433	0.44	7.500	7.46	13.567	3.07	19.63	0.44
1.450	0.44	7.517	7.46	13.583	3.07	19.65	0.44
1.467	0.44	7.533	7.46	13.600	3.07	19.67	0.44
1.483	0.44	7.550	7.46	13.617	3.07	19.68	0.44
1.500	0.44	7.567	7.46	13.633	3.07	19.70	0.44
1.517	0.44	7.583	7.46	13.650	3.07	19.72	0.44
1.533	0.44	7.600	7.46	13.667	3.07	19.73	0.44
1.550	0.44	7.617	7.46	13.683	3.07	19.75	0.44
1.567	0.44	7.633	7.46	13.700	3.07	19.77	0.44
1.583	0.44	7.650	7.46	13.717	3.07	19.78	0.44
1.600	0.44	7.667	7.46	13.733	3.07	19.80	0.44
1.617	0.44	7.683	7.46	13.750	3.07	19.82	0.44
1.633	0.44	7.700	7.46	13.767	3.07	19.83	0.44
1.650	0.44	7.717	7.46	13.783	3.07	19.85	0.44
1.667	0.44	7.733	7.46	13.800	3.07	19.87	0.44
1.683	0.44	7.750	7.46	13.817	3.07	19.88	0.44
1.700	0.44	7.767	7.46	13.833	3.07	19.90	0.44
1.717	0.44	7.783	7.46	13.850	3.07	19.92	0.44
1.733	0.44	7.800	7.46	13.867	3.07	19.93	0.44
1.750	0.44	7.817	7.46	13.883	3.07	19.95	0.44
1.767	0.44	7.833	7.46	13.900	3.07	19.97	0.44
1.783	0.44	7.850	7.46	13.917	3.07	19.98	0.44
1.800	0.44	7.867	7.46	13.933	3.07	20.00	0.44
1.817	0.44	7.883	7.46	13.950	3.07	20.02	0.44
1.833	0.44	7.900	7.46	13.967	3.07	20.03	0.44
1.850	0.44	7.917	7.46	13.983	3.07	20.05	0.44
1.867	0.44	7.933	7.46	14.000	3.07	20.07	0.44
1.883	0.44	7.950	7.46	14.017	3.07	20.08	0.44
1.900	0.44	7.967	7.46	14.033	3.07	20.10	0.44
1.917	0.44	7.983	7.46	14.050	3.07	20.12	0.44
1.933	0.44	8.000	7.46	14.067	3.07	20.13	0.44
1.950	0.44	8.017	7.46	14.083	3.07	20.15	0.44
1.967	0.44	8.033	7.46	14.100	3.07	20.17	0.44
1.983	0.44	8.050	7.46	14.117	3.07	20.18	0.44
2.000	0.44	8.067	7.46	14.133	3.07	20.20	0.44
2.017	0.44	8.083	7.46	14.150	3.07	20.22	0.44
2.033	0.44	8.100	7.46	14.167	3.07	20.23	0.44
2.050	0.44	8.117	7.46	14.183	3.07	20.25	0.44
2.067	0.44	8.133	7.46	14.200	3.07	20.27	0.44
2.083	0.44	8.150	7.46	14.217	3.07	20.28	0.44
2.100	0.44	8.167	7.46	14.233	3.07	20.30	0.44
2.117	0.44	8.183	7.46	14.250	3.07	20.32	0.44
2.133	0.44	8.200	7.46	14.267	1.76	20.33	0.44
2.150	0.44	8.217	7.46	14.283	1.76	20.35	0.44
2.167	0.44	8.233	7.46	14.300	1.76	20.37	0.44
2.183	0.44	8.250	7.49	14.317	1.76	20.38	0.44
2.200	0.44	8.267	20.19	14.333	1.76	20.40	0.44
2.217	0.44	8.283	20.19	14.350	1.76	20.42	0.44
2.233	0.44	8.300	20.19	14.367	1.76	20.43	0.44
2.250	0.44	8.317	20.19	14.383	1.76	20.45	0.44
2.267	0.44	8.333	20.19	14.400	1.76	20.47	0.44
2.283	0.44	8.350	20.19	14.417	1.76	20.48	0.44
2.300	0.44	8.367	20.19	14.433	1.76	20.50	0.44
2.317	0.44	8.383	20.19	14.450	1.76	20.52	0.44
2.333	0.44	8.400	20.19	14.467	1.76	20.53	0.44
2.350	0.44	8.417	20.19	14.483	1.76	20.55	0.44
2.367	0.44	8.433	20.19	14.500	1.76	20.57	0.44
2.383	0.44	8.450	20.19	14.517	1.76	20.58	0.44
2.400	0.44	8.467	20.19	14.533	1.76	20.60	0.44
2.417	0.44	8.483	20.19	14.550	1.76	20.62	0.44
2.433	0.44	8.500	20.19	14.567	1.76	20.63	0.44
2.450	0.44	8.517	20.19	14.583	1.76	20.65	0.44
2.467	0.44	8.533	20.19	14.600	1.76	20.67	0.44
2.483	0.44	8.550	20.19	14.617	1.76	20.68	0.44
2.500	0.44	8.567	20.19	14.633	1.76	20.70	0.44
2.517	0.44	8.583	20.19	14.650	1.76	20.72	0.44
2.533	0.44	8.600	20.19	14.667	1.76	20.73	0.44
2.550	0.44	8.617	20.19	14.683	1.76	20.75	0.44
2.567	0.44	8.633	20.19	14.700	1.76	20.77	0.44
2.583	0.44	8.650	20.19	14.717	1.76	20.78	0.44
2.600	0.44	8.667	20.19	14.733	1.76	20.80	0.44
2.617	0.44	8.683	20.19	14.750	1.76	20.82	0.44
2.633	0.44	8.700	20.19	14.767	1.76	20.83	0.44
2.650	0.44	8.717	20.19	14.783	1.76	20.85	0.44
2.667	0.44	8.733	20.19	14.800	1.76	20.87	0.44
2.683	0.44	8.750	20.19	14.817	1.76	20.88	0.44
2.700	0.44	8.767	20.19	14.833	1.76	20.90	0.44
2.717	0.44	8.783	20.19	14.850	1.76	20.92	0.44
2.733	0.44	8.800	20.19	14.867	1.76	20.93	0.44
2.750	0.44	8.817	20.19	14.883	1.76	20.95	0.44
2.767	0.44	8.833	20.19	14.900	1.76	20.97	0.44
2.783	0.44	8.850	20.19	14.917	1.76	20.98	0.44
2.800	0.44	8.867	20.19	14.933	1.76	21.00	0.44
2.817	0.44	8.883	20.19	14.950	1.76	21.02	0.44
2.833	0.44	8.900	20.19	14.967	1.76	21.03	0.44
2.850	0.44	8.917	20.19	14.983	1.76	21.05	0.44
2.867	0.44	8.933	20.19	15.000	1.76	21.07	0.44
2.883	0.44	8.950	20.19	15.017	1.76	21.08	0.44
2.900	0.44	8.967	20.19	15.033	1.76	21.10	0.44
2.917	0.44	8.983	20.19	15.050	1.76	21.12	0.44
2.933	0.44	9.000	20.19	15.067	1.76	21.13	0.44
2.950	0.44	9.017	20.19	15.083	1.76	21.15	0.44
2.967	0.44	9.033	20.19	15.100	1.76	21.17	0.44
2.983	0.44	9.050	20.19	15.117	1.76	21.18	0.44
3.000	0.44	9.067	20.19	15.133	1.76	21.20	0.44
3.017	0.44	9.083	20.19	15.150	1.76	21.22	0.44
3.033	0.44	9.100	20.19	15.167	1.76	21.23	0.44
3.050	0.44	9.117	20.19	15.183	1.76	21.25	0.44
3.067	0.44	9.133	20.19	15.200	1.76	21.27	0.44
3.083	0.44	9.150	20.19	15.217	1.76	21.28	0.44
3.100	0.44	9.167	20.19	15.233	1.76	21.30	0.44
3.117	0.44	9.183	20.19	15.250	1.76	21.32	0.44
3.133	0.44	9.200	20.19	15.267	1.76	21.33	0.44
3.150	0.44	9.217	20.19	15.283	1.76	21.35	0.44
3.167	0.44	9.233	20.19	15.300	1.76	21.37	0.44
3.183	0.44	9.250	20.19	15.317	1.76	21.38	0.44
3.200	0.44	9.267	20.19	15.333	1.76	21.40	0.44
3.217	0.44	9.283	20.19	15.350	1.76	21.42	0.44
3.233	0.44	9.300	20.19	15.367	1.76	21.43	0.44
3.250	0.44	9.317	20.19	15.383	1.76	21.45	0.44
3.267	0.44	9.333	20.19	15.400	1.76	21.47	0.44
3.283	0.44	9.350	20.19	15.417	1.76	21.48	0.44
3.300	0.44	9.367	20.19	15.433	1.76	21.50	0.44
3.317	0.44	9.383	20.19	15.450	1.76	21.52	0.44

3.333	0.44	9.400	20.19	15.467	1.76	21.53	0.44	4.600	2.63	10.667	5.71	16.733	0.88	22.80	0.44
3.350	0.44	9.417	20.19	15.483	1.76	21.55	0.44	4.617	2.63	10.683	5.71	16.750	0.88	22.82	0.44
3.367	0.44	9.433	20.19	15.500	1.76	21.57	0.44	4.633	2.63	10.700	5.71	16.767	0.88	22.83	0.44
3.383	0.44	9.450	20.19	15.517	1.76	21.58	0.44	4.650	2.63	10.717	5.71	16.783	0.88	22.85	0.44
3.400	0.44	9.467	20.19	15.533	1.76	21.60	0.44	4.667	2.63	10.733	5.71	16.800	0.88	22.87	0.44
3.417	0.44	9.483	20.19	15.550	1.76	21.62	0.44	4.683	2.63	10.750	5.71	16.817	0.88	22.88	0.44
3.433	0.44	9.500	20.19	15.567	1.76	21.63	0.44	4.700	2.63	10.767	5.71	16.833	0.88	22.90	0.44
3.450	0.44	9.517	20.19	15.583	1.76	21.65	0.44	4.717	2.63	10.783	5.71	16.850	0.88	22.92	0.44
3.467	0.44	9.533	20.19	15.600	1.76	21.67	0.44	4.733	2.63	10.800	5.71	16.867	0.88	22.93	0.44
3.483	0.44	9.550	20.19	15.617	1.76	21.68	0.44	4.750	2.63	10.817	5.71	16.883	0.88	22.95	0.44
3.500	0.44	9.567	20.19	15.633	1.76	21.70	0.44	4.767	2.63	10.833	5.71	16.900	0.88	22.97	0.44
3.517	0.44	9.583	20.19	15.650	1.76	21.72	0.44	4.783	2.63	10.850	5.71	16.917	0.88	22.98	0.44
3.533	0.44	9.600	20.19	15.667	1.76	21.73	0.44	4.800	2.63	10.867	5.71	16.933	0.88	23.00	0.44
3.550	0.44	9.617	20.19	15.683	1.76	21.75	0.44	4.817	2.63	10.883	5.71	16.950	0.88	23.02	0.44
3.567	0.44	9.633	20.19	15.700	1.76	21.77	0.44	4.833	2.63	10.900	5.71	16.967	0.88	23.03	0.44
3.583	0.44	9.650	20.19	15.717	1.76	21.78	0.44	4.850	2.63	10.917	5.71	16.983	0.88	23.05	0.44
3.600	0.44	9.667	20.19	15.733	1.76	21.80	0.44	4.867	2.63	10.933	5.71	17.000	0.88	23.07	0.44
3.617	0.44	9.683	20.19	15.750	1.76	21.82	0.44	4.883	2.63	10.950	5.71	17.017	0.88	23.08	0.44
3.633	0.44	9.700	20.19	15.767	1.76	21.83	0.44	4.900	2.63	10.967	5.71	17.033	0.88	23.10	0.44
3.650	0.44	9.717	20.19	15.783	1.76	21.85	0.44	4.917	2.63	10.983	5.71	17.050	0.88	23.12	0.44
3.667	0.44	9.733	20.19	15.800	1.76	21.87	0.44	4.933	2.63	11.000	5.71	17.067	0.88	23.13	0.44
3.683	0.44	9.750	20.19	15.817	1.76	21.88	0.44	4.950	2.63	11.017	5.71	17.083	0.88	23.15	0.44
3.700	0.44	9.767	20.19	15.833	1.76	21.90	0.44	4.967	2.63	11.033	5.71	17.100	0.88	23.17	0.44
3.717	0.44	9.783	20.19	15.850	1.76	21.92	0.44	4.983	2.63	11.050	5.71	17.117	0.88	23.18	0.44
3.733	0.44	9.800	20.19	15.867	1.76	21.93	0.44	5.000	2.63	11.067	5.71	17.133	0.88	23.20	0.44
3.750	0.44	9.817	20.19	15.883	1.76	21.95	0.44	5.017	2.63	11.083	5.71	17.150	0.88	23.22	0.44
3.767	0.44	9.833	20.19	15.900	1.76	21.97	0.44	5.033	2.63	11.100	5.71	17.167	0.88	23.23	0.44
3.783	0.44	9.850	20.19	15.917	1.76	21.98	0.44	5.050	2.63	11.117	5.71	17.183	0.88	23.25	0.44
3.800	0.44	9.867	20.19	15.933	1.76	22.00	0.44	5.067	2.63	11.133	5.71	17.200	0.88	23.27	0.44
3.817	0.44	9.883	20.19	15.950	1.76	22.02	0.44	5.083	2.63	11.150	5.71	17.217	0.88	23.28	0.44
3.833	0.44	9.900	20.19	15.967	1.76	22.03	0.44	5.100	2.63	11.167	5.71	17.233	0.88	23.30	0.44
3.850	0.44	9.917	20.19	15.983	1.76	22.05	0.44	5.117	2.63	11.183	5.71	17.250	0.88	23.32	0.44
3.867	0.44	9.933	20.19	16.000	1.76	22.07	0.44	5.133	2.63	11.200	5.71	17.267	0.88	23.33	0.44
3.883	0.44	9.950	20.19	16.017	1.76	22.08	0.44	5.150	2.63	11.217	5.71	17.283	0.88	23.35	0.44
3.900	0.44	9.967	20.19	16.033	1.76	22.10	0.44	5.167	2.63	11.233	5.71	17.300	0.88	23.37	0.44
3.917	0.44	9.983	20.19	16.050	1.76	22.12	0.44	5.183	2.63	11.250	5.71	17.317	0.88	23.38	0.44
3.933	0.44	10.000	20.19	16.067	1.76	22.13	0.44	5.200	2.63	11.267	5.71	17.333	0.88	23.40	0.44
3.950	0.44	10.017	20.19	16.083	1.76	22.15	0.44	5.217	2.63	11.283	5.71	17.350	0.88	23.42	0.44
3.967	0.44	10.033	20.19	16.100	1.76	22.17	0.44	5.233	2.63	11.300	5.71	17.367	0.88	23.43	0.44
3.983	0.44	10.050	20.19	16.117	1.76	22.18	0.44	5.250	2.63	11.317	5.71	17.383	0.88	23.45	0.44
4.000	0.44	10.067	20.19	16.133	1.76	22.20	0.44	5.267	2.63	11.333	5.71	17.400	0.88	23.47	0.44
4.017	0.44	10.083	20.19	16.150	1.76	22.22	0.44	5.283	2.63	11.350	5.71	17.417	0.88	23.48	0.44
4.033	0.44	10.100	20.19	16.167	1.76	22.23	0.44	5.300	2.63	11.367	5.71	17.433	0.88	23.50	0.44
4.050	0.44	10.117	20.19	16.183	1.76	22.25	0.44	5.317	2.63	11.383	5.71	17.450	0.88	23.52	0.44
4.067	0.44	10.133	20.19	16.200	1.76	22.27	0.44	5.333	2.63	11.400	5.71	17.467	0.88	23.53	0.44
4.083	0.44	10.150	20.19	16.217	1.76	22.28	0.44	5.350	2.63	11.417	5.71	17.483	0.88	23.55	0.44
4.100	0.44	10.167	20.19	16.233	1.76	22.30	0.44	5.367	2.63	11.433	5.71	17.500	0.88	23.57	0.44
4.117	0.44	10.183	20.19	16.250	1.76	22.32	0.44	5.383	2.63	11.450	5.71	17.517	0.88	23.58	0.44
4.133	0.44	10.200	20.19	16.267	0.88	22.33	0.44	5.400	2.63	11.467	5.71	17.533	0.88	23.60	0.44
4.150	0.44	10.217	20.19	16.283	0.88	22.35	0.44	5.417	2.63	11.483	5.71	17.550	0.88	23.62	0.44
4.167	0.44	10.233	20.19	16.300	0.88	22.37	0.44	5.433	2.63	11.500	5.71	17.567	0.88	23.63	0.44
4.183	0.44	10.250	20.18	16.317	0.88	22.38	0.44	5.450	2.63	11.517	5.71	17.583	0.88	23.65	0.44
4.200	0.44	10.267	5.71	16.333	0.88	22.40	0.44	5.467	2.63	11.533	5.71	17.600	0.88	23.67	0.44
4.217	0.44	10.283	5.71	16.350	0.88	22.42	0.44	5.483	2.63	11.550	5.71	17.617	0.88	23.68	0.44
4.233	0.44	10.300	5.71	16.367	0.88	22.43	0.44	5.500	2.63	11.567	5.71	17.633	0.88	23.70	0.44
4.250	0.44	10.317	5.71	16.383	0.88	22.45	0.44	5.517	2.63	11.583	5.71	17.650	0.88	23.72	0.44
4.267	2.63	10.333	5.71	16.400	0.88	22.47	0.44	5.533	2.63	11.600	5.71	17.667	0.88	23.73	0.44
4.283	2.63	10.350	5.71	16.417	0.88	22.48	0.44	5.550	2.63	11.617	5.71	17.683	0.88	23.75	0.44
4.300	2.63	10.367	5.71	16.433	0.88	22.50	0.44	5.567	2.63	11.633	5.71	17.700	0.88	23.77	0.44
4.317	2.63	10.383	5.71	16.450	0.88	22.52	0.44	5.583	2.63	11.650	5.71	17.717	0.88	23.78	0.44
4.333	2.63	10.400	5.71	16.467	0.88	22.53	0.44	5.600	2.63	11.667	5.71	17.733	0.88	23.80	0.44
4.350	2.63	10.417	5.71	16.483	0.88	22.55	0.44	5.617	2.63	11.683	5.71	17.750	0.88	23.82	0.44
4.367	2.63	10.433	5.71	16.500	0.88	22.57	0.44	5.633	2.63	11.700	5.71	17.767	0.88	23.83	0.44
4.383	2.63	10.450	5.71	16.517	0.88	22.58	0.44	5.650	2.63	11.717	5.71	17.783	0.88	23.85	0.44
4.400	2.63	10.467	5.71	16.533	0.88	22.60	0.44	5.667	2.63	11.733	5.71	17.800	0.88	23.87	0.44
4.417	2.63	10.483	5.71	16.550	0.88	22.62	0.44	5.683	2.63	11.750	5.71	17.817	0.88	23.88	0.44
4.433	2.63	10.500	5.71	16.567	0.88	22.63	0.44	5.700	2.63	11.767	5.71	17.833	0.88	23.90	0.44
4.450	2.63	10.517	5.71	16.583	0.88	22.65	0.44	5.717	2.63	11.783	5.71	17.850	0.88	23.92	0.44
4.467	2.63	10.533	5.71	16.600	0.88	22.67	0.44	5.733	2.63	11.800	5.71	17.867	0.88	23.93	0.44
4.483	2.63	10.550	5.71	16.617	0.88	22.68	0.44	5.750	2.63	11.817	5.71	17.883	0.88	23.95	0.44
4.500	2.63	10.567	5.71	16.633	0.88	22.70	0.44	5.767	2.63	11.833	5.71	17.900	0.88	23.97	0.44
4.517	2.63	10.583	5.71	16.650	0.88	22.72	0.44	5.783	2.63	11.850	5.71	17.917	0.88	23.98	0.44
4.533	2.63	10.600	5.71	16.667	0.88	22.73	0.44	5.800	2.63	11.867	5.71	17.933	0.88	24.00	0.44
4.550	2.63	10.617	5.71	16.683	0.88	22.75	0.44	5.817	2.63	11.883	5.71	17.950	0.88	24.02	0.44
4.567	2.63	10.633	5.71	16.700	0.88	22.77	0.44	5.833	2.63	11.900	5.71	17.967	0.88	24.03	0.44
4.583	2.63	10.650	5.71	16.717	0.88	22.78	0.44	5.850	2.63	11.917	5.71	17.983	0.88	24.05	0.44

5.867	2.63	11.933	5.71	18.000	0.88	24.07	0.44
5.883	2.63	11.950	5.71	18.017	0.88	24.08	0.44
5.900	2.63	11.967	5.71	18.033	0.88	24.10	0.44
5.917	2.63	11.983	5.71	18.050	0.88	24.12	0.44
5.933	2.63	12.000	5.71	18.067	0.88	24.13	0.44
5.950	2.63	12.017	5.71	18.083	0.88	24.15	0.44
5.967	2.63	12.033	5.71	18.100	0.88	24.17	0.44
5.983	2.63	12.050	5.71	18.117	0.88	24.18	0.44
6.000	2.63	12.067	5.71	18.133	0.88	24.20	0.44
6.017	2.63	12.083	5.71	18.150	0.88	24.22	0.44
6.033	2.63	12.100	5.71	18.167	0.88	24.23	0.44
6.050	2.63	12.117	5.71	18.183	0.88	24.25	0.44
6.067	2.63	12.133	5.71	18.200	0.88		

Max.Eff.Inten.(mm/hr)=	20.19	18.08	
over (min)	5.00	9.00	
Storage Coeff. (min)=	5.34 (ii)	8.57 (ii)	
Unit Hyd. Tpeak (min)=	5.00	9.00	
Unit Hyd. peak (cms)=	0.22	0.13	
			TOTALS
PEAK FLOW (cms)=	0.12	0.00	0.117 (iii)
TIME TO PEAK (hrs)=	9.48	10.25	10.23
RUNOFF VOLUME (mm)=	86.80	65.03	86.58
TOTAL RAINFALL (mm)=	87.80	87.80	87.80
RUNOFF COEFFICIENT =	0.99	0.74	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.117	10.23	86.58
OUTFLOW: ID= 1 (7625)	2.080	0.039	10.53	80.84

PEAK FLOW REDUCTION [Qout/Qin](%)= 33.31
TIME SHIFT OF PEAK FLOW (min)= 18.00
MAXIMUM STORAGE USED (ha.m.)= 0.1011

CALIB	
STANDHYD (7623)	Area (ha)= 1.15
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	1.14	0.01
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	87.56	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.63	12.150	5.71	18.22	0.88
0.033	0.00	6.100	2.63	12.167	5.71	18.23	0.88
0.050	0.00	6.117	2.63	12.183	5.71	18.25	0.88
0.067	0.00	6.133	2.63	12.200	5.71	18.27	0.44
0.083	0.00	6.150	2.63	12.217	5.71	18.28	0.44
0.100	0.00	6.167	2.63	12.233	5.71	18.30	0.44
0.117	0.00	6.183	2.63	12.250	5.71	18.32	0.44
0.133	0.00	6.200	2.63	12.267	3.07	18.33	0.44
0.150	0.00	6.217	2.63	12.283	3.07	18.35	0.44
0.167	0.00	6.233	2.63	12.300	3.07	18.37	0.44
0.183	0.00	6.250	2.64	12.317	3.07	18.38	0.44
0.200	0.00	6.267	7.46	12.333	3.07	18.40	0.44
0.217	0.00	6.283	7.46	12.350	3.07	18.42	0.44
0.233	0.00	6.300	7.46	12.367	3.07	18.43	0.44
0.250	0.00	6.317	7.46	12.383	3.07	18.45	0.44
0.267	0.44	6.333	7.46	12.400	3.07	18.47	0.44
0.283	0.44	6.350	7.46	12.417	3.07	18.48	0.44
0.300	0.44	6.367	7.46	12.433	3.07	18.50	0.44
0.317	0.44	6.383	7.46	12.450	3.07	18.52	0.44
0.333	0.44	6.400	7.46	12.467	3.07	18.53	0.44
0.350	0.44	6.417	7.46	12.483	3.07	18.55	0.44
0.367	0.44	6.433	7.46	12.500	3.07	18.57	0.44
0.383	0.44	6.450	7.46	12.517	3.07	18.58	0.44
0.400	0.44	6.467	7.46	12.533	3.07	18.60	0.44
0.417	0.44	6.483	7.46	12.550	3.07	18.62	0.44
0.433	0.44	6.500	7.46	12.567	3.07	18.63	0.44
0.450	0.44	6.517	7.46	12.583	3.07	18.65	0.44
0.467	0.44	6.533	7.46	12.600	3.07	18.67	0.44
0.483	0.44	6.550	7.46	12.617	3.07	18.68	0.44
0.500	0.44	6.567	7.46	12.633	3.07	18.70	0.44
0.517	0.44	6.583	7.46	12.650	3.07	18.72	0.44
0.533	0.44	6.600	7.46	12.667	3.07	18.73	0.44
0.550	0.44	6.617	7.46	12.683	3.07	18.75	0.44
0.567	0.44	6.633	7.46	12.700	3.07	18.77	0.44
0.583	0.44	6.650	7.46	12.717	3.07	18.78	0.44
0.600	0.44	6.667	7.46	12.733	3.07	18.80	0.44
0.617	0.44	6.683	7.46	12.750	3.07	18.82	0.44
0.633	0.44	6.700	7.46	12.767	3.07	18.83	0.44
0.650	0.44	6.717	7.46	12.783	3.07	18.85	0.44
0.667	0.44	6.733	7.46	12.800	3.07	18.87	0.44
0.683	0.44	6.750	7.46	12.817	3.07	18.88	0.44
0.700	0.44	6.767	7.46	12.833	3.07	18.90	0.44
0.717	0.44	6.783	7.46	12.850	3.07	18.92	0.44
0.733	0.44	6.800	7.46	12.867	3.07	18.93	0.44
0.750	0.44	6.817	7.46	12.883	3.07	18.95	0.44
0.767	0.44	6.833	7.46	12.900	3.07	18.97	0.44
0.783	0.44	6.850	7.46	12.917	3.07	18.98	0.44
0.800	0.44	6.867	7.46	12.933	3.07	19.00	0.44
0.817	0.44	6.883	7.46	12.950	3.07	19.02	0.44
0.833	0.44	6.900	7.46	12.967	3.07	19.03	0.44
0.850	0.44	6.917	7.46	12.983	3.07	19.05	0.44
0.867	0.44	6.933	7.46	13.000	3.07	19.07	0.44
0.883	0.44	6.950	7.46	13.017	3.07	19.08	0.44
0.900	0.44	6.967	7.46	13.033	3.07	19.10	0.44
0.917	0.44	6.983	7.46	13.050	3.07	19.12	0.44
0.933	0.44	7.000	7.46	13.067	3.07	19.13	0.44
0.950	0.44	7.017	7.46	13.083	3.07	19.15	0.44
0.967	0.44	7.033	7.46	13.100	3.07	19.17	0.44
0.983	0.44	7.050	7.46	13.117	3.07	19.18	0.44
1.000	0.44	7.067	7.46	13.133	3.07	19.20	0.44
1.017	0.44	7.083	7.46	13.150	3.07	19.22	0.44
1.033	0.44	7.100	7.46	13.167	3.07	19.23	0.44
1.050	0.44	7.117	7.46	13.183	3.07	19.25	0.44
1.067	0.44	7.133	7.46	13.200	3.07	19.27	0.44
1.083	0.44	7.150	7.46	13.217	3.07	19.28	0.44
1.100	0.44	7.167	7.46	13.233	3.07	19.30	0.44
1.117	0.44	7.183	7.46	13.250	3.07	19.32	0.44
1.133	0.44	7.200	7.46	13.267	3.07	19.33	0.44
1.150	0.44	7.217	7.46	13.283	3.07	19.35	0.44
1.167	0.44	7.233	7.46	13.300	3.07	19.37	0.44
1.183	0.44	7.250	7.46	13.317	3.07	19.38	0.44
1.200	0.44	7.267	7.46	13.333	3.07	19.40	0.44
1.217	0.44	7.283	7.46	13.350	3.07	19.42	0.44
1.233	0.44	7.300	7.46	13.367	3.07	19.43	0.44
1.250	0.44	7.317	7.46	13.383	3.07	19.45	0.44
1.267	0.44	7.333	7.46	13.400	3.07	19.47	0.44
1.283	0.44	7.350	7.46	13.417	3.07	19.48	0.44
1.300	0.44	7.367	7.46	13.433	3.07	19.50	0.44
1.317	0.44	7.383	7.46	13.450	3.07	19.52	0.44
1.333	0.44	7.400	7.46	13.467	3.07	19.53	0.44

1.350	0.44	7.417	7.46	13.483	3.07	19.55	0.44	2.617	0.44	8.683	20.19	14.750	1.76	20.82	0.44
1.367	0.44	7.433	7.46	13.500	3.07	19.57	0.44	2.633	0.44	8.700	20.19	14.767	1.76	20.83	0.44
1.383	0.44	7.450	7.46	13.517	3.07	19.58	0.44	2.650	0.44	8.717	20.19	14.783	1.76	20.85	0.44
1.400	0.44	7.467	7.46	13.533	3.07	19.60	0.44	2.667	0.44	8.733	20.19	14.800	1.76	20.87	0.44
1.417	0.44	7.483	7.46	13.550	3.07	19.62	0.44	2.683	0.44	8.750	20.19	14.817	1.76	20.88	0.44
1.433	0.44	7.500	7.46	13.567	3.07	19.63	0.44	2.700	0.44	8.767	20.19	14.833	1.76	20.90	0.44
1.450	0.44	7.517	7.46	13.583	3.07	19.65	0.44	2.717	0.44	8.783	20.19	14.850	1.76	20.92	0.44
1.467	0.44	7.533	7.46	13.600	3.07	19.67	0.44	2.733	0.44	8.800	20.19	14.867	1.76	20.93	0.44
1.483	0.44	7.550	7.46	13.617	3.07	19.68	0.44	2.750	0.44	8.817	20.19	14.883	1.76	20.95	0.44
1.500	0.44	7.567	7.46	13.633	3.07	19.70	0.44	2.767	0.44	8.833	20.19	14.900	1.76	20.97	0.44
1.517	0.44	7.583	7.46	13.650	3.07	19.72	0.44	2.783	0.44	8.850	20.19	14.917	1.76	20.98	0.44
1.533	0.44	7.600	7.46	13.667	3.07	19.73	0.44	2.800	0.44	8.867	20.19	14.933	1.76	21.00	0.44
1.550	0.44	7.617	7.46	13.683	3.07	19.75	0.44	2.817	0.44	8.883	20.19	14.950	1.76	21.02	0.44
1.567	0.44	7.633	7.46	13.700	3.07	19.77	0.44	2.833	0.44	8.900	20.19	14.967	1.76	21.03	0.44
1.583	0.44	7.650	7.46	13.717	3.07	19.78	0.44	2.850	0.44	8.917	20.19	14.983	1.76	21.05	0.44
1.600	0.44	7.667	7.46	13.733	3.07	19.80	0.44	2.867	0.44	8.933	20.19	15.000	1.76	21.07	0.44
1.617	0.44	7.683	7.46	13.750	3.07	19.82	0.44	2.883	0.44	8.950	20.19	15.017	1.76	21.08	0.44
1.633	0.44	7.700	7.46	13.767	3.07	19.83	0.44	2.900	0.44	8.967	20.19	15.033	1.76	21.10	0.44
1.650	0.44	7.717	7.46	13.783	3.07	19.85	0.44	2.917	0.44	8.983	20.19	15.050	1.76	21.12	0.44
1.667	0.44	7.733	7.46	13.800	3.07	19.87	0.44	2.933	0.44	9.000	20.19	15.067	1.76	21.13	0.44
1.683	0.44	7.750	7.46	13.817	3.07	19.88	0.44	2.950	0.44	9.017	20.19	15.083	1.76	21.15	0.44
1.700	0.44	7.767	7.46	13.833	3.07	19.90	0.44	2.967	0.44	9.033	20.19	15.100	1.76	21.17	0.44
1.717	0.44	7.783	7.46	13.850	3.07	19.92	0.44	2.983	0.44	9.050	20.19	15.117	1.76	21.18	0.44
1.733	0.44	7.800	7.46	13.867	3.07	19.93	0.44	3.000	0.44	9.067	20.19	15.133	1.76	21.20	0.44
1.750	0.44	7.817	7.46	13.883	3.07	19.95	0.44	3.017	0.44	9.083	20.19	15.150	1.76	21.22	0.44
1.767	0.44	7.833	7.46	13.900	3.07	19.97	0.44	3.033	0.44	9.100	20.19	15.167	1.76	21.23	0.44
1.783	0.44	7.850	7.46	13.917	3.07	19.98	0.44	3.050	0.44	9.117	20.19	15.183	1.76	21.25	0.44
1.800	0.44	7.867	7.46	13.933	3.07	20.00	0.44	3.067	0.44	9.133	20.19	15.200	1.76	21.27	0.44
1.817	0.44	7.883	7.46	13.950	3.07	20.02	0.44	3.083	0.44	9.150	20.19	15.217	1.76	21.28	0.44
1.833	0.44	7.900	7.46	13.967	3.07	20.03	0.44	3.100	0.44	9.167	20.19	15.233	1.76	21.30	0.44
1.850	0.44	7.917	7.46	13.983	3.07	20.05	0.44	3.117	0.44	9.183	20.19	15.250	1.76	21.32	0.44
1.867	0.44	7.933	7.46	14.000	3.07	20.07	0.44	3.133	0.44	9.200	20.19	15.267	1.76	21.33	0.44
1.883	0.44	7.950	7.46	14.017	3.07	20.08	0.44	3.150	0.44	9.217	20.19	15.283	1.76	21.35	0.44
1.900	0.44	7.967	7.46	14.033	3.07	20.10	0.44	3.167	0.44	9.233	20.19	15.300	1.76	21.37	0.44
1.917	0.44	7.983	7.46	14.050	3.07	20.12	0.44	3.183	0.44	9.250	20.19	15.317	1.76	21.38	0.44
1.933	0.44	8.000	7.46	14.067	3.07	20.13	0.44	3.200	0.44	9.267	20.19	15.333	1.76	21.40	0.44
1.950	0.44	8.017	7.46	14.083	3.07	20.15	0.44	3.217	0.44	9.283	20.19	15.350	1.76	21.42	0.44
1.967	0.44	8.033	7.46	14.100	3.07	20.17	0.44	3.233	0.44	9.300	20.19	15.367	1.76	21.43	0.44
1.983	0.44	8.050	7.46	14.117	3.07	20.18	0.44	3.250	0.44	9.317	20.19	15.383	1.76	21.45	0.44
2.000	0.44	8.067	7.46	14.133	3.07	20.20	0.44	3.267	0.44	9.333	20.19	15.400	1.76	21.47	0.44
2.017	0.44	8.083	7.46	14.150	3.07	20.22	0.44	3.283	0.44	9.350	20.19	15.417	1.76	21.48	0.44
2.033	0.44	8.100	7.46	14.167	3.07	20.23	0.44	3.300	0.44	9.367	20.19	15.433	1.76	21.50	0.44
2.050	0.44	8.117	7.46	14.183	3.07	20.25	0.44	3.317	0.44	9.383	20.19	15.450	1.76	21.52	0.44
2.067	0.44	8.133	7.46	14.200	3.07	20.27	0.44	3.333	0.44	9.400	20.19	15.467	1.76	21.53	0.44
2.083	0.44	8.150	7.46	14.217	3.07	20.28	0.44	3.350	0.44	9.417	20.19	15.483	1.76	21.55	0.44
2.100	0.44	8.167	7.46	14.233	3.07	20.30	0.44	3.367	0.44	9.433	20.19	15.500	1.76	21.57	0.44
2.117	0.44	8.183	7.46	14.250	3.07	20.32	0.44	3.383	0.44	9.450	20.19	15.517	1.76	21.58	0.44
2.133	0.44	8.200	7.46	14.267	1.76	20.33	0.44	3.400	0.44	9.467	20.19	15.533	1.76	21.60	0.44
2.150	0.44	8.217	7.46	14.283	1.76	20.35	0.44	3.417	0.44	9.483	20.19	15.550	1.76	21.62	0.44
2.167	0.44	8.233	7.46	14.300	1.76	20.37	0.44	3.433	0.44	9.500	20.19	15.567	1.76	21.63	0.44
2.183	0.44	8.250	7.49	14.317	1.76	20.38	0.44	3.450	0.44	9.517	20.19	15.583	1.76	21.65	0.44
2.200	0.44	8.267	20.19	14.333	1.76	20.40	0.44	3.467	0.44	9.533	20.19	15.600	1.76	21.67	0.44
2.217	0.44	8.283	20.19	14.350	1.76	20.42	0.44	3.483	0.44	9.550	20.19	15.617	1.76	21.68	0.44
2.233	0.44	8.300	20.19	14.367	1.76	20.43	0.44	3.500	0.44	9.567	20.19	15.633	1.76	21.70	0.44
2.250	0.44	8.317	20.19	14.383	1.76	20.45	0.44	3.517	0.44	9.583	20.19	15.650	1.76	21.72	0.44
2.267	0.44	8.333	20.19	14.400	1.76	20.47	0.44	3.533	0.44	9.600	20.19	15.667	1.76	21.73	0.44
2.283	0.44	8.350	20.19	14.417	1.76	20.48	0.44	3.550	0.44	9.617	20.19	15.683	1.76	21.75	0.44
2.300	0.44	8.367	20.19	14.433	1.76	20.50	0.44	3.567	0.44	9.633	20.19	15.700	1.76	21.77	0.44
2.317	0.44	8.383	20.19	14.450	1.76	20.52	0.44	3.583	0.44	9.650	20.19	15.717	1.76	21.78	0.44
2.333	0.44	8.400	20.19	14.467	1.76	20.53	0.44	3.600	0.44	9.667	20.19	15.733	1.76	21.80	0.44
2.350	0.44	8.417	20.19	14.483	1.76	20.55	0.44	3.617	0.44	9.683	20.19	15.750	1.76	21.82	0.44
2.367	0.44	8.433	20.19	14.500	1.76	20.57	0.44	3.633	0.44	9.700	20.19	15.767	1.76	21.83	0.44
2.383	0.44	8.450	20.19	14.517	1.76	20.58	0.44	3.650	0.44	9.717	20.19	15.783	1.76	21.85	0.44
2.400	0.44	8.467	20.19	14.533	1.76	20.60	0.44	3.667	0.44	9.733	20.19	15.800	1.76	21.87	0.44
2.417	0.44	8.483	20.19	14.550	1.76	20.62	0.44	3.683	0.44	9.750	20.19	15.817	1.76	21.88	0.44
2.433	0.44	8.500	20.19	14.567	1.76	20.63	0.44	3.700	0.44	9.767	20.19	15.833	1.76	21.90	0.44
2.450	0.44	8.517	20.19	14.583	1.76	20.65	0.44	3.717	0.44	9.783	20.19	15.850	1.76	21.92	0.44
2.467	0.44	8.533	20.19	14.600	1.76	20.67	0.44	3.733	0.44	9.800	20.19	15.867	1.76	21.93	0.44
2.483	0.44	8.550	20.19	14.617	1.76	20.68	0.44	3.750	0.44	9.817	20.19	15.883	1.76	21.95	0.44
2.500	0.44	8.567	20.19	14.633	1.76	20.70	0.44	3.767	0.44	9.833	20.19	15.900	1.76	21.97	0.44
2.517	0.44	8.583	20.19	14.650	1.76	20.72	0.44	3.783	0.44	9.850	20.19	15.917	1.76	21.98	0.44
2.533	0.44	8.600	20.19	14.667	1.76	20.73	0.44	3.800	0.44	9.867	20.19	15.933	1.76	22.00	0.44
2.550	0.44	8.617	20.19	14.683	1.76	20.75	0.44	3.817	0.44	9.883	20.19	15.950	1.76	22.02	0.44
2.567	0.44	8.633	20.19	14.700	1.76	20.77	0.44	3.833	0.44	9.900	20.19	15.967	1.76	22.03	0.44
2.583	0.44	8.650	20.19	14.717	1.76	20.78	0.44	3.850	0.44	9.917	20.19	15.983	1.76	22.05	0.44
2.600	0.44	8.667	20.19	14.733	1.76	20.80	0.44	3.867	0.44	9.933	20.19	16.000	1.76	22.07	0.44

3.883	0.44	9.950	20.19	16.017	1.76	22.08	0.44
3.900	0.44	9.967	20.19	16.033	1.76	22.10	0.44
3.917	0.44	9.983	20.19	16.050	1.76	22.12	0.44
3.933	0.44	10.000	20.19	16.067	1.76	22.13	0.44
3.950	0.44	10.017	20.19	16.083	1.76	22.15	0.44
3.967	0.44	10.033	20.19	16.100	1.76	22.17	0.44
3.983	0.44	10.050	20.19	16.117	1.76	22.18	0.44
4.000	0.44	10.067	20.19	16.133	1.76	22.20	0.44
4.017	0.44	10.083	20.19	16.150	1.76	22.22	0.44
4.033	0.44	10.100	20.19	16.167	1.76	22.23	0.44
4.050	0.44	10.117	20.19	16.183	1.76	22.25	0.44
4.067	0.44	10.133	20.19	16.200	1.76	22.27	0.44
4.083	0.44	10.150	20.19	16.217	1.76	22.28	0.44
4.100	0.44	10.167	20.19	16.233	1.76	22.30	0.44
4.117	0.44	10.183	20.19	16.250	1.76	22.32	0.44
4.133	0.44	10.200	20.19	16.267	0.88	22.33	0.44
4.150	0.44	10.217	20.19	16.283	0.88	22.35	0.44
4.167	0.44	10.233	20.19	16.300	0.88	22.37	0.44
4.183	0.44	10.250	20.18	16.317	0.88	22.38	0.44
4.200	0.44	10.267	5.71	16.333	0.88	22.40	0.44
4.217	0.44	10.283	5.71	16.350	0.88	22.42	0.44
4.233	0.44	10.300	5.71	16.367	0.88	22.43	0.44
4.250	0.44	10.317	5.71	16.383	0.88	22.45	0.44
4.267	2.63	10.333	5.71	16.400	0.88	22.47	0.44
4.283	2.63	10.350	5.71	16.417	0.88	22.48	0.44
4.300	2.63	10.367	5.71	16.433	0.88	22.50	0.44
4.317	2.63	10.383	5.71	16.450	0.88	22.52	0.44
4.333	2.63	10.400	5.71	16.467	0.88	22.53	0.44
4.350	2.63	10.417	5.71	16.483	0.88	22.55	0.44
4.367	2.63	10.433	5.71	16.500	0.88	22.57	0.44
4.383	2.63	10.450	5.71	16.517	0.88	22.58	0.44
4.400	2.63	10.467	5.71	16.533	0.88	22.60	0.44
4.417	2.63	10.483	5.71	16.550	0.88	22.62	0.44
4.433	2.63	10.500	5.71	16.567	0.88	22.63	0.44
4.450	2.63	10.517	5.71	16.583	0.88	22.65	0.44
4.467	2.63	10.533	5.71	16.600	0.88	22.67	0.44
4.483	2.63	10.550	5.71	16.617	0.88	22.68	0.44
4.500	2.63	10.567	5.71	16.633	0.88	22.70	0.44
4.517	2.63	10.583	5.71	16.650	0.88	22.72	0.44
4.533	2.63	10.600	5.71	16.667	0.88	22.73	0.44
4.550	2.63	10.617	5.71	16.683	0.88	22.75	0.44
4.567	2.63	10.633	5.71	16.700	0.88	22.77	0.44
4.583	2.63	10.650	5.71	16.717	0.88	22.78	0.44
4.600	2.63	10.667	5.71	16.733	0.88	22.80	0.44
4.617	2.63	10.683	5.71	16.750	0.88	22.82	0.44
4.633	2.63	10.700	5.71	16.767	0.88	22.83	0.44
4.650	2.63	10.717	5.71	16.783	0.88	22.85	0.44
4.667	2.63	10.733	5.71	16.800	0.88	22.87	0.44
4.683	2.63	10.750	5.71	16.817	0.88	22.88	0.44
4.700	2.63	10.767	5.71	16.833	0.88	22.90	0.44
4.717	2.63	10.783	5.71	16.850	0.88	22.92	0.44
4.733	2.63	10.800	5.71	16.867	0.88	22.93	0.44
4.750	2.63	10.817	5.71	16.883	0.88	22.95	0.44
4.767	2.63	10.833	5.71	16.900	0.88	22.97	0.44
4.783	2.63	10.850	5.71	16.917	0.88	22.98	0.44
4.800	2.63	10.867	5.71	16.933	0.88	23.00	0.44
4.817	2.63	10.883	5.71	16.950	0.88	23.02	0.44
4.833	2.63	10.900	5.71	16.967	0.88	23.03	0.44
4.850	2.63	10.917	5.71	16.983	0.88	23.05	0.44
4.867	2.63	10.933	5.71	17.000	0.88	23.07	0.44
4.883	2.63	10.950	5.71	17.017	0.88	23.08	0.44
4.900	2.63	10.967	5.71	17.033	0.88	23.10	0.44
4.917	2.63	10.983	5.71	17.050	0.88	23.12	0.44
4.933	2.63	11.000	5.71	17.067	0.88	23.13	0.44
4.950	2.63	11.017	5.71	17.083	0.88	23.15	0.44
4.967	2.63	11.033	5.71	17.100	0.88	23.17	0.44
4.983	2.63	11.050	5.71	17.117	0.88	23.18	0.44
5.000	2.63	11.067	5.71	17.133	0.88	23.20	0.44
5.017	2.63	11.083	5.71	17.150	0.88	23.22	0.44
5.033	2.63	11.100	5.71	17.167	0.88	23.23	0.44
5.050	2.63	11.117	5.71	17.183	0.88	23.25	0.44
5.067	2.63	11.133	5.71	17.200	0.88	23.27	0.44
5.083	2.63	11.150	5.71	17.217	0.88	23.28	0.44
5.100	2.63	11.167	5.71	17.233	0.88	23.30	0.44
5.117	2.63	11.183	5.71	17.250	0.88	23.32	0.44
5.133	2.63	11.200	5.71	17.267	0.88	23.33	0.44
5.150	2.63	11.217	5.71	17.283	0.88	23.35	0.44
5.167	2.63	11.233	5.71	17.300	0.88	23.37	0.44
5.183	2.63	11.250	5.71	17.317	0.88	23.38	0.44
5.200	2.63	11.267	5.71	17.333	0.88	23.40	0.44
5.217	2.63	11.283	5.71	17.350	0.88	23.42	0.44
5.233	2.63	11.300	5.71	17.367	0.88	23.43	0.44
5.250	2.63	11.317	5.71	17.383	0.88	23.45	0.44
5.267	2.63	11.333	5.71	17.400	0.88	23.47	0.44
5.283	2.63	11.350	5.71	17.417	0.88	23.48	0.44
5.300	2.63	11.367	5.71	17.433	0.88	23.50	0.44
5.317	2.63	11.383	5.71	17.450	0.88	23.52	0.44
5.333	2.63	11.400	5.71	17.467	0.88	23.53	0.44
5.350	2.63	11.417	5.71	17.483	0.88	23.55	0.44
5.367	2.63	11.433	5.71	17.500	0.88	23.57	0.44
5.383	2.63	11.450	5.71	17.517	0.88	23.58	0.44
5.400	2.63	11.467	5.71	17.533	0.88	23.60	0.44
5.417	2.63	11.483	5.71	17.550	0.88	23.62	0.44
5.433	2.63	11.500	5.71	17.567	0.88	23.63	0.44
5.450	2.63	11.517	5.71	17.583	0.88	23.65	0.44
5.467	2.63	11.533	5.71	17.600	0.88	23.67	0.44
5.483	2.63	11.550	5.71	17.617	0.88	23.68	0.44
5.500	2.63	11.567	5.71	17.633	0.88	23.70	0.44
5.517	2.63	11.583	5.71	17.650	0.88	23.72	0.44
5.533	2.63	11.600	5.71	17.667	0.88	23.73	0.44
5.550	2.63	11.617	5.71	17.683	0.88	23.75	0.44
5.567	2.63	11.633	5.71	17.700	0.88	23.77	0.44
5.583	2.63	11.650	5.71	17.717	0.88	23.78	0.44
5.600	2.63	11.667	5.71	17.733	0.88	23.80	0.44
5.617	2.63	11.683	5.71	17.750	0.88	23.82	0.44
5.633	2.63	11.700	5.71	17.767	0.88	23.83	0.44
5.650	2.63	11.717	5.71	17.783	0.88	23.85	0.44
5.667	2.63	11.733	5.71	17.800	0.88	23.87	0.44
5.683	2.63	11.750	5.71	17.817	0.88	23.88	0.44
5.700	2.63	11.767	5.71	17.833	0.88	23.90	0.44
5.717	2.63	11.783	5.71	17.850	0.88	23.92	0.44
5.733	2.63	11.800	5.71	17.867	0.88	23.93	0.44
5.750	2.63	11.817	5.71	17.883	0.88	23.95	0.44
5.767	2.63	11.833	5.71	17.900	0.88	23.97	0.44
5.783	2.63	11.850	5.71	17.917	0.88	23.98	0.44
5.800	2.63	11.867	5.71	17.933	0.88	24.00	0.44
5.817	2.63	11.883	5.71	17.950	0.88	24.02	0.44
5.833	2.63	11.900	5.71	17.967	0.88	24.03	0.44
5.850	2.63	11.917	5.71	17.983	0.88	24.05	0.44
5.867	2.63	11.933	5.71	18.000	0.88	24.07	0.44
5.883	2.63	11.950	5.71	18.017	0.88	24.08	0.44
5.900	2.63	11.967	5.71	18.033	0.88	24.10	0.44
5.917	2.63	11.983	5.71	18.050	0.88	24.12	0.44
5.933	2.63	12.000	5.71	18.067	0.88	24.13	0.44
5.950	2.63	12.017	5.71	18.083	0.88	24.15	0.44
5.967	2.63	12.033	5.71	18.100	0.88	24.17	0.44
5.983	2.63	12.050	5.71	18.117	0.88	24.18	0.44
6.000	2.63	12.067	5.71	18.133	0.88	24.20	0.44
6.017	2.63	12.083	5.71	18.150	0.88	24.22	0.44
6.033	2.63	12.100	5.71	18.167	0.88	24.23	0.44
6.050	2.63	12.117	5.71	18.183	0.88	24.25	0.44
6.067	2.63	12.133	5.71	18.200	0.88		

Max.Eff.Inten.(mm/hr)=	20.19	16.43	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.47 (ii)	7.70 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.24	0.15	
			TOTALS
PEAK FLOW (cms)=	0.06	0.00	0.064 (iii)
TIME TO PEAK (hrs)=	9.47	10.25	10.23
RUNOFF VOLUME (mm)=	86.78	56.80	86.50
TOTAL RAINFALL (mm)=	87.80	87.80	87.80
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7622)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0258      0.0650
                          0.0108      0.0330   |    0.0302      0.0725
                          0.0167      0.0440   |    0.0340      0.0820
                          0.0204      0.0525   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7623)      1.150      0.064     10.23      86.50
   OUTFLOW: ID= 1 (  7622)      1.150      0.022     10.48      80.99

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.86
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0557

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| CALIB            |
| STANDHYD (  7629)|   Area    (ha)=   4.09
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     165.13        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 6.083    2.63 |12.150    5.71 | 18.22    0.88
               0.033    0.00 | 6.100    2.63 |12.167    5.71 | 18.23    0.88
               0.050    0.00 | 6.117    2.63 |12.183    5.71 | 18.25    0.88
               0.067    0.00 | 6.133    2.63 |12.200    5.71 | 18.27    0.44
               0.083    0.00 | 6.150    2.63 |12.217    5.71 | 18.28    0.44
               0.100    0.00 | 6.167    2.63 |12.233    5.71 | 18.30    0.44
               0.117    0.00 | 6.183    2.63 |12.250    5.71 | 18.32    0.44
               0.133    0.00 | 6.200    2.63 |12.267    3.07 | 18.33    0.44
               0.150    0.00 | 6.217    2.63 |12.283    3.07 | 18.35    0.44
               0.167    0.00 | 6.233    2.63 |12.300    3.07 | 18.37    0.44
               0.183    0.00 | 6.250    2.64 |12.317    3.07 | 18.38    0.44
               0.200    0.00 | 6.267    7.46 |12.333    3.07 | 18.40    0.44
               0.217    0.00 | 6.283    7.46 |12.350    3.07 | 18.42    0.44
               0.233    0.00 | 6.300    7.46 |12.367    3.07 | 18.43    0.44
               0.250    0.00 | 6.317    7.46 |12.383    3.07 | 18.45    0.44
               0.267    0.44 | 6.333    7.46 |12.400    3.07 | 18.47    0.44
               0.283    0.44 | 6.350    7.46 |12.417    3.07 | 18.48    0.44
               0.300    0.44 | 6.367    7.46 |12.433    3.07 | 18.50    0.44
               0.317    0.44 | 6.383    7.46 |12.450    3.07 | 18.52    0.44
               0.333    0.44 | 6.400    7.46 |12.467    3.07 | 18.53    0.44
               0.350    0.44 | 6.417    7.46 |12.483    3.07 | 18.55    0.44
               0.367    0.44 | 6.433    7.46 |12.500    3.07 | 18.57    0.44
               0.383    0.44 | 6.450    7.46 |12.517    3.07 | 18.58    0.44
               0.400    0.44 | 6.467    7.46 |12.533    3.07 | 18.60    0.44
               0.417    0.44 | 6.483    7.46 |12.550    3.07 | 18.62    0.44
               0.433    0.44 | 6.500    7.46 |12.567    3.07 | 18.63    0.44
               0.450    0.44 | 6.517    7.46 |12.583    3.07 | 18.65    0.44
               0.467    0.44 | 6.533    7.46 |12.600    3.07 | 18.67    0.44
               0.483    0.44 | 6.550    7.46 |12.617    3.07 | 18.68    0.44
               0.500    0.44 | 6.567    7.46 |12.633    3.07 | 18.70    0.44
               0.517    0.44 | 6.583    7.46 |12.650    3.07 | 18.72    0.44
               0.533    0.44 | 6.600    7.46 |12.667    3.07 | 18.73    0.44
               0.550    0.44 | 6.617    7.46 |12.683    3.07 | 18.75    0.44
               0.567    0.44 | 6.633    7.46 |12.700    3.07 | 18.77    0.44
               0.583    0.44 | 6.650    7.46 |12.717    3.07 | 18.78    0.44
               0.600    0.44 | 6.667    7.46 |12.733    3.07 | 18.80    0.44
               0.617    0.44 | 6.683    7.46 |12.750    3.07 | 18.82    0.44
               0.633    0.44 | 6.700    7.46 |12.767    3.07 | 18.83    0.44
               0.650    0.44 | 6.717    7.46 |12.783    3.07 | 18.85    0.44
               0.667    0.44 | 6.733    7.46 |12.800    3.07 | 18.87    0.44
               0.683    0.44 | 6.750    7.46 |12.817    3.07 | 18.88    0.44
               0.700    0.44 | 6.767    7.46 |12.833    3.07 | 18.90    0.44
               0.717    0.44 | 6.783    7.46 |12.850    3.07 | 18.92    0.44
               0.733    0.44 | 6.800    7.46 |12.867    3.07 | 18.93    0.44
               0.750    0.44 | 6.817    7.46 |12.883    3.07 | 18.95    0.44
               0.767    0.44 | 6.833    7.46 |12.900    3.07 | 18.97    0.44
               0.783    0.44 | 6.850    7.46 |12.917    3.07 | 18.98    0.44
               0.800    0.44 | 6.867    7.46 |12.933    3.07 | 19.00    0.44
               0.817    0.44 | 6.883    7.46 |12.950    3.07 | 19.02    0.44
               0.833    0.44 | 6.900    7.46 |12.967    3.07 | 19.03    0.44
               0.850    0.44 | 6.917    7.46 |12.983    3.07 | 19.05    0.44
               0.867    0.44 | 6.933    7.46 |13.000    3.07 | 19.07    0.44
               0.883    0.44 | 6.950    7.46 |13.017    3.07 | 19.08    0.44
               0.900    0.44 | 6.967    7.46 |13.033    3.07 | 19.10    0.44
               0.917    0.44 | 6.983    7.46 |13.050    3.07 | 19.12    0.44
               0.933    0.44 | 7.000    7.46 |13.067    3.07 | 19.13    0.44
               0.950    0.44 | 7.017    7.46 |13.083    3.07 | 19.15    0.44
               0.967    0.44 | 7.033    7.46 |13.100    3.07 | 19.17    0.44
               0.983    0.44 | 7.050    7.46 |13.117    3.07 | 19.18    0.44
               1.000    0.44 | 7.067    7.46 |13.133    3.07 | 19.20    0.44
               1.017    0.44 | 7.083    7.46 |13.150    3.07 | 19.22    0.44
               1.033    0.44 | 7.100    7.46 |13.167    3.07 | 19.23    0.44
               1.050    0.44 | 7.117    7.46 |13.183    3.07 | 19.25    0.44
               1.067    0.44 | 7.133    7.46 |13.200    3.07 | 19.27    0.44
               1.083    0.44 | 7.150    7.46 |13.217    3.07 | 19.28    0.44
               1.100    0.44 | 7.167    7.46 |13.233    3.07 | 19.30    0.44
               1.117    0.44 | 7.183    7.46 |13.250    3.07 | 19.32    0.44
               1.133    0.44 | 7.200    7.46 |13.267    3.07 | 19.33    0.44
               1.150    0.44 | 7.217    7.46 |13.283    3.07 | 19.35    0.44
               1.167    0.44 | 7.233    7.46 |13.300    3.07 | 19.37    0.44
               1.183    0.44 | 7.250    7.46 |13.317    3.07 | 19.38    0.44
               1.200    0.44 | 7.267    7.46 |13.333    3.07 | 19.40    0.44
               1.217    0.44 | 7.283    7.46 |13.350    3.07 | 19.42    0.44
               1.233    0.44 | 7.300    7.46 |13.367    3.07 | 19.43    0.44
               1.250    0.44 | 7.317    7.46 |13.383    3.07 | 19.45    0.44
               1.267    0.44 | 7.333    7.46 |13.400    3.07 | 19.47    0.44
               1.283    0.44 | 7.350    7.46 |13.417    3.07 | 19.48    0.44
               1.300    0.44 | 7.367    7.46 |13.433    3.07 | 19.50    0.44
               1.317    0.44 | 7.383    7.46 |13.450    3.07 | 19.52    0.44
               1.333    0.44 | 7.400    7.46 |13.467    3.07 | 19.53    0.44
               1.350    0.44 | 7.417    7.46 |13.483    3.07 | 19.55    0.44
               1.367    0.44 | 7.433    7.46 |13.500    3.07 | 19.57    0.44
               1.383    0.44 | 7.450    7.46 |13.517    3.07 | 19.58    0.44
               1.400    0.44 | 7.467    7.46 |13.533    3.07 | 19.60    0.44
               1.417    0.44 | 7.483    7.46 |13.550    3.07 | 19.62    0.44
               1.433    0.44 | 7.500    7.46 |13.567    3.07 | 19.63    0.44
               1.450    0.44 | 7.517    7.46 |13.583    3.07 | 19.65    0.44
               1.467    0.44 | 7.533    7.46 |13.600    3.07 | 19.67    0.44
               1.483    0.44 | 7.550    7.46 |13.617    3.07 | 19.68    0.44
               1.500    0.44 | 7.567    7.46 |13.633    3.07 | 19.70    0.44
               1.517    0.44 | 7.583    7.46 |13.650    3.07 | 19.72    0.44
               1.533    0.44 | 7.600    7.46 |13.667    3.07 | 19.73    0.44
               1.550    0.44 | 7.617    7.46 |13.683    3.07 | 19.75    0.44
               1.567    0.44 | 7.633    7.46 |13.700    3.07 | 19.77    0.44
               1.583    0.44 | 7.650    7.46 |13.717    3.07 | 19.78    0.44
               1.600    0.44 | 7.667    7.46 |13.733    3.07 | 19.80    0.44
               1.617    0.44 | 7.683    7.46 |13.750    3.07 | 19.82    0.44
               1.633    0.44 | 7.700    7.46 |13.767    3.07 | 19.83    0.44
               1.650    0.44 | 7.717    7.46 |13.783    3.07 | 19.85    0.44
               1.667    0.44 | 7.733    7.46 |13.800    3.07 | 19.87    0.44
               1.683    0.44 | 7.750    7.46 |13.817    3.07 | 19.88    0.44
               1.700    0.44 | 7.767    7.46 |13.833    3.07 | 19.90    0.44
               1.717    0.44 | 7.783    7.46 |13.850    3.07 | 19.92    0.44
               1.733    0.44 | 7.800    7.46 |13.867    3.07 | 19.93    0.44
               1.750    0.44 | 7.817    7.46 |13.883    3.07 | 19.95    0.44
               1.767    0.44 | 7.833    7.46 |13.900    3.07 | 19.97    0.44
               1.783    0.44 | 7.850    7.46 |13.917    3.07 | 19.98    0.44
               1.800    0.44 | 7.867    7.46 |13.933    3.07 | 20.00    0.44
               1.817    0.44 | 7.883    7.46 |13.950    3.07 | 20.02    0.44
               1.833    0.44 | 7.900    7.46 |13.967    3.07 | 20.03    0.44
               1.850    0.44 | 7.917    7.46 |13.983    3.07 | 20.05    0.44
               1.867    0.44 | 7.933    7.46 |14.000    3.07 | 20.07    0.44
               1.883    0.44 | 7.950    7.46 |14.017    3.07 | 20.08    0.44
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1.900	0.44	7.967	7.46	14.033	3.07	20.10	0.44	3.167	0.44	9.233	20.19	15.300	1.76	21.37	0.44
1.917	0.44	7.983	7.46	14.050	3.07	20.12	0.44	3.183	0.44	9.250	20.19	15.317	1.76	21.38	0.44
1.933	0.44	8.000	7.46	14.067	3.07	20.13	0.44	3.200	0.44	9.267	20.19	15.333	1.76	21.40	0.44
1.950	0.44	8.017	7.46	14.083	3.07	20.15	0.44	3.217	0.44	9.283	20.19	15.350	1.76	21.42	0.44
1.967	0.44	8.033	7.46	14.100	3.07	20.17	0.44	3.233	0.44	9.300	20.19	15.367	1.76	21.43	0.44
1.983	0.44	8.050	7.46	14.117	3.07	20.18	0.44	3.250	0.44	9.317	20.19	15.383	1.76	21.45	0.44
2.000	0.44	8.067	7.46	14.133	3.07	20.20	0.44	3.267	0.44	9.333	20.19	15.400	1.76	21.47	0.44
2.017	0.44	8.083	7.46	14.150	3.07	20.22	0.44	3.283	0.44	9.350	20.19	15.417	1.76	21.48	0.44
2.033	0.44	8.100	7.46	14.167	3.07	20.23	0.44	3.300	0.44	9.367	20.19	15.433	1.76	21.50	0.44
2.050	0.44	8.117	7.46	14.183	3.07	20.25	0.44	3.317	0.44	9.383	20.19	15.450	1.76	21.52	0.44
2.067	0.44	8.133	7.46	14.200	3.07	20.27	0.44	3.333	0.44	9.400	20.19	15.467	1.76	21.53	0.44
2.083	0.44	8.150	7.46	14.217	3.07	20.28	0.44	3.350	0.44	9.417	20.19	15.483	1.76	21.55	0.44
2.100	0.44	8.167	7.46	14.233	3.07	20.30	0.44	3.367	0.44	9.433	20.19	15.500	1.76	21.57	0.44
2.117	0.44	8.183	7.46	14.250	3.07	20.32	0.44	3.383	0.44	9.450	20.19	15.517	1.76	21.58	0.44
2.133	0.44	8.200	7.46	14.267	1.76	20.33	0.44	3.400	0.44	9.467	20.19	15.533	1.76	21.60	0.44
2.150	0.44	8.217	7.46	14.283	1.76	20.35	0.44	3.417	0.44	9.483	20.19	15.550	1.76	21.62	0.44
2.167	0.44	8.233	7.46	14.300	1.76	20.37	0.44	3.433	0.44	9.500	20.19	15.567	1.76	21.63	0.44
2.183	0.44	8.250	7.49	14.317	1.76	20.38	0.44	3.450	0.44	9.517	20.19	15.583	1.76	21.65	0.44
2.200	0.44	8.267	20.19	14.333	1.76	20.40	0.44	3.467	0.44	9.533	20.19	15.600	1.76	21.67	0.44
2.217	0.44	8.283	20.19	14.350	1.76	20.42	0.44	3.483	0.44	9.550	20.19	15.617	1.76	21.68	0.44
2.233	0.44	8.300	20.19	14.367	1.76	20.43	0.44	3.500	0.44	9.567	20.19	15.633	1.76	21.70	0.44
2.250	0.44	8.317	20.19	14.383	1.76	20.45	0.44	3.517	0.44	9.583	20.19	15.650	1.76	21.72	0.44
2.267	0.44	8.333	20.19	14.400	1.76	20.47	0.44	3.533	0.44	9.600	20.19	15.667	1.76	21.73	0.44
2.283	0.44	8.350	20.19	14.417	1.76	20.48	0.44	3.550	0.44	9.617	20.19	15.683	1.76	21.75	0.44
2.300	0.44	8.367	20.19	14.433	1.76	20.50	0.44	3.567	0.44	9.633	20.19	15.700	1.76	21.77	0.44
2.317	0.44	8.383	20.19	14.450	1.76	20.52	0.44	3.583	0.44	9.650	20.19	15.717	1.76	21.78	0.44
2.333	0.44	8.400	20.19	14.467	1.76	20.53	0.44	3.600	0.44	9.667	20.19	15.733	1.76	21.80	0.44
2.350	0.44	8.417	20.19	14.483	1.76	20.55	0.44	3.617	0.44	9.683	20.19	15.750	1.76	21.82	0.44
2.367	0.44	8.433	20.19	14.500	1.76	20.57	0.44	3.633	0.44	9.700	20.19	15.767	1.76	21.83	0.44
2.383	0.44	8.450	20.19	14.517	1.76	20.58	0.44	3.650	0.44	9.717	20.19	15.783	1.76	21.85	0.44
2.400	0.44	8.467	20.19	14.533	1.76	20.60	0.44	3.667	0.44	9.733	20.19	15.800	1.76	21.87	0.44
2.417	0.44	8.483	20.19	14.550	1.76	20.62	0.44	3.683	0.44	9.750	20.19	15.817	1.76	21.88	0.44
2.433	0.44	8.500	20.19	14.567	1.76	20.63	0.44	3.700	0.44	9.767	20.19	15.833	1.76	21.90	0.44
2.450	0.44	8.517	20.19	14.583	1.76	20.65	0.44	3.717	0.44	9.783	20.19	15.850	1.76	21.92	0.44
2.467	0.44	8.533	20.19	14.600	1.76	20.67	0.44	3.733	0.44	9.800	20.19	15.867	1.76	21.93	0.44
2.483	0.44	8.550	20.19	14.617	1.76	20.68	0.44	3.750	0.44	9.817	20.19	15.883	1.76	21.95	0.44
2.500	0.44	8.567	20.19	14.633	1.76	20.70	0.44	3.767	0.44	9.833	20.19	15.900	1.76	21.97	0.44
2.517	0.44	8.583	20.19	14.650	1.76	20.72	0.44	3.783	0.44	9.850	20.19	15.917	1.76	21.98	0.44
2.533	0.44	8.600	20.19	14.667	1.76	20.73	0.44	3.800	0.44	9.867	20.19	15.933	1.76	22.00	0.44
2.550	0.44	8.617	20.19	14.683	1.76	20.75	0.44	3.817	0.44	9.883	20.19	15.950	1.76	22.02	0.44
2.567	0.44	8.633	20.19	14.700	1.76	20.77	0.44	3.833	0.44	9.900	20.19	15.967	1.76	22.03	0.44
2.583	0.44	8.650	20.19	14.717	1.76	20.78	0.44	3.850	0.44	9.917	20.19	15.983	1.76	22.05	0.44
2.600	0.44	8.667	20.19	14.733	1.76	20.80	0.44	3.867	0.44	9.933	20.19	16.000	1.76	22.07	0.44
2.617	0.44	8.683	20.19	14.750	1.76	20.82	0.44	3.883	0.44	9.950	20.19	16.017	1.76	22.08	0.44
2.633	0.44	8.700	20.19	14.767	1.76	20.83	0.44	3.900	0.44	9.967	20.19	16.033	1.76	22.10	0.44
2.650	0.44	8.717	20.19	14.783	1.76	20.85	0.44	3.917	0.44	9.983	20.19	16.050	1.76	22.12	0.44
2.667	0.44	8.733	20.19	14.800	1.76	20.87	0.44	3.933	0.44	10.000	20.19	16.067	1.76	22.13	0.44
2.683	0.44	8.750	20.19	14.817	1.76	20.88	0.44	3.950	0.44	10.017	20.19	16.083	1.76	22.15	0.44
2.700	0.44	8.767	20.19	14.833	1.76	20.90	0.44	3.967	0.44	10.033	20.19	16.100	1.76	22.17	0.44
2.717	0.44	8.783	20.19	14.850	1.76	20.92	0.44	3.983	0.44	10.050	20.19	16.117	1.76	22.18	0.44
2.733	0.44	8.800	20.19	14.867	1.76	20.93	0.44	4.000	0.44	10.067	20.19	16.133	1.76	22.20	0.44
2.750	0.44	8.817	20.19	14.883	1.76	20.95	0.44	4.017	0.44	10.083	20.19	16.150	1.76	22.22	0.44
2.767	0.44	8.833	20.19	14.900	1.76	20.97	0.44	4.033	0.44	10.100	20.19	16.167	1.76	22.23	0.44
2.783	0.44	8.850	20.19	14.917	1.76	20.98	0.44	4.050	0.44	10.117	20.19	16.183	1.76	22.25	0.44
2.800	0.44	8.867	20.19	14.933	1.76	21.00	0.44	4.067	0.44	10.133	20.19	16.200	1.76	22.27	0.44
2.817	0.44	8.883	20.19	14.950	1.76	21.02	0.44	4.083	0.44	10.150	20.19	16.217	1.76	22.28	0.44
2.833	0.44	8.900	20.19	14.967	1.76	21.03	0.44	4.100	0.44	10.167	20.19	16.233	1.76	22.30	0.44
2.850	0.44	8.917	20.19	14.983	1.76	21.05	0.44	4.117	0.44	10.183	20.19	16.250	1.76	22.32	0.44
2.867	0.44	8.933	20.19	15.000	1.76	21.07	0.44	4.133	0.44	10.200	20.19	16.267	0.88	22.33	0.44
2.883	0.44	8.950	20.19	15.017	1.76	21.08	0.44	4.150	0.44	10.217	20.19	16.283	0.88	22.35	0.44
2.900	0.44	8.967	20.19	15.033	1.76	21.10	0.44	4.167	0.44	10.233	20.19	16.300	0.88	22.37	0.44
2.917	0.44	8.983	20.19	15.050	1.76	21.12	0.44	4.183	0.44	10.250	20.18	16.317	0.88	22.38	0.44
2.933	0.44	9.000	20.19	15.067	1.76	21.13	0.44	4.200	0.44	10.267	5.71	16.333	0.88	22.40	0.44
2.950	0.44	9.017	20.19	15.083	1.76	21.15	0.44	4.217	0.44	10.283	5.71	16.350	0.88	22.42	0.44
2.967	0.44	9.033	20.19	15.100	1.76	21.17	0.44	4.233	0.44	10.300	5.71	16.367	0.88	22.43	0.44
2.983	0.44	9.050	20.19	15.117	1.76	21.18	0.44	4.250	0.44	10.317	5.71	16.383	0.88	22.45	0.44
3.000	0.44	9.067	20.19	15.133	1.76	21.20	0.44	4.267	2.63	10.333	5.71	16.400	0.88	22.47	0.44
3.017	0.44	9.083	20.19	15.150	1.76	21.22	0.44	4.283	2.63	10.350	5.71	16.417	0.88	22.48	0.44
3.033	0.44	9.100	20.19	15.167	1.76	21.23	0.44	4.300	2.63	10.367	5.71	16.433	0.88	22.50	0.44
3.050	0.44	9.117	20.19	15.183	1.76	21.25	0.44	4.317	2.63	10.383	5.71	16.450	0.88	22.52	0.44
3.067	0.44	9.133	20.19	15.200	1.76	21.27	0.44	4.333	2.63	10.400	5.71	16.467	0.88	22.53	0.44
3.083	0.44	9.150	20.19	15.217	1.76	21.28	0.44	4.350	2.63	10.417	5.71	16.483	0.88	22.55	0.44
3.100	0.44	9.167	20.19	15.233	1.76	21.30	0.44	4.367	2.63	10.433	5.71	16.500	0.88	22.57	0.44
3.117	0.44	9.183	20.19	15.250	1.76	21.32	0.44	4.383	2.63	10.450	5.71	16.517	0.88	22.58	0.44
3.133	0.44	9.200	20.19	15.267	1.76	21.33	0.44	4.400	2.63	10.467	5.71	16.533	0.88	22.60	0.44
3.150	0.44	9.217	20.19	15.283	1.76	21.35	0.44	4.417	2.63	10.483	5.71	16.550	0.88	22.62	0.44

4.433	2.63	10.500	5.71	16.567	0.88	22.63	0.44
4.450	2.63	10.517	5.71	16.583	0.88	22.65	0.44
4.467	2.63	10.533	5.71	16.600	0.88	22.67	0.44
4.483	2.63	10.550	5.71	16.617	0.88	22.68	0.44
4.500	2.63	10.567	5.71	16.633	0.88	22.70	0.44
4.517	2.63	10.583	5.71	16.650	0.88	22.72	0.44
4.533	2.63	10.600	5.71	16.667	0.88	22.73	0.44
4.550	2.63	10.617	5.71	16.683	0.88	22.75	0.44
4.567	2.63	10.633	5.71	16.700	0.88	22.77	0.44
4.583	2.63	10.650	5.71	16.717	0.88	22.78	0.44
4.600	2.63	10.667	5.71	16.733	0.88	22.80	0.44
4.617	2.63	10.683	5.71	16.750	0.88	22.82	0.44
4.633	2.63	10.700	5.71	16.767	0.88	22.83	0.44
4.650	2.63	10.717	5.71	16.783	0.88	22.85	0.44
4.667	2.63	10.733	5.71	16.800	0.88	22.87	0.44
4.683	2.63	10.750	5.71	16.817	0.88	22.88	0.44
4.700	2.63	10.767	5.71	16.833	0.88	22.90	0.44
4.717	2.63	10.783	5.71	16.850	0.88	22.92	0.44
4.733	2.63	10.800	5.71	16.867	0.88	22.93	0.44
4.750	2.63	10.817	5.71	16.883	0.88	22.95	0.44
4.767	2.63	10.833	5.71	16.900	0.88	22.97	0.44
4.783	2.63	10.850	5.71	16.917	0.88	22.98	0.44
4.800	2.63	10.867	5.71	16.933	0.88	23.00	0.44
4.817	2.63	10.883	5.71	16.950	0.88	23.02	0.44
4.833	2.63	10.900	5.71	16.967	0.88	23.03	0.44
4.850	2.63	10.917	5.71	16.983	0.88	23.05	0.44
4.867	2.63	10.933	5.71	17.000	0.88	23.07	0.44
4.883	2.63	10.950	5.71	17.017	0.88	23.08	0.44
4.900	2.63	10.967	5.71	17.033	0.88	23.10	0.44
4.917	2.63	10.983	5.71	17.050	0.88	23.12	0.44
4.933	2.63	11.000	5.71	17.067	0.88	23.13	0.44
4.950	2.63	11.017	5.71	17.083	0.88	23.15	0.44
4.967	2.63	11.033	5.71	17.100	0.88	23.17	0.44
4.983	2.63	11.050	5.71	17.117	0.88	23.18	0.44
5.000	2.63	11.067	5.71	17.133	0.88	23.20	0.44
5.017	2.63	11.083	5.71	17.150	0.88	23.22	0.44
5.033	2.63	11.100	5.71	17.167	0.88	23.23	0.44
5.050	2.63	11.117	5.71	17.183	0.88	23.25	0.44
5.067	2.63	11.133	5.71	17.200	0.88	23.27	0.44
5.083	2.63	11.150	5.71	17.217	0.88	23.28	0.44
5.100	2.63	11.167	5.71	17.233	0.88	23.30	0.44
5.117	2.63	11.183	5.71	17.250	0.88	23.32	0.44
5.133	2.63	11.200	5.71	17.267	0.88	23.33	0.44
5.150	2.63	11.217	5.71	17.283	0.88	23.35	0.44
5.167	2.63	11.233	5.71	17.300	0.88	23.37	0.44
5.183	2.63	11.250	5.71	17.317	0.88	23.38	0.44
5.200	2.63	11.267	5.71	17.333	0.88	23.40	0.44
5.217	2.63	11.283	5.71	17.350	0.88	23.42	0.44
5.233	2.63	11.300	5.71	17.367	0.88	23.43	0.44
5.250	2.63	11.317	5.71	17.383	0.88	23.45	0.44
5.267	2.63	11.333	5.71	17.400	0.88	23.47	0.44
5.283	2.63	11.350	5.71	17.417	0.88	23.48	0.44
5.300	2.63	11.367	5.71	17.433	0.88	23.50	0.44
5.317	2.63	11.383	5.71	17.450	0.88	23.52	0.44
5.333	2.63	11.400	5.71	17.467	0.88	23.53	0.44
5.350	2.63	11.417	5.71	17.483	0.88	23.55	0.44
5.367	2.63	11.433	5.71	17.500	0.88	23.57	0.44
5.383	2.63	11.450	5.71	17.517	0.88	23.58	0.44
5.400	2.63	11.467	5.71	17.533	0.88	23.60	0.44
5.417	2.63	11.483	5.71	17.550	0.88	23.62	0.44
5.433	2.63	11.500	5.71	17.567	0.88	23.63	0.44
5.450	2.63	11.517	5.71	17.583	0.88	23.65	0.44
5.467	2.63	11.533	5.71	17.600	0.88	23.67	0.44
5.483	2.63	11.550	5.71	17.617	0.88	23.68	0.44
5.500	2.63	11.567	5.71	17.633	0.88	23.70	0.44
5.517	2.63	11.583	5.71	17.650	0.88	23.72	0.44
5.533	2.63	11.600	5.71	17.667	0.88	23.73	0.44
5.550	2.63	11.617	5.71	17.683	0.88	23.75	0.44
5.567	2.63	11.633	5.71	17.700	0.88	23.77	0.44
5.583	2.63	11.650	5.71	17.717	0.88	23.78	0.44
5.600	2.63	11.667	5.71	17.733	0.88	23.80	0.44
5.617	2.63	11.683	5.71	17.750	0.88	23.82	0.44
5.633	2.63	11.700	5.71	17.767	0.88	23.83	0.44
5.650	2.63	11.717	5.71	17.783	0.88	23.85	0.44
5.667	2.63	11.733	5.71	17.800	0.88	23.87	0.44
5.683	2.63	11.750	5.71	17.817	0.88	23.88	0.44
5.700	2.63	11.767	5.71	17.833	0.88	23.90	0.44
5.717	2.63	11.783	5.71	17.850	0.88	23.92	0.44
5.733	2.63	11.800	5.71	17.867	0.88	23.93	0.44
5.750	2.63	11.817	5.71	17.883	0.88	23.95	0.44
5.767	2.63	11.833	5.71	17.900	0.88	23.97	0.44
5.783	2.63	11.850	5.71	17.917	0.88	23.98	0.44
5.800	2.63	11.867	5.71	17.933	0.88	24.00	0.44
5.817	2.63	11.883	5.71	17.950	0.88	24.02	0.44
5.833	2.63	11.900	5.71	17.967	0.88	24.03	0.44
5.850	2.63	11.917	5.71	17.983	0.88	24.05	0.44
5.867	2.63	11.933	5.71	18.000	0.88	24.07	0.44
5.883	2.63	11.950	5.71	18.017	0.88	24.08	0.44
5.900	2.63	11.967	5.71	18.033	0.88	24.10	0.44
5.917	2.63	11.983	5.71	18.050	0.88	24.12	0.44
5.933	2.63	12.000	5.71	18.067	0.88	24.13	0.44
5.950	2.63	12.017	5.71	18.083	0.88	24.15	0.44
5.967	2.63	12.033	5.71	18.100	0.88	24.17	0.44
5.983	2.63	12.050	5.71	18.117	0.88	24.18	0.44
6.000	2.63	12.067	5.71	18.133	0.88	24.20	0.44
6.017	2.63	12.083	5.71	18.150	0.88	24.22	0.44
6.033	2.63	12.100	5.71	18.167	0.88	24.23	0.44
6.050	2.63	12.117	5.71	18.183	0.88	24.25	0.44
6.067	2.63	12.133	5.71	18.200	0.88		

Max.Eff.Inten.(mm/hr)=	20.19	16.43	
over (min)	7.00	10.00	
Storage Coeff. (min)=	6.55 (ii)	9.77 (ii)	
Unit Hyd. Tpeak (min)=	7.00	10.00	
Unit Hyd. peak (cms)=	0.17	0.11	
			TOTALS
PEAK FLOW (cms)=	0.23	0.00	0.229 (iii)
TIME TO PEAK (hrs)=	9.98	10.25	10.25
RUNOFF VOLUME (mm)=	86.79	56.79	86.50
TOTAL RAINFALL (mm)=	87.80	87.80	87.80
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940
	0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.229	10.25	86.50
OUTFLOW: ID= 1 (7630)	4.090	0.071	10.67	79.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.98
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.2026

CALIB			
STANDHYD (7631)	Area (ha)= 3.91		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	3.87	0.04	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	161.45	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.63	12.150	5.71	18.22	0.88
0.033	0.00	6.100	2.63	12.167	5.71	18.23	0.88
0.050	0.00	6.117	2.63	12.183	5.71	18.25	0.88
0.067	0.00	6.133	2.63	12.200	5.71	18.27	0.44
0.083	0.00	6.150	2.63	12.217	5.71	18.28	0.44
0.100	0.00	6.167	2.63	12.233	5.71	18.30	0.44
0.117	0.00	6.183	2.63	12.250	5.71	18.32	0.44
0.133	0.00	6.200	2.63	12.267	3.07	18.33	0.44
0.150	0.00	6.217	2.63	12.283	3.07	18.35	0.44
0.167	0.00	6.233	2.63	12.300	3.07	18.37	0.44
0.183	0.00	6.250	2.64	12.317	3.07	18.38	0.44
0.200	0.00	6.267	7.46	12.333	3.07	18.40	0.44
0.217	0.00	6.283	7.46	12.350	3.07	18.42	0.44
0.233	0.00	6.300	7.46	12.367	3.07	18.43	0.44
0.250	0.00	6.317	7.46	12.383	3.07	18.45	0.44
0.267	0.44	6.333	7.46	12.400	3.07	18.47	0.44
0.283	0.44	6.350	7.46	12.417	3.07	18.48	0.44
0.300	0.44	6.367	7.46	12.433	3.07	18.50	0.44
0.317	0.44	6.383	7.46	12.450	3.07	18.52	0.44
0.333	0.44	6.400	7.46	12.467	3.07	18.53	0.44
0.350	0.44	6.417	7.46	12.483	3.07	18.55	0.44
0.367	0.44	6.433	7.46	12.500	3.07	18.57	0.44
0.383	0.44	6.450	7.46	12.517	3.07	18.58	0.44
0.400	0.44	6.467	7.46	12.533	3.07	18.60	0.44
0.417	0.44	6.483	7.46	12.550	3.07	18.62	0.44
0.433	0.44	6.500	7.46	12.567	3.07	18.63	0.44
0.450	0.44	6.517	7.46	12.583	3.07	18.65	0.44
0.467	0.44	6.533	7.46	12.600	3.07	18.67	0.44
0.483	0.44	6.550	7.46	12.617	3.07	18.68	0.44
0.500	0.44	6.567	7.46	12.633	3.07	18.70	0.44
0.517	0.44	6.583	7.46	12.650	3.07	18.72	0.44
0.533	0.44	6.600	7.46	12.667	3.07	18.73	0.44
0.550	0.44	6.617	7.46	12.683	3.07	18.75	0.44
0.567	0.44	6.633	7.46	12.700	3.07	18.77	0.44
0.583	0.44	6.650	7.46	12.717	3.07	18.78	0.44
0.600	0.44	6.667	7.46	12.733	3.07	18.80	0.44
0.617	0.44	6.683	7.46	12.750	3.07	18.82	0.44
0.633	0.44	6.700	7.46	12.767	3.07	18.83	0.44
0.650	0.44	6.717	7.46	12.783	3.07	18.85	0.44
0.667	0.44	6.733	7.46	12.800	3.07	18.87	0.44
0.683	0.44	6.750	7.46	12.817	3.07	18.88	0.44
0.700	0.44	6.767	7.46	12.833	3.07	18.90	0.44
0.717	0.44	6.783	7.46	12.850	3.07	18.92	0.44
0.733	0.44	6.800	7.46	12.867	3.07	18.93	0.44
0.750	0.44	6.817	7.46	12.883	3.07	18.95	0.44
0.767	0.44	6.833	7.46	12.900	3.07	18.97	0.44
0.783	0.44	6.850	7.46	12.917	3.07	18.98	0.44
0.800	0.44	6.867	7.46	12.933	3.07	19.00	0.44
0.817	0.44	6.883	7.46	12.950	3.07	19.02	0.44
0.833	0.44	6.900	7.46	12.967	3.07	19.03	0.44
0.850	0.44	6.917	7.46	12.983	3.07	19.05	0.44
0.867	0.44	6.933	7.46	13.000	3.07	19.07	0.44
0.883	0.44	6.950	7.46	13.017	3.07	19.08	0.44
0.900	0.44	6.967	7.46	13.033	3.07	19.10	0.44
0.917	0.44	6.983	7.46	13.050	3.07	19.12	0.44
0.933	0.44	7.000	7.46	13.067	3.07	19.13	0.44
0.950	0.44	7.017	7.46	13.083	3.07	19.15	0.44
0.967	0.44	7.033	7.46	13.100	3.07	19.17	0.44
0.983	0.44	7.050	7.46	13.117	3.07	19.18	0.44
1.000	0.44	7.067	7.46	13.133	3.07	19.20	0.44
1.017	0.44	7.083	7.46	13.150	3.07	19.22	0.44
1.033	0.44	7.100	7.46	13.167	3.07	19.23	0.44
1.050	0.44	7.117	7.46	13.183	3.07	19.25	0.44
1.067	0.44	7.133	7.46	13.200	3.07	19.27	0.44
1.083	0.44	7.150	7.46	13.217	3.07	19.28	0.44
1.100	0.44	7.167	7.46	13.233	3.07	19.30	0.44
1.117	0.44	7.183	7.46	13.250	3.07	19.32	0.44
1.133	0.44	7.200	7.46	13.267	3.07	19.33	0.44
1.150	0.44	7.217	7.46	13.283	3.07	19.35	0.44
1.167	0.44	7.233	7.46	13.300	3.07	19.37	0.44
1.183	0.44	7.250	7.46	13.317	3.07	19.38	0.44
1.200	0.44	7.267	7.46	13.333	3.07	19.40	0.44
1.217	0.44	7.283	7.46	13.350	3.07	19.42	0.44
1.233	0.44	7.300	7.46	13.367	3.07	19.43	0.44
1.250	0.44	7.317	7.46	13.383	3.07	19.45	0.44
1.267	0.44	7.333	7.46	13.400	3.07	19.47	0.44
1.283	0.44	7.350	7.46	13.417	3.07	19.48	0.44
1.300	0.44	7.367	7.46	13.433	3.07	19.50	0.44
1.317	0.44	7.383	7.46	13.450	3.07	19.52	0.44
1.333	0.44	7.400	7.46	13.467	3.07	19.53	0.44
1.350	0.44	7.417	7.46	13.483	3.07	19.55	0.44
1.367	0.44	7.433	7.46	13.500	3.07	19.57	0.44
1.383	0.44	7.450	7.46	13.517	3.07	19.58	0.44
1.400	0.44	7.467	7.46	13.533	3.07	19.60	0.44
1.417	0.44	7.483	7.46	13.550	3.07	19.62	0.44
1.433	0.44	7.500	7.46	13.567	3.07	19.63	0.44
1.450	0.44	7.517	7.46	13.583	3.07	19.65	0.44
1.467	0.44	7.533	7.46	13.600	3.07	19.67	0.44
1.483	0.44	7.550	7.46	13.617	3.07	19.68	0.44
1.500	0.44	7.567	7.46	13.633	3.07	19.70	0.44
1.517	0.44	7.583	7.46	13.650	3.07	19.72	0.44
1.533	0.44	7.600	7.46	13.667	3.07	19.73	0.44
1.550	0.44	7.617	7.46	13.683	3.07	19.75	0.44
1.567	0.44	7.633	7.46	13.700	3.07	19.77	0.44
1.583	0.44	7.650	7.46	13.717	3.07	19.78	0.44
1.600	0.44	7.667	7.46	13.733	3.07	19.80	0.44
1.617	0.44	7.683	7.46	13.750	3.07	19.82	0.44
1.633	0.44	7.700	7.46	13.767	3.07	19.83	0.44
1.650	0.44	7.717	7.46	13.783	3.07	19.85	0.44
1.667	0.44	7.733	7.46	13.800	3.07	19.87	0.44
1.683	0.44	7.750	7.46	13.817	3.07	19.88	0.44
1.700	0.44	7.767	7.46	13.833	3.07	19.90	0.44
1.717	0.44	7.783	7.46	13.850	3.07	19.92	0.44
1.733	0.44	7.800	7.46	13.867	3.07	19.93	0.44
1.750	0.44	7.817	7.46	13.883	3.07	19.95	0.44
1.767	0.44	7.833	7.46	13.900	3.07	19.97	0.44
1.783	0.44	7.850	7.46	13.917	3.07	19.98	0.44
1.800	0.44	7.867	7.46	13.933	3.07	20.00	0.44
1.817	0.44	7.883	7.46	13.950	3.07	20.02	0.44
1.833	0.44	7.900	7.46	13.967	3.07	20.03	0.44
1.850	0.44	7.917	7.46	13.983	3.07	20.05	0.44
1.867	0.44	7.933	7.46	14.000	3.07	20.07	0.44
1.883	0.44	7.950	7.46	14.017	3.07	20.08	0.44
1.900	0.44	7.967	7.46	14.033	3.07	20.10	0.44
1.917	0.44	7.983	7.46	14.050	3.07	20.12	0.44
1.933	0.44	8.000	7.46	14.067	3.07	20.13	0.44
1.950	0.44	8.017	7.46	14.083	3.07	20.15	0.44
1.967	0.44	8.033	7.46	14.100	3.07	20.17	0.44
1.983	0.44	8.050	7.46	14.117	3.07	20.18	0.44
2.000	0.44	8.067	7.46	14.133	3.07	20.20	0.44
2.017	0.44	8.083	7.46	14.150	3.07	20.22	0.44
2.033	0.44	8.100	7.46	14.167	3.07	20.23	0.44
2.050	0.44	8.117	7.46	14.183	3.07	20.25	0.44
2.067	0.44	8.133	7.46	14.200	3.07	20.27	0.44
2.083	0.44	8.150	7.46	14.217	3.07	20.28	0.44
2.100	0.44	8.167	7.46	14.233	3.07	20.30	0.44
2.117	0.44	8.183	7.46	14.250	3.07	20.32	0.44
2.133	0.44	8.200	7.46	14.267	1.76	20.33	0.44
2.150	0.44	8.217	7.46	14.283	1.76	20.35	0.44
2.167	0.44	8.233	7.46	14.300	1.76	20.37	0.44
2.183	0.44	8.250	7.49	14.317	1.76	20.38	0.44
2.200	0.44	8.267	20.19	14.333	1.76	20.40	0.44
2.217	0.44	8.283	20.19	14.350	1.76	20.42	0.44
2.233	0.44	8.300	20.19	14.367	1.76	20.43	0.44
2.250	0.44	8.317	20.19	14.383	1.76	20.45	0.44
2.267	0.44	8.333	20.19	14.400	1.76	20.47	0.44
2.283	0.44	8.350	20.19	14.417	1.76	20.48	0.44
2.300	0.44	8.367	20.19	14.433	1.76	20.50	0.44
2.317	0.44	8.383	20.19	14.450	1.76	20.52	0.44
2.333	0.44	8.400	20.19	14.467	1.76	20.53	0.44
2.350	0.44	8.417	20.19	14.483	1.76	20.55	0.44
2.367	0.44	8.433	20.19	14.500	1.76	20.57	0.44
2.383	0.44	8.450	20.19	14.517	1.76	20.58	0.44
2.400	0.44	8.467	20.19	14.533	1.76	20.60	0.44
2.417	0.44	8.483	20.19	14.550	1.76	20.62	0.44
2.433	0.44	8.500	20.19	14.567	1.76	20.63	0.44

2.450	0.44	8.517	20.19	14.583	1.76	20.65	0.44
2.467	0.44	8.533	20.19	14.600	1.76	20.67	0.44
2.483	0.44	8.550	20.19	14.617	1.76	20.68	0.44
2.500	0.44	8.567	20.19	14.633	1.76	20.70	0.44
2.517	0.44	8.583	20.19	14.650	1.76	20.72	0.44
2.533	0.44	8.600	20.19	14.667	1.76	20.73	0.44
2.550	0.44	8.617	20.19	14.683	1.76	20.75	0.44
2.567	0.44	8.633	20.19	14.700	1.76	20.77	0.44
2.583	0.44	8.650	20.19	14.717	1.76	20.78	0.44
2.600	0.44	8.667	20.19	14.733	1.76	20.80	0.44
2.617	0.44	8.683	20.19	14.750	1.76	20.82	0.44
2.633	0.44	8.700	20.19	14.767	1.76	20.83	0.44
2.650	0.44	8.717	20.19	14.783	1.76	20.85	0.44
2.667	0.44	8.733	20.19	14.800	1.76	20.87	0.44
2.683	0.44	8.750	20.19	14.817	1.76	20.88	0.44
2.700	0.44	8.767	20.19	14.833	1.76	20.90	0.44
2.717	0.44	8.783	20.19	14.850	1.76	20.92	0.44
2.733	0.44	8.800	20.19	14.867	1.76	20.93	0.44
2.750	0.44	8.817	20.19	14.883	1.76	20.95	0.44
2.767	0.44	8.833	20.19	14.900	1.76	20.97	0.44
2.783	0.44	8.850	20.19	14.917	1.76	20.98	0.44
2.800	0.44	8.867	20.19	14.933	1.76	21.00	0.44
2.817	0.44	8.883	20.19	14.950	1.76	21.02	0.44
2.833	0.44	8.900	20.19	14.967	1.76	21.03	0.44
2.850	0.44	8.917	20.19	14.983	1.76	21.05	0.44
2.867	0.44	8.933	20.19	15.000	1.76	21.07	0.44
2.883	0.44	8.950	20.19	15.017	1.76	21.08	0.44
2.900	0.44	8.967	20.19	15.033	1.76	21.10	0.44
2.917	0.44	8.983	20.19	15.050	1.76	21.12	0.44
2.933	0.44	9.000	20.19	15.067	1.76	21.13	0.44
2.950	0.44	9.017	20.19	15.083	1.76	21.15	0.44
2.967	0.44	9.033	20.19	15.100	1.76	21.17	0.44
2.983	0.44	9.050	20.19	15.117	1.76	21.18	0.44
3.000	0.44	9.067	20.19	15.133	1.76	21.20	0.44
3.017	0.44	9.083	20.19	15.150	1.76	21.22	0.44
3.033	0.44	9.100	20.19	15.167	1.76	21.23	0.44
3.050	0.44	9.117	20.19	15.183	1.76	21.25	0.44
3.067	0.44	9.133	20.19	15.200	1.76	21.27	0.44
3.083	0.44	9.150	20.19	15.217	1.76	21.28	0.44
3.100	0.44	9.167	20.19	15.233	1.76	21.30	0.44
3.117	0.44	9.183	20.19	15.250	1.76	21.32	0.44
3.133	0.44	9.200	20.19	15.267	1.76	21.33	0.44
3.150	0.44	9.217	20.19	15.283	1.76	21.35	0.44
3.167	0.44	9.233	20.19	15.300	1.76	21.37	0.44
3.183	0.44	9.250	20.19	15.317	1.76	21.38	0.44
3.200	0.44	9.267	20.19	15.333	1.76	21.40	0.44
3.217	0.44	9.283	20.19	15.350	1.76	21.42	0.44
3.233	0.44	9.300	20.19	15.367	1.76	21.43	0.44
3.250	0.44	9.317	20.19	15.383	1.76	21.45	0.44
3.267	0.44	9.333	20.19	15.400	1.76	21.47	0.44
3.283	0.44	9.350	20.19	15.417	1.76	21.48	0.44
3.300	0.44	9.367	20.19	15.433	1.76	21.50	0.44
3.317	0.44	9.383	20.19	15.450	1.76	21.52	0.44
3.333	0.44	9.400	20.19	15.467	1.76	21.53	0.44
3.350	0.44	9.417	20.19	15.483	1.76	21.55	0.44
3.367	0.44	9.433	20.19	15.500	1.76	21.57	0.44
3.383	0.44	9.450	20.19	15.517	1.76	21.58	0.44
3.400	0.44	9.467	20.19	15.533	1.76	21.60	0.44
3.417	0.44	9.483	20.19	15.550	1.76	21.62	0.44
3.433	0.44	9.500	20.19	15.567	1.76	21.63	0.44
3.450	0.44	9.517	20.19	15.583	1.76	21.65	0.44
3.467	0.44	9.533	20.19	15.600	1.76	21.67	0.44
3.483	0.44	9.550	20.19	15.617	1.76	21.68	0.44
3.500	0.44	9.567	20.19	15.633	1.76	21.70	0.44
3.517	0.44	9.583	20.19	15.650	1.76	21.72	0.44
3.533	0.44	9.600	20.19	15.667	1.76	21.73	0.44
3.550	0.44	9.617	20.19	15.683	1.76	21.75	0.44
3.567	0.44	9.633	20.19	15.700	1.76	21.77	0.44
3.583	0.44	9.650	20.19	15.717	1.76	21.78	0.44
3.600	0.44	9.667	20.19	15.733	1.76	21.80	0.44
3.617	0.44	9.683	20.19	15.750	1.76	21.82	0.44
3.633	0.44	9.700	20.19	15.767	1.76	21.83	0.44
3.650	0.44	9.717	20.19	15.783	1.76	21.85	0.44
3.667	0.44	9.733	20.19	15.800	1.76	21.87	0.44
3.683	0.44	9.750	20.19	15.817	1.76	21.88	0.44
3.700	0.44	9.767	20.19	15.833	1.76	21.90	0.44
3.717	0.44	9.783	20.19	15.850	1.76	21.92	0.44
3.733	0.44	9.800	20.19	15.867	1.76	21.93	0.44
3.750	0.44	9.817	20.19	15.883	1.76	21.95	0.44
3.767	0.44	9.833	20.19	15.900	1.76	21.97	0.44
3.783	0.44	9.850	20.19	15.917	1.76	21.98	0.44
3.800	0.44	9.867	20.19	15.933	1.76	22.00	0.44
3.817	0.44	9.883	20.19	15.950	1.76	22.02	0.44
3.833	0.44	9.900	20.19	15.967	1.76	22.03	0.44
3.850	0.44	9.917	20.19	15.983	1.76	22.05	0.44
3.867	0.44	9.933	20.19	16.000	1.76	22.07	0.44
3.883	0.44	9.950	20.19	16.017	1.76	22.08	0.44
3.900	0.44	9.967	20.19	16.033	1.76	22.10	0.44
3.917	0.44	9.983	20.19	16.050	1.76	22.12	0.44
3.933	0.44	10.000	20.19	16.067	1.76	22.13	0.44
3.950	0.44	10.017	20.19	16.083	1.76	22.15	0.44
3.967	0.44	10.033	20.19	16.100	1.76	22.17	0.44
3.983	0.44	10.050	20.19	16.117	1.76	22.18	0.44
4.000	0.44	10.067	20.19	16.133	1.76	22.20	0.44
4.017	0.44	10.083	20.19	16.150	1.76	22.22	0.44
4.033	0.44	10.100	20.19	16.167	1.76	22.23	0.44
4.050	0.44	10.117	20.19	16.183	1.76	22.25	0.44
4.067	0.44	10.133	20.19	16.200	1.76	22.27	0.44
4.083	0.44	10.150	20.19	16.217	1.76	22.28	0.44
4.100	0.44	10.167	20.19	16.233	1.76	22.30	0.44
4.117	0.44	10.183	20.19	16.250	1.76	22.32	0.44
4.133	0.44	10.200	20.19	16.267	0.88	22.33	0.44
4.150	0.44	10.217	20.19	16.283	0.88	22.35	0.44
4.167	0.44	10.233	20.19	16.300	0.88	22.37	0.44
4.183	0.44	10.250	20.18	16.317	0.88	22.38	0.44
4.200	0.44	10.267	5.71	16.333	0.88	22.40	0.44
4.217	0.44	10.283	5.71	16.350	0.88	22.42	0.44
4.233	0.44	10.300	5.71	16.367	0.88	22.43	0.44
4.250	0.44	10.317	5.71	16.383	0.88	22.45	0.44
4.267	2.63	10.333	5.71	16.400	0.88	22.47	0.44
4.283	2.63	10.350	5.71	16.417	0.88	22.48	0.44
4.300	2.63	10.367	5.71	16.433	0.88	22.50	0.44
4.317	2.63	10.383	5.71	16.450	0.88	22.52	0.44
4.333	2.63	10.400	5.71	16.467	0.88	22.53	0.44
4.350	2.63	10.417	5.71	16.483	0.88	22.55	0.44
4.367	2.63	10.433	5.71	16.500	0.88	22.57	0.44
4.383	2.63	10.450	5.71	16.517	0.88	22.58	0.44
4.400	2.63	10.467	5.71	16.533	0.88	22.60	0.44
4.417	2.63	10.483	5.71	16.550	0.88	22.62	0.44
4.433	2.63	10.500	5.71	16.567	0.88	22.63	0.44
4.450	2.63	10.517	5.71	16.583	0.88	22.65	0.44
4.467	2.63	10.533	5.71	16.600	0.88	22.67	0.44
4.483	2.63	10.550	5.71	16.617	0.88	22.68	0.44
4.500	2.63	10.567	5.71	16.633	0.88	22.70	0.44
4.517	2.63	10.583	5.71	16.650	0.88	22.72	0.44
4.533	2.63	10.600	5.71	16.667	0.88	22.73	0.44
4.550	2.63	10.617	5.71	16.683	0.88	22.75	0.44
4.567	2.63	10.633	5.71	16.700	0.88	22.77	0.44
4.583	2.63	10.650	5.71	16.717	0.88	22.78	0.44
4.600	2.63	10.667	5.71	16.733	0.88	22.80	0.44
4.617	2.63	10.683	5.71	16.750	0.88	22.82	0.44
4.633	2.63	10.700	5.71	16.767	0.88	22.83	0.44
4.650	2.63	10.717	5.71	16.783	0.88	22.85	0.44
4.667	2.63	10.733	5.71	16.800	0.88	22.87	0.44
4.683	2.63	10.750	5.71	16.817	0.88	22.88	0.44
4.700	2.63	10.767	5.71	16.833	0.88	22.90	0.44
4.717	2.63	10.783	5.71	16.850	0.88	22.92	0.44
4.733	2.63	10.800	5.71	16.867	0.88	22.93	0.44
4.750	2.63	10.817	5.71	16.883	0.88	22.95	0.44
4.767	2.63	10.833	5.71	16.900	0.88	22.97	0.44
4.783	2.63	10.850	5.71	16.917	0.88	22.98	0.44
4.800	2.63	10.867	5.71	16.933	0.88	23.00	0.44
4.817	2.63	10.883	5.71	16.950	0.88	23.02	0.44
4.833	2.63	10.900	5.71	16.967	0.88	23.03	0.44
4.850	2.63	10.917	5.71	16.983	0.88	23.05	0.44
4.867	2.63	10.933	5.71	17.000	0.88	23.07	0.44
4.883	2.63	10.950	5.71	17.017	0.88	23.08	0.44
4.900	2.63	10.967	5.71	17.033	0.88	23.10	0.44
4.917	2.63	10.983	5.71	17.050	0.88	23.12	0.44
4.933	2.63	11.000	5.71	17.067	0.88	23.13	0.44
4.950	2.63	11.017	5.71	17.083	0.88	23.15	0.44
4.967	2.63	11.033	5.71	17.100	0.88	23.17	0.44

4.983	2.63	11.050	5.71	17.117	0.88	23.18	0.44
5.000	2.63	11.067	5.71	17.133	0.88	23.20	0.44
5.017	2.63	11.083	5.71	17.150	0.88	23.22	0.44
5.033	2.63	11.100	5.71	17.167	0.88	23.23	0.44
5.050	2.63	11.117	5.71	17.183	0.88	23.25	0.44
5.067	2.63	11.133	5.71	17.200	0.88	23.27	0.44
5.083	2.63	11.150	5.71	17.217	0.88	23.28	0.44
5.100	2.63	11.167	5.71	17.233	0.88	23.30	0.44
5.117	2.63	11.183	5.71	17.250	0.88	23.32	0.44
5.133	2.63	11.200	5.71	17.267	0.88	23.33	0.44
5.150	2.63	11.217	5.71	17.283	0.88	23.35	0.44
5.167	2.63	11.233	5.71	17.300	0.88	23.37	0.44
5.183	2.63	11.250	5.71	17.317	0.88	23.38	0.44
5.200	2.63	11.267	5.71	17.333	0.88	23.40	0.44
5.217	2.63	11.283	5.71	17.350	0.88	23.42	0.44
5.233	2.63	11.300	5.71	17.367	0.88	23.43	0.44
5.250	2.63	11.317	5.71	17.383	0.88	23.45	0.44
5.267	2.63	11.333	5.71	17.400	0.88	23.47	0.44
5.283	2.63	11.350	5.71	17.417	0.88	23.48	0.44
5.300	2.63	11.367	5.71	17.433	0.88	23.50	0.44
5.317	2.63	11.383	5.71	17.450	0.88	23.52	0.44
5.333	2.63	11.400	5.71	17.467	0.88	23.53	0.44
5.350	2.63	11.417	5.71	17.483	0.88	23.55	0.44
5.367	2.63	11.433	5.71	17.500	0.88	23.57	0.44
5.383	2.63	11.450	5.71	17.517	0.88	23.58	0.44
5.400	2.63	11.467	5.71	17.533	0.88	23.60	0.44
5.417	2.63	11.483	5.71	17.550	0.88	23.62	0.44
5.433	2.63	11.500	5.71	17.567	0.88	23.63	0.44
5.450	2.63	11.517	5.71	17.583	0.88	23.65	0.44
5.467	2.63	11.533	5.71	17.600	0.88	23.67	0.44
5.483	2.63	11.550	5.71	17.617	0.88	23.68	0.44
5.500	2.63	11.567	5.71	17.633	0.88	23.70	0.44
5.517	2.63	11.583	5.71	17.650	0.88	23.72	0.44
5.533	2.63	11.600	5.71	17.667	0.88	23.73	0.44
5.550	2.63	11.617	5.71	17.683	0.88	23.75	0.44
5.567	2.63	11.633	5.71	17.700	0.88	23.77	0.44
5.583	2.63	11.650	5.71	17.717	0.88	23.78	0.44
5.600	2.63	11.667	5.71	17.733	0.88	23.80	0.44
5.617	2.63	11.683	5.71	17.750	0.88	23.82	0.44
5.633	2.63	11.700	5.71	17.767	0.88	23.83	0.44
5.650	2.63	11.717	5.71	17.783	0.88	23.85	0.44
5.667	2.63	11.733	5.71	17.800	0.88	23.87	0.44
5.683	2.63	11.750	5.71	17.817	0.88	23.88	0.44
5.700	2.63	11.767	5.71	17.833	0.88	23.90	0.44
5.717	2.63	11.783	5.71	17.850	0.88	23.92	0.44
5.733	2.63	11.800	5.71	17.867	0.88	23.93	0.44
5.750	2.63	11.817	5.71	17.883	0.88	23.95	0.44
5.767	2.63	11.833	5.71	17.900	0.88	23.97	0.44
5.783	2.63	11.850	5.71	17.917	0.88	23.98	0.44
5.800	2.63	11.867	5.71	17.933	0.88	24.00	0.44
5.817	2.63	11.883	5.71	17.950	0.88	24.02	0.44
5.833	2.63	11.900	5.71	17.967	0.88	24.03	0.44
5.850	2.63	11.917	5.71	17.983	0.88	24.05	0.44
5.867	2.63	11.933	5.71	18.000	0.88	24.07	0.44
5.883	2.63	11.950	5.71	18.017	0.88	24.08	0.44
5.900	2.63	11.967	5.71	18.033	0.88	24.10	0.44
5.917	2.63	11.983	5.71	18.050	0.88	24.12	0.44
5.933	2.63	12.000	5.71	18.067	0.88	24.13	0.44
5.950	2.63	12.017	5.71	18.083	0.88	24.15	0.44
5.967	2.63	12.033	5.71	18.100	0.88	24.17	0.44
5.983	2.63	12.050	5.71	18.117	0.88	24.18	0.44
6.000	2.63	12.067	5.71	18.133	0.88	24.20	0.44
6.017	2.63	12.083	5.71	18.150	0.88	24.22	0.44
6.033	2.63	12.100	5.71	18.167	0.88	24.23	0.44
6.050	2.63	12.117	5.71	18.183	0.88	24.25	0.44
6.067	2.63	12.133	5.71	18.200	0.88		

Max.Eff.Inten.(mm/hr)=	20.19	16.43	
over (min)	6.00	10.00	
Storage Coeff. (min)=	6.46 (ii)	9.69 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.18	0.12	
			TOTALS
PEAK FLOW (cms)=	0.22	0.00	0.219 (iii)
TIME TO PEAK (hrs)=	9.98	10.25	10.25
RUNOFF VOLUME (mm)=	86.79	56.79	86.50
TOTAL RAINFALL (mm)=	87.80	87.80	87.80
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.219	10.25	86.50
OUTFLOW: ID= 1 (7632)	3.910	0.068	10.65	79.38

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.06
TIME SHIFT OF PEAK FLOW (min)= 24.00
MAXIMUM STORAGE USED (ha.m.)= 0.1938

CALIB			
STANDHYD (7641)	Area (ha)= 2.21		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)= 2.19	0.02	
Dep. Storage	(mm)= 1.00	1.50	
Average Slope	(%)= 1.00	0.50	
Length	(m)= 121.38	40.00	
Mannings n	= 0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.63	12.150	5.71	18.22	0.88
0.033	0.00	6.100	2.63	12.167	5.71	18.23	0.88
0.050	0.00	6.117	2.63	12.183	5.71	18.25	0.88
0.067	0.00	6.133	2.63	12.200	5.71	18.27	0.44
0.083	0.00	6.150	2.63	12.217	5.71	18.28	0.44
0.100	0.00	6.167	2.63	12.233	5.71	18.30	0.44
0.117	0.00	6.183	2.63	12.250	5.71	18.32	0.44
0.133	0.00	6.200	2.63	12.267	3.07	18.33	0.44
0.150	0.00	6.217	2.63	12.283	3.07	18.35	0.44
0.167	0.00	6.233	2.63	12.300	3.07	18.37	0.44
0.183	0.00	6.250	2.64	12.317	3.07	18.38	0.44
0.200	0.00	6.267	7.46	12.333	3.07	18.40	0.44
0.217	0.00	6.283	7.46	12.350	3.07	18.42	0.44
0.233	0.00	6.300	7.46	12.367	3.07	18.43	0.44
0.250	0.00	6.317	7.46	12.383	3.07	18.45	0.44
0.267	0.44	6.333	7.46	12.400	3.07	18.47	0.44
0.283	0.44	6.350	7.46	12.417	3.07	18.48	0.44
0.300	0.44	6.367	7.46	12.433	3.07	18.50	0.44
0.317	0.44	6.383	7.46	12.450	3.07	18.52	0.44
0.333	0.44	6.400	7.46	12.467	3.07	18.53	0.44
0.350	0.44	6.417	7.46	12.483	3.07	18.55	0.44
0.367	0.44	6.433	7.46	12.500	3.07	18.57	0.44
0.383	0.44	6.450	7.46	12.517	3.07	18.58	0.44
0.400	0.44	6.467	7.46	12.533	3.07	18.60	0.44
0.417	0.44	6.483	7.46	12.550	3.07	18.62	0.44
0.433	0.44	6.500	7.46	12.567	3.07	18.63	0.44
0.450	0.44	6.517	7.46	12.583	3.07	18.65	0.44

0.467	0.44	6.533	7.46	12.600	3.07	18.67	0.44
0.483	0.44	6.550	7.46	12.617	3.07	18.68	0.44
0.500	0.44	6.567	7.46	12.633	3.07	18.70	0.44
0.517	0.44	6.583	7.46	12.650	3.07	18.72	0.44
0.533	0.44	6.600	7.46	12.667	3.07	18.73	0.44
0.550	0.44	6.617	7.46	12.683	3.07	18.75	0.44
0.567	0.44	6.633	7.46	12.700	3.07	18.77	0.44
0.583	0.44	6.650	7.46	12.717	3.07	18.78	0.44
0.600	0.44	6.667	7.46	12.733	3.07	18.80	0.44
0.617	0.44	6.683	7.46	12.750	3.07	18.82	0.44
0.633	0.44	6.700	7.46	12.767	3.07	18.83	0.44
0.650	0.44	6.717	7.46	12.783	3.07	18.85	0.44
0.667	0.44	6.733	7.46	12.800	3.07	18.87	0.44
0.683	0.44	6.750	7.46	12.817	3.07	18.88	0.44
0.700	0.44	6.767	7.46	12.833	3.07	18.90	0.44
0.717	0.44	6.783	7.46	12.850	3.07	18.92	0.44
0.733	0.44	6.800	7.46	12.867	3.07	18.93	0.44
0.750	0.44	6.817	7.46	12.883	3.07	18.95	0.44
0.767	0.44	6.833	7.46	12.900	3.07	18.97	0.44
0.783	0.44	6.850	7.46	12.917	3.07	18.98	0.44
0.800	0.44	6.867	7.46	12.933	3.07	19.00	0.44
0.817	0.44	6.883	7.46	12.950	3.07	19.02	0.44
0.833	0.44	6.900	7.46	12.967	3.07	19.03	0.44
0.850	0.44	6.917	7.46	12.983	3.07	19.05	0.44
0.867	0.44	6.933	7.46	13.000	3.07	19.07	0.44
0.883	0.44	6.950	7.46	13.017	3.07	19.08	0.44
0.900	0.44	6.967	7.46	13.033	3.07	19.10	0.44
0.917	0.44	6.983	7.46	13.050	3.07	19.12	0.44
0.933	0.44	7.000	7.46	13.067	3.07	19.13	0.44
0.950	0.44	7.017	7.46	13.083	3.07	19.15	0.44
0.967	0.44	7.033	7.46	13.100	3.07	19.17	0.44
0.983	0.44	7.050	7.46	13.117	3.07	19.18	0.44
1.000	0.44	7.067	7.46	13.133	3.07	19.20	0.44
1.017	0.44	7.083	7.46	13.150	3.07	19.22	0.44
1.033	0.44	7.100	7.46	13.167	3.07	19.23	0.44
1.050	0.44	7.117	7.46	13.183	3.07	19.25	0.44
1.067	0.44	7.133	7.46	13.200	3.07	19.27	0.44
1.083	0.44	7.150	7.46	13.217	3.07	19.28	0.44
1.100	0.44	7.167	7.46	13.233	3.07	19.30	0.44
1.117	0.44	7.183	7.46	13.250	3.07	19.32	0.44
1.133	0.44	7.200	7.46	13.267	3.07	19.33	0.44
1.150	0.44	7.217	7.46	13.283	3.07	19.35	0.44
1.167	0.44	7.233	7.46	13.300	3.07	19.37	0.44
1.183	0.44	7.250	7.46	13.317	3.07	19.38	0.44
1.200	0.44	7.267	7.46	13.333	3.07	19.40	0.44
1.217	0.44	7.283	7.46	13.350	3.07	19.42	0.44
1.233	0.44	7.300	7.46	13.367	3.07	19.43	0.44
1.250	0.44	7.317	7.46	13.383	3.07	19.45	0.44
1.267	0.44	7.333	7.46	13.400	3.07	19.47	0.44
1.283	0.44	7.350	7.46	13.417	3.07	19.48	0.44
1.300	0.44	7.367	7.46	13.433	3.07	19.50	0.44
1.317	0.44	7.383	7.46	13.450	3.07	19.52	0.44
1.333	0.44	7.400	7.46	13.467	3.07	19.53	0.44
1.350	0.44	7.417	7.46	13.483	3.07	19.55	0.44
1.367	0.44	7.433	7.46	13.500	3.07	19.57	0.44
1.383	0.44	7.450	7.46	13.517	3.07	19.58	0.44
1.400	0.44	7.467	7.46	13.533	3.07	19.60	0.44
1.417	0.44	7.483	7.46	13.550	3.07	19.62	0.44
1.433	0.44	7.500	7.46	13.567	3.07	19.63	0.44
1.450	0.44	7.517	7.46	13.583	3.07	19.65	0.44
1.467	0.44	7.533	7.46	13.600	3.07	19.67	0.44
1.483	0.44	7.550	7.46	13.617	3.07	19.68	0.44
1.500	0.44	7.567	7.46	13.633	3.07	19.70	0.44
1.517	0.44	7.583	7.46	13.650	3.07	19.72	0.44
1.533	0.44	7.600	7.46	13.667	3.07	19.73	0.44
1.550	0.44	7.617	7.46	13.683	3.07	19.75	0.44
1.567	0.44	7.633	7.46	13.700	3.07	19.77	0.44
1.583	0.44	7.650	7.46	13.717	3.07	19.78	0.44
1.600	0.44	7.667	7.46	13.733	3.07	19.80	0.44
1.617	0.44	7.683	7.46	13.750	3.07	19.82	0.44
1.633	0.44	7.700	7.46	13.767	3.07	19.83	0.44
1.650	0.44	7.717	7.46	13.783	3.07	19.85	0.44
1.667	0.44	7.733	7.46	13.800	3.07	19.87	0.44
1.683	0.44	7.750	7.46	13.817	3.07	19.88	0.44
1.700	0.44	7.767	7.46	13.833	3.07	19.90	0.44
1.717	0.44	7.783	7.46	13.850	3.07	19.92	0.44
1.733	0.44	7.800	7.46	13.867	3.07	19.93	0.44
1.750	0.44	7.817	7.46	13.883	3.07	19.95	0.44
1.767	0.44	7.833	7.46	13.900	3.07	19.97	0.44
1.783	0.44	7.850	7.46	13.917	3.07	19.98	0.44
1.800	0.44	7.867	7.46	13.933	3.07	20.00	0.44
1.817	0.44	7.883	7.46	13.950	3.07	20.02	0.44
1.833	0.44	7.900	7.46	13.967	3.07	20.03	0.44
1.850	0.44	7.917	7.46	13.983	3.07	20.05	0.44
1.867	0.44	7.933	7.46	14.000	3.07	20.07	0.44
1.883	0.44	7.950	7.46	14.017	3.07	20.08	0.44
1.900	0.44	7.967	7.46	14.033	3.07	20.10	0.44
1.917	0.44	7.983	7.46	14.050	3.07	20.12	0.44
1.933	0.44	8.000	7.46	14.067	3.07	20.13	0.44
1.950	0.44	8.017	7.46	14.083	3.07	20.15	0.44
1.967	0.44	8.033	7.46	14.100	3.07	20.17	0.44
1.983	0.44	8.050	7.46	14.117	3.07	20.18	0.44
2.000	0.44	8.067	7.46	14.133	3.07	20.20	0.44
2.017	0.44	8.083	7.46	14.150	3.07	20.22	0.44
2.033	0.44	8.100	7.46	14.167	3.07	20.23	0.44
2.050	0.44	8.117	7.46	14.183	3.07	20.25	0.44
2.067	0.44	8.133	7.46	14.200	3.07	20.27	0.44
2.083	0.44	8.150	7.46	14.217	3.07	20.28	0.44
2.100	0.44	8.167	7.46	14.233	3.07	20.30	0.44
2.117	0.44	8.183	7.46	14.250	3.07	20.32	0.44
2.133	0.44	8.200	7.46	14.267	1.76	20.33	0.44
2.150	0.44	8.217	7.46	14.283	1.76	20.35	0.44
2.167	0.44	8.233	7.46	14.300	1.76	20.37	0.44
2.183	0.44	8.250	7.49	14.317	1.76	20.38	0.44
2.200	0.44	8.267	20.19	14.333	1.76	20.40	0.44
2.217	0.44	8.283	20.19	14.350	1.76	20.42	0.44
2.233	0.44	8.300	20.19	14.367	1.76	20.43	0.44
2.250	0.44	8.317	20.19	14.383	1.76	20.45	0.44
2.267	0.44	8.333	20.19	14.400	1.76	20.47	0.44
2.283	0.44	8.350	20.19	14.417	1.76	20.48	0.44
2.300	0.44	8.367	20.19	14.433	1.76	20.50	0.44
2.317	0.44	8.383	20.19	14.450	1.76	20.52	0.44
2.333	0.44	8.400	20.19	14.467	1.76	20.53	0.44
2.350	0.44	8.417	20.19	14.483	1.76	20.55	0.44
2.367	0.44	8.433	20.19	14.500	1.76	20.57	0.44
2.383	0.44	8.450	20.19	14.517	1.76	20.58	0.44
2.400	0.44	8.467	20.19	14.533	1.76	20.60	0.44
2.417	0.44	8.483	20.19	14.550	1.76	20.62	0.44
2.433	0.44	8.500	20.19	14.567	1.76	20.63	0.44
2.450	0.44	8.517	20.19	14.583	1.76	20.65	0.44
2.467	0.44	8.533	20.19	14.600	1.76	20.67	0.44
2.483	0.44	8.550	20.19	14.617	1.76	20.68	0.44
2.500	0.44	8.567	20.19	14.633	1.76	20.70	0.44
2.517	0.44	8.583	20.19	14.650	1.76	20.72	0.44
2.533	0.44	8.600	20.19	14.667	1.76	20.73	0.44
2.550	0.44	8.617	20.19	14.683	1.76	20.75	0.44
2.567	0.44	8.633	20.19	14.700	1.76	20.77	0.44
2.583	0.44	8.650	20.19	14.717	1.76	20.78	0.44
2.600	0.44	8.667	20.19	14.733	1.76	20.80	0.44
2.617	0.44	8.683	20.19	14.750	1.76	20.82	0.44
2.633	0.44	8.700	20.19	14.767	1.76	20.83	0.44
2.650	0.44	8.717	20.19	14.783	1.76	20.85	0.44
2.667	0.44	8.733	20.19	14.800	1.76	20.87	0.44
2.683	0.44	8.750	20.19	14.817	1.76	20.88	0.44
2.700	0.44	8.767	20.19	14.833	1.76	20.90	0.44
2.717	0.44	8.783	20.19	14.850	1.76	20.92	0.44
2.733	0.44	8.800	20.19	14.867	1.76	20.93	0.44
2.750	0.44	8.817	20.19	14.883	1.76	20.95	0.44
2.767	0.44	8.833	20.19	14.900	1.76	20.97	0.44
2.783	0.44	8.850	20.19	14.917	1.76	20.98	0.44
2.800	0.44	8.867	20.19	14.933	1.76	21.00	0.44
2.817	0.44	8.883	20.19	14.950	1.76	21.02	0.44
2.833	0.44	8.900	20.19	14.967	1.76	21.03	0.44
2.850	0.44	8.917	20.19	14.983	1.76	21.05	0.44
2.867	0.44	8.933	20.19	15.000	1.76	21.07	0.44
2.883	0.44	8.950	20.19	15.017	1.76	21.08	0.44
2.900	0.44	8.967	20.19	15.033	1.76	21.10	0.44
2.917	0.44	8.983	20.19	15.050	1.76	21.12	0.44
2.933	0.44	9.000	20.19	15.067	1.76	21.13	0.44
2.950	0.44	9.017	20.19	15.083	1.76	21.15	0.44
2.967	0.44	9.033	20.19	15.100	1.76	21.17	0.44
2.983	0.44	9.050	20.19	15.117	1.76	21.18	0.44

3.000	0.44	9.067	20.19	15.133	1.76	21.20	0.44	4.267	2.63	10.333	5.71	16.400	0.88	22.47	0.44
3.017	0.44	9.083	20.19	15.150	1.76	21.22	0.44	4.283	2.63	10.350	5.71	16.417	0.88	22.48	0.44
3.033	0.44	9.100	20.19	15.167	1.76	21.23	0.44	4.300	2.63	10.367	5.71	16.433	0.88	22.50	0.44
3.050	0.44	9.117	20.19	15.183	1.76	21.25	0.44	4.317	2.63	10.383	5.71	16.450	0.88	22.52	0.44
3.067	0.44	9.133	20.19	15.200	1.76	21.27	0.44	4.333	2.63	10.400	5.71	16.467	0.88	22.53	0.44
3.083	0.44	9.150	20.19	15.217	1.76	21.28	0.44	4.350	2.63	10.417	5.71	16.483	0.88	22.55	0.44
3.100	0.44	9.167	20.19	15.233	1.76	21.30	0.44	4.367	2.63	10.433	5.71	16.500	0.88	22.57	0.44
3.117	0.44	9.183	20.19	15.250	1.76	21.32	0.44	4.383	2.63	10.450	5.71	16.517	0.88	22.58	0.44
3.133	0.44	9.200	20.19	15.267	1.76	21.33	0.44	4.400	2.63	10.467	5.71	16.533	0.88	22.60	0.44
3.150	0.44	9.217	20.19	15.283	1.76	21.35	0.44	4.417	2.63	10.483	5.71	16.550	0.88	22.62	0.44
3.167	0.44	9.233	20.19	15.300	1.76	21.37	0.44	4.433	2.63	10.500	5.71	16.567	0.88	22.63	0.44
3.183	0.44	9.250	20.19	15.317	1.76	21.38	0.44	4.450	2.63	10.517	5.71	16.583	0.88	22.65	0.44
3.200	0.44	9.267	20.19	15.333	1.76	21.40	0.44	4.467	2.63	10.533	5.71	16.600	0.88	22.67	0.44
3.217	0.44	9.283	20.19	15.350	1.76	21.42	0.44	4.483	2.63	10.550	5.71	16.617	0.88	22.68	0.44
3.233	0.44	9.300	20.19	15.367	1.76	21.43	0.44	4.500	2.63	10.567	5.71	16.633	0.88	22.70	0.44
3.250	0.44	9.317	20.19	15.383	1.76	21.45	0.44	4.517	2.63	10.583	5.71	16.650	0.88	22.72	0.44
3.267	0.44	9.333	20.19	15.400	1.76	21.47	0.44	4.533	2.63	10.600	5.71	16.667	0.88	22.73	0.44
3.283	0.44	9.350	20.19	15.417	1.76	21.48	0.44	4.550	2.63	10.617	5.71	16.683	0.88	22.75	0.44
3.300	0.44	9.367	20.19	15.433	1.76	21.50	0.44	4.567	2.63	10.633	5.71	16.700	0.88	22.77	0.44
3.317	0.44	9.383	20.19	15.450	1.76	21.52	0.44	4.583	2.63	10.650	5.71	16.717	0.88	22.78	0.44
3.333	0.44	9.400	20.19	15.467	1.76	21.53	0.44	4.600	2.63	10.667	5.71	16.733	0.88	22.80	0.44
3.350	0.44	9.417	20.19	15.483	1.76	21.55	0.44	4.617	2.63	10.683	5.71	16.750	0.88	22.82	0.44
3.367	0.44	9.433	20.19	15.500	1.76	21.57	0.44	4.633	2.63	10.700	5.71	16.767	0.88	22.83	0.44
3.383	0.44	9.450	20.19	15.517	1.76	21.58	0.44	4.650	2.63	10.717	5.71	16.783	0.88	22.85	0.44
3.400	0.44	9.467	20.19	15.533	1.76	21.60	0.44	4.667	2.63	10.733	5.71	16.800	0.88	22.87	0.44
3.417	0.44	9.483	20.19	15.550	1.76	21.62	0.44	4.683	2.63	10.750	5.71	16.817	0.88	22.88	0.44
3.433	0.44	9.500	20.19	15.567	1.76	21.63	0.44	4.700	2.63	10.767	5.71	16.833	0.88	22.90	0.44
3.450	0.44	9.517	20.19	15.583	1.76	21.65	0.44	4.717	2.63	10.783	5.71	16.850	0.88	22.92	0.44
3.467	0.44	9.533	20.19	15.600	1.76	21.67	0.44	4.733	2.63	10.800	5.71	16.867	0.88	22.93	0.44
3.483	0.44	9.550	20.19	15.617	1.76	21.68	0.44	4.750	2.63	10.817	5.71	16.883	0.88	22.95	0.44
3.500	0.44	9.567	20.19	15.633	1.76	21.70	0.44	4.767	2.63	10.833	5.71	16.900	0.88	22.97	0.44
3.517	0.44	9.583	20.19	15.650	1.76	21.72	0.44	4.783	2.63	10.850	5.71	16.917	0.88	22.98	0.44
3.533	0.44	9.600	20.19	15.667	1.76	21.73	0.44	4.800	2.63	10.867	5.71	16.933	0.88	23.00	0.44
3.550	0.44	9.617	20.19	15.683	1.76	21.75	0.44	4.817	2.63	10.883	5.71	16.950	0.88	23.02	0.44
3.567	0.44	9.633	20.19	15.700	1.76	21.77	0.44	4.833	2.63	10.900	5.71	16.967	0.88	23.03	0.44
3.583	0.44	9.650	20.19	15.717	1.76	21.78	0.44	4.850	2.63	10.917	5.71	16.983	0.88	23.05	0.44
3.600	0.44	9.667	20.19	15.733	1.76	21.80	0.44	4.867	2.63	10.933	5.71	17.000	0.88	23.07	0.44
3.617	0.44	9.683	20.19	15.750	1.76	21.82	0.44	4.883	2.63	10.950	5.71	17.017	0.88	23.08	0.44
3.633	0.44	9.700	20.19	15.767	1.76	21.83	0.44	4.900	2.63	10.967	5.71	17.033	0.88	23.10	0.44
3.650	0.44	9.717	20.19	15.783	1.76	21.85	0.44	4.917	2.63	10.983	5.71	17.050	0.88	23.12	0.44
3.667	0.44	9.733	20.19	15.800	1.76	21.87	0.44	4.933	2.63	11.000	5.71	17.067	0.88	23.13	0.44
3.683	0.44	9.750	20.19	15.817	1.76	21.88	0.44	4.950	2.63	11.017	5.71	17.083	0.88	23.15	0.44
3.700	0.44	9.767	20.19	15.833	1.76	21.90	0.44	4.967	2.63	11.033	5.71	17.100	0.88	23.17	0.44
3.717	0.44	9.783	20.19	15.850	1.76	21.92	0.44	4.983	2.63	11.050	5.71	17.117	0.88	23.18	0.44
3.733	0.44	9.800	20.19	15.867	1.76	21.93	0.44	5.000	2.63	11.067	5.71	17.133	0.88	23.20	0.44
3.750	0.44	9.817	20.19	15.883	1.76	21.95	0.44	5.017	2.63	11.083	5.71	17.150	0.88	23.22	0.44
3.767	0.44	9.833	20.19	15.900	1.76	21.97	0.44	5.033	2.63	11.100	5.71	17.167	0.88	23.23	0.44
3.783	0.44	9.850	20.19	15.917	1.76	21.98	0.44	5.050	2.63	11.117	5.71	17.183	0.88	23.25	0.44
3.800	0.44	9.867	20.19	15.933	1.76	22.00	0.44	5.067	2.63	11.133	5.71	17.200	0.88	23.27	0.44
3.817	0.44	9.883	20.19	15.950	1.76	22.02	0.44	5.083	2.63	11.150	5.71	17.217	0.88	23.28	0.44
3.833	0.44	9.900	20.19	15.967	1.76	22.03	0.44	5.100	2.63	11.167	5.71	17.233	0.88	23.30	0.44
3.850	0.44	9.917	20.19	15.983	1.76	22.05	0.44	5.117	2.63	11.183	5.71	17.250	0.88	23.32	0.44
3.867	0.44	9.933	20.19	16.000	1.76	22.07	0.44	5.133	2.63	11.200	5.71	17.267	0.88	23.33	0.44
3.883	0.44	9.950	20.19	16.017	1.76	22.08	0.44	5.150	2.63	11.217	5.71	17.283	0.88	23.35	0.44
3.900	0.44	9.967	20.19	16.033	1.76	22.10	0.44	5.167	2.63	11.233	5.71	17.300	0.88	23.37	0.44
3.917	0.44	9.983	20.19	16.050	1.76	22.12	0.44	5.183	2.63	11.250	5.71	17.317	0.88	23.38	0.44
3.933	0.44	10.000	20.19	16.067	1.76	22.13	0.44	5.200	2.63	11.267	5.71	17.333	0.88	23.40	0.44
3.950	0.44	10.017	20.19	16.083	1.76	22.15	0.44	5.217	2.63	11.283	5.71	17.350	0.88	23.42	0.44
3.967	0.44	10.033	20.19	16.100	1.76	22.17	0.44	5.233	2.63	11.300	5.71	17.367	0.88	23.43	0.44
3.983	0.44	10.050	20.19	16.117	1.76	22.18	0.44	5.250	2.63	11.317	5.71	17.383	0.88	23.45	0.44
4.000	0.44	10.067	20.19	16.133	1.76	22.20	0.44	5.267	2.63	11.333	5.71	17.400	0.88	23.47	0.44
4.017	0.44	10.083	20.19	16.150	1.76	22.22	0.44	5.283	2.63	11.350	5.71	17.417	0.88	23.48	0.44
4.033	0.44	10.100	20.19	16.167	1.76	22.23	0.44	5.300	2.63	11.367	5.71	17.433	0.88	23.50	0.44
4.050	0.44	10.117	20.19	16.183	1.76	22.25	0.44	5.317	2.63	11.383	5.71	17.450	0.88	23.52	0.44
4.067	0.44	10.133	20.19	16.200	1.76	22.27	0.44	5.333	2.63	11.400	5.71	17.467	0.88	23.53	0.44
4.083	0.44	10.150	20.19	16.217	1.76	22.28	0.44	5.350	2.63	11.417	5.71	17.483	0.88	23.55	0.44
4.100	0.44	10.167	20.19	16.233	1.76	22.30	0.44	5.367	2.63	11.433	5.71	17.500	0.88	23.57	0.44
4.117	0.44	10.183	20.19	16.250	1.76	22.32	0.44	5.383	2.63	11.450	5.71	17.517	0.88	23.58	0.44
4.133	0.44	10.200	20.19	16.267	0.88	22.33	0.44	5.400	2.63	11.467	5.71	17.533	0.88	23.60	0.44
4.150	0.44	10.217	20.19	16.283	0.88	22.35	0.44	5.417	2.63	11.483	5.71	17.550	0.88	23.62	0.44
4.167	0.44	10.233	20.19	16.300	0.88	22.37	0.44	5.433	2.63	11.500	5.71	17.567	0.88	23.63	0.44
4.183	0.44	10.250	20.18	16.317	0.88	22.38	0.44	5.450	2.63	11.517	5.71	17.583	0.88	23.65	0.44
4.200	0.44	10.267	5.71	16.333	0.88	22.40	0.44	5.467	2.63	11.533	5.71	17.600	0.88	23.67	0.44
4.217	0.44	10.283	5.71	16.350	0.88	22.42	0.44	5.483	2.63	11.550	5.71	17.617	0.88	23.68	0.44
4.233	0.44	10.300	5.71	16.367	0.88	22.43	0.44	5.500	2.63	11.567	5.71	17.633	0.88	23.70	0.44
4.250	0.44	10.317	5.71	16.383	0.88	22.45	0.44	5.517	2.63	11.583	5.71	17.650	0.88	23.72	0.44

5.533	2.63	11.600	5.71	17.667	0.88	23.73	0.44
5.550	2.63	11.617	5.71	17.683	0.88	23.75	0.44
5.567	2.63	11.633	5.71	17.700	0.88	23.77	0.44
5.583	2.63	11.650	5.71	17.717	0.88	23.78	0.44
5.600	2.63	11.667	5.71	17.733	0.88	23.80	0.44
5.617	2.63	11.683	5.71	17.750	0.88	23.82	0.44
5.633	2.63	11.700	5.71	17.767	0.88	23.83	0.44
5.650	2.63	11.717	5.71	17.783	0.88	23.85	0.44
5.667	2.63	11.733	5.71	17.800	0.88	23.87	0.44
5.683	2.63	11.750	5.71	17.817	0.88	23.88	0.44
5.700	2.63	11.767	5.71	17.833	0.88	23.90	0.44
5.717	2.63	11.783	5.71	17.850	0.88	23.92	0.44
5.733	2.63	11.800	5.71	17.867	0.88	23.93	0.44
5.750	2.63	11.817	5.71	17.883	0.88	23.95	0.44
5.767	2.63	11.833	5.71	17.900	0.88	23.97	0.44
5.783	2.63	11.850	5.71	17.917	0.88	23.98	0.44
5.800	2.63	11.867	5.71	17.933	0.88	24.00	0.44
5.817	2.63	11.883	5.71	17.950	0.88	24.02	0.44
5.833	2.63	11.900	5.71	17.967	0.88	24.03	0.44
5.850	2.63	11.917	5.71	17.983	0.88	24.05	0.44
5.867	2.63	11.933	5.71	18.000	0.88	24.07	0.44
5.883	2.63	11.950	5.71	18.017	0.88	24.08	0.44
5.900	2.63	11.967	5.71	18.033	0.88	24.10	0.44
5.917	2.63	11.983	5.71	18.050	0.88	24.12	0.44
5.933	2.63	12.000	5.71	18.067	0.88	24.13	0.44
5.950	2.63	12.017	5.71	18.083	0.88	24.15	0.44
5.967	2.63	12.033	5.71	18.100	0.88	24.17	0.44
5.983	2.63	12.050	5.71	18.117	0.88	24.18	0.44
6.000	2.63	12.067	5.71	18.133	0.88	24.20	0.44
6.017	2.63	12.083	5.71	18.150	0.88	24.22	0.44
6.033	2.63	12.100	5.71	18.167	0.88	24.23	0.44
6.050	2.63	12.117	5.71	18.183	0.88	24.25	0.44
6.067	2.63	12.133	5.71	18.200	0.88		

Max.Eff.Inten.(mm/hr)=	20.19	16.43	
over (min)	5.00	9.00	
Storage Coeff. (min)=	5.44 (ii)	8.67 (ii)	
Unit Hyd. Tpeak (min)=	5.00	9.00	
Unit Hyd. peak (cms)=	0.21	0.13	
			TOTALS
PEAK FLOW (cms)=	0.12	0.00	0.124 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.23
RUNOFF VOLUME (mm)=	86.79	56.80	86.50
TOTAL RAINFALL (mm)=	87.80	87.80	87.80
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 1.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.0470	0.1250
		0.0197	0.0630	0.0551	0.1410
		0.0304	0.0850	0.0620	0.1580
		0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.124	10.23	86.50
OUTFLOW: ID= 1 (7642)	2.210	0.040	10.55	80.29

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.30
TIME SHIFT OF PEAK FLOW (min)= 19.00
MAXIMUM STORAGE USED (ha.m.)= 0.1083

CALIB

STANDHYD (7643)	Area (ha)= 2.02
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.63	12.150	5.71	18.22	0.88
0.033	0.00	6.100	2.63	12.167	5.71	18.23	0.88
0.050	0.00	6.117	2.63	12.183	5.71	18.25	0.88
0.067	0.00	6.133	2.63	12.200	5.71	18.27	0.44
0.083	0.00	6.150	2.63	12.217	5.71	18.28	0.44
0.100	0.00	6.167	2.63	12.233	5.71	18.30	0.44
0.117	0.00	6.183	2.63	12.250	5.71	18.32	0.44
0.133	0.00	6.200	2.63	12.267	3.07	18.33	0.44
0.150	0.00	6.217	2.63	12.283	3.07	18.35	0.44
0.167	0.00	6.233	2.63	12.300	3.07	18.37	0.44
0.183	0.00	6.250	2.64	12.317	3.07	18.38	0.44
0.200	0.00	6.267	7.46	12.333	3.07	18.40	0.44
0.217	0.00	6.283	7.46	12.350	3.07	18.42	0.44
0.233	0.00	6.300	7.46	12.367	3.07	18.43	0.44
0.250	0.00	6.317	7.46	12.383	3.07	18.45	0.44
0.267	0.44	6.333	7.46	12.400	3.07	18.47	0.44
0.283	0.44	6.350	7.46	12.417	3.07	18.48	0.44
0.300	0.44	6.367	7.46	12.433	3.07	18.50	0.44
0.317	0.44	6.383	7.46	12.450	3.07	18.52	0.44
0.333	0.44	6.400	7.46	12.467	3.07	18.53	0.44
0.350	0.44	6.417	7.46	12.483	3.07	18.55	0.44
0.367	0.44	6.433	7.46	12.500	3.07	18.57	0.44
0.383	0.44	6.450	7.46	12.517	3.07	18.58	0.44
0.400	0.44	6.467	7.46	12.533	3.07	18.60	0.44
0.417	0.44	6.483	7.46	12.550	3.07	18.62	0.44
0.433	0.44	6.500	7.46	12.567	3.07	18.63	0.44
0.450	0.44	6.517	7.46	12.583	3.07	18.65	0.44
0.467	0.44	6.533	7.46	12.600	3.07	18.67	0.44
0.483	0.44	6.550	7.46	12.617	3.07	18.68	0.44
0.500	0.44	6.567	7.46	12.633	3.07	18.70	0.44
0.517	0.44	6.583	7.46	12.650	3.07	18.72	0.44
0.533	0.44	6.600	7.46	12.667	3.07	18.73	0.44
0.550	0.44	6.617	7.46	12.683	3.07	18.75	0.44
0.567	0.44	6.633	7.46	12.700	3.07	18.77	0.44
0.583	0.44	6.650	7.46	12.717	3.07	18.78	0.44
0.600	0.44	6.667	7.46	12.733	3.07	18.80	0.44
0.617	0.44	6.683	7.46	12.750	3.07	18.82	0.44
0.633	0.44	6.700	7.46	12.767	3.07	18.83	0.44
0.650	0.44	6.717	7.46	12.783	3.07	18.85	0.44
0.667	0.44	6.733	7.46	12.800	3.07	18.87	0.44
0.683	0.44	6.750	7.46	12.817	3.07	18.88	0.44
0.700	0.44	6.767	7.46	12.833	3.07	18.90	0.44
0.717	0.44	6.783	7.46	12.850	3.07	18.92	0.44
0.733	0.44	6.800	7.46	12.867	3.07	18.93	0.44
0.750	0.44	6.817	7.46	12.883	3.07	18.95	0.44
0.767	0.44	6.833	7.46	12.900	3.07	18.97	0.44
0.783	0.44	6.850	7.46	12.917	3.07	18.98	0.44
0.800	0.44	6.867	7.46	12.933	3.07	19.00	0.44
0.817	0.44	6.883	7.46	12.950	3.07	19.02	0.44
0.833	0.44	6.900	7.46	12.967	3.07	19.03	0.44
0.850	0.44	6.917	7.46	12.983	3.07	19.05	0.44
0.867	0.44	6.933	7.46	13.000	3.07	19.07	0.44
0.883	0.44	6.950	7.46	13.017	3.07	19.08	0.44
0.900	0.44	6.967	7.46	13.033	3.07	19.10	0.44
0.917	0.44	6.983	7.46	13.050	3.07	19.12	0.44
0.933	0.44	7.000	7.46	13.067	3.07	19.13	0.44
0.950	0.44	7.017	7.46	13.083	3.07	19.15	0.44
0.967	0.44	7.033	7.46	13.100	3.07	19.17	0.44
0.983	0.44	7.050	7.46	13.117	3.07	19.18	0.44
1.000	0.44	7.067	7.46	13.133	3.07	19.20	0.44

1.017	0.44	7.083	7.46	13.150	3.07	19.22	0.44	2.283	0.44	8.350	20.19	14.417	1.76	20.48	0.44
1.033	0.44	7.100	7.46	13.167	3.07	19.23	0.44	2.300	0.44	8.367	20.19	14.433	1.76	20.50	0.44
1.050	0.44	7.117	7.46	13.183	3.07	19.25	0.44	2.317	0.44	8.383	20.19	14.450	1.76	20.52	0.44
1.067	0.44	7.133	7.46	13.200	3.07	19.27	0.44	2.333	0.44	8.400	20.19	14.467	1.76	20.53	0.44
1.083	0.44	7.150	7.46	13.217	3.07	19.28	0.44	2.350	0.44	8.417	20.19	14.483	1.76	20.55	0.44
1.100	0.44	7.167	7.46	13.233	3.07	19.30	0.44	2.367	0.44	8.433	20.19	14.500	1.76	20.57	0.44
1.117	0.44	7.183	7.46	13.250	3.07	19.32	0.44	2.383	0.44	8.450	20.19	14.517	1.76	20.58	0.44
1.133	0.44	7.200	7.46	13.267	3.07	19.33	0.44	2.400	0.44	8.467	20.19	14.533	1.76	20.60	0.44
1.150	0.44	7.217	7.46	13.283	3.07	19.35	0.44	2.417	0.44	8.483	20.19	14.550	1.76	20.62	0.44
1.167	0.44	7.233	7.46	13.300	3.07	19.37	0.44	2.433	0.44	8.500	20.19	14.567	1.76	20.63	0.44
1.183	0.44	7.250	7.46	13.317	3.07	19.38	0.44	2.450	0.44	8.517	20.19	14.583	1.76	20.65	0.44
1.200	0.44	7.267	7.46	13.333	3.07	19.40	0.44	2.467	0.44	8.533	20.19	14.600	1.76	20.67	0.44
1.217	0.44	7.283	7.46	13.350	3.07	19.42	0.44	2.483	0.44	8.550	20.19	14.617	1.76	20.68	0.44
1.233	0.44	7.300	7.46	13.367	3.07	19.43	0.44	2.500	0.44	8.567	20.19	14.633	1.76	20.70	0.44
1.250	0.44	7.317	7.46	13.383	3.07	19.45	0.44	2.517	0.44	8.583	20.19	14.650	1.76	20.72	0.44
1.267	0.44	7.333	7.46	13.400	3.07	19.47	0.44	2.533	0.44	8.600	20.19	14.667	1.76	20.73	0.44
1.283	0.44	7.350	7.46	13.417	3.07	19.48	0.44	2.550	0.44	8.617	20.19	14.683	1.76	20.75	0.44
1.300	0.44	7.367	7.46	13.433	3.07	19.50	0.44	2.567	0.44	8.633	20.19	14.700	1.76	20.77	0.44
1.317	0.44	7.383	7.46	13.450	3.07	19.52	0.44	2.583	0.44	8.650	20.19	14.717	1.76	20.78	0.44
1.333	0.44	7.400	7.46	13.467	3.07	19.53	0.44	2.600	0.44	8.667	20.19	14.733	1.76	20.80	0.44
1.350	0.44	7.417	7.46	13.483	3.07	19.55	0.44	2.617	0.44	8.683	20.19	14.750	1.76	20.82	0.44
1.367	0.44	7.433	7.46	13.500	3.07	19.57	0.44	2.633	0.44	8.700	20.19	14.767	1.76	20.83	0.44
1.383	0.44	7.450	7.46	13.517	3.07	19.58	0.44	2.650	0.44	8.717	20.19	14.783	1.76	20.85	0.44
1.400	0.44	7.467	7.46	13.533	3.07	19.60	0.44	2.667	0.44	8.733	20.19	14.800	1.76	20.87	0.44
1.417	0.44	7.483	7.46	13.550	3.07	19.62	0.44	2.683	0.44	8.750	20.19	14.817	1.76	20.88	0.44
1.433	0.44	7.500	7.46	13.567	3.07	19.63	0.44	2.700	0.44	8.767	20.19	14.833	1.76	20.90	0.44
1.450	0.44	7.517	7.46	13.583	3.07	19.65	0.44	2.717	0.44	8.783	20.19	14.850	1.76	20.92	0.44
1.467	0.44	7.533	7.46	13.600	3.07	19.67	0.44	2.733	0.44	8.800	20.19	14.867	1.76	20.93	0.44
1.483	0.44	7.550	7.46	13.617	3.07	19.68	0.44	2.750	0.44	8.817	20.19	14.883	1.76	20.95	0.44
1.500	0.44	7.567	7.46	13.633	3.07	19.70	0.44	2.767	0.44	8.833	20.19	14.900	1.76	20.97	0.44
1.517	0.44	7.583	7.46	13.650	3.07	19.72	0.44	2.783	0.44	8.850	20.19	14.917	1.76	20.98	0.44
1.533	0.44	7.600	7.46	13.667	3.07	19.73	0.44	2.800	0.44	8.867	20.19	14.933	1.76	21.00	0.44
1.550	0.44	7.617	7.46	13.683	3.07	19.75	0.44	2.817	0.44	8.883	20.19	14.950	1.76	21.02	0.44
1.567	0.44	7.633	7.46	13.700	3.07	19.77	0.44	2.833	0.44	8.900	20.19	14.967	1.76	21.03	0.44
1.583	0.44	7.650	7.46	13.717	3.07	19.78	0.44	2.850	0.44	8.917	20.19	14.983	1.76	21.05	0.44
1.600	0.44	7.667	7.46	13.733	3.07	19.80	0.44	2.867	0.44	8.933	20.19	15.000	1.76	21.07	0.44
1.617	0.44	7.683	7.46	13.750	3.07	19.82	0.44	2.883	0.44	8.950	20.19	15.017	1.76	21.08	0.44
1.633	0.44	7.700	7.46	13.767	3.07	19.83	0.44	2.900	0.44	8.967	20.19	15.033	1.76	21.10	0.44
1.650	0.44	7.717	7.46	13.783	3.07	19.85	0.44	2.917	0.44	8.983	20.19	15.050	1.76	21.12	0.44
1.667	0.44	7.733	7.46	13.800	3.07	19.87	0.44	2.933	0.44	9.000	20.19	15.067	1.76	21.13	0.44
1.683	0.44	7.750	7.46	13.817	3.07	19.88	0.44	2.950	0.44	9.017	20.19	15.083	1.76	21.15	0.44
1.700	0.44	7.767	7.46	13.833	3.07	19.90	0.44	2.967	0.44	9.033	20.19	15.100	1.76	21.17	0.44
1.717	0.44	7.783	7.46	13.850	3.07	19.92	0.44	2.983	0.44	9.050	20.19	15.117	1.76	21.18	0.44
1.733	0.44	7.800	7.46	13.867	3.07	19.93	0.44	3.000	0.44	9.067	20.19	15.133	1.76	21.20	0.44
1.750	0.44	7.817	7.46	13.883	3.07	19.95	0.44	3.017	0.44	9.083	20.19	15.150	1.76	21.22	0.44
1.767	0.44	7.833	7.46	13.900	3.07	19.97	0.44	3.033	0.44	9.100	20.19	15.167	1.76	21.23	0.44
1.783	0.44	7.850	7.46	13.917	3.07	19.98	0.44	3.050	0.44	9.117	20.19	15.183	1.76	21.25	0.44
1.800	0.44	7.867	7.46	13.933	3.07	20.00	0.44	3.067	0.44	9.133	20.19	15.200	1.76	21.27	0.44
1.817	0.44	7.883	7.46	13.950	3.07	20.02	0.44	3.083	0.44	9.150	20.19	15.217	1.76	21.28	0.44
1.833	0.44	7.900	7.46	13.967	3.07	20.03	0.44	3.100	0.44	9.167	20.19	15.233	1.76	21.30	0.44
1.850	0.44	7.917	7.46	13.983	3.07	20.05	0.44	3.117	0.44	9.183	20.19	15.250	1.76	21.32	0.44
1.867	0.44	7.933	7.46	14.000	3.07	20.07	0.44	3.133	0.44	9.200	20.19	15.267	1.76	21.33	0.44
1.883	0.44	7.950	7.46	14.017	3.07	20.08	0.44	3.150	0.44	9.217	20.19	15.283	1.76	21.35	0.44
1.900	0.44	7.967	7.46	14.033	3.07	20.10	0.44	3.167	0.44	9.233	20.19	15.300	1.76	21.37	0.44
1.917	0.44	7.983	7.46	14.050	3.07	20.12	0.44	3.183	0.44	9.250	20.19	15.317	1.76	21.38	0.44
1.933	0.44	8.000	7.46	14.067	3.07	20.13	0.44	3.200	0.44	9.267	20.19	15.333	1.76	21.40	0.44
1.950	0.44	8.017	7.46	14.083	3.07	20.15	0.44	3.217	0.44	9.283	20.19	15.350	1.76	21.42	0.44
1.967	0.44	8.033	7.46	14.100	3.07	20.17	0.44	3.233	0.44	9.300	20.19	15.367	1.76	21.43	0.44
1.983	0.44	8.050	7.46	14.117	3.07	20.18	0.44	3.250	0.44	9.317	20.19	15.383	1.76	21.45	0.44
2.000	0.44	8.067	7.46	14.133	3.07	20.20	0.44	3.267	0.44	9.333	20.19	15.400	1.76	21.47	0.44
2.017	0.44	8.083	7.46	14.150	3.07	20.22	0.44	3.283	0.44	9.350	20.19	15.417	1.76	21.48	0.44
2.033	0.44	8.100	7.46	14.167	3.07	20.23	0.44	3.300	0.44	9.367	20.19	15.433	1.76	21.50	0.44
2.050	0.44	8.117	7.46	14.183	3.07	20.25	0.44	3.317	0.44	9.383	20.19	15.450	1.76	21.52	0.44
2.067	0.44	8.133	7.46	14.200	3.07	20.27	0.44	3.333	0.44	9.400	20.19	15.467	1.76	21.53	0.44
2.083	0.44	8.150	7.46	14.217	3.07	20.28	0.44	3.350	0.44	9.417	20.19	15.483	1.76	21.55	0.44
2.100	0.44	8.167	7.46	14.233	3.07	20.30	0.44	3.367	0.44	9.433	20.19	15.500	1.76	21.57	0.44
2.117	0.44	8.183	7.46	14.250	3.07	20.32	0.44	3.383	0.44	9.450	20.19	15.517	1.76	21.58	0.44
2.133	0.44	8.200	7.46	14.267	1.76	20.33	0.44	3.400	0.44	9.467	20.19	15.533	1.76	21.60	0.44
2.150	0.44	8.217	7.46	14.283	1.76	20.35	0.44	3.417	0.44	9.483	20.19	15.550	1.76	21.62	0.44
2.167	0.44	8.233	7.46	14.300	1.76	20.37	0.44	3.433	0.44	9.500	20.19	15.567	1.76	21.63	0.44
2.183	0.44	8.250	7.49	14.317	1.76	20.38	0.44	3.450	0.44	9.517	20.19	15.583	1.76	21.65	0.44
2.200	0.44	8.267	20.19	14.333	1.76	20.40	0.44	3.467	0.44	9.533	20.19	15.600	1.76	21.67	0.44
2.217	0.44	8.283	20.19	14.350	1.76	20.42	0.44	3.483	0.44	9.550	20.19	15.617	1.76	21.68	0.44
2.233	0.44	8.300	20.19	14.367	1.76	20.43	0.44	3.500	0.44	9.567	20.19	15.633	1.76	21.70	0.44
2.250	0.44	8.317	20.19	14.383	1.76	20.45	0.44	3.517	0.44	9.583	20.19	15.650	1.76	21.72	0.44
2.267	0.44	8.333	20.19	14.400	1.76	20.47	0.44	3.533	0.44	9.600	20.19	15.667	1.76	21.73	0.44

3.550	0.44	9.617	20.19	15.683	1.76	21.75	0.44
3.567	0.44	9.633	20.19	15.700	1.76	21.77	0.44
3.583	0.44	9.650	20.19	15.717	1.76	21.78	0.44
3.600	0.44	9.667	20.19	15.733	1.76	21.80	0.44
3.617	0.44	9.683	20.19	15.750	1.76	21.82	0.44
3.633	0.44	9.700	20.19	15.767	1.76	21.83	0.44
3.650	0.44	9.717	20.19	15.783	1.76	21.85	0.44
3.667	0.44	9.733	20.19	15.800	1.76	21.87	0.44
3.683	0.44	9.750	20.19	15.817	1.76	21.88	0.44
3.700	0.44	9.767	20.19	15.833	1.76	21.90	0.44
3.717	0.44	9.783	20.19	15.850	1.76	21.92	0.44
3.733	0.44	9.800	20.19	15.867	1.76	21.93	0.44
3.750	0.44	9.817	20.19	15.883	1.76	21.95	0.44
3.767	0.44	9.833	20.19	15.900	1.76	21.97	0.44
3.783	0.44	9.850	20.19	15.917	1.76	21.98	0.44
3.800	0.44	9.867	20.19	15.933	1.76	22.00	0.44
3.817	0.44	9.883	20.19	15.950	1.76	22.02	0.44
3.833	0.44	9.900	20.19	15.967	1.76	22.03	0.44
3.850	0.44	9.917	20.19	15.983	1.76	22.05	0.44
3.867	0.44	9.933	20.19	16.000	1.76	22.07	0.44
3.883	0.44	9.950	20.19	16.017	1.76	22.08	0.44
3.900	0.44	9.967	20.19	16.033	1.76	22.10	0.44
3.917	0.44	9.983	20.19	16.050	1.76	22.12	0.44
3.933	0.44	10.000	20.19	16.067	1.76	22.13	0.44
3.950	0.44	10.017	20.19	16.083	1.76	22.15	0.44
3.967	0.44	10.033	20.19	16.100	1.76	22.17	0.44
3.983	0.44	10.050	20.19	16.117	1.76	22.18	0.44
4.000	0.44	10.067	20.19	16.133	1.76	22.20	0.44
4.017	0.44	10.083	20.19	16.150	1.76	22.22	0.44
4.033	0.44	10.100	20.19	16.167	1.76	22.23	0.44
4.050	0.44	10.117	20.19	16.183	1.76	22.25	0.44
4.067	0.44	10.133	20.19	16.200	1.76	22.27	0.44
4.083	0.44	10.150	20.19	16.217	1.76	22.28	0.44
4.100	0.44	10.167	20.19	16.233	1.76	22.30	0.44
4.117	0.44	10.183	20.19	16.250	1.76	22.32	0.44
4.133	0.44	10.200	20.19	16.267	0.88	22.33	0.44
4.150	0.44	10.217	20.19	16.283	0.88	22.35	0.44
4.167	0.44	10.233	20.19	16.300	0.88	22.37	0.44
4.183	0.44	10.250	20.18	16.317	0.88	22.38	0.44
4.200	0.44	10.267	5.71	16.333	0.88	22.40	0.44
4.217	0.44	10.283	5.71	16.350	0.88	22.42	0.44
4.233	0.44	10.300	5.71	16.367	0.88	22.43	0.44
4.250	0.44	10.317	5.71	16.383	0.88	22.45	0.44
4.267	2.63	10.333	5.71	16.400	0.88	22.47	0.44
4.283	2.63	10.350	5.71	16.417	0.88	22.48	0.44
4.300	2.63	10.367	5.71	16.433	0.88	22.50	0.44
4.317	2.63	10.383	5.71	16.450	0.88	22.52	0.44
4.333	2.63	10.400	5.71	16.467	0.88	22.53	0.44
4.350	2.63	10.417	5.71	16.483	0.88	22.55	0.44
4.367	2.63	10.433	5.71	16.500	0.88	22.57	0.44
4.383	2.63	10.450	5.71	16.517	0.88	22.58	0.44
4.400	2.63	10.467	5.71	16.533	0.88	22.60	0.44
4.417	2.63	10.483	5.71	16.550	0.88	22.62	0.44
4.433	2.63	10.500	5.71	16.567	0.88	22.63	0.44
4.450	2.63	10.517	5.71	16.583	0.88	22.65	0.44
4.467	2.63	10.533	5.71	16.600	0.88	22.67	0.44
4.483	2.63	10.550	5.71	16.617	0.88	22.68	0.44
4.500	2.63	10.567	5.71	16.633	0.88	22.70	0.44
4.517	2.63	10.583	5.71	16.650	0.88	22.72	0.44
4.533	2.63	10.600	5.71	16.667	0.88	22.73	0.44
4.550	2.63	10.617	5.71	16.683	0.88	22.75	0.44
4.567	2.63	10.633	5.71	16.700	0.88	22.77	0.44
4.583	2.63	10.650	5.71	16.717	0.88	22.78	0.44
4.600	2.63	10.667	5.71	16.733	0.88	22.80	0.44
4.617	2.63	10.683	5.71	16.750	0.88	22.82	0.44
4.633	2.63	10.700	5.71	16.767	0.88	22.83	0.44
4.650	2.63	10.717	5.71	16.783	0.88	22.85	0.44
4.667	2.63	10.733	5.71	16.800	0.88	22.87	0.44
4.683	2.63	10.750	5.71	16.817	0.88	22.88	0.44
4.700	2.63	10.767	5.71	16.833	0.88	22.90	0.44
4.717	2.63	10.783	5.71	16.850	0.88	22.92	0.44
4.733	2.63	10.800	5.71	16.867	0.88	22.93	0.44
4.750	2.63	10.817	5.71	16.883	0.88	22.95	0.44
4.767	2.63	10.833	5.71	16.900	0.88	22.97	0.44
4.783	2.63	10.850	5.71	16.917	0.88	22.98	0.44
4.800	2.63	10.867	5.71	16.933	0.88	23.00	0.44
4.817	2.63	10.883	5.71	16.950	0.88	23.02	0.44
4.833	2.63	10.900	5.71	16.967	0.88	23.03	0.44
4.850	2.63	10.917	5.71	16.983	0.88	23.05	0.44
4.867	2.63	10.933	5.71	17.000	0.88	23.07	0.44
4.883	2.63	10.950	5.71	17.017	0.88	23.08	0.44
4.900	2.63	10.967	5.71	17.033	0.88	23.10	0.44
4.917	2.63	10.983	5.71	17.050	0.88	23.12	0.44
4.933	2.63	11.000	5.71	17.067	0.88	23.13	0.44
4.950	2.63	11.017	5.71	17.083	0.88	23.15	0.44
4.967	2.63	11.033	5.71	17.100	0.88	23.17	0.44
4.983	2.63	11.050	5.71	17.117	0.88	23.18	0.44
5.000	2.63	11.067	5.71	17.133	0.88	23.20	0.44
5.017	2.63	11.083	5.71	17.150	0.88	23.22	0.44
5.033	2.63	11.100	5.71	17.167	0.88	23.23	0.44
5.050	2.63	11.117	5.71	17.183	0.88	23.25	0.44
5.067	2.63	11.133	5.71	17.200	0.88	23.27	0.44
5.083	2.63	11.150	5.71	17.217	0.88	23.28	0.44
5.100	2.63	11.167	5.71	17.233	0.88	23.30	0.44
5.117	2.63	11.183	5.71	17.250	0.88	23.32	0.44
5.133	2.63	11.200	5.71	17.267	0.88	23.33	0.44
5.150	2.63	11.217	5.71	17.283	0.88	23.35	0.44
5.167	2.63	11.233	5.71	17.300	0.88	23.37	0.44
5.183	2.63	11.250	5.71	17.317	0.88	23.38	0.44
5.200	2.63	11.267	5.71	17.333	0.88	23.40	0.44
5.217	2.63	11.283	5.71	17.350	0.88	23.42	0.44
5.233	2.63	11.300	5.71	17.367	0.88	23.43	0.44
5.250	2.63	11.317	5.71	17.383	0.88	23.45	0.44
5.267	2.63	11.333	5.71	17.400	0.88	23.47	0.44
5.283	2.63	11.350	5.71	17.417	0.88	23.48	0.44
5.300	2.63	11.367	5.71	17.433	0.88	23.50	0.44
5.317	2.63	11.383	5.71	17.450	0.88	23.52	0.44
5.333	2.63	11.400	5.71	17.467	0.88	23.53	0.44
5.350	2.63	11.417	5.71	17.483	0.88	23.55	0.44
5.367	2.63	11.433	5.71	17.500	0.88	23.57	0.44
5.383	2.63	11.450	5.71	17.517	0.88	23.58	0.44
5.400	2.63	11.467	5.71	17.533	0.88	23.60	0.44
5.417	2.63	11.483	5.71	17.550	0.88	23.62	0.44
5.433	2.63	11.500	5.71	17.567	0.88	23.63	0.44
5.450	2.63	11.517	5.71	17.583	0.88	23.65	0.44
5.467	2.63	11.533	5.71	17.600	0.88	23.67	0.44
5.483	2.63	11.550	5.71	17.617	0.88	23.68	0.44
5.500	2.63	11.567	5.71	17.633	0.88	23.70	0.44
5.517	2.63	11.583	5.71	17.650	0.88	23.72	0.44
5.533	2.63	11.600	5.71	17.667	0.88	23.73	0.44
5.550	2.63	11.617	5.71	17.683	0.88	23.75	0.44
5.567	2.63	11.633	5.71	17.700	0.88	23.77	0.44
5.583	2.63	11.650	5.71	17.717	0.88	23.78	0.44
5.600	2.63	11.667	5.71	17.733	0.88	23.80	0.44
5.617	2.63	11.683	5.71	17.750	0.88	23.82	0.44
5.633	2.63	11.700	5.71	17.767	0.88	23.83	0.44
5.650	2.63	11.717	5.71	17.783	0.88	23.85	0.44
5.667	2.63	11.733	5.71	17.800	0.88	23.87	0.44
5.683	2.63	11.750	5.71	17.817	0.88	23.88	0.44
5.700	2.63	11.767	5.71	17.833	0.88	23.90	0.44
5.717	2.63	11.783	5.71	17.850	0.88	23.92	0.44
5.733	2.63	11.800	5.71	17.867	0.88	23.93	0.44
5.750	2.63	11.817	5.71	17.883	0.88	23.95	0.44
5.767	2.63	11.833	5.71	17.900	0.88	23.97	0.44
5.783	2.63	11.850	5.71	17.917	0.88	23.98	0.44
5.800	2.63	11.867	5.71	17.933	0.88	24.00	0.44
5.817	2.63	11.883	5.71	17.950	0.88	24.02	0.44
5.833	2.63	11.900	5.71	17.967	0.88	24.03	0.44
5.850	2.63	11.917	5.71	17.983	0.88	24.05	0.44
5.867	2.63	11.933	5.71	18.000	0.88	24.07	0.44
5.883	2.63	11.950	5.71	18.017	0.88	24.08	0.44
5.900	2.63	11.967	5.71	18.033	0.88	24.10	0.44
5.917	2.63	11.983	5.71	18.050	0.88	24.12	0.44
5.933	2.63	12.000	5.71	18.067	0.88	24.13	0.44
5.950	2.63	12.017	5.71	18.083	0.88	24.15	0.44
5.967	2.63	12.033	5.71	18.100	0.88	24.17	0.44
5.983	2.63	12.050	5.71	18.117	0.88	24.18	0.44
6.000	2.63	12.067	5.71	18.133	0.88	24.20	0.44
6.017	2.63	12.083	5.71	18.150	0.88	24.22	0.44
6.033	2.63	12.100	5.71	18.167	0.88	24.23	0.44
6.050	2.63	12.117	5.71	18.183	0.88	24.25	0.44
6.067	2.63	12.133	5.71	18.200	0.88		

```
     Max.Eff.Inten.(mm/hr)=      20.19        16.43
               over (min)        5.00         9.00
     Storage Coeff.  (min)=      5.30 (ii)    8.53 (ii)
     Unit Hyd. Tpeak (min)=      5.00         9.00
     Unit Hyd. peak  (cms)=      0.22         0.13
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.11         0.00          0.113 (iii)
     TIME TO PEAK    (hrs)=      9.48        10.25         10.23
     RUNOFF VOLUME    (mm)=     86.79        56.79         86.50
     TOTAL RAINFALL   (mm)=     87.80        87.80         87.80
     RUNOFF COEFFICIENT   =      0.99         0.65          0.99


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR(  7644)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |    0.0433     0.1140
                          0.0182     0.0580   |    0.0507     0.1280
                          0.0280     0.0775   |    0.0571     0.1440
                          0.0343     0.0930   |    0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7643)     2.020     0.113     10.23      86.50
   OUTFLOW: ID= 1 (  7644)     2.020     0.037     10.55      80.36

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.55
                  TIME SHIFT OF PEAK FLOW         (min)= 19.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0988

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*********************************************
** SIMULATION:992. 50yr 4hr 10min Chicago **
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| CHICAGO STORM    |    IDF curve parameters: A=3886.000
| Ptotal= 80.34 mm |                          B=  16.000
-------------------                          C=   0.949
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.00    2.76 |  1.00   54.64 |  2.00   11.20 |  3.00    3.68
                  0.17    3.46 |  1.17  176.22 |  2.17    8.69 |  3.17    3.26
                  0.33    4.54 |  1.33   73.12 |  2.33    6.99 |  3.33    2.91
                  0.50    6.38 |  1.50   36.23 |  2.50    5.79 |  3.50    2.62
                  0.67    9.93 |  1.67   22.15 |  2.67    4.89 |  3.67    2.38
                  0.83   18.64 |  1.83   15.19 |  2.83    4.21 |  3.83    2.18


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| CALIB            |
| STANDHYD (  7567)|   Area    (ha)=   2.81
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      2.78         0.03
     Dep. Storage     (mm)=      1.00         1.50
     Average Slope     (%)=      1.00         0.50
     Length            (m)=    136.87        40.00
     Mannings n           =     0.013        0.250
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NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                    ---- TRANSFORMED HYETOGRAPH ----
     TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
      hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
    0.017    2.76 | 1.017   54.63 | 2.017   11.20 |  3.02    3.68
    0.033    2.76 | 1.033   54.64 | 2.033   11.20 |  3.03    3.68
    0.050    2.76 | 1.050   54.64 | 2.050   11.20 |  3.05    3.68
    0.067    2.76 | 1.067   54.64 | 2.067   11.20 |  3.07    3.68
    0.083    2.76 | 1.083   54.64 | 2.083   11.20 |  3.08    3.68
    0.100    2.76 | 1.100   54.64 | 2.100   11.20 |  3.10    3.68
    0.117    2.76 | 1.117   54.64 | 2.117   11.20 |  3.12    3.68
    0.133    2.76 | 1.133   54.64 | 2.133   11.20 |  3.13    3.68
    0.150    2.76 | 1.150   54.64 | 2.150   11.20 |  3.15    3.68
    0.167    2.76 | 1.167   54.64 | 2.167   11.20 |  3.17    3.68
    0.183    3.46 | 1.183  176.22 | 2.183    8.69 |  3.18    3.26
    0.200    3.46 | 1.200  176.22 | 2.200    8.69 |  3.20    3.26
    0.217    3.46 | 1.217  176.22 | 2.217    8.69 |  3.22    3.26
    0.233    3.46 | 1.233  176.22 | 2.233    8.69 |  3.23    3.26
    0.250    3.46 | 1.250  176.22 | 2.250    8.69 |  3.25    3.26
    0.267    3.46 | 1.267  176.22 | 2.267    8.69 |  3.27    3.26
    0.283    3.46 | 1.283  176.22 | 2.283    8.69 |  3.28    3.26
    0.300    3.46 | 1.300  176.22 | 2.300    8.69 |  3.30    3.26
    0.317    3.46 | 1.317  176.22 | 2.317    8.69 |  3.32    3.26
    0.333    3.46 | 1.333  176.22 | 2.333    8.69 |  3.33    3.26
    0.350    4.54 | 1.350   73.12 | 2.350    6.99 |  3.35    2.91
    0.367    4.54 | 1.367   73.12 | 2.367    6.99 |  3.37    2.91
    0.383    4.54 | 1.383   73.12 | 2.383    6.99 |  3.38    2.91
    0.400    4.54 | 1.400   73.12 | 2.400    6.99 |  3.40    2.91
    0.417    4.54 | 1.417   73.12 | 2.417    6.99 |  3.42    2.91
    0.433    4.54 | 1.433   73.12 | 2.433    6.99 |  3.43    2.91
    0.450    4.54 | 1.450   73.12 | 2.450    6.99 |  3.45    2.91
    0.467    4.54 | 1.467   73.12 | 2.467    6.99 |  3.47    2.91
    0.483    4.54 | 1.483   73.12 | 2.483    6.99 |  3.48    2.91
    0.500    4.54 | 1.500   73.12 | 2.500    6.99 |  3.50    2.91
    0.517    6.38 | 1.517   36.24 | 2.517    5.79 |  3.52    2.62
    0.533    6.38 | 1.533   36.23 | 2.533    5.79 |  3.53    2.62
    0.550    6.38 | 1.550   36.23 | 2.550    5.79 |  3.55    2.62
    0.567    6.38 | 1.567   36.23 | 2.567    5.79 |  3.57    2.62
    0.583    6.38 | 1.583   36.23 | 2.583    5.79 |  3.58    2.62
    0.600    6.38 | 1.600   36.23 | 2.600    5.79 |  3.60    2.62
    0.617    6.38 | 1.617   36.23 | 2.617    5.79 |  3.62    2.62
    0.633    6.38 | 1.633   36.23 | 2.633    5.79 |  3.63    2.62
    0.650    6.38 | 1.650   36.23 | 2.650    5.79 |  3.65    2.62
    0.667    6.38 | 1.667   36.23 | 2.667    5.79 |  3.67    2.62
    0.683    9.93 | 1.683   22.15 | 2.683    4.89 |  3.68    2.38
    0.700    9.93 | 1.700   22.15 | 2.700    4.89 |  3.70    2.38
    0.717    9.93 | 1.717   22.15 | 2.717    4.89 |  3.72    2.38
    0.733    9.93 | 1.733   22.15 | 2.733    4.89 |  3.73    2.38
    0.750    9.93 | 1.750   22.15 | 2.750    4.89 |  3.75    2.38
    0.767    9.93 | 1.767   22.15 | 2.767    4.89 |  3.77    2.38
    0.783    9.93 | 1.783   22.15 | 2.783    4.89 |  3.78    2.38
    0.800    9.93 | 1.800   22.15 | 2.800    4.89 |  3.80    2.38
    0.817    9.93 | 1.817   22.15 | 2.817    4.89 |  3.82    2.38
    0.833    9.93 | 1.833   22.15 | 2.833    4.89 |  3.83    2.38
    0.850   18.64 | 1.850   15.19 | 2.850    4.21 |  3.85    2.18
    0.867   18.64 | 1.867   15.19 | 2.867    4.21 |  3.87    2.18
    0.883   18.64 | 1.883   15.19 | 2.883    4.21 |  3.88    2.18
    0.900   18.64 | 1.900   15.19 | 2.900    4.21 |  3.90    2.18
    0.917   18.64 | 1.917   15.19 | 2.917    4.21 |  3.92    2.18
    0.933   18.64 | 1.933   15.19 | 2.933    4.21 |  3.93    2.18
    0.950   18.64 | 1.950   15.19 | 2.950    4.21 |  3.95    2.18
    0.967   18.64 | 1.967   15.19 | 2.967    4.21 |  3.97    2.18
    0.983   18.64 | 1.983   15.19 | 2.983    4.21 |  3.98    2.18
    1.000   18.64 | 2.000   15.19 | 3.000    4.21 |  4.00    2.18

Max.Eff.Inten.(mm/hr)=     176.22       110.28
          over (min)         5.00         4.00
Storage Coeff.  (min)=       2.46 (ii)    3.82 (ii)
Unit Hyd. Tpeak (min)=       5.00         4.00
Unit Hyd. peak  (cms)=       0.34         0.29
                                                *TOTALS*
PEAK FLOW       (cms)=       1.31         0.01          1.320 (iii)
TIME TO PEAK    (hrs)=       1.33         1.35          1.33
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     RUNOFF VOLUME    (mm)=      79.34        50.26          79.05
     TOTAL RAINFALL   (mm)=      80.34        80.34          80.34
     RUNOFF COEFFICIENT   =       0.99         0.63           0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7626)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0568      0.1530
                          0.0239      0.0780   |    0.0660      0.1730
                          0.0370      0.1040   |    0.0751      0.2000
                          0.0451      0.1250   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7567)      2.810      1.320      1.33      79.05
   OUTFLOW: ID= 1 (  7626)      2.810      0.068      2.35      77.00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.14
                  TIME SHIFT OF PEAK FLOW          (min)= 61.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1785

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| CALIB            |
| STANDHYD (  7624)|   Area    (ha)=   2.08
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.06         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     117.76        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
    hrs   mm/hr |    hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.017    2.76 | 1.017   54.63 | 2.017   11.20 |  3.02    3.68
 0.033    2.76 | 1.033   54.64 | 2.033   11.20 |  3.03    3.68
 0.050    2.76 | 1.050   54.64 | 2.050   11.20 |  3.05    3.68
 0.067    2.76 | 1.067   54.64 | 2.067   11.20 |  3.07    3.68
 0.083    2.76 | 1.083   54.64 | 2.083   11.20 |  3.08    3.68
 0.100    2.76 | 1.100   54.64 | 2.100   11.20 |  3.10    3.68
 0.117    2.76 | 1.117   54.64 | 2.117   11.20 |  3.12    3.68
 0.133    2.76 | 1.133   54.64 | 2.133   11.20 |  3.13    3.68
 0.150    2.76 | 1.150   54.64 | 2.150   11.20 |  3.15    3.68
 0.167    2.76 | 1.167   54.64 | 2.167   11.20 |  3.17    3.68
 0.183    3.46 | 1.183  176.22 | 2.183    8.69 |  3.18    3.26
 0.200    3.46 | 1.200  176.22 | 2.200    8.69 |  3.20    3.26
 0.217    3.46 | 1.217  176.22 | 2.217    8.69 |  3.22    3.26
 0.233    3.46 | 1.233  176.22 | 2.233    8.69 |  3.23    3.26
 0.250    3.46 | 1.250  176.22 | 2.250    8.69 |  3.25    3.26
 0.267    3.46 | 1.267  176.22 | 2.267    8.69 |  3.27    3.26
 0.283    3.46 | 1.283  176.22 | 2.283    8.69 |  3.28    3.26
 0.300    3.46 | 1.300  176.22 | 2.300    8.69 |  3.30    3.26
 0.317    3.46 | 1.317  176.22 | 2.317    8.69 |  3.32    3.26
 0.333    3.46 | 1.333  176.22 | 2.333    8.69 |  3.33    3.26
 0.350    4.54 | 1.350   73.12 | 2.350    6.99 |  3.35    2.91
 0.367    4.54 | 1.367   73.12 | 2.367    6.99 |  3.37    2.91
 0.383    4.54 | 1.383   73.12 | 2.383    6.99 |  3.38    2.91
 0.400    4.54 | 1.400   73.12 | 2.400    6.99 |  3.40    2.91
 0.417    4.54 | 1.417   73.12 | 2.417    6.99 |  3.42    2.91
 0.433    4.54 | 1.433   73.12 | 2.433    6.99 |  3.43    2.91
 0.450    4.54 | 1.450   73.12 | 2.450    6.99 |  3.45    2.91
 0.467    4.54 | 1.467   73.12 | 2.467    6.99 |  3.47    2.91
 0.483    4.54 | 1.483   73.12 | 2.483    6.99 |  3.48    2.91
 0.500    4.54 | 1.500   73.12 | 2.500    6.99 |  3.50    2.91
 0.517    6.38 | 1.517   36.24 | 2.517    5.79 |  3.52    2.62
 0.533    6.38 | 1.533   36.23 | 2.533    5.79 |  3.53    2.62
 0.550    6.38 | 1.550   36.23 | 2.550    5.79 |  3.55    2.62
 0.567    6.38 | 1.567   36.23 | 2.567    5.79 |  3.57    2.62
 0.583    6.38 | 1.583   36.23 | 2.583    5.79 |  3.58    2.62
 0.600    6.38 | 1.600   36.23 | 2.600    5.79 |  3.60    2.62
 0.617    6.38 | 1.617   36.23 | 2.617    5.79 |  3.62    2.62
 0.633    6.38 | 1.633   36.23 | 2.633    5.79 |  3.63    2.62
 0.650    6.38 | 1.650   36.23 | 2.650    5.79 |  3.65    2.62
 0.667    6.38 | 1.667   36.23 | 2.667    5.79 |  3.67    2.62
 0.683    9.93 | 1.683   22.15 | 2.683    4.89 |  3.68    2.38
 0.700    9.93 | 1.700   22.15 | 2.700    4.89 |  3.70    2.38
 0.717    9.93 | 1.717   22.15 | 2.717    4.89 |  3.72    2.38
 0.733    9.93 | 1.733   22.15 | 2.733    4.89 |  3.73    2.38
 0.750    9.93 | 1.750   22.15 | 2.750    4.89 |  3.75    2.38
 0.767    9.93 | 1.767   22.15 | 2.767    4.89 |  3.77    2.38
 0.783    9.93 | 1.783   22.15 | 2.783    4.89 |  3.78    2.38
 0.800    9.93 | 1.800   22.15 | 2.800    4.89 |  3.80    2.38
 0.817    9.93 | 1.817   22.15 | 2.817    4.89 |  3.82    2.38
 0.833    9.93 | 1.833   22.15 | 2.833    4.89 |  3.83    2.38
 0.850   18.64 | 1.850   15.19 | 2.850    4.21 |  3.85    2.18
 0.867   18.64 | 1.867   15.19 | 2.867    4.21 |  3.87    2.18
 0.883   18.64 | 1.883   15.19 | 2.883    4.21 |  3.88    2.18
 0.900   18.64 | 1.900   15.19 | 2.900    4.21 |  3.90    2.18
 0.917   18.64 | 1.917   15.19 | 2.917    4.21 |  3.92    2.18
 0.933   18.64 | 1.933   15.19 | 2.933    4.21 |  3.93    2.18
 0.950   18.64 | 1.950   15.19 | 2.950    4.21 |  3.95    2.18
 0.967   18.64 | 1.967   15.19 | 2.967    4.21 |  3.97    2.18
 0.983   18.64 | 1.983   15.19 | 2.983    4.21 |  3.98    2.18
 1.000   18.64 | 2.000   15.19 | 3.000    4.21 |  4.00    2.18

     Max.Eff.Inten.(mm/hr)=     176.22       131.85
                   over (min)        5.00         4.00
     Storage Coeff.  (min)=       2.25 (ii)    3.60 (ii)
     Unit Hyd. Tpeak (min)=       5.00         4.00
     Unit Hyd. peak  (cms)=       0.36         0.30
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.98         0.01          0.987 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.35          1.33
     RUNOFF VOLUME    (mm)=      79.34        58.06         79.13
     TOTAL RAINFALL   (mm)=      80.34        80.34         80.34
     RUNOFF COEFFICIENT   =       0.99         0.72          0.98

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  90.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7625)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0389      0.1013
                          0.0164      0.0514   |    0.0456      0.1141
                          0.0252      0.0690   |    0.0514      0.1288
                          0.0309      0.0825   |    0.0000      0.0000
     **** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7624)      2.080      0.987      1.33      79.13
   OUTFLOW: ID= 1 (  7625)      2.080      0.052      2.28      77.39

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.31
                  TIME SHIFT OF PEAK FLOW          (min)= 57.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1314

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| CALIB            |
| STANDHYD (  7623)|   Area    (ha)=   1.15
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         0.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=      87.56        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.76	1.017	54.63	2.017	11.20	3.02	3.68
0.033	2.76	1.033	54.64	2.033	11.20	3.03	3.68
0.050	2.76	1.050	54.64	2.050	11.20	3.05	3.68
0.067	2.76	1.067	54.64	2.067	11.20	3.07	3.68
0.083	2.76	1.083	54.64	2.083	11.20	3.08	3.68
0.100	2.76	1.100	54.64	2.100	11.20	3.10	3.68
0.117	2.76	1.117	54.64	2.117	11.20	3.12	3.68
0.133	2.76	1.133	54.64	2.133	11.20	3.13	3.68
0.150	2.76	1.150	54.64	2.150	11.20	3.15	3.68
0.167	2.76	1.167	54.64	2.167	11.20	3.17	3.68
0.183	3.46	1.183	176.22	2.183	8.69	3.18	3.26
0.200	3.46	1.200	176.22	2.200	8.69	3.20	3.26
0.217	3.46	1.217	176.22	2.217	8.69	3.22	3.26
0.233	3.46	1.233	176.22	2.233	8.69	3.23	3.26
0.250	3.46	1.250	176.22	2.250	8.69	3.25	3.26
0.267	3.46	1.267	176.22	2.267	8.69	3.27	3.26
0.283	3.46	1.283	176.22	2.283	8.69	3.28	3.26
0.300	3.46	1.300	176.22	2.300	8.69	3.30	3.26
0.317	3.46	1.317	176.22	2.317	8.69	3.32	3.26
0.333	3.46	1.333	176.22	2.333	8.69	3.33	3.26
0.350	4.54	1.350	73.12	2.350	6.99	3.35	2.91
0.367	4.54	1.367	73.12	2.367	6.99	3.37	2.91
0.383	4.54	1.383	73.12	2.383	6.99	3.38	2.91
0.400	4.54	1.400	73.12	2.400	6.99	3.40	2.91
0.417	4.54	1.417	73.12	2.417	6.99	3.42	2.91
0.433	4.54	1.433	73.12	2.433	6.99	3.43	2.91
0.450	4.54	1.450	73.12	2.450	6.99	3.45	2.91
0.467	4.54	1.467	73.12	2.467	6.99	3.47	2.91
0.483	4.54	1.483	73.12	2.483	6.99	3.48	2.91
0.500	4.54	1.500	73.12	2.500	6.99	3.50	2.91
0.517	6.38	1.517	36.24	2.517	5.79	3.52	2.62
0.533	6.38	1.533	36.23	2.533	5.79	3.53	2.62
0.550	6.38	1.550	36.23	2.550	5.79	3.55	2.62
0.567	6.38	1.567	36.23	2.567	5.79	3.57	2.62
0.583	6.38	1.583	36.23	2.583	5.79	3.58	2.62
0.600	6.38	1.600	36.23	2.600	5.79	3.60	2.62
0.617	6.38	1.617	36.23	2.617	5.79	3.62	2.62
0.633	6.38	1.633	36.23	2.633	5.79	3.63	2.62
0.650	6.38	1.650	36.23	2.650	5.79	3.65	2.62
0.667	6.38	1.667	36.23	2.667	5.79	3.67	2.62
0.683	9.93	1.683	22.15	2.683	4.89	3.68	2.38
0.700	9.93	1.700	22.15	2.700	4.89	3.70	2.38
0.717	9.93	1.717	22.15	2.717	4.89	3.72	2.38
0.733	9.93	1.733	22.15	2.733	4.89	3.73	2.38
0.750	9.93	1.750	22.15	2.750	4.89	3.75	2.38
0.767	9.93	1.767	22.15	2.767	4.89	3.77	2.38
0.783	9.93	1.783	22.15	2.783	4.89	3.78	2.38
0.800	9.93	1.800	22.15	2.800	4.89	3.80	2.38
0.817	9.93	1.817	22.15	2.817	4.89	3.82	2.38
0.833	9.93	1.833	22.15	2.833	4.89	3.83	2.38
0.850	18.64	1.850	15.19	2.850	4.21	3.85	2.18
0.867	18.64	1.867	15.19	2.867	4.21	3.87	2.18
0.883	18.64	1.883	15.19	2.883	4.21	3.88	2.18
0.900	18.64	1.900	15.19	2.900	4.21	3.90	2.18
0.917	18.64	1.917	15.19	2.917	4.21	3.92	2.18
0.933	18.64	1.933	15.19	2.933	4.21	3.93	2.18
0.950	18.64	1.950	15.19	2.950	4.21	3.95	2.18
0.967	18.64	1.967	15.19	2.967	4.21	3.97	2.18
0.983	18.64	1.983	15.19	2.983	4.21	3.98	2.18
1.000	18.64	2.000	15.19	3.000	4.21	4.00	2.18

```
     Max.Eff.Inten.(mm/hr)=     176.22       110.28
               over (min)          5.00         4.00
     Storage Coeff.  (min)=       1.88 (ii)    3.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00         4.00
     Unit Hyd. peak  (cms)=       0.38         0.32
                                                  *TOTALS*
     PEAK FLOW       (cms)=       0.55         0.00          0.552 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.35           1.33
     RUNOFF VOLUME    (mm)=      79.34        50.27          79.05
     TOTAL RAINFALL   (mm)=      80.34        80.34          80.34
     RUNOFF COEFFICIENT   =       0.99         0.63           0.98

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  7622)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000      0.0000   |    0.0258      0.0650
                           0.0108      0.0330   |    0.0302      0.0725
                           0.0167      0.0440   |    0.0340      0.0820
                           0.0204      0.0525   |    0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (  7623)     1.150     0.552      1.33      79.05
     OUTFLOW: ID= 1 (  7622)     1.150     0.030      2.25      77.43

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.46
                    TIME SHIFT OF PEAK FLOW          (min)= 55.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0724

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--------------------
| CALIB            |
| STANDHYD (  7629)|   Area    (ha)=   4.09
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     165.13        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.76	1.017	54.63	2.017	11.20	3.02	3.68
0.033	2.76	1.033	54.64	2.033	11.20	3.03	3.68
0.050	2.76	1.050	54.64	2.050	11.20	3.05	3.68
0.067	2.76	1.067	54.64	2.067	11.20	3.07	3.68
0.083	2.76	1.083	54.64	2.083	11.20	3.08	3.68
0.100	2.76	1.100	54.64	2.100	11.20	3.10	3.68
0.117	2.76	1.117	54.64	2.117	11.20	3.12	3.68
0.133	2.76	1.133	54.64	2.133	11.20	3.13	3.68
0.150	2.76	1.150	54.64	2.150	11.20	3.15	3.68
0.167	2.76	1.167	54.64	2.167	11.20	3.17	3.68
0.183	3.46	1.183	176.22	2.183	8.69	3.18	3.26
0.200	3.46	1.200	176.22	2.200	8.69	3.20	3.26
0.217	3.46	1.217	176.22	2.217	8.69	3.22	3.26
0.233	3.46	1.233	176.22	2.233	8.69	3.23	3.26
0.250	3.46	1.250	176.22	2.250	8.69	3.25	3.26

0.267	3.46	1.267	176.22	2.267	8.69	3.27	3.26
0.283	3.46	1.283	176.22	2.283	8.69	3.28	3.26
0.300	3.46	1.300	176.22	2.300	8.69	3.30	3.26
0.317	3.46	1.317	176.22	2.317	8.69	3.32	3.26
0.333	3.46	1.333	176.22	2.333	8.69	3.33	3.26
0.350	4.54	1.350	73.12	2.350	6.99	3.35	2.91
0.367	4.54	1.367	73.12	2.367	6.99	3.37	2.91
0.383	4.54	1.383	73.12	2.383	6.99	3.38	2.91
0.400	4.54	1.400	73.12	2.400	6.99	3.40	2.91
0.417	4.54	1.417	73.12	2.417	6.99	3.42	2.91
0.433	4.54	1.433	73.12	2.433	6.99	3.43	2.91
0.450	4.54	1.450	73.12	2.450	6.99	3.45	2.91
0.467	4.54	1.467	73.12	2.467	6.99	3.47	2.91
0.483	4.54	1.483	73.12	2.483	6.99	3.48	2.91
0.500	4.54	1.500	73.12	2.500	6.99	3.50	2.91
0.517	6.38	1.517	36.24	2.517	5.79	3.52	2.62
0.533	6.38	1.533	36.23	2.533	5.79	3.53	2.62
0.550	6.38	1.550	36.23	2.550	5.79	3.55	2.62
0.567	6.38	1.567	36.23	2.567	5.79	3.57	2.62
0.583	6.38	1.583	36.23	2.583	5.79	3.58	2.62
0.600	6.38	1.600	36.23	2.600	5.79	3.60	2.62
0.617	6.38	1.617	36.23	2.617	5.79	3.62	2.62
0.633	6.38	1.633	36.23	2.633	5.79	3.63	2.62
0.650	6.38	1.650	36.23	2.650	5.79	3.65	2.62
0.667	6.38	1.667	36.23	2.667	5.79	3.67	2.62
0.683	9.93	1.683	22.15	2.683	4.89	3.68	2.38
0.700	9.93	1.700	22.15	2.700	4.89	3.70	2.38
0.717	9.93	1.717	22.15	2.717	4.89	3.72	2.38
0.733	9.93	1.733	22.15	2.733	4.89	3.73	2.38
0.750	9.93	1.750	22.15	2.750	4.89	3.75	2.38
0.767	9.93	1.767	22.15	2.767	4.89	3.77	2.38
0.783	9.93	1.783	22.15	2.783	4.89	3.78	2.38
0.800	9.93	1.800	22.15	2.800	4.89	3.80	2.38
0.817	9.93	1.817	22.15	2.817	4.89	3.82	2.38
0.833	9.93	1.833	22.15	2.833	4.89	3.83	2.38
0.850	18.64	1.850	15.19	2.850	4.21	3.85	2.18
0.867	18.64	1.867	15.19	2.867	4.21	3.87	2.18
0.883	18.64	1.883	15.19	2.883	4.21	3.88	2.18
0.900	18.64	1.900	15.19	2.900	4.21	3.90	2.18
0.917	18.64	1.917	15.19	2.917	4.21	3.92	2.18
0.933	18.64	1.933	15.19	2.933	4.21	3.93	2.18
0.950	18.64	1.950	15.19	2.950	4.21	3.95	2.18
0.967	18.64	1.967	15.19	2.967	4.21	3.97	2.18
0.983	18.64	1.983	15.19	2.983	4.21	3.98	2.18
1.000	18.64	2.000	15.19	3.000	4.21	4.00	2.18

Max.Eff.Inten.(mm/hr)=	176.22	110.28	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.75 (ii)	4.11 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.32	0.26	
			TOTALS
PEAK FLOW (cms)=	1.89	0.01	1.896 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	79.34	50.26	79.05
TOTAL RAINFALL (mm)=	80.34	80.34	80.34
RUNOFF COEFFICIENT =	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0826	0.2320
0.0347	0.1170	0.0967	0.2609
0.0534	0.1580	0.1090	0.2940
0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	1.896	1.33	79.05
OUTFLOW: ID= 1 (7630)	4.090	0.097	2.37	76.73

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.10
TIME SHIFT OF PEAK FLOW (min)= 62.00
MAXIMUM STORAGE USED (ha.m.)= 0.2610

CALIB	
STANDHYD (7631)	Area (ha)= 3.91
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.76	1.017	54.63	2.017	11.20	3.02	3.68
0.033	2.76	1.033	54.64	2.033	11.20	3.03	3.68
0.050	2.76	1.050	54.64	2.050	11.20	3.05	3.68
0.067	2.76	1.067	54.64	2.067	11.20	3.07	3.68
0.083	2.76	1.083	54.64	2.083	11.20	3.08	3.68
0.100	2.76	1.100	54.64	2.100	11.20	3.10	3.68
0.117	2.76	1.117	54.64	2.117	11.20	3.12	3.68
0.133	2.76	1.133	54.64	2.133	11.20	3.13	3.68
0.150	2.76	1.150	54.64	2.150	11.20	3.15	3.68
0.167	2.76	1.167	54.64	2.167	11.20	3.17	3.68
0.183	3.46	1.183	176.22	2.183	8.69	3.18	3.26
0.200	3.46	1.200	176.22	2.200	8.69	3.20	3.26
0.217	3.46	1.217	176.22	2.217	8.69	3.22	3.26
0.233	3.46	1.233	176.22	2.233	8.69	3.23	3.26
0.250	3.46	1.250	176.22	2.250	8.69	3.25	3.26
0.267	3.46	1.267	176.22	2.267	8.69	3.27	3.26
0.283	3.46	1.283	176.22	2.283	8.69	3.28	3.26
0.300	3.46	1.300	176.22	2.300	8.69	3.30	3.26
0.317	3.46	1.317	176.22	2.317	8.69	3.32	3.26
0.333	3.46	1.333	176.22	2.333	8.69	3.33	3.26
0.350	4.54	1.350	73.12	2.350	6.99	3.35	2.91
0.367	4.54	1.367	73.12	2.367	6.99	3.37	2.91
0.383	4.54	1.383	73.12	2.383	6.99	3.38	2.91
0.400	4.54	1.400	73.12	2.400	6.99	3.40	2.91
0.417	4.54	1.417	73.12	2.417	6.99	3.42	2.91
0.433	4.54	1.433	73.12	2.433	6.99	3.43	2.91
0.450	4.54	1.450	73.12	2.450	6.99	3.45	2.91
0.467	4.54	1.467	73.12	2.467	6.99	3.47	2.91
0.483	4.54	1.483	73.12	2.483	6.99	3.48	2.91
0.500	4.54	1.500	73.12	2.500	6.99	3.50	2.91
0.517	6.38	1.517	36.24	2.517	5.79	3.52	2.62
0.533	6.38	1.533	36.23	2.533	5.79	3.53	2.62
0.550	6.38	1.550	36.23	2.550	5.79	3.55	2.62
0.567	6.38	1.567	36.23	2.567	5.79	3.57	2.62
0.583	6.38	1.583	36.23	2.583	5.79	3.58	2.62
0.600	6.38	1.600	36.23	2.600	5.79	3.60	2.62
0.617	6.38	1.617	36.23	2.617	5.79	3.62	2.62
0.633	6.38	1.633	36.23	2.633	5.79	3.63	2.62
0.650	6.38	1.650	36.23	2.650	5.79	3.65	2.62
0.667	6.38	1.667	36.23	2.667	5.79	3.67	2.62
0.683	9.93	1.683	22.15	2.683	4.89	3.68	2.38
0.700	9.93	1.700	22.15	2.700	4.89	3.70	2.38
0.717	9.93	1.717	22.15	2.717	4.89	3.72	2.38
0.733	9.93	1.733	22.15	2.733	4.89	3.73	2.38
0.750	9.93	1.750	22.15	2.750	4.89	3.75	2.38
0.767	9.93	1.767	22.15	2.767	4.89	3.77	2.38
0.783	9.93	1.783	22.15	2.783	4.89	3.78	2.38
0.800	9.93	1.800	22.15	2.800	4.89	3.80	2.38

0.817	9.93	1.817	22.15	2.817	4.89	3.82	2.38
0.833	9.93	1.833	22.15	2.833	4.89	3.83	2.38
0.850	18.64	1.850	15.19	2.850	4.21	3.85	2.18
0.867	18.64	1.867	15.19	2.867	4.21	3.87	2.18
0.883	18.64	1.883	15.19	2.883	4.21	3.88	2.18
0.900	18.64	1.900	15.19	2.900	4.21	3.90	2.18
0.917	18.64	1.917	15.19	2.917	4.21	3.92	2.18
0.933	18.64	1.933	15.19	2.933	4.21	3.93	2.18
0.950	18.64	1.950	15.19	2.950	4.21	3.95	2.18
0.967	18.64	1.967	15.19	2.967	4.21	3.97	2.18
0.983	18.64	1.983	15.19	2.983	4.21	3.98	2.18
1.000	18.64	2.000	15.19	3.000	4.21	4.00	2.18

Max.Eff.Inten.(mm/hr)=	176.22	110.28	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.71 (ii)	4.07 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.32	0.26	
			TOTALS
PEAK FLOW (cms)=	1.81	0.01	1.816 (iii)
TIME TO PEAK (hrs)=	1.33	1.37	1.33
RUNOFF VOLUME (mm)=	79.34	50.26	79.05
TOTAL RAINFALL (mm)=	80.34	80.34	80.34
RUNOFF COEFFICIENT =	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	1.816	1.33	79.05
OUTFLOW: ID= 1 (7632)	3.910	0.093	2.37	76.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.10
TIME SHIFT OF PEAK FLOW (min)= 62.00
MAXIMUM STORAGE USED (ha.m.)= 0.2495

CALIB STANDHYD (7641) ID= 1 DT= 1.0 min	Area (ha)= 2.21	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.76	1.017	54.63	2.017	11.20	3.02	3.68
0.033	2.76	1.033	54.64	2.033	11.20	3.03	3.68
0.050	2.76	1.050	54.64	2.050	11.20	3.05	3.68
0.067	2.76	1.067	54.64	2.067	11.20	3.07	3.68
0.083	2.76	1.083	54.64	2.083	11.20	3.08	3.68
0.100	2.76	1.100	54.64	2.100	11.20	3.10	3.68
0.117	2.76	1.117	54.64	2.117	11.20	3.12	3.68
0.133	2.76	1.133	54.64	2.133	11.20	3.13	3.68
0.150	2.76	1.150	54.64	2.150	11.20	3.15	3.68
0.167	2.76	1.167	54.64	2.167	11.20	3.17	3.68
0.183	3.46	1.183	176.22	2.183	8.69	3.18	3.26
0.200	3.46	1.200	176.22	2.200	8.69	3.20	3.26
0.217	3.46	1.217	176.22	2.217	8.69	3.22	3.26
0.233	3.46	1.233	176.22	2.233	8.69	3.23	3.26
0.250	3.46	1.250	176.22	2.250	8.69	3.25	3.26
0.267	3.46	1.267	176.22	2.267	8.69	3.27	3.26
0.283	3.46	1.283	176.22	2.283	8.69	3.28	3.26
0.300	3.46	1.300	176.22	2.300	8.69	3.30	3.26
0.317	3.46	1.317	176.22	2.317	8.69	3.32	3.26
0.333	3.46	1.333	176.22	2.333	8.69	3.33	3.26
0.350	4.54	1.350	73.12	2.350	6.99	3.35	2.91
0.367	4.54	1.367	73.12	2.367	6.99	3.37	2.91
0.383	4.54	1.383	73.12	2.383	6.99	3.38	2.91
0.400	4.54	1.400	73.12	2.400	6.99	3.40	2.91
0.417	4.54	1.417	73.12	2.417	6.99	3.42	2.91
0.433	4.54	1.433	73.12	2.433	6.99	3.43	2.91
0.450	4.54	1.450	73.12	2.450	6.99	3.45	2.91
0.467	4.54	1.467	73.12	2.467	6.99	3.47	2.91
0.483	4.54	1.483	73.12	2.483	6.99	3.48	2.91
0.500	4.54	1.500	73.12	2.500	6.99	3.50	2.91
0.517	6.38	1.517	36.24	2.517	5.79	3.52	2.62
0.533	6.38	1.533	36.23	2.533	5.79	3.53	2.62
0.550	6.38	1.550	36.23	2.550	5.79	3.55	2.62
0.567	6.38	1.567	36.23	2.567	5.79	3.57	2.62
0.583	6.38	1.583	36.23	2.583	5.79	3.58	2.62
0.600	6.38	1.600	36.23	2.600	5.79	3.60	2.62
0.617	6.38	1.617	36.23	2.617	5.79	3.62	2.62
0.633	6.38	1.633	36.23	2.633	5.79	3.63	2.62
0.650	6.38	1.650	36.23	2.650	5.79	3.65	2.62
0.667	6.38	1.667	36.23	2.667	5.79	3.67	2.62
0.683	9.93	1.683	22.15	2.683	4.89	3.68	2.38
0.700	9.93	1.700	22.15	2.700	4.89	3.70	2.38
0.717	9.93	1.717	22.15	2.717	4.89	3.72	2.38
0.733	9.93	1.733	22.15	2.733	4.89	3.73	2.38
0.750	9.93	1.750	22.15	2.750	4.89	3.75	2.38
0.767	9.93	1.767	22.15	2.767	4.89	3.77	2.38
0.783	9.93	1.783	22.15	2.783	4.89	3.78	2.38
0.800	9.93	1.800	22.15	2.800	4.89	3.80	2.38
0.817	9.93	1.817	22.15	2.817	4.89	3.82	2.38
0.833	9.93	1.833	22.15	2.833	4.89	3.83	2.38
0.850	18.64	1.850	15.19	2.850	4.21	3.85	2.18
0.867	18.64	1.867	15.19	2.867	4.21	3.87	2.18
0.883	18.64	1.883	15.19	2.883	4.21	3.88	2.18
0.900	18.64	1.900	15.19	2.900	4.21	3.90	2.18
0.917	18.64	1.917	15.19	2.917	4.21	3.92	2.18
0.933	18.64	1.933	15.19	2.933	4.21	3.93	2.18
0.950	18.64	1.950	15.19	2.950	4.21	3.95	2.18
0.967	18.64	1.967	15.19	2.967	4.21	3.97	2.18
0.983	18.64	1.983	15.19	2.983	4.21	3.98	2.18
1.000	18.64	2.000	15.19	3.000	4.21	4.00	2.18

Max.Eff.Inten.(mm/hr)=	176.22	110.28	
over (min)	5.00	4.00	
Storage Coeff. (min)=	2.29 (ii)	3.64 (ii)	
Unit Hyd. Tpeak (min)=	5.00	4.00	
Unit Hyd. peak (cms)=	0.35	0.30	
			TOTALS
PEAK FLOW (cms)=	1.04	0.01	1.046 (iii)
TIME TO PEAK (hrs)=	1.33	1.35	1.33
RUNOFF VOLUME (mm)=	79.34	50.27	79.05
TOTAL RAINFALL (mm)=	80.34	80.34	80.34
RUNOFF COEFFICIENT =	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7642)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0470      0.1250
                          0.0197      0.0630   |    0.0551      0.1410
                          0.0304      0.0850   |    0.0620      0.1580
                          0.0373      0.1020   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7641)     2.210      1.046      1.33      79.05
   OUTFLOW: ID= 1 (  7642)     2.210      0.055      2.30      77.12

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.23
                  TIME SHIFT OF PEAK FLOW          (min)= 58.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1401

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--------------------
| CALIB            |
| STANDHYD (  7643)|   Area    (ha)=   2.02
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.00         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     116.05        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.017    2.76 | 1.017   54.63 | 2.017   11.20 |  3.02    3.68
0.033    2.76 | 1.033   54.64 | 2.033   11.20 |  3.03    3.68
0.050    2.76 | 1.050   54.64 | 2.050   11.20 |  3.05    3.68
0.067    2.76 | 1.067   54.64 | 2.067   11.20 |  3.07    3.68
0.083    2.76 | 1.083   54.64 | 2.083   11.20 |  3.08    3.68
0.100    2.76 | 1.100   54.64 | 2.100   11.20 |  3.10    3.68
0.117    2.76 | 1.117   54.64 | 2.117   11.20 |  3.12    3.68
0.133    2.76 | 1.133   54.64 | 2.133   11.20 |  3.13    3.68
0.150    2.76 | 1.150   54.64 | 2.150   11.20 |  3.15    3.68
0.167    2.76 | 1.167   54.64 | 2.167   11.20 |  3.17    3.68
0.183    3.46 | 1.183  176.22 | 2.183    8.69 |  3.18    3.26
0.200    3.46 | 1.200  176.22 | 2.200    8.69 |  3.20    3.26
0.217    3.46 | 1.217  176.22 | 2.217    8.69 |  3.22    3.26
0.233    3.46 | 1.233  176.22 | 2.233    8.69 |  3.23    3.26
0.250    3.46 | 1.250  176.22 | 2.250    8.69 |  3.25    3.26
0.267    3.46 | 1.267  176.22 | 2.267    8.69 |  3.27    3.26
0.283    3.46 | 1.283  176.22 | 2.283    8.69 |  3.28    3.26
0.300    3.46 | 1.300  176.22 | 2.300    8.69 |  3.30    3.26
0.317    3.46 | 1.317  176.22 | 2.317    8.69 |  3.32    3.26
0.333    3.46 | 1.333  176.22 | 2.333    8.69 |  3.33    3.26
0.350    4.54 | 1.350   73.12 | 2.350    6.99 |  3.35    2.91
0.367    4.54 | 1.367   73.12 | 2.367    6.99 |  3.37    2.91
0.383    4.54 | 1.383   73.12 | 2.383    6.99 |  3.38    2.91
0.400    4.54 | 1.400   73.12 | 2.400    6.99 |  3.40    2.91
0.417    4.54 | 1.417   73.12 | 2.417    6.99 |  3.42    2.91
0.433    4.54 | 1.433   73.12 | 2.433    6.99 |  3.43    2.91
0.450    4.54 | 1.450   73.12 | 2.450    6.99 |  3.45    2.91
0.467    4.54 | 1.467   73.12 | 2.467    6.99 |  3.47    2.91
0.483    4.54 | 1.483   73.12 | 2.483    6.99 |  3.48    2.91
0.500    4.54 | 1.500   73.12 | 2.500    6.99 |  3.50    2.91
0.517    6.38 | 1.517   36.24 | 2.517    5.79 |  3.52    2.62
0.533    6.38 | 1.533   36.23 | 2.533    5.79 |  3.53    2.62
0.550    6.38 | 1.550   36.23 | 2.550    5.79 |  3.55    2.62
0.567    6.38 | 1.567   36.23 | 2.567    5.79 |  3.57    2.62
0.583    6.38 | 1.583   36.23 | 2.583    5.79 |  3.58    2.62
0.600    6.38 | 1.600   36.23 | 2.600    5.79 |  3.60    2.62
0.617    6.38 | 1.617   36.23 | 2.617    5.79 |  3.62    2.62
0.633    6.38 | 1.633   36.23 | 2.633    5.79 |  3.63    2.62
0.650    6.38 | 1.650   36.23 | 2.650    5.79 |  3.65    2.62
0.667    6.38 | 1.667   36.23 | 2.667    5.79 |  3.67    2.62
0.683    9.93 | 1.683   22.15 | 2.683    4.89 |  3.68    2.38
0.700    9.93 | 1.700   22.15 | 2.700    4.89 |  3.70    2.38
0.717    9.93 | 1.717   22.15 | 2.717    4.89 |  3.72    2.38
0.733    9.93 | 1.733   22.15 | 2.733    4.89 |  3.73    2.38
0.750    9.93 | 1.750   22.15 | 2.750    4.89 |  3.75    2.38
0.767    9.93 | 1.767   22.15 | 2.767    4.89 |  3.77    2.38
0.783    9.93 | 1.783   22.15 | 2.783    4.89 |  3.78    2.38
0.800    9.93 | 1.800   22.15 | 2.800    4.89 |  3.80    2.38
0.817    9.93 | 1.817   22.15 | 2.817    4.89 |  3.82    2.38
0.833    9.93 | 1.833   22.15 | 2.833    4.89 |  3.83    2.38
0.850   18.64 | 1.850   15.19 | 2.850    4.21 |  3.85    2.18
0.867   18.64 | 1.867   15.19 | 2.867    4.21 |  3.87    2.18
0.883   18.64 | 1.883   15.19 | 2.883    4.21 |  3.88    2.18
0.900   18.64 | 1.900   15.19 | 2.900    4.21 |  3.90    2.18
0.917   18.64 | 1.917   15.19 | 2.917    4.21 |  3.92    2.18
0.933   18.64 | 1.933   15.19 | 2.933    4.21 |  3.93    2.18
0.950   18.64 | 1.950   15.19 | 2.950    4.21 |  3.95    2.18
0.967   18.64 | 1.967   15.19 | 2.967    4.21 |  3.97    2.18
0.983   18.64 | 1.983   15.19 | 2.983    4.21 |  3.98    2.18
1.000   18.64 | 2.000   15.19 | 3.000    4.21 |  4.00    2.18

     Max.Eff.Inten.(mm/hr)=     176.22       110.28
               over (min)        5.00         4.00
     Storage Coeff.  (min)=      2.23 (ii)    3.58 (ii)
     Unit Hyd. Tpeak (min)=      5.00         4.00
     Unit Hyd. peak  (cms)=      0.36         0.30
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.95         0.01      0.958 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.35       1.33
     RUNOFF VOLUME    (mm)=     79.34        50.27      79.05
     TOTAL RAINFALL   (mm)=     80.34        80.34      80.34
     RUNOFF COEFFICIENT   =      0.99         0.63       0.98

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
       (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  7644)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0433      0.1140
                          0.0182      0.0580   |    0.0507      0.1280
                          0.0280      0.0775   |    0.0571      0.1440
                          0.0343      0.0930   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7643)     2.020      0.958      1.33      79.05
   OUTFLOW: ID= 1 (  7644)     2.020      0.051      2.28      77.15

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.28
                  TIME SHIFT OF PEAK FLOW          (min)= 57.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1279

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**************************************************
** SIMULATION:993. 100 Year 6 Hour AES (Bloor, TRCA) **
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--------------------
|    READ STORM    |    Filename: C:\Users\kevsur3650\AppD
|                  |              ata\Local\Temp\
|                  |              a38a8851-c36c-4932-84b4-c99a8b88bdf6\17385e7a
| Ptotal= 80.31 mm |    Comments: 100 Year 6 Hour AES (Bloor, TRCA)
--------------------
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.00     0.00 |  1.75   27.30 |  3.50   11.24 |  5.25    1.61
```

0.25	1.61	2.00	27.30	3.75	6.42	5.50	1.61
0.50	1.61	2.25	73.88	4.00	6.42	5.75	1.61
0.75	1.61	2.50	73.88	4.25	3.21	6.00	1.61
1.00	1.61	2.75	20.88	4.50	3.21		
1.25	9.64	3.00	20.88	4.75	1.61		
1.50	9.64	3.25	11.24	5.00	1.61		

CALIB			
STANDHYD (7567)	Area (ha)= 2.81		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	9.64	3.150	20.88	4.72	3.21
0.033	0.00	1.600	9.64	3.167	20.88	4.73	3.21
0.050	0.00	1.617	9.64	3.183	20.88	4.75	3.21
0.067	0.00	1.633	9.64	3.200	20.88	4.77	1.61
0.083	0.00	1.650	9.64	3.217	20.88	4.78	1.61
0.100	0.00	1.667	9.64	3.233	20.88	4.80	1.61
0.117	0.00	1.683	9.64	3.250	20.88	4.82	1.61
0.133	0.00	1.700	9.64	3.267	11.24	4.83	1.61
0.150	0.00	1.717	9.64	3.283	11.24	4.85	1.61
0.167	0.00	1.733	9.64	3.300	11.24	4.87	1.61
0.183	0.00	1.750	9.64	3.317	11.24	4.88	1.61
0.200	0.00	1.767	27.30	3.333	11.24	4.90	1.61
0.217	0.00	1.783	27.30	3.350	11.24	4.92	1.61
0.233	0.00	1.800	27.30	3.367	11.24	4.93	1.61
0.250	0.00	1.817	27.30	3.383	11.24	4.95	1.61
0.267	1.61	1.833	27.30	3.400	11.24	4.97	1.61
0.283	1.61	1.850	27.30	3.417	11.24	4.98	1.61
0.300	1.61	1.867	27.30	3.433	11.24	5.00	1.61
0.317	1.61	1.883	27.30	3.450	11.24	5.02	1.61
0.333	1.61	1.900	27.30	3.467	11.24	5.03	1.61
0.350	1.61	1.917	27.30	3.483	11.24	5.05	1.61
0.367	1.61	1.933	27.30	3.500	11.24	5.07	1.61
0.383	1.61	1.950	27.30	3.517	11.24	5.08	1.61
0.400	1.61	1.967	27.30	3.533	11.24	5.10	1.61
0.417	1.61	1.983	27.30	3.550	11.24	5.12	1.61
0.433	1.61	2.000	27.30	3.567	11.24	5.13	1.61
0.450	1.61	2.017	27.30	3.583	11.24	5.15	1.61
0.467	1.61	2.033	27.30	3.600	11.24	5.17	1.61
0.483	1.61	2.050	27.30	3.617	11.24	5.18	1.61
0.500	1.61	2.067	27.30	3.633	11.24	5.20	1.61
0.517	1.61	2.083	27.30	3.650	11.24	5.22	1.61
0.533	1.61	2.100	27.30	3.667	11.24	5.23	1.61
0.550	1.61	2.117	27.30	3.683	11.24	5.25	1.61
0.567	1.61	2.133	27.30	3.700	11.24	5.27	1.61
0.583	1.61	2.150	27.30	3.717	11.24	5.28	1.61
0.600	1.61	2.167	27.30	3.733	11.24	5.30	1.61
0.617	1.61	2.183	27.30	3.750	11.24	5.32	1.61
0.633	1.61	2.200	27.30	3.767	6.42	5.33	1.61
0.650	1.61	2.217	27.30	3.783	6.42	5.35	1.61
0.667	1.61	2.233	27.30	3.800	6.42	5.37	1.61
0.683	1.61	2.250	27.30	3.817	6.42	5.38	1.61
0.700	1.61	2.267	73.88	3.833	6.42	5.40	1.61
0.717	1.61	2.283	73.88	3.850	6.42	5.42	1.61
0.733	1.61	2.300	73.88	3.867	6.42	5.43	1.61
0.750	1.61	2.317	73.88	3.883	6.42	5.45	1.61
0.767	1.61	2.333	73.88	3.900	6.42	5.47	1.61
0.783	1.61	2.350	73.88	3.917	6.42	5.48	1.61
0.800	1.61	2.367	73.88	3.933	6.42	5.50	1.61
0.817	1.61	2.383	73.88	3.950	6.42	5.52	1.61
0.833	1.61	2.400	73.88	3.967	6.42	5.53	1.61
0.850	1.61	2.417	73.88	3.983	6.42	5.55	1.61
0.867	1.61	2.433	73.88	4.000	6.42	5.57	1.61
0.883	1.61	2.450	73.88	4.017	6.42	5.58	1.61
0.900	1.61	2.467	73.88	4.033	6.42	5.60	1.61
0.917	1.61	2.483	73.88	4.050	6.42	5.62	1.61
0.933	1.61	2.500	73.88	4.067	6.42	5.63	1.61
0.950	1.61	2.517	73.88	4.083	6.42	5.65	1.61
0.967	1.61	2.533	73.88	4.100	6.42	5.67	1.61
0.983	1.61	2.550	73.88	4.117	6.42	5.68	1.61
1.000	1.61	2.567	73.88	4.133	6.42	5.70	1.61
1.017	1.61	2.583	73.88	4.150	6.42	5.72	1.61
1.033	1.61	2.600	73.88	4.167	6.42	5.73	1.61
1.050	1.61	2.617	73.88	4.183	6.42	5.75	1.61
1.067	1.61	2.633	73.88	4.200	6.42	5.77	1.61
1.083	1.61	2.650	73.88	4.217	6.42	5.78	1.61
1.100	1.61	2.667	73.88	4.233	6.42	5.80	1.61
1.117	1.61	2.683	73.88	4.250	6.42	5.82	1.61
1.133	1.61	2.700	73.88	4.267	3.21	5.83	1.61
1.150	1.61	2.717	73.88	4.283	3.21	5.85	1.61
1.167	1.61	2.733	73.88	4.300	3.21	5.87	1.61
1.183	1.61	2.750	73.88	4.317	3.21	5.88	1.61
1.200	1.61	2.767	20.89	4.333	3.21	5.90	1.61
1.217	1.61	2.783	20.88	4.350	3.21	5.92	1.61
1.233	1.61	2.800	20.88	4.367	3.21	5.93	1.61
1.250	1.61	2.817	20.88	4.383	3.21	5.95	1.61
1.267	9.64	2.833	20.88	4.400	3.21	5.97	1.61
1.283	9.64	2.850	20.88	4.417	3.21	5.98	1.61
1.300	9.64	2.867	20.88	4.433	3.21	6.00	1.61
1.317	9.64	2.883	20.88	4.450	3.21	6.02	1.61
1.333	9.64	2.900	20.88	4.467	3.21	6.03	1.61
1.350	9.64	2.917	20.88	4.483	3.21	6.05	1.61
1.367	9.64	2.933	20.88	4.500	3.21	6.07	1.61
1.383	9.64	2.950	20.88	4.517	3.21	6.08	1.61
1.400	9.64	2.967	20.88	4.533	3.21	6.10	1.61
1.417	9.64	2.983	20.88	4.550	3.21	6.12	1.61
1.433	9.64	3.000	20.88	4.567	3.21	6.13	1.61
1.450	9.64	3.017	20.88	4.583	3.21	6.15	1.61
1.467	9.64	3.033	20.88	4.600	3.21	6.17	1.61
1.483	9.64	3.050	20.88	4.617	3.21	6.18	1.61
1.500	9.64	3.067	20.88	4.633	3.21	6.20	1.61
1.517	9.64	3.083	20.88	4.650	3.21	6.22	1.61
1.533	9.64	3.100	20.88	4.667	3.21	6.23	1.61
1.550	9.64	3.117	20.88	4.683	3.21	6.25	1.61
1.567	9.64	3.133	20.88	4.700	3.21		

Max.Eff.Inten.(mm/hr)=		73.88	57.08	
over (min)		5.00	6.00	
Storage Coeff. (min)=		3.48 (ii)	5.40 (ii)	
Unit Hyd. Tpeak (min)=		5.00	6.00	
Unit Hyd. peak (cms)=		0.28	0.20	
				TOTALS
PEAK FLOW	(cms)=	0.57	0.00	0.575 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	79.31	50.24	79.02
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.575	2.75	79.02
OUTFLOW: ID= 1 (7626)	2.810	0.065	3.85	76.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.30
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.1708

CALIB / STANDHYD (7624) / ID= 1 DT= 1.0 min	Area (ha)= 2.08	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	9.64	3.150	20.88	4.72	3.21
0.033	0.00	1.600	9.64	3.167	20.88	4.73	3.21
0.050	0.00	1.617	9.64	3.183	20.88	4.75	3.21
0.067	0.00	1.633	9.64	3.200	20.88	4.77	1.61
0.083	0.00	1.650	9.64	3.217	20.88	4.78	1.61
0.100	0.00	1.667	9.64	3.233	20.88	4.80	1.61
0.117	0.00	1.683	9.64	3.250	20.88	4.82	1.61
0.133	0.00	1.700	9.64	3.267	11.24	4.83	1.61
0.150	0.00	1.717	9.64	3.283	11.24	4.85	1.61
0.167	0.00	1.733	9.64	3.300	11.24	4.87	1.61
0.183	0.00	1.750	9.64	3.317	11.24	4.88	1.61
0.200	0.00	1.767	27.30	3.333	11.24	4.90	1.61
0.217	0.00	1.783	27.30	3.350	11.24	4.92	1.61
0.233	0.00	1.800	27.30	3.367	11.24	4.93	1.61
0.250	0.00	1.817	27.30	3.383	11.24	4.95	1.61
0.267	1.61	1.833	27.30	3.400	11.24	4.97	1.61
0.283	1.61	1.850	27.30	3.417	11.24	4.98	1.61
0.300	1.61	1.867	27.30	3.433	11.24	5.00	1.61
0.317	1.61	1.883	27.30	3.450	11.24	5.02	1.61
0.333	1.61	1.900	27.30	3.467	11.24	5.03	1.61
0.350	1.61	1.917	27.30	3.483	11.24	5.05	1.61
0.367	1.61	1.933	27.30	3.500	11.24	5.07	1.61
0.383	1.61	1.950	27.30	3.517	11.24	5.08	1.61
0.400	1.61	1.967	27.30	3.533	11.24	5.10	1.61
0.417	1.61	1.983	27.30	3.550	11.24	5.12	1.61
0.433	1.61	2.000	27.30	3.567	11.24	5.13	1.61
0.450	1.61	2.017	27.30	3.583	11.24	5.15	1.61
0.467	1.61	2.033	27.30	3.600	11.24	5.17	1.61
0.483	1.61	2.050	27.30	3.617	11.24	5.18	1.61
0.500	1.61	2.067	27.30	3.633	11.24	5.20	1.61
0.517	1.61	2.083	27.30	3.650	11.24	5.22	1.61
0.533	1.61	2.100	27.30	3.667	11.24	5.23	1.61
0.550	1.61	2.117	27.30	3.683	11.24	5.25	1.61
0.567	1.61	2.133	27.30	3.700	11.24	5.27	1.61
0.583	1.61	2.150	27.30	3.717	11.24	5.28	1.61
0.600	1.61	2.167	27.30	3.733	11.24	5.30	1.61
0.617	1.61	2.183	27.30	3.750	11.24	5.32	1.61
0.633	1.61	2.200	27.30	3.767	6.42	5.33	1.61
0.650	1.61	2.217	27.30	3.783	6.42	5.35	1.61
0.667	1.61	2.233	27.30	3.800	6.42	5.37	1.61
0.683	1.61	2.250	27.30	3.817	6.42	5.38	1.61
0.700	1.61	2.267	73.88	3.833	6.42	5.40	1.61
0.717	1.61	2.283	73.88	3.850	6.42	5.42	1.61
0.733	1.61	2.300	73.88	3.867	6.42	5.43	1.61
0.750	1.61	2.317	73.88	3.883	6.42	5.45	1.61
0.767	1.61	2.333	73.88	3.900	6.42	5.47	1.61
0.783	1.61	2.350	73.88	3.917	6.42	5.48	1.61
0.800	1.61	2.367	73.88	3.933	6.42	5.50	1.61
0.817	1.61	2.383	73.88	3.950	6.42	5.52	1.61
0.833	1.61	2.400	73.88	3.967	6.42	5.53	1.61
0.850	1.61	2.417	73.88	3.983	6.42	5.55	1.61
0.867	1.61	2.433	73.88	4.000	6.42	5.57	1.61
0.883	1.61	2.450	73.88	4.017	6.42	5.58	1.61
0.900	1.61	2.467	73.88	4.033	6.42	5.60	1.61
0.917	1.61	2.483	73.88	4.050	6.42	5.62	1.61
0.933	1.61	2.500	73.88	4.067	6.42	5.63	1.61
0.950	1.61	2.517	73.88	4.083	6.42	5.65	1.61
0.967	1.61	2.533	73.88	4.100	6.42	5.67	1.61
0.983	1.61	2.550	73.88	4.117	6.42	5.68	1.61
1.000	1.61	2.567	73.88	4.133	6.42	5.70	1.61
1.017	1.61	2.583	73.88	4.150	6.42	5.72	1.61
1.033	1.61	2.600	73.88	4.167	6.42	5.73	1.61
1.050	1.61	2.617	73.88	4.183	6.42	5.75	1.61
1.067	1.61	2.633	73.88	4.200	6.42	5.77	1.61
1.083	1.61	2.650	73.88	4.217	6.42	5.78	1.61
1.100	1.61	2.667	73.88	4.233	6.42	5.80	1.61
1.117	1.61	2.683	73.88	4.250	6.42	5.82	1.61
1.133	1.61	2.700	73.88	4.267	3.21	5.83	1.61
1.150	1.61	2.717	73.88	4.283	3.21	5.85	1.61
1.167	1.61	2.733	73.88	4.300	3.21	5.87	1.61
1.183	1.61	2.750	73.88	4.317	3.21	5.88	1.61
1.200	1.61	2.767	20.89	4.333	3.21	5.90	1.61
1.217	1.61	2.783	20.88	4.350	3.21	5.92	1.61
1.233	1.61	2.800	20.88	4.367	3.21	5.93	1.61
1.250	1.61	2.817	20.88	4.383	3.21	5.95	1.61
1.267	9.64	2.833	20.88	4.400	3.21	5.97	1.61
1.283	9.64	2.850	20.88	4.417	3.21	5.98	1.61
1.300	9.64	2.867	20.88	4.433	3.21	6.00	1.61
1.317	9.64	2.883	20.88	4.450	3.21	6.02	1.61
1.333	9.64	2.900	20.88	4.467	3.21	6.03	1.61
1.350	9.64	2.917	20.88	4.483	3.21	6.05	1.61
1.367	9.64	2.933	20.88	4.500	3.21	6.07	1.61
1.383	9.64	2.950	20.88	4.517	3.21	6.08	1.61
1.400	9.64	2.967	20.88	4.533	3.21	6.10	1.61
1.417	9.64	2.983	20.88	4.550	3.21	6.12	1.61
1.433	9.64	3.000	20.88	4.567	3.21	6.13	1.61
1.450	9.64	3.017	20.88	4.583	3.21	6.15	1.61
1.467	9.64	3.033	20.88	4.600	3.21	6.17	1.61
1.483	9.64	3.050	20.88	4.617	3.21	6.18	1.61
1.500	9.64	3.067	20.88	4.633	3.21	6.20	1.61
1.517	9.64	3.083	20.88	4.650	3.21	6.22	1.61
1.533	9.64	3.100	20.88	4.667	3.21	6.23	1.61
1.550	9.64	3.117	20.88	4.683	3.21	6.25	1.61
1.567	9.64	3.133	20.88	4.700	3.21		

Max.Eff.Inten.(mm/hr)=		73.88	64.04	
over (min)		5.00	6.00	
Storage Coeff. (min)=		3.18 (ii)	5.10 (ii)	
Unit Hyd. Tpeak (min)=		5.00	6.00	
Unit Hyd. peak (cms)=		0.30	0.21	
				TOTALS
PEAK FLOW	(cms)=	0.42	0.00	0.426 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	79.31	58.03	79.10
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.72	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625) / IN= 2---> OUT= 1 / DT= 1.0 min	OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0389	0.1013
0.0164	0.0514	0.0456	0.1141
0.0252	0.0690	0.0514	0.1288
0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.426	2.75	79.10
OUTFLOW: ID= 1 (7625)	2.080	0.050	3.83	77.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.74
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.1254

CALIB	
STANDHYD (7623)	Area (ha)= 1.15
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	9.64	3.150	20.88	4.72	3.21
0.033	0.00	1.600	9.64	3.167	20.88	4.73	3.21
0.050	0.00	1.617	9.64	3.183	20.88	4.75	3.21
0.067	0.00	1.633	9.64	3.200	20.88	4.77	1.61
0.083	0.00	1.650	9.64	3.217	20.88	4.78	1.61
0.100	0.00	1.667	9.64	3.233	20.88	4.80	1.61
0.117	0.00	1.683	9.64	3.250	20.88	4.82	1.61
0.133	0.00	1.700	9.64	3.267	11.24	4.83	1.61
0.150	0.00	1.717	9.64	3.283	11.24	4.85	1.61
0.167	0.00	1.733	9.64	3.300	11.24	4.87	1.61
0.183	0.00	1.750	9.64	3.317	11.24	4.88	1.61
0.200	0.00	1.767	27.30	3.333	11.24	4.90	1.61
0.217	0.00	1.783	27.30	3.350	11.24	4.92	1.61
0.233	0.00	1.800	27.30	3.367	11.24	4.93	1.61
0.250	0.00	1.817	27.30	3.383	11.24	4.95	1.61
0.267	1.61	1.833	27.30	3.400	11.24	4.97	1.61
0.283	1.61	1.850	27.30	3.417	11.24	4.98	1.61
0.300	1.61	1.867	27.30	3.433	11.24	5.00	1.61
0.317	1.61	1.883	27.30	3.450	11.24	5.02	1.61
0.333	1.61	1.900	27.30	3.467	11.24	5.03	1.61
0.350	1.61	1.917	27.30	3.483	11.24	5.05	1.61
0.367	1.61	1.933	27.30	3.500	11.24	5.07	1.61
0.383	1.61	1.950	27.30	3.517	11.24	5.08	1.61
0.400	1.61	1.967	27.30	3.533	11.24	5.10	1.61
0.417	1.61	1.983	27.30	3.550	11.24	5.12	1.61
0.433	1.61	2.000	27.30	3.567	11.24	5.13	1.61
0.450	1.61	2.017	27.30	3.583	11.24	5.15	1.61
0.467	1.61	2.033	27.30	3.600	11.24	5.17	1.61
0.483	1.61	2.050	27.30	3.617	11.24	5.18	1.61
0.500	1.61	2.067	27.30	3.633	11.24	5.20	1.61
0.517	1.61	2.083	27.30	3.650	11.24	5.22	1.61
0.533	1.61	2.100	27.30	3.667	11.24	5.23	1.61
0.550	1.61	2.117	27.30	3.683	11.24	5.25	1.61
0.567	1.61	2.133	27.30	3.700	11.24	5.27	1.61
0.583	1.61	2.150	27.30	3.717	11.24	5.28	1.61
0.600	1.61	2.167	27.30	3.733	11.24	5.30	1.61
0.617	1.61	2.183	27.30	3.750	11.24	5.32	1.61
0.633	1.61	2.200	27.30	3.767	6.42	5.33	1.61
0.650	1.61	2.217	27.30	3.783	6.42	5.35	1.61
0.667	1.61	2.233	27.30	3.800	6.42	5.37	1.61
0.683	1.61	2.250	27.30	3.817	6.42	5.38	1.61
0.700	1.61	2.267	73.88	3.833	6.42	5.40	1.61
0.717	1.61	2.283	73.88	3.850	6.42	5.42	1.61
0.733	1.61	2.300	73.88	3.867	6.42	5.43	1.61
0.750	1.61	2.317	73.88	3.883	6.42	5.45	1.61
0.767	1.61	2.333	73.88	3.900	6.42	5.47	1.61
0.783	1.61	2.350	73.88	3.917	6.42	5.48	1.61
0.800	1.61	2.367	73.88	3.933	6.42	5.50	1.61
0.817	1.61	2.383	73.88	3.950	6.42	5.52	1.61
0.833	1.61	2.400	73.88	3.967	6.42	5.53	1.61
0.850	1.61	2.417	73.88	3.983	6.42	5.55	1.61
0.867	1.61	2.433	73.88	4.000	6.42	5.57	1.61
0.883	1.61	2.450	73.88	4.017	6.42	5.58	1.61
0.900	1.61	2.467	73.88	4.033	6.42	5.60	1.61
0.917	1.61	2.483	73.88	4.050	6.42	5.62	1.61
0.933	1.61	2.500	73.88	4.067	6.42	5.63	1.61
0.950	1.61	2.517	73.88	4.083	6.42	5.65	1.61
0.967	1.61	2.533	73.88	4.100	6.42	5.67	1.61
0.983	1.61	2.550	73.88	4.117	6.42	5.68	1.61
1.000	1.61	2.567	73.88	4.133	6.42	5.70	1.61
1.017	1.61	2.583	73.88	4.150	6.42	5.72	1.61
1.033	1.61	2.600	73.88	4.167	6.42	5.73	1.61
1.050	1.61	2.617	73.88	4.183	6.42	5.75	1.61
1.067	1.61	2.633	73.88	4.200	6.42	5.77	1.61
1.083	1.61	2.650	73.88	4.217	6.42	5.78	1.61
1.100	1.61	2.667	73.88	4.233	6.42	5.80	1.61
1.117	1.61	2.683	73.88	4.250	6.42	5.82	1.61
1.133	1.61	2.700	73.88	4.267	3.21	5.83	1.61
1.150	1.61	2.717	73.88	4.283	3.21	5.85	1.61
1.167	1.61	2.733	73.88	4.300	3.21	5.87	1.61
1.183	1.61	2.750	73.88	4.317	3.21	5.88	1.61
1.200	1.61	2.767	20.89	4.333	3.21	5.90	1.61
1.217	1.61	2.783	20.88	4.350	3.21	5.92	1.61
1.233	1.61	2.800	20.88	4.367	3.21	5.93	1.61
1.250	1.61	2.817	20.88	4.383	3.21	5.95	1.61
1.267	9.64	2.833	20.88	4.400	3.21	5.97	1.61
1.283	9.64	2.850	20.88	4.417	3.21	5.98	1.61
1.300	9.64	2.867	20.88	4.433	3.21	6.00	1.61
1.317	9.64	2.883	20.88	4.450	3.21	6.02	1.61
1.333	9.64	2.900	20.88	4.467	3.21	6.03	1.61
1.350	9.64	2.917	20.88	4.483	3.21	6.05	1.61
1.367	9.64	2.933	20.88	4.500	3.21	6.07	1.61
1.383	9.64	2.950	20.88	4.517	3.21	6.08	1.61
1.400	9.64	2.967	20.88	4.533	3.21	6.10	1.61
1.417	9.64	2.983	20.88	4.550	3.21	6.12	1.61
1.433	9.64	3.000	20.88	4.567	3.21	6.13	1.61
1.450	9.64	3.017	20.88	4.583	3.21	6.15	1.61
1.467	9.64	3.033	20.88	4.600	3.21	6.17	1.61
1.483	9.64	3.050	20.88	4.617	3.21	6.18	1.61
1.500	9.64	3.067	20.88	4.633	3.21	6.20	1.61
1.517	9.64	3.083	20.88	4.650	3.21	6.22	1.61
1.533	9.64	3.100	20.88	4.667	3.21	6.23	1.61
1.550	9.64	3.117	20.88	4.683	3.21	6.25	1.61
1.567	9.64	3.133	20.88	4.700	3.21		

			TOTALS
Max.Eff.Inten.(mm/hr)=	73.88	57.08	
over (min)	5.00	5.00	
Storage Coeff. (min)=	2.66 (ii)	4.58 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.33	0.24	
PEAK FLOW (cms)=	0.23	0.00	0.235 (iii)
TIME TO PEAK (hrs)=	2.75	2.75	2.75
RUNOFF VOLUME (mm)=	79.31	50.24	79.02
TOTAL RAINFALL (mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT =	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0258	0.0650
0.0108	0.0330	0.0302	0.0725
0.0167	0.0440	0.0340	0.0820

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                        0.0204      0.0525   |    0.0000      0.0000

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7623)      1.150     0.235      2.75      79.02
   OUTFLOW: ID= 1 (  7622)      1.150     0.028      3.83      77.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.99
                  TIME SHIFT OF PEAK FLOW         (min)= 65.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0692

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| CALIB           |
| STANDHYD (  7629)|   Area    (ha)=   4.09
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       4.05         0.04
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     165.13        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.017    0.00 | 1.583    9.64 | 3.150   20.88 |  4.72    3.21
              0.033    0.00 | 1.600    9.64 | 3.167   20.88 |  4.73    3.21
              0.050    0.00 | 1.617    9.64 | 3.183   20.88 |  4.75    3.21
              0.067    0.00 | 1.633    9.64 | 3.200   20.88 |  4.77    1.61
              0.083    0.00 | 1.650    9.64 | 3.217   20.88 |  4.78    1.61
              0.100    0.00 | 1.667    9.64 | 3.233   20.88 |  4.80    1.61
              0.117    0.00 | 1.683    9.64 | 3.250   20.88 |  4.82    1.61
              0.133    0.00 | 1.700    9.64 | 3.267   11.24 |  4.83    1.61
              0.150    0.00 | 1.717    9.64 | 3.283   11.24 |  4.85    1.61
              0.167    0.00 | 1.733    9.64 | 3.300   11.24 |  4.87    1.61
              0.183    0.00 | 1.750    9.64 | 3.317   11.24 |  4.88    1.61
              0.200    0.00 | 1.767   27.30 | 3.333   11.24 |  4.90    1.61
              0.217    0.00 | 1.783   27.30 | 3.350   11.24 |  4.92    1.61
              0.233    0.00 | 1.800   27.30 | 3.367   11.24 |  4.93    1.61
              0.250    0.00 | 1.817   27.30 | 3.383   11.24 |  4.95    1.61
              0.267    1.61 | 1.833   27.30 | 3.400   11.24 |  4.97    1.61
              0.283    1.61 | 1.850   27.30 | 3.417   11.24 |  4.98    1.61
              0.300    1.61 | 1.867   27.30 | 3.433   11.24 |  5.00    1.61
              0.317    1.61 | 1.883   27.30 | 3.450   11.24 |  5.02    1.61
              0.333    1.61 | 1.900   27.30 | 3.467   11.24 |  5.03    1.61
              0.350    1.61 | 1.917   27.30 | 3.483   11.24 |  5.05    1.61
              0.367    1.61 | 1.933   27.30 | 3.500   11.24 |  5.07    1.61
              0.383    1.61 | 1.950   27.30 | 3.517   11.24 |  5.08    1.61
              0.400    1.61 | 1.967   27.30 | 3.533   11.24 |  5.10    1.61
              0.417    1.61 | 1.983   27.30 | 3.550   11.24 |  5.12    1.61
              0.433    1.61 | 2.000   27.30 | 3.567   11.24 |  5.13    1.61
              0.450    1.61 | 2.017   27.30 | 3.583   11.24 |  5.15    1.61
              0.467    1.61 | 2.033   27.30 | 3.600   11.24 |  5.17    1.61
              0.483    1.61 | 2.050   27.30 | 3.617   11.24 |  5.18    1.61
              0.500    1.61 | 2.067   27.30 | 3.633   11.24 |  5.20    1.61
              0.517    1.61 | 2.083   27.30 | 3.650   11.24 |  5.22    1.61
              0.533    1.61 | 2.100   27.30 | 3.667   11.24 |  5.23    1.61
              0.550    1.61 | 2.117   27.30 | 3.683   11.24 |  5.25    1.61
              0.567    1.61 | 2.133   27.30 | 3.700   11.24 |  5.27    1.61
              0.583    1.61 | 2.150   27.30 | 3.717   11.24 |  5.28    1.61
              0.600    1.61 | 2.167   27.30 | 3.733   11.24 |  5.30    1.61
              0.617    1.61 | 2.183   27.30 | 3.750   11.24 |  5.32    1.61
              0.633    1.61 | 2.200   27.30 | 3.767    6.42 |  5.33    1.61
              0.650    1.61 | 2.217   27.30 | 3.783    6.42 |  5.35    1.61
              0.667    1.61 | 2.233   27.30 | 3.800    6.42 |  5.37    1.61
              0.683    1.61 | 2.250   27.30 | 3.817    6.42 |  5.38    1.61
              0.700    1.61 | 2.267   73.88 | 3.833    6.42 |  5.40    1.61
              0.717    1.61 | 2.283   73.88 | 3.850    6.42 |  5.42    1.61
              0.733    1.61 | 2.300   73.88 | 3.867    6.42 |  5.43    1.61
              0.750    1.61 | 2.317   73.88 | 3.883    6.42 |  5.45    1.61
              0.767    1.61 | 2.333   73.88 | 3.900    6.42 |  5.47    1.61
              0.783    1.61 | 2.350   73.88 | 3.917    6.42 |  5.48    1.61
              0.800    1.61 | 2.367   73.88 | 3.933    6.42 |  5.50    1.61
              0.817    1.61 | 2.383   73.88 | 3.950    6.42 |  5.52    1.61
              0.833    1.61 | 2.400   73.88 | 3.967    6.42 |  5.53    1.61
              0.850    1.61 | 2.417   73.88 | 3.983    6.42 |  5.55    1.61
              0.867    1.61 | 2.433   73.88 | 4.000    6.42 |  5.57    1.61
              0.883    1.61 | 2.450   73.88 | 4.017    6.42 |  5.58    1.61
              0.900    1.61 | 2.467   73.88 | 4.033    6.42 |  5.60    1.61
              0.917    1.61 | 2.483   73.88 | 4.050    6.42 |  5.62    1.61
              0.933    1.61 | 2.500   73.88 | 4.067    6.42 |  5.63    1.61
              0.950    1.61 | 2.517   73.88 | 4.083    6.42 |  5.65    1.61
              0.967    1.61 | 2.533   73.88 | 4.100    6.42 |  5.67    1.61
              0.983    1.61 | 2.550   73.88 | 4.117    6.42 |  5.68    1.61
              1.000    1.61 | 2.567   73.88 | 4.133    6.42 |  5.70    1.61
              1.017    1.61 | 2.583   73.88 | 4.150    6.42 |  5.72    1.61
              1.033    1.61 | 2.600   73.88 | 4.167    6.42 |  5.73    1.61
              1.050    1.61 | 2.617   73.88 | 4.183    6.42 |  5.75    1.61
              1.067    1.61 | 2.633   73.88 | 4.200    6.42 |  5.77    1.61
              1.083    1.61 | 2.650   73.88 | 4.217    6.42 |  5.78    1.61
              1.100    1.61 | 2.667   73.88 | 4.233    6.42 |  5.80    1.61
              1.117    1.61 | 2.683   73.88 | 4.250    6.42 |  5.82    1.61
              1.133    1.61 | 2.700   73.88 | 4.267    3.21 |  5.83    1.61
              1.150    1.61 | 2.717   73.88 | 4.283    3.21 |  5.85    1.61
              1.167    1.61 | 2.733   73.88 | 4.300    3.21 |  5.87    1.61
              1.183    1.61 | 2.750   73.88 | 4.317    3.21 |  5.88    1.61
              1.200    1.61 | 2.767   20.89 | 4.333    3.21 |  5.90    1.61
              1.217    1.61 | 2.783   20.88 | 4.350    3.21 |  5.92    1.61
              1.233    1.61 | 2.800   20.88 | 4.367    3.21 |  5.93    1.61
              1.250    1.61 | 2.817   20.88 | 4.383    3.21 |  5.95    1.61
              1.267    9.64 | 2.833   20.88 | 4.400    3.21 |  5.97    1.61
              1.283    9.64 | 2.850   20.88 | 4.417    3.21 |  5.98    1.61
              1.300    9.64 | 2.867   20.88 | 4.433    3.21 |  6.00    1.61
              1.317    9.64 | 2.883   20.88 | 4.450    3.21 |  6.02    1.61
              1.333    9.64 | 2.900   20.88 | 4.467    3.21 |  6.03    1.61
              1.350    9.64 | 2.917   20.88 | 4.483    3.21 |  6.05    1.61
              1.367    9.64 | 2.933   20.88 | 4.500    3.21 |  6.07    1.61
              1.383    9.64 | 2.950   20.88 | 4.517    3.21 |  6.08    1.61
              1.400    9.64 | 2.967   20.88 | 4.533    3.21 |  6.10    1.61
              1.417    9.64 | 2.983   20.88 | 4.550    3.21 |  6.12    1.61
              1.433    9.64 | 3.000   20.88 | 4.567    3.21 |  6.13    1.61
              1.450    9.64 | 3.017   20.88 | 4.583    3.21 |  6.15    1.61
              1.467    9.64 | 3.033   20.88 | 4.600    3.21 |  6.17    1.61
              1.483    9.64 | 3.050   20.88 | 4.617    3.21 |  6.18    1.61
              1.500    9.64 | 3.067   20.88 | 4.633    3.21 |  6.20    1.61
              1.517    9.64 | 3.083   20.88 | 4.650    3.21 |  6.22    1.61
              1.533    9.64 | 3.100   20.88 | 4.667    3.21 |  6.23    1.61
              1.550    9.64 | 3.117   20.88 | 4.683    3.21 |  6.25    1.61
              1.567    9.64 | 3.133   20.88 | 4.700    3.21 |

     Max.Eff.Inten.(mm/hr)=      73.88        57.08
               over (min)        5.00         6.00
     Storage Coeff.  (min)=      3.90 (ii)    5.82 (ii)
     Unit Hyd. Tpeak (min)=      5.00         6.00
     Unit Hyd. peak  (cms)=      0.26         0.19
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.83         0.01        0.837 (iii)
     TIME TO PEAK    (hrs)=      2.75         2.75         2.75
     RUNOFF VOLUME    (mm)=     79.31        50.24        79.02
     TOTAL RAINFALL   (mm)=     80.31        80.31        80.31
     RUNOFF COEFFICIENT   =      0.99         0.63         0.98


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7630)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0826      0.2320
                          0.0347      0.1170   |    0.0967      0.2609
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0.0534	0.1580	0.1090	0.2940
0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.837	2.75	79.02
OUTFLOW: ID= 1 (7630)	4.090	0.092	3.87	76.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.94
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.2503

CALIB	
STANDHYD (7631)	Area (ha)= 3.91
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	9.64	3.150	20.88	4.72	3.21
0.033	0.00	1.600	9.64	3.167	20.88	4.73	3.21
0.050	0.00	1.617	9.64	3.183	20.88	4.75	3.21
0.067	0.00	1.633	9.64	3.200	20.88	4.77	1.61
0.083	0.00	1.650	9.64	3.217	20.88	4.78	1.61
0.100	0.00	1.667	9.64	3.233	20.88	4.80	1.61
0.117	0.00	1.683	9.64	3.250	20.88	4.82	1.61
0.133	0.00	1.700	9.64	3.267	11.24	4.83	1.61
0.150	0.00	1.717	9.64	3.283	11.24	4.85	1.61
0.167	0.00	1.733	9.64	3.300	11.24	4.87	1.61
0.183	0.00	1.750	9.64	3.317	11.24	4.88	1.61
0.200	0.00	1.767	27.30	3.333	11.24	4.90	1.61
0.217	0.00	1.783	27.30	3.350	11.24	4.92	1.61
0.233	0.00	1.800	27.30	3.367	11.24	4.93	1.61
0.250	0.00	1.817	27.30	3.383	11.24	4.95	1.61
0.267	1.61	1.833	27.30	3.400	11.24	4.97	1.61
0.283	1.61	1.850	27.30	3.417	11.24	4.98	1.61
0.300	1.61	1.867	27.30	3.433	11.24	5.00	1.61
0.317	1.61	1.883	27.30	3.450	11.24	5.02	1.61
0.333	1.61	1.900	27.30	3.467	11.24	5.03	1.61
0.350	1.61	1.917	27.30	3.483	11.24	5.05	1.61
0.367	1.61	1.933	27.30	3.500	11.24	5.07	1.61
0.383	1.61	1.950	27.30	3.517	11.24	5.08	1.61
0.400	1.61	1.967	27.30	3.533	11.24	5.10	1.61
0.417	1.61	1.983	27.30	3.550	11.24	5.12	1.61
0.433	1.61	2.000	27.30	3.567	11.24	5.13	1.61
0.450	1.61	2.017	27.30	3.583	11.24	5.15	1.61
0.467	1.61	2.033	27.30	3.600	11.24	5.17	1.61
0.483	1.61	2.050	27.30	3.617	11.24	5.18	1.61
0.500	1.61	2.067	27.30	3.633	11.24	5.20	1.61
0.517	1.61	2.083	27.30	3.650	11.24	5.22	1.61
0.533	1.61	2.100	27.30	3.667	11.24	5.23	1.61
0.550	1.61	2.117	27.30	3.683	11.24	5.25	1.61
0.567	1.61	2.133	27.30	3.700	11.24	5.27	1.61
0.583	1.61	2.150	27.30	3.717	11.24	5.28	1.61
0.600	1.61	2.167	27.30	3.733	11.24	5.30	1.61
0.617	1.61	2.183	27.30	3.750	11.24	5.32	1.61
0.633	1.61	2.200	27.30	3.767	6.42	5.33	1.61
0.650	1.61	2.217	27.30	3.783	6.42	5.35	1.61
0.667	1.61	2.233	27.30	3.800	6.42	5.37	1.61
0.683	1.61	2.250	27.30	3.817	6.42	5.38	1.61
0.700	1.61	2.267	73.88	3.833	6.42	5.40	1.61
0.717	1.61	2.283	73.88	3.850	6.42	5.42	1.61
0.733	1.61	2.300	73.88	3.867	6.42	5.43	1.61
0.750	1.61	2.317	73.88	3.883	6.42	5.45	1.61
0.767	1.61	2.333	73.88	3.900	6.42	5.47	1.61
0.783	1.61	2.350	73.88	3.917	6.42	5.48	1.61
0.800	1.61	2.367	73.88	3.933	6.42	5.50	1.61
0.817	1.61	2.383	73.88	3.950	6.42	5.52	1.61
0.833	1.61	2.400	73.88	3.967	6.42	5.53	1.61
0.850	1.61	2.417	73.88	3.983	6.42	5.55	1.61
0.867	1.61	2.433	73.88	4.000	6.42	5.57	1.61
0.883	1.61	2.450	73.88	4.017	6.42	5.58	1.61
0.900	1.61	2.467	73.88	4.033	6.42	5.60	1.61
0.917	1.61	2.483	73.88	4.050	6.42	5.62	1.61
0.933	1.61	2.500	73.88	4.067	6.42	5.63	1.61
0.950	1.61	2.517	73.88	4.083	6.42	5.65	1.61
0.967	1.61	2.533	73.88	4.100	6.42	5.67	1.61
0.983	1.61	2.550	73.88	4.117	6.42	5.68	1.61
1.000	1.61	2.567	73.88	4.133	6.42	5.70	1.61
1.017	1.61	2.583	73.88	4.150	6.42	5.72	1.61
1.033	1.61	2.600	73.88	4.167	6.42	5.73	1.61
1.050	1.61	2.617	73.88	4.183	6.42	5.75	1.61
1.067	1.61	2.633	73.88	4.200	6.42	5.77	1.61
1.083	1.61	2.650	73.88	4.217	6.42	5.78	1.61
1.100	1.61	2.667	73.88	4.233	6.42	5.80	1.61
1.117	1.61	2.683	73.88	4.250	6.42	5.82	1.61
1.133	1.61	2.700	73.88	4.267	3.21	5.83	1.61
1.150	1.61	2.717	73.88	4.283	3.21	5.85	1.61
1.167	1.61	2.733	73.88	4.300	3.21	5.87	1.61
1.183	1.61	2.750	73.88	4.317	3.21	5.88	1.61
1.200	1.61	2.767	20.89	4.333	3.21	5.90	1.61
1.217	1.61	2.783	20.88	4.350	3.21	5.92	1.61
1.233	1.61	2.800	20.88	4.367	3.21	5.93	1.61
1.250	1.61	2.817	20.88	4.383	3.21	5.95	1.61
1.267	9.64	2.833	20.88	4.400	3.21	5.97	1.61
1.283	9.64	2.850	20.88	4.417	3.21	5.98	1.61
1.300	9.64	2.867	20.88	4.433	3.21	6.00	1.61
1.317	9.64	2.883	20.88	4.450	3.21	6.02	1.61
1.333	9.64	2.900	20.88	4.467	3.21	6.03	1.61
1.350	9.64	2.917	20.88	4.483	3.21	6.05	1.61
1.367	9.64	2.933	20.88	4.500	3.21	6.07	1.61
1.383	9.64	2.950	20.88	4.517	3.21	6.08	1.61
1.400	9.64	2.967	20.88	4.533	3.21	6.10	1.61
1.417	9.64	2.983	20.88	4.550	3.21	6.12	1.61
1.433	9.64	3.000	20.88	4.567	3.21	6.13	1.61
1.450	9.64	3.017	20.88	4.583	3.21	6.15	1.61
1.467	9.64	3.033	20.88	4.600	3.21	6.17	1.61
1.483	9.64	3.050	20.88	4.617	3.21	6.18	1.61
1.500	9.64	3.067	20.88	4.633	3.21	6.20	1.61
1.517	9.64	3.083	20.88	4.650	3.21	6.22	1.61
1.533	9.64	3.100	20.88	4.667	3.21	6.23	1.61
1.550	9.64	3.117	20.88	4.683	3.21	6.25	1.61
1.567	9.64	3.133	20.88	4.700	3.21		

				TOTALS
Max.Eff.Inten.(mm/hr)=		73.88	57.08	
over (min)		5.00	6.00	
Storage Coeff. (min)=		3.84 (ii)	5.77 (ii)	
Unit Hyd. Tpeak (min)=		5.00	6.00	
Unit Hyd. peak (cms)=		0.27	0.19	
PEAK FLOW	(cms)=	0.79	0.01	0.800 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	79.31	50.24	79.02
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0792	0.2220

	0.0333	0.1130		0.0928	0.2500		
	0.0512	0.1510		0.1046	0.2810		
	0.0629	0.1810		0.0000	0.0000		

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.800	2.75	79.02
OUTFLOW: ID= 1 (7632)	3.910	0.088	3.87	76.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.95
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.2392

CALIB / STANDHYD (7641) / ID= 1 DT= 1.0 min	Area (ha)= 2.21	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	9.64	3.150	20.88	4.72	3.21
0.033	0.00	1.600	9.64	3.167	20.88	4.73	3.21
0.050	0.00	1.617	9.64	3.183	20.88	4.75	3.21
0.067	0.00	1.633	9.64	3.200	20.88	4.77	1.61
0.083	0.00	1.650	9.64	3.217	20.88	4.78	1.61
0.100	0.00	1.667	9.64	3.233	20.88	4.80	1.61
0.117	0.00	1.683	9.64	3.250	20.88	4.82	1.61
0.133	0.00	1.700	9.64	3.267	11.24	4.83	1.61
0.150	0.00	1.717	9.64	3.283	11.24	4.85	1.61
0.167	0.00	1.733	9.64	3.300	11.24	4.87	1.61
0.183	0.00	1.750	9.64	3.317	11.24	4.88	1.61
0.200	0.00	1.767	27.30	3.333	11.24	4.90	1.61
0.217	0.00	1.783	27.30	3.350	11.24	4.92	1.61
0.233	0.00	1.800	27.30	3.367	11.24	4.93	1.61
0.250	0.00	1.817	27.30	3.383	11.24	4.95	1.61
0.267	1.61	1.833	27.30	3.400	11.24	4.97	1.61
0.283	1.61	1.850	27.30	3.417	11.24	4.98	1.61
0.300	1.61	1.867	27.30	3.433	11.24	5.00	1.61
0.317	1.61	1.883	27.30	3.450	11.24	5.02	1.61
0.333	1.61	1.900	27.30	3.467	11.24	5.03	1.61
0.350	1.61	1.917	27.30	3.483	11.24	5.05	1.61
0.367	1.61	1.933	27.30	3.500	11.24	5.07	1.61
0.383	1.61	1.950	27.30	3.517	11.24	5.08	1.61
0.400	1.61	1.967	27.30	3.533	11.24	5.10	1.61
0.417	1.61	1.983	27.30	3.550	11.24	5.12	1.61
0.433	1.61	2.000	27.30	3.567	11.24	5.13	1.61
0.450	1.61	2.017	27.30	3.583	11.24	5.15	1.61
0.467	1.61	2.033	27.30	3.600	11.24	5.17	1.61
0.483	1.61	2.050	27.30	3.617	11.24	5.18	1.61
0.500	1.61	2.067	27.30	3.633	11.24	5.20	1.61
0.517	1.61	2.083	27.30	3.650	11.24	5.22	1.61
0.533	1.61	2.100	27.30	3.667	11.24	5.23	1.61
0.550	1.61	2.117	27.30	3.683	11.24	5.25	1.61
0.567	1.61	2.133	27.30	3.700	11.24	5.27	1.61
0.583	1.61	2.150	27.30	3.717	11.24	5.28	1.61
0.600	1.61	2.167	27.30	3.733	11.24	5.30	1.61
0.617	1.61	2.183	27.30	3.750	11.24	5.32	1.61
0.633	1.61	2.200	27.30	3.767	6.42	5.33	1.61
0.650	1.61	2.217	27.30	3.783	6.42	5.35	1.61
0.667	1.61	2.233	27.30	3.800	6.42	5.37	1.61
0.683	1.61	2.250	27.30	3.817	6.42	5.38	1.61
0.700	1.61	2.267	73.88	3.833	6.42	5.40	1.61
0.717	1.61	2.283	73.88	3.850	6.42	5.42	1.61
0.733	1.61	2.300	73.88	3.867	6.42	5.43	1.61
0.750	1.61	2.317	73.88	3.883	6.42	5.45	1.61
0.767	1.61	2.333	73.88	3.900	6.42	5.47	1.61
0.783	1.61	2.350	73.88	3.917	6.42	5.48	1.61
0.800	1.61	2.367	73.88	3.933	6.42	5.50	1.61
0.817	1.61	2.383	73.88	3.950	6.42	5.52	1.61
0.833	1.61	2.400	73.88	3.967	6.42	5.53	1.61
0.850	1.61	2.417	73.88	3.983	6.42	5.55	1.61
0.867	1.61	2.433	73.88	4.000	6.42	5.57	1.61
0.883	1.61	2.450	73.88	4.017	6.42	5.58	1.61
0.900	1.61	2.467	73.88	4.033	6.42	5.60	1.61
0.917	1.61	2.483	73.88	4.050	6.42	5.62	1.61
0.933	1.61	2.500	73.88	4.067	6.42	5.63	1.61
0.950	1.61	2.517	73.88	4.083	6.42	5.65	1.61
0.967	1.61	2.533	73.88	4.100	6.42	5.67	1.61
0.983	1.61	2.550	73.88	4.117	6.42	5.68	1.61
1.000	1.61	2.567	73.88	4.133	6.42	5.70	1.61
1.017	1.61	2.583	73.88	4.150	6.42	5.72	1.61
1.033	1.61	2.600	73.88	4.167	6.42	5.73	1.61
1.050	1.61	2.617	73.88	4.183	6.42	5.75	1.61
1.067	1.61	2.633	73.88	4.200	6.42	5.77	1.61
1.083	1.61	2.650	73.88	4.217	6.42	5.78	1.61
1.100	1.61	2.667	73.88	4.233	6.42	5.80	1.61
1.117	1.61	2.683	73.88	4.250	6.42	5.82	1.61
1.133	1.61	2.700	73.88	4.267	3.21	5.83	1.61
1.150	1.61	2.717	73.88	4.283	3.21	5.85	1.61
1.167	1.61	2.733	73.88	4.300	3.21	5.87	1.61
1.183	1.61	2.750	73.88	4.317	3.21	5.88	1.61
1.200	1.61	2.767	20.89	4.333	3.21	5.90	1.61
1.217	1.61	2.783	20.88	4.350	3.21	5.92	1.61
1.233	1.61	2.800	20.88	4.367	3.21	5.93	1.61
1.250	1.61	2.817	20.88	4.383	3.21	5.95	1.61
1.267	9.64	2.833	20.88	4.400	3.21	5.97	1.61
1.283	9.64	2.850	20.88	4.417	3.21	5.98	1.61
1.300	9.64	2.867	20.88	4.433	3.21	6.00	1.61
1.317	9.64	2.883	20.88	4.450	3.21	6.02	1.61
1.333	9.64	2.900	20.88	4.467	3.21	6.03	1.61
1.350	9.64	2.917	20.88	4.483	3.21	6.05	1.61
1.367	9.64	2.933	20.88	4.500	3.21	6.07	1.61
1.383	9.64	2.950	20.88	4.517	3.21	6.08	1.61
1.400	9.64	2.967	20.88	4.533	3.21	6.10	1.61
1.417	9.64	2.983	20.88	4.550	3.21	6.12	1.61
1.433	9.64	3.000	20.88	4.567	3.21	6.13	1.61
1.450	9.64	3.017	20.88	4.583	3.21	6.15	1.61
1.467	9.64	3.033	20.88	4.600	3.21	6.17	1.61
1.483	9.64	3.050	20.88	4.617	3.21	6.18	1.61
1.500	9.64	3.067	20.88	4.633	3.21	6.20	1.61
1.517	9.64	3.083	20.88	4.650	3.21	6.22	1.61
1.533	9.64	3.100	20.88	4.667	3.21	6.23	1.61
1.550	9.64	3.117	20.88	4.683	3.21	6.25	1.61
1.567	9.64	3.133	20.88	4.700	3.21		

Max.Eff.Inten.(mm/hr)=		73.88	57.08	
over (min)		5.00	6.00	
Storage Coeff. (min)=		3.24 (ii)	5.16 (ii)	
Unit Hyd. Tpeak (min)=		5.00	6.00	
Unit Hyd. peak (cms)=		0.29	0.21	
				TOTALS
PEAK FLOW	(cms)=	0.45	0.00	0.452 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	79.31	50.24	79.02
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642) / IN= 2---> OUT= 1 / DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.452	2.75	79.02
OUTFLOW: ID= 1 (7642)	2.210	0.052	3.85	76.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.41
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.1341

CALIB	
STANDHYD (7643)	Area (ha)= 2.02
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.00	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	116.05	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	1.583	9.64	3.150	20.88	4.72	3.21
0.033	0.00	1.600	9.64	3.167	20.88	4.73	3.21
0.050	0.00	1.617	9.64	3.183	20.88	4.75	3.21
0.067	0.00	1.633	9.64	3.200	20.88	4.77	1.61
0.083	0.00	1.650	9.64	3.217	20.88	4.78	1.61
0.100	0.00	1.667	9.64	3.233	20.88	4.80	1.61
0.117	0.00	1.683	9.64	3.250	20.88	4.82	1.61
0.133	0.00	1.700	9.64	3.267	11.24	4.83	1.61
0.150	0.00	1.717	9.64	3.283	11.24	4.85	1.61
0.167	0.00	1.733	9.64	3.300	11.24	4.87	1.61
0.183	0.00	1.750	9.64	3.317	11.24	4.88	1.61
0.200	0.00	1.767	27.30	3.333	11.24	4.90	1.61
0.217	0.00	1.783	27.30	3.350	11.24	4.92	1.61
0.233	0.00	1.800	27.30	3.367	11.24	4.93	1.61
0.250	0.00	1.817	27.30	3.383	11.24	4.95	1.61
0.267	1.61	1.833	27.30	3.400	11.24	4.97	1.61
0.283	1.61	1.850	27.30	3.417	11.24	4.98	1.61
0.300	1.61	1.867	27.30	3.433	11.24	5.00	1.61
0.317	1.61	1.883	27.30	3.450	11.24	5.02	1.61
0.333	1.61	1.900	27.30	3.467	11.24	5.03	1.61
0.350	1.61	1.917	27.30	3.483	11.24	5.05	1.61
0.367	1.61	1.933	27.30	3.500	11.24	5.07	1.61
0.383	1.61	1.950	27.30	3.517	11.24	5.08	1.61
0.400	1.61	1.967	27.30	3.533	11.24	5.10	1.61
0.417	1.61	1.983	27.30	3.550	11.24	5.12	1.61
0.433	1.61	2.000	27.30	3.567	11.24	5.13	1.61
0.450	1.61	2.017	27.30	3.583	11.24	5.15	1.61
0.467	1.61	2.033	27.30	3.600	11.24	5.17	1.61
0.483	1.61	2.050	27.30	3.617	11.24	5.18	1.61
0.500	1.61	2.067	27.30	3.633	11.24	5.20	1.61
0.517	1.61	2.083	27.30	3.650	11.24	5.22	1.61
0.533	1.61	2.100	27.30	3.667	11.24	5.23	1.61
0.550	1.61	2.117	27.30	3.683	11.24	5.25	1.61
0.567	1.61	2.133	27.30	3.700	11.24	5.27	1.61
0.583	1.61	2.150	27.30	3.717	11.24	5.28	1.61
0.600	1.61	2.167	27.30	3.733	11.24	5.30	1.61
0.617	1.61	2.183	27.30	3.750	11.24	5.32	1.61
0.633	1.61	2.200	27.30	3.767	6.42	5.33	1.61
0.650	1.61	2.217	27.30	3.783	6.42	5.35	1.61
0.667	1.61	2.233	27.30	3.800	6.42	5.37	1.61
0.683	1.61	2.250	27.30	3.817	6.42	5.38	1.61
0.700	1.61	2.267	73.88	3.833	6.42	5.40	1.61
0.717	1.61	2.283	73.88	3.850	6.42	5.42	1.61
0.733	1.61	2.300	73.88	3.867	6.42	5.43	1.61
0.750	1.61	2.317	73.88	3.883	6.42	5.45	1.61
0.767	1.61	2.333	73.88	3.900	6.42	5.47	1.61
0.783	1.61	2.350	73.88	3.917	6.42	5.48	1.61
0.800	1.61	2.367	73.88	3.933	6.42	5.50	1.61
0.817	1.61	2.383	73.88	3.950	6.42	5.52	1.61
0.833	1.61	2.400	73.88	3.967	6.42	5.53	1.61
0.850	1.61	2.417	73.88	3.983	6.42	5.55	1.61
0.867	1.61	2.433	73.88	4.000	6.42	5.57	1.61
0.883	1.61	2.450	73.88	4.017	6.42	5.58	1.61
0.900	1.61	2.467	73.88	4.033	6.42	5.60	1.61
0.917	1.61	2.483	73.88	4.050	6.42	5.62	1.61
0.933	1.61	2.500	73.88	4.067	6.42	5.63	1.61
0.950	1.61	2.517	73.88	4.083	6.42	5.65	1.61
0.967	1.61	2.533	73.88	4.100	6.42	5.67	1.61
0.983	1.61	2.550	73.88	4.117	6.42	5.68	1.61
1.000	1.61	2.567	73.88	4.133	6.42	5.70	1.61
1.017	1.61	2.583	73.88	4.150	6.42	5.72	1.61
1.033	1.61	2.600	73.88	4.167	6.42	5.73	1.61
1.050	1.61	2.617	73.88	4.183	6.42	5.75	1.61
1.067	1.61	2.633	73.88	4.200	6.42	5.77	1.61
1.083	1.61	2.650	73.88	4.217	6.42	5.78	1.61
1.100	1.61	2.667	73.88	4.233	6.42	5.80	1.61
1.117	1.61	2.683	73.88	4.250	6.42	5.82	1.61
1.133	1.61	2.700	73.88	4.267	3.21	5.83	1.61
1.150	1.61	2.717	73.88	4.283	3.21	5.85	1.61
1.167	1.61	2.733	73.88	4.300	3.21	5.87	1.61
1.183	1.61	2.750	73.88	4.317	3.21	5.88	1.61
1.200	1.61	2.767	20.89	4.333	3.21	5.90	1.61
1.217	1.61	2.783	20.88	4.350	3.21	5.92	1.61
1.233	1.61	2.800	20.88	4.367	3.21	5.93	1.61
1.250	1.61	2.817	20.88	4.383	3.21	5.95	1.61
1.267	9.64	2.833	20.88	4.400	3.21	5.97	1.61
1.283	9.64	2.850	20.88	4.417	3.21	5.98	1.61
1.300	9.64	2.867	20.88	4.433	3.21	6.00	1.61
1.317	9.64	2.883	20.88	4.450	3.21	6.02	1.61
1.333	9.64	2.900	20.88	4.467	3.21	6.03	1.61
1.350	9.64	2.917	20.88	4.483	3.21	6.05	1.61
1.367	9.64	2.933	20.88	4.500	3.21	6.07	1.61
1.383	9.64	2.950	20.88	4.517	3.21	6.08	1.61
1.400	9.64	2.967	20.88	4.533	3.21	6.10	1.61
1.417	9.64	2.983	20.88	4.550	3.21	6.12	1.61
1.433	9.64	3.000	20.88	4.567	3.21	6.13	1.61
1.450	9.64	3.017	20.88	4.583	3.21	6.15	1.61
1.467	9.64	3.033	20.88	4.600	3.21	6.17	1.61
1.483	9.64	3.050	20.88	4.617	3.21	6.18	1.61
1.500	9.64	3.067	20.88	4.633	3.21	6.20	1.61
1.517	9.64	3.083	20.88	4.650	3.21	6.22	1.61
1.533	9.64	3.100	20.88	4.667	3.21	6.23	1.61
1.550	9.64	3.117	20.88	4.683	3.21	6.25	1.61
1.567	9.64	3.133	20.88	4.700	3.21		

				TOTALS
Max.Eff.Inten.(mm/hr)=		73.88	57.08	
	over (min)	5.00	6.00	
Storage Coeff. (min)=		3.15 (ii)	5.07 (ii)	
Unit Hyd. Tpeak (min)=		5.00	6.00	
Unit Hyd. peak (cms)=		0.30	0.21	
PEAK FLOW	(cms)=	0.41	0.00	0.413 (iii)
TIME TO PEAK	(hrs)=	2.75	2.75	2.75
RUNOFF VOLUME	(mm)=	79.31	50.24	79.02
TOTAL RAINFALL	(mm)=	80.31	80.31	80.31
RUNOFF COEFFICIENT	=	0.99	0.63	0.98

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE

	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.0433	0.1140
	0.0182	0.0580	0.0507	0.1280
	0.0280	0.0775	0.0571	0.1440
	0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.413	2.75	79.02
OUTFLOW: ID= 1 (7644)	2.020	0.048	3.83	76.82

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.54
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.1224

****
** SIMULATION:994. 100 Year 12 Hour AES (Bloor, TRCA) **
****

READ STORM | Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\a50ed48e
Ptotal= 88.54 mm | Comments: 100 Year 12 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	3.25	15.05	6.50	6.20	9.75	0.89
0.25	0.89	3.50	15.05	6.75	6.20	10.00	0.89
0.50	0.89	3.75	15.05	7.00	6.20	10.25	0.89
0.75	0.89	4.00	15.05	7.25	3.54	10.50	0.89
1.00	0.89	4.25	40.71	7.50	3.54	10.75	0.89
1.25	0.89	4.50	40.71	7.75	3.54	11.00	0.89
1.50	0.89	4.75	40.71	8.00	3.54	11.25	0.89
1.75	0.89	5.00	40.71	8.25	1.77	11.50	0.89
2.00	0.89	5.25	11.51	8.50	1.77	11.75	0.89
2.25	5.31	5.50	11.51	8.75	1.77	12.00	0.89
2.50	5.31	5.75	11.51	9.00	1.77		
2.75	5.31	6.00	11.51	9.25	0.89		
3.00	5.31	6.25	6.20	9.50	0.89		

CALIB | STANDHYD (7567) | ID= 1 DT= 1.0 min | Area (ha)= 2.81 | Total Imp(%)= 99.00 | Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	5.31	6.150	11.51	9.22	1.77
0.033	0.00	3.100	5.31	6.167	11.51	9.23	1.77
0.050	0.00	3.117	5.31	6.183	11.51	9.25	1.77
0.067	0.00	3.133	5.31	6.200	11.51	9.27	0.89
0.083	0.00	3.150	5.31	6.217	11.51	9.28	0.89
0.100	0.00	3.167	5.31	6.233	11.51	9.30	0.89
0.117	0.00	3.183	5.31	6.250	11.50	9.32	0.89
0.133	0.00	3.200	5.31	6.267	6.20	9.33	0.89
0.150	0.00	3.217	5.31	6.283	6.20	9.35	0.89
0.167	0.00	3.233	5.31	6.300	6.20	9.37	0.89
0.183	0.00	3.250	5.31	6.317	6.20	9.38	0.89
0.200	0.00	3.267	15.05	6.333	6.20	9.40	0.89
0.217	0.00	3.283	15.05	6.350	6.20	9.42	0.89
0.233	0.00	3.300	15.05	6.367	6.20	9.43	0.89
0.250	0.00	3.317	15.05	6.383	6.20	9.45	0.89
0.267	0.89	3.333	15.05	6.400	6.20	9.47	0.89
0.283	0.89	3.350	15.05	6.417	6.20	9.48	0.89
0.300	0.89	3.367	15.05	6.433	6.20	9.50	0.89
0.317	0.89	3.383	15.05	6.450	6.20	9.52	0.89
0.333	0.89	3.400	15.05	6.467	6.20	9.53	0.89
0.350	0.89	3.417	15.05	6.483	6.20	9.55	0.89
0.367	0.89	3.433	15.05	6.500	6.20	9.57	0.89
0.383	0.89	3.450	15.05	6.517	6.20	9.58	0.89
0.400	0.89	3.467	15.05	6.533	6.20	9.60	0.89
0.417	0.89	3.483	15.05	6.550	6.20	9.62	0.89
0.433	0.89	3.500	15.05	6.567	6.20	9.63	0.89
0.450	0.89	3.517	15.05	6.583	6.20	9.65	0.89
0.467	0.89	3.533	15.05	6.600	6.20	9.67	0.89
0.483	0.89	3.550	15.05	6.617	6.20	9.68	0.89
0.500	0.89	3.567	15.05	6.633	6.20	9.70	0.89
0.517	0.89	3.583	15.05	6.650	6.20	9.72	0.89
0.533	0.89	3.600	15.05	6.667	6.20	9.73	0.89
0.550	0.89	3.617	15.05	6.683	6.20	9.75	0.89
0.567	0.89	3.633	15.05	6.700	6.20	9.77	0.89
0.583	0.89	3.650	15.05	6.717	6.20	9.78	0.89
0.600	0.89	3.667	15.05	6.733	6.20	9.80	0.89
0.617	0.89	3.683	15.05	6.750	6.20	9.82	0.89
0.633	0.89	3.700	15.05	6.767	6.20	9.83	0.89
0.650	0.89	3.717	15.05	6.783	6.20	9.85	0.89
0.667	0.89	3.733	15.05	6.800	6.20	9.87	0.89
0.683	0.89	3.750	15.05	6.817	6.20	9.88	0.89
0.700	0.89	3.767	15.05	6.833	6.20	9.90	0.89
0.717	0.89	3.783	15.05	6.850	6.20	9.92	0.89
0.733	0.89	3.800	15.05	6.867	6.20	9.93	0.89
0.750	0.89	3.817	15.05	6.883	6.20	9.95	0.89
0.767	0.89	3.833	15.05	6.900	6.20	9.97	0.89
0.783	0.89	3.850	15.05	6.917	6.20	9.98	0.89
0.800	0.89	3.867	15.05	6.933	6.20	10.00	0.89
0.817	0.89	3.883	15.05	6.950	6.20	10.02	0.89
0.833	0.89	3.900	15.05	6.967	6.20	10.03	0.89
0.850	0.89	3.917	15.05	6.983	6.20	10.05	0.89
0.867	0.89	3.933	15.05	7.000	6.20	10.07	0.89
0.883	0.89	3.950	15.05	7.017	6.20	10.08	0.89
0.900	0.89	3.967	15.05	7.033	6.20	10.10	0.89
0.917	0.89	3.983	15.05	7.050	6.20	10.12	0.89
0.933	0.89	4.000	15.05	7.067	6.20	10.13	0.89
0.950	0.89	4.017	15.05	7.083	6.20	10.15	0.89
0.967	0.89	4.033	15.05	7.100	6.20	10.17	0.89
0.983	0.89	4.050	15.05	7.117	6.20	10.18	0.89
1.000	0.89	4.067	15.05	7.133	6.20	10.20	0.89
1.017	0.89	4.083	15.05	7.150	6.20	10.22	0.89
1.033	0.89	4.100	15.05	7.167	6.20	10.23	0.89
1.050	0.89	4.117	15.05	7.183	6.20	10.25	0.89
1.067	0.89	4.133	15.05	7.200	6.20	10.27	0.89
1.083	0.89	4.150	15.05	7.217	6.20	10.28	0.89
1.100	0.89	4.167	15.05	7.233	6.20	10.30	0.89
1.117	0.89	4.183	15.05	7.250	6.19	10.32	0.89
1.133	0.89	4.200	15.05	7.267	3.54	10.33	0.89
1.150	0.89	4.217	15.05	7.283	3.54	10.35	0.89
1.167	0.89	4.233	15.05	7.300	3.54	10.37	0.89
1.183	0.89	4.250	15.05	7.317	3.54	10.38	0.89
1.200	0.89	4.267	40.71	7.333	3.54	10.40	0.89
1.217	0.89	4.283	40.71	7.350	3.54	10.42	0.89
1.233	0.89	4.300	40.71	7.367	3.54	10.43	0.89
1.250	0.89	4.317	40.71	7.383	3.54	10.45	0.89
1.267	0.89	4.333	40.71	7.400	3.54	10.47	0.89
1.283	0.89	4.350	40.71	7.417	3.54	10.48	0.89
1.300	0.89	4.367	40.71	7.433	3.54	10.50	0.89
1.317	0.89	4.383	40.71	7.450	3.54	10.52	0.89
1.333	0.89	4.400	40.71	7.467	3.54	10.53	0.89
1.350	0.89	4.417	40.71	7.483	3.54	10.55	0.89
1.367	0.89	4.433	40.71	7.500	3.54	10.57	0.89
1.383	0.89	4.450	40.71	7.517	3.54	10.58	0.89
1.400	0.89	4.467	40.71	7.533	3.54	10.60	0.89
1.417	0.89	4.483	40.71	7.550	3.54	10.62	0.89
1.433	0.89	4.500	40.71	7.567	3.54	10.63	0.89
1.450	0.89	4.517	40.71	7.583	3.54	10.65	0.89
1.467	0.89	4.533	40.71	7.600	3.54	10.67	0.89
1.483	0.89	4.550	40.71	7.617	3.54	10.68	0.89
1.500	0.89	4.567	40.71	7.633	3.54	10.70	0.89

1.517	0.89	4.583	40.71	7.650	3.54	10.72	0.89
1.533	0.89	4.600	40.71	7.667	3.54	10.73	0.89
1.550	0.89	4.617	40.71	7.683	3.54	10.75	0.89
1.567	0.89	4.633	40.71	7.700	3.54	10.77	0.89
1.583	0.89	4.650	40.71	7.717	3.54	10.78	0.89
1.600	0.89	4.667	40.71	7.733	3.54	10.80	0.89
1.617	0.89	4.683	40.71	7.750	3.54	10.82	0.89
1.633	0.89	4.700	40.71	7.767	3.54	10.83	0.89
1.650	0.89	4.717	40.71	7.783	3.54	10.85	0.89
1.667	0.89	4.733	40.71	7.800	3.54	10.87	0.89
1.683	0.89	4.750	40.71	7.817	3.54	10.88	0.89
1.700	0.89	4.767	40.71	7.833	3.54	10.90	0.89
1.717	0.89	4.783	40.71	7.850	3.54	10.92	0.89
1.733	0.89	4.800	40.71	7.867	3.54	10.93	0.89
1.750	0.89	4.817	40.71	7.883	3.54	10.95	0.89
1.767	0.89	4.833	40.71	7.900	3.54	10.97	0.89
1.783	0.89	4.850	40.71	7.917	3.54	10.98	0.89
1.800	0.89	4.867	40.71	7.933	3.54	11.00	0.89
1.817	0.89	4.883	40.71	7.950	3.54	11.02	0.89
1.833	0.89	4.900	40.71	7.967	3.54	11.03	0.89
1.850	0.89	4.917	40.71	7.983	3.54	11.05	0.89
1.867	0.89	4.933	40.71	8.000	3.54	11.07	0.89
1.883	0.89	4.950	40.71	8.017	3.54	11.08	0.89
1.900	0.89	4.967	40.71	8.033	3.54	11.10	0.89
1.917	0.89	4.983	40.71	8.050	3.54	11.12	0.89
1.933	0.89	5.000	40.71	8.067	3.54	11.13	0.89
1.950	0.89	5.017	40.71	8.083	3.54	11.15	0.89
1.967	0.89	5.033	40.71	8.100	3.54	11.17	0.89
1.983	0.89	5.050	40.71	8.117	3.54	11.18	0.89
2.000	0.89	5.067	40.71	8.133	3.54	11.20	0.89
2.017	0.89	5.083	40.71	8.150	3.54	11.22	0.89
2.033	0.89	5.100	40.71	8.167	3.54	11.23	0.89
2.050	0.89	5.117	40.71	8.183	3.54	11.25	0.89
2.067	0.89	5.133	40.71	8.200	3.54	11.27	0.89
2.083	0.89	5.150	40.71	8.217	3.54	11.28	0.89
2.100	0.89	5.167	40.71	8.233	3.54	11.30	0.89
2.117	0.89	5.183	40.71	8.250	3.54	11.32	0.89
2.133	0.89	5.200	40.71	8.267	1.77	11.33	0.89
2.150	0.89	5.217	40.71	8.283	1.77	11.35	0.89
2.167	0.89	5.233	40.71	8.300	1.77	11.37	0.89
2.183	0.89	5.250	40.69	8.317	1.77	11.38	0.89
2.200	0.89	5.267	11.51	8.333	1.77	11.40	0.89
2.217	0.89	5.283	11.51	8.350	1.77	11.42	0.89
2.233	0.89	5.300	11.51	8.367	1.77	11.43	0.89
2.250	0.89	5.317	11.51	8.383	1.77	11.45	0.89
2.267	5.31	5.333	11.51	8.400	1.77	11.47	0.89
2.283	5.31	5.350	11.51	8.417	1.77	11.48	0.89
2.300	5.31	5.367	11.51	8.433	1.77	11.50	0.89
2.317	5.31	5.383	11.51	8.450	1.77	11.52	0.89
2.333	5.31	5.400	11.51	8.467	1.77	11.53	0.89
2.350	5.31	5.417	11.51	8.483	1.77	11.55	0.89
2.367	5.31	5.433	11.51	8.500	1.77	11.57	0.89
2.383	5.31	5.450	11.51	8.517	1.77	11.58	0.89
2.400	5.31	5.467	11.51	8.533	1.77	11.60	0.89
2.417	5.31	5.483	11.51	8.550	1.77	11.62	0.89
2.433	5.31	5.500	11.51	8.567	1.77	11.63	0.89
2.450	5.31	5.517	11.51	8.583	1.77	11.65	0.89
2.467	5.31	5.533	11.51	8.600	1.77	11.67	0.89
2.483	5.31	5.550	11.51	8.617	1.77	11.68	0.89
2.500	5.31	5.567	11.51	8.633	1.77	11.70	0.89
2.517	5.31	5.583	11.51	8.650	1.77	11.72	0.89
2.533	5.31	5.600	11.51	8.667	1.77	11.73	0.89
2.550	5.31	5.617	11.51	8.683	1.77	11.75	0.89
2.567	5.31	5.633	11.51	8.700	1.77	11.77	0.89
2.583	5.31	5.650	11.51	8.717	1.77	11.78	0.89
2.600	5.31	5.667	11.51	8.733	1.77	11.80	0.89
2.617	5.31	5.683	11.51	8.750	1.77	11.82	0.89
2.633	5.31	5.700	11.51	8.767	1.77	11.83	0.89
2.650	5.31	5.717	11.51	8.783	1.77	11.85	0.89
2.667	5.31	5.733	11.51	8.800	1.77	11.87	0.89
2.683	5.31	5.750	11.51	8.817	1.77	11.88	0.89
2.700	5.31	5.767	11.51	8.833	1.77	11.90	0.89
2.717	5.31	5.783	11.51	8.850	1.77	11.92	0.89
2.733	5.31	5.800	11.51	8.867	1.77	11.93	0.89
2.750	5.31	5.817	11.51	8.883	1.77	11.95	0.89
2.767	5.31	5.833	11.51	8.900	1.77	11.97	0.89
2.783	5.31	5.850	11.51	8.917	1.77	11.98	0.89
2.800	5.31	5.867	11.51	8.933	1.77	12.00	0.89
2.817	5.31	5.883	11.51	8.950	1.77	12.02	0.89
2.833	5.31	5.900	11.51	8.967	1.77	12.03	0.89
2.850	5.31	5.917	11.51	8.983	1.77	12.05	0.89
2.867	5.31	5.933	11.51	9.000	1.77	12.07	0.89
2.883	5.31	5.950	11.51	9.017	1.77	12.08	0.89
2.900	5.31	5.967	11.51	9.033	1.77	12.10	0.89
2.917	5.31	5.983	11.51	9.050	1.77	12.12	0.89
2.933	5.31	6.000	11.51	9.067	1.77	12.13	0.89
2.950	5.31	6.017	11.51	9.083	1.77	12.15	0.89
2.967	5.31	6.033	11.51	9.100	1.77	12.17	0.89
2.983	5.31	6.050	11.51	9.117	1.77	12.18	0.89
3.000	5.31	6.067	11.51	9.133	1.77	12.20	0.89
3.017	5.31	6.083	11.51	9.150	1.77	12.22	0.89
3.033	5.31	6.100	11.51	9.167	1.77	12.23	0.89
3.050	5.31	6.117	11.51	9.183	1.77	12.25	0.89
3.067	5.31	6.133	11.51	9.200	1.77		

Max.Eff.Inten.(mm/hr)=	40.71	32.96	
over (min)	5.00	7.00	
Storage Coeff. (min)=	4.42 (ii)	6.86 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.24	0.16	
			TOTALS
PEAK FLOW (cms)=	0.31	0.00	0.317 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	87.53	57.45	87.24
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.317	5.25	87.24
OUTFLOW: ID= 1 (7626)	2.810	0.062	6.37	83.82

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.65
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.1650

CALIB |				
STANDHYD (7624)|	Area (ha)= 2.08			
ID= 1 DT= 1.0 min |	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00		

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.06	0.02
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	117.76	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN |	TIME	RAIN |'	TIME	RAIN |	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.017	0.00	3.083	5.31	6.150	11.51	9.22	1.77
0.033	0.00	3.100	5.31	6.167	11.51	9.23	1.77
0.050	0.00	3.117	5.31	6.183	11.51	9.25	1.77
0.067	0.00	3.133	5.31	6.200	11.51	9.27	0.89
0.083	0.00	3.150	5.31	6.217	11.51	9.28	0.89
0.100	0.00	3.167	5.31	6.233	11.51	9.30	0.89
0.117	0.00	3.183	5.31	6.250	11.50	9.32	0.89
0.133	0.00	3.200	5.31	6.267	6.20	9.33	0.89
0.150	0.00	3.217	5.31	6.283	6.20	9.35	0.89
0.167	0.00	3.233	5.31	6.300	6.20	9.37	0.89
0.183	0.00	3.250	5.31	6.317	6.20	9.38	0.89
0.200	0.00	3.267	15.05	6.333	6.20	9.40	0.89
0.217	0.00	3.283	15.05	6.350	6.20	9.42	0.89
0.233	0.00	3.300	15.05	6.367	6.20	9.43	0.89
0.250	0.00	3.317	15.05	6.383	6.20	9.45	0.89
0.267	0.89	3.333	15.05	6.400	6.20	9.47	0.89
0.283	0.89	3.350	15.05	6.417	6.20	9.48	0.89
0.300	0.89	3.367	15.05	6.433	6.20	9.50	0.89
0.317	0.89	3.383	15.05	6.450	6.20	9.52	0.89
0.333	0.89	3.400	15.05	6.467	6.20	9.53	0.89
0.350	0.89	3.417	15.05	6.483	6.20	9.55	0.89
0.367	0.89	3.433	15.05	6.500	6.20	9.57	0.89
0.383	0.89	3.450	15.05	6.517	6.20	9.58	0.89
0.400	0.89	3.467	15.05	6.533	6.20	9.60	0.89
0.417	0.89	3.483	15.05	6.550	6.20	9.62	0.89
0.433	0.89	3.500	15.05	6.567	6.20	9.63	0.89
0.450	0.89	3.517	15.05	6.583	6.20	9.65	0.89
0.467	0.89	3.533	15.05	6.600	6.20	9.67	0.89
0.483	0.89	3.550	15.05	6.617	6.20	9.68	0.89
0.500	0.89	3.567	15.05	6.633	6.20	9.70	0.89
0.517	0.89	3.583	15.05	6.650	6.20	9.72	0.89
0.533	0.89	3.600	15.05	6.667	6.20	9.73	0.89
0.550	0.89	3.617	15.05	6.683	6.20	9.75	0.89
0.567	0.89	3.633	15.05	6.700	6.20	9.77	0.89
0.583	0.89	3.650	15.05	6.717	6.20	9.78	0.89
0.600	0.89	3.667	15.05	6.733	6.20	9.80	0.89
0.617	0.89	3.683	15.05	6.750	6.20	9.82	0.89
0.633	0.89	3.700	15.05	6.767	6.20	9.83	0.89
0.650	0.89	3.717	15.05	6.783	6.20	9.85	0.89
0.667	0.89	3.733	15.05	6.800	6.20	9.87	0.89
0.683	0.89	3.750	15.05	6.817	6.20	9.88	0.89
0.700	0.89	3.767	15.05	6.833	6.20	9.90	0.89
0.717	0.89	3.783	15.05	6.850	6.20	9.92	0.89
0.733	0.89	3.800	15.05	6.867	6.20	9.93	0.89
0.750	0.89	3.817	15.05	6.883	6.20	9.95	0.89
0.767	0.89	3.833	15.05	6.900	6.20	9.97	0.89
0.783	0.89	3.850	15.05	6.917	6.20	9.98	0.89
0.800	0.89	3.867	15.05	6.933	6.20	10.00	0.89
0.817	0.89	3.883	15.05	6.950	6.20	10.02	0.89
0.833	0.89	3.900	15.05	6.967	6.20	10.03	0.89
0.850	0.89	3.917	15.05	6.983	6.20	10.05	0.89
0.867	0.89	3.933	15.05	7.000	6.20	10.07	0.89
0.883	0.89	3.950	15.05	7.017	6.20	10.08	0.89
0.900	0.89	3.967	15.05	7.033	6.20	10.10	0.89
0.917	0.89	3.983	15.05	7.050	6.20	10.12	0.89
0.933	0.89	4.000	15.05	7.067	6.20	10.13	0.89
0.950	0.89	4.017	15.05	7.083	6.20	10.15	0.89
0.967	0.89	4.033	15.05	7.100	6.20	10.17	0.89
0.983	0.89	4.050	15.05	7.117	6.20	10.18	0.89
1.000	0.89	4.067	15.05	7.133	6.20	10.20	0.89
1.017	0.89	4.083	15.05	7.150	6.20	10.22	0.89
1.033	0.89	4.100	15.05	7.167	6.20	10.23	0.89
1.050	0.89	4.117	15.05	7.183	6.20	10.25	0.89
1.067	0.89	4.133	15.05	7.200	6.20	10.27	0.89
1.083	0.89	4.150	15.05	7.217	6.20	10.28	0.89
1.100	0.89	4.167	15.05	7.233	6.20	10.30	0.89
1.117	0.89	4.183	15.05	7.250	6.19	10.32	0.89
1.133	0.89	4.200	15.05	7.267	3.54	10.33	0.89
1.150	0.89	4.217	15.05	7.283	3.54	10.35	0.89
1.167	0.89	4.233	15.05	7.300	3.54	10.37	0.89
1.183	0.89	4.250	15.05	7.317	3.54	10.38	0.89
1.200	0.89	4.267	40.71	7.333	3.54	10.40	0.89
1.217	0.89	4.283	40.71	7.350	3.54	10.42	0.89
1.233	0.89	4.300	40.71	7.367	3.54	10.43	0.89
1.250	0.89	4.317	40.71	7.383	3.54	10.45	0.89
1.267	0.89	4.333	40.71	7.400	3.54	10.47	0.89
1.283	0.89	4.350	40.71	7.417	3.54	10.48	0.89
1.300	0.89	4.367	40.71	7.433	3.54	10.50	0.89
1.317	0.89	4.383	40.71	7.450	3.54	10.52	0.89
1.333	0.89	4.400	40.71	7.467	3.54	10.53	0.89
1.350	0.89	4.417	40.71	7.483	3.54	10.55	0.89
1.367	0.89	4.433	40.71	7.500	3.54	10.57	0.89
1.383	0.89	4.450	40.71	7.517	3.54	10.58	0.89
1.400	0.89	4.467	40.71	7.533	3.54	10.60	0.89
1.417	0.89	4.483	40.71	7.550	3.54	10.62	0.89
1.433	0.89	4.500	40.71	7.567	3.54	10.63	0.89
1.450	0.89	4.517	40.71	7.583	3.54	10.65	0.89
1.467	0.89	4.533	40.71	7.600	3.54	10.67	0.89
1.483	0.89	4.550	40.71	7.617	3.54	10.68	0.89
1.500	0.89	4.567	40.71	7.633	3.54	10.70	0.89
1.517	0.89	4.583	40.71	7.650	3.54	10.72	0.89
1.533	0.89	4.600	40.71	7.667	3.54	10.73	0.89
1.550	0.89	4.617	40.71	7.683	3.54	10.75	0.89
1.567	0.89	4.633	40.71	7.700	3.54	10.77	0.89
1.583	0.89	4.650	40.71	7.717	3.54	10.78	0.89
1.600	0.89	4.667	40.71	7.733	3.54	10.80	0.89
1.617	0.89	4.683	40.71	7.750	3.54	10.82	0.89
1.633	0.89	4.700	40.71	7.767	3.54	10.83	0.89
1.650	0.89	4.717	40.71	7.783	3.54	10.85	0.89
1.667	0.89	4.733	40.71	7.800	3.54	10.87	0.89
1.683	0.89	4.750	40.71	7.817	3.54	10.88	0.89
1.700	0.89	4.767	40.71	7.833	3.54	10.90	0.89
1.717	0.89	4.783	40.71	7.850	3.54	10.92	0.89
1.733	0.89	4.800	40.71	7.867	3.54	10.93	0.89
1.750	0.89	4.817	40.71	7.883	3.54	10.95	0.89
1.767	0.89	4.833	40.71	7.900	3.54	10.97	0.89
1.783	0.89	4.850	40.71	7.917	3.54	10.98	0.89
1.800	0.89	4.867	40.71	7.933	3.54	11.00	0.89
1.817	0.89	4.883	40.71	7.950	3.54	11.02	0.89
1.833	0.89	4.900	40.71	7.967	3.54	11.03	0.89
1.850	0.89	4.917	40.71	7.983	3.54	11.05	0.89
1.867	0.89	4.933	40.71	8.000	3.54	11.07	0.89
1.883	0.89	4.950	40.71	8.017	3.54	11.08	0.89
1.900	0.89	4.967	40.71	8.033	3.54	11.10	0.89
1.917	0.89	4.983	40.71	8.050	3.54	11.12	0.89
1.933	0.89	5.000	40.71	8.067	3.54	11.13	0.89
1.950	0.89	5.017	40.71	8.083	3.54	11.15	0.89
1.967	0.89	5.033	40.71	8.100	3.54	11.17	0.89
1.983	0.89	5.050	40.71	8.117	3.54	11.18	0.89
2.000	0.89	5.067	40.71	8.133	3.54	11.20	0.89
2.017	0.89	5.083	40.71	8.150	3.54	11.22	0.89
2.033	0.89	5.100	40.71	8.167	3.54	11.23	0.89
2.050	0.89	5.117	40.71	8.183	3.54	11.25	0.89
2.067	0.89	5.133	40.71	8.200	3.54	11.27	0.89
2.083	0.89	5.150	40.71	8.217	3.54	11.28	0.89
2.100	0.89	5.167	40.71	8.233	3.54	11.30	0.89
2.117	0.89	5.183	40.71	8.250	3.54	11.32	0.89
2.133	0.89	5.200	40.71	8.267	1.77	11.33	0.89
2.150	0.89	5.217	40.71	8.283	1.77	11.35	0.89
2.167	0.89	5.233	40.71	8.300	1.77	11.37	0.89
2.183	0.89	5.250	40.69	8.317	1.77	11.38	0.89
2.200	0.89	5.267	11.51	8.333	1.77	11.40	0.89
2.217	0.89	5.283	11.51	8.350	1.77	11.42	0.89
2.233	0.89	5.300	11.51	8.367	1.77	11.43	0.89
2.250	0.89	5.317	11.51	8.383	1.77	11.45	0.89
2.267	5.31	5.333	11.51	8.400	1.77	11.47	0.89
2.283	5.31	5.350	11.51	8.417	1.77	11.48	0.89
2.300	5.31	5.367	11.51	8.433	1.77	11.50	0.89
2.317	5.31	5.383	11.51	8.450	1.77	11.52	0.89
2.333	5.31	5.400	11.51	8.467	1.77	11.53	0.89
2.350	5.31	5.417	11.51	8.483	1.77	11.55	0.89
2.367	5.31	5.433	11.51	8.500	1.77	11.57	0.89
2.383	5.31	5.450	11.51	8.517	1.77	11.58	0.89
2.400	5.31	5.467	11.51	8.533	1.77	11.60	0.89
2.417	5.31	5.483	11.51	8.550	1.77	11.62	0.89
2.433	5.31	5.500	11.51	8.567	1.77	11.63	0.89
2.450	5.31	5.517	11.51	8.583	1.77	11.65	0.89
2.467	5.31	5.533	11.51	8.600	1.77	11.67	0.89
2.483	5.31	5.550	11.51	8.617	1.77	11.68	0.89
2.500	5.31	5.567	11.51	8.633	1.77	11.70	0.89
2.517	5.31	5.583	11.51	8.650	1.77	11.72	0.89

2.533	5.31	5.600	11.51	8.667	1.77	11.73	0.89
2.550	5.31	5.617	11.51	8.683	1.77	11.75	0.89
2.567	5.31	5.633	11.51	8.700	1.77	11.77	0.89
2.583	5.31	5.650	11.51	8.717	1.77	11.78	0.89
2.600	5.31	5.667	11.51	8.733	1.77	11.80	0.89
2.617	5.31	5.683	11.51	8.750	1.77	11.82	0.89
2.633	5.31	5.700	11.51	8.767	1.77	11.83	0.89
2.650	5.31	5.717	11.51	8.783	1.77	11.85	0.89
2.667	5.31	5.733	11.51	8.800	1.77	11.87	0.89
2.683	5.31	5.750	11.51	8.817	1.77	11.88	0.89
2.700	5.31	5.767	11.51	8.833	1.77	11.90	0.89
2.717	5.31	5.783	11.51	8.850	1.77	11.92	0.89
2.733	5.31	5.800	11.51	8.867	1.77	11.93	0.89
2.750	5.31	5.817	11.51	8.883	1.77	11.95	0.89
2.767	5.31	5.833	11.51	8.900	1.77	11.97	0.89
2.783	5.31	5.850	11.51	8.917	1.77	11.98	0.89
2.800	5.31	5.867	11.51	8.933	1.77	12.00	0.89
2.817	5.31	5.883	11.51	8.950	1.77	12.02	0.89
2.833	5.31	5.900	11.51	8.967	1.77	12.03	0.89
2.850	5.31	5.917	11.51	8.983	1.77	12.05	0.89
2.867	5.31	5.933	11.51	9.000	1.77	12.07	0.89
2.883	5.31	5.950	11.51	9.017	1.77	12.08	0.89
2.900	5.31	5.967	11.51	9.033	1.77	12.10	0.89
2.917	5.31	5.983	11.51	9.050	1.77	12.12	0.89
2.933	5.31	6.000	11.51	9.067	1.77	12.13	0.89
2.950	5.31	6.017	11.51	9.083	1.77	12.15	0.89
2.967	5.31	6.033	11.51	9.100	1.77	12.17	0.89
2.983	5.31	6.050	11.51	9.117	1.77	12.18	0.89
3.000	5.31	6.067	11.51	9.133	1.77	12.20	0.89
3.017	5.31	6.083	11.51	9.150	1.77	12.22	0.89
3.033	5.31	6.100	11.51	9.167	1.77	12.23	0.89
3.050	5.31	6.117	11.51	9.183	1.77	12.25	0.89
3.067	5.31	6.133	11.51	9.200	1.77		

Max.Eff.Inten.(mm/hr)=	40.71	36.34	
over (min)	5.00	7.00	
Storage Coeff. (min)=	4.04 (ii)	6.48 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.26	0.17	
			TOTALS
PEAK FLOW (cms)=	0.23	0.00	0.235 (iii)
TIME TO PEAK (hrs)=	5.22	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	65.72	87.32
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.74	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625)		OVERFLOW IS OFF			
IN= 2---> OUT= 1					
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.0389	0.1013	
	0.0164	0.0514	0.0456	0.1141	
	0.0252	0.0690	0.0514	0.1288	
	0.0309	0.0825	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	0.235	5.25	87.32
OUTFLOW: ID= 1 (7625)	2.080	0.048	6.35	84.37

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.52
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.1207

CALIB

| STANDHYD (7623)| Area (ha)= 1.15
|ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	5.31	6.150	11.51	9.22	1.77
0.033	0.00	3.100	5.31	6.167	11.51	9.23	1.77
0.050	0.00	3.117	5.31	6.183	11.51	9.25	1.77
0.067	0.00	3.133	5.31	6.200	11.51	9.27	0.89
0.083	0.00	3.150	5.31	6.217	11.51	9.28	0.89
0.100	0.00	3.167	5.31	6.233	11.51	9.30	0.89
0.117	0.00	3.183	5.31	6.250	11.50	9.32	0.89
0.133	0.00	3.200	5.31	6.267	6.20	9.33	0.89
0.150	0.00	3.217	5.31	6.283	6.20	9.35	0.89
0.167	0.00	3.233	5.31	6.300	6.20	9.37	0.89
0.183	0.00	3.250	5.31	6.317	6.20	9.38	0.89
0.200	0.00	3.267	15.05	6.333	6.20	9.40	0.89
0.217	0.00	3.283	15.05	6.350	6.20	9.42	0.89
0.233	0.00	3.300	15.05	6.367	6.20	9.43	0.89
0.250	0.00	3.317	15.05	6.383	6.20	9.45	0.89
0.267	0.89	3.333	15.05	6.400	6.20	9.47	0.89
0.283	0.89	3.350	15.05	6.417	6.20	9.48	0.89
0.300	0.89	3.367	15.05	6.433	6.20	9.50	0.89
0.317	0.89	3.383	15.05	6.450	6.20	9.52	0.89
0.333	0.89	3.400	15.05	6.467	6.20	9.53	0.89
0.350	0.89	3.417	15.05	6.483	6.20	9.55	0.89
0.367	0.89	3.433	15.05	6.500	6.20	9.57	0.89
0.383	0.89	3.450	15.05	6.517	6.20	9.58	0.89
0.400	0.89	3.467	15.05	6.533	6.20	9.60	0.89
0.417	0.89	3.483	15.05	6.550	6.20	9.62	0.89
0.433	0.89	3.500	15.05	6.567	6.20	9.63	0.89
0.450	0.89	3.517	15.05	6.583	6.20	9.65	0.89
0.467	0.89	3.533	15.05	6.600	6.20	9.67	0.89
0.483	0.89	3.550	15.05	6.617	6.20	9.68	0.89
0.500	0.89	3.567	15.05	6.633	6.20	9.70	0.89
0.517	0.89	3.583	15.05	6.650	6.20	9.72	0.89
0.533	0.89	3.600	15.05	6.667	6.20	9.73	0.89
0.550	0.89	3.617	15.05	6.683	6.20	9.75	0.89
0.567	0.89	3.633	15.05	6.700	6.20	9.77	0.89
0.583	0.89	3.650	15.05	6.717	6.20	9.78	0.89
0.600	0.89	3.667	15.05	6.733	6.20	9.80	0.89
0.617	0.89	3.683	15.05	6.750	6.20	9.82	0.89
0.633	0.89	3.700	15.05	6.767	6.20	9.83	0.89
0.650	0.89	3.717	15.05	6.783	6.20	9.85	0.89
0.667	0.89	3.733	15.05	6.800	6.20	9.87	0.89
0.683	0.89	3.750	15.05	6.817	6.20	9.88	0.89
0.700	0.89	3.767	15.05	6.833	6.20	9.90	0.89
0.717	0.89	3.783	15.05	6.850	6.20	9.92	0.89
0.733	0.89	3.800	15.05	6.867	6.20	9.93	0.89
0.750	0.89	3.817	15.05	6.883	6.20	9.95	0.89
0.767	0.89	3.833	15.05	6.900	6.20	9.97	0.89
0.783	0.89	3.850	15.05	6.917	6.20	9.98	0.89
0.800	0.89	3.867	15.05	6.933	6.20	10.00	0.89
0.817	0.89	3.883	15.05	6.950	6.20	10.02	0.89
0.833	0.89	3.900	15.05	6.967	6.20	10.03	0.89
0.850	0.89	3.917	15.05	6.983	6.20	10.05	0.89
0.867	0.89	3.933	15.05	7.000	6.20	10.07	0.89
0.883	0.89	3.950	15.05	7.017	6.20	10.08	0.89
0.900	0.89	3.967	15.05	7.033	6.20	10.10	0.89
0.917	0.89	3.983	15.05	7.050	6.20	10.12	0.89
0.933	0.89	4.000	15.05	7.067	6.20	10.13	0.89
0.950	0.89	4.017	15.05	7.083	6.20	10.15	0.89
0.967	0.89	4.033	15.05	7.100	6.20	10.17	0.89
0.983	0.89	4.050	15.05	7.117	6.20	10.18	0.89
1.000	0.89	4.067	15.05	7.133	6.20	10.20	0.89

1.017	0.89	4.083	15.05	7.150	6.20	10.22	0.89
1.033	0.89	4.100	15.05	7.167	6.20	10.23	0.89
1.050	0.89	4.117	15.05	7.183	6.20	10.25	0.89
1.067	0.89	4.133	15.05	7.200	6.20	10.27	0.89
1.083	0.89	4.150	15.05	7.217	6.20	10.28	0.89
1.100	0.89	4.167	15.05	7.233	6.20	10.30	0.89
1.117	0.89	4.183	15.05	7.250	6.19	10.32	0.89
1.133	0.89	4.200	15.05	7.267	3.54	10.33	0.89
1.150	0.89	4.217	15.05	7.283	3.54	10.35	0.89
1.167	0.89	4.233	15.05	7.300	3.54	10.37	0.89
1.183	0.89	4.250	15.05	7.317	3.54	10.38	0.89
1.200	0.89	4.267	40.71	7.333	3.54	10.40	0.89
1.217	0.89	4.283	40.71	7.350	3.54	10.42	0.89
1.233	0.89	4.300	40.71	7.367	3.54	10.43	0.89
1.250	0.89	4.317	40.71	7.383	3.54	10.45	0.89
1.267	0.89	4.333	40.71	7.400	3.54	10.47	0.89
1.283	0.89	4.350	40.71	7.417	3.54	10.48	0.89
1.300	0.89	4.367	40.71	7.433	3.54	10.50	0.89
1.317	0.89	4.383	40.71	7.450	3.54	10.52	0.89
1.333	0.89	4.400	40.71	7.467	3.54	10.53	0.89
1.350	0.89	4.417	40.71	7.483	3.54	10.55	0.89
1.367	0.89	4.433	40.71	7.500	3.54	10.57	0.89
1.383	0.89	4.450	40.71	7.517	3.54	10.58	0.89
1.400	0.89	4.467	40.71	7.533	3.54	10.60	0.89
1.417	0.89	4.483	40.71	7.550	3.54	10.62	0.89
1.433	0.89	4.500	40.71	7.567	3.54	10.63	0.89
1.450	0.89	4.517	40.71	7.583	3.54	10.65	0.89
1.467	0.89	4.533	40.71	7.600	3.54	10.67	0.89
1.483	0.89	4.550	40.71	7.617	3.54	10.68	0.89
1.500	0.89	4.567	40.71	7.633	3.54	10.70	0.89
1.517	0.89	4.583	40.71	7.650	3.54	10.72	0.89
1.533	0.89	4.600	40.71	7.667	3.54	10.73	0.89
1.550	0.89	4.617	40.71	7.683	3.54	10.75	0.89
1.567	0.89	4.633	40.71	7.700	3.54	10.77	0.89
1.583	0.89	4.650	40.71	7.717	3.54	10.78	0.89
1.600	0.89	4.667	40.71	7.733	3.54	10.80	0.89
1.617	0.89	4.683	40.71	7.750	3.54	10.82	0.89
1.633	0.89	4.700	40.71	7.767	3.54	10.83	0.89
1.650	0.89	4.717	40.71	7.783	3.54	10.85	0.89
1.667	0.89	4.733	40.71	7.800	3.54	10.87	0.89
1.683	0.89	4.750	40.71	7.817	3.54	10.88	0.89
1.700	0.89	4.767	40.71	7.833	3.54	10.90	0.89
1.717	0.89	4.783	40.71	7.850	3.54	10.92	0.89
1.733	0.89	4.800	40.71	7.867	3.54	10.93	0.89
1.750	0.89	4.817	40.71	7.883	3.54	10.95	0.89
1.767	0.89	4.833	40.71	7.900	3.54	10.97	0.89
1.783	0.89	4.850	40.71	7.917	3.54	10.98	0.89
1.800	0.89	4.867	40.71	7.933	3.54	11.00	0.89
1.817	0.89	4.883	40.71	7.950	3.54	11.02	0.89
1.833	0.89	4.900	40.71	7.967	3.54	11.03	0.89
1.850	0.89	4.917	40.71	7.983	3.54	11.05	0.89
1.867	0.89	4.933	40.71	8.000	3.54	11.07	0.89
1.883	0.89	4.950	40.71	8.017	3.54	11.08	0.89
1.900	0.89	4.967	40.71	8.033	3.54	11.10	0.89
1.917	0.89	4.983	40.71	8.050	3.54	11.12	0.89
1.933	0.89	5.000	40.71	8.067	3.54	11.13	0.89
1.950	0.89	5.017	40.71	8.083	3.54	11.15	0.89
1.967	0.89	5.033	40.71	8.100	3.54	11.17	0.89
1.983	0.89	5.050	40.71	8.117	3.54	11.18	0.89
2.000	0.89	5.067	40.71	8.133	3.54	11.20	0.89
2.017	0.89	5.083	40.71	8.150	3.54	11.22	0.89
2.033	0.89	5.100	40.71	8.167	3.54	11.23	0.89
2.050	0.89	5.117	40.71	8.183	3.54	11.25	0.89
2.067	0.89	5.133	40.71	8.200	3.54	11.27	0.89
2.083	0.89	5.150	40.71	8.217	3.54	11.28	0.89
2.100	0.89	5.167	40.71	8.233	3.54	11.30	0.89
2.117	0.89	5.183	40.71	8.250	3.54	11.32	0.89
2.133	0.89	5.200	40.71	8.267	1.77	11.33	0.89
2.150	0.89	5.217	40.71	8.283	1.77	11.35	0.89
2.167	0.89	5.233	40.71	8.300	1.77	11.37	0.89
2.183	0.89	5.250	40.69	8.317	1.77	11.38	0.89
2.200	0.89	5.267	11.51	8.333	1.77	11.40	0.89
2.217	0.89	5.283	11.51	8.350	1.77	11.42	0.89
2.233	0.89	5.300	11.51	8.367	1.77	11.43	0.89
2.250	0.89	5.317	11.51	8.383	1.77	11.45	0.89
2.267	5.31	5.333	11.51	8.400	1.77	11.47	0.89
2.283	5.31	5.350	11.51	8.417	1.77	11.48	0.89
2.300	5.31	5.367	11.51	8.433	1.77	11.50	0.89
2.317	5.31	5.383	11.51	8.450	1.77	11.52	0.89
2.333	5.31	5.400	11.51	8.467	1.77	11.53	0.89
2.350	5.31	5.417	11.51	8.483	1.77	11.55	0.89
2.367	5.31	5.433	11.51	8.500	1.77	11.57	0.89
2.383	5.31	5.450	11.51	8.517	1.77	11.58	0.89
2.400	5.31	5.467	11.51	8.533	1.77	11.60	0.89
2.417	5.31	5.483	11.51	8.550	1.77	11.62	0.89
2.433	5.31	5.500	11.51	8.567	1.77	11.63	0.89
2.450	5.31	5.517	11.51	8.583	1.77	11.65	0.89
2.467	5.31	5.533	11.51	8.600	1.77	11.67	0.89
2.483	5.31	5.550	11.51	8.617	1.77	11.68	0.89
2.500	5.31	5.567	11.51	8.633	1.77	11.70	0.89
2.517	5.31	5.583	11.51	8.650	1.77	11.72	0.89
2.533	5.31	5.600	11.51	8.667	1.77	11.73	0.89
2.550	5.31	5.617	11.51	8.683	1.77	11.75	0.89
2.567	5.31	5.633	11.51	8.700	1.77	11.77	0.89
2.583	5.31	5.650	11.51	8.717	1.77	11.78	0.89
2.600	5.31	5.667	11.51	8.733	1.77	11.80	0.89
2.617	5.31	5.683	11.51	8.750	1.77	11.82	0.89
2.633	5.31	5.700	11.51	8.767	1.77	11.83	0.89
2.650	5.31	5.717	11.51	8.783	1.77	11.85	0.89
2.667	5.31	5.733	11.51	8.800	1.77	11.87	0.89
2.683	5.31	5.750	11.51	8.817	1.77	11.88	0.89
2.700	5.31	5.767	11.51	8.833	1.77	11.90	0.89
2.717	5.31	5.783	11.51	8.850	1.77	11.92	0.89
2.733	5.31	5.800	11.51	8.867	1.77	11.93	0.89
2.750	5.31	5.817	11.51	8.883	1.77	11.95	0.89
2.767	5.31	5.833	11.51	8.900	1.77	11.97	0.89
2.783	5.31	5.850	11.51	8.917	1.77	11.98	0.89
2.800	5.31	5.867	11.51	8.933	1.77	12.00	0.89
2.817	5.31	5.883	11.51	8.950	1.77	12.02	0.89
2.833	5.31	5.900	11.51	8.967	1.77	12.03	0.89
2.850	5.31	5.917	11.51	8.983	1.77	12.05	0.89
2.867	5.31	5.933	11.51	9.000	1.77	12.07	0.89
2.883	5.31	5.950	11.51	9.017	1.77	12.08	0.89
2.900	5.31	5.967	11.51	9.033	1.77	12.10	0.89
2.917	5.31	5.983	11.51	9.050	1.77	12.12	0.89
2.933	5.31	6.000	11.51	9.067	1.77	12.13	0.89
2.950	5.31	6.017	11.51	9.083	1.77	12.15	0.89
2.967	5.31	6.033	11.51	9.100	1.77	12.17	0.89
2.983	5.31	6.050	11.51	9.117	1.77	12.18	0.89
3.000	5.31	6.067	11.51	9.133	1.77	12.20	0.89
3.017	5.31	6.083	11.51	9.150	1.77	12.22	0.89
3.033	5.31	6.100	11.51	9.167	1.77	12.23	0.89
3.050	5.31	6.117	11.51	9.183	1.77	12.25	0.89
3.067	5.31	6.133	11.51	9.200	1.77		

Max.Eff.Inten.(mm/hr)=	40.71	32.96	
over (min)	5.00	6.00	
Storage Coeff. (min)=	3.38 (ii)	5.82 (ii)	
Unit Hyd. Tpeak (min)=	5.00	6.00	
Unit Hyd. peak (cms)=	0.29	0.19	
			TOTALS
PEAK FLOW (cms)=	0.13	0.00	0.130 (iii)
TIME TO PEAK (hrs)=	5.07	5.25	5.25
RUNOFF VOLUME (mm)=	87.53	57.45	87.24
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725

0.0167	0.0440	0.0340	0.0820
0.0204	0.0525	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.130	5.25	87.24
OUTFLOW: ID= 1 (7622)	1.150	0.027	6.35	84.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.64
TIME SHIFT OF PEAK FLOW (min)= 66.00
MAXIMUM STORAGE USED (ha.m.)= 0.0667

CALIB	
STANDHYD (7629)	Area (ha)= 4.09
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	5.31	6.150	11.51	9.22	1.77
0.033	0.00	3.100	5.31	6.167	11.51	9.23	1.77
0.050	0.00	3.117	5.31	6.183	11.51	9.25	1.77
0.067	0.00	3.133	5.31	6.200	11.51	9.27	0.89
0.083	0.00	3.150	5.31	6.217	11.51	9.28	0.89
0.100	0.00	3.167	5.31	6.233	11.51	9.30	0.89
0.117	0.00	3.183	5.31	6.250	11.50	9.32	0.89
0.133	0.00	3.200	5.31	6.267	6.20	9.33	0.89
0.150	0.00	3.217	5.31	6.283	6.20	9.35	0.89
0.167	0.00	3.233	5.31	6.300	6.20	9.37	0.89
0.183	0.00	3.250	5.31	6.317	6.20	9.38	0.89
0.200	0.00	3.267	15.05	6.333	6.20	9.40	0.89
0.217	0.00	3.283	15.05	6.350	6.20	9.42	0.89
0.233	0.00	3.300	15.05	6.367	6.20	9.43	0.89
0.250	0.00	3.317	15.05	6.383	6.20	9.45	0.89
0.267	0.89	3.333	15.05	6.400	6.20	9.47	0.89
0.283	0.89	3.350	15.05	6.417	6.20	9.48	0.89
0.300	0.89	3.367	15.05	6.433	6.20	9.50	0.89
0.317	0.89	3.383	15.05	6.450	6.20	9.52	0.89
0.333	0.89	3.400	15.05	6.467	6.20	9.53	0.89
0.350	0.89	3.417	15.05	6.483	6.20	9.55	0.89
0.367	0.89	3.433	15.05	6.500	6.20	9.57	0.89
0.383	0.89	3.450	15.05	6.517	6.20	9.58	0.89
0.400	0.89	3.467	15.05	6.533	6.20	9.60	0.89
0.417	0.89	3.483	15.05	6.550	6.20	9.62	0.89
0.433	0.89	3.500	15.05	6.567	6.20	9.63	0.89
0.450	0.89	3.517	15.05	6.583	6.20	9.65	0.89
0.467	0.89	3.533	15.05	6.600	6.20	9.67	0.89
0.483	0.89	3.550	15.05	6.617	6.20	9.68	0.89
0.500	0.89	3.567	15.05	6.633	6.20	9.70	0.89
0.517	0.89	3.583	15.05	6.650	6.20	9.72	0.89
0.533	0.89	3.600	15.05	6.667	6.20	9.73	0.89
0.550	0.89	3.617	15.05	6.683	6.20	9.75	0.89
0.567	0.89	3.633	15.05	6.700	6.20	9.77	0.89
0.583	0.89	3.650	15.05	6.717	6.20	9.78	0.89
0.600	0.89	3.667	15.05	6.733	6.20	9.80	0.89
0.617	0.89	3.683	15.05	6.750	6.20	9.82	0.89
0.633	0.89	3.700	15.05	6.767	6.20	9.83	0.89
0.650	0.89	3.717	15.05	6.783	6.20	9.85	0.89
0.667	0.89	3.733	15.05	6.800	6.20	9.87	0.89
0.683	0.89	3.750	15.05	6.817	6.20	9.88	0.89
0.700	0.89	3.767	15.05	6.833	6.20	9.90	0.89
0.717	0.89	3.783	15.05	6.850	6.20	9.92	0.89
0.733	0.89	3.800	15.05	6.867	6.20	9.93	0.89
0.750	0.89	3.817	15.05	6.883	6.20	9.95	0.89
0.767	0.89	3.833	15.05	6.900	6.20	9.97	0.89
0.783	0.89	3.850	15.05	6.917	6.20	9.98	0.89
0.800	0.89	3.867	15.05	6.933	6.20	10.00	0.89
0.817	0.89	3.883	15.05	6.950	6.20	10.02	0.89
0.833	0.89	3.900	15.05	6.967	6.20	10.03	0.89
0.850	0.89	3.917	15.05	6.983	6.20	10.05	0.89
0.867	0.89	3.933	15.05	7.000	6.20	10.07	0.89
0.883	0.89	3.950	15.05	7.017	6.20	10.08	0.89
0.900	0.89	3.967	15.05	7.033	6.20	10.10	0.89
0.917	0.89	3.983	15.05	7.050	6.20	10.12	0.89
0.933	0.89	4.000	15.05	7.067	6.20	10.13	0.89
0.950	0.89	4.017	15.05	7.083	6.20	10.15	0.89
0.967	0.89	4.033	15.05	7.100	6.20	10.17	0.89
0.983	0.89	4.050	15.05	7.117	6.20	10.18	0.89
1.000	0.89	4.067	15.05	7.133	6.20	10.20	0.89
1.017	0.89	4.083	15.05	7.150	6.20	10.22	0.89
1.033	0.89	4.100	15.05	7.167	6.20	10.23	0.89
1.050	0.89	4.117	15.05	7.183	6.20	10.25	0.89
1.067	0.89	4.133	15.05	7.200	6.20	10.27	0.89
1.083	0.89	4.150	15.05	7.217	6.20	10.28	0.89
1.100	0.89	4.167	15.05	7.233	6.20	10.30	0.89
1.117	0.89	4.183	15.05	7.250	6.19	10.32	0.89
1.133	0.89	4.200	15.05	7.267	3.54	10.33	0.89
1.150	0.89	4.217	15.05	7.283	3.54	10.35	0.89
1.167	0.89	4.233	15.05	7.300	3.54	10.37	0.89
1.183	0.89	4.250	15.05	7.317	3.54	10.38	0.89
1.200	0.89	4.267	40.71	7.333	3.54	10.40	0.89
1.217	0.89	4.283	40.71	7.350	3.54	10.42	0.89
1.233	0.89	4.300	40.71	7.367	3.54	10.43	0.89
1.250	0.89	4.317	40.71	7.383	3.54	10.45	0.89
1.267	0.89	4.333	40.71	7.400	3.54	10.47	0.89
1.283	0.89	4.350	40.71	7.417	3.54	10.48	0.89
1.300	0.89	4.367	40.71	7.433	3.54	10.50	0.89
1.317	0.89	4.383	40.71	7.450	3.54	10.52	0.89
1.333	0.89	4.400	40.71	7.467	3.54	10.53	0.89
1.350	0.89	4.417	40.71	7.483	3.54	10.55	0.89
1.367	0.89	4.433	40.71	7.500	3.54	10.57	0.89
1.383	0.89	4.450	40.71	7.517	3.54	10.58	0.89
1.400	0.89	4.467	40.71	7.533	3.54	10.60	0.89
1.417	0.89	4.483	40.71	7.550	3.54	10.62	0.89
1.433	0.89	4.500	40.71	7.567	3.54	10.63	0.89
1.450	0.89	4.517	40.71	7.583	3.54	10.65	0.89
1.467	0.89	4.533	40.71	7.600	3.54	10.67	0.89
1.483	0.89	4.550	40.71	7.617	3.54	10.68	0.89
1.500	0.89	4.567	40.71	7.633	3.54	10.70	0.89
1.517	0.89	4.583	40.71	7.650	3.54	10.72	0.89
1.533	0.89	4.600	40.71	7.667	3.54	10.73	0.89
1.550	0.89	4.617	40.71	7.683	3.54	10.75	0.89
1.567	0.89	4.633	40.71	7.700	3.54	10.77	0.89
1.583	0.89	4.650	40.71	7.717	3.54	10.78	0.89
1.600	0.89	4.667	40.71	7.733	3.54	10.80	0.89
1.617	0.89	4.683	40.71	7.750	3.54	10.82	0.89
1.633	0.89	4.700	40.71	7.767	3.54	10.83	0.89
1.650	0.89	4.717	40.71	7.783	3.54	10.85	0.89
1.667	0.89	4.733	40.71	7.800	3.54	10.87	0.89
1.683	0.89	4.750	40.71	7.817	3.54	10.88	0.89
1.700	0.89	4.767	40.71	7.833	3.54	10.90	0.89
1.717	0.89	4.783	40.71	7.850	3.54	10.92	0.89
1.733	0.89	4.800	40.71	7.867	3.54	10.93	0.89
1.750	0.89	4.817	40.71	7.883	3.54	10.95	0.89
1.767	0.89	4.833	40.71	7.900	3.54	10.97	0.89
1.783	0.89	4.850	40.71	7.917	3.54	10.98	0.89
1.800	0.89	4.867	40.71	7.933	3.54	11.00	0.89
1.817	0.89	4.883	40.71	7.950	3.54	11.02	0.89
1.833	0.89	4.900	40.71	7.967	3.54	11.03	0.89
1.850	0.89	4.917	40.71	7.983	3.54	11.05	0.89
1.867	0.89	4.933	40.71	8.000	3.54	11.07	0.89
1.883	0.89	4.950	40.71	8.017	3.54	11.08	0.89
1.900	0.89	4.967	40.71	8.033	3.54	11.10	0.89
1.917	0.89	4.983	40.71	8.050	3.54	11.12	0.89
1.933	0.89	5.000	40.71	8.067	3.54	11.13	0.89
1.950	0.89	5.017	40.71	8.083	3.54	11.15	0.89
1.967	0.89	5.033	40.71	8.100	3.54	11.17	0.89
1.983	0.89	5.050	40.71	8.117	3.54	11.18	0.89
2.000	0.89	5.067	40.71	8.133	3.54	11.20	0.89
2.017	0.89	5.083	40.71	8.150	3.54	11.22	0.89

2.033	0.89	5.100	40.71	8.167	3.54	11.23	0.89
2.050	0.89	5.117	40.71	8.183	3.54	11.25	0.89
2.067	0.89	5.133	40.71	8.200	3.54	11.27	0.89
2.083	0.89	5.150	40.71	8.217	3.54	11.28	0.89
2.100	0.89	5.167	40.71	8.233	3.54	11.30	0.89
2.117	0.89	5.183	40.71	8.250	3.54	11.32	0.89
2.133	0.89	5.200	40.71	8.267	1.77	11.33	0.89
2.150	0.89	5.217	40.71	8.283	1.77	11.35	0.89
2.167	0.89	5.233	40.71	8.300	1.77	11.37	0.89
2.183	0.89	5.250	40.69	8.317	1.77	11.38	0.89
2.200	0.89	5.267	11.51	8.333	1.77	11.40	0.89
2.217	0.89	5.283	11.51	8.350	1.77	11.42	0.89
2.233	0.89	5.300	11.51	8.367	1.77	11.43	0.89
2.250	0.89	5.317	11.51	8.383	1.77	11.45	0.89
2.267	5.31	5.333	11.51	8.400	1.77	11.47	0.89
2.283	5.31	5.350	11.51	8.417	1.77	11.48	0.89
2.300	5.31	5.367	11.51	8.433	1.77	11.50	0.89
2.317	5.31	5.383	11.51	8.450	1.77	11.52	0.89
2.333	5.31	5.400	11.51	8.467	1.77	11.53	0.89
2.350	5.31	5.417	11.51	8.483	1.77	11.55	0.89
2.367	5.31	5.433	11.51	8.500	1.77	11.57	0.89
2.383	5.31	5.450	11.51	8.517	1.77	11.58	0.89
2.400	5.31	5.467	11.51	8.533	1.77	11.60	0.89
2.417	5.31	5.483	11.51	8.550	1.77	11.62	0.89
2.433	5.31	5.500	11.51	8.567	1.77	11.63	0.89
2.450	5.31	5.517	11.51	8.583	1.77	11.65	0.89
2.467	5.31	5.533	11.51	8.600	1.77	11.67	0.89
2.483	5.31	5.550	11.51	8.617	1.77	11.68	0.89
2.500	5.31	5.567	11.51	8.633	1.77	11.70	0.89
2.517	5.31	5.583	11.51	8.650	1.77	11.72	0.89
2.533	5.31	5.600	11.51	8.667	1.77	11.73	0.89
2.550	5.31	5.617	11.51	8.683	1.77	11.75	0.89
2.567	5.31	5.633	11.51	8.700	1.77	11.77	0.89
2.583	5.31	5.650	11.51	8.717	1.77	11.78	0.89
2.600	5.31	5.667	11.51	8.733	1.77	11.80	0.89
2.617	5.31	5.683	11.51	8.750	1.77	11.82	0.89
2.633	5.31	5.700	11.51	8.767	1.77	11.83	0.89
2.650	5.31	5.717	11.51	8.783	1.77	11.85	0.89
2.667	5.31	5.733	11.51	8.800	1.77	11.87	0.89
2.683	5.31	5.750	11.51	8.817	1.77	11.88	0.89
2.700	5.31	5.767	11.51	8.833	1.77	11.90	0.89
2.717	5.31	5.783	11.51	8.850	1.77	11.92	0.89
2.733	5.31	5.800	11.51	8.867	1.77	11.93	0.89
2.750	5.31	5.817	11.51	8.883	1.77	11.95	0.89
2.767	5.31	5.833	11.51	8.900	1.77	11.97	0.89
2.783	5.31	5.850	11.51	8.917	1.77	11.98	0.89
2.800	5.31	5.867	11.51	8.933	1.77	12.00	0.89
2.817	5.31	5.883	11.51	8.950	1.77	12.02	0.89
2.833	5.31	5.900	11.51	8.967	1.77	12.03	0.89
2.850	5.31	5.917	11.51	8.983	1.77	12.05	0.89
2.867	5.31	5.933	11.51	9.000	1.77	12.07	0.89
2.883	5.31	5.950	11.51	9.017	1.77	12.08	0.89
2.900	5.31	5.967	11.51	9.033	1.77	12.10	0.89
2.917	5.31	5.983	11.51	9.050	1.77	12.12	0.89
2.933	5.31	6.000	11.51	9.067	1.77	12.13	0.89
2.950	5.31	6.017	11.51	9.083	1.77	12.15	0.89
2.967	5.31	6.033	11.51	9.100	1.77	12.17	0.89
2.983	5.31	6.050	11.51	9.117	1.77	12.18	0.89
3.000	5.31	6.067	11.51	9.133	1.77	12.20	0.89
3.017	5.31	6.083	11.51	9.150	1.77	12.22	0.89
3.033	5.31	6.100	11.51	9.167	1.77	12.23	0.89
3.050	5.31	6.117	11.51	9.183	1.77	12.25	0.89
3.067	5.31	6.133	11.51	9.200	1.77		

Max.Eff.Inten.(mm/hr)=	40.71	32.96	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.94 (ii)	7.38 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.23	0.15	
			TOTALS
PEAK FLOW (cms)=	0.46	0.00	0.462 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	87.53	57.45	87.24
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	IN= 2---> OUT= 1	DT= 1.0 min	OVERFLOW IS OFF

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0826	0.2320
0.0347	0.1170	0.0967	0.2609
0.0534	0.1580	0.1090	0.2940
0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.462	5.25	87.24
OUTFLOW: ID= 1 (7630)	4.090	0.088	6.40	83.40

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.00
TIME SHIFT OF PEAK FLOW (min)= 69.00
MAXIMUM STORAGE USED (ha.m.)= 0.2424

CALIB	STANDHYD (7631)	ID= 1 DT= 1.0 min	Area (ha)= 3.91 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	3.083	5.31	6.150	11.51	9.22	1.77
0.033	0.00	3.100	5.31	6.167	11.51	9.23	1.77
0.050	0.00	3.117	5.31	6.183	11.51	9.25	1.77
0.067	0.00	3.133	5.31	6.200	11.51	9.27	0.89
0.083	0.00	3.150	5.31	6.217	11.51	9.28	0.89
0.100	0.00	3.167	5.31	6.233	11.51	9.30	0.89
0.117	0.00	3.183	5.31	6.250	11.50	9.32	0.89
0.133	0.00	3.200	5.31	6.267	6.20	9.33	0.89
0.150	0.00	3.217	5.31	6.283	6.20	9.35	0.89
0.167	0.00	3.233	5.31	6.300	6.20	9.37	0.89
0.183	0.00	3.250	5.31	6.317	6.20	9.38	0.89
0.200	0.00	3.267	15.05	6.333	6.20	9.40	0.89
0.217	0.00	3.283	15.05	6.350	6.20	9.42	0.89
0.233	0.00	3.300	15.05	6.367	6.20	9.43	0.89
0.250	0.00	3.317	15.05	6.383	6.20	9.45	0.89
0.267	0.89	3.333	15.05	6.400	6.20	9.47	0.89
0.283	0.89	3.350	15.05	6.417	6.20	9.48	0.89
0.300	0.89	3.367	15.05	6.433	6.20	9.50	0.89
0.317	0.89	3.383	15.05	6.450	6.20	9.52	0.89
0.333	0.89	3.400	15.05	6.467	6.20	9.53	0.89
0.350	0.89	3.417	15.05	6.483	6.20	9.55	0.89
0.367	0.89	3.433	15.05	6.500	6.20	9.57	0.89
0.383	0.89	3.450	15.05	6.517	6.20	9.58	0.89
0.400	0.89	3.467	15.05	6.533	6.20	9.60	0.89
0.417	0.89	3.483	15.05	6.550	6.20	9.62	0.89
0.433	0.89	3.500	15.05	6.567	6.20	9.63	0.89
0.450	0.89	3.517	15.05	6.583	6.20	9.65	0.89
0.467	0.89	3.533	15.05	6.600	6.20	9.67	0.89
0.483	0.89	3.550	15.05	6.617	6.20	9.68	0.89
0.500	0.89	3.567	15.05	6.633	6.20	9.70	0.89

0.517	0.89	3.583	15.05	6.650	6.20	9.72	0.89
0.533	0.89	3.600	15.05	6.667	6.20	9.73	0.89
0.550	0.89	3.617	15.05	6.683	6.20	9.75	0.89
0.567	0.89	3.633	15.05	6.700	6.20	9.77	0.89
0.583	0.89	3.650	15.05	6.717	6.20	9.78	0.89
0.600	0.89	3.667	15.05	6.733	6.20	9.80	0.89
0.617	0.89	3.683	15.05	6.750	6.20	9.82	0.89
0.633	0.89	3.700	15.05	6.767	6.20	9.83	0.89
0.650	0.89	3.717	15.05	6.783	6.20	9.85	0.89
0.667	0.89	3.733	15.05	6.800	6.20	9.87	0.89
0.683	0.89	3.750	15.05	6.817	6.20	9.88	0.89
0.700	0.89	3.767	15.05	6.833	6.20	9.90	0.89
0.717	0.89	3.783	15.05	6.850	6.20	9.92	0.89
0.733	0.89	3.800	15.05	6.867	6.20	9.93	0.89
0.750	0.89	3.817	15.05	6.883	6.20	9.95	0.89
0.767	0.89	3.833	15.05	6.900	6.20	9.97	0.89
0.783	0.89	3.850	15.05	6.917	6.20	9.98	0.89
0.800	0.89	3.867	15.05	6.933	6.20	10.00	0.89
0.817	0.89	3.883	15.05	6.950	6.20	10.02	0.89
0.833	0.89	3.900	15.05	6.967	6.20	10.03	0.89
0.850	0.89	3.917	15.05	6.983	6.20	10.05	0.89
0.867	0.89	3.933	15.05	7.000	6.20	10.07	0.89
0.883	0.89	3.950	15.05	7.017	6.20	10.08	0.89
0.900	0.89	3.967	15.05	7.033	6.20	10.10	0.89
0.917	0.89	3.983	15.05	7.050	6.20	10.12	0.89
0.933	0.89	4.000	15.05	7.067	6.20	10.13	0.89
0.950	0.89	4.017	15.05	7.083	6.20	10.15	0.89
0.967	0.89	4.033	15.05	7.100	6.20	10.17	0.89
0.983	0.89	4.050	15.05	7.117	6.20	10.18	0.89
1.000	0.89	4.067	15.05	7.133	6.20	10.20	0.89
1.017	0.89	4.083	15.05	7.150	6.20	10.22	0.89
1.033	0.89	4.100	15.05	7.167	6.20	10.23	0.89
1.050	0.89	4.117	15.05	7.183	6.20	10.25	0.89
1.067	0.89	4.133	15.05	7.200	6.20	10.27	0.89
1.083	0.89	4.150	15.05	7.217	6.20	10.28	0.89
1.100	0.89	4.167	15.05	7.233	6.20	10.30	0.89
1.117	0.89	4.183	15.05	7.250	6.19	10.32	0.89
1.133	0.89	4.200	15.05	7.267	3.54	10.33	0.89
1.150	0.89	4.217	15.05	7.283	3.54	10.35	0.89
1.167	0.89	4.233	15.05	7.300	3.54	10.37	0.89
1.183	0.89	4.250	15.05	7.317	3.54	10.38	0.89
1.200	0.89	4.267	40.71	7.333	3.54	10.40	0.89
1.217	0.89	4.283	40.71	7.350	3.54	10.42	0.89
1.233	0.89	4.300	40.71	7.367	3.54	10.43	0.89
1.250	0.89	4.317	40.71	7.383	3.54	10.45	0.89
1.267	0.89	4.333	40.71	7.400	3.54	10.47	0.89
1.283	0.89	4.350	40.71	7.417	3.54	10.48	0.89
1.300	0.89	4.367	40.71	7.433	3.54	10.50	0.89
1.317	0.89	4.383	40.71	7.450	3.54	10.52	0.89
1.333	0.89	4.400	40.71	7.467	3.54	10.53	0.89
1.350	0.89	4.417	40.71	7.483	3.54	10.55	0.89
1.367	0.89	4.433	40.71	7.500	3.54	10.57	0.89
1.383	0.89	4.450	40.71	7.517	3.54	10.58	0.89
1.400	0.89	4.467	40.71	7.533	3.54	10.60	0.89
1.417	0.89	4.483	40.71	7.550	3.54	10.62	0.89
1.433	0.89	4.500	40.71	7.567	3.54	10.63	0.89
1.450	0.89	4.517	40.71	7.583	3.54	10.65	0.89
1.467	0.89	4.533	40.71	7.600	3.54	10.67	0.89
1.483	0.89	4.550	40.71	7.617	3.54	10.68	0.89
1.500	0.89	4.567	40.71	7.633	3.54	10.70	0.89
1.517	0.89	4.583	40.71	7.650	3.54	10.72	0.89
1.533	0.89	4.600	40.71	7.667	3.54	10.73	0.89
1.550	0.89	4.617	40.71	7.683	3.54	10.75	0.89
1.567	0.89	4.633	40.71	7.700	3.54	10.77	0.89
1.583	0.89	4.650	40.71	7.717	3.54	10.78	0.89
1.600	0.89	4.667	40.71	7.733	3.54	10.80	0.89
1.617	0.89	4.683	40.71	7.750	3.54	10.82	0.89
1.633	0.89	4.700	40.71	7.767	3.54	10.83	0.89
1.650	0.89	4.717	40.71	7.783	3.54	10.85	0.89
1.667	0.89	4.733	40.71	7.800	3.54	10.87	0.89
1.683	0.89	4.750	40.71	7.817	3.54	10.88	0.89
1.700	0.89	4.767	40.71	7.833	3.54	10.90	0.89
1.717	0.89	4.783	40.71	7.850	3.54	10.92	0.89
1.733	0.89	4.800	40.71	7.867	3.54	10.93	0.89
1.750	0.89	4.817	40.71	7.883	3.54	10.95	0.89
1.767	0.89	4.833	40.71	7.900	3.54	10.97	0.89
1.783	0.89	4.850	40.71	7.917	3.54	10.98	0.89
1.800	0.89	4.867	40.71	7.933	3.54	11.00	0.89
1.817	0.89	4.883	40.71	7.950	3.54	11.02	0.89
1.833	0.89	4.900	40.71	7.967	3.54	11.03	0.89
1.850	0.89	4.917	40.71	7.983	3.54	11.05	0.89
1.867	0.89	4.933	40.71	8.000	3.54	11.07	0.89
1.883	0.89	4.950	40.71	8.017	3.54	11.08	0.89
1.900	0.89	4.967	40.71	8.033	3.54	11.10	0.89
1.917	0.89	4.983	40.71	8.050	3.54	11.12	0.89
1.933	0.89	5.000	40.71	8.067	3.54	11.13	0.89
1.950	0.89	5.017	40.71	8.083	3.54	11.15	0.89
1.967	0.89	5.033	40.71	8.100	3.54	11.17	0.89
1.983	0.89	5.050	40.71	8.117	3.54	11.18	0.89
2.000	0.89	5.067	40.71	8.133	3.54	11.20	0.89
2.017	0.89	5.083	40.71	8.150	3.54	11.22	0.89
2.033	0.89	5.100	40.71	8.167	3.54	11.23	0.89
2.050	0.89	5.117	40.71	8.183	3.54	11.25	0.89
2.067	0.89	5.133	40.71	8.200	3.54	11.27	0.89
2.083	0.89	5.150	40.71	8.217	3.54	11.28	0.89
2.100	0.89	5.167	40.71	8.233	3.54	11.30	0.89
2.117	0.89	5.183	40.71	8.250	3.54	11.32	0.89
2.133	0.89	5.200	40.71	8.267	1.77	11.33	0.89
2.150	0.89	5.217	40.71	8.283	1.77	11.35	0.89
2.167	0.89	5.233	40.71	8.300	1.77	11.37	0.89
2.183	0.89	5.250	40.69	8.317	1.77	11.38	0.89
2.200	0.89	5.267	11.51	8.333	1.77	11.40	0.89
2.217	0.89	5.283	11.51	8.350	1.77	11.42	0.89
2.233	0.89	5.300	11.51	8.367	1.77	11.43	0.89
2.250	0.89	5.317	11.51	8.383	1.77	11.45	0.89
2.267	5.31	5.333	11.51	8.400	1.77	11.47	0.89
2.283	5.31	5.350	11.51	8.417	1.77	11.48	0.89
2.300	5.31	5.367	11.51	8.433	1.77	11.50	0.89
2.317	5.31	5.383	11.51	8.450	1.77	11.52	0.89
2.333	5.31	5.400	11.51	8.467	1.77	11.53	0.89
2.350	5.31	5.417	11.51	8.483	1.77	11.55	0.89
2.367	5.31	5.433	11.51	8.500	1.77	11.57	0.89
2.383	5.31	5.450	11.51	8.517	1.77	11.58	0.89
2.400	5.31	5.467	11.51	8.533	1.77	11.60	0.89
2.417	5.31	5.483	11.51	8.550	1.77	11.62	0.89
2.433	5.31	5.500	11.51	8.567	1.77	11.63	0.89
2.450	5.31	5.517	11.51	8.583	1.77	11.65	0.89
2.467	5.31	5.533	11.51	8.600	1.77	11.67	0.89
2.483	5.31	5.550	11.51	8.617	1.77	11.68	0.89
2.500	5.31	5.567	11.51	8.633	1.77	11.70	0.89
2.517	5.31	5.583	11.51	8.650	1.77	11.72	0.89
2.533	5.31	5.600	11.51	8.667	1.77	11.73	0.89
2.550	5.31	5.617	11.51	8.683	1.77	11.75	0.89
2.567	5.31	5.633	11.51	8.700	1.77	11.77	0.89
2.583	5.31	5.650	11.51	8.717	1.77	11.78	0.89
2.600	5.31	5.667	11.51	8.733	1.77	11.80	0.89
2.617	5.31	5.683	11.51	8.750	1.77	11.82	0.89
2.633	5.31	5.700	11.51	8.767	1.77	11.83	0.89
2.650	5.31	5.717	11.51	8.783	1.77	11.85	0.89
2.667	5.31	5.733	11.51	8.800	1.77	11.87	0.89
2.683	5.31	5.750	11.51	8.817	1.77	11.88	0.89
2.700	5.31	5.767	11.51	8.833	1.77	11.90	0.89
2.717	5.31	5.783	11.51	8.850	1.77	11.92	0.89
2.733	5.31	5.800	11.51	8.867	1.77	11.93	0.89
2.750	5.31	5.817	11.51	8.883	1.77	11.95	0.89
2.767	5.31	5.833	11.51	8.900	1.77	11.97	0.89
2.783	5.31	5.850	11.51	8.917	1.77	11.98	0.89
2.800	5.31	5.867	11.51	8.933	1.77	12.00	0.89
2.817	5.31	5.883	11.51	8.950	1.77	12.02	0.89
2.833	5.31	5.900	11.51	8.967	1.77	12.03	0.89
2.850	5.31	5.917	11.51	8.983	1.77	12.05	0.89
2.867	5.31	5.933	11.51	9.000	1.77	12.07	0.89
2.883	5.31	5.950	11.51	9.017	1.77	12.08	0.89
2.900	5.31	5.967	11.51	9.033	1.77	12.10	0.89
2.917	5.31	5.983	11.51	9.050	1.77	12.12	0.89
2.933	5.31	6.000	11.51	9.067	1.77	12.13	0.89
2.950	5.31	6.017	11.51	9.083	1.77	12.15	0.89
2.967	5.31	6.033	11.51	9.100	1.77	12.17	0.89
2.983	5.31	6.050	11.51	9.117	1.77	12.18	0.89
3.000	5.31	6.067	11.51	9.133	1.77	12.20	0.89
3.017	5.31	6.083	11.51	9.150	1.77	12.22	0.89
3.033	5.31	6.100	11.51	9.167	1.77	12.23	0.89

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              3.050    5.31 | 6.117   11.51 | 9.183    1.77 | 12.25    0.89
              3.067    5.31 | 6.133   11.51 | 9.200    1.77 |

     Max.Eff.Inten.(mm/hr)=      40.71        32.96
               over (min)         5.00         8.00
     Storage Coeff.  (min)=      4.88 (ii)    7.32 (ii)
     Unit Hyd. Tpeak (min)=      5.00         8.00
     Unit Hyd. peak  (cms)=      0.23         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.44         0.00          0.441 (iii)
     TIME TO PEAK    (hrs)=      5.23         5.25           5.25
     RUNOFF VOLUME    (mm)=     87.53        57.45          87.24
     TOTAL RAINFALL   (mm)=     88.54        88.54          88.54
     RUNOFF COEFFICIENT   =      0.99         0.65           0.99


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR(  7632)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0792      0.2220
                          0.0333      0.1130   |    0.0928      0.2500
                          0.0512      0.1510   |    0.1046      0.2810
                          0.0629      0.1810   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7631)      3.910      0.441      5.25      87.24
   OUTFLOW: ID= 1 (  7632)      3.910      0.084      6.40      83.35

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.02
                  TIME SHIFT OF PEAK FLOW         (min)= 69.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2317

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-------------------
| CALIB            |
| STANDHYD (  7641)|   Area    (ha)=   2.21
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.19         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     121.38        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 3.083    5.31 | 6.150   11.51 |  9.22    1.77
               0.033    0.00 | 3.100    5.31 | 6.167   11.51 |  9.23    1.77
               0.050    0.00 | 3.117    5.31 | 6.183   11.51 |  9.25    1.77
               0.067    0.00 | 3.133    5.31 | 6.200   11.51 |  9.27    0.89
               0.083    0.00 | 3.150    5.31 | 6.217   11.51 |  9.28    0.89
               0.100    0.00 | 3.167    5.31 | 6.233   11.51 |  9.30    0.89
               0.117    0.00 | 3.183    5.31 | 6.250   11.50 |  9.32    0.89
               0.133    0.00 | 3.200    5.31 | 6.267    6.20 |  9.33    0.89
               0.150    0.00 | 3.217    5.31 | 6.283    6.20 |  9.35    0.89
               0.167    0.00 | 3.233    5.31 | 6.300    6.20 |  9.37    0.89
               0.183    0.00 | 3.250    5.31 | 6.317    6.20 |  9.38    0.89
               0.200    0.00 | 3.267   15.05 | 6.333    6.20 |  9.40    0.89
               0.217    0.00 | 3.283   15.05 | 6.350    6.20 |  9.42    0.89
               0.233    0.00 | 3.300   15.05 | 6.367    6.20 |  9.43    0.89
               0.250    0.00 | 3.317   15.05 | 6.383    6.20 |  9.45    0.89
               0.267    0.89 | 3.333   15.05 | 6.400    6.20 |  9.47    0.89
               0.283    0.89 | 3.350   15.05 | 6.417    6.20 |  9.48    0.89
               0.300    0.89 | 3.367   15.05 | 6.433    6.20 |  9.50    0.89
               0.317    0.89 | 3.383   15.05 | 6.450    6.20 |  9.52    0.89
               0.333    0.89 | 3.400   15.05 | 6.467    6.20 |  9.53    0.89
               0.350    0.89 | 3.417   15.05 | 6.483    6.20 |  9.55    0.89
               0.367    0.89 | 3.433   15.05 | 6.500    6.20 |  9.57    0.89
               0.383    0.89 | 3.450   15.05 | 6.517    6.20 |  9.58    0.89
               0.400    0.89 | 3.467   15.05 | 6.533    6.20 |  9.60    0.89
               0.417    0.89 | 3.483   15.05 | 6.550    6.20 |  9.62    0.89
               0.433    0.89 | 3.500   15.05 | 6.567    6.20 |  9.63    0.89
               0.450    0.89 | 3.517   15.05 | 6.583    6.20 |  9.65    0.89
               0.467    0.89 | 3.533   15.05 | 6.600    6.20 |  9.67    0.89
               0.483    0.89 | 3.550   15.05 | 6.617    6.20 |  9.68    0.89
               0.500    0.89 | 3.567   15.05 | 6.633    6.20 |  9.70    0.89
               0.517    0.89 | 3.583   15.05 | 6.650    6.20 |  9.72    0.89
               0.533    0.89 | 3.600   15.05 | 6.667    6.20 |  9.73    0.89
               0.550    0.89 | 3.617   15.05 | 6.683    6.20 |  9.75    0.89
               0.567    0.89 | 3.633   15.05 | 6.700    6.20 |  9.77    0.89
               0.583    0.89 | 3.650   15.05 | 6.717    6.20 |  9.78    0.89
               0.600    0.89 | 3.667   15.05 | 6.733    6.20 |  9.80    0.89
               0.617    0.89 | 3.683   15.05 | 6.750    6.20 |  9.82    0.89
               0.633    0.89 | 3.700   15.05 | 6.767    6.20 |  9.83    0.89
               0.650    0.89 | 3.717   15.05 | 6.783    6.20 |  9.85    0.89
               0.667    0.89 | 3.733   15.05 | 6.800    6.20 |  9.87    0.89
               0.683    0.89 | 3.750   15.05 | 6.817    6.20 |  9.88    0.89
               0.700    0.89 | 3.767   15.05 | 6.833    6.20 |  9.90    0.89
               0.717    0.89 | 3.783   15.05 | 6.850    6.20 |  9.92    0.89
               0.733    0.89 | 3.800   15.05 | 6.867    6.20 |  9.93    0.89
               0.750    0.89 | 3.817   15.05 | 6.883    6.20 |  9.95    0.89
               0.767    0.89 | 3.833   15.05 | 6.900    6.20 |  9.97    0.89
               0.783    0.89 | 3.850   15.05 | 6.917    6.20 |  9.98    0.89
               0.800    0.89 | 3.867   15.05 | 6.933    6.20 | 10.00    0.89
               0.817    0.89 | 3.883   15.05 | 6.950    6.20 | 10.02    0.89
               0.833    0.89 | 3.900   15.05 | 6.967    6.20 | 10.03    0.89
               0.850    0.89 | 3.917   15.05 | 6.983    6.20 | 10.05    0.89
               0.867    0.89 | 3.933   15.05 | 7.000    6.20 | 10.07    0.89
               0.883    0.89 | 3.950   15.05 | 7.017    6.20 | 10.08    0.89
               0.900    0.89 | 3.967   15.05 | 7.033    6.20 | 10.10    0.89
               0.917    0.89 | 3.983   15.05 | 7.050    6.20 | 10.12    0.89
               0.933    0.89 | 4.000   15.05 | 7.067    6.20 | 10.13    0.89
               0.950    0.89 | 4.017   15.05 | 7.083    6.20 | 10.15    0.89
               0.967    0.89 | 4.033   15.05 | 7.100    6.20 | 10.17    0.89
               0.983    0.89 | 4.050   15.05 | 7.117    6.20 | 10.18    0.89
               1.000    0.89 | 4.067   15.05 | 7.133    6.20 | 10.20    0.89
               1.017    0.89 | 4.083   15.05 | 7.150    6.20 | 10.22    0.89
               1.033    0.89 | 4.100   15.05 | 7.167    6.20 | 10.23    0.89
               1.050    0.89 | 4.117   15.05 | 7.183    6.20 | 10.25    0.89
               1.067    0.89 | 4.133   15.05 | 7.200    6.20 | 10.27    0.89
               1.083    0.89 | 4.150   15.05 | 7.217    6.20 | 10.28    0.89
               1.100    0.89 | 4.167   15.05 | 7.233    6.20 | 10.30    0.89
               1.117    0.89 | 4.183   15.05 | 7.250    6.19 | 10.32    0.89
               1.133    0.89 | 4.200   15.05 | 7.267    3.54 | 10.33    0.89
               1.150    0.89 | 4.217   15.05 | 7.283    3.54 | 10.35    0.89
               1.167    0.89 | 4.233   15.05 | 7.300    3.54 | 10.37    0.89
               1.183    0.89 | 4.250   15.05 | 7.317    3.54 | 10.38    0.89
               1.200    0.89 | 4.267   40.71 | 7.333    3.54 | 10.40    0.89
               1.217    0.89 | 4.283   40.71 | 7.350    3.54 | 10.42    0.89
               1.233    0.89 | 4.300   40.71 | 7.367    3.54 | 10.43    0.89
               1.250    0.89 | 4.317   40.71 | 7.383    3.54 | 10.45    0.89
               1.267    0.89 | 4.333   40.71 | 7.400    3.54 | 10.47    0.89
               1.283    0.89 | 4.350   40.71 | 7.417    3.54 | 10.48    0.89
               1.300    0.89 | 4.367   40.71 | 7.433    3.54 | 10.50    0.89
               1.317    0.89 | 4.383   40.71 | 7.450    3.54 | 10.52    0.89
               1.333    0.89 | 4.400   40.71 | 7.467    3.54 | 10.53    0.89
               1.350    0.89 | 4.417   40.71 | 7.483    3.54 | 10.55    0.89
               1.367    0.89 | 4.433   40.71 | 7.500    3.54 | 10.57    0.89
               1.383    0.89 | 4.450   40.71 | 7.517    3.54 | 10.58    0.89
               1.400    0.89 | 4.467   40.71 | 7.533    3.54 | 10.60    0.89
               1.417    0.89 | 4.483   40.71 | 7.550    3.54 | 10.62    0.89
               1.433    0.89 | 4.500   40.71 | 7.567    3.54 | 10.63    0.89
               1.450    0.89 | 4.517   40.71 | 7.583    3.54 | 10.65    0.89
               1.467    0.89 | 4.533   40.71 | 7.600    3.54 | 10.67    0.89
               1.483    0.89 | 4.550   40.71 | 7.617    3.54 | 10.68    0.89
               1.500    0.89 | 4.567   40.71 | 7.633    3.54 | 10.70    0.89
               1.517    0.89 | 4.583   40.71 | 7.650    3.54 | 10.72    0.89
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1.533	0.89	4.600	40.71	7.667	3.54	10.73	0.89
1.550	0.89	4.617	40.71	7.683	3.54	10.75	0.89
1.567	0.89	4.633	40.71	7.700	3.54	10.77	0.89
1.583	0.89	4.650	40.71	7.717	3.54	10.78	0.89
1.600	0.89	4.667	40.71	7.733	3.54	10.80	0.89
1.617	0.89	4.683	40.71	7.750	3.54	10.82	0.89
1.633	0.89	4.700	40.71	7.767	3.54	10.83	0.89
1.650	0.89	4.717	40.71	7.783	3.54	10.85	0.89
1.667	0.89	4.733	40.71	7.800	3.54	10.87	0.89
1.683	0.89	4.750	40.71	7.817	3.54	10.88	0.89
1.700	0.89	4.767	40.71	7.833	3.54	10.90	0.89
1.717	0.89	4.783	40.71	7.850	3.54	10.92	0.89
1.733	0.89	4.800	40.71	7.867	3.54	10.93	0.89
1.750	0.89	4.817	40.71	7.883	3.54	10.95	0.89
1.767	0.89	4.833	40.71	7.900	3.54	10.97	0.89
1.783	0.89	4.850	40.71	7.917	3.54	10.98	0.89
1.800	0.89	4.867	40.71	7.933	3.54	11.00	0.89
1.817	0.89	4.883	40.71	7.950	3.54	11.02	0.89
1.833	0.89	4.900	40.71	7.967	3.54	11.03	0.89
1.850	0.89	4.917	40.71	7.983	3.54	11.05	0.89
1.867	0.89	4.933	40.71	8.000	3.54	11.07	0.89
1.883	0.89	4.950	40.71	8.017	3.54	11.08	0.89
1.900	0.89	4.967	40.71	8.033	3.54	11.10	0.89
1.917	0.89	4.983	40.71	8.050	3.54	11.12	0.89
1.933	0.89	5.000	40.71	8.067	3.54	11.13	0.89
1.950	0.89	5.017	40.71	8.083	3.54	11.15	0.89
1.967	0.89	5.033	40.71	8.100	3.54	11.17	0.89
1.983	0.89	5.050	40.71	8.117	3.54	11.18	0.89
2.000	0.89	5.067	40.71	8.133	3.54	11.20	0.89
2.017	0.89	5.083	40.71	8.150	3.54	11.22	0.89
2.033	0.89	5.100	40.71	8.167	3.54	11.23	0.89
2.050	0.89	5.117	40.71	8.183	3.54	11.25	0.89
2.067	0.89	5.133	40.71	8.200	3.54	11.27	0.89
2.083	0.89	5.150	40.71	8.217	3.54	11.28	0.89
2.100	0.89	5.167	40.71	8.233	3.54	11.30	0.89
2.117	0.89	5.183	40.71	8.250	3.54	11.32	0.89
2.133	0.89	5.200	40.71	8.267	1.77	11.33	0.89
2.150	0.89	5.217	40.71	8.283	1.77	11.35	0.89
2.167	0.89	5.233	40.71	8.300	1.77	11.37	0.89
2.183	0.89	5.250	40.69	8.317	1.77	11.38	0.89
2.200	0.89	5.267	11.51	8.333	1.77	11.40	0.89
2.217	0.89	5.283	11.51	8.350	1.77	11.42	0.89
2.233	0.89	5.300	11.51	8.367	1.77	11.43	0.89
2.250	0.89	5.317	11.51	8.383	1.77	11.45	0.89
2.267	5.31	5.333	11.51	8.400	1.77	11.47	0.89
2.283	5.31	5.350	11.51	8.417	1.77	11.48	0.89
2.300	5.31	5.367	11.51	8.433	1.77	11.50	0.89
2.317	5.31	5.383	11.51	8.450	1.77	11.52	0.89
2.333	5.31	5.400	11.51	8.467	1.77	11.53	0.89
2.350	5.31	5.417	11.51	8.483	1.77	11.55	0.89
2.367	5.31	5.433	11.51	8.500	1.77	11.57	0.89
2.383	5.31	5.450	11.51	8.517	1.77	11.58	0.89
2.400	5.31	5.467	11.51	8.533	1.77	11.60	0.89
2.417	5.31	5.483	11.51	8.550	1.77	11.62	0.89
2.433	5.31	5.500	11.51	8.567	1.77	11.63	0.89
2.450	5.31	5.517	11.51	8.583	1.77	11.65	0.89
2.467	5.31	5.533	11.51	8.600	1.77	11.67	0.89
2.483	5.31	5.550	11.51	8.617	1.77	11.68	0.89
2.500	5.31	5.567	11.51	8.633	1.77	11.70	0.89
2.517	5.31	5.583	11.51	8.650	1.77	11.72	0.89
2.533	5.31	5.600	11.51	8.667	1.77	11.73	0.89
2.550	5.31	5.617	11.51	8.683	1.77	11.75	0.89
2.567	5.31	5.633	11.51	8.700	1.77	11.77	0.89
2.583	5.31	5.650	11.51	8.717	1.77	11.78	0.89
2.600	5.31	5.667	11.51	8.733	1.77	11.80	0.89
2.617	5.31	5.683	11.51	8.750	1.77	11.82	0.89
2.633	5.31	5.700	11.51	8.767	1.77	11.83	0.89
2.650	5.31	5.717	11.51	8.783	1.77	11.85	0.89
2.667	5.31	5.733	11.51	8.800	1.77	11.87	0.89
2.683	5.31	5.750	11.51	8.817	1.77	11.88	0.89
2.700	5.31	5.767	11.51	8.833	1.77	11.90	0.89
2.717	5.31	5.783	11.51	8.850	1.77	11.92	0.89
2.733	5.31	5.800	11.51	8.867	1.77	11.93	0.89
2.750	5.31	5.817	11.51	8.883	1.77	11.95	0.89
2.767	5.31	5.833	11.51	8.900	1.77	11.97	0.89
2.783	5.31	5.850	11.51	8.917	1.77	11.98	0.89
2.800	5.31	5.867	11.51	8.933	1.77	12.00	0.89
2.817	5.31	5.883	11.51	8.950	1.77	12.02	0.89
2.833	5.31	5.900	11.51	8.967	1.77	12.03	0.89
2.850	5.31	5.917	11.51	8.983	1.77	12.05	0.89
2.867	5.31	5.933	11.51	9.000	1.77	12.07	0.89
2.883	5.31	5.950	11.51	9.017	1.77	12.08	0.89
2.900	5.31	5.967	11.51	9.033	1.77	12.10	0.89
2.917	5.31	5.983	11.51	9.050	1.77	12.12	0.89
2.933	5.31	6.000	11.51	9.067	1.77	12.13	0.89
2.950	5.31	6.017	11.51	9.083	1.77	12.15	0.89
2.967	5.31	6.033	11.51	9.100	1.77	12.17	0.89
2.983	5.31	6.050	11.51	9.117	1.77	12.18	0.89
3.000	5.31	6.067	11.51	9.133	1.77	12.20	0.89
3.017	5.31	6.083	11.51	9.150	1.77	12.22	0.89
3.033	5.31	6.100	11.51	9.167	1.77	12.23	0.89
3.050	5.31	6.117	11.51	9.183	1.77	12.25	0.89
3.067	5.31	6.133	11.51	9.200	1.77		

Max.Eff.Inten.(mm/hr)=	40.71	32.96	
over (min)	5.00	7.00	
Storage Coeff. (min)=	4.11 (ii)	6.55 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.26	0.17	
			TOTALS
PEAK FLOW (cms)=	0.25	0.00	0.249 (iii)
TIME TO PEAK (hrs)=	5.23	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	57.45	87.24
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)|	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.249	5.25	87.24
OUTFLOW: ID= 1 (7642)	2.210	0.049	6.37	83.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.78
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.1296

CALIB | STANDHYD (7643)| ID= 1 DT= 1.0 min	Area (ha)= 2.02 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	2.00	0.02
Dep. Storage (mm)=	1.00	1.50
Average Slope (%)=	1.00	0.50
Length (m)=	116.05	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.017	0.00	3.083	5.31	6.150	11.51	9.22	1.77
0.033	0.00	3.100	5.31	6.167	11.51	9.23	1.77
0.050	0.00	3.117	5.31	6.183	11.51	9.25	1.77
0.067	0.00	3.133	5.31	6.200	11.51	9.27	0.89
0.083	0.00	3.150	5.31	6.217	11.51	9.28	0.89
0.100	0.00	3.167	5.31	6.233	11.51	9.30	0.89
0.117	0.00	3.183	5.31	6.250	11.50	9.32	0.89
0.133	0.00	3.200	5.31	6.267	6.20	9.33	0.89
0.150	0.00	3.217	5.31	6.283	6.20	9.35	0.89
0.167	0.00	3.233	5.31	6.300	6.20	9.37	0.89
0.183	0.00	3.250	5.31	6.317	6.20	9.38	0.89
0.200	0.00	3.267	15.05	6.333	6.20	9.40	0.89
0.217	0.00	3.283	15.05	6.350	6.20	9.42	0.89
0.233	0.00	3.300	15.05	6.367	6.20	9.43	0.89
0.250	0.00	3.317	15.05	6.383	6.20	9.45	0.89
0.267	0.89	3.333	15.05	6.400	6.20	9.47	0.89
0.283	0.89	3.350	15.05	6.417	6.20	9.48	0.89
0.300	0.89	3.367	15.05	6.433	6.20	9.50	0.89
0.317	0.89	3.383	15.05	6.450	6.20	9.52	0.89
0.333	0.89	3.400	15.05	6.467	6.20	9.53	0.89
0.350	0.89	3.417	15.05	6.483	6.20	9.55	0.89
0.367	0.89	3.433	15.05	6.500	6.20	9.57	0.89
0.383	0.89	3.450	15.05	6.517	6.20	9.58	0.89
0.400	0.89	3.467	15.05	6.533	6.20	9.60	0.89
0.417	0.89	3.483	15.05	6.550	6.20	9.62	0.89
0.433	0.89	3.500	15.05	6.567	6.20	9.63	0.89
0.450	0.89	3.517	15.05	6.583	6.20	9.65	0.89
0.467	0.89	3.533	15.05	6.600	6.20	9.67	0.89
0.483	0.89	3.550	15.05	6.617	6.20	9.68	0.89
0.500	0.89	3.567	15.05	6.633	6.20	9.70	0.89
0.517	0.89	3.583	15.05	6.650	6.20	9.72	0.89
0.533	0.89	3.600	15.05	6.667	6.20	9.73	0.89
0.550	0.89	3.617	15.05	6.683	6.20	9.75	0.89
0.567	0.89	3.633	15.05	6.700	6.20	9.77	0.89
0.583	0.89	3.650	15.05	6.717	6.20	9.78	0.89
0.600	0.89	3.667	15.05	6.733	6.20	9.80	0.89
0.617	0.89	3.683	15.05	6.750	6.20	9.82	0.89
0.633	0.89	3.700	15.05	6.767	6.20	9.83	0.89
0.650	0.89	3.717	15.05	6.783	6.20	9.85	0.89
0.667	0.89	3.733	15.05	6.800	6.20	9.87	0.89
0.683	0.89	3.750	15.05	6.817	6.20	9.88	0.89
0.700	0.89	3.767	15.05	6.833	6.20	9.90	0.89
0.717	0.89	3.783	15.05	6.850	6.20	9.92	0.89
0.733	0.89	3.800	15.05	6.867	6.20	9.93	0.89
0.750	0.89	3.817	15.05	6.883	6.20	9.95	0.89
0.767	0.89	3.833	15.05	6.900	6.20	9.97	0.89
0.783	0.89	3.850	15.05	6.917	6.20	9.98	0.89
0.800	0.89	3.867	15.05	6.933	6.20	10.00	0.89
0.817	0.89	3.883	15.05	6.950	6.20	10.02	0.89
0.833	0.89	3.900	15.05	6.967	6.20	10.03	0.89
0.850	0.89	3.917	15.05	6.983	6.20	10.05	0.89
0.867	0.89	3.933	15.05	7.000	6.20	10.07	0.89
0.883	0.89	3.950	15.05	7.017	6.20	10.08	0.89
0.900	0.89	3.967	15.05	7.033	6.20	10.10	0.89
0.917	0.89	3.983	15.05	7.050	6.20	10.12	0.89
0.933	0.89	4.000	15.05	7.067	6.20	10.13	0.89
0.950	0.89	4.017	15.05	7.083	6.20	10.15	0.89
0.967	0.89	4.033	15.05	7.100	6.20	10.17	0.89
0.983	0.89	4.050	15.05	7.117	6.20	10.18	0.89
1.000	0.89	4.067	15.05	7.133	6.20	10.20	0.89
1.017	0.89	4.083	15.05	7.150	6.20	10.22	0.89
1.033	0.89	4.100	15.05	7.167	6.20	10.23	0.89
1.050	0.89	4.117	15.05	7.183	6.20	10.25	0.89
1.067	0.89	4.133	15.05	7.200	6.20	10.27	0.89
1.083	0.89	4.150	15.05	7.217	6.20	10.28	0.89
1.100	0.89	4.167	15.05	7.233	6.20	10.30	0.89
1.117	0.89	4.183	15.05	7.250	6.19	10.32	0.89
1.133	0.89	4.200	15.05	7.267	3.54	10.33	0.89
1.150	0.89	4.217	15.05	7.283	3.54	10.35	0.89
1.167	0.89	4.233	15.05	7.300	3.54	10.37	0.89
1.183	0.89	4.250	15.05	7.317	3.54	10.38	0.89
1.200	0.89	4.267	40.71	7.333	3.54	10.40	0.89
1.217	0.89	4.283	40.71	7.350	3.54	10.42	0.89
1.233	0.89	4.300	40.71	7.367	3.54	10.43	0.89
1.250	0.89	4.317	40.71	7.383	3.54	10.45	0.89
1.267	0.89	4.333	40.71	7.400	3.54	10.47	0.89
1.283	0.89	4.350	40.71	7.417	3.54	10.48	0.89
1.300	0.89	4.367	40.71	7.433	3.54	10.50	0.89
1.317	0.89	4.383	40.71	7.450	3.54	10.52	0.89
1.333	0.89	4.400	40.71	7.467	3.54	10.53	0.89
1.350	0.89	4.417	40.71	7.483	3.54	10.55	0.89
1.367	0.89	4.433	40.71	7.500	3.54	10.57	0.89
1.383	0.89	4.450	40.71	7.517	3.54	10.58	0.89
1.400	0.89	4.467	40.71	7.533	3.54	10.60	0.89
1.417	0.89	4.483	40.71	7.550	3.54	10.62	0.89
1.433	0.89	4.500	40.71	7.567	3.54	10.63	0.89
1.450	0.89	4.517	40.71	7.583	3.54	10.65	0.89
1.467	0.89	4.533	40.71	7.600	3.54	10.67	0.89
1.483	0.89	4.550	40.71	7.617	3.54	10.68	0.89
1.500	0.89	4.567	40.71	7.633	3.54	10.70	0.89
1.517	0.89	4.583	40.71	7.650	3.54	10.72	0.89
1.533	0.89	4.600	40.71	7.667	3.54	10.73	0.89
1.550	0.89	4.617	40.71	7.683	3.54	10.75	0.89
1.567	0.89	4.633	40.71	7.700	3.54	10.77	0.89
1.583	0.89	4.650	40.71	7.717	3.54	10.78	0.89
1.600	0.89	4.667	40.71	7.733	3.54	10.80	0.89
1.617	0.89	4.683	40.71	7.750	3.54	10.82	0.89
1.633	0.89	4.700	40.71	7.767	3.54	10.83	0.89
1.650	0.89	4.717	40.71	7.783	3.54	10.85	0.89
1.667	0.89	4.733	40.71	7.800	3.54	10.87	0.89
1.683	0.89	4.750	40.71	7.817	3.54	10.88	0.89
1.700	0.89	4.767	40.71	7.833	3.54	10.90	0.89
1.717	0.89	4.783	40.71	7.850	3.54	10.92	0.89
1.733	0.89	4.800	40.71	7.867	3.54	10.93	0.89
1.750	0.89	4.817	40.71	7.883	3.54	10.95	0.89
1.767	0.89	4.833	40.71	7.900	3.54	10.97	0.89
1.783	0.89	4.850	40.71	7.917	3.54	10.98	0.89
1.800	0.89	4.867	40.71	7.933	3.54	11.00	0.89
1.817	0.89	4.883	40.71	7.950	3.54	11.02	0.89
1.833	0.89	4.900	40.71	7.967	3.54	11.03	0.89
1.850	0.89	4.917	40.71	7.983	3.54	11.05	0.89
1.867	0.89	4.933	40.71	8.000	3.54	11.07	0.89
1.883	0.89	4.950	40.71	8.017	3.54	11.08	0.89
1.900	0.89	4.967	40.71	8.033	3.54	11.10	0.89
1.917	0.89	4.983	40.71	8.050	3.54	11.12	0.89
1.933	0.89	5.000	40.71	8.067	3.54	11.13	0.89
1.950	0.89	5.017	40.71	8.083	3.54	11.15	0.89
1.967	0.89	5.033	40.71	8.100	3.54	11.17	0.89
1.983	0.89	5.050	40.71	8.117	3.54	11.18	0.89
2.000	0.89	5.067	40.71	8.133	3.54	11.20	0.89
2.017	0.89	5.083	40.71	8.150	3.54	11.22	0.89
2.033	0.89	5.100	40.71	8.167	3.54	11.23	0.89
2.050	0.89	5.117	40.71	8.183	3.54	11.25	0.89
2.067	0.89	5.133	40.71	8.200	3.54	11.27	0.89
2.083	0.89	5.150	40.71	8.217	3.54	11.28	0.89
2.100	0.89	5.167	40.71	8.233	3.54	11.30	0.89
2.117	0.89	5.183	40.71	8.250	3.54	11.32	0.89
2.133	0.89	5.200	40.71	8.267	1.77	11.33	0.89
2.150	0.89	5.217	40.71	8.283	1.77	11.35	0.89
2.167	0.89	5.233	40.71	8.300	1.77	11.37	0.89
2.183	0.89	5.250	40.69	8.317	1.77	11.38	0.89
2.200	0.89	5.267	11.51	8.333	1.77	11.40	0.89
2.217	0.89	5.283	11.51	8.350	1.77	11.42	0.89
2.233	0.89	5.300	11.51	8.367	1.77	11.43	0.89
2.250	0.89	5.317	11.51	8.383	1.77	11.45	0.89
2.267	5.31	5.333	11.51	8.400	1.77	11.47	0.89
2.283	5.31	5.350	11.51	8.417	1.77	11.48	0.89
2.300	5.31	5.367	11.51	8.433	1.77	11.50	0.89
2.317	5.31	5.383	11.51	8.450	1.77	11.52	0.89
2.333	5.31	5.400	11.51	8.467	1.77	11.53	0.89
2.350	5.31	5.417	11.51	8.483	1.77	11.55	0.89
2.367	5.31	5.433	11.51	8.500	1.77	11.57	0.89
2.383	5.31	5.450	11.51	8.517	1.77	11.58	0.89
2.400	5.31	5.467	11.51	8.533	1.77	11.60	0.89
2.417	5.31	5.483	11.51	8.550	1.77	11.62	0.89
2.433	5.31	5.500	11.51	8.567	1.77	11.63	0.89
2.450	5.31	5.517	11.51	8.583	1.77	11.65	0.89
2.467	5.31	5.533	11.51	8.600	1.77	11.67	0.89
2.483	5.31	5.550	11.51	8.617	1.77	11.68	0.89
2.500	5.31	5.567	11.51	8.633	1.77	11.70	0.89
2.517	5.31	5.583	11.51	8.650	1.77	11.72	0.89
2.533	5.31	5.600	11.51	8.667	1.77	11.73	0.89

2.550	5.31	5.617	11.51	8.683	1.77	11.75	0.89
2.567	5.31	5.633	11.51	8.700	1.77	11.77	0.89
2.583	5.31	5.650	11.51	8.717	1.77	11.78	0.89
2.600	5.31	5.667	11.51	8.733	1.77	11.80	0.89
2.617	5.31	5.683	11.51	8.750	1.77	11.82	0.89
2.633	5.31	5.700	11.51	8.767	1.77	11.83	0.89
2.650	5.31	5.717	11.51	8.783	1.77	11.85	0.89
2.667	5.31	5.733	11.51	8.800	1.77	11.87	0.89
2.683	5.31	5.750	11.51	8.817	1.77	11.88	0.89
2.700	5.31	5.767	11.51	8.833	1.77	11.90	0.89
2.717	5.31	5.783	11.51	8.850	1.77	11.92	0.89
2.733	5.31	5.800	11.51	8.867	1.77	11.93	0.89
2.750	5.31	5.817	11.51	8.883	1.77	11.95	0.89
2.767	5.31	5.833	11.51	8.900	1.77	11.97	0.89
2.783	5.31	5.850	11.51	8.917	1.77	11.98	0.89
2.800	5.31	5.867	11.51	8.933	1.77	12.00	0.89
2.817	5.31	5.883	11.51	8.950	1.77	12.02	0.89
2.833	5.31	5.900	11.51	8.967	1.77	12.03	0.89
2.850	5.31	5.917	11.51	8.983	1.77	12.05	0.89
2.867	5.31	5.933	11.51	9.000	1.77	12.07	0.89
2.883	5.31	5.950	11.51	9.017	1.77	12.08	0.89
2.900	5.31	5.967	11.51	9.033	1.77	12.10	0.89
2.917	5.31	5.983	11.51	9.050	1.77	12.12	0.89
2.933	5.31	6.000	11.51	9.067	1.77	12.13	0.89
2.950	5.31	6.017	11.51	9.083	1.77	12.15	0.89
2.967	5.31	6.033	11.51	9.100	1.77	12.17	0.89
2.983	5.31	6.050	11.51	9.117	1.77	12.18	0.89
3.000	5.31	6.067	11.51	9.133	1.77	12.20	0.89
3.017	5.31	6.083	11.51	9.150	1.77	12.22	0.89
3.033	5.31	6.100	11.51	9.167	1.77	12.23	0.89
3.050	5.31	6.117	11.51	9.183	1.77	12.25	0.89
3.067	5.31	6.133	11.51	9.200	1.77		

Max.Eff.Inten.(mm/hr)=	40.71	32.96	
over (min)	5.00	7.00	
Storage Coeff. (min)=	4.00 (ii)	6.44 (ii)	
Unit Hyd. Tpeak (min)=	5.00	7.00	
Unit Hyd. peak (cms)=	0.26	0.17	
			TOTALS
PEAK FLOW (cms)=	0.23	0.00	0.228 (iii)
TIME TO PEAK (hrs)=	5.20	5.25	5.25
RUNOFF VOLUME (mm)=	87.54	57.45	87.24
TOTAL RAINFALL (mm)=	88.54	88.54	88.54
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0433	0.1140
0.0182	0.0580	0.0507	0.1280
0.0280	0.0775	0.0571	0.1440
0.0343	0.0930	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.228	5.25	87.24
OUTFLOW: ID= 1 (7644)	2.020	0.046	6.37	84.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.97
TIME SHIFT OF PEAK FLOW (min)= 67.00
MAXIMUM STORAGE USED (ha.m.)= 0.1182

****
** SIMULATION:995. 100 Year 24 Hour AES (Bloor, TRCA) **
****

READ STORM	Filename: C:\Users\kevsur3650\AppData\Local\Temp\a38a8851-c36c-4932-84b4-c99a8b88bdf6\4de59420
Ptotal= 95.92 mm	Comments: 100 Year 24 Hour AES (Bloor, TRCA)

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	0.00	6.25	8.15	12.50	3.36	18.75	0.48
0.25	0.48	6.50	8.15	12.75	3.36	19.00	0.48
0.50	0.48	6.75	8.15	13.00	3.36	19.25	0.48
0.75	0.48	7.00	8.15	13.25	3.36	19.50	0.48
1.00	0.48	7.25	8.15	13.50	3.36	19.75	0.48
1.25	0.48	7.50	8.15	13.75	3.36	20.00	0.48
1.50	0.48	7.75	8.15	14.00	3.36	20.25	0.48
1.75	0.48	8.00	8.15	14.25	1.92	20.50	0.48
2.00	0.48	8.25	22.06	14.50	1.92	20.75	0.48
2.25	0.48	8.50	22.06	14.75	1.92	21.00	0.48
2.50	0.48	8.75	22.06	15.00	1.92	21.25	0.48
2.75	0.48	9.00	22.06	15.25	1.92	21.50	0.48
3.00	0.48	9.25	22.06	15.50	1.92	21.75	0.48
3.25	0.48	9.50	22.06	15.75	1.92	22.00	0.48
3.50	0.48	9.75	22.06	16.00	1.92	22.25	0.48
3.75	0.48	10.00	22.06	16.25	0.96	22.50	0.48
4.00	0.48	10.25	6.23	16.50	0.96	22.75	0.48
4.25	2.88	10.50	6.23	16.75	0.96	23.00	0.48
4.50	2.88	10.75	6.23	17.00	0.96	23.25	0.48
4.75	2.88	11.00	6.23	17.25	0.96	23.50	0.48
5.00	2.88	11.25	6.23	17.50	0.96	23.75	0.48
5.25	2.88	11.50	6.23	17.75	0.96	24.00	0.48
5.50	2.88	11.75	6.23	18.00	0.96		
5.75	2.88	12.00	6.23	18.25	0.48		
6.00	2.88	12.25	3.36	18.50	0.48		

CALIB	
STANDHYD (7567)	Area (ha)= 2.81
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.78	0.03
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	136.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.88	12.150	6.23	18.22	0.96
0.033	0.00	6.100	2.88	12.167	6.23	18.23	0.96
0.050	0.00	6.117	2.88	12.183	6.23	18.25	0.96
0.067	0.00	6.133	2.88	12.200	6.23	18.27	0.48
0.083	0.00	6.150	2.88	12.217	6.23	18.28	0.48
0.100	0.00	6.167	2.88	12.233	6.23	18.30	0.48
0.117	0.00	6.183	2.88	12.250	6.23	18.32	0.48
0.133	0.00	6.200	2.88	12.267	3.36	18.33	0.48
0.150	0.00	6.217	2.88	12.283	3.36	18.35	0.48
0.167	0.00	6.233	2.88	12.300	3.36	18.37	0.48
0.183	0.00	6.250	2.89	12.317	3.36	18.38	0.48
0.200	0.00	6.267	8.15	12.333	3.36	18.40	0.48
0.217	0.00	6.283	8.15	12.350	3.36	18.42	0.48
0.233	0.00	6.300	8.15	12.367	3.36	18.43	0.48
0.250	0.00	6.317	8.15	12.383	3.36	18.45	0.48
0.267	0.48	6.333	8.15	12.400	3.36	18.47	0.48
0.283	0.48	6.350	8.15	12.417	3.36	18.48	0.48
0.300	0.48	6.367	8.15	12.433	3.36	18.50	0.48
0.317	0.48	6.383	8.15	12.450	3.36	18.52	0.48
0.333	0.48	6.400	8.15	12.467	3.36	18.53	0.48
0.350	0.48	6.417	8.15	12.483	3.36	18.55	0.48

0.367	0.48	6.433	8.15	12.500	3.36	18.57	0.48
0.383	0.48	6.450	8.15	12.517	3.36	18.58	0.48
0.400	0.48	6.467	8.15	12.533	3.36	18.60	0.48
0.417	0.48	6.483	8.15	12.550	3.36	18.62	0.48
0.433	0.48	6.500	8.15	12.567	3.36	18.63	0.48
0.450	0.48	6.517	8.15	12.583	3.36	18.65	0.48
0.467	0.48	6.533	8.15	12.600	3.36	18.67	0.48
0.483	0.48	6.550	8.15	12.617	3.36	18.68	0.48
0.500	0.48	6.567	8.15	12.633	3.36	18.70	0.48
0.517	0.48	6.583	8.15	12.650	3.36	18.72	0.48
0.533	0.48	6.600	8.15	12.667	3.36	18.73	0.48
0.550	0.48	6.617	8.15	12.683	3.36	18.75	0.48
0.567	0.48	6.633	8.15	12.700	3.36	18.77	0.48
0.583	0.48	6.650	8.15	12.717	3.36	18.78	0.48
0.600	0.48	6.667	8.15	12.733	3.36	18.80	0.48
0.617	0.48	6.683	8.15	12.750	3.36	18.82	0.48
0.633	0.48	6.700	8.15	12.767	3.36	18.83	0.48
0.650	0.48	6.717	8.15	12.783	3.36	18.85	0.48
0.667	0.48	6.733	8.15	12.800	3.36	18.87	0.48
0.683	0.48	6.750	8.15	12.817	3.36	18.88	0.48
0.700	0.48	6.767	8.15	12.833	3.36	18.90	0.48
0.717	0.48	6.783	8.15	12.850	3.36	18.92	0.48
0.733	0.48	6.800	8.15	12.867	3.36	18.93	0.48
0.750	0.48	6.817	8.15	12.883	3.36	18.95	0.48
0.767	0.48	6.833	8.15	12.900	3.36	18.97	0.48
0.783	0.48	6.850	8.15	12.917	3.36	18.98	0.48
0.800	0.48	6.867	8.15	12.933	3.36	19.00	0.48
0.817	0.48	6.883	8.15	12.950	3.36	19.02	0.48
0.833	0.48	6.900	8.15	12.967	3.36	19.03	0.48
0.850	0.48	6.917	8.15	12.983	3.36	19.05	0.48
0.867	0.48	6.933	8.15	13.000	3.36	19.07	0.48
0.883	0.48	6.950	8.15	13.017	3.36	19.08	0.48
0.900	0.48	6.967	8.15	13.033	3.36	19.10	0.48
0.917	0.48	6.983	8.15	13.050	3.36	19.12	0.48
0.933	0.48	7.000	8.15	13.067	3.36	19.13	0.48
0.950	0.48	7.017	8.15	13.083	3.36	19.15	0.48
0.967	0.48	7.033	8.15	13.100	3.36	19.17	0.48
0.983	0.48	7.050	8.15	13.117	3.36	19.18	0.48
1.000	0.48	7.067	8.15	13.133	3.36	19.20	0.48
1.017	0.48	7.083	8.15	13.150	3.36	19.22	0.48
1.033	0.48	7.100	8.15	13.167	3.36	19.23	0.48
1.050	0.48	7.117	8.15	13.183	3.36	19.25	0.48
1.067	0.48	7.133	8.15	13.200	3.36	19.27	0.48
1.083	0.48	7.150	8.15	13.217	3.36	19.28	0.48
1.100	0.48	7.167	8.15	13.233	3.36	19.30	0.48
1.117	0.48	7.183	8.15	13.250	3.36	19.32	0.48
1.133	0.48	7.200	8.15	13.267	3.36	19.33	0.48
1.150	0.48	7.217	8.15	13.283	3.36	19.35	0.48
1.167	0.48	7.233	8.15	13.300	3.36	19.37	0.48
1.183	0.48	7.250	8.15	13.317	3.36	19.38	0.48
1.200	0.48	7.267	8.15	13.333	3.36	19.40	0.48
1.217	0.48	7.283	8.15	13.350	3.36	19.42	0.48
1.233	0.48	7.300	8.15	13.367	3.36	19.43	0.48
1.250	0.48	7.317	8.15	13.383	3.36	19.45	0.48
1.267	0.48	7.333	8.15	13.400	3.36	19.47	0.48
1.283	0.48	7.350	8.15	13.417	3.36	19.48	0.48
1.300	0.48	7.367	8.15	13.433	3.36	19.50	0.48
1.317	0.48	7.383	8.15	13.450	3.36	19.52	0.48
1.333	0.48	7.400	8.15	13.467	3.36	19.53	0.48
1.350	0.48	7.417	8.15	13.483	3.36	19.55	0.48
1.367	0.48	7.433	8.15	13.500	3.36	19.57	0.48
1.383	0.48	7.450	8.15	13.517	3.36	19.58	0.48
1.400	0.48	7.467	8.15	13.533	3.36	19.60	0.48
1.417	0.48	7.483	8.15	13.550	3.36	19.62	0.48
1.433	0.48	7.500	8.15	13.567	3.36	19.63	0.48
1.450	0.48	7.517	8.15	13.583	3.36	19.65	0.48
1.467	0.48	7.533	8.15	13.600	3.36	19.67	0.48
1.483	0.48	7.550	8.15	13.617	3.36	19.68	0.48
1.500	0.48	7.567	8.15	13.633	3.36	19.70	0.48
1.517	0.48	7.583	8.15	13.650	3.36	19.72	0.48
1.533	0.48	7.600	8.15	13.667	3.36	19.73	0.48
1.550	0.48	7.617	8.15	13.683	3.36	19.75	0.48
1.567	0.48	7.633	8.15	13.700	3.36	19.77	0.48
1.583	0.48	7.650	8.15	13.717	3.36	19.78	0.48
1.600	0.48	7.667	8.15	13.733	3.36	19.80	0.48
1.617	0.48	7.683	8.15	13.750	3.36	19.82	0.48
1.633	0.48	7.700	8.15	13.767	3.36	19.83	0.48
1.650	0.48	7.717	8.15	13.783	3.36	19.85	0.48
1.667	0.48	7.733	8.15	13.800	3.36	19.87	0.48
1.683	0.48	7.750	8.15	13.817	3.36	19.88	0.48
1.700	0.48	7.767	8.15	13.833	3.36	19.90	0.48
1.717	0.48	7.783	8.15	13.850	3.36	19.92	0.48
1.733	0.48	7.800	8.15	13.867	3.36	19.93	0.48
1.750	0.48	7.817	8.15	13.883	3.36	19.95	0.48
1.767	0.48	7.833	8.15	13.900	3.36	19.97	0.48
1.783	0.48	7.850	8.15	13.917	3.36	19.98	0.48
1.800	0.48	7.867	8.15	13.933	3.36	20.00	0.48
1.817	0.48	7.883	8.15	13.950	3.36	20.02	0.48
1.833	0.48	7.900	8.15	13.967	3.36	20.03	0.48
1.850	0.48	7.917	8.15	13.983	3.36	20.05	0.48
1.867	0.48	7.933	8.15	14.000	3.36	20.07	0.48
1.883	0.48	7.950	8.15	14.017	3.36	20.08	0.48
1.900	0.48	7.967	8.15	14.033	3.36	20.10	0.48
1.917	0.48	7.983	8.15	14.050	3.36	20.12	0.48
1.933	0.48	8.000	8.15	14.067	3.36	20.13	0.48
1.950	0.48	8.017	8.15	14.083	3.36	20.15	0.48
1.967	0.48	8.033	8.15	14.100	3.36	20.17	0.48
1.983	0.48	8.050	8.15	14.117	3.36	20.18	0.48
2.000	0.48	8.067	8.15	14.133	3.36	20.20	0.48
2.017	0.48	8.083	8.15	14.150	3.36	20.22	0.48
2.033	0.48	8.100	8.15	14.167	3.36	20.23	0.48
2.050	0.48	8.117	8.15	14.183	3.36	20.25	0.48
2.067	0.48	8.133	8.15	14.200	3.36	20.27	0.48
2.083	0.48	8.150	8.15	14.217	3.36	20.28	0.48
2.100	0.48	8.167	8.15	14.233	3.36	20.30	0.48
2.117	0.48	8.183	8.15	14.250	3.36	20.32	0.48
2.133	0.48	8.200	8.15	14.267	1.92	20.33	0.48
2.150	0.48	8.217	8.15	14.283	1.92	20.35	0.48
2.167	0.48	8.233	8.15	14.300	1.92	20.37	0.48
2.183	0.48	8.250	8.19	14.317	1.92	20.38	0.48
2.200	0.48	8.267	22.06	14.333	1.92	20.40	0.48
2.217	0.48	8.283	22.06	14.350	1.92	20.42	0.48
2.233	0.48	8.300	22.06	14.367	1.92	20.43	0.48
2.250	0.48	8.317	22.06	14.383	1.92	20.45	0.48
2.267	0.48	8.333	22.06	14.400	1.92	20.47	0.48
2.283	0.48	8.350	22.06	14.417	1.92	20.48	0.48
2.300	0.48	8.367	22.06	14.433	1.92	20.50	0.48
2.317	0.48	8.383	22.06	14.450	1.92	20.52	0.48
2.333	0.48	8.400	22.06	14.467	1.92	20.53	0.48
2.350	0.48	8.417	22.06	14.483	1.92	20.55	0.48
2.367	0.48	8.433	22.06	14.500	1.92	20.57	0.48
2.383	0.48	8.450	22.06	14.517	1.92	20.58	0.48
2.400	0.48	8.467	22.06	14.533	1.92	20.60	0.48
2.417	0.48	8.483	22.06	14.550	1.92	20.62	0.48
2.433	0.48	8.500	22.06	14.567	1.92	20.63	0.48
2.450	0.48	8.517	22.06	14.583	1.92	20.65	0.48
2.467	0.48	8.533	22.06	14.600	1.92	20.67	0.48
2.483	0.48	8.550	22.06	14.617	1.92	20.68	0.48
2.500	0.48	8.567	22.06	14.633	1.92	20.70	0.48
2.517	0.48	8.583	22.06	14.650	1.92	20.72	0.48
2.533	0.48	8.600	22.06	14.667	1.92	20.73	0.48
2.550	0.48	8.617	22.06	14.683	1.92	20.75	0.48
2.567	0.48	8.633	22.06	14.700	1.92	20.77	0.48
2.583	0.48	8.650	22.06	14.717	1.92	20.78	0.48
2.600	0.48	8.667	22.06	14.733	1.92	20.80	0.48
2.617	0.48	8.683	22.06	14.750	1.92	20.82	0.48
2.633	0.48	8.700	22.06	14.767	1.92	20.83	0.48
2.650	0.48	8.717	22.06	14.783	1.92	20.85	0.48
2.667	0.48	8.733	22.06	14.800	1.92	20.87	0.48
2.683	0.48	8.750	22.06	14.817	1.92	20.88	0.48
2.700	0.48	8.767	22.06	14.833	1.92	20.90	0.48
2.717	0.48	8.783	22.06	14.850	1.92	20.92	0.48
2.733	0.48	8.800	22.06	14.867	1.92	20.93	0.48
2.750	0.48	8.817	22.06	14.883	1.92	20.95	0.48
2.767	0.48	8.833	22.06	14.900	1.92	20.97	0.48
2.783	0.48	8.850	22.06	14.917	1.92	20.98	0.48
2.800	0.48	8.867	22.06	14.933	1.92	21.00	0.48
2.817	0.48	8.883	22.06	14.950	1.92	21.02	0.48
2.833	0.48	8.900	22.06	14.967	1.92	21.03	0.48
2.850	0.48	8.917	22.06	14.983	1.92	21.05	0.48
2.867	0.48	8.933	22.06	15.000	1.92	21.07	0.48
2.883	0.48	8.950	22.06	15.017	1.92	21.08	0.48

2.900	0.48	8.967	22.06	15.033	1.92	21.10	0.48
2.917	0.48	8.983	22.06	15.050	1.92	21.12	0.48
2.933	0.48	9.000	22.06	15.067	1.92	21.13	0.48
2.950	0.48	9.017	22.06	15.083	1.92	21.15	0.48
2.967	0.48	9.033	22.06	15.100	1.92	21.17	0.48
2.983	0.48	9.050	22.06	15.117	1.92	21.18	0.48
3.000	0.48	9.067	22.06	15.133	1.92	21.20	0.48
3.017	0.48	9.083	22.06	15.150	1.92	21.22	0.48
3.033	0.48	9.100	22.06	15.167	1.92	21.23	0.48
3.050	0.48	9.117	22.06	15.183	1.92	21.25	0.48
3.067	0.48	9.133	22.06	15.200	1.92	21.27	0.48
3.083	0.48	9.150	22.06	15.217	1.92	21.28	0.48
3.100	0.48	9.167	22.06	15.233	1.92	21.30	0.48
3.117	0.48	9.183	22.06	15.250	1.92	21.32	0.48
3.133	0.48	9.200	22.06	15.267	1.92	21.33	0.48
3.150	0.48	9.217	22.06	15.283	1.92	21.35	0.48
3.167	0.48	9.233	22.06	15.300	1.92	21.37	0.48
3.183	0.48	9.250	22.06	15.317	1.92	21.38	0.48
3.200	0.48	9.267	22.06	15.333	1.92	21.40	0.48
3.217	0.48	9.283	22.06	15.350	1.92	21.42	0.48
3.233	0.48	9.300	22.06	15.367	1.92	21.43	0.48
3.250	0.48	9.317	22.06	15.383	1.92	21.45	0.48
3.267	0.48	9.333	22.06	15.400	1.92	21.47	0.48
3.283	0.48	9.350	22.06	15.417	1.92	21.48	0.48
3.300	0.48	9.367	22.06	15.433	1.92	21.50	0.48
3.317	0.48	9.383	22.06	15.450	1.92	21.52	0.48
3.333	0.48	9.400	22.06	15.467	1.92	21.53	0.48
3.350	0.48	9.417	22.06	15.483	1.92	21.55	0.48
3.367	0.48	9.433	22.06	15.500	1.92	21.57	0.48
3.383	0.48	9.450	22.06	15.517	1.92	21.58	0.48
3.400	0.48	9.467	22.06	15.533	1.92	21.60	0.48
3.417	0.48	9.483	22.06	15.550	1.92	21.62	0.48
3.433	0.48	9.500	22.06	15.567	1.92	21.63	0.48
3.450	0.48	9.517	22.06	15.583	1.92	21.65	0.48
3.467	0.48	9.533	22.06	15.600	1.92	21.67	0.48
3.483	0.48	9.550	22.06	15.617	1.92	21.68	0.48
3.500	0.48	9.567	22.06	15.633	1.92	21.70	0.48
3.517	0.48	9.583	22.06	15.650	1.92	21.72	0.48
3.533	0.48	9.600	22.06	15.667	1.92	21.73	0.48
3.550	0.48	9.617	22.06	15.683	1.92	21.75	0.48
3.567	0.48	9.633	22.06	15.700	1.92	21.77	0.48
3.583	0.48	9.650	22.06	15.717	1.92	21.78	0.48
3.600	0.48	9.667	22.06	15.733	1.92	21.80	0.48
3.617	0.48	9.683	22.06	15.750	1.92	21.82	0.48
3.633	0.48	9.700	22.06	15.767	1.92	21.83	0.48
3.650	0.48	9.717	22.06	15.783	1.92	21.85	0.48
3.667	0.48	9.733	22.06	15.800	1.92	21.87	0.48
3.683	0.48	9.750	22.06	15.817	1.92	21.88	0.48
3.700	0.48	9.767	22.06	15.833	1.92	21.90	0.48
3.717	0.48	9.783	22.06	15.850	1.92	21.92	0.48
3.733	0.48	9.800	22.06	15.867	1.92	21.93	0.48
3.750	0.48	9.817	22.06	15.883	1.92	21.95	0.48
3.767	0.48	9.833	22.06	15.900	1.92	21.97	0.48
3.783	0.48	9.850	22.06	15.917	1.92	21.98	0.48
3.800	0.48	9.867	22.06	15.933	1.92	22.00	0.48
3.817	0.48	9.883	22.06	15.950	1.92	22.02	0.48
3.833	0.48	9.900	22.06	15.967	1.92	22.03	0.48
3.850	0.48	9.917	22.06	15.983	1.92	22.05	0.48
3.867	0.48	9.933	22.06	16.000	1.92	22.07	0.48
3.883	0.48	9.950	22.06	16.017	1.92	22.08	0.48
3.900	0.48	9.967	22.06	16.033	1.92	22.10	0.48
3.917	0.48	9.983	22.06	16.050	1.92	22.12	0.48
3.933	0.48	10.000	22.06	16.067	1.92	22.13	0.48
3.950	0.48	10.017	22.06	16.083	1.92	22.15	0.48
3.967	0.48	10.033	22.06	16.100	1.92	22.17	0.48
3.983	0.48	10.050	22.06	16.117	1.92	22.18	0.48
4.000	0.48	10.067	22.06	16.133	1.92	22.20	0.48
4.017	0.48	10.083	22.06	16.150	1.92	22.22	0.48
4.033	0.48	10.100	22.06	16.167	1.92	22.23	0.48
4.050	0.48	10.117	22.06	16.183	1.92	22.25	0.48
4.067	0.48	10.133	22.06	16.200	1.92	22.27	0.48
4.083	0.48	10.150	22.06	16.217	1.92	22.28	0.48
4.100	0.48	10.167	22.06	16.233	1.92	22.30	0.48
4.117	0.48	10.183	22.06	16.250	1.92	22.32	0.48
4.133	0.48	10.200	22.06	16.267	0.96	22.33	0.48
4.150	0.48	10.217	22.06	16.283	0.96	22.35	0.48
4.167	0.48	10.233	22.06	16.300	0.96	22.37	0.48
4.183	0.48	10.250	22.05	16.317	0.96	22.38	0.48
4.200	0.48	10.267	6.23	16.333	0.96	22.40	0.48
4.217	0.48	10.283	6.23	16.350	0.96	22.42	0.48
4.233	0.48	10.300	6.23	16.367	0.96	22.43	0.48
4.250	0.48	10.317	6.23	16.383	0.96	22.45	0.48
4.267	2.88	10.333	6.23	16.400	0.96	22.47	0.48
4.283	2.88	10.350	6.23	16.417	0.96	22.48	0.48
4.300	2.88	10.367	6.23	16.433	0.96	22.50	0.48
4.317	2.88	10.383	6.23	16.450	0.96	22.52	0.48
4.333	2.88	10.400	6.23	16.467	0.96	22.53	0.48
4.350	2.88	10.417	6.23	16.483	0.96	22.55	0.48
4.367	2.88	10.433	6.23	16.500	0.96	22.57	0.48
4.383	2.88	10.450	6.23	16.517	0.96	22.58	0.48
4.400	2.88	10.467	6.23	16.533	0.96	22.60	0.48
4.417	2.88	10.483	6.23	16.550	0.96	22.62	0.48
4.433	2.88	10.500	6.23	16.567	0.96	22.63	0.48
4.450	2.88	10.517	6.23	16.583	0.96	22.65	0.48
4.467	2.88	10.533	6.23	16.600	0.96	22.67	0.48
4.483	2.88	10.550	6.23	16.617	0.96	22.68	0.48
4.500	2.88	10.567	6.23	16.633	0.96	22.70	0.48
4.517	2.88	10.583	6.23	16.650	0.96	22.72	0.48
4.533	2.88	10.600	6.23	16.667	0.96	22.73	0.48
4.550	2.88	10.617	6.23	16.683	0.96	22.75	0.48
4.567	2.88	10.633	6.23	16.700	0.96	22.77	0.48
4.583	2.88	10.650	6.23	16.717	0.96	22.78	0.48
4.600	2.88	10.667	6.23	16.733	0.96	22.80	0.48
4.617	2.88	10.683	6.23	16.750	0.96	22.82	0.48
4.633	2.88	10.700	6.23	16.767	0.96	22.83	0.48
4.650	2.88	10.717	6.23	16.783	0.96	22.85	0.48
4.667	2.88	10.733	6.23	16.800	0.96	22.87	0.48
4.683	2.88	10.750	6.23	16.817	0.96	22.88	0.48
4.700	2.88	10.767	6.23	16.833	0.96	22.90	0.48
4.717	2.88	10.783	6.23	16.850	0.96	22.92	0.48
4.733	2.88	10.800	6.23	16.867	0.96	22.93	0.48
4.750	2.88	10.817	6.23	16.883	0.96	22.95	0.48
4.767	2.88	10.833	6.23	16.900	0.96	22.97	0.48
4.783	2.88	10.850	6.23	16.917	0.96	22.98	0.48
4.800	2.88	10.867	6.23	16.933	0.96	23.00	0.48
4.817	2.88	10.883	6.23	16.950	0.96	23.02	0.48
4.833	2.88	10.900	6.23	16.967	0.96	23.03	0.48
4.850	2.88	10.917	6.23	16.983	0.96	23.05	0.48
4.867	2.88	10.933	6.23	17.000	0.96	23.07	0.48
4.883	2.88	10.950	6.23	17.017	0.96	23.08	0.48
4.900	2.88	10.967	6.23	17.033	0.96	23.10	0.48
4.917	2.88	10.983	6.23	17.050	0.96	23.12	0.48
4.933	2.88	11.000	6.23	17.067	0.96	23.13	0.48
4.950	2.88	11.017	6.23	17.083	0.96	23.15	0.48
4.967	2.88	11.033	6.23	17.100	0.96	23.17	0.48
4.983	2.88	11.050	6.23	17.117	0.96	23.18	0.48
5.000	2.88	11.067	6.23	17.133	0.96	23.20	0.48
5.017	2.88	11.083	6.23	17.150	0.96	23.22	0.48
5.033	2.88	11.100	6.23	17.167	0.96	23.23	0.48
5.050	2.88	11.117	6.23	17.183	0.96	23.25	0.48
5.067	2.88	11.133	6.23	17.200	0.96	23.27	0.48
5.083	2.88	11.150	6.23	17.217	0.96	23.28	0.48
5.100	2.88	11.167	6.23	17.233	0.96	23.30	0.48
5.117	2.88	11.183	6.23	17.250	0.96	23.32	0.48
5.133	2.88	11.200	6.23	17.267	0.96	23.33	0.48
5.150	2.88	11.217	6.23	17.283	0.96	23.35	0.48
5.167	2.88	11.233	6.23	17.300	0.96	23.37	0.48
5.183	2.88	11.250	6.23	17.317	0.96	23.38	0.48
5.200	2.88	11.267	6.23	17.333	0.96	23.40	0.48
5.217	2.88	11.283	6.23	17.350	0.96	23.42	0.48
5.233	2.88	11.300	6.23	17.367	0.96	23.43	0.48
5.250	2.88	11.317	6.23	17.383	0.96	23.45	0.48
5.267	2.88	11.333	6.23	17.400	0.96	23.47	0.48
5.283	2.88	11.350	6.23	17.417	0.96	23.48	0.48
5.300	2.88	11.367	6.23	17.433	0.96	23.50	0.48
5.317	2.88	11.383	6.23	17.450	0.96	23.52	0.48
5.333	2.88	11.400	6.23	17.467	0.96	23.53	0.48
5.350	2.88	11.417	6.23	17.483	0.96	23.55	0.48
5.367	2.88	11.433	6.23	17.500	0.96	23.57	0.48
5.383	2.88	11.450	6.23	17.517	0.96	23.58	0.48
5.400	2.88	11.467	6.23	17.533	0.96	23.60	0.48
5.417	2.88	11.483	6.23	17.550	0.96	23.62	0.48

5.433	2.88	11.500	6.23	17.567	0.96	23.63	0.48
5.450	2.88	11.517	6.23	17.583	0.96	23.65	0.48
5.467	2.88	11.533	6.23	17.600	0.96	23.67	0.48
5.483	2.88	11.550	6.23	17.617	0.96	23.68	0.48
5.500	2.88	11.567	6.23	17.633	0.96	23.70	0.48
5.517	2.88	11.583	6.23	17.650	0.96	23.72	0.48
5.533	2.88	11.600	6.23	17.667	0.96	23.73	0.48
5.550	2.88	11.617	6.23	17.683	0.96	23.75	0.48
5.567	2.88	11.633	6.23	17.700	0.96	23.77	0.48
5.583	2.88	11.650	6.23	17.717	0.96	23.78	0.48
5.600	2.88	11.667	6.23	17.733	0.96	23.80	0.48
5.617	2.88	11.683	6.23	17.750	0.96	23.82	0.48
5.633	2.88	11.700	6.23	17.767	0.96	23.83	0.48
5.650	2.88	11.717	6.23	17.783	0.96	23.85	0.48
5.667	2.88	11.733	6.23	17.800	0.96	23.87	0.48
5.683	2.88	11.750	6.23	17.817	0.96	23.88	0.48
5.700	2.88	11.767	6.23	17.833	0.96	23.90	0.48
5.717	2.88	11.783	6.23	17.850	0.96	23.92	0.48
5.733	2.88	11.800	6.23	17.867	0.96	23.93	0.48
5.750	2.88	11.817	6.23	17.883	0.96	23.95	0.48
5.767	2.88	11.833	6.23	17.900	0.96	23.97	0.48
5.783	2.88	11.850	6.23	17.917	0.96	23.98	0.48
5.800	2.88	11.867	6.23	17.933	0.96	24.00	0.48
5.817	2.88	11.883	6.23	17.950	0.96	24.02	0.48
5.833	2.88	11.900	6.23	17.967	0.96	24.03	0.48
5.850	2.88	11.917	6.23	17.983	0.96	24.05	0.48
5.867	2.88	11.933	6.23	18.000	0.96	24.07	0.48
5.883	2.88	11.950	6.23	18.017	0.96	24.08	0.48
5.900	2.88	11.967	6.23	18.033	0.96	24.10	0.48
5.917	2.88	11.983	6.23	18.050	0.96	24.12	0.48
5.933	2.88	12.000	6.23	18.067	0.96	24.13	0.48
5.950	2.88	12.017	6.23	18.083	0.96	24.15	0.48
5.967	2.88	12.033	6.23	18.100	0.96	24.17	0.48
5.983	2.88	12.050	6.23	18.117	0.96	24.18	0.48
6.000	2.88	12.067	6.23	18.133	0.96	24.20	0.48
6.017	2.88	12.083	6.23	18.150	0.96	24.22	0.48
6.033	2.88	12.100	6.23	18.167	0.96	24.23	0.48
6.050	2.88	12.117	6.23	18.183	0.96	24.25	0.48
6.067	2.88	12.133	6.23	18.200	0.96		

Max.Eff.Inten.(mm/hr)=	22.06	18.37	
over (min)	6.00	9.00	
Storage Coeff. (min)=	5.65 (ii)	8.76 (ii)	
Unit Hyd. Tpeak (min)=	6.00	9.00	
Unit Hyd. peak (cms)=	0.20	0.13	
			TOTALS
PEAK FLOW (cms)=	0.17	0.00	0.172 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.23
RUNOFF VOLUME (mm)=	94.91	64.02	94.61
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.99	0.67	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	0.172	10.23	94.61
OUTFLOW: ID= 1 (7626)	2.810	0.056	10.57	87.71

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.42

TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.1504

CALIB			
STANDHYD (7624)	Area (ha)= 2.08		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.06	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	117.76	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.88	12.150	6.23	18.22	0.96
0.033	0.00	6.100	2.88	12.167	6.23	18.23	0.96
0.050	0.00	6.117	2.88	12.183	6.23	18.25	0.96
0.067	0.00	6.133	2.88	12.200	6.23	18.27	0.48
0.083	0.00	6.150	2.88	12.217	6.23	18.28	0.48
0.100	0.00	6.167	2.88	12.233	6.23	18.30	0.48
0.117	0.00	6.183	2.88	12.250	6.23	18.32	0.48
0.133	0.00	6.200	2.88	12.267	3.36	18.33	0.48
0.150	0.00	6.217	2.88	12.283	3.36	18.35	0.48
0.167	0.00	6.233	2.88	12.300	3.36	18.37	0.48
0.183	0.00	6.250	2.89	12.317	3.36	18.38	0.48
0.200	0.00	6.267	8.15	12.333	3.36	18.40	0.48
0.217	0.00	6.283	8.15	12.350	3.36	18.42	0.48
0.233	0.00	6.300	8.15	12.367	3.36	18.43	0.48
0.250	0.00	6.317	8.15	12.383	3.36	18.45	0.48
0.267	0.48	6.333	8.15	12.400	3.36	18.47	0.48
0.283	0.48	6.350	8.15	12.417	3.36	18.48	0.48
0.300	0.48	6.367	8.15	12.433	3.36	18.50	0.48
0.317	0.48	6.383	8.15	12.450	3.36	18.52	0.48
0.333	0.48	6.400	8.15	12.467	3.36	18.53	0.48
0.350	0.48	6.417	8.15	12.483	3.36	18.55	0.48
0.367	0.48	6.433	8.15	12.500	3.36	18.57	0.48
0.383	0.48	6.450	8.15	12.517	3.36	18.58	0.48
0.400	0.48	6.467	8.15	12.533	3.36	18.60	0.48
0.417	0.48	6.483	8.15	12.550	3.36	18.62	0.48
0.433	0.48	6.500	8.15	12.567	3.36	18.63	0.48
0.450	0.48	6.517	8.15	12.583	3.36	18.65	0.48
0.467	0.48	6.533	8.15	12.600	3.36	18.67	0.48
0.483	0.48	6.550	8.15	12.617	3.36	18.68	0.48
0.500	0.48	6.567	8.15	12.633	3.36	18.70	0.48
0.517	0.48	6.583	8.15	12.650	3.36	18.72	0.48
0.533	0.48	6.600	8.15	12.667	3.36	18.73	0.48
0.550	0.48	6.617	8.15	12.683	3.36	18.75	0.48
0.567	0.48	6.633	8.15	12.700	3.36	18.77	0.48
0.583	0.48	6.650	8.15	12.717	3.36	18.78	0.48
0.600	0.48	6.667	8.15	12.733	3.36	18.80	0.48
0.617	0.48	6.683	8.15	12.750	3.36	18.82	0.48
0.633	0.48	6.700	8.15	12.767	3.36	18.83	0.48
0.650	0.48	6.717	8.15	12.783	3.36	18.85	0.48
0.667	0.48	6.733	8.15	12.800	3.36	18.87	0.48
0.683	0.48	6.750	8.15	12.817	3.36	18.88	0.48
0.700	0.48	6.767	8.15	12.833	3.36	18.90	0.48
0.717	0.48	6.783	8.15	12.850	3.36	18.92	0.48
0.733	0.48	6.800	8.15	12.867	3.36	18.93	0.48
0.750	0.48	6.817	8.15	12.883	3.36	18.95	0.48
0.767	0.48	6.833	8.15	12.900	3.36	18.97	0.48
0.783	0.48	6.850	8.15	12.917	3.36	18.98	0.48
0.800	0.48	6.867	8.15	12.933	3.36	19.00	0.48
0.817	0.48	6.883	8.15	12.950	3.36	19.02	0.48
0.833	0.48	6.900	8.15	12.967	3.36	19.03	0.48
0.850	0.48	6.917	8.15	12.983	3.36	19.05	0.48
0.867	0.48	6.933	8.15	13.000	3.36	19.07	0.48
0.883	0.48	6.950	8.15	13.017	3.36	19.08	0.48
0.900	0.48	6.967	8.15	13.033	3.36	19.10	0.48

0.917	0.48	6.983	8.15	13.050	3.36	19.12	0.48		2.183	0.48	8.250	8.19	14.317	1.92	20.38	0.48
0.933	0.48	7.000	8.15	13.067	3.36	19.13	0.48		2.200	0.48	8.267	22.06	14.333	1.92	20.40	0.48
0.950	0.48	7.017	8.15	13.083	3.36	19.15	0.48		2.217	0.48	8.283	22.06	14.350	1.92	20.42	0.48
0.967	0.48	7.033	8.15	13.100	3.36	19.17	0.48		2.233	0.48	8.300	22.06	14.367	1.92	20.43	0.48
0.983	0.48	7.050	8.15	13.117	3.36	19.18	0.48		2.250	0.48	8.317	22.06	14.383	1.92	20.45	0.48
1.000	0.48	7.067	8.15	13.133	3.36	19.20	0.48		2.267	0.48	8.333	22.06	14.400	1.92	20.47	0.48
1.017	0.48	7.083	8.15	13.150	3.36	19.22	0.48		2.283	0.48	8.350	22.06	14.417	1.92	20.48	0.48
1.033	0.48	7.100	8.15	13.167	3.36	19.23	0.48		2.300	0.48	8.367	22.06	14.433	1.92	20.50	0.48
1.050	0.48	7.117	8.15	13.183	3.36	19.25	0.48		2.317	0.48	8.383	22.06	14.450	1.92	20.52	0.48
1.067	0.48	7.133	8.15	13.200	3.36	19.27	0.48		2.333	0.48	8.400	22.06	14.467	1.92	20.53	0.48
1.083	0.48	7.150	8.15	13.217	3.36	19.28	0.48		2.350	0.48	8.417	22.06	14.483	1.92	20.55	0.48
1.100	0.48	7.167	8.15	13.233	3.36	19.30	0.48		2.367	0.48	8.433	22.06	14.500	1.92	20.57	0.48
1.117	0.48	7.183	8.15	13.250	3.36	19.32	0.48		2.383	0.48	8.450	22.06	14.517	1.92	20.58	0.48
1.133	0.48	7.200	8.15	13.267	3.36	19.33	0.48		2.400	0.48	8.467	22.06	14.533	1.92	20.60	0.48
1.150	0.48	7.217	8.15	13.283	3.36	19.35	0.48		2.417	0.48	8.483	22.06	14.550	1.92	20.62	0.48
1.167	0.48	7.233	8.15	13.300	3.36	19.37	0.48		2.433	0.48	8.500	22.06	14.567	1.92	20.63	0.48
1.183	0.48	7.250	8.15	13.317	3.36	19.38	0.48		2.450	0.48	8.517	22.06	14.583	1.92	20.65	0.48
1.200	0.48	7.267	8.15	13.333	3.36	19.40	0.48		2.467	0.48	8.533	22.06	14.600	1.92	20.67	0.48
1.217	0.48	7.283	8.15	13.350	3.36	19.42	0.48		2.483	0.48	8.550	22.06	14.617	1.92	20.68	0.48
1.233	0.48	7.300	8.15	13.367	3.36	19.43	0.48		2.500	0.48	8.567	22.06	14.633	1.92	20.70	0.48
1.250	0.48	7.317	8.15	13.383	3.36	19.45	0.48		2.517	0.48	8.583	22.06	14.650	1.92	20.72	0.48
1.267	0.48	7.333	8.15	13.400	3.36	19.47	0.48		2.533	0.48	8.600	22.06	14.667	1.92	20.73	0.48
1.283	0.48	7.350	8.15	13.417	3.36	19.48	0.48		2.550	0.48	8.617	22.06	14.683	1.92	20.75	0.48
1.300	0.48	7.367	8.15	13.433	3.36	19.50	0.48		2.567	0.48	8.633	22.06	14.700	1.92	20.77	0.48
1.317	0.48	7.383	8.15	13.450	3.36	19.52	0.48		2.583	0.48	8.650	22.06	14.717	1.92	20.78	0.48
1.333	0.48	7.400	8.15	13.467	3.36	19.53	0.48		2.600	0.48	8.667	22.06	14.733	1.92	20.80	0.48
1.350	0.48	7.417	8.15	13.483	3.36	19.55	0.48		2.617	0.48	8.683	22.06	14.750	1.92	20.82	0.48
1.367	0.48	7.433	8.15	13.500	3.36	19.57	0.48		2.633	0.48	8.700	22.06	14.767	1.92	20.83	0.48
1.383	0.48	7.450	8.15	13.517	3.36	19.58	0.48		2.650	0.48	8.717	22.06	14.783	1.92	20.85	0.48
1.400	0.48	7.467	8.15	13.533	3.36	19.60	0.48		2.667	0.48	8.733	22.06	14.800	1.92	20.87	0.48
1.417	0.48	7.483	8.15	13.550	3.36	19.62	0.48		2.683	0.48	8.750	22.06	14.817	1.92	20.88	0.48
1.433	0.48	7.500	8.15	13.567	3.36	19.63	0.48		2.700	0.48	8.767	22.06	14.833	1.92	20.90	0.48
1.450	0.48	7.517	8.15	13.583	3.36	19.65	0.48		2.717	0.48	8.783	22.06	14.850	1.92	20.92	0.48
1.467	0.48	7.533	8.15	13.600	3.36	19.67	0.48		2.733	0.48	8.800	22.06	14.867	1.92	20.93	0.48
1.483	0.48	7.550	8.15	13.617	3.36	19.68	0.48		2.750	0.48	8.817	22.06	14.883	1.92	20.95	0.48
1.500	0.48	7.567	8.15	13.633	3.36	19.70	0.48		2.767	0.48	8.833	22.06	14.900	1.92	20.97	0.48
1.517	0.48	7.583	8.15	13.650	3.36	19.72	0.48		2.783	0.48	8.850	22.06	14.917	1.92	20.98	0.48
1.533	0.48	7.600	8.15	13.667	3.36	19.73	0.48		2.800	0.48	8.867	22.06	14.933	1.92	21.00	0.48
1.550	0.48	7.617	8.15	13.683	3.36	19.75	0.48		2.817	0.48	8.883	22.06	14.950	1.92	21.02	0.48
1.567	0.48	7.633	8.15	13.700	3.36	19.77	0.48		2.833	0.48	8.900	22.06	14.967	1.92	21.03	0.48
1.583	0.48	7.650	8.15	13.717	3.36	19.78	0.48		2.850	0.48	8.917	22.06	14.983	1.92	21.05	0.48
1.600	0.48	7.667	8.15	13.733	3.36	19.80	0.48		2.867	0.48	8.933	22.06	15.000	1.92	21.07	0.48
1.617	0.48	7.683	8.15	13.750	3.36	19.82	0.48		2.883	0.48	8.950	22.06	15.017	1.92	21.08	0.48
1.633	0.48	7.700	8.15	13.767	3.36	19.83	0.48		2.900	0.48	8.967	22.06	15.033	1.92	21.10	0.48
1.650	0.48	7.717	8.15	13.783	3.36	19.85	0.48		2.917	0.48	8.983	22.06	15.050	1.92	21.12	0.48
1.667	0.48	7.733	8.15	13.800	3.36	19.87	0.48		2.933	0.48	9.000	22.06	15.067	1.92	21.13	0.48
1.683	0.48	7.750	8.15	13.817	3.36	19.88	0.48		2.950	0.48	9.017	22.06	15.083	1.92	21.15	0.48
1.700	0.48	7.767	8.15	13.833	3.36	19.90	0.48		2.967	0.48	9.033	22.06	15.100	1.92	21.17	0.48
1.717	0.48	7.783	8.15	13.850	3.36	19.92	0.48		2.983	0.48	9.050	22.06	15.117	1.92	21.18	0.48
1.733	0.48	7.800	8.15	13.867	3.36	19.93	0.48		3.000	0.48	9.067	22.06	15.133	1.92	21.20	0.48
1.750	0.48	7.817	8.15	13.883	3.36	19.95	0.48		3.017	0.48	9.083	22.06	15.150	1.92	21.22	0.48
1.767	0.48	7.833	8.15	13.900	3.36	19.97	0.48		3.033	0.48	9.100	22.06	15.167	1.92	21.23	0.48
1.783	0.48	7.850	8.15	13.917	3.36	19.98	0.48		3.050	0.48	9.117	22.06	15.183	1.92	21.25	0.48
1.800	0.48	7.867	8.15	13.933	3.36	20.00	0.48		3.067	0.48	9.133	22.06	15.200	1.92	21.27	0.48
1.817	0.48	7.883	8.15	13.950	3.36	20.02	0.48		3.083	0.48	9.150	22.06	15.217	1.92	21.28	0.48
1.833	0.48	7.900	8.15	13.967	3.36	20.03	0.48		3.100	0.48	9.167	22.06	15.233	1.92	21.30	0.48
1.850	0.48	7.917	8.15	13.983	3.36	20.05	0.48		3.117	0.48	9.183	22.06	15.250	1.92	21.32	0.48
1.867	0.48	7.933	8.15	14.000	3.36	20.07	0.48		3.133	0.48	9.200	22.06	15.267	1.92	21.33	0.48
1.883	0.48	7.950	8.15	14.017	3.36	20.08	0.48		3.150	0.48	9.217	22.06	15.283	1.92	21.35	0.48
1.900	0.48	7.967	8.15	14.033	3.36	20.10	0.48		3.167	0.48	9.233	22.06	15.300	1.92	21.37	0.48
1.917	0.48	7.983	8.15	14.050	3.36	20.12	0.48		3.183	0.48	9.250	22.06	15.317	1.92	21.38	0.48
1.933	0.48	8.000	8.15	14.067	3.36	20.13	0.48		3.200	0.48	9.267	22.06	15.333	1.92	21.40	0.48
1.950	0.48	8.017	8.15	14.083	3.36	20.15	0.48		3.217	0.48	9.283	22.06	15.350	1.92	21.42	0.48
1.967	0.48	8.033	8.15	14.100	3.36	20.17	0.48		3.233	0.48	9.300	22.06	15.367	1.92	21.43	0.48
1.983	0.48	8.050	8.15	14.117	3.36	20.18	0.48		3.250	0.48	9.317	22.06	15.383	1.92	21.45	0.48
2.000	0.48	8.067	8.15	14.133	3.36	20.20	0.48		3.267	0.48	9.333	22.06	15.400	1.92	21.47	0.48
2.017	0.48	8.083	8.15	14.150	3.36	20.22	0.48		3.283	0.48	9.350	22.06	15.417	1.92	21.48	0.48
2.033	0.48	8.100	8.15	14.167	3.36	20.23	0.48		3.300	0.48	9.367	22.06	15.433	1.92	21.50	0.48
2.050	0.48	8.117	8.15	14.183	3.36	20.25	0.48		3.317	0.48	9.383	22.06	15.450	1.92	21.52	0.48
2.067	0.48	8.133	8.15	14.200	3.36	20.27	0.48		3.333	0.48	9.400	22.06	15.467	1.92	21.53	0.48
2.083	0.48	8.150	8.15	14.217	3.36	20.28	0.48		3.350	0.48	9.417	22.06	15.483	1.92	21.55	0.48
2.100	0.48	8.167	8.15	14.233	3.36	20.30	0.48		3.367	0.48	9.433	22.06	15.500	1.92	21.57	0.48
2.117	0.48	8.183	8.15	14.250	3.36	20.32	0.48		3.383	0.48	9.450	22.06	15.517	1.92	21.58	0.48
2.133	0.48	8.200	8.15	14.267	1.92	20.33	0.48		3.400	0.48	9.467	22.06	15.533	1.92	21.60	0.48
2.150	0.48	8.217	8.15	14.283	1.92	20.35	0.48		3.417	0.48	9.483	22.06	15.550	1.92	21.62	0.48
2.167	0.48	8.233	8.15	14.300	1.92	20.37	0.48		3.433	0.48	9.500	22.06	15.567	1.92	21.63	0.48

3.450	0.48	9.517	22.06	15.583	1.92	21.65	0.48	4.717	2.88	10.783	6.23	16.850	0.96	22.92	0.48
3.467	0.48	9.533	22.06	15.600	1.92	21.67	0.48	4.733	2.88	10.800	6.23	16.867	0.96	22.93	0.48
3.483	0.48	9.550	22.06	15.617	1.92	21.68	0.48	4.750	2.88	10.817	6.23	16.883	0.96	22.95	0.48
3.500	0.48	9.567	22.06	15.633	1.92	21.70	0.48	4.767	2.88	10.833	6.23	16.900	0.96	22.97	0.48
3.517	0.48	9.583	22.06	15.650	1.92	21.72	0.48	4.783	2.88	10.850	6.23	16.917	0.96	22.98	0.48
3.533	0.48	9.600	22.06	15.667	1.92	21.73	0.48	4.800	2.88	10.867	6.23	16.933	0.96	23.00	0.48
3.550	0.48	9.617	22.06	15.683	1.92	21.75	0.48	4.817	2.88	10.883	6.23	16.950	0.96	23.02	0.48
3.567	0.48	9.633	22.06	15.700	1.92	21.77	0.48	4.833	2.88	10.900	6.23	16.967	0.96	23.03	0.48
3.583	0.48	9.650	22.06	15.717	1.92	21.78	0.48	4.850	2.88	10.917	6.23	16.983	0.96	23.05	0.48
3.600	0.48	9.667	22.06	15.733	1.92	21.80	0.48	4.867	2.88	10.933	6.23	17.000	0.96	23.07	0.48
3.617	0.48	9.683	22.06	15.750	1.92	21.82	0.48	4.883	2.88	10.950	6.23	17.017	0.96	23.08	0.48
3.633	0.48	9.700	22.06	15.767	1.92	21.83	0.48	4.900	2.88	10.967	6.23	17.033	0.96	23.10	0.48
3.650	0.48	9.717	22.06	15.783	1.92	21.85	0.48	4.917	2.88	10.983	6.23	17.050	0.96	23.12	0.48
3.667	0.48	9.733	22.06	15.800	1.92	21.87	0.48	4.933	2.88	11.000	6.23	17.067	0.96	23.13	0.48
3.683	0.48	9.750	22.06	15.817	1.92	21.88	0.48	4.950	2.88	11.017	6.23	17.083	0.96	23.15	0.48
3.700	0.48	9.767	22.06	15.833	1.92	21.90	0.48	4.967	2.88	11.033	6.23	17.100	0.96	23.17	0.48
3.717	0.48	9.783	22.06	15.850	1.92	21.92	0.48	4.983	2.88	11.050	6.23	17.117	0.96	23.18	0.48
3.733	0.48	9.800	22.06	15.867	1.92	21.93	0.48	5.000	2.88	11.067	6.23	17.133	0.96	23.20	0.48
3.750	0.48	9.817	22.06	15.883	1.92	21.95	0.48	5.017	2.88	11.083	6.23	17.150	0.96	23.22	0.48
3.767	0.48	9.833	22.06	15.900	1.92	21.97	0.48	5.033	2.88	11.100	6.23	17.167	0.96	23.23	0.48
3.783	0.48	9.850	22.06	15.917	1.92	21.98	0.48	5.050	2.88	11.117	6.23	17.183	0.96	23.25	0.48
3.800	0.48	9.867	22.06	15.933	1.92	22.00	0.48	5.067	2.88	11.133	6.23	17.200	0.96	23.27	0.48
3.817	0.48	9.883	22.06	15.950	1.92	22.02	0.48	5.083	2.88	11.150	6.23	17.217	0.96	23.28	0.48
3.833	0.48	9.900	22.06	15.967	1.92	22.03	0.48	5.100	2.88	11.167	6.23	17.233	0.96	23.30	0.48
3.850	0.48	9.917	22.06	15.983	1.92	22.05	0.48	5.117	2.88	11.183	6.23	17.250	0.96	23.32	0.48
3.867	0.48	9.933	22.06	16.000	1.92	22.07	0.48	5.133	2.88	11.200	6.23	17.267	0.96	23.33	0.48
3.883	0.48	9.950	22.06	16.017	1.92	22.08	0.48	5.150	2.88	11.217	6.23	17.283	0.96	23.35	0.48
3.900	0.48	9.967	22.06	16.033	1.92	22.10	0.48	5.167	2.88	11.233	6.23	17.300	0.96	23.37	0.48
3.917	0.48	9.983	22.06	16.050	1.92	22.12	0.48	5.183	2.88	11.250	6.23	17.317	0.96	23.38	0.48
3.933	0.48	10.000	22.06	16.067	1.92	22.13	0.48	5.200	2.88	11.267	6.23	17.333	0.96	23.40	0.48
3.950	0.48	10.017	22.06	16.083	1.92	22.15	0.48	5.217	2.88	11.283	6.23	17.350	0.96	23.42	0.48
3.967	0.48	10.033	22.06	16.100	1.92	22.17	0.48	5.233	2.88	11.300	6.23	17.367	0.96	23.43	0.48
3.983	0.48	10.050	22.06	16.117	1.92	22.18	0.48	5.250	2.88	11.317	6.23	17.383	0.96	23.45	0.48
4.000	0.48	10.067	22.06	16.133	1.92	22.20	0.48	5.267	2.88	11.333	6.23	17.400	0.96	23.47	0.48
4.017	0.48	10.083	22.06	16.150	1.92	22.22	0.48	5.283	2.88	11.350	6.23	17.417	0.96	23.48	0.48
4.033	0.48	10.100	22.06	16.167	1.92	22.23	0.48	5.300	2.88	11.367	6.23	17.433	0.96	23.50	0.48
4.050	0.48	10.117	22.06	16.183	1.92	22.25	0.48	5.317	2.88	11.383	6.23	17.450	0.96	23.52	0.48
4.067	0.48	10.133	22.06	16.200	1.92	22.27	0.48	5.333	2.88	11.400	6.23	17.467	0.96	23.53	0.48
4.083	0.48	10.150	22.06	16.217	1.92	22.28	0.48	5.350	2.88	11.417	6.23	17.483	0.96	23.55	0.48
4.100	0.48	10.167	22.06	16.233	1.92	22.30	0.48	5.367	2.88	11.433	6.23	17.500	0.96	23.57	0.48
4.117	0.48	10.183	22.06	16.250	1.92	22.32	0.48	5.383	2.88	11.450	6.23	17.517	0.96	23.58	0.48
4.133	0.48	10.200	22.06	16.267	0.96	22.33	0.48	5.400	2.88	11.467	6.23	17.533	0.96	23.60	0.48
4.150	0.48	10.217	22.06	16.283	0.96	22.35	0.48	5.417	2.88	11.483	6.23	17.550	0.96	23.62	0.48
4.167	0.48	10.233	22.06	16.300	0.96	22.37	0.48	5.433	2.88	11.500	6.23	17.567	0.96	23.63	0.48
4.183	0.48	10.250	22.05	16.317	0.96	22.38	0.48	5.450	2.88	11.517	6.23	17.583	0.96	23.65	0.48
4.200	0.48	10.267	6.23	16.333	0.96	22.40	0.48	5.467	2.88	11.533	6.23	17.600	0.96	23.67	0.48
4.217	0.48	10.283	6.23	16.350	0.96	22.42	0.48	5.483	2.88	11.550	6.23	17.617	0.96	23.68	0.48
4.233	0.48	10.300	6.23	16.367	0.96	22.43	0.48	5.500	2.88	11.567	6.23	17.633	0.96	23.70	0.48
4.250	0.48	10.317	6.23	16.383	0.96	22.45	0.48	5.517	2.88	11.583	6.23	17.650	0.96	23.72	0.48
4.267	2.88	10.333	6.23	16.400	0.96	22.47	0.48	5.533	2.88	11.600	6.23	17.667	0.96	23.73	0.48
4.283	2.88	10.350	6.23	16.417	0.96	22.48	0.48	5.550	2.88	11.617	6.23	17.683	0.96	23.75	0.48
4.300	2.88	10.367	6.23	16.433	0.96	22.50	0.48	5.567	2.88	11.633	6.23	17.700	0.96	23.77	0.48
4.317	2.88	10.383	6.23	16.450	0.96	22.52	0.48	5.583	2.88	11.650	6.23	17.717	0.96	23.78	0.48
4.333	2.88	10.400	6.23	16.467	0.96	22.53	0.48	5.600	2.88	11.667	6.23	17.733	0.96	23.80	0.48
4.350	2.88	10.417	6.23	16.483	0.96	22.55	0.48	5.617	2.88	11.683	6.23	17.750	0.96	23.82	0.48
4.367	2.88	10.433	6.23	16.500	0.96	22.57	0.48	5.633	2.88	11.700	6.23	17.767	0.96	23.83	0.48
4.383	2.88	10.450	6.23	16.517	0.96	22.58	0.48	5.650	2.88	11.717	6.23	17.783	0.96	23.85	0.48
4.400	2.88	10.467	6.23	16.533	0.96	22.60	0.48	5.667	2.88	11.733	6.23	17.800	0.96	23.87	0.48
4.417	2.88	10.483	6.23	16.550	0.96	22.62	0.48	5.683	2.88	11.750	6.23	17.817	0.96	23.88	0.48
4.433	2.88	10.500	6.23	16.567	0.96	22.63	0.48	5.700	2.88	11.767	6.23	17.833	0.96	23.90	0.48
4.450	2.88	10.517	6.23	16.583	0.96	22.65	0.48	5.717	2.88	11.783	6.23	17.850	0.96	23.92	0.48
4.467	2.88	10.533	6.23	16.600	0.96	22.67	0.48	5.733	2.88	11.800	6.23	17.867	0.96	23.93	0.48
4.483	2.88	10.550	6.23	16.617	0.96	22.68	0.48	5.750	2.88	11.817	6.23	17.883	0.96	23.95	0.48
4.500	2.88	10.567	6.23	16.633	0.96	22.70	0.48	5.767	2.88	11.833	6.23	17.900	0.96	23.97	0.48
4.517	2.88	10.583	6.23	16.650	0.96	22.72	0.48	5.783	2.88	11.850	6.23	17.917	0.96	23.98	0.48
4.533	2.88	10.600	6.23	16.667	0.96	22.73	0.48	5.800	2.88	11.867	6.23	17.933	0.96	24.00	0.48
4.550	2.88	10.617	6.23	16.683	0.96	22.75	0.48	5.817	2.88	11.883	6.23	17.950	0.96	24.02	0.48
4.567	2.88	10.633	6.23	16.700	0.96	22.77	0.48	5.833	2.88	11.900	6.23	17.967	0.96	24.03	0.48
4.583	2.88	10.650	6.23	16.717	0.96	22.78	0.48	5.850	2.88	11.917	6.23	17.983	0.96	24.05	0.48
4.600	2.88	10.667	6.23	16.733	0.96	22.80	0.48	5.867	2.88	11.933	6.23	18.000	0.96	24.07	0.48
4.617	2.88	10.683	6.23	16.750	0.96	22.82	0.48	5.883	2.88	11.950	6.23	18.017	0.96	24.08	0.48
4.633	2.88	10.700	6.23	16.767	0.96	22.83	0.48	5.900	2.88	11.967	6.23	18.033	0.96	24.10	0.48
4.650	2.88	10.717	6.23	16.783	0.96	22.85	0.48	5.917	2.88	11.983	6.23	18.050	0.96	24.12	0.48
4.667	2.88	10.733	6.23	16.800	0.96	22.87	0.48	5.933	2.88	12.000	6.23	18.067	0.96	24.13	0.48
4.683	2.88	10.750	6.23	16.817	0.96	22.88	0.48	5.950	2.88	12.017	6.23	18.083	0.96	24.15	0.48
4.700	2.88	10.767	6.23	16.833	0.96	22.90	0.48	5.967	2.88	12.033	6.23	18.100	0.96	24.17	0.48

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             5.983    2.88 |12.050    6.23 |18.117    0.96 | 24.18    0.48
             6.000    2.88 |12.067    6.23 |18.133    0.96 | 24.20    0.48
             6.017    2.88 |12.083    6.23 |18.150    0.96 | 24.22    0.48
             6.033    2.88 |12.100    6.23 |18.167    0.96 | 24.23    0.48
             6.050    2.88 |12.117    6.23 |18.183    0.96 | 24.25    0.48
             6.067    2.88 |12.133    6.23 |18.200    0.96 |

    Max.Eff.Inten.(mm/hr)=      22.06        20.03
              over (min)         5.00         9.00
    Storage Coeff.  (min)=       5.16 (ii)    8.27 (ii)
    Unit Hyd. Tpeak (min)=       5.00         9.00
    Unit Hyd. peak  (cms)=       0.22         0.13
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.13         0.00          0.127 (iii)
    TIME TO PEAK    (hrs)=       9.47        10.25          10.23
    RUNOFF VOLUME    (mm)=      94.91        72.69          94.70
    TOTAL RAINFALL   (mm)=      95.92        95.92          95.92
    RUNOFF COEFFICIENT   =       0.99         0.76           0.99


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  90.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| RESERVOIR(  7625)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |    0.0389      0.1013
                          0.0164     0.0514   |    0.0456      0.1141
                          0.0252     0.0690   |    0.0514      0.1288
                          0.0309     0.0825   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7624)      2.080     0.127     10.23      94.70
   OUTFLOW: ID= 1 (  7625)      2.080     0.044     10.50      88.56

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 34.21
                 TIME SHIFT OF PEAK FLOW         (min)= 16.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.1102

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-------------------
| CALIB            |
| STANDHYD (  7623)|   Area    (ha)=   1.15
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       1.14         0.01
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=      87.56        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.017    0.00 | 6.083    2.88 |12.150    6.23 | 18.22    0.96
               0.033    0.00 | 6.100    2.88 |12.167    6.23 | 18.23    0.96
               0.050    0.00 | 6.117    2.88 |12.183    6.23 | 18.25    0.96
               0.067    0.00 | 6.133    2.88 |12.200    6.23 | 18.27    0.48
               0.083    0.00 | 6.150    2.88 |12.217    6.23 | 18.28    0.48
               0.100    0.00 | 6.167    2.88 |12.233    6.23 | 18.30    0.48
               0.117    0.00 | 6.183    2.88 |12.250    6.23 | 18.32    0.48
               0.133    0.00 | 6.200    2.88 |12.267    3.36 | 18.33    0.48
               0.150    0.00 | 6.217    2.88 |12.283    3.36 | 18.35    0.48
               0.167    0.00 | 6.233    2.88 |12.300    3.36 | 18.37    0.48
               0.183    0.00 | 6.250    2.89 |12.317    3.36 | 18.38    0.48
               0.200    0.00 | 6.267    8.15 |12.333    3.36 | 18.40    0.48
               0.217    0.00 | 6.283    8.15 |12.350    3.36 | 18.42    0.48
               0.233    0.00 | 6.300    8.15 |12.367    3.36 | 18.43    0.48
               0.250    0.00 | 6.317    8.15 |12.383    3.36 | 18.45    0.48
               0.267    0.48 | 6.333    8.15 |12.400    3.36 | 18.47    0.48
               0.283    0.48 | 6.350    8.15 |12.417    3.36 | 18.48    0.48
               0.300    0.48 | 6.367    8.15 |12.433    3.36 | 18.50    0.48
               0.317    0.48 | 6.383    8.15 |12.450    3.36 | 18.52    0.48
               0.333    0.48 | 6.400    8.15 |12.467    3.36 | 18.53    0.48
               0.350    0.48 | 6.417    8.15 |12.483    3.36 | 18.55    0.48
               0.367    0.48 | 6.433    8.15 |12.500    3.36 | 18.57    0.48
               0.383    0.48 | 6.450    8.15 |12.517    3.36 | 18.58    0.48
               0.400    0.48 | 6.467    8.15 |12.533    3.36 | 18.60    0.48
               0.417    0.48 | 6.483    8.15 |12.550    3.36 | 18.62    0.48
               0.433    0.48 | 6.500    8.15 |12.567    3.36 | 18.63    0.48
               0.450    0.48 | 6.517    8.15 |12.583    3.36 | 18.65    0.48
               0.467    0.48 | 6.533    8.15 |12.600    3.36 | 18.67    0.48
               0.483    0.48 | 6.550    8.15 |12.617    3.36 | 18.68    0.48
               0.500    0.48 | 6.567    8.15 |12.633    3.36 | 18.70    0.48
               0.517    0.48 | 6.583    8.15 |12.650    3.36 | 18.72    0.48
               0.533    0.48 | 6.600    8.15 |12.667    3.36 | 18.73    0.48
               0.550    0.48 | 6.617    8.15 |12.683    3.36 | 18.75    0.48
               0.567    0.48 | 6.633    8.15 |12.700    3.36 | 18.77    0.48
               0.583    0.48 | 6.650    8.15 |12.717    3.36 | 18.78    0.48
               0.600    0.48 | 6.667    8.15 |12.733    3.36 | 18.80    0.48
               0.617    0.48 | 6.683    8.15 |12.750    3.36 | 18.82    0.48
               0.633    0.48 | 6.700    8.15 |12.767    3.36 | 18.83    0.48
               0.650    0.48 | 6.717    8.15 |12.783    3.36 | 18.85    0.48
               0.667    0.48 | 6.733    8.15 |12.800    3.36 | 18.87    0.48
               0.683    0.48 | 6.750    8.15 |12.817    3.36 | 18.88    0.48
               0.700    0.48 | 6.767    8.15 |12.833    3.36 | 18.90    0.48
               0.717    0.48 | 6.783    8.15 |12.850    3.36 | 18.92    0.48
               0.733    0.48 | 6.800    8.15 |12.867    3.36 | 18.93    0.48
               0.750    0.48 | 6.817    8.15 |12.883    3.36 | 18.95    0.48
               0.767    0.48 | 6.833    8.15 |12.900    3.36 | 18.97    0.48
               0.783    0.48 | 6.850    8.15 |12.917    3.36 | 18.98    0.48
               0.800    0.48 | 6.867    8.15 |12.933    3.36 | 19.00    0.48
               0.817    0.48 | 6.883    8.15 |12.950    3.36 | 19.02    0.48
               0.833    0.48 | 6.900    8.15 |12.967    3.36 | 19.03    0.48
               0.850    0.48 | 6.917    8.15 |12.983    3.36 | 19.05    0.48
               0.867    0.48 | 6.933    8.15 |13.000    3.36 | 19.07    0.48
               0.883    0.48 | 6.950    8.15 |13.017    3.36 | 19.08    0.48
               0.900    0.48 | 6.967    8.15 |13.033    3.36 | 19.10    0.48
               0.917    0.48 | 6.983    8.15 |13.050    3.36 | 19.12    0.48
               0.933    0.48 | 7.000    8.15 |13.067    3.36 | 19.13    0.48
               0.950    0.48 | 7.017    8.15 |13.083    3.36 | 19.15    0.48
               0.967    0.48 | 7.033    8.15 |13.100    3.36 | 19.17    0.48
               0.983    0.48 | 7.050    8.15 |13.117    3.36 | 19.18    0.48
               1.000    0.48 | 7.067    8.15 |13.133    3.36 | 19.20    0.48
               1.017    0.48 | 7.083    8.15 |13.150    3.36 | 19.22    0.48
               1.033    0.48 | 7.100    8.15 |13.167    3.36 | 19.23    0.48
               1.050    0.48 | 7.117    8.15 |13.183    3.36 | 19.25    0.48
               1.067    0.48 | 7.133    8.15 |13.200    3.36 | 19.27    0.48
               1.083    0.48 | 7.150    8.15 |13.217    3.36 | 19.28    0.48
               1.100    0.48 | 7.167    8.15 |13.233    3.36 | 19.30    0.48
               1.117    0.48 | 7.183    8.15 |13.250    3.36 | 19.32    0.48
               1.133    0.48 | 7.200    8.15 |13.267    3.36 | 19.33    0.48
               1.150    0.48 | 7.217    8.15 |13.283    3.36 | 19.35    0.48
               1.167    0.48 | 7.233    8.15 |13.300    3.36 | 19.37    0.48
               1.183    0.48 | 7.250    8.15 |13.317    3.36 | 19.38    0.48
               1.200    0.48 | 7.267    8.15 |13.333    3.36 | 19.40    0.48
               1.217    0.48 | 7.283    8.15 |13.350    3.36 | 19.42    0.48
               1.233    0.48 | 7.300    8.15 |13.367    3.36 | 19.43    0.48
               1.250    0.48 | 7.317    8.15 |13.383    3.36 | 19.45    0.48
               1.267    0.48 | 7.333    8.15 |13.400    3.36 | 19.47    0.48
               1.283    0.48 | 7.350    8.15 |13.417    3.36 | 19.48    0.48
               1.300    0.48 | 7.367    8.15 |13.433    3.36 | 19.50    0.48
               1.317    0.48 | 7.383    8.15 |13.450    3.36 | 19.52    0.48
               1.333    0.48 | 7.400    8.15 |13.467    3.36 | 19.53    0.48
               1.350    0.48 | 7.417    8.15 |13.483    3.36 | 19.55    0.48
               1.367    0.48 | 7.433    8.15 |13.500    3.36 | 19.57    0.48
               1.383    0.48 | 7.450    8.15 |13.517    3.36 | 19.58    0.48
               1.400    0.48 | 7.467    8.15 |13.533    3.36 | 19.60    0.48
               1.417    0.48 | 7.483    8.15 |13.550    3.36 | 19.62    0.48
               1.433    0.48 | 7.500    8.15 |13.567    3.36 | 19.63    0.48
               1.450    0.48 | 7.517    8.15 |13.583    3.36 | 19.65    0.48
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1.467	0.48	7.533	8.15	13.600	3.36	19.67	0.48	2.733	0.48	8.800	22.06	14.867	1.92	20.93	0.48
1.483	0.48	7.550	8.15	13.617	3.36	19.68	0.48	2.750	0.48	8.817	22.06	14.883	1.92	20.95	0.48
1.500	0.48	7.567	8.15	13.633	3.36	19.70	0.48	2.767	0.48	8.833	22.06	14.900	1.92	20.97	0.48
1.517	0.48	7.583	8.15	13.650	3.36	19.72	0.48	2.783	0.48	8.850	22.06	14.917	1.92	20.98	0.48
1.533	0.48	7.600	8.15	13.667	3.36	19.73	0.48	2.800	0.48	8.867	22.06	14.933	1.92	21.00	0.48
1.550	0.48	7.617	8.15	13.683	3.36	19.75	0.48	2.817	0.48	8.883	22.06	14.950	1.92	21.02	0.48
1.567	0.48	7.633	8.15	13.700	3.36	19.77	0.48	2.833	0.48	8.900	22.06	14.967	1.92	21.03	0.48
1.583	0.48	7.650	8.15	13.717	3.36	19.78	0.48	2.850	0.48	8.917	22.06	14.983	1.92	21.05	0.48
1.600	0.48	7.667	8.15	13.733	3.36	19.80	0.48	2.867	0.48	8.933	22.06	15.000	1.92	21.07	0.48
1.617	0.48	7.683	8.15	13.750	3.36	19.82	0.48	2.883	0.48	8.950	22.06	15.017	1.92	21.08	0.48
1.633	0.48	7.700	8.15	13.767	3.36	19.83	0.48	2.900	0.48	8.967	22.06	15.033	1.92	21.10	0.48
1.650	0.48	7.717	8.15	13.783	3.36	19.85	0.48	2.917	0.48	8.983	22.06	15.050	1.92	21.12	0.48
1.667	0.48	7.733	8.15	13.800	3.36	19.87	0.48	2.933	0.48	9.000	22.06	15.067	1.92	21.13	0.48
1.683	0.48	7.750	8.15	13.817	3.36	19.88	0.48	2.950	0.48	9.017	22.06	15.083	1.92	21.15	0.48
1.700	0.48	7.767	8.15	13.833	3.36	19.90	0.48	2.967	0.48	9.033	22.06	15.100	1.92	21.17	0.48
1.717	0.48	7.783	8.15	13.850	3.36	19.92	0.48	2.983	0.48	9.050	22.06	15.117	1.92	21.18	0.48
1.733	0.48	7.800	8.15	13.867	3.36	19.93	0.48	3.000	0.48	9.067	22.06	15.133	1.92	21.20	0.48
1.750	0.48	7.817	8.15	13.883	3.36	19.95	0.48	3.017	0.48	9.083	22.06	15.150	1.92	21.22	0.48
1.767	0.48	7.833	8.15	13.900	3.36	19.97	0.48	3.033	0.48	9.100	22.06	15.167	1.92	21.23	0.48
1.783	0.48	7.850	8.15	13.917	3.36	19.98	0.48	3.050	0.48	9.117	22.06	15.183	1.92	21.25	0.48
1.800	0.48	7.867	8.15	13.933	3.36	20.00	0.48	3.067	0.48	9.133	22.06	15.200	1.92	21.27	0.48
1.817	0.48	7.883	8.15	13.950	3.36	20.02	0.48	3.083	0.48	9.150	22.06	15.217	1.92	21.28	0.48
1.833	0.48	7.900	8.15	13.967	3.36	20.03	0.48	3.100	0.48	9.167	22.06	15.233	1.92	21.30	0.48
1.850	0.48	7.917	8.15	13.983	3.36	20.05	0.48	3.117	0.48	9.183	22.06	15.250	1.92	21.32	0.48
1.867	0.48	7.933	8.15	14.000	3.36	20.07	0.48	3.133	0.48	9.200	22.06	15.267	1.92	21.33	0.48
1.883	0.48	7.950	8.15	14.017	3.36	20.08	0.48	3.150	0.48	9.217	22.06	15.283	1.92	21.35	0.48
1.900	0.48	7.967	8.15	14.033	3.36	20.10	0.48	3.167	0.48	9.233	22.06	15.300	1.92	21.37	0.48
1.917	0.48	7.983	8.15	14.050	3.36	20.12	0.48	3.183	0.48	9.250	22.06	15.317	1.92	21.38	0.48
1.933	0.48	8.000	8.15	14.067	3.36	20.13	0.48	3.200	0.48	9.267	22.06	15.333	1.92	21.40	0.48
1.950	0.48	8.017	8.15	14.083	3.36	20.15	0.48	3.217	0.48	9.283	22.06	15.350	1.92	21.42	0.48
1.967	0.48	8.033	8.15	14.100	3.36	20.17	0.48	3.233	0.48	9.300	22.06	15.367	1.92	21.43	0.48
1.983	0.48	8.050	8.15	14.117	3.36	20.18	0.48	3.250	0.48	9.317	22.06	15.383	1.92	21.45	0.48
2.000	0.48	8.067	8.15	14.133	3.36	20.20	0.48	3.267	0.48	9.333	22.06	15.400	1.92	21.47	0.48
2.017	0.48	8.083	8.15	14.150	3.36	20.22	0.48	3.283	0.48	9.350	22.06	15.417	1.92	21.48	0.48
2.033	0.48	8.100	8.15	14.167	3.36	20.23	0.48	3.300	0.48	9.367	22.06	15.433	1.92	21.50	0.48
2.050	0.48	8.117	8.15	14.183	3.36	20.25	0.48	3.317	0.48	9.383	22.06	15.450	1.92	21.52	0.48
2.067	0.48	8.133	8.15	14.200	3.36	20.27	0.48	3.333	0.48	9.400	22.06	15.467	1.92	21.53	0.48
2.083	0.48	8.150	8.15	14.217	3.36	20.28	0.48	3.350	0.48	9.417	22.06	15.483	1.92	21.55	0.48
2.100	0.48	8.167	8.15	14.233	3.36	20.30	0.48	3.367	0.48	9.433	22.06	15.500	1.92	21.57	0.48
2.117	0.48	8.183	8.15	14.250	3.36	20.32	0.48	3.383	0.48	9.450	22.06	15.517	1.92	21.58	0.48
2.133	0.48	8.200	8.15	14.267	1.92	20.33	0.48	3.400	0.48	9.467	22.06	15.533	1.92	21.60	0.48
2.150	0.48	8.217	8.15	14.283	1.92	20.35	0.48	3.417	0.48	9.483	22.06	15.550	1.92	21.62	0.48
2.167	0.48	8.233	8.15	14.300	1.92	20.37	0.48	3.433	0.48	9.500	22.06	15.567	1.92	21.63	0.48
2.183	0.48	8.250	8.19	14.317	1.92	20.38	0.48	3.450	0.48	9.517	22.06	15.583	1.92	21.65	0.48
2.200	0.48	8.267	22.06	14.333	1.92	20.40	0.48	3.467	0.48	9.533	22.06	15.600	1.92	21.67	0.48
2.217	0.48	8.283	22.06	14.350	1.92	20.42	0.48	3.483	0.48	9.550	22.06	15.617	1.92	21.68	0.48
2.233	0.48	8.300	22.06	14.367	1.92	20.43	0.48	3.500	0.48	9.567	22.06	15.633	1.92	21.70	0.48
2.250	0.48	8.317	22.06	14.383	1.92	20.45	0.48	3.517	0.48	9.583	22.06	15.650	1.92	21.72	0.48
2.267	0.48	8.333	22.06	14.400	1.92	20.47	0.48	3.533	0.48	9.600	22.06	15.667	1.92	21.73	0.48
2.283	0.48	8.350	22.06	14.417	1.92	20.48	0.48	3.550	0.48	9.617	22.06	15.683	1.92	21.75	0.48
2.300	0.48	8.367	22.06	14.433	1.92	20.50	0.48	3.567	0.48	9.633	22.06	15.700	1.92	21.77	0.48
2.317	0.48	8.383	22.06	14.450	1.92	20.52	0.48	3.583	0.48	9.650	22.06	15.717	1.92	21.78	0.48
2.333	0.48	8.400	22.06	14.467	1.92	20.53	0.48	3.600	0.48	9.667	22.06	15.733	1.92	21.80	0.48
2.350	0.48	8.417	22.06	14.483	1.92	20.55	0.48	3.617	0.48	9.683	22.06	15.750	1.92	21.82	0.48
2.367	0.48	8.433	22.06	14.500	1.92	20.57	0.48	3.633	0.48	9.700	22.06	15.767	1.92	21.83	0.48
2.383	0.48	8.450	22.06	14.517	1.92	20.58	0.48	3.650	0.48	9.717	22.06	15.783	1.92	21.85	0.48
2.400	0.48	8.467	22.06	14.533	1.92	20.60	0.48	3.667	0.48	9.733	22.06	15.800	1.92	21.87	0.48
2.417	0.48	8.483	22.06	14.550	1.92	20.62	0.48	3.683	0.48	9.750	22.06	15.817	1.92	21.88	0.48
2.433	0.48	8.500	22.06	14.567	1.92	20.63	0.48	3.700	0.48	9.767	22.06	15.833	1.92	21.90	0.48
2.450	0.48	8.517	22.06	14.583	1.92	20.65	0.48	3.717	0.48	9.783	22.06	15.850	1.92	21.92	0.48
2.467	0.48	8.533	22.06	14.600	1.92	20.67	0.48	3.733	0.48	9.800	22.06	15.867	1.92	21.93	0.48
2.483	0.48	8.550	22.06	14.617	1.92	20.68	0.48	3.750	0.48	9.817	22.06	15.883	1.92	21.95	0.48
2.500	0.48	8.567	22.06	14.633	1.92	20.70	0.48	3.767	0.48	9.833	22.06	15.900	1.92	21.97	0.48
2.517	0.48	8.583	22.06	14.650	1.92	20.72	0.48	3.783	0.48	9.850	22.06	15.917	1.92	21.98	0.48
2.533	0.48	8.600	22.06	14.667	1.92	20.73	0.48	3.800	0.48	9.867	22.06	15.933	1.92	22.00	0.48
2.550	0.48	8.617	22.06	14.683	1.92	20.75	0.48	3.817	0.48	9.883	22.06	15.950	1.92	22.02	0.48
2.567	0.48	8.633	22.06	14.700	1.92	20.77	0.48	3.833	0.48	9.900	22.06	15.967	1.92	22.03	0.48
2.583	0.48	8.650	22.06	14.717	1.92	20.78	0.48	3.850	0.48	9.917	22.06	15.983	1.92	22.05	0.48
2.600	0.48	8.667	22.06	14.733	1.92	20.80	0.48	3.867	0.48	9.933	22.06	16.000	1.92	22.07	0.48
2.617	0.48	8.683	22.06	14.750	1.92	20.82	0.48	3.883	0.48	9.950	22.06	16.017	1.92	22.08	0.48
2.633	0.48	8.700	22.06	14.767	1.92	20.83	0.48	3.900	0.48	9.967	22.06	16.033	1.92	22.10	0.48
2.650	0.48	8.717	22.06	14.783	1.92	20.85	0.48	3.917	0.48	9.983	22.06	16.050	1.92	22.12	0.48
2.667	0.48	8.733	22.06	14.800	1.92	20.87	0.48	3.933	0.48	10.000	22.06	16.067	1.92	22.13	0.48
2.683	0.48	8.750	22.06	14.817	1.92	20.88	0.48	3.950	0.48	10.017	22.06	16.083	1.92	22.15	0.48
2.700	0.48	8.767	22.06	14.833	1.92	20.90	0.48	3.967	0.48	10.033	22.06	16.100	1.92	22.17	0.48
2.717	0.48	8.783	22.06	14.850	1.92	20.92	0.48	3.983	0.48	10.050	22.06	16.117	1.92	22.18	0.48

4.000	0.48	10.067	22.06	16.133	1.92	22.20	0.48
4.017	0.48	10.083	22.06	16.150	1.92	22.22	0.48
4.033	0.48	10.100	22.06	16.167	1.92	22.23	0.48
4.050	0.48	10.117	22.06	16.183	1.92	22.25	0.48
4.067	0.48	10.133	22.06	16.200	1.92	22.27	0.48
4.083	0.48	10.150	22.06	16.217	1.92	22.28	0.48
4.100	0.48	10.167	22.06	16.233	1.92	22.30	0.48
4.117	0.48	10.183	22.06	16.250	1.92	22.32	0.48
4.133	0.48	10.200	22.06	16.267	0.96	22.33	0.48
4.150	0.48	10.217	22.06	16.283	0.96	22.35	0.48
4.167	0.48	10.233	22.06	16.300	0.96	22.37	0.48
4.183	0.48	10.250	22.05	16.317	0.96	22.38	0.48
4.200	0.48	10.267	6.23	16.333	0.96	22.40	0.48
4.217	0.48	10.283	6.23	16.350	0.96	22.42	0.48
4.233	0.48	10.300	6.23	16.367	0.96	22.43	0.48
4.250	0.48	10.317	6.23	16.383	0.96	22.45	0.48
4.267	2.88	10.333	6.23	16.400	0.96	22.47	0.48
4.283	2.88	10.350	6.23	16.417	0.96	22.48	0.48
4.300	2.88	10.367	6.23	16.433	0.96	22.50	0.48
4.317	2.88	10.383	6.23	16.450	0.96	22.52	0.48
4.333	2.88	10.400	6.23	16.467	0.96	22.53	0.48
4.350	2.88	10.417	6.23	16.483	0.96	22.55	0.48
4.367	2.88	10.433	6.23	16.500	0.96	22.57	0.48
4.383	2.88	10.450	6.23	16.517	0.96	22.58	0.48
4.400	2.88	10.467	6.23	16.533	0.96	22.60	0.48
4.417	2.88	10.483	6.23	16.550	0.96	22.62	0.48
4.433	2.88	10.500	6.23	16.567	0.96	22.63	0.48
4.450	2.88	10.517	6.23	16.583	0.96	22.65	0.48
4.467	2.88	10.533	6.23	16.600	0.96	22.67	0.48
4.483	2.88	10.550	6.23	16.617	0.96	22.68	0.48
4.500	2.88	10.567	6.23	16.633	0.96	22.70	0.48
4.517	2.88	10.583	6.23	16.650	0.96	22.72	0.48
4.533	2.88	10.600	6.23	16.667	0.96	22.73	0.48
4.550	2.88	10.617	6.23	16.683	0.96	22.75	0.48
4.567	2.88	10.633	6.23	16.700	0.96	22.77	0.48
4.583	2.88	10.650	6.23	16.717	0.96	22.78	0.48
4.600	2.88	10.667	6.23	16.733	0.96	22.80	0.48
4.617	2.88	10.683	6.23	16.750	0.96	22.82	0.48
4.633	2.88	10.700	6.23	16.767	0.96	22.83	0.48
4.650	2.88	10.717	6.23	16.783	0.96	22.85	0.48
4.667	2.88	10.733	6.23	16.800	0.96	22.87	0.48
4.683	2.88	10.750	6.23	16.817	0.96	22.88	0.48
4.700	2.88	10.767	6.23	16.833	0.96	22.90	0.48
4.717	2.88	10.783	6.23	16.850	0.96	22.92	0.48
4.733	2.88	10.800	6.23	16.867	0.96	22.93	0.48
4.750	2.88	10.817	6.23	16.883	0.96	22.95	0.48
4.767	2.88	10.833	6.23	16.900	0.96	22.97	0.48
4.783	2.88	10.850	6.23	16.917	0.96	22.98	0.48
4.800	2.88	10.867	6.23	16.933	0.96	23.00	0.48
4.817	2.88	10.883	6.23	16.950	0.96	23.02	0.48
4.833	2.88	10.900	6.23	16.967	0.96	23.03	0.48
4.850	2.88	10.917	6.23	16.983	0.96	23.05	0.48
4.867	2.88	10.933	6.23	17.000	0.96	23.07	0.48
4.883	2.88	10.950	6.23	17.017	0.96	23.08	0.48
4.900	2.88	10.967	6.23	17.033	0.96	23.10	0.48
4.917	2.88	10.983	6.23	17.050	0.96	23.12	0.48
4.933	2.88	11.000	6.23	17.067	0.96	23.13	0.48
4.950	2.88	11.017	6.23	17.083	0.96	23.15	0.48
4.967	2.88	11.033	6.23	17.100	0.96	23.17	0.48
4.983	2.88	11.050	6.23	17.117	0.96	23.18	0.48
5.000	2.88	11.067	6.23	17.133	0.96	23.20	0.48
5.017	2.88	11.083	6.23	17.150	0.96	23.22	0.48
5.033	2.88	11.100	6.23	17.167	0.96	23.23	0.48
5.050	2.88	11.117	6.23	17.183	0.96	23.25	0.48
5.067	2.88	11.133	6.23	17.200	0.96	23.27	0.48
5.083	2.88	11.150	6.23	17.217	0.96	23.28	0.48
5.100	2.88	11.167	6.23	17.233	0.96	23.30	0.48
5.117	2.88	11.183	6.23	17.250	0.96	23.32	0.48
5.133	2.88	11.200	6.23	17.267	0.96	23.33	0.48
5.150	2.88	11.217	6.23	17.283	0.96	23.35	0.48
5.167	2.88	11.233	6.23	17.300	0.96	23.37	0.48
5.183	2.88	11.250	6.23	17.317	0.96	23.38	0.48
5.200	2.88	11.267	6.23	17.333	0.96	23.40	0.48
5.217	2.88	11.283	6.23	17.350	0.96	23.42	0.48
5.233	2.88	11.300	6.23	17.367	0.96	23.43	0.48
5.250	2.88	11.317	6.23	17.383	0.96	23.45	0.48
5.267	2.88	11.333	6.23	17.400	0.96	23.47	0.48
5.283	2.88	11.350	6.23	17.417	0.96	23.48	0.48
5.300	2.88	11.367	6.23	17.433	0.96	23.50	0.48
5.317	2.88	11.383	6.23	17.450	0.96	23.52	0.48
5.333	2.88	11.400	6.23	17.467	0.96	23.53	0.48
5.350	2.88	11.417	6.23	17.483	0.96	23.55	0.48
5.367	2.88	11.433	6.23	17.500	0.96	23.57	0.48
5.383	2.88	11.450	6.23	17.517	0.96	23.58	0.48
5.400	2.88	11.467	6.23	17.533	0.96	23.60	0.48
5.417	2.88	11.483	6.23	17.550	0.96	23.62	0.48
5.433	2.88	11.500	6.23	17.567	0.96	23.63	0.48
5.450	2.88	11.517	6.23	17.583	0.96	23.65	0.48
5.467	2.88	11.533	6.23	17.600	0.96	23.67	0.48
5.483	2.88	11.550	6.23	17.617	0.96	23.68	0.48
5.500	2.88	11.567	6.23	17.633	0.96	23.70	0.48
5.517	2.88	11.583	6.23	17.650	0.96	23.72	0.48
5.533	2.88	11.600	6.23	17.667	0.96	23.73	0.48
5.550	2.88	11.617	6.23	17.683	0.96	23.75	0.48
5.567	2.88	11.633	6.23	17.700	0.96	23.77	0.48
5.583	2.88	11.650	6.23	17.717	0.96	23.78	0.48
5.600	2.88	11.667	6.23	17.733	0.96	23.80	0.48
5.617	2.88	11.683	6.23	17.750	0.96	23.82	0.48
5.633	2.88	11.700	6.23	17.767	0.96	23.83	0.48
5.650	2.88	11.717	6.23	17.783	0.96	23.85	0.48
5.667	2.88	11.733	6.23	17.800	0.96	23.87	0.48
5.683	2.88	11.750	6.23	17.817	0.96	23.88	0.48
5.700	2.88	11.767	6.23	17.833	0.96	23.90	0.48
5.717	2.88	11.783	6.23	17.850	0.96	23.92	0.48
5.733	2.88	11.800	6.23	17.867	0.96	23.93	0.48
5.750	2.88	11.817	6.23	17.883	0.96	23.95	0.48
5.767	2.88	11.833	6.23	17.900	0.96	23.97	0.48
5.783	2.88	11.850	6.23	17.917	0.96	23.98	0.48
5.800	2.88	11.867	6.23	17.933	0.96	24.00	0.48
5.817	2.88	11.883	6.23	17.950	0.96	24.02	0.48
5.833	2.88	11.900	6.23	17.967	0.96	24.03	0.48
5.850	2.88	11.917	6.23	17.983	0.96	24.05	0.48
5.867	2.88	11.933	6.23	18.000	0.96	24.07	0.48
5.883	2.88	11.950	6.23	18.017	0.96	24.08	0.48
5.900	2.88	11.967	6.23	18.033	0.96	24.10	0.48
5.917	2.88	11.983	6.23	18.050	0.96	24.12	0.48
5.933	2.88	12.000	6.23	18.067	0.96	24.13	0.48
5.950	2.88	12.017	6.23	18.083	0.96	24.15	0.48
5.967	2.88	12.033	6.23	18.100	0.96	24.17	0.48
5.983	2.88	12.050	6.23	18.117	0.96	24.18	0.48
6.000	2.88	12.067	6.23	18.133	0.96	24.20	0.48
6.017	2.88	12.083	6.23	18.150	0.96	24.22	0.48
6.033	2.88	12.100	6.23	18.167	0.96	24.23	0.48
6.050	2.88	12.117	6.23	18.183	0.96	24.25	0.48
6.067	2.88	12.133	6.23	18.200	0.96		

Max.Eff.Inten.(mm/hr)=	22.06	18.37	
over (min)	5.00	8.00	
Storage Coeff. (min)=	4.32 (ii)	7.43 (ii)	
Unit Hyd. Tpeak (min)=	5.00	8.00	
Unit Hyd. peak (cms)=	0.25	0.15	
			TOTALS
PEAK FLOW (cms)=	0.07	0.00	0.070 (iii)
TIME TO PEAK (hrs)=	9.23	10.25	10.23
RUNOFF VOLUME (mm)=	94.91	64.02	94.61
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.99	0.67	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)| IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650

	0.0108	0.0330	|	0.0302	0.0725		
	0.0167	0.0440	|	0.0340	0.0820		
	0.0204	0.0525	|	0.0000	0.0000		

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7623)	1.150	0.070	10.23	94.61
OUTFLOW: ID= 1 (7622)	1.150	0.024	10.47	88.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 34.09
TIME SHIFT OF PEAK FLOW (min)= 14.00
MAXIMUM STORAGE USED (ha.m.)= 0.0608

CALIB
STANDHYD (7629) | Area (ha)= 4.09
ID= 1 DT= 1.0 min | Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.88	12.150	6.23	18.22	0.96
0.033	0.00	6.100	2.88	12.167	6.23	18.23	0.96
0.050	0.00	6.117	2.88	12.183	6.23	18.25	0.96
0.067	0.00	6.133	2.88	12.200	6.23	18.27	0.48
0.083	0.00	6.150	2.88	12.217	6.23	18.28	0.48
0.100	0.00	6.167	2.88	12.233	6.23	18.30	0.48
0.117	0.00	6.183	2.88	12.250	6.23	18.32	0.48
0.133	0.00	6.200	2.88	12.267	3.36	18.33	0.48
0.150	0.00	6.217	2.88	12.283	3.36	18.35	0.48
0.167	0.00	6.233	2.88	12.300	3.36	18.37	0.48
0.183	0.00	6.250	2.89	12.317	3.36	18.38	0.48
0.200	0.00	6.267	8.15	12.333	3.36	18.40	0.48
0.217	0.00	6.283	8.15	12.350	3.36	18.42	0.48
0.233	0.00	6.300	8.15	12.367	3.36	18.43	0.48
0.250	0.00	6.317	8.15	12.383	3.36	18.45	0.48
0.267	0.48	6.333	8.15	12.400	3.36	18.47	0.48
0.283	0.48	6.350	8.15	12.417	3.36	18.48	0.48
0.300	0.48	6.367	8.15	12.433	3.36	18.50	0.48
0.317	0.48	6.383	8.15	12.450	3.36	18.52	0.48
0.333	0.48	6.400	8.15	12.467	3.36	18.53	0.48
0.350	0.48	6.417	8.15	12.483	3.36	18.55	0.48
0.367	0.48	6.433	8.15	12.500	3.36	18.57	0.48
0.383	0.48	6.450	8.15	12.517	3.36	18.58	0.48
0.400	0.48	6.467	8.15	12.533	3.36	18.60	0.48
0.417	0.48	6.483	8.15	12.550	3.36	18.62	0.48
0.433	0.48	6.500	8.15	12.567	3.36	18.63	0.48
0.450	0.48	6.517	8.15	12.583	3.36	18.65	0.48
0.467	0.48	6.533	8.15	12.600	3.36	18.67	0.48
0.483	0.48	6.550	8.15	12.617	3.36	18.68	0.48
0.500	0.48	6.567	8.15	12.633	3.36	18.70	0.48
0.517	0.48	6.583	8.15	12.650	3.36	18.72	0.48
0.533	0.48	6.600	8.15	12.667	3.36	18.73	0.48
0.550	0.48	6.617	8.15	12.683	3.36	18.75	0.48
0.567	0.48	6.633	8.15	12.700	3.36	18.77	0.48
0.583	0.48	6.650	8.15	12.717	3.36	18.78	0.48
0.600	0.48	6.667	8.15	12.733	3.36	18.80	0.48
0.617	0.48	6.683	8.15	12.750	3.36	18.82	0.48
0.633	0.48	6.700	8.15	12.767	3.36	18.83	0.48
0.650	0.48	6.717	8.15	12.783	3.36	18.85	0.48
0.667	0.48	6.733	8.15	12.800	3.36	18.87	0.48
0.683	0.48	6.750	8.15	12.817	3.36	18.88	0.48
0.700	0.48	6.767	8.15	12.833	3.36	18.90	0.48
0.717	0.48	6.783	8.15	12.850	3.36	18.92	0.48
0.733	0.48	6.800	8.15	12.867	3.36	18.93	0.48
0.750	0.48	6.817	8.15	12.883	3.36	18.95	0.48
0.767	0.48	6.833	8.15	12.900	3.36	18.97	0.48
0.783	0.48	6.850	8.15	12.917	3.36	18.98	0.48
0.800	0.48	6.867	8.15	12.933	3.36	19.00	0.48
0.817	0.48	6.883	8.15	12.950	3.36	19.02	0.48
0.833	0.48	6.900	8.15	12.967	3.36	19.03	0.48
0.850	0.48	6.917	8.15	12.983	3.36	19.05	0.48
0.867	0.48	6.933	8.15	13.000	3.36	19.07	0.48
0.883	0.48	6.950	8.15	13.017	3.36	19.08	0.48
0.900	0.48	6.967	8.15	13.033	3.36	19.10	0.48
0.917	0.48	6.983	8.15	13.050	3.36	19.12	0.48
0.933	0.48	7.000	8.15	13.067	3.36	19.13	0.48
0.950	0.48	7.017	8.15	13.083	3.36	19.15	0.48
0.967	0.48	7.033	8.15	13.100	3.36	19.17	0.48
0.983	0.48	7.050	8.15	13.117	3.36	19.18	0.48
1.000	0.48	7.067	8.15	13.133	3.36	19.20	0.48
1.017	0.48	7.083	8.15	13.150	3.36	19.22	0.48
1.033	0.48	7.100	8.15	13.167	3.36	19.23	0.48
1.050	0.48	7.117	8.15	13.183	3.36	19.25	0.48
1.067	0.48	7.133	8.15	13.200	3.36	19.27	0.48
1.083	0.48	7.150	8.15	13.217	3.36	19.28	0.48
1.100	0.48	7.167	8.15	13.233	3.36	19.30	0.48
1.117	0.48	7.183	8.15	13.250	3.36	19.32	0.48
1.133	0.48	7.200	8.15	13.267	3.36	19.33	0.48
1.150	0.48	7.217	8.15	13.283	3.36	19.35	0.48
1.167	0.48	7.233	8.15	13.300	3.36	19.37	0.48
1.183	0.48	7.250	8.15	13.317	3.36	19.38	0.48
1.200	0.48	7.267	8.15	13.333	3.36	19.40	0.48
1.217	0.48	7.283	8.15	13.350	3.36	19.42	0.48
1.233	0.48	7.300	8.15	13.367	3.36	19.43	0.48
1.250	0.48	7.317	8.15	13.383	3.36	19.45	0.48
1.267	0.48	7.333	8.15	13.400	3.36	19.47	0.48
1.283	0.48	7.350	8.15	13.417	3.36	19.48	0.48
1.300	0.48	7.367	8.15	13.433	3.36	19.50	0.48
1.317	0.48	7.383	8.15	13.450	3.36	19.52	0.48
1.333	0.48	7.400	8.15	13.467	3.36	19.53	0.48
1.350	0.48	7.417	8.15	13.483	3.36	19.55	0.48
1.367	0.48	7.433	8.15	13.500	3.36	19.57	0.48
1.383	0.48	7.450	8.15	13.517	3.36	19.58	0.48
1.400	0.48	7.467	8.15	13.533	3.36	19.60	0.48
1.417	0.48	7.483	8.15	13.550	3.36	19.62	0.48
1.433	0.48	7.500	8.15	13.567	3.36	19.63	0.48
1.450	0.48	7.517	8.15	13.583	3.36	19.65	0.48
1.467	0.48	7.533	8.15	13.600	3.36	19.67	0.48
1.483	0.48	7.550	8.15	13.617	3.36	19.68	0.48
1.500	0.48	7.567	8.15	13.633	3.36	19.70	0.48
1.517	0.48	7.583	8.15	13.650	3.36	19.72	0.48
1.533	0.48	7.600	8.15	13.667	3.36	19.73	0.48
1.550	0.48	7.617	8.15	13.683	3.36	19.75	0.48
1.567	0.48	7.633	8.15	13.700	3.36	19.77	0.48
1.583	0.48	7.650	8.15	13.717	3.36	19.78	0.48
1.600	0.48	7.667	8.15	13.733	3.36	19.80	0.48
1.617	0.48	7.683	8.15	13.750	3.36	19.82	0.48
1.633	0.48	7.700	8.15	13.767	3.36	19.83	0.48
1.650	0.48	7.717	8.15	13.783	3.36	19.85	0.48
1.667	0.48	7.733	8.15	13.800	3.36	19.87	0.48
1.683	0.48	7.750	8.15	13.817	3.36	19.88	0.48
1.700	0.48	7.767	8.15	13.833	3.36	19.90	0.48
1.717	0.48	7.783	8.15	13.850	3.36	19.92	0.48
1.733	0.48	7.800	8.15	13.867	3.36	19.93	0.48
1.750	0.48	7.817	8.15	13.883	3.36	19.95	0.48
1.767	0.48	7.833	8.15	13.900	3.36	19.97	0.48
1.783	0.48	7.850	8.15	13.917	3.36	19.98	0.48
1.800	0.48	7.867	8.15	13.933	3.36	20.00	0.48
1.817	0.48	7.883	8.15	13.950	3.36	20.02	0.48
1.833	0.48	7.900	8.15	13.967	3.36	20.03	0.48
1.850	0.48	7.917	8.15	13.983	3.36	20.05	0.48
1.867	0.48	7.933	8.15	14.000	3.36	20.07	0.48
1.883	0.48	7.950	8.15	14.017	3.36	20.08	0.48
1.900	0.48	7.967	8.15	14.033	3.36	20.10	0.48
1.917	0.48	7.983	8.15	14.050	3.36	20.12	0.48
1.933	0.48	8.000	8.15	14.067	3.36	20.13	0.48
1.950	0.48	8.017	8.15	14.083	3.36	20.15	0.48
1.967	0.48	8.033	8.15	14.100	3.36	20.17	0.48
1.983	0.48	8.050	8.15	14.117	3.36	20.18	0.48
2.000	0.48	8.067	8.15	14.133	3.36	20.20	0.48

2.017	0.48	8.083	8.15	14.150	3.36	20.22	0.48
2.033	0.48	8.100	8.15	14.167	3.36	20.23	0.48
2.050	0.48	8.117	8.15	14.183	3.36	20.25	0.48
2.067	0.48	8.133	8.15	14.200	3.36	20.27	0.48
2.083	0.48	8.150	8.15	14.217	3.36	20.28	0.48
2.100	0.48	8.167	8.15	14.233	3.36	20.30	0.48
2.117	0.48	8.183	8.15	14.250	3.36	20.32	0.48
2.133	0.48	8.200	8.15	14.267	1.92	20.33	0.48
2.150	0.48	8.217	8.15	14.283	1.92	20.35	0.48
2.167	0.48	8.233	8.15	14.300	1.92	20.37	0.48
2.183	0.48	8.250	8.19	14.317	1.92	20.38	0.48
2.200	0.48	8.267	22.06	14.333	1.92	20.40	0.48
2.217	0.48	8.283	22.06	14.350	1.92	20.42	0.48
2.233	0.48	8.300	22.06	14.367	1.92	20.43	0.48
2.250	0.48	8.317	22.06	14.383	1.92	20.45	0.48
2.267	0.48	8.333	22.06	14.400	1.92	20.47	0.48
2.283	0.48	8.350	22.06	14.417	1.92	20.48	0.48
2.300	0.48	8.367	22.06	14.433	1.92	20.50	0.48
2.317	0.48	8.383	22.06	14.450	1.92	20.52	0.48
2.333	0.48	8.400	22.06	14.467	1.92	20.53	0.48
2.350	0.48	8.417	22.06	14.483	1.92	20.55	0.48
2.367	0.48	8.433	22.06	14.500	1.92	20.57	0.48
2.383	0.48	8.450	22.06	14.517	1.92	20.58	0.48
2.400	0.48	8.467	22.06	14.533	1.92	20.60	0.48
2.417	0.48	8.483	22.06	14.550	1.92	20.62	0.48
2.433	0.48	8.500	22.06	14.567	1.92	20.63	0.48
2.450	0.48	8.517	22.06	14.583	1.92	20.65	0.48
2.467	0.48	8.533	22.06	14.600	1.92	20.67	0.48
2.483	0.48	8.550	22.06	14.617	1.92	20.68	0.48
2.500	0.48	8.567	22.06	14.633	1.92	20.70	0.48
2.517	0.48	8.583	22.06	14.650	1.92	20.72	0.48
2.533	0.48	8.600	22.06	14.667	1.92	20.73	0.48
2.550	0.48	8.617	22.06	14.683	1.92	20.75	0.48
2.567	0.48	8.633	22.06	14.700	1.92	20.77	0.48
2.583	0.48	8.650	22.06	14.717	1.92	20.78	0.48
2.600	0.48	8.667	22.06	14.733	1.92	20.80	0.48
2.617	0.48	8.683	22.06	14.750	1.92	20.82	0.48
2.633	0.48	8.700	22.06	14.767	1.92	20.83	0.48
2.650	0.48	8.717	22.06	14.783	1.92	20.85	0.48
2.667	0.48	8.733	22.06	14.800	1.92	20.87	0.48
2.683	0.48	8.750	22.06	14.817	1.92	20.88	0.48
2.700	0.48	8.767	22.06	14.833	1.92	20.90	0.48
2.717	0.48	8.783	22.06	14.850	1.92	20.92	0.48
2.733	0.48	8.800	22.06	14.867	1.92	20.93	0.48
2.750	0.48	8.817	22.06	14.883	1.92	20.95	0.48
2.767	0.48	8.833	22.06	14.900	1.92	20.97	0.48
2.783	0.48	8.850	22.06	14.917	1.92	20.98	0.48
2.800	0.48	8.867	22.06	14.933	1.92	21.00	0.48
2.817	0.48	8.883	22.06	14.950	1.92	21.02	0.48
2.833	0.48	8.900	22.06	14.967	1.92	21.03	0.48
2.850	0.48	8.917	22.06	14.983	1.92	21.05	0.48
2.867	0.48	8.933	22.06	15.000	1.92	21.07	0.48
2.883	0.48	8.950	22.06	15.017	1.92	21.08	0.48
2.900	0.48	8.967	22.06	15.033	1.92	21.10	0.48
2.917	0.48	8.983	22.06	15.050	1.92	21.12	0.48
2.933	0.48	9.000	22.06	15.067	1.92	21.13	0.48
2.950	0.48	9.017	22.06	15.083	1.92	21.15	0.48
2.967	0.48	9.033	22.06	15.100	1.92	21.17	0.48
2.983	0.48	9.050	22.06	15.117	1.92	21.18	0.48
3.000	0.48	9.067	22.06	15.133	1.92	21.20	0.48
3.017	0.48	9.083	22.06	15.150	1.92	21.22	0.48
3.033	0.48	9.100	22.06	15.167	1.92	21.23	0.48
3.050	0.48	9.117	22.06	15.183	1.92	21.25	0.48
3.067	0.48	9.133	22.06	15.200	1.92	21.27	0.48
3.083	0.48	9.150	22.06	15.217	1.92	21.28	0.48
3.100	0.48	9.167	22.06	15.233	1.92	21.30	0.48
3.117	0.48	9.183	22.06	15.250	1.92	21.32	0.48
3.133	0.48	9.200	22.06	15.267	1.92	21.33	0.48
3.150	0.48	9.217	22.06	15.283	1.92	21.35	0.48
3.167	0.48	9.233	22.06	15.300	1.92	21.37	0.48
3.183	0.48	9.250	22.06	15.317	1.92	21.38	0.48
3.200	0.48	9.267	22.06	15.333	1.92	21.40	0.48
3.217	0.48	9.283	22.06	15.350	1.92	21.42	0.48
3.233	0.48	9.300	22.06	15.367	1.92	21.43	0.48
3.250	0.48	9.317	22.06	15.383	1.92	21.45	0.48
3.267	0.48	9.333	22.06	15.400	1.92	21.47	0.48
3.283	0.48	9.350	22.06	15.417	1.92	21.48	0.48
3.300	0.48	9.367	22.06	15.433	1.92	21.50	0.48
3.317	0.48	9.383	22.06	15.450	1.92	21.52	0.48
3.333	0.48	9.400	22.06	15.467	1.92	21.53	0.48
3.350	0.48	9.417	22.06	15.483	1.92	21.55	0.48
3.367	0.48	9.433	22.06	15.500	1.92	21.57	0.48
3.383	0.48	9.450	22.06	15.517	1.92	21.58	0.48
3.400	0.48	9.467	22.06	15.533	1.92	21.60	0.48
3.417	0.48	9.483	22.06	15.550	1.92	21.62	0.48
3.433	0.48	9.500	22.06	15.567	1.92	21.63	0.48
3.450	0.48	9.517	22.06	15.583	1.92	21.65	0.48
3.467	0.48	9.533	22.06	15.600	1.92	21.67	0.48
3.483	0.48	9.550	22.06	15.617	1.92	21.68	0.48
3.500	0.48	9.567	22.06	15.633	1.92	21.70	0.48
3.517	0.48	9.583	22.06	15.650	1.92	21.72	0.48
3.533	0.48	9.600	22.06	15.667	1.92	21.73	0.48
3.550	0.48	9.617	22.06	15.683	1.92	21.75	0.48
3.567	0.48	9.633	22.06	15.700	1.92	21.77	0.48
3.583	0.48	9.650	22.06	15.717	1.92	21.78	0.48
3.600	0.48	9.667	22.06	15.733	1.92	21.80	0.48
3.617	0.48	9.683	22.06	15.750	1.92	21.82	0.48
3.633	0.48	9.700	22.06	15.767	1.92	21.83	0.48
3.650	0.48	9.717	22.06	15.783	1.92	21.85	0.48
3.667	0.48	9.733	22.06	15.800	1.92	21.87	0.48
3.683	0.48	9.750	22.06	15.817	1.92	21.88	0.48
3.700	0.48	9.767	22.06	15.833	1.92	21.90	0.48
3.717	0.48	9.783	22.06	15.850	1.92	21.92	0.48
3.733	0.48	9.800	22.06	15.867	1.92	21.93	0.48
3.750	0.48	9.817	22.06	15.883	1.92	21.95	0.48
3.767	0.48	9.833	22.06	15.900	1.92	21.97	0.48
3.783	0.48	9.850	22.06	15.917	1.92	21.98	0.48
3.800	0.48	9.867	22.06	15.933	1.92	22.00	0.48
3.817	0.48	9.883	22.06	15.950	1.92	22.02	0.48
3.833	0.48	9.900	22.06	15.967	1.92	22.03	0.48
3.850	0.48	9.917	22.06	15.983	1.92	22.05	0.48
3.867	0.48	9.933	22.06	16.000	1.92	22.07	0.48
3.883	0.48	9.950	22.06	16.017	1.92	22.08	0.48
3.900	0.48	9.967	22.06	16.033	1.92	22.10	0.48
3.917	0.48	9.983	22.06	16.050	1.92	22.12	0.48
3.933	0.48	10.000	22.06	16.067	1.92	22.13	0.48
3.950	0.48	10.017	22.06	16.083	1.92	22.15	0.48
3.967	0.48	10.033	22.06	16.100	1.92	22.17	0.48
3.983	0.48	10.050	22.06	16.117	1.92	22.18	0.48
4.000	0.48	10.067	22.06	16.133	1.92	22.20	0.48
4.017	0.48	10.083	22.06	16.150	1.92	22.22	0.48
4.033	0.48	10.100	22.06	16.167	1.92	22.23	0.48
4.050	0.48	10.117	22.06	16.183	1.92	22.25	0.48
4.067	0.48	10.133	22.06	16.200	1.92	22.27	0.48
4.083	0.48	10.150	22.06	16.217	1.92	22.28	0.48
4.100	0.48	10.167	22.06	16.233	1.92	22.30	0.48
4.117	0.48	10.183	22.06	16.250	1.92	22.32	0.48
4.133	0.48	10.200	22.06	16.267	0.96	22.33	0.48
4.150	0.48	10.217	22.06	16.283	0.96	22.35	0.48
4.167	0.48	10.233	22.06	16.300	0.96	22.37	0.48
4.183	0.48	10.250	22.05	16.317	0.96	22.38	0.48
4.200	0.48	10.267	6.23	16.333	0.96	22.40	0.48
4.217	0.48	10.283	6.23	16.350	0.96	22.42	0.48
4.233	0.48	10.300	6.23	16.367	0.96	22.43	0.48
4.250	0.48	10.317	6.23	16.383	0.96	22.45	0.48
4.267	2.88	10.333	6.23	16.400	0.96	22.47	0.48
4.283	2.88	10.350	6.23	16.417	0.96	22.48	0.48
4.300	2.88	10.367	6.23	16.433	0.96	22.50	0.48
4.317	2.88	10.383	6.23	16.450	0.96	22.52	0.48
4.333	2.88	10.400	6.23	16.467	0.96	22.53	0.48
4.350	2.88	10.417	6.23	16.483	0.96	22.55	0.48
4.367	2.88	10.433	6.23	16.500	0.96	22.57	0.48
4.383	2.88	10.450	6.23	16.517	0.96	22.58	0.48
4.400	2.88	10.467	6.23	16.533	0.96	22.60	0.48
4.417	2.88	10.483	6.23	16.550	0.96	22.62	0.48
4.433	2.88	10.500	6.23	16.567	0.96	22.63	0.48
4.450	2.88	10.517	6.23	16.583	0.96	22.65	0.48
4.467	2.88	10.533	6.23	16.600	0.96	22.67	0.48
4.483	2.88	10.550	6.23	16.617	0.96	22.68	0.48
4.500	2.88	10.567	6.23	16.633	0.96	22.70	0.48
4.517	2.88	10.583	6.23	16.650	0.96	22.72	0.48
4.533	2.88	10.600	6.23	16.667	0.96	22.73	0.48

4.550	2.88	10.617	6.23	16.683	0.96	22.75	0.48
4.567	2.88	10.633	6.23	16.700	0.96	22.77	0.48
4.583	2.88	10.650	6.23	16.717	0.96	22.78	0.48
4.600	2.88	10.667	6.23	16.733	0.96	22.80	0.48
4.617	2.88	10.683	6.23	16.750	0.96	22.82	0.48
4.633	2.88	10.700	6.23	16.767	0.96	22.83	0.48
4.650	2.88	10.717	6.23	16.783	0.96	22.85	0.48
4.667	2.88	10.733	6.23	16.800	0.96	22.87	0.48
4.683	2.88	10.750	6.23	16.817	0.96	22.88	0.48
4.700	2.88	10.767	6.23	16.833	0.96	22.90	0.48
4.717	2.88	10.783	6.23	16.850	0.96	22.92	0.48
4.733	2.88	10.800	6.23	16.867	0.96	22.93	0.48
4.750	2.88	10.817	6.23	16.883	0.96	22.95	0.48
4.767	2.88	10.833	6.23	16.900	0.96	22.97	0.48
4.783	2.88	10.850	6.23	16.917	0.96	22.98	0.48
4.800	2.88	10.867	6.23	16.933	0.96	23.00	0.48
4.817	2.88	10.883	6.23	16.950	0.96	23.02	0.48
4.833	2.88	10.900	6.23	16.967	0.96	23.03	0.48
4.850	2.88	10.917	6.23	16.983	0.96	23.05	0.48
4.867	2.88	10.933	6.23	17.000	0.96	23.07	0.48
4.883	2.88	10.950	6.23	17.017	0.96	23.08	0.48
4.900	2.88	10.967	6.23	17.033	0.96	23.10	0.48
4.917	2.88	10.983	6.23	17.050	0.96	23.12	0.48
4.933	2.88	11.000	6.23	17.067	0.96	23.13	0.48
4.950	2.88	11.017	6.23	17.083	0.96	23.15	0.48
4.967	2.88	11.033	6.23	17.100	0.96	23.17	0.48
4.983	2.88	11.050	6.23	17.117	0.96	23.18	0.48
5.000	2.88	11.067	6.23	17.133	0.96	23.20	0.48
5.017	2.88	11.083	6.23	17.150	0.96	23.22	0.48
5.033	2.88	11.100	6.23	17.167	0.96	23.23	0.48
5.050	2.88	11.117	6.23	17.183	0.96	23.25	0.48
5.067	2.88	11.133	6.23	17.200	0.96	23.27	0.48
5.083	2.88	11.150	6.23	17.217	0.96	23.28	0.48
5.100	2.88	11.167	6.23	17.233	0.96	23.30	0.48
5.117	2.88	11.183	6.23	17.250	0.96	23.32	0.48
5.133	2.88	11.200	6.23	17.267	0.96	23.33	0.48
5.150	2.88	11.217	6.23	17.283	0.96	23.35	0.48
5.167	2.88	11.233	6.23	17.300	0.96	23.37	0.48
5.183	2.88	11.250	6.23	17.317	0.96	23.38	0.48
5.200	2.88	11.267	6.23	17.333	0.96	23.40	0.48
5.217	2.88	11.283	6.23	17.350	0.96	23.42	0.48
5.233	2.88	11.300	6.23	17.367	0.96	23.43	0.48
5.250	2.88	11.317	6.23	17.383	0.96	23.45	0.48
5.267	2.88	11.333	6.23	17.400	0.96	23.47	0.48
5.283	2.88	11.350	6.23	17.417	0.96	23.48	0.48
5.300	2.88	11.367	6.23	17.433	0.96	23.50	0.48
5.317	2.88	11.383	6.23	17.450	0.96	23.52	0.48
5.333	2.88	11.400	6.23	17.467	0.96	23.53	0.48
5.350	2.88	11.417	6.23	17.483	0.96	23.55	0.48
5.367	2.88	11.433	6.23	17.500	0.96	23.57	0.48
5.383	2.88	11.450	6.23	17.517	0.96	23.58	0.48
5.400	2.88	11.467	6.23	17.533	0.96	23.60	0.48
5.417	2.88	11.483	6.23	17.550	0.96	23.62	0.48
5.433	2.88	11.500	6.23	17.567	0.96	23.63	0.48
5.450	2.88	11.517	6.23	17.583	0.96	23.65	0.48
5.467	2.88	11.533	6.23	17.600	0.96	23.67	0.48
5.483	2.88	11.550	6.23	17.617	0.96	23.68	0.48
5.500	2.88	11.567	6.23	17.633	0.96	23.70	0.48
5.517	2.88	11.583	6.23	17.650	0.96	23.72	0.48
5.533	2.88	11.600	6.23	17.667	0.96	23.73	0.48
5.550	2.88	11.617	6.23	17.683	0.96	23.75	0.48
5.567	2.88	11.633	6.23	17.700	0.96	23.77	0.48
5.583	2.88	11.650	6.23	17.717	0.96	23.78	0.48
5.600	2.88	11.667	6.23	17.733	0.96	23.80	0.48
5.617	2.88	11.683	6.23	17.750	0.96	23.82	0.48
5.633	2.88	11.700	6.23	17.767	0.96	23.83	0.48
5.650	2.88	11.717	6.23	17.783	0.96	23.85	0.48
5.667	2.88	11.733	6.23	17.800	0.96	23.87	0.48
5.683	2.88	11.750	6.23	17.817	0.96	23.88	0.48
5.700	2.88	11.767	6.23	17.833	0.96	23.90	0.48
5.717	2.88	11.783	6.23	17.850	0.96	23.92	0.48
5.733	2.88	11.800	6.23	17.867	0.96	23.93	0.48
5.750	2.88	11.817	6.23	17.883	0.96	23.95	0.48
5.767	2.88	11.833	6.23	17.900	0.96	23.97	0.48
5.783	2.88	11.850	6.23	17.917	0.96	23.98	0.48
5.800	2.88	11.867	6.23	17.933	0.96	24.00	0.48
5.817	2.88	11.883	6.23	17.950	0.96	24.02	0.48
5.833	2.88	11.900	6.23	17.967	0.96	24.03	0.48
5.850	2.88	11.917	6.23	17.983	0.96	24.05	0.48
5.867	2.88	11.933	6.23	18.000	0.96	24.07	0.48
5.883	2.88	11.950	6.23	18.017	0.96	24.08	0.48
5.900	2.88	11.967	6.23	18.033	0.96	24.10	0.48
5.917	2.88	11.983	6.23	18.050	0.96	24.12	0.48
5.933	2.88	12.000	6.23	18.067	0.96	24.13	0.48
5.950	2.88	12.017	6.23	18.083	0.96	24.15	0.48
5.967	2.88	12.033	6.23	18.100	0.96	24.17	0.48
5.983	2.88	12.050	6.23	18.117	0.96	24.18	0.48
6.000	2.88	12.067	6.23	18.133	0.96	24.20	0.48
6.017	2.88	12.083	6.23	18.150	0.96	24.22	0.48
6.033	2.88	12.100	6.23	18.167	0.96	24.23	0.48
6.050	2.88	12.117	6.23	18.183	0.96	24.25	0.48
6.067	2.88	12.133	6.23	18.200	0.96		

Max.Eff.Inten.(mm/hr)=	22.06	18.37	
over (min)	6.00	10.00	
Storage Coeff. (min)=	6.32 (ii)	9.43 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.18	0.12	
			TOTALS
PEAK FLOW (cms)=	0.25	0.00	0.250 (iii)
TIME TO PEAK (hrs)=	9.98	10.25	10.25
RUNOFF VOLUME (mm)=	94.91	64.02	94.61
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.99	0.67	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF
IN= 2---> OUT= 1	
DT= 1.0 min	

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0826	0.2320
0.0347	0.1170	0.0967	0.2609
0.0534	0.1580	0.1090	0.2940
0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	0.250	10.25	94.61
OUTFLOW: ID= 1 (7630)	4.090	0.078	10.63	87.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.27
TIME SHIFT OF PEAK FLOW (min)= 23.00
MAXIMUM STORAGE USED (ha.m.)= 0.2210

CALIB	
STANDHYD (7631)	Area (ha)= 3.91
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.87	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	161.45	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.88	12.150	6.23	18.22	0.96

0.033	0.00	6.100	2.88	12.167	6.23	18.23	0.96
0.050	0.00	6.117	2.88	12.183	6.23	18.25	0.96
0.067	0.00	6.133	2.88	12.200	6.23	18.27	0.48
0.083	0.00	6.150	2.88	12.217	6.23	18.28	0.48
0.100	0.00	6.167	2.88	12.233	6.23	18.30	0.48
0.117	0.00	6.183	2.88	12.250	6.23	18.32	0.48
0.133	0.00	6.200	2.88	12.267	3.36	18.33	0.48
0.150	0.00	6.217	2.88	12.283	3.36	18.35	0.48
0.167	0.00	6.233	2.88	12.300	3.36	18.37	0.48
0.183	0.00	6.250	2.89	12.317	3.36	18.38	0.48
0.200	0.00	6.267	8.15	12.333	3.36	18.40	0.48
0.217	0.00	6.283	8.15	12.350	3.36	18.42	0.48
0.233	0.00	6.300	8.15	12.367	3.36	18.43	0.48
0.250	0.00	6.317	8.15	12.383	3.36	18.45	0.48
0.267	0.48	6.333	8.15	12.400	3.36	18.47	0.48
0.283	0.48	6.350	8.15	12.417	3.36	18.48	0.48
0.300	0.48	6.367	8.15	12.433	3.36	18.50	0.48
0.317	0.48	6.383	8.15	12.450	3.36	18.52	0.48
0.333	0.48	6.400	8.15	12.467	3.36	18.53	0.48
0.350	0.48	6.417	8.15	12.483	3.36	18.55	0.48
0.367	0.48	6.433	8.15	12.500	3.36	18.57	0.48
0.383	0.48	6.450	8.15	12.517	3.36	18.58	0.48
0.400	0.48	6.467	8.15	12.533	3.36	18.60	0.48
0.417	0.48	6.483	8.15	12.550	3.36	18.62	0.48
0.433	0.48	6.500	8.15	12.567	3.36	18.63	0.48
0.450	0.48	6.517	8.15	12.583	3.36	18.65	0.48
0.467	0.48	6.533	8.15	12.600	3.36	18.67	0.48
0.483	0.48	6.550	8.15	12.617	3.36	18.68	0.48
0.500	0.48	6.567	8.15	12.633	3.36	18.70	0.48
0.517	0.48	6.583	8.15	12.650	3.36	18.72	0.48
0.533	0.48	6.600	8.15	12.667	3.36	18.73	0.48
0.550	0.48	6.617	8.15	12.683	3.36	18.75	0.48
0.567	0.48	6.633	8.15	12.700	3.36	18.77	0.48
0.583	0.48	6.650	8.15	12.717	3.36	18.78	0.48
0.600	0.48	6.667	8.15	12.733	3.36	18.80	0.48
0.617	0.48	6.683	8.15	12.750	3.36	18.82	0.48
0.633	0.48	6.700	8.15	12.767	3.36	18.83	0.48
0.650	0.48	6.717	8.15	12.783	3.36	18.85	0.48
0.667	0.48	6.733	8.15	12.800	3.36	18.87	0.48
0.683	0.48	6.750	8.15	12.817	3.36	18.88	0.48
0.700	0.48	6.767	8.15	12.833	3.36	18.90	0.48
0.717	0.48	6.783	8.15	12.850	3.36	18.92	0.48
0.733	0.48	6.800	8.15	12.867	3.36	18.93	0.48
0.750	0.48	6.817	8.15	12.883	3.36	18.95	0.48
0.767	0.48	6.833	8.15	12.900	3.36	18.97	0.48
0.783	0.48	6.850	8.15	12.917	3.36	18.98	0.48
0.800	0.48	6.867	8.15	12.933	3.36	19.00	0.48
0.817	0.48	6.883	8.15	12.950	3.36	19.02	0.48
0.833	0.48	6.900	8.15	12.967	3.36	19.03	0.48
0.850	0.48	6.917	8.15	12.983	3.36	19.05	0.48
0.867	0.48	6.933	8.15	13.000	3.36	19.07	0.48
0.883	0.48	6.950	8.15	13.017	3.36	19.08	0.48
0.900	0.48	6.967	8.15	13.033	3.36	19.10	0.48
0.917	0.48	6.983	8.15	13.050	3.36	19.12	0.48
0.933	0.48	7.000	8.15	13.067	3.36	19.13	0.48
0.950	0.48	7.017	8.15	13.083	3.36	19.15	0.48
0.967	0.48	7.033	8.15	13.100	3.36	19.17	0.48
0.983	0.48	7.050	8.15	13.117	3.36	19.18	0.48
1.000	0.48	7.067	8.15	13.133	3.36	19.20	0.48
1.017	0.48	7.083	8.15	13.150	3.36	19.22	0.48
1.033	0.48	7.100	8.15	13.167	3.36	19.23	0.48
1.050	0.48	7.117	8.15	13.183	3.36	19.25	0.48
1.067	0.48	7.133	8.15	13.200	3.36	19.27	0.48
1.083	0.48	7.150	8.15	13.217	3.36	19.28	0.48
1.100	0.48	7.167	8.15	13.233	3.36	19.30	0.48
1.117	0.48	7.183	8.15	13.250	3.36	19.32	0.48
1.133	0.48	7.200	8.15	13.267	3.36	19.33	0.48
1.150	0.48	7.217	8.15	13.283	3.36	19.35	0.48
1.167	0.48	7.233	8.15	13.300	3.36	19.37	0.48
1.183	0.48	7.250	8.15	13.317	3.36	19.38	0.48
1.200	0.48	7.267	8.15	13.333	3.36	19.40	0.48
1.217	0.48	7.283	8.15	13.350	3.36	19.42	0.48
1.233	0.48	7.300	8.15	13.367	3.36	19.43	0.48
1.250	0.48	7.317	8.15	13.383	3.36	19.45	0.48
1.267	0.48	7.333	8.15	13.400	3.36	19.47	0.48
1.283	0.48	7.350	8.15	13.417	3.36	19.48	0.48
1.300	0.48	7.367	8.15	13.433	3.36	19.50	0.48
1.317	0.48	7.383	8.15	13.450	3.36	19.52	0.48
1.333	0.48	7.400	8.15	13.467	3.36	19.53	0.48
1.350	0.48	7.417	8.15	13.483	3.36	19.55	0.48
1.367	0.48	7.433	8.15	13.500	3.36	19.57	0.48
1.383	0.48	7.450	8.15	13.517	3.36	19.58	0.48
1.400	0.48	7.467	8.15	13.533	3.36	19.60	0.48
1.417	0.48	7.483	8.15	13.550	3.36	19.62	0.48
1.433	0.48	7.500	8.15	13.567	3.36	19.63	0.48
1.450	0.48	7.517	8.15	13.583	3.36	19.65	0.48
1.467	0.48	7.533	8.15	13.600	3.36	19.67	0.48
1.483	0.48	7.550	8.15	13.617	3.36	19.68	0.48
1.500	0.48	7.567	8.15	13.633	3.36	19.70	0.48
1.517	0.48	7.583	8.15	13.650	3.36	19.72	0.48
1.533	0.48	7.600	8.15	13.667	3.36	19.73	0.48
1.550	0.48	7.617	8.15	13.683	3.36	19.75	0.48
1.567	0.48	7.633	8.15	13.700	3.36	19.77	0.48
1.583	0.48	7.650	8.15	13.717	3.36	19.78	0.48
1.600	0.48	7.667	8.15	13.733	3.36	19.80	0.48
1.617	0.48	7.683	8.15	13.750	3.36	19.82	0.48
1.633	0.48	7.700	8.15	13.767	3.36	19.83	0.48
1.650	0.48	7.717	8.15	13.783	3.36	19.85	0.48
1.667	0.48	7.733	8.15	13.800	3.36	19.87	0.48
1.683	0.48	7.750	8.15	13.817	3.36	19.88	0.48
1.700	0.48	7.767	8.15	13.833	3.36	19.90	0.48
1.717	0.48	7.783	8.15	13.850	3.36	19.92	0.48
1.733	0.48	7.800	8.15	13.867	3.36	19.93	0.48
1.750	0.48	7.817	8.15	13.883	3.36	19.95	0.48
1.767	0.48	7.833	8.15	13.900	3.36	19.97	0.48
1.783	0.48	7.850	8.15	13.917	3.36	19.98	0.48
1.800	0.48	7.867	8.15	13.933	3.36	20.00	0.48
1.817	0.48	7.883	8.15	13.950	3.36	20.02	0.48
1.833	0.48	7.900	8.15	13.967	3.36	20.03	0.48
1.850	0.48	7.917	8.15	13.983	3.36	20.05	0.48
1.867	0.48	7.933	8.15	14.000	3.36	20.07	0.48
1.883	0.48	7.950	8.15	14.017	3.36	20.08	0.48
1.900	0.48	7.967	8.15	14.033	3.36	20.10	0.48
1.917	0.48	7.983	8.15	14.050	3.36	20.12	0.48
1.933	0.48	8.000	8.15	14.067	3.36	20.13	0.48
1.950	0.48	8.017	8.15	14.083	3.36	20.15	0.48
1.967	0.48	8.033	8.15	14.100	3.36	20.17	0.48
1.983	0.48	8.050	8.15	14.117	3.36	20.18	0.48
2.000	0.48	8.067	8.15	14.133	3.36	20.20	0.48
2.017	0.48	8.083	8.15	14.150	3.36	20.22	0.48
2.033	0.48	8.100	8.15	14.167	3.36	20.23	0.48
2.050	0.48	8.117	8.15	14.183	3.36	20.25	0.48
2.067	0.48	8.133	8.15	14.200	3.36	20.27	0.48
2.083	0.48	8.150	8.15	14.217	3.36	20.28	0.48
2.100	0.48	8.167	8.15	14.233	3.36	20.30	0.48
2.117	0.48	8.183	8.15	14.250	3.36	20.32	0.48
2.133	0.48	8.200	8.15	14.267	1.92	20.33	0.48
2.150	0.48	8.217	8.15	14.283	1.92	20.35	0.48
2.167	0.48	8.233	8.15	14.300	1.92	20.37	0.48
2.183	0.48	8.250	8.19	14.317	1.92	20.38	0.48
2.200	0.48	8.267	22.06	14.333	1.92	20.40	0.48
2.217	0.48	8.283	22.06	14.350	1.92	20.42	0.48
2.233	0.48	8.300	22.06	14.367	1.92	20.43	0.48
2.250	0.48	8.317	22.06	14.383	1.92	20.45	0.48
2.267	0.48	8.333	22.06	14.400	1.92	20.47	0.48
2.283	0.48	8.350	22.06	14.417	1.92	20.48	0.48
2.300	0.48	8.367	22.06	14.433	1.92	20.50	0.48
2.317	0.48	8.383	22.06	14.450	1.92	20.52	0.48
2.333	0.48	8.400	22.06	14.467	1.92	20.53	0.48
2.350	0.48	8.417	22.06	14.483	1.92	20.55	0.48
2.367	0.48	8.433	22.06	14.500	1.92	20.57	0.48
2.383	0.48	8.450	22.06	14.517	1.92	20.58	0.48
2.400	0.48	8.467	22.06	14.533	1.92	20.60	0.48
2.417	0.48	8.483	22.06	14.550	1.92	20.62	0.48
2.433	0.48	8.500	22.06	14.567	1.92	20.63	0.48
2.450	0.48	8.517	22.06	14.583	1.92	20.65	0.48
2.467	0.48	8.533	22.06	14.600	1.92	20.67	0.48
2.483	0.48	8.550	22.06	14.617	1.92	20.68	0.48
2.500	0.48	8.567	22.06	14.633	1.92	20.70	0.48
2.517	0.48	8.583	22.06	14.650	1.92	20.72	0.48
2.533	0.48	8.600	22.06	14.667	1.92	20.73	0.48
2.550	0.48	8.617	22.06	14.683	1.92	20.75	0.48

2.567	0.48	8.633	22.06	14.700	1.92	20.77	0.48
2.583	0.48	8.650	22.06	14.717	1.92	20.78	0.48
2.600	0.48	8.667	22.06	14.733	1.92	20.80	0.48
2.617	0.48	8.683	22.06	14.750	1.92	20.82	0.48
2.633	0.48	8.700	22.06	14.767	1.92	20.83	0.48
2.650	0.48	8.717	22.06	14.783	1.92	20.85	0.48
2.667	0.48	8.733	22.06	14.800	1.92	20.87	0.48
2.683	0.48	8.750	22.06	14.817	1.92	20.88	0.48
2.700	0.48	8.767	22.06	14.833	1.92	20.90	0.48
2.717	0.48	8.783	22.06	14.850	1.92	20.92	0.48
2.733	0.48	8.800	22.06	14.867	1.92	20.93	0.48
2.750	0.48	8.817	22.06	14.883	1.92	20.95	0.48
2.767	0.48	8.833	22.06	14.900	1.92	20.97	0.48
2.783	0.48	8.850	22.06	14.917	1.92	20.98	0.48
2.800	0.48	8.867	22.06	14.933	1.92	21.00	0.48
2.817	0.48	8.883	22.06	14.950	1.92	21.02	0.48
2.833	0.48	8.900	22.06	14.967	1.92	21.03	0.48
2.850	0.48	8.917	22.06	14.983	1.92	21.05	0.48
2.867	0.48	8.933	22.06	15.000	1.92	21.07	0.48
2.883	0.48	8.950	22.06	15.017	1.92	21.08	0.48
2.900	0.48	8.967	22.06	15.033	1.92	21.10	0.48
2.917	0.48	8.983	22.06	15.050	1.92	21.12	0.48
2.933	0.48	9.000	22.06	15.067	1.92	21.13	0.48
2.950	0.48	9.017	22.06	15.083	1.92	21.15	0.48
2.967	0.48	9.033	22.06	15.100	1.92	21.17	0.48
2.983	0.48	9.050	22.06	15.117	1.92	21.18	0.48
3.000	0.48	9.067	22.06	15.133	1.92	21.20	0.48
3.017	0.48	9.083	22.06	15.150	1.92	21.22	0.48
3.033	0.48	9.100	22.06	15.167	1.92	21.23	0.48
3.050	0.48	9.117	22.06	15.183	1.92	21.25	0.48
3.067	0.48	9.133	22.06	15.200	1.92	21.27	0.48
3.083	0.48	9.150	22.06	15.217	1.92	21.28	0.48
3.100	0.48	9.167	22.06	15.233	1.92	21.30	0.48
3.117	0.48	9.183	22.06	15.250	1.92	21.32	0.48
3.133	0.48	9.200	22.06	15.267	1.92	21.33	0.48
3.150	0.48	9.217	22.06	15.283	1.92	21.35	0.48
3.167	0.48	9.233	22.06	15.300	1.92	21.37	0.48
3.183	0.48	9.250	22.06	15.317	1.92	21.38	0.48
3.200	0.48	9.267	22.06	15.333	1.92	21.40	0.48
3.217	0.48	9.283	22.06	15.350	1.92	21.42	0.48
3.233	0.48	9.300	22.06	15.367	1.92	21.43	0.48
3.250	0.48	9.317	22.06	15.383	1.92	21.45	0.48
3.267	0.48	9.333	22.06	15.400	1.92	21.47	0.48
3.283	0.48	9.350	22.06	15.417	1.92	21.48	0.48
3.300	0.48	9.367	22.06	15.433	1.92	21.50	0.48
3.317	0.48	9.383	22.06	15.450	1.92	21.52	0.48
3.333	0.48	9.400	22.06	15.467	1.92	21.53	0.48
3.350	0.48	9.417	22.06	15.483	1.92	21.55	0.48
3.367	0.48	9.433	22.06	15.500	1.92	21.57	0.48
3.383	0.48	9.450	22.06	15.517	1.92	21.58	0.48
3.400	0.48	9.467	22.06	15.533	1.92	21.60	0.48
3.417	0.48	9.483	22.06	15.550	1.92	21.62	0.48
3.433	0.48	9.500	22.06	15.567	1.92	21.63	0.48
3.450	0.48	9.517	22.06	15.583	1.92	21.65	0.48
3.467	0.48	9.533	22.06	15.600	1.92	21.67	0.48
3.483	0.48	9.550	22.06	15.617	1.92	21.68	0.48
3.500	0.48	9.567	22.06	15.633	1.92	21.70	0.48
3.517	0.48	9.583	22.06	15.650	1.92	21.72	0.48
3.533	0.48	9.600	22.06	15.667	1.92	21.73	0.48
3.550	0.48	9.617	22.06	15.683	1.92	21.75	0.48
3.567	0.48	9.633	22.06	15.700	1.92	21.77	0.48
3.583	0.48	9.650	22.06	15.717	1.92	21.78	0.48
3.600	0.48	9.667	22.06	15.733	1.92	21.80	0.48
3.617	0.48	9.683	22.06	15.750	1.92	21.82	0.48
3.633	0.48	9.700	22.06	15.767	1.92	21.83	0.48
3.650	0.48	9.717	22.06	15.783	1.92	21.85	0.48
3.667	0.48	9.733	22.06	15.800	1.92	21.87	0.48
3.683	0.48	9.750	22.06	15.817	1.92	21.88	0.48
3.700	0.48	9.767	22.06	15.833	1.92	21.90	0.48
3.717	0.48	9.783	22.06	15.850	1.92	21.92	0.48
3.733	0.48	9.800	22.06	15.867	1.92	21.93	0.48
3.750	0.48	9.817	22.06	15.883	1.92	21.95	0.48
3.767	0.48	9.833	22.06	15.900	1.92	21.97	0.48
3.783	0.48	9.850	22.06	15.917	1.92	21.98	0.48
3.800	0.48	9.867	22.06	15.933	1.92	22.00	0.48
3.817	0.48	9.883	22.06	15.950	1.92	22.02	0.48
3.833	0.48	9.900	22.06	15.967	1.92	22.03	0.48
3.850	0.48	9.917	22.06	15.983	1.92	22.05	0.48
3.867	0.48	9.933	22.06	16.000	1.92	22.07	0.48
3.883	0.48	9.950	22.06	16.017	1.92	22.08	0.48
3.900	0.48	9.967	22.06	16.033	1.92	22.10	0.48
3.917	0.48	9.983	22.06	16.050	1.92	22.12	0.48
3.933	0.48	10.000	22.06	16.067	1.92	22.13	0.48
3.950	0.48	10.017	22.06	16.083	1.92	22.15	0.48
3.967	0.48	10.033	22.06	16.100	1.92	22.17	0.48
3.983	0.48	10.050	22.06	16.117	1.92	22.18	0.48
4.000	0.48	10.067	22.06	16.133	1.92	22.20	0.48
4.017	0.48	10.083	22.06	16.150	1.92	22.22	0.48
4.033	0.48	10.100	22.06	16.167	1.92	22.23	0.48
4.050	0.48	10.117	22.06	16.183	1.92	22.25	0.48
4.067	0.48	10.133	22.06	16.200	1.92	22.27	0.48
4.083	0.48	10.150	22.06	16.217	1.92	22.28	0.48
4.100	0.48	10.167	22.06	16.233	1.92	22.30	0.48
4.117	0.48	10.183	22.06	16.250	1.92	22.32	0.48
4.133	0.48	10.200	22.06	16.267	0.96	22.33	0.48
4.150	0.48	10.217	22.06	16.283	0.96	22.35	0.48
4.167	0.48	10.233	22.06	16.300	0.96	22.37	0.48
4.183	0.48	10.250	22.05	16.317	0.96	22.38	0.48
4.200	0.48	10.267	6.23	16.333	0.96	22.40	0.48
4.217	0.48	10.283	6.23	16.350	0.96	22.42	0.48
4.233	0.48	10.300	6.23	16.367	0.96	22.43	0.48
4.250	0.48	10.317	6.23	16.383	0.96	22.45	0.48
4.267	2.88	10.333	6.23	16.400	0.96	22.47	0.48
4.283	2.88	10.350	6.23	16.417	0.96	22.48	0.48
4.300	2.88	10.367	6.23	16.433	0.96	22.50	0.48
4.317	2.88	10.383	6.23	16.450	0.96	22.52	0.48
4.333	2.88	10.400	6.23	16.467	0.96	22.53	0.48
4.350	2.88	10.417	6.23	16.483	0.96	22.55	0.48
4.367	2.88	10.433	6.23	16.500	0.96	22.57	0.48
4.383	2.88	10.450	6.23	16.517	0.96	22.58	0.48
4.400	2.88	10.467	6.23	16.533	0.96	22.60	0.48
4.417	2.88	10.483	6.23	16.550	0.96	22.62	0.48
4.433	2.88	10.500	6.23	16.567	0.96	22.63	0.48
4.450	2.88	10.517	6.23	16.583	0.96	22.65	0.48
4.467	2.88	10.533	6.23	16.600	0.96	22.67	0.48
4.483	2.88	10.550	6.23	16.617	0.96	22.68	0.48
4.500	2.88	10.567	6.23	16.633	0.96	22.70	0.48
4.517	2.88	10.583	6.23	16.650	0.96	22.72	0.48
4.533	2.88	10.600	6.23	16.667	0.96	22.73	0.48
4.550	2.88	10.617	6.23	16.683	0.96	22.75	0.48
4.567	2.88	10.633	6.23	16.700	0.96	22.77	0.48
4.583	2.88	10.650	6.23	16.717	0.96	22.78	0.48
4.600	2.88	10.667	6.23	16.733	0.96	22.80	0.48
4.617	2.88	10.683	6.23	16.750	0.96	22.82	0.48
4.633	2.88	10.700	6.23	16.767	0.96	22.83	0.48
4.650	2.88	10.717	6.23	16.783	0.96	22.85	0.48
4.667	2.88	10.733	6.23	16.800	0.96	22.87	0.48
4.683	2.88	10.750	6.23	16.817	0.96	22.88	0.48
4.700	2.88	10.767	6.23	16.833	0.96	22.90	0.48
4.717	2.88	10.783	6.23	16.850	0.96	22.92	0.48
4.733	2.88	10.800	6.23	16.867	0.96	22.93	0.48
4.750	2.88	10.817	6.23	16.883	0.96	22.95	0.48
4.767	2.88	10.833	6.23	16.900	0.96	22.97	0.48
4.783	2.88	10.850	6.23	16.917	0.96	22.98	0.48
4.800	2.88	10.867	6.23	16.933	0.96	23.00	0.48
4.817	2.88	10.883	6.23	16.950	0.96	23.02	0.48
4.833	2.88	10.900	6.23	16.967	0.96	23.03	0.48
4.850	2.88	10.917	6.23	16.983	0.96	23.05	0.48
4.867	2.88	10.933	6.23	17.000	0.96	23.07	0.48
4.883	2.88	10.950	6.23	17.017	0.96	23.08	0.48
4.900	2.88	10.967	6.23	17.033	0.96	23.10	0.48
4.917	2.88	10.983	6.23	17.050	0.96	23.12	0.48
4.933	2.88	11.000	6.23	17.067	0.96	23.13	0.48
4.950	2.88	11.017	6.23	17.083	0.96	23.15	0.48
4.967	2.88	11.033	6.23	17.100	0.96	23.17	0.48
4.983	2.88	11.050	6.23	17.117	0.96	23.18	0.48
5.000	2.88	11.067	6.23	17.133	0.96	23.20	0.48
5.017	2.88	11.083	6.23	17.150	0.96	23.22	0.48
5.033	2.88	11.100	6.23	17.167	0.96	23.23	0.48
5.050	2.88	11.117	6.23	17.183	0.96	23.25	0.48
5.067	2.88	11.133	6.23	17.200	0.96	23.27	0.48
5.083	2.88	11.150	6.23	17.217	0.96	23.28	0.48

5.100	2.88	11.167	6.23	17.233	0.96	23.30	0.48
5.117	2.88	11.183	6.23	17.250	0.96	23.32	0.48
5.133	2.88	11.200	6.23	17.267	0.96	23.33	0.48
5.150	2.88	11.217	6.23	17.283	0.96	23.35	0.48
5.167	2.88	11.233	6.23	17.300	0.96	23.37	0.48
5.183	2.88	11.250	6.23	17.317	0.96	23.38	0.48
5.200	2.88	11.267	6.23	17.333	0.96	23.40	0.48
5.217	2.88	11.283	6.23	17.350	0.96	23.42	0.48
5.233	2.88	11.300	6.23	17.367	0.96	23.43	0.48
5.250	2.88	11.317	6.23	17.383	0.96	23.45	0.48
5.267	2.88	11.333	6.23	17.400	0.96	23.47	0.48
5.283	2.88	11.350	6.23	17.417	0.96	23.48	0.48
5.300	2.88	11.367	6.23	17.433	0.96	23.50	0.48
5.317	2.88	11.383	6.23	17.450	0.96	23.52	0.48
5.333	2.88	11.400	6.23	17.467	0.96	23.53	0.48
5.350	2.88	11.417	6.23	17.483	0.96	23.55	0.48
5.367	2.88	11.433	6.23	17.500	0.96	23.57	0.48
5.383	2.88	11.450	6.23	17.517	0.96	23.58	0.48
5.400	2.88	11.467	6.23	17.533	0.96	23.60	0.48
5.417	2.88	11.483	6.23	17.550	0.96	23.62	0.48
5.433	2.88	11.500	6.23	17.567	0.96	23.63	0.48
5.450	2.88	11.517	6.23	17.583	0.96	23.65	0.48
5.467	2.88	11.533	6.23	17.600	0.96	23.67	0.48
5.483	2.88	11.550	6.23	17.617	0.96	23.68	0.48
5.500	2.88	11.567	6.23	17.633	0.96	23.70	0.48
5.517	2.88	11.583	6.23	17.650	0.96	23.72	0.48
5.533	2.88	11.600	6.23	17.667	0.96	23.73	0.48
5.550	2.88	11.617	6.23	17.683	0.96	23.75	0.48
5.567	2.88	11.633	6.23	17.700	0.96	23.77	0.48
5.583	2.88	11.650	6.23	17.717	0.96	23.78	0.48
5.600	2.88	11.667	6.23	17.733	0.96	23.80	0.48
5.617	2.88	11.683	6.23	17.750	0.96	23.82	0.48
5.633	2.88	11.700	6.23	17.767	0.96	23.83	0.48
5.650	2.88	11.717	6.23	17.783	0.96	23.85	0.48
5.667	2.88	11.733	6.23	17.800	0.96	23.87	0.48
5.683	2.88	11.750	6.23	17.817	0.96	23.88	0.48
5.700	2.88	11.767	6.23	17.833	0.96	23.90	0.48
5.717	2.88	11.783	6.23	17.850	0.96	23.92	0.48
5.733	2.88	11.800	6.23	17.867	0.96	23.93	0.48
5.750	2.88	11.817	6.23	17.883	0.96	23.95	0.48
5.767	2.88	11.833	6.23	17.900	0.96	23.97	0.48
5.783	2.88	11.850	6.23	17.917	0.96	23.98	0.48
5.800	2.88	11.867	6.23	17.933	0.96	24.00	0.48
5.817	2.88	11.883	6.23	17.950	0.96	24.02	0.48
5.833	2.88	11.900	6.23	17.967	0.96	24.03	0.48
5.850	2.88	11.917	6.23	17.983	0.96	24.05	0.48
5.867	2.88	11.933	6.23	18.000	0.96	24.07	0.48
5.883	2.88	11.950	6.23	18.017	0.96	24.08	0.48
5.900	2.88	11.967	6.23	18.033	0.96	24.10	0.48
5.917	2.88	11.983	6.23	18.050	0.96	24.12	0.48
5.933	2.88	12.000	6.23	18.067	0.96	24.13	0.48
5.950	2.88	12.017	6.23	18.083	0.96	24.15	0.48
5.967	2.88	12.033	6.23	18.100	0.96	24.17	0.48
5.983	2.88	12.050	6.23	18.117	0.96	24.18	0.48
6.000	2.88	12.067	6.23	18.133	0.96	24.20	0.48
6.017	2.88	12.083	6.23	18.150	0.96	24.22	0.48
6.033	2.88	12.100	6.23	18.167	0.96	24.23	0.48
6.050	2.88	12.117	6.23	18.183	0.96	24.25	0.48
6.067	2.88	12.133	6.23	18.200	0.96		

Max.Eff.Inten.(mm/hr)=	22.06	18.37	
over (min)	6.00	10.00	
Storage Coeff. (min)=	6.23 (ii)	9.35 (ii)	
Unit Hyd. Tpeak (min)=	6.00	10.00	
Unit Hyd. peak (cms)=	0.18	0.12	
			TOTALS
PEAK FLOW (cms)=	0.24	0.00	0.239 (iii)
TIME TO PEAK (hrs)=	9.73	10.25	10.25
RUNOFF VOLUME (mm)=	94.90	64.01	94.61
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.99	0.67	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	0.239	10.25	94.61
OUTFLOW: ID= 1 (7632)	3.910	0.075	10.63	86.98

PEAK FLOW REDUCTION [Qout/Qin](%)= 31.34
TIME SHIFT OF PEAK FLOW (min)= 23.00
MAXIMUM STORAGE USED (ha.m.)= 0.2113

CALIB
STANDHYD (7641) Area (ha)= 2.21
ID= 1 DT= 1.0 min Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.19	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	121.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.88	12.150	6.23	18.22	0.96
0.033	0.00	6.100	2.88	12.167	6.23	18.23	0.96
0.050	0.00	6.117	2.88	12.183	6.23	18.25	0.96
0.067	0.00	6.133	2.88	12.200	6.23	18.27	0.48
0.083	0.00	6.150	2.88	12.217	6.23	18.28	0.48
0.100	0.00	6.167	2.88	12.233	6.23	18.30	0.48
0.117	0.00	6.183	2.88	12.250	6.23	18.32	0.48
0.133	0.00	6.200	2.88	12.267	3.36	18.33	0.48
0.150	0.00	6.217	2.88	12.283	3.36	18.35	0.48
0.167	0.00	6.233	2.88	12.300	3.36	18.37	0.48
0.183	0.00	6.250	2.89	12.317	3.36	18.38	0.48
0.200	0.00	6.267	8.15	12.333	3.36	18.40	0.48
0.217	0.00	6.283	8.15	12.350	3.36	18.42	0.48
0.233	0.00	6.300	8.15	12.367	3.36	18.43	0.48
0.250	0.00	6.317	8.15	12.383	3.36	18.45	0.48
0.267	0.48	6.333	8.15	12.400	3.36	18.47	0.48
0.283	0.48	6.350	8.15	12.417	3.36	18.48	0.48
0.300	0.48	6.367	8.15	12.433	3.36	18.50	0.48
0.317	0.48	6.383	8.15	12.450	3.36	18.52	0.48
0.333	0.48	6.400	8.15	12.467	3.36	18.53	0.48
0.350	0.48	6.417	8.15	12.483	3.36	18.55	0.48
0.367	0.48	6.433	8.15	12.500	3.36	18.57	0.48
0.383	0.48	6.450	8.15	12.517	3.36	18.58	0.48
0.400	0.48	6.467	8.15	12.533	3.36	18.60	0.48
0.417	0.48	6.483	8.15	12.550	3.36	18.62	0.48
0.433	0.48	6.500	8.15	12.567	3.36	18.63	0.48
0.450	0.48	6.517	8.15	12.583	3.36	18.65	0.48
0.467	0.48	6.533	8.15	12.600	3.36	18.67	0.48
0.483	0.48	6.550	8.15	12.617	3.36	18.68	0.48
0.500	0.48	6.567	8.15	12.633	3.36	18.70	0.48
0.517	0.48	6.583	8.15	12.650	3.36	18.72	0.48
0.533	0.48	6.600	8.15	12.667	3.36	18.73	0.48
0.550	0.48	6.617	8.15	12.683	3.36	18.75	0.48
0.567	0.48	6.633	8.15	12.700	3.36	18.77	0.48

0.583	0.48	6.650	8.15	12.717	3.36	18.78	0.48
0.600	0.48	6.667	8.15	12.733	3.36	18.80	0.48
0.617	0.48	6.683	8.15	12.750	3.36	18.82	0.48
0.633	0.48	6.700	8.15	12.767	3.36	18.83	0.48
0.650	0.48	6.717	8.15	12.783	3.36	18.85	0.48
0.667	0.48	6.733	8.15	12.800	3.36	18.87	0.48
0.683	0.48	6.750	8.15	12.817	3.36	18.88	0.48
0.700	0.48	6.767	8.15	12.833	3.36	18.90	0.48
0.717	0.48	6.783	8.15	12.850	3.36	18.92	0.48
0.733	0.48	6.800	8.15	12.867	3.36	18.93	0.48
0.750	0.48	6.817	8.15	12.883	3.36	18.95	0.48
0.767	0.48	6.833	8.15	12.900	3.36	18.97	0.48
0.783	0.48	6.850	8.15	12.917	3.36	18.98	0.48
0.800	0.48	6.867	8.15	12.933	3.36	19.00	0.48
0.817	0.48	6.883	8.15	12.950	3.36	19.02	0.48
0.833	0.48	6.900	8.15	12.967	3.36	19.03	0.48
0.850	0.48	6.917	8.15	12.983	3.36	19.05	0.48
0.867	0.48	6.933	8.15	13.000	3.36	19.07	0.48
0.883	0.48	6.950	8.15	13.017	3.36	19.08	0.48
0.900	0.48	6.967	8.15	13.033	3.36	19.10	0.48
0.917	0.48	6.983	8.15	13.050	3.36	19.12	0.48
0.933	0.48	7.000	8.15	13.067	3.36	19.13	0.48
0.950	0.48	7.017	8.15	13.083	3.36	19.15	0.48
0.967	0.48	7.033	8.15	13.100	3.36	19.17	0.48
0.983	0.48	7.050	8.15	13.117	3.36	19.18	0.48
1.000	0.48	7.067	8.15	13.133	3.36	19.20	0.48
1.017	0.48	7.083	8.15	13.150	3.36	19.22	0.48
1.033	0.48	7.100	8.15	13.167	3.36	19.23	0.48
1.050	0.48	7.117	8.15	13.183	3.36	19.25	0.48
1.067	0.48	7.133	8.15	13.200	3.36	19.27	0.48
1.083	0.48	7.150	8.15	13.217	3.36	19.28	0.48
1.100	0.48	7.167	8.15	13.233	3.36	19.30	0.48
1.117	0.48	7.183	8.15	13.250	3.36	19.32	0.48
1.133	0.48	7.200	8.15	13.267	3.36	19.33	0.48
1.150	0.48	7.217	8.15	13.283	3.36	19.35	0.48
1.167	0.48	7.233	8.15	13.300	3.36	19.37	0.48
1.183	0.48	7.250	8.15	13.317	3.36	19.38	0.48
1.200	0.48	7.267	8.15	13.333	3.36	19.40	0.48
1.217	0.48	7.283	8.15	13.350	3.36	19.42	0.48
1.233	0.48	7.300	8.15	13.367	3.36	19.43	0.48
1.250	0.48	7.317	8.15	13.383	3.36	19.45	0.48
1.267	0.48	7.333	8.15	13.400	3.36	19.47	0.48
1.283	0.48	7.350	8.15	13.417	3.36	19.48	0.48
1.300	0.48	7.367	8.15	13.433	3.36	19.50	0.48
1.317	0.48	7.383	8.15	13.450	3.36	19.52	0.48
1.333	0.48	7.400	8.15	13.467	3.36	19.53	0.48
1.350	0.48	7.417	8.15	13.483	3.36	19.55	0.48
1.367	0.48	7.433	8.15	13.500	3.36	19.57	0.48
1.383	0.48	7.450	8.15	13.517	3.36	19.58	0.48
1.400	0.48	7.467	8.15	13.533	3.36	19.60	0.48
1.417	0.48	7.483	8.15	13.550	3.36	19.62	0.48
1.433	0.48	7.500	8.15	13.567	3.36	19.63	0.48
1.450	0.48	7.517	8.15	13.583	3.36	19.65	0.48
1.467	0.48	7.533	8.15	13.600	3.36	19.67	0.48
1.483	0.48	7.550	8.15	13.617	3.36	19.68	0.48
1.500	0.48	7.567	8.15	13.633	3.36	19.70	0.48
1.517	0.48	7.583	8.15	13.650	3.36	19.72	0.48
1.533	0.48	7.600	8.15	13.667	3.36	19.73	0.48
1.550	0.48	7.617	8.15	13.683	3.36	19.75	0.48
1.567	0.48	7.633	8.15	13.700	3.36	19.77	0.48
1.583	0.48	7.650	8.15	13.717	3.36	19.78	0.48
1.600	0.48	7.667	8.15	13.733	3.36	19.80	0.48
1.617	0.48	7.683	8.15	13.750	3.36	19.82	0.48
1.633	0.48	7.700	8.15	13.767	3.36	19.83	0.48
1.650	0.48	7.717	8.15	13.783	3.36	19.85	0.48
1.667	0.48	7.733	8.15	13.800	3.36	19.87	0.48
1.683	0.48	7.750	8.15	13.817	3.36	19.88	0.48
1.700	0.48	7.767	8.15	13.833	3.36	19.90	0.48
1.717	0.48	7.783	8.15	13.850	3.36	19.92	0.48
1.733	0.48	7.800	8.15	13.867	3.36	19.93	0.48
1.750	0.48	7.817	8.15	13.883	3.36	19.95	0.48
1.767	0.48	7.833	8.15	13.900	3.36	19.97	0.48
1.783	0.48	7.850	8.15	13.917	3.36	19.98	0.48
1.800	0.48	7.867	8.15	13.933	3.36	20.00	0.48
1.817	0.48	7.883	8.15	13.950	3.36	20.02	0.48
1.833	0.48	7.900	8.15	13.967	3.36	20.03	0.48
1.850	0.48	7.917	8.15	13.983	3.36	20.05	0.48
1.867	0.48	7.933	8.15	14.000	3.36	20.07	0.48
1.883	0.48	7.950	8.15	14.017	3.36	20.08	0.48
1.900	0.48	7.967	8.15	14.033	3.36	20.10	0.48
1.917	0.48	7.983	8.15	14.050	3.36	20.12	0.48
1.933	0.48	8.000	8.15	14.067	3.36	20.13	0.48
1.950	0.48	8.017	8.15	14.083	3.36	20.15	0.48
1.967	0.48	8.033	8.15	14.100	3.36	20.17	0.48
1.983	0.48	8.050	8.15	14.117	3.36	20.18	0.48
2.000	0.48	8.067	8.15	14.133	3.36	20.20	0.48
2.017	0.48	8.083	8.15	14.150	3.36	20.22	0.48
2.033	0.48	8.100	8.15	14.167	3.36	20.23	0.48
2.050	0.48	8.117	8.15	14.183	3.36	20.25	0.48
2.067	0.48	8.133	8.15	14.200	3.36	20.27	0.48
2.083	0.48	8.150	8.15	14.217	3.36	20.28	0.48
2.100	0.48	8.167	8.15	14.233	3.36	20.30	0.48
2.117	0.48	8.183	8.15	14.250	3.36	20.32	0.48
2.133	0.48	8.200	8.15	14.267	1.92	20.33	0.48
2.150	0.48	8.217	8.15	14.283	1.92	20.35	0.48
2.167	0.48	8.233	8.15	14.300	1.92	20.37	0.48
2.183	0.48	8.250	8.19	14.317	1.92	20.38	0.48
2.200	0.48	8.267	22.06	14.333	1.92	20.40	0.48
2.217	0.48	8.283	22.06	14.350	1.92	20.42	0.48
2.233	0.48	8.300	22.06	14.367	1.92	20.43	0.48
2.250	0.48	8.317	22.06	14.383	1.92	20.45	0.48
2.267	0.48	8.333	22.06	14.400	1.92	20.47	0.48
2.283	0.48	8.350	22.06	14.417	1.92	20.48	0.48
2.300	0.48	8.367	22.06	14.433	1.92	20.50	0.48
2.317	0.48	8.383	22.06	14.450	1.92	20.52	0.48
2.333	0.48	8.400	22.06	14.467	1.92	20.53	0.48
2.350	0.48	8.417	22.06	14.483	1.92	20.55	0.48
2.367	0.48	8.433	22.06	14.500	1.92	20.57	0.48
2.383	0.48	8.450	22.06	14.517	1.92	20.58	0.48
2.400	0.48	8.467	22.06	14.533	1.92	20.60	0.48
2.417	0.48	8.483	22.06	14.550	1.92	20.62	0.48
2.433	0.48	8.500	22.06	14.567	1.92	20.63	0.48
2.450	0.48	8.517	22.06	14.583	1.92	20.65	0.48
2.467	0.48	8.533	22.06	14.600	1.92	20.67	0.48
2.483	0.48	8.550	22.06	14.617	1.92	20.68	0.48
2.500	0.48	8.567	22.06	14.633	1.92	20.70	0.48
2.517	0.48	8.583	22.06	14.650	1.92	20.72	0.48
2.533	0.48	8.600	22.06	14.667	1.92	20.73	0.48
2.550	0.48	8.617	22.06	14.683	1.92	20.75	0.48
2.567	0.48	8.633	22.06	14.700	1.92	20.77	0.48
2.583	0.48	8.650	22.06	14.717	1.92	20.78	0.48
2.600	0.48	8.667	22.06	14.733	1.92	20.80	0.48
2.617	0.48	8.683	22.06	14.750	1.92	20.82	0.48
2.633	0.48	8.700	22.06	14.767	1.92	20.83	0.48
2.650	0.48	8.717	22.06	14.783	1.92	20.85	0.48
2.667	0.48	8.733	22.06	14.800	1.92	20.87	0.48
2.683	0.48	8.750	22.06	14.817	1.92	20.88	0.48
2.700	0.48	8.767	22.06	14.833	1.92	20.90	0.48
2.717	0.48	8.783	22.06	14.850	1.92	20.92	0.48
2.733	0.48	8.800	22.06	14.867	1.92	20.93	0.48
2.750	0.48	8.817	22.06	14.883	1.92	20.95	0.48
2.767	0.48	8.833	22.06	14.900	1.92	20.97	0.48
2.783	0.48	8.850	22.06	14.917	1.92	20.98	0.48
2.800	0.48	8.867	22.06	14.933	1.92	21.00	0.48
2.817	0.48	8.883	22.06	14.950	1.92	21.02	0.48
2.833	0.48	8.900	22.06	14.967	1.92	21.03	0.48
2.850	0.48	8.917	22.06	14.983	1.92	21.05	0.48
2.867	0.48	8.933	22.06	15.000	1.92	21.07	0.48
2.883	0.48	8.950	22.06	15.017	1.92	21.08	0.48
2.900	0.48	8.967	22.06	15.033	1.92	21.10	0.48
2.917	0.48	8.983	22.06	15.050	1.92	21.12	0.48
2.933	0.48	9.000	22.06	15.067	1.92	21.13	0.48
2.950	0.48	9.017	22.06	15.083	1.92	21.15	0.48
2.967	0.48	9.033	22.06	15.100	1.92	21.17	0.48
2.983	0.48	9.050	22.06	15.117	1.92	21.18	0.48
3.000	0.48	9.067	22.06	15.133	1.92	21.20	0.48
3.017	0.48	9.083	22.06	15.150	1.92	21.22	0.48
3.033	0.48	9.100	22.06	15.167	1.92	21.23	0.48
3.050	0.48	9.117	22.06	15.183	1.92	21.25	0.48
3.067	0.48	9.133	22.06	15.200	1.92	21.27	0.48
3.083	0.48	9.150	22.06	15.217	1.92	21.28	0.48
3.100	0.48	9.167	22.06	15.233	1.92	21.30	0.48

3.117	0.48	9.183	22.06	15.250	1.92	21.32	0.48	4.383	2.88	10.450	6.23	16.517	0.96	22.58	0.48
3.133	0.48	9.200	22.06	15.267	1.92	21.33	0.48	4.400	2.88	10.467	6.23	16.533	0.96	22.60	0.48
3.150	0.48	9.217	22.06	15.283	1.92	21.35	0.48	4.417	2.88	10.483	6.23	16.550	0.96	22.62	0.48
3.167	0.48	9.233	22.06	15.300	1.92	21.37	0.48	4.433	2.88	10.500	6.23	16.567	0.96	22.63	0.48
3.183	0.48	9.250	22.06	15.317	1.92	21.38	0.48	4.450	2.88	10.517	6.23	16.583	0.96	22.65	0.48
3.200	0.48	9.267	22.06	15.333	1.92	21.40	0.48	4.467	2.88	10.533	6.23	16.600	0.96	22.67	0.48
3.217	0.48	9.283	22.06	15.350	1.92	21.42	0.48	4.483	2.88	10.550	6.23	16.617	0.96	22.68	0.48
3.233	0.48	9.300	22.06	15.367	1.92	21.43	0.48	4.500	2.88	10.567	6.23	16.633	0.96	22.70	0.48
3.250	0.48	9.317	22.06	15.383	1.92	21.45	0.48	4.517	2.88	10.583	6.23	16.650	0.96	22.72	0.48
3.267	0.48	9.333	22.06	15.400	1.92	21.47	0.48	4.533	2.88	10.600	6.23	16.667	0.96	22.73	0.48
3.283	0.48	9.350	22.06	15.417	1.92	21.48	0.48	4.550	2.88	10.617	6.23	16.683	0.96	22.75	0.48
3.300	0.48	9.367	22.06	15.433	1.92	21.50	0.48	4.567	2.88	10.633	6.23	16.700	0.96	22.77	0.48
3.317	0.48	9.383	22.06	15.450	1.92	21.52	0.48	4.583	2.88	10.650	6.23	16.717	0.96	22.78	0.48
3.333	0.48	9.400	22.06	15.467	1.92	21.53	0.48	4.600	2.88	10.667	6.23	16.733	0.96	22.80	0.48
3.350	0.48	9.417	22.06	15.483	1.92	21.55	0.48	4.617	2.88	10.683	6.23	16.750	0.96	22.82	0.48
3.367	0.48	9.433	22.06	15.500	1.92	21.57	0.48	4.633	2.88	10.700	6.23	16.767	0.96	22.83	0.48
3.383	0.48	9.450	22.06	15.517	1.92	21.58	0.48	4.650	2.88	10.717	6.23	16.783	0.96	22.85	0.48
3.400	0.48	9.467	22.06	15.533	1.92	21.60	0.48	4.667	2.88	10.733	6.23	16.800	0.96	22.87	0.48
3.417	0.48	9.483	22.06	15.550	1.92	21.62	0.48	4.683	2.88	10.750	6.23	16.817	0.96	22.88	0.48
3.433	0.48	9.500	22.06	15.567	1.92	21.63	0.48	4.700	2.88	10.767	6.23	16.833	0.96	22.90	0.48
3.450	0.48	9.517	22.06	15.583	1.92	21.65	0.48	4.717	2.88	10.783	6.23	16.850	0.96	22.92	0.48
3.467	0.48	9.533	22.06	15.600	1.92	21.67	0.48	4.733	2.88	10.800	6.23	16.867	0.96	22.93	0.48
3.483	0.48	9.550	22.06	15.617	1.92	21.68	0.48	4.750	2.88	10.817	6.23	16.883	0.96	22.95	0.48
3.500	0.48	9.567	22.06	15.633	1.92	21.70	0.48	4.767	2.88	10.833	6.23	16.900	0.96	22.97	0.48
3.517	0.48	9.583	22.06	15.650	1.92	21.72	0.48	4.783	2.88	10.850	6.23	16.917	0.96	22.98	0.48
3.533	0.48	9.600	22.06	15.667	1.92	21.73	0.48	4.800	2.88	10.867	6.23	16.933	0.96	23.00	0.48
3.550	0.48	9.617	22.06	15.683	1.92	21.75	0.48	4.817	2.88	10.883	6.23	16.950	0.96	23.02	0.48
3.567	0.48	9.633	22.06	15.700	1.92	21.77	0.48	4.833	2.88	10.900	6.23	16.967	0.96	23.03	0.48
3.583	0.48	9.650	22.06	15.717	1.92	21.78	0.48	4.850	2.88	10.917	6.23	16.983	0.96	23.05	0.48
3.600	0.48	9.667	22.06	15.733	1.92	21.80	0.48	4.867	2.88	10.933	6.23	17.000	0.96	23.07	0.48
3.617	0.48	9.683	22.06	15.750	1.92	21.82	0.48	4.883	2.88	10.950	6.23	17.017	0.96	23.08	0.48
3.633	0.48	9.700	22.06	15.767	1.92	21.83	0.48	4.900	2.88	10.967	6.23	17.033	0.96	23.10	0.48
3.650	0.48	9.717	22.06	15.783	1.92	21.85	0.48	4.917	2.88	10.983	6.23	17.050	0.96	23.12	0.48
3.667	0.48	9.733	22.06	15.800	1.92	21.87	0.48	4.933	2.88	11.000	6.23	17.067	0.96	23.13	0.48
3.683	0.48	9.750	22.06	15.817	1.92	21.88	0.48	4.950	2.88	11.017	6.23	17.083	0.96	23.15	0.48
3.700	0.48	9.767	22.06	15.833	1.92	21.90	0.48	4.967	2.88	11.033	6.23	17.100	0.96	23.17	0.48
3.717	0.48	9.783	22.06	15.850	1.92	21.92	0.48	4.983	2.88	11.050	6.23	17.117	0.96	23.18	0.48
3.733	0.48	9.800	22.06	15.867	1.92	21.93	0.48	5.000	2.88	11.067	6.23	17.133	0.96	23.20	0.48
3.750	0.48	9.817	22.06	15.883	1.92	21.95	0.48	5.017	2.88	11.083	6.23	17.150	0.96	23.22	0.48
3.767	0.48	9.833	22.06	15.900	1.92	21.97	0.48	5.033	2.88	11.100	6.23	17.167	0.96	23.23	0.48
3.783	0.48	9.850	22.06	15.917	1.92	21.98	0.48	5.050	2.88	11.117	6.23	17.183	0.96	23.25	0.48
3.800	0.48	9.867	22.06	15.933	1.92	22.00	0.48	5.067	2.88	11.133	6.23	17.200	0.96	23.27	0.48
3.817	0.48	9.883	22.06	15.950	1.92	22.02	0.48	5.083	2.88	11.150	6.23	17.217	0.96	23.28	0.48
3.833	0.48	9.900	22.06	15.967	1.92	22.03	0.48	5.100	2.88	11.167	6.23	17.233	0.96	23.30	0.48
3.850	0.48	9.917	22.06	15.983	1.92	22.05	0.48	5.117	2.88	11.183	6.23	17.250	0.96	23.32	0.48
3.867	0.48	9.933	22.06	16.000	1.92	22.07	0.48	5.133	2.88	11.200	6.23	17.267	0.96	23.33	0.48
3.883	0.48	9.950	22.06	16.017	1.92	22.08	0.48	5.150	2.88	11.217	6.23	17.283	0.96	23.35	0.48
3.900	0.48	9.967	22.06	16.033	1.92	22.10	0.48	5.167	2.88	11.233	6.23	17.300	0.96	23.37	0.48
3.917	0.48	9.983	22.06	16.050	1.92	22.12	0.48	5.183	2.88	11.250	6.23	17.317	0.96	23.38	0.48
3.933	0.48	10.000	22.06	16.067	1.92	22.13	0.48	5.200	2.88	11.267	6.23	17.333	0.96	23.40	0.48
3.950	0.48	10.017	22.06	16.083	1.92	22.15	0.48	5.217	2.88	11.283	6.23	17.350	0.96	23.42	0.48
3.967	0.48	10.033	22.06	16.100	1.92	22.17	0.48	5.233	2.88	11.300	6.23	17.367	0.96	23.43	0.48
3.983	0.48	10.050	22.06	16.117	1.92	22.18	0.48	5.250	2.88	11.317	6.23	17.383	0.96	23.45	0.48
4.000	0.48	10.067	22.06	16.133	1.92	22.20	0.48	5.267	2.88	11.333	6.23	17.400	0.96	23.47	0.48
4.017	0.48	10.083	22.06	16.150	1.92	22.22	0.48	5.283	2.88	11.350	6.23	17.417	0.96	23.48	0.48
4.033	0.48	10.100	22.06	16.167	1.92	22.23	0.48	5.300	2.88	11.367	6.23	17.433	0.96	23.50	0.48
4.050	0.48	10.117	22.06	16.183	1.92	22.25	0.48	5.317	2.88	11.383	6.23	17.450	0.96	23.52	0.48
4.067	0.48	10.133	22.06	16.200	1.92	22.27	0.48	5.333	2.88	11.400	6.23	17.467	0.96	23.53	0.48
4.083	0.48	10.150	22.06	16.217	1.92	22.28	0.48	5.350	2.88	11.417	6.23	17.483	0.96	23.55	0.48
4.100	0.48	10.167	22.06	16.233	1.92	22.30	0.48	5.367	2.88	11.433	6.23	17.500	0.96	23.57	0.48
4.117	0.48	10.183	22.06	16.250	1.92	22.32	0.48	5.383	2.88	11.450	6.23	17.517	0.96	23.58	0.48
4.133	0.48	10.200	22.06	16.267	0.96	22.33	0.48	5.400	2.88	11.467	6.23	17.533	0.96	23.60	0.48
4.150	0.48	10.217	22.06	16.283	0.96	22.35	0.48	5.417	2.88	11.483	6.23	17.550	0.96	23.62	0.48
4.167	0.48	10.233	22.06	16.300	0.96	22.37	0.48	5.433	2.88	11.500	6.23	17.567	0.96	23.63	0.48
4.183	0.48	10.250	22.05	16.317	0.96	22.38	0.48	5.450	2.88	11.517	6.23	17.583	0.96	23.65	0.48
4.200	0.48	10.267	6.23	16.333	0.96	22.40	0.48	5.467	2.88	11.533	6.23	17.600	0.96	23.67	0.48
4.217	0.48	10.283	6.23	16.350	0.96	22.42	0.48	5.483	2.88	11.550	6.23	17.617	0.96	23.68	0.48
4.233	0.48	10.300	6.23	16.367	0.96	22.43	0.48	5.500	2.88	11.567	6.23	17.633	0.96	23.70	0.48
4.250	0.48	10.317	6.23	16.383	0.96	22.45	0.48	5.517	2.88	11.583	6.23	17.650	0.96	23.72	0.48
4.267	2.88	10.333	6.23	16.400	0.96	22.47	0.48	5.533	2.88	11.600	6.23	17.667	0.96	23.73	0.48
4.283	2.88	10.350	6.23	16.417	0.96	22.48	0.48	5.550	2.88	11.617	6.23	17.683	0.96	23.75	0.48
4.300	2.88	10.367	6.23	16.433	0.96	22.50	0.48	5.567	2.88	11.633	6.23	17.700	0.96	23.77	0.48
4.317	2.88	10.383	6.23	16.450	0.96	22.52	0.48	5.583	2.88	11.650	6.23	17.717	0.96	23.78	0.48
4.333	2.88	10.400	6.23	16.467	0.96	22.53	0.48	5.600	2.88	11.667	6.23	17.733	0.96	23.80	0.48
4.350	2.88	10.417	6.23	16.483	0.96	22.55	0.48	5.617	2.88	11.683	6.23	17.750	0.96	23.82	0.48
4.367	2.88	10.433	6.23	16.500	0.96	22.57	0.48	5.633	2.88	11.700	6.23	17.767	0.96	23.83	0.48

5.650	2.88	11.717	6.23	17.783	0.96	23.85	0.48
5.667	2.88	11.733	6.23	17.800	0.96	23.87	0.48
5.683	2.88	11.750	6.23	17.817	0.96	23.88	0.48
5.700	2.88	11.767	6.23	17.833	0.96	23.90	0.48
5.717	2.88	11.783	6.23	17.850	0.96	23.92	0.48
5.733	2.88	11.800	6.23	17.867	0.96	23.93	0.48
5.750	2.88	11.817	6.23	17.883	0.96	23.95	0.48
5.767	2.88	11.833	6.23	17.900	0.96	23.97	0.48
5.783	2.88	11.850	6.23	17.917	0.96	23.98	0.48
5.800	2.88	11.867	6.23	17.933	0.96	24.00	0.48
5.817	2.88	11.883	6.23	17.950	0.96	24.02	0.48
5.833	2.88	11.900	6.23	17.967	0.96	24.03	0.48
5.850	2.88	11.917	6.23	17.983	0.96	24.05	0.48
5.867	2.88	11.933	6.23	18.000	0.96	24.07	0.48
5.883	2.88	11.950	6.23	18.017	0.96	24.08	0.48
5.900	2.88	11.967	6.23	18.033	0.96	24.10	0.48
5.917	2.88	11.983	6.23	18.050	0.96	24.12	0.48
5.933	2.88	12.000	6.23	18.067	0.96	24.13	0.48
5.950	2.88	12.017	6.23	18.083	0.96	24.15	0.48
5.967	2.88	12.033	6.23	18.100	0.96	24.17	0.48
5.983	2.88	12.050	6.23	18.117	0.96	24.18	0.48
6.000	2.88	12.067	6.23	18.133	0.96	24.20	0.48
6.017	2.88	12.083	6.23	18.150	0.96	24.22	0.48
6.033	2.88	12.100	6.23	18.167	0.96	24.23	0.48
6.050	2.88	12.117	6.23	18.183	0.96	24.25	0.48
6.067	2.88	12.133	6.23	18.200	0.96		

Max.Eff.Inten.(mm/hr)=	22.06	18.37	
over (min)	5.00	9.00	
Storage Coeff. (min)=	5.25 (ii)	8.37 (ii)	
Unit Hyd. Tpeak (min)=	5.00	9.00	
Unit Hyd. peak (cms)=	0.22	0.13	
			TOTALS
PEAK FLOW (cms)=	0.13	0.00	0.135 (iii)
TIME TO PEAK (hrs)=	9.48	10.25	10.23
RUNOFF VOLUME (mm)=	94.91	64.02	94.61
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.99	0.67	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410
	0.0304	0.0850	0.0620	0.1580
	0.0373	0.1020	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7641)	2.210	0.135	10.23	94.61
OUTFLOW: ID= 1 (7642)	2.210	0.044	10.53	87.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.62
TIME SHIFT OF PEAK FLOW (min)= 18.00
MAXIMUM STORAGE USED (ha.m.)= 0.1181

CALIB			
STANDHYD (7643)	Area (ha)= 2.02		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.00	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	

Length (m)=	116.05	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	0.00	6.083	2.88	12.150	6.23	18.22	0.96
0.033	0.00	6.100	2.88	12.167	6.23	18.23	0.96
0.050	0.00	6.117	2.88	12.183	6.23	18.25	0.96
0.067	0.00	6.133	2.88	12.200	6.23	18.27	0.48
0.083	0.00	6.150	2.88	12.217	6.23	18.28	0.48
0.100	0.00	6.167	2.88	12.233	6.23	18.30	0.48
0.117	0.00	6.183	2.88	12.250	6.23	18.32	0.48
0.133	0.00	6.200	2.88	12.267	3.36	18.33	0.48
0.150	0.00	6.217	2.88	12.283	3.36	18.35	0.48
0.167	0.00	6.233	2.88	12.300	3.36	18.37	0.48
0.183	0.00	6.250	2.89	12.317	3.36	18.38	0.48
0.200	0.00	6.267	8.15	12.333	3.36	18.40	0.48
0.217	0.00	6.283	8.15	12.350	3.36	18.42	0.48
0.233	0.00	6.300	8.15	12.367	3.36	18.43	0.48
0.250	0.00	6.317	8.15	12.383	3.36	18.45	0.48
0.267	0.48	6.333	8.15	12.400	3.36	18.47	0.48
0.283	0.48	6.350	8.15	12.417	3.36	18.48	0.48
0.300	0.48	6.367	8.15	12.433	3.36	18.50	0.48
0.317	0.48	6.383	8.15	12.450	3.36	18.52	0.48
0.333	0.48	6.400	8.15	12.467	3.36	18.53	0.48
0.350	0.48	6.417	8.15	12.483	3.36	18.55	0.48
0.367	0.48	6.433	8.15	12.500	3.36	18.57	0.48
0.383	0.48	6.450	8.15	12.517	3.36	18.58	0.48
0.400	0.48	6.467	8.15	12.533	3.36	18.60	0.48
0.417	0.48	6.483	8.15	12.550	3.36	18.62	0.48
0.433	0.48	6.500	8.15	12.567	3.36	18.63	0.48
0.450	0.48	6.517	8.15	12.583	3.36	18.65	0.48
0.467	0.48	6.533	8.15	12.600	3.36	18.67	0.48
0.483	0.48	6.550	8.15	12.617	3.36	18.68	0.48
0.500	0.48	6.567	8.15	12.633	3.36	18.70	0.48
0.517	0.48	6.583	8.15	12.650	3.36	18.72	0.48
0.533	0.48	6.600	8.15	12.667	3.36	18.73	0.48
0.550	0.48	6.617	8.15	12.683	3.36	18.75	0.48
0.567	0.48	6.633	8.15	12.700	3.36	18.77	0.48
0.583	0.48	6.650	8.15	12.717	3.36	18.78	0.48
0.600	0.48	6.667	8.15	12.733	3.36	18.80	0.48
0.617	0.48	6.683	8.15	12.750	3.36	18.82	0.48
0.633	0.48	6.700	8.15	12.767	3.36	18.83	0.48
0.650	0.48	6.717	8.15	12.783	3.36	18.85	0.48
0.667	0.48	6.733	8.15	12.800	3.36	18.87	0.48
0.683	0.48	6.750	8.15	12.817	3.36	18.88	0.48
0.700	0.48	6.767	8.15	12.833	3.36	18.90	0.48
0.717	0.48	6.783	8.15	12.850	3.36	18.92	0.48
0.733	0.48	6.800	8.15	12.867	3.36	18.93	0.48
0.750	0.48	6.817	8.15	12.883	3.36	18.95	0.48
0.767	0.48	6.833	8.15	12.900	3.36	18.97	0.48
0.783	0.48	6.850	8.15	12.917	3.36	18.98	0.48
0.800	0.48	6.867	8.15	12.933	3.36	19.00	0.48
0.817	0.48	6.883	8.15	12.950	3.36	19.02	0.48
0.833	0.48	6.900	8.15	12.967	3.36	19.03	0.48
0.850	0.48	6.917	8.15	12.983	3.36	19.05	0.48
0.867	0.48	6.933	8.15	13.000	3.36	19.07	0.48
0.883	0.48	6.950	8.15	13.017	3.36	19.08	0.48
0.900	0.48	6.967	8.15	13.033	3.36	19.10	0.48
0.917	0.48	6.983	8.15	13.050	3.36	19.12	0.48
0.933	0.48	7.000	8.15	13.067	3.36	19.13	0.48
0.950	0.48	7.017	8.15	13.083	3.36	19.15	0.48
0.967	0.48	7.033	8.15	13.100	3.36	19.17	0.48
0.983	0.48	7.050	8.15	13.117	3.36	19.18	0.48
1.000	0.48	7.067	8.15	13.133	3.36	19.20	0.48
1.017	0.48	7.083	8.15	13.150	3.36	19.22	0.48
1.033	0.48	7.100	8.15	13.167	3.36	19.23	0.48
1.050	0.48	7.117	8.15	13.183	3.36	19.25	0.48
1.067	0.48	7.133	8.15	13.200	3.36	19.27	0.48
1.083	0.48	7.150	8.15	13.217	3.36	19.28	0.48
1.100	0.48	7.167	8.15	13.233	3.36	19.30	0.48
1.117	0.48	7.183	8.15	13.250	3.36	19.32	0.48

1.133	0.48	7.200	8.15	13.267	3.36	19.33	0.48	2.400	0.48	8.467	22.06	14.533	1.92	20.60	0.48
1.150	0.48	7.217	8.15	13.283	3.36	19.35	0.48	2.417	0.48	8.483	22.06	14.550	1.92	20.62	0.48
1.167	0.48	7.233	8.15	13.300	3.36	19.37	0.48	2.433	0.48	8.500	22.06	14.567	1.92	20.63	0.48
1.183	0.48	7.250	8.15	13.317	3.36	19.38	0.48	2.450	0.48	8.517	22.06	14.583	1.92	20.65	0.48
1.200	0.48	7.267	8.15	13.333	3.36	19.40	0.48	2.467	0.48	8.533	22.06	14.600	1.92	20.67	0.48
1.217	0.48	7.283	8.15	13.350	3.36	19.42	0.48	2.483	0.48	8.550	22.06	14.617	1.92	20.68	0.48
1.233	0.48	7.300	8.15	13.367	3.36	19.43	0.48	2.500	0.48	8.567	22.06	14.633	1.92	20.70	0.48
1.250	0.48	7.317	8.15	13.383	3.36	19.45	0.48	2.517	0.48	8.583	22.06	14.650	1.92	20.72	0.48
1.267	0.48	7.333	8.15	13.400	3.36	19.47	0.48	2.533	0.48	8.600	22.06	14.667	1.92	20.73	0.48
1.283	0.48	7.350	8.15	13.417	3.36	19.48	0.48	2.550	0.48	8.617	22.06	14.683	1.92	20.75	0.48
1.300	0.48	7.367	8.15	13.433	3.36	19.50	0.48	2.567	0.48	8.633	22.06	14.700	1.92	20.77	0.48
1.317	0.48	7.383	8.15	13.450	3.36	19.52	0.48	2.583	0.48	8.650	22.06	14.717	1.92	20.78	0.48
1.333	0.48	7.400	8.15	13.467	3.36	19.53	0.48	2.600	0.48	8.667	22.06	14.733	1.92	20.80	0.48
1.350	0.48	7.417	8.15	13.483	3.36	19.55	0.48	2.617	0.48	8.683	22.06	14.750	1.92	20.82	0.48
1.367	0.48	7.433	8.15	13.500	3.36	19.57	0.48	2.633	0.48	8.700	22.06	14.767	1.92	20.83	0.48
1.383	0.48	7.450	8.15	13.517	3.36	19.58	0.48	2.650	0.48	8.717	22.06	14.783	1.92	20.85	0.48
1.400	0.48	7.467	8.15	13.533	3.36	19.60	0.48	2.667	0.48	8.733	22.06	14.800	1.92	20.87	0.48
1.417	0.48	7.483	8.15	13.550	3.36	19.62	0.48	2.683	0.48	8.750	22.06	14.817	1.92	20.88	0.48
1.433	0.48	7.500	8.15	13.567	3.36	19.63	0.48	2.700	0.48	8.767	22.06	14.833	1.92	20.90	0.48
1.450	0.48	7.517	8.15	13.583	3.36	19.65	0.48	2.717	0.48	8.783	22.06	14.850	1.92	20.92	0.48
1.467	0.48	7.533	8.15	13.600	3.36	19.67	0.48	2.733	0.48	8.800	22.06	14.867	1.92	20.93	0.48
1.483	0.48	7.550	8.15	13.617	3.36	19.68	0.48	2.750	0.48	8.817	22.06	14.883	1.92	20.95	0.48
1.500	0.48	7.567	8.15	13.633	3.36	19.70	0.48	2.767	0.48	8.833	22.06	14.900	1.92	20.97	0.48
1.517	0.48	7.583	8.15	13.650	3.36	19.72	0.48	2.783	0.48	8.850	22.06	14.917	1.92	20.98	0.48
1.533	0.48	7.600	8.15	13.667	3.36	19.73	0.48	2.800	0.48	8.867	22.06	14.933	1.92	21.00	0.48
1.550	0.48	7.617	8.15	13.683	3.36	19.75	0.48	2.817	0.48	8.883	22.06	14.950	1.92	21.02	0.48
1.567	0.48	7.633	8.15	13.700	3.36	19.77	0.48	2.833	0.48	8.900	22.06	14.967	1.92	21.03	0.48
1.583	0.48	7.650	8.15	13.717	3.36	19.78	0.48	2.850	0.48	8.917	22.06	14.983	1.92	21.05	0.48
1.600	0.48	7.667	8.15	13.733	3.36	19.80	0.48	2.867	0.48	8.933	22.06	15.000	1.92	21.07	0.48
1.617	0.48	7.683	8.15	13.750	3.36	19.82	0.48	2.883	0.48	8.950	22.06	15.017	1.92	21.08	0.48
1.633	0.48	7.700	8.15	13.767	3.36	19.83	0.48	2.900	0.48	8.967	22.06	15.033	1.92	21.10	0.48
1.650	0.48	7.717	8.15	13.783	3.36	19.85	0.48	2.917	0.48	8.983	22.06	15.050	1.92	21.12	0.48
1.667	0.48	7.733	8.15	13.800	3.36	19.87	0.48	2.933	0.48	9.000	22.06	15.067	1.92	21.13	0.48
1.683	0.48	7.750	8.15	13.817	3.36	19.88	0.48	2.950	0.48	9.017	22.06	15.083	1.92	21.15	0.48
1.700	0.48	7.767	8.15	13.833	3.36	19.90	0.48	2.967	0.48	9.033	22.06	15.100	1.92	21.17	0.48
1.717	0.48	7.783	8.15	13.850	3.36	19.92	0.48	2.983	0.48	9.050	22.06	15.117	1.92	21.18	0.48
1.733	0.48	7.800	8.15	13.867	3.36	19.93	0.48	3.000	0.48	9.067	22.06	15.133	1.92	21.20	0.48
1.750	0.48	7.817	8.15	13.883	3.36	19.95	0.48	3.017	0.48	9.083	22.06	15.150	1.92	21.22	0.48
1.767	0.48	7.833	8.15	13.900	3.36	19.97	0.48	3.033	0.48	9.100	22.06	15.167	1.92	21.23	0.48
1.783	0.48	7.850	8.15	13.917	3.36	19.98	0.48	3.050	0.48	9.117	22.06	15.183	1.92	21.25	0.48
1.800	0.48	7.867	8.15	13.933	3.36	20.00	0.48	3.067	0.48	9.133	22.06	15.200	1.92	21.27	0.48
1.817	0.48	7.883	8.15	13.950	3.36	20.02	0.48	3.083	0.48	9.150	22.06	15.217	1.92	21.28	0.48
1.833	0.48	7.900	8.15	13.967	3.36	20.03	0.48	3.100	0.48	9.167	22.06	15.233	1.92	21.30	0.48
1.850	0.48	7.917	8.15	13.983	3.36	20.05	0.48	3.117	0.48	9.183	22.06	15.250	1.92	21.32	0.48
1.867	0.48	7.933	8.15	14.000	3.36	20.07	0.48	3.133	0.48	9.200	22.06	15.267	1.92	21.33	0.48
1.883	0.48	7.950	8.15	14.017	3.36	20.08	0.48	3.150	0.48	9.217	22.06	15.283	1.92	21.35	0.48
1.900	0.48	7.967	8.15	14.033	3.36	20.10	0.48	3.167	0.48	9.233	22.06	15.300	1.92	21.37	0.48
1.917	0.48	7.983	8.15	14.050	3.36	20.12	0.48	3.183	0.48	9.250	22.06	15.317	1.92	21.38	0.48
1.933	0.48	8.000	8.15	14.067	3.36	20.13	0.48	3.200	0.48	9.267	22.06	15.333	1.92	21.40	0.48
1.950	0.48	8.017	8.15	14.083	3.36	20.15	0.48	3.217	0.48	9.283	22.06	15.350	1.92	21.42	0.48
1.967	0.48	8.033	8.15	14.100	3.36	20.17	0.48	3.233	0.48	9.300	22.06	15.367	1.92	21.43	0.48
1.983	0.48	8.050	8.15	14.117	3.36	20.18	0.48	3.250	0.48	9.317	22.06	15.383	1.92	21.45	0.48
2.000	0.48	8.067	8.15	14.133	3.36	20.20	0.48	3.267	0.48	9.333	22.06	15.400	1.92	21.47	0.48
2.017	0.48	8.083	8.15	14.150	3.36	20.22	0.48	3.283	0.48	9.350	22.06	15.417	1.92	21.48	0.48
2.033	0.48	8.100	8.15	14.167	3.36	20.23	0.48	3.300	0.48	9.367	22.06	15.433	1.92	21.50	0.48
2.050	0.48	8.117	8.15	14.183	3.36	20.25	0.48	3.317	0.48	9.383	22.06	15.450	1.92	21.52	0.48
2.067	0.48	8.133	8.15	14.200	3.36	20.27	0.48	3.333	0.48	9.400	22.06	15.467	1.92	21.53	0.48
2.083	0.48	8.150	8.15	14.217	3.36	20.28	0.48	3.350	0.48	9.417	22.06	15.483	1.92	21.55	0.48
2.100	0.48	8.167	8.15	14.233	3.36	20.30	0.48	3.367	0.48	9.433	22.06	15.500	1.92	21.57	0.48
2.117	0.48	8.183	8.15	14.250	3.36	20.32	0.48	3.383	0.48	9.450	22.06	15.517	1.92	21.58	0.48
2.133	0.48	8.200	8.15	14.267	1.92	20.33	0.48	3.400	0.48	9.467	22.06	15.533	1.92	21.60	0.48
2.150	0.48	8.217	8.15	14.283	1.92	20.35	0.48	3.417	0.48	9.483	22.06	15.550	1.92	21.62	0.48
2.167	0.48	8.233	8.15	14.300	1.92	20.37	0.48	3.433	0.48	9.500	22.06	15.567	1.92	21.63	0.48
2.183	0.48	8.250	8.19	14.317	1.92	20.38	0.48	3.450	0.48	9.517	22.06	15.583	1.92	21.65	0.48
2.200	0.48	8.267	22.06	14.333	1.92	20.40	0.48	3.467	0.48	9.533	22.06	15.600	1.92	21.67	0.48
2.217	0.48	8.283	22.06	14.350	1.92	20.42	0.48	3.483	0.48	9.550	22.06	15.617	1.92	21.68	0.48
2.233	0.48	8.300	22.06	14.367	1.92	20.43	0.48	3.500	0.48	9.567	22.06	15.633	1.92	21.70	0.48
2.250	0.48	8.317	22.06	14.383	1.92	20.45	0.48	3.517	0.48	9.583	22.06	15.650	1.92	21.72	0.48
2.267	0.48	8.333	22.06	14.400	1.92	20.47	0.48	3.533	0.48	9.600	22.06	15.667	1.92	21.73	0.48
2.283	0.48	8.350	22.06	14.417	1.92	20.48	0.48	3.550	0.48	9.617	22.06	15.683	1.92	21.75	0.48
2.300	0.48	8.367	22.06	14.433	1.92	20.50	0.48	3.567	0.48	9.633	22.06	15.700	1.92	21.77	0.48
2.317	0.48	8.383	22.06	14.450	1.92	20.52	0.48	3.583	0.48	9.650	22.06	15.717	1.92	21.78	0.48
2.333	0.48	8.400	22.06	14.467	1.92	20.53	0.48	3.600	0.48	9.667	22.06	15.733	1.92	21.80	0.48
2.350	0.48	8.417	22.06	14.483	1.92	20.55	0.48	3.617	0.48	9.683	22.06	15.750	1.92	21.82	0.48
2.367	0.48	8.433	22.06	14.500	1.92	20.57	0.48	3.633	0.48	9.700	22.06	15.767	1.92	21.83	0.48
2.383	0.48	8.450	22.06	14.517	1.92	20.58	0.48	3.650	0.48	9.717	22.06	15.783	1.92	21.85	0.48

3.667	0.48	9.733	22.06	15.800	1.92	21.87	0.48
3.683	0.48	9.750	22.06	15.817	1.92	21.88	0.48
3.700	0.48	9.767	22.06	15.833	1.92	21.90	0.48
3.717	0.48	9.783	22.06	15.850	1.92	21.92	0.48
3.733	0.48	9.800	22.06	15.867	1.92	21.93	0.48
3.750	0.48	9.817	22.06	15.883	1.92	21.95	0.48
3.767	0.48	9.833	22.06	15.900	1.92	21.97	0.48
3.783	0.48	9.850	22.06	15.917	1.92	21.98	0.48
3.800	0.48	9.867	22.06	15.933	1.92	22.00	0.48
3.817	0.48	9.883	22.06	15.950	1.92	22.02	0.48
3.833	0.48	9.900	22.06	15.967	1.92	22.03	0.48
3.850	0.48	9.917	22.06	15.983	1.92	22.05	0.48
3.867	0.48	9.933	22.06	16.000	1.92	22.07	0.48
3.883	0.48	9.950	22.06	16.017	1.92	22.08	0.48
3.900	0.48	9.967	22.06	16.033	1.92	22.10	0.48
3.917	0.48	9.983	22.06	16.050	1.92	22.12	0.48
3.933	0.48	10.000	22.06	16.067	1.92	22.13	0.48
3.950	0.48	10.017	22.06	16.083	1.92	22.15	0.48
3.967	0.48	10.033	22.06	16.100	1.92	22.17	0.48
3.983	0.48	10.050	22.06	16.117	1.92	22.18	0.48
4.000	0.48	10.067	22.06	16.133	1.92	22.20	0.48
4.017	0.48	10.083	22.06	16.150	1.92	22.22	0.48
4.033	0.48	10.100	22.06	16.167	1.92	22.23	0.48
4.050	0.48	10.117	22.06	16.183	1.92	22.25	0.48
4.067	0.48	10.133	22.06	16.200	1.92	22.27	0.48
4.083	0.48	10.150	22.06	16.217	1.92	22.28	0.48
4.100	0.48	10.167	22.06	16.233	1.92	22.30	0.48
4.117	0.48	10.183	22.06	16.250	1.92	22.32	0.48
4.133	0.48	10.200	22.06	16.267	0.96	22.33	0.48
4.150	0.48	10.217	22.06	16.283	0.96	22.35	0.48
4.167	0.48	10.233	22.06	16.300	0.96	22.37	0.48
4.183	0.48	10.250	22.05	16.317	0.96	22.38	0.48
4.200	0.48	10.267	6.23	16.333	0.96	22.40	0.48
4.217	0.48	10.283	6.23	16.350	0.96	22.42	0.48
4.233	0.48	10.300	6.23	16.367	0.96	22.43	0.48
4.250	0.48	10.317	6.23	16.383	0.96	22.45	0.48
4.267	2.88	10.333	6.23	16.400	0.96	22.47	0.48
4.283	2.88	10.350	6.23	16.417	0.96	22.48	0.48
4.300	2.88	10.367	6.23	16.433	0.96	22.50	0.48
4.317	2.88	10.383	6.23	16.450	0.96	22.52	0.48
4.333	2.88	10.400	6.23	16.467	0.96	22.53	0.48
4.350	2.88	10.417	6.23	16.483	0.96	22.55	0.48
4.367	2.88	10.433	6.23	16.500	0.96	22.57	0.48
4.383	2.88	10.450	6.23	16.517	0.96	22.58	0.48
4.400	2.88	10.467	6.23	16.533	0.96	22.60	0.48
4.417	2.88	10.483	6.23	16.550	0.96	22.62	0.48
4.433	2.88	10.500	6.23	16.567	0.96	22.63	0.48
4.450	2.88	10.517	6.23	16.583	0.96	22.65	0.48
4.467	2.88	10.533	6.23	16.600	0.96	22.67	0.48
4.483	2.88	10.550	6.23	16.617	0.96	22.68	0.48
4.500	2.88	10.567	6.23	16.633	0.96	22.70	0.48
4.517	2.88	10.583	6.23	16.650	0.96	22.72	0.48
4.533	2.88	10.600	6.23	16.667	0.96	22.73	0.48
4.550	2.88	10.617	6.23	16.683	0.96	22.75	0.48
4.567	2.88	10.633	6.23	16.700	0.96	22.77	0.48
4.583	2.88	10.650	6.23	16.717	0.96	22.78	0.48
4.600	2.88	10.667	6.23	16.733	0.96	22.80	0.48
4.617	2.88	10.683	6.23	16.750	0.96	22.82	0.48
4.633	2.88	10.700	6.23	16.767	0.96	22.83	0.48
4.650	2.88	10.717	6.23	16.783	0.96	22.85	0.48
4.667	2.88	10.733	6.23	16.800	0.96	22.87	0.48
4.683	2.88	10.750	6.23	16.817	0.96	22.88	0.48
4.700	2.88	10.767	6.23	16.833	0.96	22.90	0.48
4.717	2.88	10.783	6.23	16.850	0.96	22.92	0.48
4.733	2.88	10.800	6.23	16.867	0.96	22.93	0.48
4.750	2.88	10.817	6.23	16.883	0.96	22.95	0.48
4.767	2.88	10.833	6.23	16.900	0.96	22.97	0.48
4.783	2.88	10.850	6.23	16.917	0.96	22.98	0.48
4.800	2.88	10.867	6.23	16.933	0.96	23.00	0.48
4.817	2.88	10.883	6.23	16.950	0.96	23.02	0.48
4.833	2.88	10.900	6.23	16.967	0.96	23.03	0.48
4.850	2.88	10.917	6.23	16.983	0.96	23.05	0.48
4.867	2.88	10.933	6.23	17.000	0.96	23.07	0.48
4.883	2.88	10.950	6.23	17.017	0.96	23.08	0.48
4.900	2.88	10.967	6.23	17.033	0.96	23.10	0.48
4.917	2.88	10.983	6.23	17.050	0.96	23.12	0.48
4.933	2.88	11.000	6.23	17.067	0.96	23.13	0.48
4.950	2.88	11.017	6.23	17.083	0.96	23.15	0.48
4.967	2.88	11.033	6.23	17.100	0.96	23.17	0.48
4.983	2.88	11.050	6.23	17.117	0.96	23.18	0.48
5.000	2.88	11.067	6.23	17.133	0.96	23.20	0.48
5.017	2.88	11.083	6.23	17.150	0.96	23.22	0.48
5.033	2.88	11.100	6.23	17.167	0.96	23.23	0.48
5.050	2.88	11.117	6.23	17.183	0.96	23.25	0.48
5.067	2.88	11.133	6.23	17.200	0.96	23.27	0.48
5.083	2.88	11.150	6.23	17.217	0.96	23.28	0.48
5.100	2.88	11.167	6.23	17.233	0.96	23.30	0.48
5.117	2.88	11.183	6.23	17.250	0.96	23.32	0.48
5.133	2.88	11.200	6.23	17.267	0.96	23.33	0.48
5.150	2.88	11.217	6.23	17.283	0.96	23.35	0.48
5.167	2.88	11.233	6.23	17.300	0.96	23.37	0.48
5.183	2.88	11.250	6.23	17.317	0.96	23.38	0.48
5.200	2.88	11.267	6.23	17.333	0.96	23.40	0.48
5.217	2.88	11.283	6.23	17.350	0.96	23.42	0.48
5.233	2.88	11.300	6.23	17.367	0.96	23.43	0.48
5.250	2.88	11.317	6.23	17.383	0.96	23.45	0.48
5.267	2.88	11.333	6.23	17.400	0.96	23.47	0.48
5.283	2.88	11.350	6.23	17.417	0.96	23.48	0.48
5.300	2.88	11.367	6.23	17.433	0.96	23.50	0.48
5.317	2.88	11.383	6.23	17.450	0.96	23.52	0.48
5.333	2.88	11.400	6.23	17.467	0.96	23.53	0.48
5.350	2.88	11.417	6.23	17.483	0.96	23.55	0.48
5.367	2.88	11.433	6.23	17.500	0.96	23.57	0.48
5.383	2.88	11.450	6.23	17.517	0.96	23.58	0.48
5.400	2.88	11.467	6.23	17.533	0.96	23.60	0.48
5.417	2.88	11.483	6.23	17.550	0.96	23.62	0.48
5.433	2.88	11.500	6.23	17.567	0.96	23.63	0.48
5.450	2.88	11.517	6.23	17.583	0.96	23.65	0.48
5.467	2.88	11.533	6.23	17.600	0.96	23.67	0.48
5.483	2.88	11.550	6.23	17.617	0.96	23.68	0.48
5.500	2.88	11.567	6.23	17.633	0.96	23.70	0.48
5.517	2.88	11.583	6.23	17.650	0.96	23.72	0.48
5.533	2.88	11.600	6.23	17.667	0.96	23.73	0.48
5.550	2.88	11.617	6.23	17.683	0.96	23.75	0.48
5.567	2.88	11.633	6.23	17.700	0.96	23.77	0.48
5.583	2.88	11.650	6.23	17.717	0.96	23.78	0.48
5.600	2.88	11.667	6.23	17.733	0.96	23.80	0.48
5.617	2.88	11.683	6.23	17.750	0.96	23.82	0.48
5.633	2.88	11.700	6.23	17.767	0.96	23.83	0.48
5.650	2.88	11.717	6.23	17.783	0.96	23.85	0.48
5.667	2.88	11.733	6.23	17.800	0.96	23.87	0.48
5.683	2.88	11.750	6.23	17.817	0.96	23.88	0.48
5.700	2.88	11.767	6.23	17.833	0.96	23.90	0.48
5.717	2.88	11.783	6.23	17.850	0.96	23.92	0.48
5.733	2.88	11.800	6.23	17.867	0.96	23.93	0.48
5.750	2.88	11.817	6.23	17.883	0.96	23.95	0.48
5.767	2.88	11.833	6.23	17.900	0.96	23.97	0.48
5.783	2.88	11.850	6.23	17.917	0.96	23.98	0.48
5.800	2.88	11.867	6.23	17.933	0.96	24.00	0.48
5.817	2.88	11.883	6.23	17.950	0.96	24.02	0.48
5.833	2.88	11.900	6.23	17.967	0.96	24.03	0.48
5.850	2.88	11.917	6.23	17.983	0.96	24.05	0.48
5.867	2.88	11.933	6.23	18.000	0.96	24.07	0.48
5.883	2.88	11.950	6.23	18.017	0.96	24.08	0.48
5.900	2.88	11.967	6.23	18.033	0.96	24.10	0.48
5.917	2.88	11.983	6.23	18.050	0.96	24.12	0.48
5.933	2.88	12.000	6.23	18.067	0.96	24.13	0.48
5.950	2.88	12.017	6.23	18.083	0.96	24.15	0.48
5.967	2.88	12.033	6.23	18.100	0.96	24.17	0.48
5.983	2.88	12.050	6.23	18.117	0.96	24.18	0.48
6.000	2.88	12.067	6.23	18.133	0.96	24.20	0.48
6.017	2.88	12.083	6.23	18.150	0.96	24.22	0.48
6.033	2.88	12.100	6.23	18.167	0.96	24.23	0.48
6.050	2.88	12.117	6.23	18.183	0.96	24.25	0.48
6.067	2.88	12.133	6.23	18.200	0.96		

Max.Eff.Inten.(mm/hr)=	22.06	18.37	
over (min)	5.00	9.00	
Storage Coeff. (min)=	5.11 (ii)	8.23 (ii)	
Unit Hyd. Tpeak (min)=	5.00	9.00	
Unit Hyd. peak (cms)=	0.22	0.13	
			TOTALS

PEAK FLOW (cms)=	0.12	0.00	0.124 (iii)
TIME TO PEAK (hrs)=	9.47	10.25	10.23
RUNOFF VOLUME (mm)=	94.90	64.03	94.61
TOTAL RAINFALL (mm)=	95.92	95.92	95.92
RUNOFF COEFFICIENT =	0.99	0.67	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7644) | IN= 2---> OUT= 1 | DT= 1.0 min	OVERFLOW IS OFF			
OUTFLOW	STORAGE	OUTFLOW	STORAGE	
(cms)	(ha.m.)	(cms)	(ha.m.)	
0.0000	0.0000	0.0433	0.1140	
0.0182	0.0580	0.0507	0.1280	
0.0280	0.0775	0.0571	0.1440	
0.0343	0.0930	0.0000	0.0000	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7643)	2.020	0.124	10.23	94.61
OUTFLOW: ID= 1 (7644)	2.020	0.041	10.53	88.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.89
TIME SHIFT OF PEAK FLOW (min)= 18.00
MAXIMUM STORAGE USED (ha.m.)= 0.1078

****
** SIMULATION:996. 100yr 4hr 10min Chicago **
****

CHICAGO STORM | Ptotal= 89.87 mm |	IDF curve parameters: A=4688.000 B= 17.000 C= 0.962

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.00	2.89	1.00	62.12	2.00	12.48	3.00	3.91
0.17	3.67	1.17	196.54	2.17	9.60	3.17	3.44
0.33	4.88	1.33	83.09	2.33	7.66	3.33	3.05
0.50	6.96	1.50	41.25	2.50	6.29	3.50	2.73
0.67	11.02	1.67	25.07	2.67	5.28	3.67	2.47
0.83	21.03	1.83	17.06	2.83	4.51	3.83	2.24

CALIB | STANDHYD (7567) |ID= 1 DT= 1.0 min |	Area (ha)= 2.81 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.78	0.03	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	136.87	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.89	1.017	62.12	2.017	12.48	3.02	3.91		
0.033	2.89	1.033	62.12	2.033	12.48	3.03	3.91		
0.050	2.89	1.050	62.12	2.050	12.48	3.05	3.91		
0.067	2.89	1.067	62.12	2.067	12.48	3.07	3.91		
0.083	2.89	1.083	62.12	2.083	12.48	3.08	3.91		
0.100	2.89	1.100	62.12	2.100	12.48	3.10	3.91		
0.117	2.89	1.117	62.12	2.117	12.48	3.12	3.91		
0.133	2.89	1.133	62.12	2.133	12.48	3.13	3.91		
0.150	2.89	1.150	62.12	2.150	12.48	3.15	3.91		
0.167	2.89	1.167	62.12	2.167	12.48	3.17	3.91		
0.183	3.67	1.183	196.53	2.183	9.60	3.18	3.44		
0.200	3.67	1.200	196.54	2.200	9.60	3.20	3.44		
0.217	3.67	1.217	196.54	2.217	9.60	3.22	3.44		
0.233	3.67	1.233	196.54	2.233	9.60	3.23	3.44		
0.250	3.67	1.250	196.54	2.250	9.60	3.25	3.44		
0.267	3.67	1.267	196.54	2.267	9.60	3.27	3.44		
0.283	3.67	1.283	196.54	2.283	9.60	3.28	3.44		
0.300	3.67	1.300	196.54	2.300	9.60	3.30	3.44		
0.317	3.67	1.317	196.54	2.317	9.60	3.32	3.44		
0.333	3.67	1.333	196.54	2.333	9.60	3.33	3.44		
0.350	4.88	1.350	83.10	2.350	7.66	3.35	3.05		
0.367	4.88	1.367	83.09	2.367	7.66	3.37	3.05		
0.383	4.88	1.383	83.09	2.383	7.66	3.38	3.05		
0.400	4.88	1.400	83.09	2.400	7.66	3.40	3.05		
0.417	4.88	1.417	83.09	2.417	7.66	3.42	3.05		
0.433	4.88	1.433	83.09	2.433	7.66	3.43	3.05		
0.450	4.88	1.450	83.09	2.450	7.66	3.45	3.05		
0.467	4.88	1.467	83.09	2.467	7.66	3.47	3.05		
0.483	4.88	1.483	83.09	2.483	7.66	3.48	3.05		
0.500	4.88	1.500	83.09	2.500	7.66	3.50	3.05		
0.517	6.96	1.517	41.25	2.517	6.29	3.52	2.73		
0.533	6.96	1.533	41.25	2.533	6.29	3.53	2.73		
0.550	6.96	1.550	41.25	2.550	6.29	3.55	2.73		
0.567	6.96	1.567	41.25	2.567	6.29	3.57	2.73		
0.583	6.96	1.583	41.25	2.583	6.29	3.58	2.73		
0.600	6.96	1.600	41.25	2.600	6.29	3.60	2.73		
0.617	6.96	1.617	41.25	2.617	6.29	3.62	2.73		
0.633	6.96	1.633	41.25	2.633	6.29	3.63	2.73		
0.650	6.96	1.650	41.25	2.650	6.29	3.65	2.73		
0.667	6.96	1.667	41.25	2.667	6.29	3.67	2.73		
0.683	11.02	1.683	25.07	2.683	5.28	3.68	2.47		
0.700	11.02	1.700	25.07	2.700	5.28	3.70	2.47		
0.717	11.02	1.717	25.07	2.717	5.28	3.72	2.47		
0.733	11.02	1.733	25.07	2.733	5.28	3.73	2.47		
0.750	11.02	1.750	25.07	2.750	5.28	3.75	2.47		
0.767	11.02	1.767	25.07	2.767	5.28	3.77	2.47		
0.783	11.02	1.783	25.07	2.783	5.28	3.78	2.47		
0.800	11.02	1.800	25.07	2.800	5.28	3.80	2.47		
0.817	11.02	1.817	25.07	2.817	5.28	3.82	2.47		
0.833	11.02	1.833	25.07	2.833	5.28	3.83	2.47		
0.850	21.03	1.850	17.06	2.850	4.51	3.85	2.24		
0.867	21.03	1.867	17.06	2.867	4.51	3.87	2.24		
0.883	21.03	1.883	17.06	2.883	4.51	3.88	2.24		
0.900	21.03	1.900	17.06	2.900	4.51	3.90	2.24		
0.917	21.03	1.917	17.06	2.917	4.51	3.92	2.24		
0.933	21.03	1.933	17.06	2.933	4.51	3.93	2.24		
0.950	21.03	1.950	17.06	2.950	4.51	3.95	2.24		
0.967	21.03	1.967	17.06	2.967	4.51	3.97	2.24		
0.983	21.03	1.983	17.06	2.983	4.51	3.98	2.24		
1.000	21.03	2.000	17.06	3.000	4.51	4.00	2.24		

			TOTALS
Max.Eff.Inten.(mm/hr)=	196.54	129.47	
over (min)	5.00	4.00	
Storage Coeff. (min)=	2.35 (ii)	3.65 (ii)	
Unit Hyd. Tpeak (min)=	5.00	4.00	
Unit Hyd. peak (cms)=	0.35	0.30	
PEAK FLOW (cms)=	1.47	0.01	1.480 (iii)
TIME TO PEAK (hrs)=	1.33	1.35	1.33
RUNOFF VOLUME (mm)=	88.87	58.63	88.57
TOTAL RAINFALL (mm)=	89.87	89.87	89.87
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)

GEI Consultants

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7626) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0568	0.1530
	0.0239	0.0780	0.0660	0.1730
	0.0370	0.1040	0.0751	0.2000
	0.0451	0.1250	0.0000	0.0000

**** WARNING : STORAGE-DISCHARGE TABLE WAS EXCEEDED.

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7567)	2.810	1.480	1.33	88.57
OUTFLOW: ID= 1 (7626)	2.810	0.075	2.33	86.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.09
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.2009

CALIB STANDHYD (7624) ID= 1 DT= 1.0 min	Area (ha)= 2.08 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	2.06	0.02
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	117.76	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.89	1.017	62.12	2.017	12.48	3.02	3.91
0.033	2.89	1.033	62.12	2.033	12.48	3.03	3.91
0.050	2.89	1.050	62.12	2.050	12.48	3.05	3.91
0.067	2.89	1.067	62.12	2.067	12.48	3.07	3.91
0.083	2.89	1.083	62.12	2.083	12.48	3.08	3.91
0.100	2.89	1.100	62.12	2.100	12.48	3.10	3.91
0.117	2.89	1.117	62.12	2.117	12.48	3.12	3.91
0.133	2.89	1.133	62.12	2.133	12.48	3.13	3.91
0.150	2.89	1.150	62.12	2.150	12.48	3.15	3.91
0.167	2.89	1.167	62.12	2.167	12.48	3.17	3.91
0.183	3.67	1.183	196.53	2.183	9.60	3.18	3.44
0.200	3.67	1.200	196.54	2.200	9.60	3.20	3.44
0.217	3.67	1.217	196.54	2.217	9.60	3.22	3.44
0.233	3.67	1.233	196.54	2.233	9.60	3.23	3.44
0.250	3.67	1.250	196.54	2.250	9.60	3.25	3.44
0.267	3.67	1.267	196.54	2.267	9.60	3.27	3.44
0.283	3.67	1.283	196.54	2.283	9.60	3.28	3.44
0.300	3.67	1.300	196.54	2.300	9.60	3.30	3.44
0.317	3.67	1.317	196.54	2.317	9.60	3.32	3.44
0.333	3.67	1.333	196.54	2.333	9.60	3.33	3.44
0.350	4.88	1.350	83.10	2.350	7.66	3.35	3.05
0.367	4.88	1.367	83.09	2.367	7.66	3.37	3.05
0.383	4.88	1.383	83.09	2.383	7.66	3.38	3.05
0.400	4.88	1.400	83.09	2.400	7.66	3.40	3.05
0.417	4.88	1.417	83.09	2.417	7.66	3.42	3.05
0.433	4.88	1.433	83.09	2.433	7.66	3.43	3.05
0.450	4.88	1.450	83.09	2.450	7.66	3.45	3.05
0.467	4.88	1.467	83.09	2.467	7.66	3.47	3.05
0.483	4.88	1.483	83.09	2.483	7.66	3.48	3.05
0.500	4.88	1.500	83.09	2.500	7.66	3.50	3.05
0.517	6.96	1.517	41.25	2.517	6.29	3.52	2.73
0.533	6.96	1.533	41.25	2.533	6.29	3.53	2.73
0.550	6.96	1.550	41.25	2.550	6.29	3.55	2.73
0.567	6.96	1.567	41.25	2.567	6.29	3.57	2.73
0.583	6.96	1.583	41.25	2.583	6.29	3.58	2.73
0.600	6.96	1.600	41.25	2.600	6.29	3.60	2.73
0.617	6.96	1.617	41.25	2.617	6.29	3.62	2.73
0.633	6.96	1.633	41.25	2.633	6.29	3.63	2.73
0.650	6.96	1.650	41.25	2.650	6.29	3.65	2.73
0.667	6.96	1.667	41.25	2.667	6.29	3.67	2.73
0.683	11.02	1.683	25.07	2.683	5.28	3.68	2.47
0.700	11.02	1.700	25.07	2.700	5.28	3.70	2.47
0.717	11.02	1.717	25.07	2.717	5.28	3.72	2.47
0.733	11.02	1.733	25.07	2.733	5.28	3.73	2.47
0.750	11.02	1.750	25.07	2.750	5.28	3.75	2.47
0.767	11.02	1.767	25.07	2.767	5.28	3.77	2.47
0.783	11.02	1.783	25.07	2.783	5.28	3.78	2.47
0.800	11.02	1.800	25.07	2.800	5.28	3.80	2.47
0.817	11.02	1.817	25.07	2.817	5.28	3.82	2.47
0.833	11.02	1.833	25.07	2.833	5.28	3.83	2.47
0.850	21.03	1.850	17.06	2.850	4.51	3.85	2.24
0.867	21.03	1.867	17.06	2.867	4.51	3.87	2.24
0.883	21.03	1.883	17.06	2.883	4.51	3.88	2.24
0.900	21.03	1.900	17.06	2.900	4.51	3.90	2.24
0.917	21.03	1.917	17.06	2.917	4.51	3.92	2.24
0.933	21.03	1.933	17.06	2.933	4.51	3.93	2.24
0.950	21.03	1.950	17.06	2.950	4.51	3.95	2.24
0.967	21.03	1.967	17.06	2.967	4.51	3.97	2.24
0.983	21.03	1.983	17.06	2.983	4.51	3.98	2.24
1.000	21.03	2.000	17.06	3.000	4.51	4.00	2.24

			TOTALS
Max.Eff.Inten.(mm/hr)=	196.54	152.55	
over (min)	5.00	4.00	
Storage Coeff. (min)=	2.15 (ii)	3.45 (ii)	
Unit Hyd. Tpeak (min)=	5.00	4.00	
Unit Hyd. peak (cms)=	0.36	0.31	
PEAK FLOW (cms)=	1.10	0.01	1.105 (iii)
TIME TO PEAK (hrs)=	1.33	1.35	1.33
RUNOFF VOLUME (mm)=	88.87	66.98	88.65
TOTAL RAINFALL (mm)=	89.87	89.87	89.87
RUNOFF COEFFICIENT =	0.99	0.75	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 90.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7625) IN= 2---> OUT= 1 DT= 1.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0389	0.1013
	0.0164	0.0514	0.0456	0.1141
	0.0252	0.0690	0.0514	0.1288
	0.0309	0.0825	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7624)	2.080	1.105	1.33	88.65
OUTFLOW: ID= 1 (7625)	2.080	0.059	2.27	86.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.33
TIME SHIFT OF PEAK FLOW (min)= 56.00
MAXIMUM STORAGE USED (ha.m.)= 0.1478

CALIB STANDHYD (7623) ID= 1 DT= 1.0 min	Area (ha)= 1.15 Total Imp(%)= 99.00 Dir. Conn.(%)= 99.00		
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	1.14	0.01

Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	87.56	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.89	1.017	62.12	2.017	12.48	3.02	3.91
0.033	2.89	1.033	62.12	2.033	12.48	3.03	3.91
0.050	2.89	1.050	62.12	2.050	12.48	3.05	3.91
0.067	2.89	1.067	62.12	2.067	12.48	3.07	3.91
0.083	2.89	1.083	62.12	2.083	12.48	3.08	3.91
0.100	2.89	1.100	62.12	2.100	12.48	3.10	3.91
0.117	2.89	1.117	62.12	2.117	12.48	3.12	3.91
0.133	2.89	1.133	62.12	2.133	12.48	3.13	3.91
0.150	2.89	1.150	62.12	2.150	12.48	3.15	3.91
0.167	2.89	1.167	62.12	2.167	12.48	3.17	3.91
0.183	3.67	1.183	196.53	2.183	9.60	3.18	3.44
0.200	3.67	1.200	196.54	2.200	9.60	3.20	3.44
0.217	3.67	1.217	196.54	2.217	9.60	3.22	3.44
0.233	3.67	1.233	196.54	2.233	9.60	3.23	3.44
0.250	3.67	1.250	196.54	2.250	9.60	3.25	3.44
0.267	3.67	1.267	196.54	2.267	9.60	3.27	3.44
0.283	3.67	1.283	196.54	2.283	9.60	3.28	3.44
0.300	3.67	1.300	196.54	2.300	9.60	3.30	3.44
0.317	3.67	1.317	196.54	2.317	9.60	3.32	3.44
0.333	3.67	1.333	196.54	2.333	9.60	3.33	3.44
0.350	4.88	1.350	83.10	2.350	7.66	3.35	3.05
0.367	4.88	1.367	83.09	2.367	7.66	3.37	3.05
0.383	4.88	1.383	83.09	2.383	7.66	3.38	3.05
0.400	4.88	1.400	83.09	2.400	7.66	3.40	3.05
0.417	4.88	1.417	83.09	2.417	7.66	3.42	3.05
0.433	4.88	1.433	83.09	2.433	7.66	3.43	3.05
0.450	4.88	1.450	83.09	2.450	7.66	3.45	3.05
0.467	4.88	1.467	83.09	2.467	7.66	3.47	3.05
0.483	4.88	1.483	83.09	2.483	7.66	3.48	3.05
0.500	4.88	1.500	83.09	2.500	7.66	3.50	3.05
0.517	6.96	1.517	41.25	2.517	6.29	3.52	2.73
0.533	6.96	1.533	41.25	2.533	6.29	3.53	2.73
0.550	6.96	1.550	41.25	2.550	6.29	3.55	2.73
0.567	6.96	1.567	41.25	2.567	6.29	3.57	2.73
0.583	6.96	1.583	41.25	2.583	6.29	3.58	2.73
0.600	6.96	1.600	41.25	2.600	6.29	3.60	2.73
0.617	6.96	1.617	41.25	2.617	6.29	3.62	2.73
0.633	6.96	1.633	41.25	2.633	6.29	3.63	2.73
0.650	6.96	1.650	41.25	2.650	6.29	3.65	2.73
0.667	6.96	1.667	41.25	2.667	6.29	3.67	2.73
0.683	11.02	1.683	25.07	2.683	5.28	3.68	2.47
0.700	11.02	1.700	25.07	2.700	5.28	3.70	2.47
0.717	11.02	1.717	25.07	2.717	5.28	3.72	2.47
0.733	11.02	1.733	25.07	2.733	5.28	3.73	2.47
0.750	11.02	1.750	25.07	2.750	5.28	3.75	2.47
0.767	11.02	1.767	25.07	2.767	5.28	3.77	2.47
0.783	11.02	1.783	25.07	2.783	5.28	3.78	2.47
0.800	11.02	1.800	25.07	2.800	5.28	3.80	2.47
0.817	11.02	1.817	25.07	2.817	5.28	3.82	2.47
0.833	11.02	1.833	25.07	2.833	5.28	3.83	2.47
0.850	21.03	1.850	17.06	2.850	4.51	3.85	2.24
0.867	21.03	1.867	17.06	2.867	4.51	3.87	2.24
0.883	21.03	1.883	17.06	2.883	4.51	3.88	2.24
0.900	21.03	1.900	17.06	2.900	4.51	3.90	2.24
0.917	21.03	1.917	17.06	2.917	4.51	3.92	2.24
0.933	21.03	1.933	17.06	2.933	4.51	3.93	2.24
0.950	21.03	1.950	17.06	2.950	4.51	3.95	2.24
0.967	21.03	1.967	17.06	2.967	4.51	3.97	2.24
0.983	21.03	1.983	17.06	2.983	4.51	3.98	2.24
1.000	21.03	2.000	17.06	3.000	4.51	4.00	2.24

Max.Eff.Inten.(mm/hr)	=	196.54	129.47
	over (min)	5.00	4.00
Storage Coeff.	(min)=	1.80 (ii)	3.10 (ii)
Unit Hyd. Tpeak	(min)=	5.00	4.00
Unit Hyd. peak	(cms)=	0.39	0.33

			TOTALS
PEAK FLOW	(cms)=	0.61	0.00	0.617 (iii)
TIME TO PEAK	(hrs)=	1.33	1.35	1.33
RUNOFF VOLUME	(mm)=	88.87	58.63	88.57
TOTAL RAINFALL	(mm)=	89.87	89.87	89.87
RUNOFF COEFFICIENT	=	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7622)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0258	0.0650
	0.0108	0.0330	0.0302	0.0725
	0.0167	0.0440	0.0340	0.0820
	0.0204	0.0525	0.0000	0.0000

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (	7623)	1.150	0.617	1.33	88.57
OUTFLOW: ID= 1 (	7622)	1.150	0.034	2.25	86.80

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.46
TIME SHIFT OF PEAK FLOW (min)= 55.00
MAXIMUM STORAGE USED (ha.m.)= 0.0813

CALIB			
STANDHYD (7629)	Area (ha)= 4.09		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	4.05	0.04
Dep. Storage	(mm)=	1.00	1.50
Average Slope	(%)=	1.00	0.50
Length	(m)=	165.13	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.89	1.017	62.12	2.017	12.48	3.02	3.91
0.033	2.89	1.033	62.12	2.033	12.48	3.03	3.91
0.050	2.89	1.050	62.12	2.050	12.48	3.05	3.91
0.067	2.89	1.067	62.12	2.067	12.48	3.07	3.91
0.083	2.89	1.083	62.12	2.083	12.48	3.08	3.91
0.100	2.89	1.100	62.12	2.100	12.48	3.10	3.91
0.117	2.89	1.117	62.12	2.117	12.48	3.12	3.91
0.133	2.89	1.133	62.12	2.133	12.48	3.13	3.91
0.150	2.89	1.150	62.12	2.150	12.48	3.15	3.91
0.167	2.89	1.167	62.12	2.167	12.48	3.17	3.91
0.183	3.67	1.183	196.53	2.183	9.60	3.18	3.44
0.200	3.67	1.200	196.54	2.200	9.60	3.20	3.44
0.217	3.67	1.217	196.54	2.217	9.60	3.22	3.44
0.233	3.67	1.233	196.54	2.233	9.60	3.23	3.44
0.250	3.67	1.250	196.54	2.250	9.60	3.25	3.44
0.267	3.67	1.267	196.54	2.267	9.60	3.27	3.44
0.283	3.67	1.283	196.54	2.283	9.60	3.28	3.44
0.300	3.67	1.300	196.54	2.300	9.60	3.30	3.44
0.317	3.67	1.317	196.54	2.317	9.60	3.32	3.44
0.333	3.67	1.333	196.54	2.333	9.60	3.33	3.44
0.350	4.88	1.350	83.10	2.350	7.66	3.35	3.05
0.367	4.88	1.367	83.09	2.367	7.66	3.37	3.05

0.383	4.88	1.383	83.09	2.383	7.66	3.38	3.05
0.400	4.88	1.400	83.09	2.400	7.66	3.40	3.05
0.417	4.88	1.417	83.09	2.417	7.66	3.42	3.05
0.433	4.88	1.433	83.09	2.433	7.66	3.43	3.05
0.450	4.88	1.450	83.09	2.450	7.66	3.45	3.05
0.467	4.88	1.467	83.09	2.467	7.66	3.47	3.05
0.483	4.88	1.483	83.09	2.483	7.66	3.48	3.05
0.500	4.88	1.500	83.09	2.500	7.66	3.50	3.05
0.517	6.96	1.517	41.25	2.517	6.29	3.52	2.73
0.533	6.96	1.533	41.25	2.533	6.29	3.53	2.73
0.550	6.96	1.550	41.25	2.550	6.29	3.55	2.73
0.567	6.96	1.567	41.25	2.567	6.29	3.57	2.73
0.583	6.96	1.583	41.25	2.583	6.29	3.58	2.73
0.600	6.96	1.600	41.25	2.600	6.29	3.60	2.73
0.617	6.96	1.617	41.25	2.617	6.29	3.62	2.73
0.633	6.96	1.633	41.25	2.633	6.29	3.63	2.73
0.650	6.96	1.650	41.25	2.650	6.29	3.65	2.73
0.667	6.96	1.667	41.25	2.667	6.29	3.67	2.73
0.683	11.02	1.683	25.07	2.683	5.28	3.68	2.47
0.700	11.02	1.700	25.07	2.700	5.28	3.70	2.47
0.717	11.02	1.717	25.07	2.717	5.28	3.72	2.47
0.733	11.02	1.733	25.07	2.733	5.28	3.73	2.47
0.750	11.02	1.750	25.07	2.750	5.28	3.75	2.47
0.767	11.02	1.767	25.07	2.767	5.28	3.77	2.47
0.783	11.02	1.783	25.07	2.783	5.28	3.78	2.47
0.800	11.02	1.800	25.07	2.800	5.28	3.80	2.47
0.817	11.02	1.817	25.07	2.817	5.28	3.82	2.47
0.833	11.02	1.833	25.07	2.833	5.28	3.83	2.47
0.850	21.03	1.850	17.06	2.850	4.51	3.85	2.24
0.867	21.03	1.867	17.06	2.867	4.51	3.87	2.24
0.883	21.03	1.883	17.06	2.883	4.51	3.88	2.24
0.900	21.03	1.900	17.06	2.900	4.51	3.90	2.24
0.917	21.03	1.917	17.06	2.917	4.51	3.92	2.24
0.933	21.03	1.933	17.06	2.933	4.51	3.93	2.24
0.950	21.03	1.950	17.06	2.950	4.51	3.95	2.24
0.967	21.03	1.967	17.06	2.967	4.51	3.97	2.24
0.983	21.03	1.983	17.06	2.983	4.51	3.98	2.24
1.000	21.03	2.000	17.06	3.000	4.51	4.00	2.24

Max.Eff.Inten.(mm/hr)=	196.54	129.47	
over (min)	5.00	4.00	
Storage Coeff. (min)=	2.63 (ii)	3.93 (ii)	
Unit Hyd. Tpeak (min)=	5.00	4.00	
Unit Hyd. peak (cms)=	0.33	0.29	
			TOTALS
PEAK FLOW (cms)=	2.11	0.01	2.129 (iii)
TIME TO PEAK (hrs)=	1.33	1.35	1.33
RUNOFF VOLUME (mm)=	88.87	58.63	88.57
TOTAL RAINFALL (mm)=	89.87	89.87	89.87
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7630)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0826	0.2320
	0.0347	0.1170	0.0967	0.2609
	0.0534	0.1580	0.1090	0.2940
	0.0655	0.1890	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7629)	4.090	2.129	1.33	88.57
OUTFLOW: ID= 1 (7630)	4.090	0.109	2.35	86.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.11
TIME SHIFT OF PEAK FLOW (min)= 61.00

MAXIMUM STORAGE USED (ha.m.)= 0.2932

CALIB			
STANDHYD (7631)	Area (ha)= 3.91		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)= 3.87	0.04	
Dep. Storage	(mm)= 1.00	1.50	
Average Slope	(%)= 1.00	0.50	
Length	(m)= 161.45	40.00	
Mannings n	= 0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.89	1.017	62.12	2.017	12.48	3.02	3.91
0.033	2.89	1.033	62.12	2.033	12.48	3.03	3.91
0.050	2.89	1.050	62.12	2.050	12.48	3.05	3.91
0.067	2.89	1.067	62.12	2.067	12.48	3.07	3.91
0.083	2.89	1.083	62.12	2.083	12.48	3.08	3.91
0.100	2.89	1.100	62.12	2.100	12.48	3.10	3.91
0.117	2.89	1.117	62.12	2.117	12.48	3.12	3.91
0.133	2.89	1.133	62.12	2.133	12.48	3.13	3.91
0.150	2.89	1.150	62.12	2.150	12.48	3.15	3.91
0.167	2.89	1.167	62.12	2.167	12.48	3.17	3.91
0.183	3.67	1.183	196.53	2.183	9.60	3.18	3.44
0.200	3.67	1.200	196.54	2.200	9.60	3.20	3.44
0.217	3.67	1.217	196.54	2.217	9.60	3.22	3.44
0.233	3.67	1.233	196.54	2.233	9.60	3.23	3.44
0.250	3.67	1.250	196.54	2.250	9.60	3.25	3.44
0.267	3.67	1.267	196.54	2.267	9.60	3.27	3.44
0.283	3.67	1.283	196.54	2.283	9.60	3.28	3.44
0.300	3.67	1.300	196.54	2.300	9.60	3.30	3.44
0.317	3.67	1.317	196.54	2.317	9.60	3.32	3.44
0.333	3.67	1.333	196.54	2.333	9.60	3.33	3.44
0.350	4.88	1.350	83.10	2.350	7.66	3.35	3.05
0.367	4.88	1.367	83.09	2.367	7.66	3.37	3.05
0.383	4.88	1.383	83.09	2.383	7.66	3.38	3.05
0.400	4.88	1.400	83.09	2.400	7.66	3.40	3.05
0.417	4.88	1.417	83.09	2.417	7.66	3.42	3.05
0.433	4.88	1.433	83.09	2.433	7.66	3.43	3.05
0.450	4.88	1.450	83.09	2.450	7.66	3.45	3.05
0.467	4.88	1.467	83.09	2.467	7.66	3.47	3.05
0.483	4.88	1.483	83.09	2.483	7.66	3.48	3.05
0.500	4.88	1.500	83.09	2.500	7.66	3.50	3.05
0.517	6.96	1.517	41.25	2.517	6.29	3.52	2.73
0.533	6.96	1.533	41.25	2.533	6.29	3.53	2.73
0.550	6.96	1.550	41.25	2.550	6.29	3.55	2.73
0.567	6.96	1.567	41.25	2.567	6.29	3.57	2.73
0.583	6.96	1.583	41.25	2.583	6.29	3.58	2.73
0.600	6.96	1.600	41.25	2.600	6.29	3.60	2.73
0.617	6.96	1.617	41.25	2.617	6.29	3.62	2.73
0.633	6.96	1.633	41.25	2.633	6.29	3.63	2.73
0.650	6.96	1.650	41.25	2.650	6.29	3.65	2.73
0.667	6.96	1.667	41.25	2.667	6.29	3.67	2.73
0.683	11.02	1.683	25.07	2.683	5.28	3.68	2.47
0.700	11.02	1.700	25.07	2.700	5.28	3.70	2.47
0.717	11.02	1.717	25.07	2.717	5.28	3.72	2.47
0.733	11.02	1.733	25.07	2.733	5.28	3.73	2.47
0.750	11.02	1.750	25.07	2.750	5.28	3.75	2.47
0.767	11.02	1.767	25.07	2.767	5.28	3.77	2.47
0.783	11.02	1.783	25.07	2.783	5.28	3.78	2.47
0.800	11.02	1.800	25.07	2.800	5.28	3.80	2.47
0.817	11.02	1.817	25.07	2.817	5.28	3.82	2.47
0.833	11.02	1.833	25.07	2.833	5.28	3.83	2.47
0.850	21.03	1.850	17.06	2.850	4.51	3.85	2.24
0.867	21.03	1.867	17.06	2.867	4.51	3.87	2.24
0.883	21.03	1.883	17.06	2.883	4.51	3.88	2.24
0.900	21.03	1.900	17.06	2.900	4.51	3.90	2.24
0.917	21.03	1.917	17.06	2.917	4.51	3.92	2.24

0.933	21.03	1.933	17.06	2.933	4.51	3.93	2.24
0.950	21.03	1.950	17.06	2.950	4.51	3.95	2.24
0.967	21.03	1.967	17.06	2.967	4.51	3.97	2.24
0.983	21.03	1.983	17.06	2.983	4.51	3.98	2.24
1.000	21.03	2.000	17.06	3.000	4.51	4.00	2.24

Max.Eff.Inten.(mm/hr)=	196.54	129.47	
over (min)	5.00	4.00	
Storage Coeff. (min)=	2.60 (ii)	3.90 (ii)	
Unit Hyd. Tpeak (min)=	5.00	4.00	
Unit Hyd. peak (cms)=	0.33	0.29	
			TOTALS
PEAK FLOW (cms)=	2.03	0.01	2.038 (iii)
TIME TO PEAK (hrs)=	1.33	1.35	1.33
RUNOFF VOLUME (mm)=	88.87	58.63	88.57
TOTAL RAINFALL (mm)=	89.87	89.87	89.87
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7632)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0792	0.2220
	0.0333	0.1130	0.0928	0.2500
	0.0512	0.1510	0.1046	0.2810
	0.0629	0.1810	0.0000	0.0000

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (7631)	3.910	2.038	1.33	88.57
OUTFLOW: ID= 1 (7632)	3.910	0.104	2.35	85.99

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.12
TIME SHIFT OF PEAK FLOW (min)= 61.00
MAXIMUM STORAGE USED (ha.m.)= 0.2802

CALIB			
STANDHYD (7641)	Area (ha)= 2.21		
ID= 1 DT= 1.0 min	Total Imp(%)= 99.00	Dir. Conn.(%)= 99.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	2.19	0.02	
Dep. Storage (mm)=	1.00	1.50	
Average Slope (%)=	1.00	0.50	
Length (m)=	121.38	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 1.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.017	2.89	1.017	62.12	2.017	12.48	3.02	3.91
0.033	2.89	1.033	62.12	2.033	12.48	3.03	3.91
0.050	2.89	1.050	62.12	2.050	12.48	3.05	3.91
0.067	2.89	1.067	62.12	2.067	12.48	3.07	3.91
0.083	2.89	1.083	62.12	2.083	12.48	3.08	3.91
0.100	2.89	1.100	62.12	2.100	12.48	3.10	3.91
0.117	2.89	1.117	62.12	2.117	12.48	3.12	3.91
0.133	2.89	1.133	62.12	2.133	12.48	3.13	3.91
0.150	2.89	1.150	62.12	2.150	12.48	3.15	3.91
0.167	2.89	1.167	62.12	2.167	12.48	3.17	3.91
0.183	3.67	1.183	196.53	2.183	9.60	3.18	3.44
0.200	3.67	1.200	196.54	2.200	9.60	3.20	3.44
0.217	3.67	1.217	196.54	2.217	9.60	3.22	3.44
0.233	3.67	1.233	196.54	2.233	9.60	3.23	3.44
0.250	3.67	1.250	196.54	2.250	9.60	3.25	3.44
0.267	3.67	1.267	196.54	2.267	9.60	3.27	3.44
0.283	3.67	1.283	196.54	2.283	9.60	3.28	3.44
0.300	3.67	1.300	196.54	2.300	9.60	3.30	3.44
0.317	3.67	1.317	196.54	2.317	9.60	3.32	3.44
0.333	3.67	1.333	196.54	2.333	9.60	3.33	3.44
0.350	4.88	1.350	83.10	2.350	7.66	3.35	3.05
0.367	4.88	1.367	83.09	2.367	7.66	3.37	3.05
0.383	4.88	1.383	83.09	2.383	7.66	3.38	3.05
0.400	4.88	1.400	83.09	2.400	7.66	3.40	3.05
0.417	4.88	1.417	83.09	2.417	7.66	3.42	3.05
0.433	4.88	1.433	83.09	2.433	7.66	3.43	3.05
0.450	4.88	1.450	83.09	2.450	7.66	3.45	3.05
0.467	4.88	1.467	83.09	2.467	7.66	3.47	3.05
0.483	4.88	1.483	83.09	2.483	7.66	3.48	3.05
0.500	4.88	1.500	83.09	2.500	7.66	3.50	3.05
0.517	6.96	1.517	41.25	2.517	6.29	3.52	2.73
0.533	6.96	1.533	41.25	2.533	6.29	3.53	2.73
0.550	6.96	1.550	41.25	2.550	6.29	3.55	2.73
0.567	6.96	1.567	41.25	2.567	6.29	3.57	2.73
0.583	6.96	1.583	41.25	2.583	6.29	3.58	2.73
0.600	6.96	1.600	41.25	2.600	6.29	3.60	2.73
0.617	6.96	1.617	41.25	2.617	6.29	3.62	2.73
0.633	6.96	1.633	41.25	2.633	6.29	3.63	2.73
0.650	6.96	1.650	41.25	2.650	6.29	3.65	2.73
0.667	6.96	1.667	41.25	2.667	6.29	3.67	2.73
0.683	11.02	1.683	25.07	2.683	5.28	3.68	2.47
0.700	11.02	1.700	25.07	2.700	5.28	3.70	2.47
0.717	11.02	1.717	25.07	2.717	5.28	3.72	2.47
0.733	11.02	1.733	25.07	2.733	5.28	3.73	2.47
0.750	11.02	1.750	25.07	2.750	5.28	3.75	2.47
0.767	11.02	1.767	25.07	2.767	5.28	3.77	2.47
0.783	11.02	1.783	25.07	2.783	5.28	3.78	2.47
0.800	11.02	1.800	25.07	2.800	5.28	3.80	2.47
0.817	11.02	1.817	25.07	2.817	5.28	3.82	2.47
0.833	11.02	1.833	25.07	2.833	5.28	3.83	2.47
0.850	21.03	1.850	17.06	2.850	4.51	3.85	2.24
0.867	21.03	1.867	17.06	2.867	4.51	3.87	2.24
0.883	21.03	1.883	17.06	2.883	4.51	3.88	2.24
0.900	21.03	1.900	17.06	2.900	4.51	3.90	2.24
0.917	21.03	1.917	17.06	2.917	4.51	3.92	2.24
0.933	21.03	1.933	17.06	2.933	4.51	3.93	2.24
0.950	21.03	1.950	17.06	2.950	4.51	3.95	2.24
0.967	21.03	1.967	17.06	2.967	4.51	3.97	2.24
0.983	21.03	1.983	17.06	2.983	4.51	3.98	2.24
1.000	21.03	2.000	17.06	3.000	4.51	4.00	2.24

Max.Eff.Inten.(mm/hr)=	196.54	129.47	
over (min)	5.00	4.00	
Storage Coeff. (min)=	2.19 (ii)	3.49 (ii)	
Unit Hyd. Tpeak (min)=	5.00	4.00	
Unit Hyd. peak (cms)=	0.36	0.31	
			TOTALS
PEAK FLOW (cms)=	1.16	0.01	1.171 (iii)
TIME TO PEAK (hrs)=	1.33	1.35	1.33
RUNOFF VOLUME (mm)=	88.87	58.63	88.57
TOTAL RAINFALL (mm)=	89.87	89.87	89.87
RUNOFF COEFFICIENT =	0.99	0.65	0.99

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 85.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(7642)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 1.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0470	0.1250
	0.0197	0.0630	0.0551	0.1410

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                        0.0304      0.0850   |    0.0620      0.1580
                        0.0373      0.1020   |    0.0000      0.0000

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7641)      2.210      1.171      1.33      88.57
   OUTFLOW: ID= 1 (  7642)      2.210      0.062      2.28      86.46

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.27
                  TIME SHIFT OF PEAK FLOW         (min)= 57.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1574

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| CALIB           |
| STANDHYD (  7643)|   Area    (ha)=   2.02
|ID= 1 DT= 1.0 min |   Total Imp(%)=  99.00   Dir. Conn.(%)=  99.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       2.00         0.02
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         0.50
     Length            (m)=     116.05        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   1.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.017    2.89 | 1.017   62.12 | 2.017   12.48 |  3.02    3.91
              0.033    2.89 | 1.033   62.12 | 2.033   12.48 |  3.03    3.91
              0.050    2.89 | 1.050   62.12 | 2.050   12.48 |  3.05    3.91
              0.067    2.89 | 1.067   62.12 | 2.067   12.48 |  3.07    3.91
              0.083    2.89 | 1.083   62.12 | 2.083   12.48 |  3.08    3.91
              0.100    2.89 | 1.100   62.12 | 2.100   12.48 |  3.10    3.91
              0.117    2.89 | 1.117   62.12 | 2.117   12.48 |  3.12    3.91
              0.133    2.89 | 1.133   62.12 | 2.133   12.48 |  3.13    3.91
              0.150    2.89 | 1.150   62.12 | 2.150   12.48 |  3.15    3.91
              0.167    2.89 | 1.167   62.12 | 2.167   12.48 |  3.17    3.91
              0.183    3.67 | 1.183  196.53 | 2.183    9.60 |  3.18    3.44
              0.200    3.67 | 1.200  196.54 | 2.200    9.60 |  3.20    3.44
              0.217    3.67 | 1.217  196.54 | 2.217    9.60 |  3.22    3.44
              0.233    3.67 | 1.233  196.54 | 2.233    9.60 |  3.23    3.44
              0.250    3.67 | 1.250  196.54 | 2.250    9.60 |  3.25    3.44
              0.267    3.67 | 1.267  196.54 | 2.267    9.60 |  3.27    3.44
              0.283    3.67 | 1.283  196.54 | 2.283    9.60 |  3.28    3.44
              0.300    3.67 | 1.300  196.54 | 2.300    9.60 |  3.30    3.44
              0.317    3.67 | 1.317  196.54 | 2.317    9.60 |  3.32    3.44
              0.333    3.67 | 1.333  196.54 | 2.333    9.60 |  3.33    3.44
              0.350    4.88 | 1.350   83.10 | 2.350    7.66 |  3.35    3.05
              0.367    4.88 | 1.367   83.09 | 2.367    7.66 |  3.37    3.05
              0.383    4.88 | 1.383   83.09 | 2.383    7.66 |  3.38    3.05
              0.400    4.88 | 1.400   83.09 | 2.400    7.66 |  3.40    3.05
              0.417    4.88 | 1.417   83.09 | 2.417    7.66 |  3.42    3.05
              0.433    4.88 | 1.433   83.09 | 2.433    7.66 |  3.43    3.05
              0.450    4.88 | 1.450   83.09 | 2.450    7.66 |  3.45    3.05
              0.467    4.88 | 1.467   83.09 | 2.467    7.66 |  3.47    3.05
              0.483    4.88 | 1.483   83.09 | 2.483    7.66 |  3.48    3.05
              0.500    4.88 | 1.500   83.09 | 2.500    7.66 |  3.50    3.05
              0.517    6.96 | 1.517   41.25 | 2.517    6.29 |  3.52    2.73
              0.533    6.96 | 1.533   41.25 | 2.533    6.29 |  3.53    2.73
              0.550    6.96 | 1.550   41.25 | 2.550    6.29 |  3.55    2.73
              0.567    6.96 | 1.567   41.25 | 2.567    6.29 |  3.57    2.73
              0.583    6.96 | 1.583   41.25 | 2.583    6.29 |  3.58    2.73
              0.600    6.96 | 1.600   41.25 | 2.600    6.29 |  3.60    2.73
              0.617    6.96 | 1.617   41.25 | 2.617    6.29 |  3.62    2.73
              0.633    6.96 | 1.633   41.25 | 2.633    6.29 |  3.63    2.73
              0.650    6.96 | 1.650   41.25 | 2.650    6.29 |  3.65    2.73
              0.667    6.96 | 1.667   41.25 | 2.667    6.29 |  3.67    2.73
              0.683   11.02 | 1.683   25.07 | 2.683    5.28 |  3.68    2.47
              0.700   11.02 | 1.700   25.07 | 2.700    5.28 |  3.70    2.47
              0.717   11.02 | 1.717   25.07 | 2.717    5.28 |  3.72    2.47
              0.733   11.02 | 1.733   25.07 | 2.733    5.28 |  3.73    2.47
              0.750   11.02 | 1.750   25.07 | 2.750    5.28 |  3.75    2.47
              0.767   11.02 | 1.767   25.07 | 2.767    5.28 |  3.77    2.47
              0.783   11.02 | 1.783   25.07 | 2.783    5.28 |  3.78    2.47
              0.800   11.02 | 1.800   25.07 | 2.800    5.28 |  3.80    2.47
              0.817   11.02 | 1.817   25.07 | 2.817    5.28 |  3.82    2.47
              0.833   11.02 | 1.833   25.07 | 2.833    5.28 |  3.83    2.47
              0.850   21.03 | 1.850   17.06 | 2.850    4.51 |  3.85    2.24
              0.867   21.03 | 1.867   17.06 | 2.867    4.51 |  3.87    2.24
              0.883   21.03 | 1.883   17.06 | 2.883    4.51 |  3.88    2.24
              0.900   21.03 | 1.900   17.06 | 2.900    4.51 |  3.90    2.24
              0.917   21.03 | 1.917   17.06 | 2.917    4.51 |  3.92    2.24
              0.933   21.03 | 1.933   17.06 | 2.933    4.51 |  3.93    2.24
              0.950   21.03 | 1.950   17.06 | 2.950    4.51 |  3.95    2.24
              0.967   21.03 | 1.967   17.06 | 2.967    4.51 |  3.97    2.24
              0.983   21.03 | 1.983   17.06 | 2.983    4.51 |  3.98    2.24
              1.000   21.03 | 2.000   17.06 | 3.000    4.51 |  4.00    2.24

     Max.Eff.Inten.(mm/hr)=     196.54       129.47
                   over (min)        5.00         4.00
     Storage Coeff.  (min)=       2.13 (ii)    3.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00         4.00
     Unit Hyd. peak  (cms)=       0.36         0.31
                                                      *TOTALS*
     PEAK FLOW       (cms)=       1.07         0.01         1.073 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.35          1.33
     RUNOFF VOLUME    (mm)=      88.87        58.63         88.57
     TOTAL RAINFALL   (mm)=      89.87        89.87         89.87
     RUNOFF COEFFICIENT   =       0.99         0.65          0.99

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  7644)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  1.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |    0.0433      0.1140
                          0.0182      0.0580   |    0.0507      0.1280
                          0.0280      0.0775   |    0.0571      0.1440
                          0.0343      0.0930   |    0.0000      0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  7643)      2.020      1.073      1.33      88.57
   OUTFLOW: ID= 1 (  7644)      2.020      0.057      2.27      86.50

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.31
                  TIME SHIFT OF PEAK FLOW         (min)= 56.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1437

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D.4. Draining To Existing Storm Sewer System

GEI Consultants

KS/YG

Rational Method
Pre-Development Flow Calculation

Simpson Road
Project #: 2301130
Jun-24

Input Parameters

Catchment ID	Area (ha)	C, 2 - 10 Year	C, 25 Year	C, 50 Year	C, 100 Year	Tc (min.)
C6 Pre	0.19	0.25	0.28	0.30	0.31	10
C7 Pre	0.21	0.25	0.28	0.30	0.31	10
C8 Pre	0.23	0.25	0.28	0.30	0.31	10
C9 Pre	0.45	0.25	0.28	0.30	0.31	10
C12 Pre	1.12	0.25	0.28	0.30	0.31	46

Catchment C12 Pre

Area	1.12ha
Length (m)	185
Slope (%)	0.54
Runoff Coefficient	0.25
Time of Concentration (Airport Method)(min)	46

IDF Data Set: Region of Peel
Event 10-Year
a = 2221.00
b = 12.000
c = 0.9080

Catchment ID	Area (ha)	A/2 (ha)	C	AC	Tc (min.)	I (mm/h)	Q (m^3/s)	Q (L/s)
C6 Pre	0.19	0.10	0.25	0.02	10	134.2	0.009	**8.9**
C7 Pre	0.21	0.11	0.25	0.03	10	134.2	0.010	**9.8**
C8 Pre	0.23	0.12	0.25	0.03	10	134.2	0.011	**10.7**
C9 Pre	0.45	0.23	0.25	0.06	10	134.2	0.021	**21.0**
C12 Pre	1.12	0.56	0.25	0.14	46	55.6	0.022	**21.6**

Modified Rational Method - 100-Year Storm
Site Flow and Storage Summary

Simpson Road
Project #: 2301130
Jun-24

Drainage Area:	C6 Post	
Area =	0.19	ha
"C" =	0.90	
AC =	0.17	
Tc =	10.0	min
Time Increment =	5.0	min
Allowable Flow =	**8.9**	L/s
Release rate via orifice =	**8.9**	**L/s**
Max. Required Storage Volume =	**90.93**	**m^3**

100-Year Design Storm	
A =	4688.00
B =	0.962
C=	17.000
I =	I = A/(T+C)^B

(1)	(2)	3	4	5	6
Time (min)	**Rainfall Intensity (mm/hr)**	**Storm Runoff (m^3/s)**	**Storm Volume (m^3)**	**Allowable Release Volume to STM (m^3)**	**Storage Volume (m^3)**
		3 = AC3*(2) / 360	**4 = 60*(1)* 3**	**5 = 60*(1)*(R3)/1000**	**6 = 4 - 5**
10	196.8	0.093	56.1	5.3	50.8
15	167.1	0.079	71.4	8.0	63.5
20	145.3	0.069	82.8	10.6	72.2
25	128.7	0.061	91.7	13.3	78.4
30	115.5	0.055	98.7	15.9	82.8
35	104.8	0.050	104.5	18.6	85.9
40	95.9	0.046	109.3	21.2	88.1
45	88.5	0.042	113.4	23.9	89.5
50	82.1	0.039	117.0	26.6	90.4
55	76.6	0.036	120.1	29.2	90.9
60	71.8	0.034	122.8	31.9	90.9
65	67.6	0.032	125.2	34.5	90.7
70	63.9	0.030	127.4	37.2	90.2
75	60.5	0.029	129.3	39.8	89.5
80	57.5	0.027	131.1	42.5	88.6
85	54.8	0.026	132.7	45.1	87.6
90	52.3	0.025	134.2	47.8	86.4
95	50.1	0.024	135.6	50.5	85.1
100	48.0	0.023	136.8	53.1	83.7
105	46.1	0.022	138.0	55.8	82.3
110	44.4	0.021	139.1	58.4	80.7
115	42.8	0.020	140.1	61.1	79.1
120	41.3	0.020	141.1	63.7	77.4
125	39.9	0.019	142.0	66.4	75.6
130	38.6	0.018	142.8	69.0	73.8
135	37.3	0.018	143.6	71.7	71.9
140	36.2	0.017	144.4	74.3	70.0
145	35.1	0.017	145.1	77.0	68.1
150	34.1	0.016	145.8	79.7	66.1
155	33.1	0.016	146.4	82.3	64.1
160	32.2	0.015	147.0	85.0	62.1
165	31.4	0.015	147.6	87.6	60.0
170	30.6	0.015	148.2	90.3	57.9
175	29.8	0.014	148.7	92.9	55.8
180	29.1	0.014	149.2	95.6	53.6
185	28.4	0.013	149.7	98.2	51.5
190	27.7	0.013	150.2	100.9	49.3
195	27.1	0.013	150.6	103.6	47.1
200	26.5	0.013	151.1	106.2	44.9
205	25.9	0.012	151.5	108.9	42.6
210	25.4	0.012	151.9	111.5	40.4
215	24.9	0.012	152.3	114.2	38.1
220	24.3	0.012	152.7	116.8	35.8
225	23.9	0.011	153.0	119.5	33.5
230	23.4	0.011	153.4	122.1	31.2
235	23.0	0.011	153.7	124.8	28.9
240	22.5	0.011	154.1	127.5	26.6
245	22.1	0.011	154.4	130.1	24.3
250	21.7	0.010	154.7	132.8	21.9
255	21.3	0.010	155.0	135.4	19.6
260	21.0	0.010	155.3	138.1	17.2
265	20.6	0.010	155.6	140.7	14.8
270	20.3	0.010	155.9	143.4	12.5
275	19.9	0.009	156.1	146.0	10.1

Modified Rational Method - 100-Year Storm
Site Flow and Storage Summary

Simpson Road
Project #: 2301130
Jun-24

Drainage Area:	C7 Post	
Area =	0.21	ha
"C" =	0.90	
AC =	0.19	
Tc =	10.0	min
Time Increment =	5.0	min
Allowable Flow =	**9.8**	L/s
Release rate via orifice =	**9.8**	**L/s**
Max. Required Storage Volume =	**100.5**	**m^3**

100-Year Design Storm	
A =	4688.00
B =	0.962
C=	17.000
I =	I = A/(T+C)^B

(1)	(2)	3	4	5	6
Time (min)	**Rainfall Intensity (mm/hr)**	**Storm Runoff (m^3/s)**	**Storm Volume (m^3)**	**Allowable Release Volume to STM (m^3)**	**Storage Volume (m^3)**
		3 = AC3*(2) / 360	**4 = 60*(1)* 3**	**5 = 60*(1)*(R3)/1000**	**6 = 4 - 5**
10	196.8	0.103	62.0	5.9	56.1
15	167.1	0.088	79.0	8.8	70.2
20	145.3	0.076	91.6	11.7	79.8
25	128.7	0.068	101.3	14.7	86.6
30	115.5	0.061	109.1	17.6	91.5
35	104.8	0.055	115.5	20.5	95.0
40	95.9	0.050	120.8	23.5	97.4
45	88.5	0.046	125.4	26.4	99.0
50	82.1	0.043	129.3	29.3	99.9
55	76.6	0.040	132.7	32.3	100.4
60	71.8	0.038	135.7	35.2	100.5
65	67.6	0.035	138.4	38.2	100.2
70	63.9	0.034	140.8	41.1	99.7
75	60.5	0.032	143.0	44.0	98.9
80	57.5	0.030	144.9	47.0	98.0
85	54.8	0.029	146.7	49.9	96.8
90	52.3	0.027	148.3	52.8	95.5
95	50.1	0.026	149.9	55.8	94.1
100	48.0	0.025	151.3	58.7	92.6
105	46.1	0.024	152.5	61.6	90.9
110	44.4	0.023	153.8	64.6	89.2
115	42.8	0.022	154.9	67.5	87.4
120	41.3	0.022	155.9	70.4	85.5
125	39.9	0.021	156.9	73.4	83.6
130	38.6	0.020	157.9	76.3	81.6
135	37.3	0.020	158.7	79.2	79.5
140	36.2	0.019	159.6	82.2	77.4
145	35.1	0.018	160.4	85.1	75.3
150	34.1	0.018	161.1	88.0	73.1
155	33.1	0.017	161.8	91.0	70.8
160	32.2	0.017	162.5	93.9	68.6
165	31.4	0.016	163.2	96.8	66.3
170	30.6	0.016	163.8	99.8	64.0
175	29.8	0.016	164.4	102.7	61.6
180	29.1	0.015	164.9	105.7	59.3
185	28.4	0.015	165.5	108.6	56.9
190	27.7	0.015	166.0	111.5	54.5
195	27.1	0.014	166.5	114.5	52.0
200	26.5	0.014	167.0	117.4	49.6
205	25.9	0.014	167.4	120.3	47.1
210	25.4	0.013	167.9	123.3	44.6
215	24.9	0.013	168.3	126.2	42.1
220	24.3	0.013	168.7	129.1	39.6
225	23.9	0.013	169.1	132.1	37.1
230	23.4	0.012	169.5	135.0	34.5
235	23.0	0.012	169.9	137.9	32.0
240	22.5	0.012	170.3	140.9	29.4
245	22.1	0.012	170.6	143.8	26.8
250	21.7	0.011	171.0	146.7	24.2
255	21.3	0.011	171.3	149.7	21.6
260	21.0	0.011	171.6	152.6	19.0
265	20.6	0.011	172.0	155.5	16.4
270	20.3	0.011	172.3	158.5	13.8
275	19.9	0.010	172.6	161.4	11.1

Modified Rational Method - 100-Year Storm
Site Flow and Storage Summary

Simpson Road
Project #: 2301130
Jun-24

Drainage Area:	C8 Post	
Area =	0.23	ha
"C" =	0.90	
AC =	0.21	
Tc =	10.0	min
Time Increment =	5.0	min
Allowable Flow =	**10.7**	L/s
Release rate via orifice =	**10.7**	**L/s**
Max. Required Storage Volume =	**110.1**	**m^3**

100-Year Design Storm	
A =	4688.00
B =	0.962
C=	17.000
I =	I = A/(T+C)^B

(1)	(2)	3	4	5	6
Time (min)	**Rainfall Intensity (mm/hr)**	**Storm Runoff (m^3/s)**	**Storm Volume (m^3)**	**Allowable Release Volume to STM (m^3)**	**Storage Volume (m^3)**
		3 = AC3*(2) / 360	**4 = 60*(1)* 3**	**5 = 60*(1)*(R3)/1000**	**6 = 4 - 5**
10	196.8	0.113	67.9	6.4	61.5
15	167.1	0.096	86.5	9.6	76.8
20	145.3	0.084	100.3	12.9	87.4
25	128.7	0.074	111.0	16.1	94.9
30	115.5	0.066	119.5	19.3	100.2
35	104.8	0.060	126.5	22.5	104.0
40	95.9	0.055	132.3	25.7	106.6
45	88.5	0.051	137.3	28.9	108.4
50	82.1	0.047	141.6	32.1	109.5
55	76.6	0.044	145.4	35.4	110.0
60	71.8	0.041	148.6	38.6	110.1
65	67.6	0.039	151.6	41.8	109.8
70	63.9	0.037	154.2	45.0	109.2
75	60.5	0.035	156.6	48.2	108.4
80	57.5	0.033	158.7	51.4	107.3
85	54.8	0.032	160.7	54.6	106.0
90	52.3	0.030	162.5	57.9	104.6
95	50.1	0.029	164.1	61.1	103.1
100	48.0	0.028	165.7	64.3	101.4
105	46.1	0.027	167.1	67.5	99.6
110	44.4	0.026	168.4	70.7	97.7
115	42.8	0.025	169.6	73.9	95.7
120	41.3	0.024	170.8	77.1	93.6
125	39.9	0.023	171.9	80.4	91.5
130	38.6	0.022	172.9	83.6	89.3
135	37.3	0.021	173.9	86.8	87.1
140	36.2	0.021	174.8	90.0	84.8
145	35.1	0.020	175.6	93.2	82.4
150	34.1	0.020	176.5	96.4	80.0
155	33.1	0.019	177.2	99.6	77.6
160	32.2	0.019	178.0	102.9	75.1
165	31.4	0.018	178.7	106.1	72.6
170	30.6	0.018	179.4	109.3	70.1
175	29.8	0.017	180.0	112.5	67.5
180	29.1	0.017	180.6	115.7	64.9
185	28.4	0.016	181.2	118.9	62.3
190	27.7	0.016	181.8	122.1	59.7
195	27.1	0.016	182.4	125.4	57.0
200	26.5	0.015	182.9	128.6	54.3
205	25.9	0.015	183.4	131.8	51.6
210	25.4	0.015	183.9	135.0	48.9
215	24.9	0.014	184.4	138.2	46.1
220	24.3	0.014	184.8	141.4	43.4
225	23.9	0.014	185.3	144.6	40.6
230	23.4	0.013	185.7	147.9	37.8
235	23.0	0.013	186.1	151.1	35.0
240	22.5	0.013	186.5	154.3	32.2
245	22.1	0.013	186.9	157.5	29.4
250	21.7	0.012	187.3	160.7	26.5
255	21.3	0.012	187.6	163.9	23.7
260	21.0	0.012	188.0	167.1	20.8
265	20.6	0.012	188.3	170.4	18.0
270	20.3	0.012	188.7	173.6	15.1
275	19.9	0.011	189.0	176.8	12.2

Modified Rational Method - 100-Year Storm
Site Flow and Storage Summary

Simpson Road
Project #: 2301130
Jun-24

Drainage Area:	C9 Post	
Area =	0.45	ha
"C" =	0.90	
AC =	0.41	
Tc =	10.0	min
Time Increment =	5.0	min
Allowable Flow =	**21.0**	L/s
Release rate via orifice =	**21.0**	**L/s**
Max. Required Storage Volume =	**215.4**	**m^3**

100-Year Design Storm	
A =	4688.00
B =	0.962
C=	17.000
I =	I = A/(T+C)^B

(1)	(2)	3	4	5	6
Time (min)	**Rainfall Intensity (mm/hr)**	**Storm Runoff (m^3/s)**	**Storm Volume (m^3)**	**Allowable Release Volume to STM (m^3)**	**Storage Volume (m^3)**
	3 = AC3*(2) / 360		**4 = 60*(1)* 3**	**5 = 60*(1)*(R3)/1000**	**6 = 4 - 5**
10	196.8	0.221	132.8	12.6	120.3
15	167.1	0.188	169.2	18.9	150.3
20	145.3	0.164	196.2	25.2	171.1
25	128.7	0.145	217.1	31.4	185.7
30	115.5	0.130	233.8	37.7	196.1
35	104.8	0.118	247.5	44.0	203.5
40	95.9	0.108	258.9	50.3	208.6
45	88.5	0.100	268.7	56.6	212.1
50	82.1	0.092	277.1	62.9	214.2
55	76.6	0.086	284.4	69.2	215.2
60	71.8	0.081	290.8	75.5	215.4
65	67.6	0.076	296.6	81.8	214.8
70	63.9	0.072	301.7	88.0	213.7
75	60.5	0.068	306.3	94.3	212.0
80	57.5	0.065	310.5	100.6	209.9
85	54.8	0.062	314.4	106.9	207.5
90	52.3	0.059	317.9	113.2	204.7
95	50.1	0.056	321.1	119.5	201.6
100	48.0	0.054	324.1	125.8	198.3
105	46.1	0.052	326.9	132.1	194.8
110	44.4	0.050	329.5	138.4	191.1
115	42.8	0.048	331.9	144.6	187.2
120	41.3	0.046	334.2	150.9	183.2
125	39.9	0.045	336.3	157.2	179.1
130	38.6	0.043	338.3	163.5	174.8
135	37.3	0.042	340.2	169.8	170.4
140	36.2	0.041	342.0	176.1	165.9
145	35.1	0.039	343.6	182.4	161.3
150	34.1	0.038	345.2	188.7	156.6
155	33.1	0.037	346.8	195.0	151.8
160	32.2	0.036	348.2	201.2	147.0
165	31.4	0.035	349.6	207.5	142.1
170	30.6	0.034	350.9	213.8	137.1
175	29.8	0.034	352.2	220.1	132.1
180	29.1	0.033	353.4	226.4	127.0
185	28.4	0.032	354.6	232.7	121.9
190	27.7	0.031	355.7	239.0	116.7
195	27.1	0.030	356.8	245.3	111.5
200	26.5	0.030	357.8	251.6	106.3
205	25.9	0.029	358.8	257.8	101.0
210	25.4	0.029	359.8	264.1	95.6
215	24.9	0.028	360.7	270.4	90.3
220	24.3	0.027	361.6	276.7	84.9
225	23.9	0.027	362.4	283.0	79.4
230	23.4	0.026	363.3	289.3	74.0
235	23.0	0.026	364.1	295.6	68.5
240	22.5	0.025	364.9	301.9	63.0
245	22.1	0.025	365.6	308.2	57.5
250	21.7	0.024	366.4	314.4	51.9
255	21.3	0.024	367.1	320.7	46.4
260	21.0	0.024	367.8	327.0	40.8
265	20.6	0.023	368.5	333.3	35.2
270	20.3	0.023	369.1	339.6	29.5
275	19.9	0.022	369.8	345.9	23.9

Modified Rational Method - 100-Year Storm
Site Flow and Storage Summary

Simpson Road
Project #: 2301130
Jun-24

Drainage Area:	C12 Post	
Area =	1.12	ha
"C" =	0.90	
AC =	1.01	
Tc =	10.0	min
Time Increment =	5.0	min
Allowable Flow =	**21.6**	L/s
Release rate via vortex =	**21.6**	**L/s**
Max. Required Storage Volume =	**677.3**	**m^3**

100-Year Design Storm	
A =	4688.00
B =	0.962
C=	17.000
I =	I = A/(T+C)^B

(1)	(2)	3	4	5	6
Time (min)	**Rainfall Intensity (mm/hr)**	**Storm Runoff (m^3/s)**	**Storm Volume (m^3)**	**Allowable Release Volume to STM (m^3)**	**Storage Volume (m^3)**
		3 = AC3*(2) / 360	**4 = 60*(1)* 3**	**5 = 60*(1)*(R3)/1000**	**6 = 4 - 5**
10	196.8	0.551	330.6	13.0	317.6
15	167.1	0.468	421.1	19.5	401.7
20	145.3	0.407	488.3	26.0	462.4
25	128.7	0.360	540.3	32.5	507.9
30	115.5	0.323	581.9	38.9	543.0
35	104.8	0.293	616.0	45.4	570.5
40	95.9	0.269	644.5	51.9	592.5
45	88.5	0.248	668.7	58.4	610.3
50	82.1	0.230	689.6	64.9	624.7
55	76.6	0.214	707.8	71.4	636.4
60	71.8	0.201	723.8	77.9	646.0
65	67.6	0.189	738.1	84.4	653.7
70	63.9	0.179	750.9	90.9	660.0
75	60.5	0.169	762.4	97.4	665.1
80	57.5	0.161	772.9	103.9	669.0
85	54.8	0.153	782.4	110.3	672.1
90	52.3	0.147	791.2	116.8	674.3
95	50.1	0.140	799.2	123.3	675.9
100	48.0	0.134	806.7	129.8	676.9
105	46.1	0.129	813.6	136.3	677.3
110	44.4	0.124	820.0	142.8	677.2
115	42.8	0.120	826.0	149.3	676.8
120	41.3	0.116	831.7	155.8	675.9
125	39.9	0.112	837.0	162.3	674.7
130	38.6	0.108	841.9	168.8	673.2
135	37.3	0.105	846.6	175.3	671.4
140	36.2	0.101	851.1	181.7	669.3
145	35.1	0.098	855.3	188.2	667.1
150	34.1	0.095	859.3	194.7	664.6
155	33.1	0.093	863.1	201.2	661.9
160	32.2	0.090	866.7	207.7	659.0
165	31.4	0.088	870.1	214.2	655.9
170	30.6	0.086	873.4	220.7	652.8
175	29.8	0.083	876.6	227.2	649.4
180	29.1	0.081	879.6	233.7	645.9
185	28.4	0.080	882.5	240.2	642.3
190	27.7	0.078	885.3	246.7	638.6
195	27.1	0.076	888.0	253.1	634.8
200	26.5	0.074	890.5	259.6	630.9
205	25.9	0.073	893.0	266.1	626.9
210	25.4	0.071	895.4	272.6	622.8
215	24.9	0.070	897.7	279.1	618.6
220	24.3	0.068	899.9	285.6	614.3
225	23.9	0.067	902.1	292.1	610.0
230	23.4	0.066	904.2	298.6	605.6
235	23.0	0.064	906.2	305.1	601.1
240	22.5	0.063	908.1	311.6	596.6

D.5. Draining To Existing Pond

GEI Consultants

KS/YG

Rational Method

Storage Calculations for Catchments draining to Equity Prestige Buisness Park

Simpson Road
Project #: 2301130
Jun-24

Catchment ID	Area (ha)	Q (m^3/s)	Q (L/s)	Storage required (m^3)
C2.2.1	0.71	0.128	**127.8**	**156.2**
C2.2.2	1.26	0.227	**226.8**	**277.2**
C3.2.1	0.24	0.043	**43.2**	**52.8**
C3.2.2	1.03	0.185	**185.4**	**226.6**

Modified Rational Method - 100-Year Storm
Site Flow and Storage Summary

Simpson Road
Project #: 2301130
Jun-24

Drainage Area:	C2.2.1	
Area =	0.71	ha
"C" =	0.90	
AC =	0.64	
Tc =	10.0	min
Time Increment =	5.0	min
Allowable Flow =	**127.8**	L/s
Release rate via orifice =	**127.8**	**L/s**
Max. Required Storage Volume =	**156.21**	**m^3**

100-Year Design Storm	
A =	4688.00
B =	0.962
C=	17.000
I =	I = A/(T+C)^B

(1)	(2)	3	4	5	6
Time (min)	**Rainfall Intensity (mm/hr)**	**Storm Runoff (m^3/s)**	**Storm Volume (m^3)**	**Allowable Release Volume to STM (m^3)**	**Storage Volume (m^3)**
		3 = AC3*(2) / 360	**4 = 60*(1)* 3**	**5 = 60*(1)*(R3)/1000**	**6 = 4 - 5**
10	196.8	0.349	209.6	76.7	132.9
15	167.1	0.297	267.0	115.0	152.0
20	145.3	0.258	309.6	153.4	156.2
25	128.7	0.228	342.5	191.7	150.8
30	115.5	0.205	368.9	230.0	138.9
35	104.8	0.186	390.5	268.4	122.1
40	95.9	0.170	408.6	306.7	101.8
45	88.5	0.157	423.9	345.1	78.8
50	82.1	0.146	437.1	383.4	53.7
55	76.6	0.136	448.7	421.7	26.9
60	71.8	0.127	458.9	460.1	0.0
65	67.6	0.120	467.9	498.4	0.0
70	63.9	0.113	476.0	536.8	0.0
75	60.5	0.107	483.3	575.1	0.0
80	57.5	0.102	490.0	613.4	0.0
85	54.8	0.097	496.0	651.8	0.0
90	52.3	0.093	501.5	690.1	0.0
95	50.1	0.089	506.7	728.5	0.0
100	48.0	0.085	511.4	766.8	0.0
105	46.1	0.082	515.8	805.1	0.0
110	44.4	0.079	519.8	843.5	0.0
115	42.8	0.076	523.7	881.8	0.0
120	41.3	0.073	527.2	920.2	0.0
125	39.9	0.071	530.6	958.5	0.0
130	38.6	0.068	533.7	996.8	0.0
135	37.3	0.066	536.7	1035.2	0.0
140	36.2	0.064	539.5	1073.5	0.0
145	35.1	0.062	542.2	1111.9	0.0
150	34.1	0.061	544.7	1150.2	0.0
155	33.1	0.059	547.1	1188.5	0.0
160	32.2	0.057	549.4	1226.9	0.0
165	31.4	0.056	551.6	1265.2	0.0
170	30.6	0.054	553.7	1303.6	0.0
175	29.8	0.053	555.7	1341.9	0.0
180	29.1	0.052	557.6	1380.2	0.0
185	28.4	0.050	559.4	1418.6	0.0
190	27.7	0.049	561.2	1456.9	0.0
195	27.1	0.048	562.9	1495.3	0.0
200	26.5	0.047	564.5	1533.6	0.0
205	25.9	0.046	566.1	1571.9	0.0
210	25.4	0.045	567.6	1610.3	0.0
215	24.9	0.044	569.1	1648.6	0.0
220	24.3	0.043	570.5	1687.0	0.0
225	23.9	0.042	571.9	1725.3	0.0
230	23.4	0.042	573.2	1763.6	0.0
235	23.0	0.041	574.5	1802.0	0.0
240	22.5	0.040	575.7	1840.3	0.0
245	22.1	0.039	576.9	1878.7	0.0
250	21.7	0.039	578.1	1917.0	0.0
255	21.3	0.038	579.2	1955.3	0.0
260	21.0	0.037	580.3	1993.7	0.0
265	20.6	0.037	581.4	2032.0	0.0
270	20.3	0.036	582.4	2070.4	0.0
275	19.9	0.035	583.4	2108.7	0.0

Modified Rational Method - 100-Year Storm
Site Flow and Storage Summary

Simpson Road
Project #: 2301130
Jun-24

Drainage Area:	C2.2.2	
Area =	1.26	ha
"C" =	0.90	
AC =	1.13	
Tc =	10.0	min
Time Increment =	5.0	min
Allowable Flow =	**226.8**	L/s
Release rate via orifice =	**226.8**	**L/s**
Max. Required Storage Volume =	**277.2**	**m^3**

100-Year Design Storm	
A =	4688.00
B =	0.962
C=	17.000
I =	I = A/(T+C)^B

(1)	(2)	3	4	5	6
Time (min)	**Rainfall Intensity (mm/hr)**	**Storm Runoff (m^3/s)**	**Storm Volume (m^3)**	**Allowable Release Volume to STM (m^3)**	**Storage Volume (m^3)**
		3 = AC3*(2) / 360	**4 = 60*(1)* 3**	**5 = 60*(1)*(R3)/1000**	**6 = 4 - 5**
10	196.8	0.620	371.9	136.1	235.9
15	167.1	0.526	473.8	204.1	269.7
20	145.3	0.458	549.4	272.2	277.2
25	128.7	0.405	607.9	340.2	267.7
30	115.5	0.364	654.7	408.2	246.4
35	104.8	0.330	693.0	476.3	216.7
40	95.9	0.302	725.0	544.3	180.7
45	88.5	0.279	752.3	612.4	139.9
50	82.1	0.259	775.8	680.4	95.4
55	76.6	0.241	796.3	748.4	47.8
60	71.8	0.226	814.3	816.5	0.0
65	67.6	0.213	830.4	884.5	0.0
70	63.9	0.201	844.8	952.6	0.0
75	60.5	0.191	857.7	1020.6	0.0
80	57.5	0.181	869.5	1088.6	0.0
85	54.8	0.173	880.2	1156.7	0.0
90	52.3	0.165	890.1	1224.7	0.0
95	50.1	0.158	899.1	1292.8	0.0
100	48.0	0.151	907.5	1360.8	0.0
105	46.1	0.145	915.3	1428.8	0.0
110	44.4	0.140	922.5	1496.9	0.0
115	42.8	0.135	929.3	1564.9	0.0
120	41.3	0.130	935.6	1633.0	0.0
125	39.9	0.126	941.6	1701.0	0.0
130	38.6	0.121	947.2	1769.0	0.0
135	37.3	0.118	952.5	1837.1	0.0
140	36.2	0.114	957.5	1905.1	0.0
145	35.1	0.111	962.2	1973.2	0.0
150	34.1	0.107	966.7	2041.2	0.0
155	33.1	0.104	971.0	2109.2	0.0
160	32.2	0.102	975.0	2177.3	0.0
165	31.4	0.099	978.9	2245.3	0.0
170	30.6	0.096	982.6	2313.4	0.0
175	29.8	0.094	986.2	2381.4	0.0
180	29.1	0.092	989.6	2449.4	0.0
185	28.4	0.089	992.8	2517.5	0.0
190	27.7	0.087	996.0	2585.5	0.0
195	27.1	0.085	999.0	2653.6	0.0
200	26.5	0.083	1001.9	2721.6	0.0
205	25.9	0.082	1004.6	2789.6	0.0
210	25.4	0.080	1007.3	2857.7	0.0
215	24.9	0.078	1009.9	2925.7	0.0
220	24.3	0.077	1012.4	2993.8	0.0
225	23.9	0.075	1014.8	3061.8	0.0
230	23.4	0.074	1017.2	3129.8	0.0
235	23.0	0.072	1019.5	3197.9	0.0
240	22.5	0.071	1021.7	3265.9	0.0
245	22.1	0.070	1023.8	3334.0	0.0
250	21.7	0.068	1025.9	3402.0	0.0
255	21.3	0.067	1027.9	3470.0	0.0
260	21.0	0.066	1029.8	3538.1	0.0
265	20.6	0.065	1031.7	3606.1	0.0
270	20.3	0.064	1033.5	3674.2	0.0
275	19.9	0.063	1035.3	3742.2	0.0

Modified Rational Method - 100-Year Storm
Site Flow and Storage Summary

Simpson Road
Project #: 2301130
Jun-24

Drainage Area:	C3.2.1	
Area =	0.24	ha
"C" =	0.90	
AC =	0.22	
Tc =	10.0	min
Time Increment =	5.0	min
Allowable Flow =	**43.2**	L/s
Release rate via orifice =	**43.2**	**L/s**
Max. Required Storage Volume =	**52.8**	**m^3**

100-Year Design Storm	
A =	4688.00
B =	0.962
C=	17.000
I =	I = A/(T+C)^B

(1)	(2)	3	4	5	6
Time (min)	**Rainfall Intensity (mm/hr)**	**Storm Runoff (m^3/s)**	**Storm Volume (m^3)**	**Allowable Release Volume to STM (m^3)**	**Storage Volume (m^3)**
		3 = AC3*(2) / 360	**4 = 60*(1)* 3**	**5 = 60*(1)*(R3)/1000**	**6 = 4 - 5**
10	196.8	0.118	70.8	25.9	44.9
15	167.1	0.100	90.2	38.9	51.4
20	145.3	0.087	104.6	51.8	52.8
25	128.7	0.077	115.8	64.8	51.0
30	115.5	0.069	124.7	77.8	46.9
35	104.8	0.063	132.0	90.7	41.3
40	95.9	0.058	138.1	103.7	34.4
45	88.5	0.053	143.3	116.6	26.7
50	82.1	0.049	147.8	129.6	18.2
55	76.6	0.046	151.7	142.6	9.1
60	71.8	0.043	155.1	155.5	0.0
65	67.6	0.041	158.2	168.5	0.0
70	63.9	0.038	160.9	181.4	0.0
75	60.5	0.036	163.4	194.4	0.0
80	57.5	0.035	165.6	207.4	0.0
85	54.8	0.033	167.7	220.3	0.0
90	52.3	0.031	169.5	233.3	0.0
95	50.1	0.030	171.3	246.2	0.0
100	48.0	0.029	172.9	259.2	0.0
105	46.1	0.028	174.3	272.2	0.0
110	44.4	0.027	175.7	285.1	0.0
115	42.8	0.026	177.0	298.1	0.0
120	41.3	0.025	178.2	311.0	0.0
125	39.9	0.024	179.3	324.0	0.0
130	38.6	0.023	180.4	337.0	0.0
135	37.3	0.022	181.4	349.9	0.0
140	36.2	0.022	182.4	362.9	0.0
145	35.1	0.021	183.3	375.8	0.0
150	34.1	0.020	184.1	388.8	0.0
155	33.1	0.020	184.9	401.8	0.0
160	32.2	0.019	185.7	414.7	0.0
165	31.4	0.019	186.5	427.7	0.0
170	30.6	0.018	187.2	440.6	0.0
175	29.8	0.018	187.8	453.6	0.0
180	29.1	0.017	188.5	466.6	0.0
185	28.4	0.017	189.1	479.5	0.0
190	27.7	0.017	189.7	492.5	0.0
195	27.1	0.016	190.3	505.4	0.0
200	26.5	0.016	190.8	518.4	0.0
205	25.9	0.016	191.4	531.4	0.0
210	25.4	0.015	191.9	544.3	0.0
215	24.9	0.015	192.4	557.3	0.0
220	24.3	0.015	192.8	570.2	0.0
225	23.9	0.014	193.3	583.2	0.0
230	23.4	0.014	193.8	596.2	0.0
235	23.0	0.014	194.2	609.1	0.0
240	22.5	0.014	194.6	622.1	0.0
245	22.1	0.013	195.0	635.0	0.0
250	21.7	0.013	195.4	648.0	0.0
255	21.3	0.013	195.8	661.0	0.0
260	21.0	0.013	196.2	673.9	0.0
265	20.6	0.012	196.5	686.9	0.0
270	20.3	0.012	196.9	699.8	0.0
275	19.9	0.012	197.2	712.8	0.0

Modified Rational Method - 100-Year Storm
Site Flow and Storage Summary

Simpson Road
Project #: 2301130
Jun-24

Drainage Area:	C3.2.2	
Area =	1.03	ha
"C" =	0.90	
AC =	0.93	
Tc =	10.0	min
Time Increment =	5.0	min
Allowable Flow =	**185.4**	L/s

Release rate via orifice = 185.4 L/s
Max. Required Storage Volume = 226.6 m^3

100-Year Design Storm	
A =	4688.00
B =	0.962
C=	17.000
I =	I = A/(T+C)^B

(1)	(2)	3	4	5	6
Time (min)	**Rainfall Intensity (mm/hr)**	**Storm Runoff (m^3/s)**	**Storm Volume (m^3)**	**Allowable Release Volume to STM (m^3)**	**Storage Volume (m^3)**
		3 = AC3*(2) / 360	**4 = 60*(1)* 3**	**5 = 60*(1)*(R3)/1000**	**6 = 4 - 5**
10	196.8	0.507	304.0	111.2	192.8
15	167.1	0.430	387.3	166.9	220.4
20	145.3	0.374	449.1	222.5	226.6
25	128.7	0.331	496.9	278.1	218.8
30	115.5	0.297	535.2	333.7	201.4
35	104.8	0.270	566.5	389.3	177.1
40	95.9	0.247	592.7	445.0	147.7
45	88.5	0.228	615.0	500.6	114.4
50	82.1	0.211	634.2	556.2	78.0
55	76.6	0.197	650.9	611.8	39.1
60	71.8	0.185	665.7	667.4	0.0
65	67.6	0.174	678.8	723.1	0.0
70	63.9	0.164	690.6	778.7	0.0
75	60.5	0.156	701.2	834.3	0.0
80	57.5	0.148	710.8	889.9	0.0
85	54.8	0.141	719.6	945.5	0.0
90	52.3	0.135	727.6	1001.2	0.0
95	50.1	0.129	735.0	1056.8	0.0
100	48.0	0.124	741.9	1112.4	0.0
105	46.1	0.119	748.2	1168.0	0.0
110	44.4	0.114	754.1	1223.6	0.0
115	42.8	0.110	759.7	1279.3	0.0
120	41.3	0.106	764.8	1334.9	0.0
125	39.9	0.103	769.7	1390.5	0.0
130	38.6	0.099	774.3	1446.1	0.0
135	37.3	0.096	778.6	1501.7	0.0
140	36.2	0.093	782.7	1557.4	0.0
145	35.1	0.090	786.6	1613.0	0.0
150	34.1	0.088	790.2	1668.6	0.0
155	33.1	0.085	793.7	1724.2	0.0
160	32.2	0.083	797.1	1779.8	0.0
165	31.4	0.081	800.2	1835.5	0.0
170	30.6	0.079	803.3	1891.1	0.0
175	29.8	0.077	806.2	1946.7	0.0
180	29.1	0.075	808.9	2002.3	0.0
185	28.4	0.073	811.6	2057.9	0.0
190	27.7	0.071	814.2	2113.6	0.0
195	27.1	0.070	816.6	2169.2	0.0
200	26.5	0.068	819.0	2224.8	0.0
205	25.9	0.067	821.3	2280.4	0.0
210	25.4	0.065	823.5	2336.0	0.0
215	24.9	0.064	825.6	2391.7	0.0
220	24.3	0.063	827.6	2447.3	0.0
225	23.9	0.061	829.6	2502.9	0.0
230	23.4	0.060	831.5	2558.5	0.0
235	23.0	0.059	833.4	2614.1	0.0
240	22.5	0.058	835.2	2669.8	0.0
245	22.1	0.057	836.9	2725.4	0.0
250	21.7	0.056	838.6	2781.0	0.0
255	21.3	0.055	840.2	2836.6	0.0
260	21.0	0.054	841.8	2892.2	0.0
265	20.6	0.053	843.4	2947.9	0.0
270	20.3	0.052	844.9	3003.5	0.0
275	19.9	0.051	846.4	3059.1	0.0

STORMWATER MANAGEMENT POND REPORT

SIMPSON ROAD EXTENSION

PROPOSED SWM POND

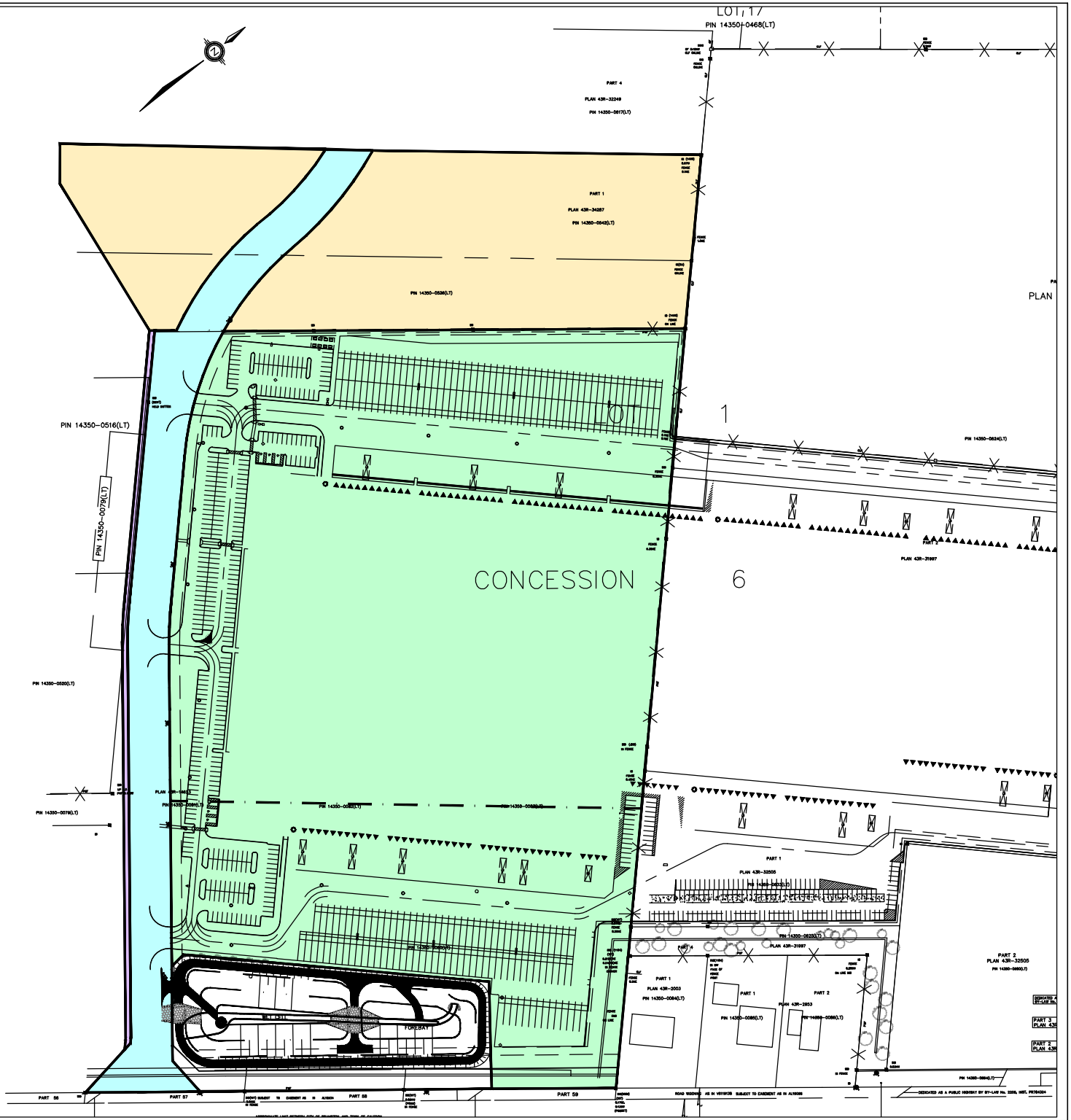
TOWN OF CALEDON

PROJECT 2019-4841 **AUGUST 2020**

Revision	Description	Prepared		Checked	
		By	Date	By	Date
2.0	Revised Report as per Agency comments	M. Ventresca	August 2020	K. Shahbikian	August 2020
1.0	Revised Report as per Agency comments	M. Ventresca K. Swain	April 2020	K. Shahbikian	April 2020
0.0	Original Report	M. Ventresca	Jan. 2020	K. Shahbikian	Jan. 2020

SCHAEFFERS
CONSULTING ENGINEERS
6 Ronrose Drive
Concord, Ontario L4K 4R3

Michael Ventresca



SIMPSON ROAD EXTENSION
SWM POND DESIGN
TOWN OF CALEDON

LEGEND

CONTROLLED SIMPSON ROAD EXTENSION AREA
A = 14500m² TIMP = 80%

CONTROLLED NORTHERN SITE PLAN AREA
A = 32200m² TIMP = 92.4%

CONTROLLED SOUTHERN SITE PLAN AREA
A = 105700m² TIMP = 90.5%

CONTROLLED SWM POND AREA
A = 12700m TIMP = 50%

TOTAL CONTROLLED SWM POND TRIBUTARY AREA
A = 165100m²

UNCONTROLLED SIMPSON ROAD EXTENSION AREA
A = 1250m² CN = 82, I_A = 5

SCHAEFFERS
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FIGURE 2-1
PROPOSED STORMWATER DRAINAGE PLAN

2019-4841	AUGUST 2020	SCALE: N.T.S.

Proposed Conditio Hydrological Modelling Parameters

Catch ID	*Description*	Hydrograph Method	Area, A (ha)	Perv. CN	Perv. Ia (mm)	Imperviousness (%) TIMP	Imperviousness (%) XIMP	A*TIMP	A*XIMP	Peak (Tp (hrs)
1. Controlled Area										
201	South Site Plan Roof Area	STANDHYD	5.27	82	5	*99*	*99*	5.22	5.22	
202	South Site Plan Parking and Landscape	STANDHYD	6.57	82	5	*81*	*81*	5.32	5.32	
203	North Site plan Parking and Landscape	STANDHYD	2.10	82	5	*80*	*80*	1.68	1.68	
204	Simpson Road Extension	STANDHYD	1.45	82	5	*80*	*80*	1.16	1.16	
205	North Siteplan Roff Area (35% of NorthSite Plan Area)	STANDHYD	1.125	82	5	*99*	*99*	1.11	1.11	
	Sub Total		**16.51**					**14.49**	**14.49**	
1. Uncontrolled Area										
206	External Area	NASHYD	0.125	82	5	0		0		0.25
	Sub Total		**0.125**							
	Total		**16.635**							

0.877574

NB:

Parameters adopted from:

100 Pillsworth Road Phase 3 Addition, Functional Servicing and Stormwater Management Report, dated March 1, 2009 and Simpson Road Extension Stormwater Management Facility Memo, dated August 31, 2017.

D.6. Water Balance Calculations

TRSPA WATER BALANCE TOOL



	mm/year	%
Input:		
Precip	859	100%
Output:		
Evavp	526	66%
Runoff	258	33%
Recharge	8.21	1%
Total Output	792.21	100%

	mm/year	%
Input:		
Precip	859	100%
Output:		
Evavp	570	66%
Runoff	280	33%
Recharge	9	1%
Total Output	859	100%

GEI Consultants

Prepared By: Kevin Surja

Total Site Water Balance - Post to Pre

Simpson Road MESP
2301130
Jul-25

Water Balance Calculations

Based on MOE Table 3.1

Pre-Development Site Data

Hydrologic Soil group:	-
Vegetation Cover:	-
Precipitation Data:	TRCA Watershed Tool

Pre-Development Infiltration Factor

Topography	-
Soils	-
Cover	-
Total	-

Pre-Development Water Balance for C1

	Pervious Area	Impervious Area	Total
Development Area (ha)	1.15	0.00	1.15
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	6555	0	6555
Infiltration (m^3)	104	0	104
Runoff (m^3)	3220	0	3220

Pre-Development Water Balance for C2.1

	Pervious Area	Impervious Area	Total
Development Area (ha)	2.08	0.00	2.08
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	11856	0	11856
Infiltration (m^3)	187	0	187
Runoff (m^3)	5824	0	5824

Pre-Development Water Balance for C2.2.1

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.42	0.05	0.47
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	2394	43	2437
Infiltration (m^3)	38	0	38
Runoff (m^3)	1176	387	1563

Pre-Development Water Balance for C2.2.2

	Pervious Area	Impervious Area	Total
Development Area (ha)	1.26	0.00	1.26
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	7182	0	7182
Infiltration (m^3)	113	0	113
Runoff (m^3)	3528	0	3528

Pre-Development Water Balance for C3.1

	Pervious Area	Impervious Area	Total
Development Area (ha)	2.80	0.01	2.81
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	15960	9	15969
Infiltration (m^3)	252	0	252
Runoff (m^3)	7840	77	7917

Pre-Development Water Balance for C3.2.1

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.10	0.03	0.13
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	570	26	596
Infiltration (m^3)	9	0	9
Runoff (m^3)	280	232	512

Pre-Development Water Balance for C3.2.2

	Pervious Area	Impervious Area	Total

Development Area (ha)	0.12	0.91	1.03
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	684	782	1466
Infiltration (m^3)	11	0	11
Runoff (m^3)	336	7035	7371

Pre-Development Water Balance for C4

	Pervious Area	Impervious Area	Total
Development Area (ha)	4.02	0.07	4.09
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	22914	60	22974
Infiltration (m^3)	362	0	362
Runoff (m^3)	11256	541	11797

Pre-Development Water Balance for C5

	Pervious Area	Impervious Area	Total
Development Area (ha)	3.91	0.00	3.91
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	22287	0	22287
Infiltration (m^3)	352	0	352
Runoff (m^3)	10948	0	10948

Pre-Development Water Balance for C6

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.19	0.00	0.19
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	1083	0	1083
Infiltration (m^3)	17	0	17
Runoff (m^3)	532	0	532

Pre-Development Water Balance for C7

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.20	0.01	0.21
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	1140	9	1149
Infiltration (m^3)	18	0	18
Runoff (m^3)	560	77	637

Pre-Development Water Balance for C8

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.20	0.03	0.23
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	1140	26	1166
Infiltration (m^3)	18	0	18
Runoff (m^3)	560	232	792

Pre-Development Water Balance for C9

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.44	0.01	0.45
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	2508	9	2517
Infiltration (m^3)	40	0	40
Runoff (m^3)	1232	77	1309

Pre-Development Water Balance for C10

	Pervious Area	Impervious Area	Total
Development Area (ha)	2.12	0.09	2.21
Precipitation (mm)	859	859	
ET (mm)	570	86	

Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	12084	77	12161
Infiltration (m^3)	191	0	191
Runoff (m^3)	5936	696	6632

Pre-Development Water Balance for C11

	Pervious Area	Impervious Area	Total
Development Area (ha)	2.02	0.00	2.02
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	11514	0	11514
Infiltration (m^3)	182	0	182
Runoff (m^3)	5656	0	5656

Pre-Development Water Balance for C12

	Pervious Area	Impervious Area	Total
Development Area (ha)	1.12	0.00	1.12
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	6384	0	6384
Infiltration (m^3)	101	0	101
Runoff (m^3)	3136	0	3136

Pre-Development Water Balance for R1

	Pervious Area	Impervious Area	Total
Development Area (ha)	1.36	0.05	1.41
Precipitation (mm)	859	859	
ET (mm)	570	86	
Surplus (mm)	289	773	
Infiltration (mm)	9	0	
Runoff (mm)	280	773	
ET (m^3)	7752	43	7795
Infiltration (m^3)	122	0	122
Runoff (m^3)	3808	387	4195

Post-Development Site Data

Hydrologic Soil group:	-
Vegetation Cover:	-
Precipitation Data:	TRCA Watershed Tool

Post-Development Infiltration Factor

Topography	-
Soils	-
Cover	-
Total	-

Post-Development Water Balance (No Mitigation) - C1

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	1.15	1.15
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	1482	1482
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	8397	8397

Post-Development Water Balance (No Mitigation) - C2.1

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	2.08	2.08
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	2680	2680
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	15187	15187

Post-Development Water Balance (No Mitigation) - C2.2.1

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	0.47	0.47
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	606	606
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	3432	3432

Post-Development Water Balance (No Mitigation) - C2.2.2

	Pervious Area	Impervious Area	Total

Development Area (ha)	0.00	1.26	1.26
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	1624	1624
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	9200	9200

Post-Development Water Balance (No Mitigation) - C3.1

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	2.81	2.81
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	3621	3621
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	20517	20517

Post-Development Water Balance (No Mitigation) - C3.2.1

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	0.13	0.13
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	168	168
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	949	949

Post-Development Water Balance (No Mitigation) - C3.2.2

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	1.03	1.03
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	1327	1327
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	7521	7521

Post-Development Water Balance (No Mitigation) - C4

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	4.09	4.09
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	5270	5270
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	29863	29863

Post-Development Water Balance (No Mitigation) - C5

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	3.91	3.91
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	5038	5038
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	28549	28549

Post-Development Water Balance (No Mitigation) - C6

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	0.19	0.19
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	245	245
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	1387	1387

Post-Development Water Balance (No Mitigation) - C7

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	0.21	0.21
Precipitation (mm)	859	859	
ET (mm)	570	129	

Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	271	271
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	1533	1533

Post-Development Water Balance (No Mitigation) - C8

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	0.23	0.23
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	296	296
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	1679	1679

Post-Development Water Balance (No Mitigation) - C9

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	0.45	0.45
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	580	580
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	3286	3286

Post-Development Water Balance (No Mitigation) - C10

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	2.21	2.21
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	2848	2848
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	16136	16136

Post-Development Water Balance (No Mitigation) - C11

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	2.02	2.02
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	2603	2603
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	14749	14749

Post-Development Water Balance (No Mitigation) - C12

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.00	1.12	1.12
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	0	1443	1443
Infiltration (m^3)	0	0	0
Runoff (m^3)	0	8178	8178

Post-Development Water Balance (No Mitigation) - R1

	Pervious Area	Impervious Area	Total
Development Area (ha)	0.28	1.13	1.41
Precipitation (mm)	859	859	
ET (mm)	570	129	
Surplus (mm)	289	730	
Infiltration (mm)	9	0	
Runoff (mm)	280	730	
ET (m^3)	1607	1453	3061
Infiltration (m^3)	25	0	25
Runoff (m^3)	790	8236	9026

Annual Infiltration Volume Deficit

Area Number	Annual Infiltration Volume Deficit
	m^3/year
C1	104
C2.1	187
C2.2.1	38
C2.2.2	113
C3.1	252

C3.2.1	9
C3.2.2	11
C4	362
C5	352
C6	17
C7	18
C8	18
C9	40
C10	191
C11	182
C12	101
R1	97
	2091

Subject Site	Total Area	Impervious Area	Pervious Area	
C1	1.15	0	1.15	0%
C2.1	2.08	0	2.08	0%
C2.2.1	0.47	0.05	0.42	11%
C2.2.2	1.26	0	1.26	0%
C3.1	2.81	0.01	2.8	0%
C3.2.1	0.13	0.03	0.1	23%
C3.2.2	1.03	0.91	0.12	88%
C4	4.09	0.07	4.02	2%
C5	3.91	0	3.91	0%
C6	0.19	0	0.19	0%
C7	0.21	0.01	0.2	5%
C8	0.23	0.03	0.2	13%
C9	0.45	0.01	0.44	2%
C10	2.21	0.09	2.12	4%
C11	2.02	0	2.02	0%
C12	1.12	0	1.12	0%
R1	1.41	0.05	1.36	4%
	24.77	1.26	23.51	9%

Subject Site	Total Area	Impervious Area	Pervious Area
C1	1.15	1.15	0
C2.1	2.08	2.08	0
C2.2.1	0.47	0.47	0
C2.2.2	1.26	1.26	0
C3.1	2.81	2.81	0
C3.2.1	0.13	0.13	0
C3.2.2	1.03	1.03	0
C4	4.09	4.09	0
C5	3.91	3.91	0
C6	0.19	0.19	0
C7	0.21	0.21	0
C8	0.23	0.23	0
C9	0.45	0.45	0
C10	2.21	2.21	0
C11	2.02	2.02	0
C12	1.12	1.12	0
R1	1.41	1.128	0.282
	24.77	24.488	0.282

Appendix E

Sanitary Servicing

Town of Caledon
Region of Peel

Department of Operations and Engineering

Sanitary Calculations to Simpson Road

Simpson Road

For Parts 1, 2, 3, 4, 5, 10

Sheet: 1 of 2

Project Name:

Project No.: 2301130

Prepared By: PS

Date: Aug-25

Residential Population Density:

Single Family Detached Dwelling:	50	Persons/ha	Extraneous:	0.200	L/s/ha
Semi-Detached Dwellings:	70	Persons/ha	Commercial:	50	pp/ha
ROW dwellings	175	Persons/ha	Industrial:	70	pp/ha
Apartments:	475	Persons/ha	Institutional:	90	pp/ha
q = average daily flow per person	302.8	L/cap/d	Q (ind) = industrial peak flow (L/s)		
M(r) = Peaking Factor (Residential)			Q (c) = commercial peak flow (L/s)		
M(r) = 1 + 14/(4+P^.5)			Q (ins) = institutional peak flow (L/s)		
where P = population in 1000's			Q (r) = population peak flow (L/s)		
			Q (i) = peak extraneous flow (L/s)		
			Q (d) = Total Peak flow (L/s)		

Location					Individual Values										Cumulative Values					Flow Data								Sewer Data								
						ICI			Residential								ICI			Residential															
Street/ Area number	From		To		Section Area	Industrial Area	Commercial GFA	Institutional Area	Single Detached Units	Semi Detached Units	Townhouse Units	Apartment Units	Residential Population	Total Accum. Population	Section Area (ha)	Industrial Population	Commercial Population	Institutional Population	Residential Population	Industrial Peak Flow (L/s)	Harmon Peaking Factor	Commercial Peak Flow (L/s)	Institutional Peak Flow (L/s)	Res. Population Peak Flow (L/s)	Peak Extraneous Flow (L/s)	Total Design Flow (L/s)	Length	Pipe Size	Pipe Material	Roughness	Grade	Full Flow Capacity	% of Design Capacity	Full Flow Velocity	Actual Velocity at Design Flow
	MH#	Invert	MH#	Invert	(ha.)	(ha.)	(ha.)	(ha.)	#	#	#	#	Capita	Capita	A	A(ind)	$A(c_o)$	A(ins)	P	Q(ind)		Q(c)	Q(ins)	Q(r)	Q(i)	Q(d)	(m)	(mm)			(%)	(L/s)	(%)	(m/s)	(m/s)
Part 1A, Part 1B					3.08	0.73	0	0	0	0	0	0	0	51	3.08	51.30	0.00	0.0	0	0.78	4.31	0.00	**0.00**	**0.00**	0.62	1.39	12.00	200	PVC	0.01	2.00	46.38	0.03	1.48	0.04
Simpson Road-A1	MH4A		MH5A		0.84	0.00	0	0.00	0	0	0	0	0	51	3.92	0.00	0.00	0.0	0	0.78	4.31	0.00	**0.00**	**0.00**	0.78	1.56	62.00	250	PVC	0.013	1.00	59.47	2.6%	1.21	0.03
Part 2A, Part 2B					3.43	0.20	0	0.00	0	0	0	0	0	14	3.43	13.97	0.00	0.0	0	0.22	4.40	0.00	**0.00**	**0.00**	0.69	0.90	14.60	200	PVC	0.013	2.00	46.38	1.9%	1.48	0.03
Simpson Road-A2	MH5A		MH6A		0.67	0.00	0	0.00	0	0	0	0	0	65	8.02	0.00	0.00	0.0	0	0.98	4.29	0.00	**0.00**	**0.00**	1.60	2.59	63.60	250	PVC	0.013	0.50	42.05	6.1%	0.86	0.05
Part 3					3.73	1.99	0	0.00	0	0	0	0	0	139	3.73	139.11	0.00	0.0	0	2.05	4.20	0.00	**0.00**	**0.00**	0.75	2.79	32.00	200	PVC	0.013	2.00	46.38	6.0%	1.48	0.09
Simpson Road-A3	MH6A		MH7A		0.69	0.00	0	0.00	0	0	0	0	0	204	12.44	0.00	0.00	0.0	0	2.97	4.14	0.00	**0.00**	**0.00**	2.49	5.46	120.40	250	PVC	0.013	0.50	42.05	13.0%	0.86	0.11
Part 4					3.55	1.91	0	0.00	0	0	0	0	0	134	3.55	133.97	0.00	0.0	0	1.98	4.21	0.00	**0.00**	**0.00**	0.71	2.69	30.50	200	PVC	0.013	2.00	46.38	5.8%	1.48	0.09
Simpson Road-A4	MH7A		MH8A		0.49	0.00	0	0.00	0	0	0	0	0	338	16.48	0.00	0.00	0.0	0	4.81	4.06	0.00	**0.00**	**0.00**	3.30	8.11	82.20	250	PVC	0.013	0.50	42.05	19.3%	0.86	0.17
Part 10					2.14	1.16	0	0.00	0	0	0	0	0	81	2.14	81.30	0.00	0.0	0	1.22	4.27	0.00	**0.00**	**0.00**	0.43	1.64	30.50	200	PVC	0.013	2.00	46.38	3.5%	1.48	0.05
Simpson Road-A5	MH8A		MH9A		0.57	0.00	0	0.00	0	0	0	0	0	420	19.19	0.00	0.00	0.0	0	5.90	4.01	0.00	**0.00**	**0.00**	3.84	9.74	100.00	250	PVC	0.013	0.50	42.05	23.2%	0.86	0.20
Part 5					1.62	0.73	0	0.00	0	0	0	0	0	51	1.62	50.86	0.00	0.0	0	0.77	4.31	0.00	**0.00**	**0.00**	0.32	1.09	14.90	200	PVC	0.013	2.00	46.38	2.4%	1.48	0.03
Simpson Road-A6	MH9A		MH10A		0.54	0.00	0	0.00	0	0	0	0	0	471	21.35	0.00	0.00	0.0	0	6.58	3.99	0.00	**0.00**	**0.00**	4.27	10.85	107.80	250	PVC	0.013	0.55	44.10	24.6%	0.90	0.22
																				Flows from Parts only						10.51								

Town of Caledon
Region of Peel

Department of Operations and Engineering

Sanitary Calculations for Coleraine Drive

Simpson Road

For Sites 6, 7, 8, 9,11,12

Sheet: 2 of 2

Project Name:

Project No.: 2301130

Prepared By: PS

Date: Aug-25

Residential Population Density:

Single Family Detached Dwelling:	50	Persons/ha	Extraneous:	0.200	L/s/ha
Semi-Detached Dwellings:	70	Persons/ha	Commercial:	50	pp/ha
ROW dwellings	175	Persons/ha	Industrial:	70	pp/ha
Apartments:	475	Persons/ha	Institutional:	90	pp/ha
q = average daily flow per person	302.8	L/cap/d	Q (ind) = industrial peak flow (L/s)		
M(r) = Peaking Factor (Residential)			Q (c) = commercial peak flow (L/s)		
M(r) = 1 + 14/(4+P^.5)			Q (ins) = institutional peak flow (L/s)		
where P = population in 1000's			Q (r) = population peak flow (L/s)		
			Q (i) = peak extraneous flow (L/s)		
			Q (d) = Total Peak flow (L/s)		

Location					Individual Values											Cumulative Values					Flow Data								Sewer Data								
						ICI			Residential								ICI			Residential																	
Street/ Area number	From		To		Section Area	Industrial Area	Commercial GFA	Institutional Area	Single Detached Units	Semi Detached Units	Townhouse Units	Apartment Units	Residential Population	Total Accum. Population		Section Area (ha)	Industrial Population	Commercial Population	Institutional Population	Residential Population	Industrial Peak Flow (L/s)	Harmon Peaking Factor	Commercial Peak Flow (L/s)	Institutional Peak Flow (L/s)	Res. Population Peak Flow (L/s)	Peak Extraneous Flow (L/s)	Total Design Flow (L/s)	Length	Pipe Size	Pipe Material	Roughness	Grade	Full Flow Capacity	% of Design Capacity	Full Flow Velocity	Actual Velocity at Design Flow
	MH#	Invert	MH#	Invert	(ha.)	(ha.)	(ha.)	(ha.)	#	#	#	#	Capita	Capita		A	A(ind)	$A(c_o)$	A(ins)	P	Q(ind)		Q(c)	Q(ins)	Q(r)	Q(i)	Q(d)	(m)	(mm)			(%)	(L/s)	(%)	(m/s)	(m/s)
Part 6					1.14	0.27	0	0.00	0	0	0	0	0	18.64		1.14	18.64	0.00	0.0	0	0.29	4.38	0.00	**0.00**	**0.00**	0.23	0.51	10.00	200	PVC	0.013	2.00	46.38	1.1%	1.48	0.02
Coleraine Drive, B1	EXMH28		EXMH27		0.48	0.00	0	0.00	0	0	0	0	0	18.64		1.62	0.00	0.00	0.0	0	0.29	4.38	0.00	**0.00**	**0.00**	0.32	0.61	150.20	750	PVC	0.013	0.32	629.76	0.1%	1.43	0.00
Coleraine Drive, B2	EXMH27		EXMH26		0.48	0.00	0	0.00	0	0	0	0	0	18.64		2.10	0.00	0.00	0.0	0	0.29	4.38	0.00	**0.00**	**0.00**	0.42	0.71	150.10	750	PVC	0.013	0.28	589.09	0.1%	1.33	0.00
Part 11					0.20	0.10	0	0.00	0	0	0	0	0	7.03		0.20	7.03	0.00	0.0	0	0.11	4.43	0.00	**0.00**	**0.00**	0.04	0.15	10.00	200	PVC	0.013	2.00	46.38	0.3%	1.48	0.00
Part 7					0.22	0.12	0	0.00	0	0	0	0	0	8.24		0.22	8.24	0.00	0.0	0	0.13	4.42	0.00	**0.00**	**0.00**	0.04	0.17	10.00	200	PVC	0.013	2.00	46.38	0.4%	1.48	0.01
Coleraine Drive, B3	EXMH26		EXMH25		0.49	0.00	0	0.00	0	0	0	0	0	33.91		3.01	0.00	0.00	0.0	0	0.52	4.35	0.00	**0.00**	**0.00**	0.60	1.12	145.90	750	PVC	0.013	0.30	609.77	0.2%	1.38	0.00
Part 8					0.24	0.12	0	0.00	0	0	0	0	0	8.26		0.24	8.26	0.00	0.0	0	0.13	4.42	0.00	**0.00**	**0.00**	0.05	0.18	10.00	200	PVC	0.013	2.00	46.38	0.4%	1.48	0.01
Part 9					0.49	0.24	0	0.00	0	0	0	0	0	16.53		0.49	16.53	0.00	0.0	0	0.25	4.39	0.00	**0.00**	**0.00**	0.10	0.35	10.00	200	PVC	0.013	2.00	46.38	0.8%	1.48	0.01
Coleraine Drive, B4	EXMH25		EXMH24		0.52	0.00	0	0.00	0	0	0	0	0	58.70		4.26	0.00	0.00	0.0	0	0.88	4.30	0.00	**0.00**	**0.00**	0.85	1.74	153.20	750	PVC	0.013	0.76	970.53	0.2%	2.20	0.00
Part 12					1.15	0.52	0	0.00	0	0	0	0	0	36.36		1.15	36.36	0.00	0.0	0	0.55	4.34	0.00	**0.00**	**0.00**	0.23	0.78	10.00	200	PVC	0.013	2.00	46.38	1.7%	1.48	0.02
Coleraine Drive, B5	EXMH24		EXMH23		0.21	0.00	0	0.00	0	0	0	0	0	95.06		5.62	0.00	0.00	0.0	0	1.42	4.25	0.00	**0.00**	**0.00**	1.12	2.54	69.30	750	PVC	0.013	0.55	825.63	0.3%	1.87	0.01
																					Flows from Parts only						2.15								

Appendix F

Water Servicing

DOMESTIC WATER DEMAND

Project Name:	Simpson road	Project No.	2301130
Prepared by:	Preston Simard		
Date:	Feb-24		

Fronting Simpson Road

Note:
Based on the Region of Peel Design Criteria and Ontario Building Code

	Site Component	PART 1	PART 2	PART 3	PART 4	PART 5	PART 10		
Industrial Occupancy Data		0.73	0.20	1.99	1.91	0.07	1.16		
		70.00	*70.00*	*70.00*	*70.00*	*70.00*	*70.00*		
Commercial Occupancy Data									

Unit Quantity by Site Component	Water Demand	Units	Equivalent Population (persons)							
Industrail Occupancies										
Apartments, Condominiums, Other Multi-family Dwellings	300	L/person/day	51.3	14.0	139.1	134.0	5.1	81.3	-	-
Not used	-	-								
Not used	-	-								
Other Occupancies			**Flow Rates (L/d)**							
Not used	-	-	-		-		-	-	-	-
Not used	-	-	-		-		-	-	-	-
Not used	-	-	-		-		-	-	-	-

		Daily Flow Rate (L/d)							
Industrail Occupancies									
Apartments, Condominiums, Other Multi-family Dwellings		127,424.30	15,390.90	4,190.70	41,733.72	40,192.01	1,526.53	24,390.45	0	0
Not used										
Not used										
Other Occupancies										
Not used										
Not used										
Not used										

	Total Flow							
Average day (L/d)	**127,424**	15,391	4,191	41,734	40,192	1,527	24,390	0	0
Average day (L/s)	**1.47**	0.18	0.05	0.48	0.47	0.02	0.28	0.00	0.00
Max. day (L/d)	**178,394**	21,547	5,867	58,427	56,269	2,137	34,147	0	0
Min. hour (L/hr)	**3,451**	417	113	1,130	1,089	41	661	0	0
Peak hour (L/hr)	**15,928**	1,924	524	5,217	5,024	191	3,049	0	0
Peak hour (L/s)	**4.42**	0.53	0.15	1.45	1.40	0.05	0.85	0.00	0.00

Peaking Factors			
Land Use	Minimum Hour	Peak Hour	Maximum Day
Commercial / Retail	0.65	3.00	1.40
Residential	0.65	3.00	2.00

DOMESTIC WATER DEMAND

Project Name:	Simpson road	Project No.	2301130
Prepared by:	Preston Simard		
Date:	Feb-24		

Fronting Coleraine Drive

Note:
Based on the Region of Peel Design Criteria and Ontario Building Code

	Site Component	Part 6	Part 7	Part 8	Part 9	Part 11			
Industrial Occupancy Data		0.57	0.12	0.12	0.24	0.10			
		70.00	*70.00*	*70.00*	*70.00*	*70.00*			
Commercial Occupancy Data									

Unit Quantity by Site Component	Water Demand	Units	Equivalent Population (persons)							
Industrail Occupancies										
Apartments, Condominiums, Other Multi-family Dwellings	300	L/person/day	39.6	8.2	8.3	16.5	7.0	-	-	-
Not used	-	-								
Not used	-	-								
Other Occupancies			Flow Rates (L/d)							
Not used	-	-	-		-		-	-	-	-
Not used	-	-	-		-		-	-	-	-
Not used	-	-	-		-		-	-	-	-

Daily Flow Rate (L/d)										
Industrail Occupancies										
Apartments, Condominiums, Other Multi-family Dwellings		23,909.76	11,892.93	2,471.70	2,478.00	4,958.00	2,109.14			
Not used										
Not used										
Other Occupancies										
Not used										
Not used										
Not used										

	Total Flow							
Average day (L/d)	**23,910**	11,893	2,472	2,478	4,958	2,109			
Average day (L/s)	**0.28**	0.14	0.03	0.03	0.06	0.02			
Max. day (L/d)	**33,474**	16,650	3,460	3,469	6,941	2,953			
Min. hour (L/hr)	**648**	322	67	67	134	57			
Peak hour (L/hr)	**2,989**	1,487	309	310	620	264			
Peak hour (L/s)	**0.83**	0.41	0.09	0.09	0.17	0.07			

Peaking Factors			
Land Use	Minimum Hour	Peak Hour	Maximum Day
Commercial / Retail	0.65	3.00	1.40
Residential	0.65	3.00	2.00

DOMESTIC WATER DEMAND

Project Name:	Simpson road	Project No.	2301130
Prepared by:	Preston Simard		
Date:	Feb-24		

Fronting Coleraine Drive

Note:
Based on the Region of Peel Design Criteria and Ontario Building Code

	Site Component	Part 12							
Industrial Occupancy Data		0.46							
		70.00							
Commercial Occupancy Data									

Unit Quantity by Site Component	Water Demand	Units	Equivalent Population (persons)							
Industrail Occupancies										
Apartments, Condominiums, Other Multi-family Dwellings	300	L/person/day	32.3	-	-	-	-	-	-	-
Not used	-	-								
Not used	-	-								
Other Occupancies			**Flow Rates (L/d)**							
Not used	-	-	-		-		-	-	-	-
Not used	-	-	-		-		-	-	-	-
Not used	-	-	-		-		-	-	-	-

Daily Flow Rate (L/d)										
Industrail Occupancies										
Apartments, Condominiums, Other Multi-family Dwellings		9,681.84	9,681.84							
Not used										
Not used										
Other Occupancies										
Not used										
Not used										
Not used										

	Total Flow								
Average day (L/d)	**9,682**	9,682							
Average day (L/s)	**0.11**	0.11							
Max. day (L/d)	**13,555**	13,555							
Min. hour (L/hr)	**262**	262							
Peak hour (L/hr)	**1,210**	1,210							
Peak hour (L/s)	**0.34**	0.34							

Peaking Factors			
Land Use	Minimum Hour	Peak Hour	Maximum Day
Commercial / Retail	0.65	3.00	1.40
Residential	0.65	3.00	2.00

GEI Consultants

	Fire Flow + Max Day Demand		
	WaterCAD Modelling Results		
Project Name:	Simpson road	Project No.	2301130
Prepared by:	Helen Peng		
Date:	Feburary 2024		

ID	Schematic Label	Elevation (m)	Total Demand (L/s)	Gydraulic Grade (m)	Pressure (psi)	Notes
861	J-383	234	200.03	293.63	85	Site 1 Connection
793	J-382	233	100.51	294.49	87	Site 2 Connection
748	J-377	232.5	200	291.89	84	HD 1
833	J-376	231.5	333.65	284.61	75	Site 3 Connection
749	J-373	231.5	333	287.96	80	HD 2
829	J-369	231	317.25	284.95	77	Site 4 Connection
932	J-368	231	250.4	287.71	81	Site 10 Connection
775	J-365	231	250	289.9	84	HD 3
831	J-364	231	67.03	291.37	86	Site 5 Connection

GEI Consultants

	Max Day Demand		
	WaterCAD Modelling Results		
Project Name:	Simpson road	Project No	2301130
Prepared by:	Helen Peng		
Date:	Feburary 2024		

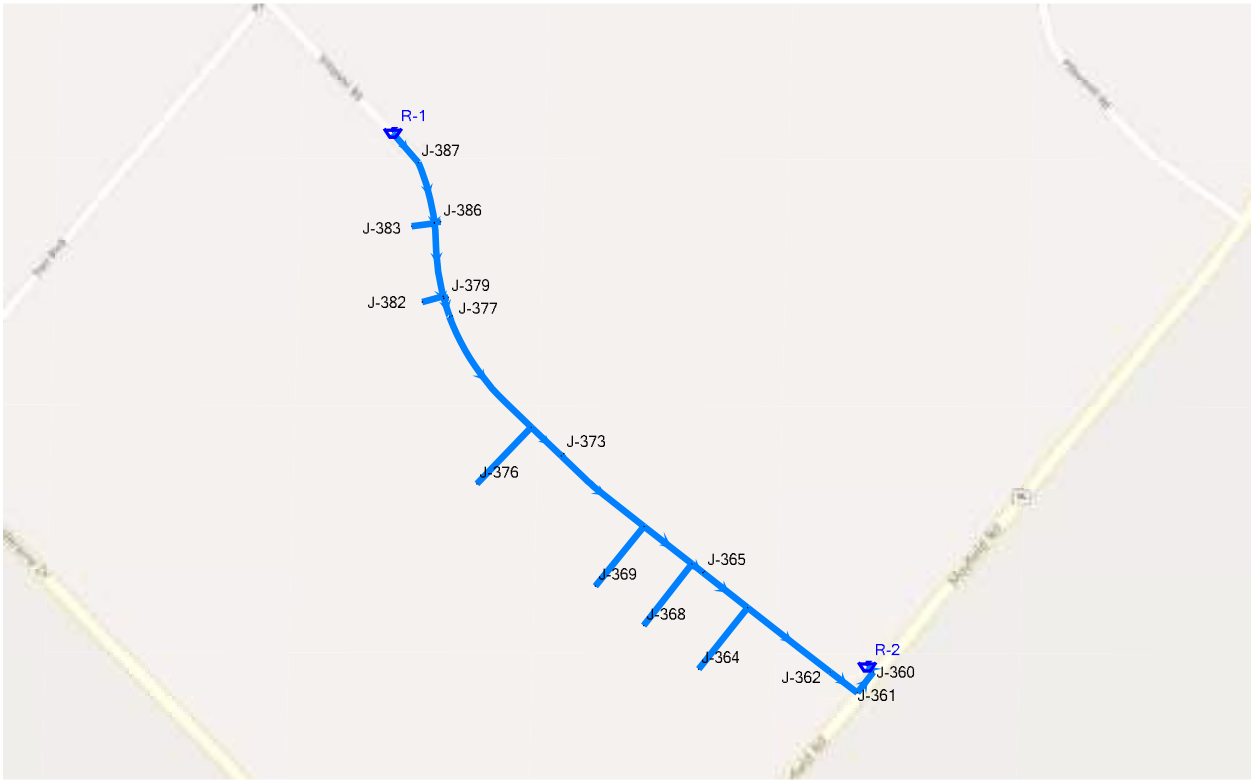
Schematic Label	Eleveation (m)	Demand (L/s)	Gydraulic Grade (m)	Pressure (psi)	Notes
J-360	230	0	291.07	87	
J-362	230.5	0	291.64	87	
J-361	230	0	291.32	87	
J-364	231	0.02	292.63	87	Site 5 Connection
J-363	231	0	292.63	87	
J-365	231	0	293.16	88	HD 3
J-366	231	0	293.16	88	
J-368	231	0.4	293.3	88	Site 10 Connection
J-367	231	0	293.3	88	
J-369	231	0.65	293.79	89	Site 4 Connection
J-372	231	0	293.79	89	
J-387	235	0	298.12	90	
J-373	231.5	0	294.84	90	HD 2
J-374	231.5	0	294.84	90	
J-383	234	0.25	297.5	90	Site 1 Connection
J-384	234	0	297.5	90	
J-386	234	0	297.51	90	
J-385	234	0	297.51	90	
J-376	231.5	0.68	295.24	90	Site 3 Connection
J-375	231.5	0	295.24	90	
J-379	233	0	296.77	91	
J-380	233	0	296.77	91	
J-382	233	0.07	296.79	91	Site 2 Connection
J-381	233	0	296.79	91	
J-377	232.5	0	296.58	91	HD 1
J-378	232.5	0	296.58	91	

GEI Consultants

	Peak Hour Demand		
	WaterCAD Modelling Results		
Project Name:	Simpson road	Project No	2301130
Prepared by:	Helen Peng		
Date:	Feburary 2024		

Schematic Label	Eleveation (m)	Demand (L/s)	Gydraulic Grade (m)	Pressure (psi)	Notes
J-360	230	0	291.07	87	
J-362	230.5	0	291.63	87	
J-361	230	0	291.31	87	
J-364	231	0.05	292.6	87	Site 5 Connection
J-363	231	0	292.6	87	
J-365	231	0	293.13	88	HD 3
J-366	231	0	293.13	88	
J-368	231	0.85	293.26	88	Site 10 Connection
J-367	231	0	293.26	88	
J-369	231	1.4	293.75	89	Site 4 Connection
J-372	231	0	293.75	89	
J-387	235	0	298.11	90	
J-373	231.5	0	294.79	90	HD 2
J-374	231.5	0	294.79	90	
J-383	234	0.53	297.49	90	Site 1 Connection
J-384	234	0	297.49	90	
J-386	234	0	297.5	90	
J-385	234	0	297.5	90	
J-376	231.5	1.45	295.19	90	Site 3 Connection
J-375	231.5	0	295.19	90	
J-379	233	0	296.74	90	
J-380	233	0	296.74	90	
J-382	233	0.15	296.76	91	Site 2 Connection
J-381	233	0	296.76	91	
J-377	232.5	0	296.55	91	HD 1
J-378	232.5	0	296.55	91	

Scenario: Base



Bing

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