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FUNCTIONAL SERVICING REPORT

Proposed Estate Residential Subdivision

West Side of Mount Pleasant Rd., South of Highway 9
Community of Palgrave
Town of Caledon
Region of Peel

May 2018

Prepared For: **1029629 Ontario Inc.**

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VALDOR WATER RESOURCES

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1.0 INTRODUCTION

Valdor Engineering Inc. has been retained by 1029629 Ontario Inc. to provide consulting engineering services for the proposed estate residential subdivision located on a 12.28 hectare parcel on the west side of Mount Pleasant Road, south of Highway 9 in the Palgrave Community of the Town of Caledon as illustrated in **Figure 1**.

1.1 Existing Conditions

The subject site is currently vacant and has rolling topography. The site is bounded to the north by a large lot with a detached dwelling and to the east by Mount Pleasant Road. The subject site is bounded to the west and south by woodlots. The tributary of the Beeton Creek traverses the east part of the site.

An estate residential subdivision is located further to the north and west (Pine Glen Estates, 21T-88051C). An estate residential subdivision (2366125 Ontario Inc., Beaverhall Homes, 21T-95027C) is planned on the east side of Mount Pleasant Road.

1.2 Proposed Development

The proposed development consists of eight estate residential lots for detached dwellings with lot sizes ranging from 0.63 to 1.72 hectares. The development will include a municipal road allowance and a block for a future road as well as an open space block to accommodate the existing wood lot at the west limit of the site and open space blocks at the east limit of the site to accommodate a watercourse. The total number of lots include one bonus lot which was achieved through the creation of environmental protection zone having a minimum area of 4.0 hectares. The environmental protection zones are generally located in the rear yard area and are to remain undisturbed.

The configuration of the proposed development is illustrated in **Figure 2**. The development statistics and the equivalent population data are summarized in **Table 1**. A copy of the draft plan of subdivision indicating the configuration of the lots is included in **Appendix "A"** together with a site plan indicating the conceptual house locations.

Table 1. Development Statistics

Land Use	**Area** (Ha)	**Residential Units** (No.)
Estate Residential Lots	7.79	8
Open Space	3.37	
Road Allowances	1.12	
TOTAL	**12.28**	**8**

1.3 Purpose of Report

This report has been prepared in support of the application for draft plan approval for the subject property. The primary intent of the report is to demonstrate the viability of water and wastewater servicing, storm drainage and stormwater management, grading as well as vehicular and pedestrian access for the proposed development with respect to applicable guidelines, policies and design criteria.

This report has been prepared based on a review of the topographic survey and background studies, discussions with engineering staff at the Town of Caledon, Region of Peel and the Nottawasaga River Conservation Authority, as well as visits to the site. The conceptual design is documented on a series of large size preliminary plans which are contained in a pocket at the rear of this report. This document provides guidance for detailed engineering design of the subdivision.

2.0 WATER SERVICING

The Region of Peel is responsible for the treatment and distribution of water within the Town of Caledon as well as the City of Brampton and the City of Mississauga. The Region's South Peel Drinking Water System is a lake-based system that supplies a population of over 1.3 million people in the urban area drawing water from Lake Ontario after which it is treated at either the Lakeview or Lornepark water treatment facilities. The rural communities of Caledon including Alton, Caledon East, Caledon Village, Cheltenham Village, Inglewood as well as Palgrave are serviced by well based water systems which are operated by the Region of Peel.

The community of Palgrave is serviced by the Palgrave Drinking Water System. This system consists of two water treatment plants, three municipal wells, one water storage reservoir, 75 kilometres of watermain and 134 fire hydrants. The following is a summary of the water servicing requirements for the subject site.

2.1 Domestic Demand

The domestic water demand is to be calculated using the Region of Peel engineering design standards which includes the following parameters:

Residential Average Day Demand:	280 L/person/day
Maximum Day Factor:	2.0
Peak Hour Factor	3.0

A detailed tabulation of the domestic water demand calculation is detailed in **Table B1 o**f **Appendix "B"**. The demands are summarized in **Table 2** below.

Table 2. Domestic Water & Fire Flow Demand

Land Use	Equivalent Population (Persons)	Domestic Demand (L/min)	Maximum Day Demand (L/min)	Peak Hour Demand (L/min)	Fire Flow (L/min)	Maximum Day Plus Fire Flow (L/min)	Maximum Day Plus Fire Flow (L/s)
Estate Lots	32	6.2	12.4	18.7	6,000	6,012	100.2

2.2 Local Watermains & Service Connections

The local water distribution system within the subdivision will consist of watermains of 150mm and 200mm diameter. This internal water system will connect to the recently constructed 200mm diameter watermain on the east side of Mount Pleasant Road. Based on the block for the future McGuire Trail road allowance, the possibility exists for a future connection to the existing 300mm diameter McGuire Trail watermain at the Rowley Drive intersection to the north.

Based on Ontario Building Code (OBC 2012) regulations (7.6.3.4.(1) and (5) and Table 7.6.3.4), the houses will be serviced with 25mm diameter water connections given that it is anticipated that the dwellings will each have more than 16 fixture units.

Water meters are to be purchased from the Region and will be installed in the basement of each dwelling unit with a remote readout device located on the exterior ground floor wall of the unit. A copy of the standard water service connection detail are included in **Appendix "B"**. The location of the watermains and service connections are indicated in **Figure 3**.

2.3 Fire Protection

The fire flow required for the proposed detached dwelling units and commercial buildings was calculated using the criteria indicated in the *Water Supply for Public Fire Protection Manual*, 1999, by the Fire Underwriters Survey (FUS). The calculation incorporates various parameters such as coefficient for fire-resistant construction, an area reduction accounting for a fire-resistant (one hour rating) protection, a reduction for low-hazard occupancies, and a factor for neighbouring building proximity.

Based on the calculations, the minimum fire suppression flow required for the detached dwellings is 6,000 L/min. The preliminary fire flow calculation is shown in **Table B2-1** contained in **Appendix "B"**. In accordance with the Region of Peel standards, this flow must be available at the nearest hydrant with a minimum pressure of 140 KPa.

Fire hydrants will be provided along the road at a 150m spacing in accordance with the Region of Peel design criteria. A copy of the standard fire hydrant connection detail is included in **Appendix "B"**. The location of the proposed fire hydrants are indicated in **Figure 3**.

3.0 WASTEWATER SERVICING

The Region of Peel operates and maintains approximately 3,500 Km of sanitary sewer including those within the urban areas of Caledon as well as those in the City of Brampton and the City of Mississauga. Wastewater treatment for these urban areas is provided by the Clarkson and G.E. Booth Lakeview Wastewater Treatment facilities located on the shore of Lake Ontario. Caledon's Inglewood Community is serviced by the Inglewood Communal Wastewater Treatment Station which discharges to the Credit River. Homes in the balance of Caledon's rural communities, including Palgrave are serviced by individual private on-site sewage systems.

The following sections detail the sizing of the private on-site sewage systems in accordance with the Ontario Building Code.

3.1 Wastewater Design Flow

In accordance with Part 8 of the Ontario Building Code (OBC) the daily design flow for a dwelling is to be calculated based on the floor area of the dwelling, the number of bedrooms and the number of fixture units.

Although architectural house plans are not yet available, for the purpose of confirming servicing feasibility, it is assumed that the proposed detached dwellings will have four bedrooms, 460 m^2 (4,950 sq.ft) of floor area with 40 fixture units. Based on these parameters the design sewage flow has been calculated to be 4,450 L/day as summarized in **Table 3**. The calculation of the design flow is provided in **Table C1** and the listing of fixture units is provided in **Table C2** which are both included in **Appendix "C".**

Table 3. Wastewater Flow

House Size:	460 m^2 (4,950 sq.ft.), 4 bedrooms, 40 fixture units
Design Flow, Q:	4,450 L/day
Septic Tank Size:	9,000 L
Native Soils:	Sand
Percolation Rate:	10 minutes / cm (Native Sand)
Required Length of Distribution Pipe for Conventional In-Ground Bed:	222.5m
Proposed Size of Conventional In-Ground Bed:	9 runs @ 24.8m = 223.2 (24.8m x 12.8m)

3.2 Septic System Components

The septic system is comprised of several components which are to be sized based on the daily design flow and the percolation rate ("T" time) of the native soil conditions. The configuration of the proposed septic system is illustrated in **Figure 4** and on the **Preliminary Servicing Plan (Dwg PS-1)**. The sizing of the components is summarized in the following sections.

3.2.1 Septic Tank

A 100mm diameter gravity sanitary drain will convey sewage flows to the septic tank from plumbing fixtures on the main floor of the dwelling and above. Fixtures in the basement will typically require an internal sewage ejector to pump flow up to the gravity sanitary drain.

In accordance with Section 8.2.2.3 of the OBC the septic tank volume is to be a minimum of twice the daily design flow as follows:

Minimum Tank Size = 4,450 L/day x 2 = 8,900 L

Commercially Available Sizes = 4,500 L, 6,800 L, 9,000 L & 13,500 L

Selected Tank Size = 9,000 L

In accordance with Section 8.6.2.1 of the OBC, an effluent filter is to be installed in the outlet of the septic tank. Access risers over both the inlet and outlet of the tank are to extend to finished grade to allow for inspection and maintenance. A detail of the septic tank is included in **Appendix "C"**.

3.2.2 Pump Tank / Balancing Tank

Given that the daily sewage flow is higher than 3,000 L/day effluent gravity flow is not permitted and therefore effluent is to be pumped to the disposal bed. The pump is to be installed in a pump tank which is to be located downstream of the septic tank.

For situations where a very large home is constructed with a high occupant load, a larger pump tank can be utilized in the form of a balancing tank. This tank can provide storage of varying peak flows so that discharge to the disposal bed can be balanced over several days with the pump discharging lower flows at prescribed intervals set by a control panel.

3.2.3 Subsurface Disposal

A preliminary geotechnical investigation prepared by Sirati & Partners Consultants Limited determined that the native soils across all of the lots consist of sand. With regards to the preliminary sizing of septic systems a percolation rates ("T" time) of 10 min/cm has been assumed.

During drilling, groundwater was found in the boreholes at depths ranging from 4.6 to 9.1m below the existing grade. The stabilized groundwater table observed in the monitoring wells approximately two weeks after drilling was at depths ranging from 4.7m to 9.8 m. A copy of the preliminary geotechnical investigation is included in **Appendix "I"**.

Based on the native sand soils, the proposed lots would be suitable for conventional in-ground bed. The sizing of the disposal beds is summarized as follows:

a) Conventional Septic Beds

Conventional in-ground septic tile beds have a solid header pipe with a series of perforated distribution pipes. The total length of distribution pipe is calculated as follows:

Length of Pipe = Q x T / 200 where Q= design flow in L/Day
T = Percolation Rate in min/cm

Length of Pipe = 4,450 x 10 / 200 = 222.5m

Based on 9 runs of distribution pipe each being 24.8m long the total length of distribution pipe is 223.2m. Using the required pipe spacing of 1.6m the size of the in-ground septic bed would be 317.44 m^2 in area with the dimensions 12.8m (8 x 1.6m) x 24.8m. The preliminary location of the proposed septic tile beds is indicated in **Figure 4**. The septic bed sizing calculations are included in **Appendix "C"**.

b) Alternate Bed Designs

In order to minimize the land area required for the disposal bed and to achieve a level of treatment higher than that of a conventional septic system, the use of an alternative treatment system can be utilized.

There are several alternative treatment systems available which have been approved by the Ministry of Municipal Affairs & Housing (MMAH) and recognized in the OBC. Alternative treatment systems designed as "Treatment Units" other than septic tanks must meet the requirements of Section 8.6.2.2 of the OBC and must produce tertiary quality effluent. One such technology providing tertiary treatment is the Waterloo Biofilter® manufactured by Waterloo Biofilter Systems Inc. The Waterloo Biofilter® is an aerobic trickling filter that uses an absorbent synthetic filter material developed by researchers at the University of Waterloo and was incorporated into the OBC in 1998. Septic tank effluent is applied intermittently over modules of plastic foam pieces (patented biofilter medium) contained in wire mesh baskets. This synthetic media is a support for microbiological growth, and these microorganisms are responsible for the aerobic breakdown of the wastewater. Approximately 50% of the effluent exiting the unit is pumped back to the septic tank, while the other half is directed to a disposal bed.

An area bed dispersal system is typically utilized with alternative treatment systems for subsurface disposal. The area bed is to be comprised of a stone layer overlying a sand layer where the stone layer is to be a minimum of 250mm in depth, wrapped with a permeable geo-textile fabric, and comprised of stone meeting the requirements of either Subclause 8.7.3.3.(1)(b)(i) or (ii) of the OBC. Distribution pipes having 75mm diameter are to be spaced evenly within the stone layer with spacing not exceeding 1.2m. The sand layer is to be a minimum of 300mm in depth having a percolation rate ("T" time) of 6 to 10 min/cm. The sand layer covers the entire area bed and is sized as follows:

Minimum Sand Area = Q x T / 400 = 4,450 x 10 / 400 = 111.25m^2

4.0 STORM CONVEYANCE SYSTEM

The subject site is located within the Nottawasaga River watershed which is under the jurisdiction of the Nottawasaga Valley Conservation Authority. The Nottawasaga River is approximately 122 km in length along its main channel and has a drainage area of 3,361 km^2. The main branch of the river's source is in the till moraines of Amaranth Township at an elevation of almost 490

metres. The Nottawasaga River has a total drop of 310 metres to its outlet into Georgian Bay at Wasaga Beach. The Nottawasaga River has 6 primary tributaries; the Boyne River, the Mad River, the Pine River, Innisfil Creek, Bear Creek, and Willow Creek. In addition to the Nottawasaga's major drainage basin, four streams draining directly into Georgian Bay from the Niagara Escarpment are in the Nottawasaga Valley Conservation Authority's jurisdiction. These watercourses, all located in the north western section of the Authority's jurisdiction include; the Pretty River, Batteaux River, Silver Creek, and Black Ash Creek.

The subject site is located in the Innisfil Creek Sub-Watershed which has a catchment area of approximately 491 km^2 and is located in the south-east corner of the NVCA's watershed. Innisfil creek enters the Nottawasaga River south of Alliston. The Innisfil Creek sub-watershed includes the tributaries of Bailey, Beeton, Cookstown and Penville Creeks and includes catchment areas in the municipalities of Innisfil, New Tecumseth, Mono, Adjala-Tosorontio, Bradford-West Gwillimbury, Essa and Caledon.

The subject site is tributary to the Beeton Creek. With its headwaters in the Oak Ridges Moraine, Beeton Creek flows northward joining Bailey Creek just upstream of Innisfil Creek. Maps illustrating the watershed and sub-watershed are contained in **Appendix "D"**.

In accordance with Town standards, a major / minor system storm conveyance concept has been incorporated into the functional servicing design for the subject development. The following sections provide a brief summary of the storm drainage components:

4.1 Minor System Design

In accordance with the Town engineering design criteria, the proposed development is to be serviced with a minor storm sewer system that is designed to convey runoff from the 5 year storm event. The rainfall intensity values, *I*, are calculated in accordance with the Town's rainfall intensity duration frequency (IDF). Based on this data the rainfall intensity for the 5 and 100 year rainfall events is calculated as follows:

$$I_5 = \frac{1593}{(t+11)^{0.8789}} \qquad I_{100} = \frac{4688}{(t+17)^{0.9624}}$$

The peak flows are calculated using the following formula:

$Q = R \times A \times I \times 2.778$

where: Q = peak flow (L/s)
A = area in hectares (Ha)
I = rainfall intensity (mm/hr)
R = composite runoff coefficient
t = time of concentration (min)

The IDF curve data detailed in the Town's Engineering Standards is included in **Appendix "D"**. A schematic design of the minor system is illustrated in on the **Preliminary Servicing Plan (Dwg. PS-1**).

4.2 Major System Design

The major system will generally be comprised of an overland flow route along the municipal road network directing drainage to a safe outlet. This major system will convey

flows which are in excess of the capacity of the minor storm sewer system. The major system flow route is illustrated in **Figure 9**.

4.3 Foundation Drainage

It is anticipated that the proposed dwellings will have conventional basements which will have foundation weeping tile. Given the rural nature of the development storm service connection will not be provided and therefore sump pumps will be required. The sump pumps are to discharge over splash pads to grassed areas. The sump pump is not to discharge to the septic system.

4.4 Roof Drainage

It is anticipated that the proposed dwellings will have conventional peaked roof with eaves troughs and downspouts. As per standard practice the downspouts are to discharge to grade over splash pads, preferably towards sodded areas.

5.0 FLOODPLAIN ANALYSIS

As requested by the NVCA, Valdor has completed hydraulic modelling of the floodplain associated with the subject site for both the pre-development and proposed post-development conditions.

5.1 Hydrologic Analysis

A hydrologic model using Visual OTTHYMO Version 5.0 (VO5) was prepared in order to determine the peak flows to be used in the hydraulic model.

The contributing drainage area to the subject site (*Catchment 301*) is shown on **Figure 5**. The catchment area was delineated based on the available Ontario Base Mapping and contours *(Sheets 1017590048650*, *1017590048700* and *1017595048650*, Ministry of Natural Resources, 2002). The area-weighted hydrologic soil group for the catchment was determined based on the *Soil Map of Peel County* (Soil Survey Report No. 18, Department of Soils, Ontario Agricultural College, 1953) and the *Soil Map of Dufferin County* (Soil Survey Report No. 38, Department of Soils, Ontario Agricultural College, 1963). Land uses for the catchment were determined based on satellite imagery.

In order to determine the Regulatory flow (the greater flow of either the 100-year storm of the Regional storm) a critical storm analysis was completed to determine which storm distribution resulted in the largest 100-year flows. Based on the NVCA's *Natural Hazards Technical Guide*, the following three storm distributions were analyzed: the Timmins Storm, the 100-year 4-hour Chicago storm (based on the Town of Caledon's IDF data, provided in **Appendix D**) and the 100-year 24-hour SCS Type II storm (based on the latest Toronto Pearson Airport IDF data obtained from Environment Canada). It was determined that the Timmins Storm is the critical storm, resulting in a flow of 5.903 cms, compared to 3.475 cms for the 100-year 4-hour Chicago, and 3.795 cms for the 100-year 24-hour SCS Type II storm distributions.

The Regional flow (i.e. Timmins Storm) is therefore the Regulatory flow and used in the hydraulic modelling to determine the extents of the Regulatory floodplain. The supporting

calculations, schematic and model output for the hydrologic model are provided in **Appendix E**.

5.2 Existing Floodplain Conditions

A HEC-RAS Version 4.1.0 hydraulic model was prepared for the subject site using the topographic survey completed by Van Harten Surveying Inc. (*Topographic Survey of Part of Lot 27, Concession 8, Geographic Township of Albion, Town of Caledon, Regional Municipality of Peel*, September 18, 2017). 1 m interval contour data based on the Ontario Base Mapping was utilized to define the model geometry where the model sections extend beyond the limits of the site. Appropriate model Manning's roughness "n" coefficients were chosen for each land cover type, following a site visit and review of satellite imagery, based on the standard values indicated in *Table 3-1* of the HEC-RAS *Hydraulic Reference Manual, Version 4.1* (Hydrologic Engineering Center, U.S. Army Corps of Engineers, January 2010). A site visit was completed by Valdor staff on January 29, 2018 to acquire and confirm data for the preparation of the hydraulic model.

The results of the hydraulic analysis for the existing condition are provided in **Tables E.4** and **E.5**, and the extent of the existing Regulatory floodplain is show in **Figure 6**.

As is shown in **Figure 6**, the existing culvert under Mount Pleasant Road does not have enough capacity to convey the Regional flow, and Mount Pleasant Road is overtopped, with a maximum flow depth of approximately 0.31 m over the crown of the road. There is a drop of approximately 0.89 m in water surface elevations from the cross-section immediately upstream of Mount Pleasant Road (*XS-8*) to the cross-section immediately downstream (*XS-6*), indicating that the upstream water surface elevations are governed by the existing culvert conveyance capacity and the weir flow depth over the road.

The Regulatory floodplain elevation through the subject site varies between 292.45 and 292.46 m, indicating that the existing extent of flooding is due primarily to the backwater effects cause by the existing culvert, and that upgrading the culvert could reduce the extent of flooding upstream.

5.3 Proposed Floodplain Conditions

Given that the existing floodplain is largely a result of the constraint associated with the existing culvert under Mount Pleasant Road, it is proposed that two new 1200 mm diameter CSP culverts be installed under Mount Pleasant Road (the existing culvert is to remain). These culverts will be installed such that the inverts are 0.50 m lower than the existing culvert, as shown on the **Preliminary Grading Plan** (**Dwg. PGR-1**). Tie-in grading will be required between the proposed downstream headwall and the existing watercourse.

In addition to this, a grass-lined channel is proposed to convey flow through the site, as shown on the grading plan (there is no defined channel under existing conditions). The proposed channel is approximately 1.0 m deep (cut into the existing ground) with a 4.0 m wide bottom width and 3:1 side slopes to match the existing grade on either side of the channel. The proposed channel will be wider along the north edge of the site in order to capture the upstream flows entering the site.

The proposed road to service the development will be raised above the floodplain, to a low-point elevation of 294.07 m. Two 1200 mm diameter CSP culverts are proposed under this road to convey the Regulatory flow. Furthermore, the east limit of *Lot 1* will be filled to a top elevation of 292.50 m in order to be above the Regulatory floodplain, with a minimum freeboard of 0.30 m.

The results of the hydraulic analysis for the proposed condition are provided in **Tables E.4** and **E.6**, and the extent of the proposed Regulatory floodplain is show in **Figure 7**.

Based on the results of the proposed condition modelling, and as shown in **Figure 7**, the proposed culverts will be able to convey the Regulatory flow without overtopping Mount Pleasant Road, thereby reducing the extent of the upstream floodplain. The proposed floodplain elevation varies between 290.90 to 292.17 m, a decrease of up to 1.55 m when compared to the existing condition. There is no modelled increase in the floodplain elevations either upstream or downstream of the subject site.

6.0 STORMWATER MANAGEMENT

6.1 Storm Drainage Areas

Based on the topographic survey and the proposed draft plan of subdivision, the following is a summary of the pre- and post-development drainage areas.

6.1.1 Pre-Development

The existing site consists of agricultural lands drainage either to the south-west (*Catchment 101*, 3.67 ha) or to the east to Mount Pleasant Road (*Catchment 103*, 2.58 ha, and *Catchment 104*, 3.97 ha). Only one external area is considered as part of the pre-drainage pattern through the site (*Catchment 102*, 1.10 ha) because this area will have to be routed through the proposed development's storm sewer system. The external drainage contributing flows to the watercourse traversing the north-east portion of the site has already been investigated as part of the floodplain assessment (refer to *Section 5.0*).

Site elevations vary from approximately 298.25 m at the top of the hill bisecting the site, to approximately 289.50 m at the western-most corner of the site. The existing slopes range from approximately 0.5% to approximately 8.0%.

Figure 8 shows the pre-development condition storm drainage plan for the subject site.

6.1.2 Post-Development

The subject site will be developed into an estate residential subdivision consisting of 8 detached-home lots, a road and environmental zones.

In an effort to reduce grading on the site and maintain the existing topography to the greatest extent possible, the post-development drainage patterns will generally

match the pre-development drainage patterns. To this effect, the south-western (*Catchment 201*, 3.47 ha), eastern (*Catchment 204*, 1.52 ha) and north-eastern (*Catchment 204*, 3.47 ha) portions of the site will drain uncontrolled while maintaining the existing drainage patterns.

The proposed development area (*Catchment 203*, 1.76 ha) and external drainage area (*Catchment 202*, 1.10 ha) draining to the proposed road will be controlled by bioswale stormwater management (SWM) facilities installed within the road boulevard to service the site. The bioswales will provide quality, quantity and erosion control for these drainage areas. The bioswales will discharge to a storm sewer which will in turn discharge to the watercourse.

Figure 9 shows the post-development condition storm drainage plan for the subject site.

6.2 Stormwater Management Design Criteria

The proposed SWM facilities shall be designed to provide the following levels of control as per the requirements of the Ministry of the Environment (MOE), Nottawasaga Valley Conservation Authority (NVCA) and the Town of Caledon:

- **Quality control**: Water quality control shall be provided to achieve Enhanced (Level 1) treatment of stormwater runoff (80% TSS removal).
- **Erosion control**: Stormwater runoff from the 25 mm storm event shall be stored and released over a minimum 24-hour period.
- **Flood control**: Flood storage and control shall be provided to maintain peak outflows from the site at or below pre-development levels for the 2-year through 100-year design storm events.
- **Water Balance**: Pre-development annual infiltration rates are to be maintained or exceeded under post-development conditions.

6.3 Stormwater Management Design

Given the very low density of development and the favourable sandy soil conditions, stormwater management for the subdivision will be addressed through the implementation of Low Impact Development (LID) measures. LID implements source and conveyance stormwater management controls to promote infiltration and pollutant removal on a local site by site basis. These measures rely on eliminating the direct connection between impervious surfaces such as roofs, roads, parking areas, and the storm drainage system. Quantity controls can also be incorporated into the LID measures through the addition of orifice controls.

Based on the Town's request, bioswales have been selected as the LID measure to service the proposed development. The bioswales will be located within the boulevards of the proposed road allowance, as per the details provided by the Town (refer to the *Typical Section – 22m Local Urban/Rural (7.9m Pavement)* and *Bioswale Concept Plan* details provided in **Appendix H**). The preliminary bioswale design is presented on the **Preliminary Storm Drainage Plan** (**Dwg. PS-1)** and a detail is shown in **Figure 10**.

The following is a summary of the stormwater management analysis for the subdivision.

6.3.1 Quality Control

Bioswales (also referred to as dry swales, bioretention swales or infiltration swales) provide effective pollutant removal as a result of sedimentation, filtering, plant uptake, soil absorption and microbial processes.

Based on recommended design practices, typical drainage inlet configurations include options for either sheet flow into the bioswale or storm inlets at various locations along the bioswale. Based on the bioswale detail provided by the Town, curb cut spillways along the gutter will convey road runoff to the upstream end of the bioswale.

Runoff will flow along the length of the vegetated bioswale, and percolate through the engineered filtration media (as per the filter media composition specified on detail *Typical Section – 22m Local Urban/Rural (7.9m Pavement)* provided in **Appendix H**) to the stone-filled trench below. The vegetation within the bioswale will help reduce the flow velocity of the runoff in order to enhance sedimentation and promote filtration. The length of each bioswale (varies from 25-67 m) has been maximized based on the longitudinal slope and driveway locations in order to provide the greatest sedimentation and filtration potential.

Based on *Table 4.9.3 – Factors that influence the pollutant removal capacity of dry swales* of the *Low Impact Development Stormwater Management Planning and Design Guide* (Credit Valley Conservation & Toronto and Region Conservation, 2010), the following design factors incorporated into the proposed bioswales will enhance pollution removal rates:

- **Longitudinal slope between 0.5 to 3.0%:** The proposed bioswale longitudinal slopes vary between 0.5 and 2.0%.

- **Measured soil infiltration rate is 15 mm/hr or greater:** Based on the results of the in-situ soil hydraulic conductivity test completed for the *Hydrogeological Impact Study* (Sirati & Partners Consultants Limited, April 23, 2018), the average soil infiltration rate is 22.5 mm/hr.

- **Filter media P-Index values < 30 ppm:** Based on the specified bioswale filter media composition (refer to the *Typical Section – 22m Local Urban/Rural (7.9m Pavement)* detail provided in **Appendix H**), the P-Index value is to vary between 10-30 ppm.

- **Flow velocity within the swale is 0.5 m/s or less during a 4-hour 25mm Chicago storm event:** Based on a conservative calculation (i.e. assuming all flow from the 25mm event enters only two bioswales, instead of split among 12 bioswales) it is demonstrated that the flow velocity does not exceed 0.5 m/s. A supporting *FlowMaster* calculation is provided in **Appendix F**.

- **Swale side slopes 3:1 (H:V) or less:** The proposed bioswales will have 5:1 (H:V) side slopes.

Based on **Table F.7**, included in **Appendix F**, a total TSS removal of 88.5% is achieved for the 1.76 ha site drainage area (*Catchment 203*) to the proposed bioswales and storm sewer (excluding the external drainage which is already clean or will provide its own quality control if developed in the future). The required Enhanced (Level 1) goal of 80% TSS removal is therefore being achieved.

6.3.2 Erosion Control

In accordance with the NVCA guidelines, erosion control shall be provided to capture the runoff resulting from a 25 mm rainfall event, and to release the runoff over a period of at least 24 hours. Based on hydrologic modelling of this storm condition, the estimated runoff volume for the 25 mm rainfall event (4-hour, 25 mm Chicago distribution storm) is 4.81 mm distributed over the total 2.86 ha catchment area draining to the proposed bioswales (including external drainage). This corresponds to a required capture volume of 138 m^3.

The stone-lined trenches beneath the proposed bioswales will incorporate a storage volume beneath the outlet orifice to promote infiltration for water balance purposes (refer to *Section 6.3.4*). The bottom of this storage will be 0.30 m below the outlet orifice, and accounts for a total storage volume of 72 m^3 distributed among the 12 proposed bioswales (refer to **Table F.6** for the bioswale stage/storage information, provided in **Appendix F**). 72 m^3 of the 138 m^3 of runoff associated with the 25 mm event will therefore be infiltrated (52%).

An active storage volume of 287 m^3 is provided above the outlet orifice to the top of the stone-filled trench, 1.20 m above the orifice (refer to **Table F.6**). The remainder of the 25 mm event runoff (66 m^3) will utilize this storage volume and discharge via the 75 mm orifice plates located at the outlet of each trench. Due to the size (the minimum allowed orifice diameter is 75 mm) and the number of orifices (there is one orifice for each of the 12 bioswales), it is not possible to retain this volume for discharge over a period of 24 hours.

Nevertheless, the results of the VO5 modelling indicate that peak flows from the 25 mm event under the post-development condition are either maintained or reduced compared to the pre-development condition (refer to **Tables 4A** and **4B**). Based on this, it is determined that the proposed bioswales will provide adequate erosion control.

6.3.3 Quantity Control

As per the NVCA's and the Town's standards, the SWM facilities shall be designed to control the post-development peak flow to pre-development levels for the 2-year through 100-year design storms (for the 4-hour Chicago and 24-hour SCS storm distributions) and to safely convey the larger of either the uncontrolled 100-year or Regional (Timmins Storm) flow. The modelled 4-hour Chicago storm distribution is

based on the Town of Caledon's IDF data, provided in **Appendix D**). The modelled 24-hour SCS storm distribution is based on the latest Toronto Pearson Airport IDF data obtained from Environment Canada.

The overall drainage area to the proposed SWM facility is approximately 2.86 ha, of which approximately 1.10 ha consists of external drainage. A Visual OTTHYMO Version 5.0 (VO5) model was created to determine the predevelopment flows for the subject site. The pre-development flow targets at *Flow Nodes #1* and #2 are provided in **Tables 4A** and **4B**, respectively.

The proposed bioswales will provide quantity control by capturing, storing and releasing runoff at or below predevelopment flow rates. Each bioswale is equipped with a ditch-inlet catchbasin (DICB) at the downstream end to capture flows which exceed the filtration rate of the bioswale's engineered filtration media. A perforated pipe running the length of the stone-filled trench beneath the bioswale will be connected to the DICB, allowing captured runoff to fill the trench. A 75 mm orifice plate installed inside the DICB will control flows discharging to the storm sewer via a 250 mm diameter lead. An infiltration storage volume of 72 m^3 is provided below the outlet orifice, and an active storage volume of 287 m^3 is provided above the outlet orifice (refer to **Table F.6**).

In order to be conservative when modelling the proposed storage, it is assumed that only the minor system flow (i.e. the 5-year flow) is captured and controlled by the bioswales, and that the major system flow (i.e. the 100 minus 5-year flow) is uncontrolled. This is achieved in the VO5 model by including a DuHyd routine to split the minor and major flow. Runoff that is not captured by a bioswale (either due to flow bypassing the bioswale curb cut or the bioswale trench storage being exceeded) will simply continue to flow along the road curb to the next downstream bioswale.

Based on the VO5 model of the post-development condition, the post-development peak flows will be controlled to pre-development levels for the 2-year through 100-year design storms (for both the 4-hour Chicago and 24-hour SCS storm distributions). The post-development flows at *Flow Nodes #1* and #2 are provided in **Tables 4A** and **4B**, respectively.

As shown in **Tables 4A** and **4B**, the peak discharge rates are equal to or less than the target release rates. The VO5 model schematic and output is provided in **Appendix "F"**.

Table 4A. Peak Flow Summary – Flow Node #1: Drainage to West

Return Period	Existing Peak Flows (m^3/s)	Proposed Peak Flow (m^3/s)
25 mm Chicago	0.012	0.012
4-hour Chicago		
2-year	0.043	0.036
5-year	0.095	0.076
10-year	0.141	0.111
25-year	0.209	0.163
50-year	0.264	0.205
100-year	0.326	0.253
24-hour SCS		
2-year	0.062	0.049
5-year	0.125	0.096
10-year	0.175	0.133
25-year	0.244	0.186
50-year	0.299	0.229
100-year	0.456	0.274
Regional (Timmins)	-	0.237

Table 4B. Peak Flow Summary – Flow Node #2: Drainage East to Mt. Pleasant Rd.

Return Period	Existing Peak Flows (m^3/s)	Proposed Peak Flow (m^3/s)
25 mm Chicago	0.023	0.020
4-hour Chicago		
2-year	0.074	0.069
5-year	0.164	0.150
10-year	0.241	0.212
25-year	0.358	0.298
50-year	0.450	0.378
100-year	0.556	0.476
24-hour SCS		
2-year	0.105	0.096
5-year	0.210	0.184
10-year	0.292	0.247
25-year	0.407	0.348
50-year	0.500	0.432
100-year	0.597	0.527
Regional (Timmins)	-	0.504

6.3.4 Site Water Balance

In accordance with the requirements of the NVCA, an annual site water balance assessment is required in order to determine the overall infiltration deficit under post-development conditions and identify opportunities to meet or exceed the pre-development infiltration rates through the design and implementation of various LID measures.

Based on the site water balance assessment prepared by Sirati & Partners Consultants Ltd. (*Hydrogeological Impact Study*, 17 May 2018), the total annual pre-development infiltration is 19,255 m^3, and the total annual post-development infiltration is 18,597 m^3. This represents an annual deficit of 658 m^3. Excerpts from the *Hydrogeological Impact Study* regarding the water balance assessment are included in **Appendix G**.

In order to mitigate this deficit, the stone-filled trenches beneath the proposed bioswales have been design to provide a storage volume below the outlet orifice for infiltration. Based on an infiltration storage depth of 0.30 m, and a design soil infiltration rate of 9.0 mm/hr, a drawdown time of 33.3 hours is achieved, which

meets NVCA's minimum 48-hour drawdown time criteria. The total infiltration storage volume provided is 72 m^3.

Through the implementation of the proposed infiltration trench storage, an additional annual infiltration capacity of 2,055 m^3 is being provided. As a result, the post-development annual infiltration volumes for the site will be 20,652 m^3 (18,597 m^3 + 2,055 m^3 = 20,652 m^3), which corresponds to 107.2% of the annual pre-development infiltration volume.

Tables G.1 to **G.2** in **Appendix "G"** provides a summary of the infiltration trench sizing and rainfall analysis.

6.4 SWM Inspection & Maintenance

The SWM facilities should be inspected periodically to determine the frequency of maintenance activities. As such, maintenance activities will be performed on an as-required basis. During the first two years of operation, it is recommended that the SWM be inspected following significant storm events to determine if and when maintenance activities are required. Subsequently, inspections should be carried out twice per year. The following items should be considered when inspecting the facilities:

- Sediment accumulation to determine cleanout requirements;
- Erosion of side slopes and outfall channel;
- Safety hazards;
- Drawdown time following a rainfall event (extended drawdown time greater than 24 hours may indicate a blocked orifice or intake);
- Condition of vegetation;
- Trash accumulation near hydraulic structures; and
- Surface sheen indicating possible oil contamination.

7.0 VEHICULAR & PEDESTRIAN ACCESS

The layout of the proposed subdivision has been developed with consideration for efficient and safe access and circulation of both vehicular and pedestrian traffic.

7.1 Municipal Roads

The subject site has frontage on Mount Pleasant Road which is under the jurisdiction of the Town of Caledon. This existing road allowances consist of a two lane rural paved road with roadside ditches. The vehicular access to the subdivision will be facilitated by road proposed connection to Mount Pleasant Road. A Block has been established to accommodate the future extension of McGuire Trail, southerly to the subject site.

The proposed municipal road will be constructed to urban standards which includes an asphalt pavement, crowned with 2% cross fall and edged with concrete curb and gutter. Based on the implementation of road side bioswales, a special road cross section has been developed which provides wider 7.05m boulevards and narrower 7.9m pavement contained in a 22.0m wide road allowance. The longitudinal slope of the road will generally

be 0.50% with some length of road ranging up to 2.00% slope. A copy of the special road cross section is included in **Appendix "H"**.

7.2 Driveways

Each dwelling will have an attached garage and driveway. It is anticipated that the slope of driveways is to be within the range of 2.0% to 8.0% in accordance with Town standards and will be designed at the in conjunction with the individual site grading plans at the building permit stage.

8.0 GRADING

As is typical with all subdivision, earthmoving is required, to varying degrees, in order to achieve the municipal design criteria and accommodate the development form.

8.1 Grading Criteria

The subject site is to be graded in accordance with the Town grading criterion which dictates that road grades are to range from 0.5% to 6.0% (8.0% for 18.5m ROW) and that sodded yard areas are to range from 2.0% to 5.0%. For large grade differentials, a maximum slope 3H : 1V can be used for sodded embankments. In areas where space is limited, retaining walls can be utilized to accommodate grade differentials, however, their use should be minimized.

The subdivision earthworks should be limited to just the road allowance with 3:1 grading transitions on to the lots. Earthworks within each lot should be completed in conjunction with an approved site grading plan for the individual lot at the building permit stage in order to minimize disturbance to the existing ground with respect to the septic tile beds.

8.2 Preliminary Design

Based on the topographic survey, the proposed subdivision configuration and the Town's criteria, a preliminary grading design has been prepared and is provided on the **Preliminary Grading Plan (Dwg PGR-1)**. The preliminary grading design, considered the following factors:

- Achieve the Town's lot grading criteria.
- Meet the Town's vertical road design parameters.
- Minimize the requirement for retaining walls.
- Match existing grades along the adjacent properties and road allowances.
- Provide an overland flow route to direct drainage to a safe outlet.
- Provide sufficient cover over the storm sewer.

An analysis of the earthworks will be conducted using digital terrain modelling software at the detailed design stage to optimize the cut and fill volumes in an effort to achieve a balance. Based on the preliminary design, no significant difficulties are anticipated in achieving the municipal grading design standards or an earthworks balance.

8.3 Permitting

A review of the Regulation Mapping indicates that the subject site is located within an area that is regulated by the NVCA. A grading permit is therefore required from their office under Ontario Regulation 166/06 prior to commencing topsoil stripping and earthworks. The permit application should be submitted in conjunction with the detailed design at the subdivision engineering stage.

9.0 EROSION & SEDIMENT CONTROL DURING CONSTRUCTION

Construction activity, especially operations involving the handling of earthen material, dramatically increases the availability of particulate matter for erosion and transport by surface drainage. In order to mitigate the adverse environmental impacts caused by the release of silt-laden stormwater runoff into receiving watercourses, measures for erosion and sediment control are required for construction sites. This is an extremely important component of land development that plays a large role in the protection of downstream watercourses and aquatic habitat. It is of particular concern for this site given the proximity of the site to a watercourse.

The impact of construction on the environment is recognized by the Greater Golden Horseshoe Area Conservation Authorities. In December 2006 they released their document titled Erosion & Sediment Control Guidelines for Urban Construction (ESC Guideline). This document provides guidance for the preparation of effective erosion and sediment control plans.

Control measures must be selected that are appropriate for the erosion potential of the site and it is important that they be implemented and modified on a staged basis to reflect the site activities. Furthermore, their effectiveness decreases with sediment loading and therefore inspection and maintenance is required. The selection, implementation, inspection and maintenance of the control features are summarized as follows:

9.1 Control Measures

On relatively large sites, measures for erosion and sediment control typically include the use of sediment control basins, silt fencing, a mud mat and sediment traps. The following is a description of the sediment controls to be implemented on the subject site:

- **Temporary Sediment Control Basins** are commonly used to clarify silt-laden stormwater runoff by promoting sedimentation of the suspended particles in the runoff through long detention times. The basin is to be sized in accordance with the ESC Guideline based on a required storage volume of 250 m^3 per hectare of disturbed area (125 m^3/ha of permanent pool and 125 m^3/ha of active storage). The basin's outlet is to have a Hickenbottom riser and a minimum 75mm diameter orifice plate sized to provide a drawdown time in the order of 48 hours.
- **Silt Fences** are to be installed adjacent to all property limits subject to drainage from the development area prior to topsoil stripping and in other locations, such as at the bases of topsoil stockpiles. It is recommended that earthworks not extend immediately adjacent to the silt fence and instead 1m to 2m vegetated buffer be maintained for additional protection. The silt fences are to be constructed with 150 x 150mm wire farm fence fabric to properly support the geotextile. Heavy duty silt fence is recommended to be installed adjacent the valley and watercourse to the

east of the development area, consisting of two rows of fence with a row of staked straw bales between.

- **Mud Mat** is to be installed at the construction entrance prior to commencing earthworks to minimize the tracking of mud onto municipal roads.
- **Sediment Traps** are to be installed at all catchbasin locations once the storm sewer system has been constructed to prevent silt laden runoff from entering.
- **Rock Check Dams** are to be constructed in swales and ditches to reduce velocities and trap sediment.
- **Cofferdams** are to be installed upstream of the proposed permanent road crossing of the watercourse to permit installation of the culvert in dry conditions. The coffer dam will consist of bags filled with pea gravel and a polyethylene waterproof membrane. Pumps will be required to temporarily by-pass flow from upstream of the coffer dams to downstream of the work area.

The proposed sediment controls are illustrated on the **Preliminary Erosion & Sediment Control Plan (Dwg ESC-1)**.

9.2 Construction Sequencing

The following is a summary of the scheduling of construction activities and the related implementation of sediment controls:

Stage 1 – Subdivision Earthworks

1. Construct mud mat for temporary construction access.
2. Install primary silt fencing around the limits of grading and secondary silt fencing along the south limit of the work area adjacent the existing wetland.
3. Install temporary swales and rock check dams.
4. Excavate and construct the temporary sediment basins including installation of hickenbottom drain and spillway and connect to temporary swales.
5. Strip topsoil, stockpile where indicated and install silt fence around the perimeter.
6. Rough grade the site by placing cut material in fill areas and spreading and compacting of imported fill. Maintain the mud mat to minimize the tracking of silt onto the municipal road and provide street sweeping as necessary.

Stage 2 – Subdivision Servicing & Road Construction

1. Install underground servicing, covering the end of the pipe at the end of each work day to ensure that silt does not enter the storm sewer.
2. Construct roads and install sediment controls on catchbasins.
3. A coffer dam and by-pas pumping is to be implemented to facilitate installation of the road and sewer crossings of the water courses. The road embankments are to be stabilized immediately upon completion of the road construction.

Stage 3 – House Construction

1. Construct houses and maintain all sediment controls including regular street sweeping and catchbasin cleaning.
2. Inspect silt fence regularly and make repairs as necessary.
3. Stabilize all lot surfaces with sod as soon as possible after completion of the houses.
4. Remove silt fencing on a phased basis as areas are stabilized.

9.3 ESC Inspection & Maintenance

In order to ensure that the erosion and sediment control measures operate effectively, they are to be regularly monitored and they will require periodic cleaning (e.g., removal of accumulated silt), maintenance and/or re-construction.

Inspections of all of the erosion and sediment controls on the construction site should be undertaken with the following frequency:

- On a weekly basis
- After every rainfall event
- After significant snow melt events
- Prior to forecasted rainfall events

If damaged control measures are found they should be repaired and/or replaced within 48 hours. Site inspection staff and construction managers should refer to the Erosion and Sediment Control Inspection Guide (2008) prepared by the Greater Golden Horseshoe Area Conservation Authorities. This Inspection Guide provides information related to the inspection reporting, problem response and proper installation techniques.

10.0 UTILITIES

While some external upgrades may be necessary by the utility providers, it is anticipated that utilities such as hydro (Hydro One Networks Inc.), natural gas (Enbridge Gas Distribution Inc.), cable television (Rogers Cable Inc.), and telephone service (Bell Canada) will be available to service the subject development. As per standard practice in subdivisions, utilities will be installed underground. Co-ordination with the local hydro authority and the various utility companies will be undertaken at the detailed engineering design stage to determine appropriate locations for pedestals, transformers and street lights.

It is recommended that the utility installation be in the form of a joint trench as outlined in the Town's Design Standards. The process of joint trenching allows all of the utility companies to co-ordinate the placement of their lines in a common trench excavated by a single utility contractor. Joint trenching maximizes the efficiency of the available area in the utility corridor and provides for a safe installation.

11.0 SUMMARY

Based on the analysis contained herein, the proposed residential subdivision can be adequately serviced (watermain, wastewater and storm) in accordance with the standards of the Town of Caledon, Region of Peel and the Nottawasaga Valley Conservation Authority design criteria as follows:

Water

- The community of Palgrave is serviced by the Palgrave Drinking Water System which is owned and operated by the Region of Peel. This system consists of two water treatment plants, three municipal wells, one water storage reservoir and approximately 75 kilometres of watermain.
- The subject site will be serviced by a connection to the recently constructed 200mm diameter Mount Pleasant Road watermain. The local water distribution system within the subdivision will consist of watermains ranging in diameter from 150mm to 200mm.
- The proposed development will have a fire flow plus maximum day demand of 100.2 L/s.

Waste Water

- There are no municipal sanitary sewers in the community of Palgrave and therefore each lot within the development will be serviced by a private on-site sewage system.
- Based on the sand soil conditions the proposed dwellings can each be serviced with a private septic system consisting of a septic tank, pump tank and in-ground septic tile bed.

Storm Drainage

- The subject site is tributary to the Beeton Creek located in the Innisfil Creek sub-watershed which is located in the Nottawasaga River watershed. A tributary to the Beeton Creek traverses the east part of the site.
- In accordance with Town criteria, the subject site will be serviced by minor system comprised of a municipal storm sewer sized for the 5-year storm event.
- The major system will be comprised of an overland flow route which will convey runoff from rainfall events in excess of the capacity of the municipal storm sewer to the watercourse traversing the site.

Floodplain

- A floodplain analysis has been undertaken to delineate the regional floodplain for the watercourse traversing the site. Based on the analysis, it was determined that the extent of the floodplain throughout the site is due to an undersized culvert under Mount Pleasant Road. The proposed channel through the site and the proposed culvert improvements under Mount Pleasant Road (two 1200 mm diameter CSP culverts) will decrease the extent of the floodplain such that it will be contained entirely within the open space blocks associated with the valley lands. The residential development will therefore be outside the Regulatory floodplain.
- In order to accommodate the proposed road connection to Mount Pleasant Road, a crossing of the watercourse be required. This road crossings will be constructed using two 1200 mm diameter CSP culverts to convey the regional flow.

Stormwater Management

- In order to address the stormwater management criteria, given the very low density of development and the favourable sandy soil conditions, Low Impact Development (LID) measures will be implemented in the form of bioswales as follows:
    - Enhance (Level 1) quality control is being achieve for the site, with a TSS removal of 88.5% for the drainage area to the proposed bioswales.
    - A minimum drawdown time of 24-hours for erosion control cannot be achieved for the drainage area to the proposed bioswales due to the small drainage area and the minimum orifice size requirements. However, based on the hydrologic modelling completed, the peak runoff for the 25 mm event under post-development conditions does not exceed the pre-development rate.
    - Quantity control is provided for the 2- through 100-year storm events to meet pre-development flow targets. Runoff storage is provided beneath each bioswale in the form of a stone-filled trench. Discharge from each bioswale is controlled by an orifice plate discharging to the storm sewer.

      The site water balance including in the *Hydrogeological Impact Study* determined that the development would result in a reduction in infiltration in the amount of 658 m^3/year. In order to address this deficit, each bioswale trench has been designed with an additional 0.30 m depth of storage beneath the outlet orifice invert, for a total infiltration storage volume of 72 m^3. Through the implementation of the proposed infiltration trench storage, an additional annual infiltration capacity of 2,055 m^3 is being provided to meet and exceed the pre-development annual infiltration rate.

Vehicular Access

- Vehicular access to the subject site will be provided by road connection to Mount Pleasant Road which is under the jurisdiction of the Town of Caledon.
- Based on the implementation of road side bioswales, a special road cross section has been developed with which provides wider 7.05m boulevards and narrower 7.9m contained in a 22.0m wide road allowance.

Grading

- As is typical with subdivision development, earthmoving will be required to achieve the proposed subdivision grading necessary to meet the criteria of the Town. A detailed analysis of the earthworks will be conducted at the detailed design stage to optimize the cut and fill volumes. Based on the preliminary design, no significant difficulties are anticipated in achieving the municipal grading design standards.
- Since the subject site is located in an area which regulated by the NVCA, a permit will be required from their office prior to commencing earthworks.

Erosion & Sediment Control During Construction

- Erosion and sediment control (ESC) measures are to be implemented during construction to prevent silt laden runoff downstream in accordance with the Erosion & Sediment Control Guidelines for Urban Construction (December 2006). The ESC plans are to be prepared at the detailed engineering design stage and are to reflect the various construction stages.

Subdivision Engineering Design

- Detailed design for the proposed development is to be prepared at the subdivision engineering stage. This detailed design is to include servicing and grading plans as well as a stormwater management report based on the criteria established in this Functional Servicing Report.

12.0 REFERENCES & BIBLIOGRAPHY

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- Natural Resource Solutions Inc., **Environmental Impact Study**, July 2018.

Respectfully Submitted,

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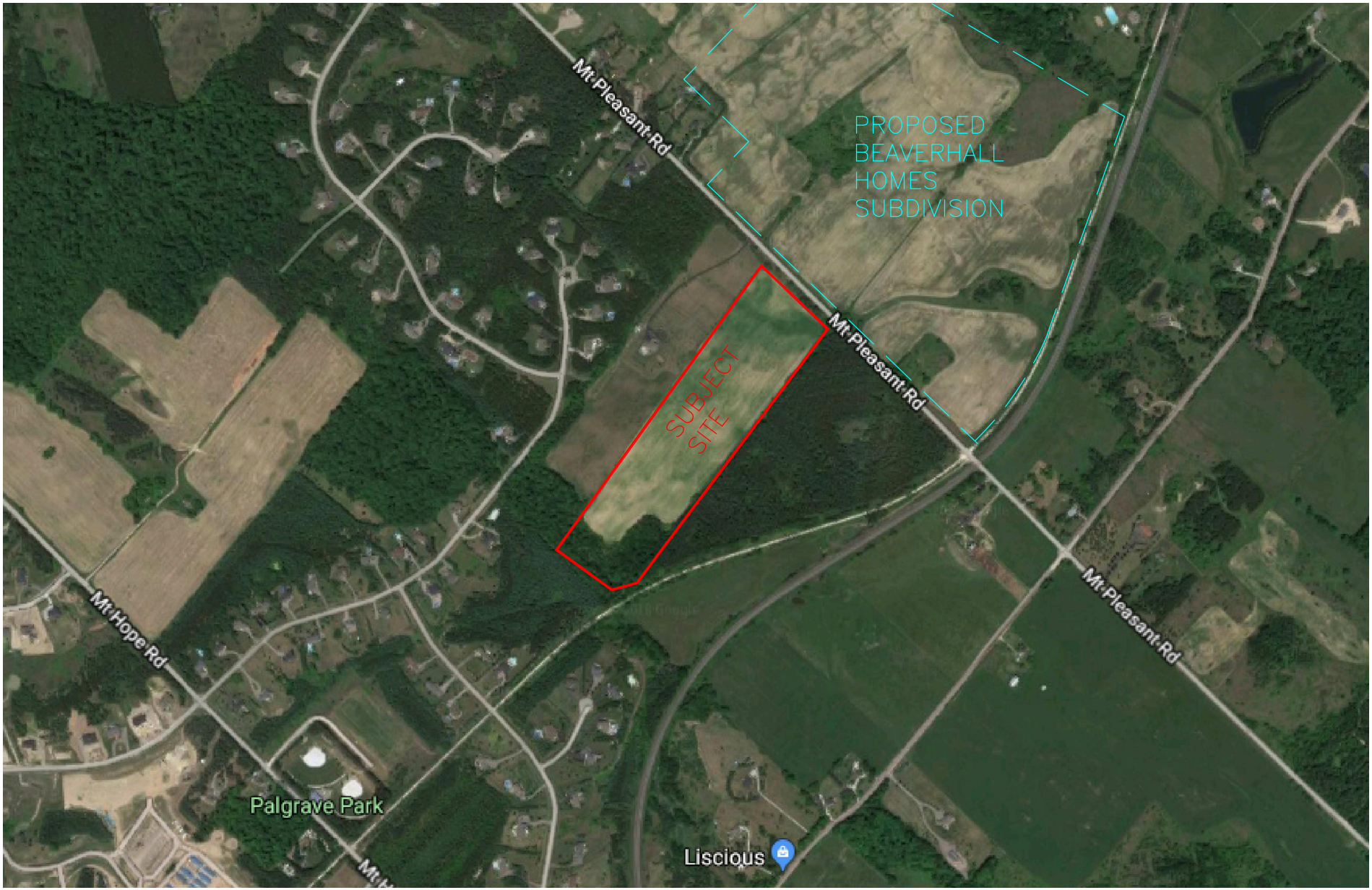

LEGEND

PROPERTY BOUNDARY

PROPOSED BEAVERHALL HOMES SUBDIVISION

PROPOSED ESTATE RESIDENTIAL SUBDIVISION DEVELOPMENT

TOWN OF CALEDON
REGION OF PEEL

PROPOSED SITE LOCATION

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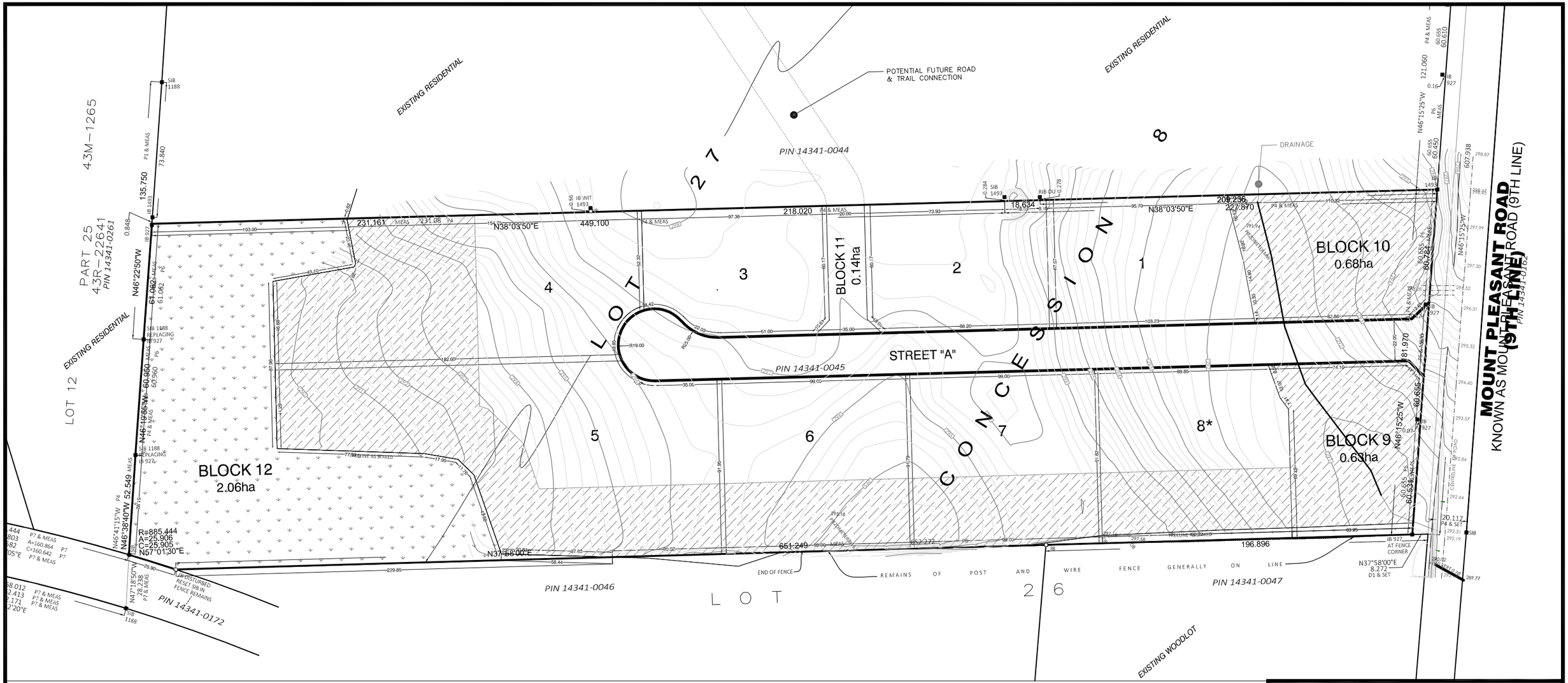
E-MAIL: Info@valdor-engineering.com
www.valdor-engineering.com

SCALE	N.T.S.	CKD. BY	D.G	DWG.	FIGURE 1
DATE	MAY 2018	DRAWN BY	D.M	PROJECT	17122



LEGEND

- NATURAL HERITAGE
- ENVIRONMENTAL PROTECTION ZONE

PROJECT

PROPOSED ESTATE RESIDENTIAL SUBDIVISON DEVELOPMENT
TOWN OF CALEDON
REGION OF PEEL

PROPOSED DEVELOPMENT

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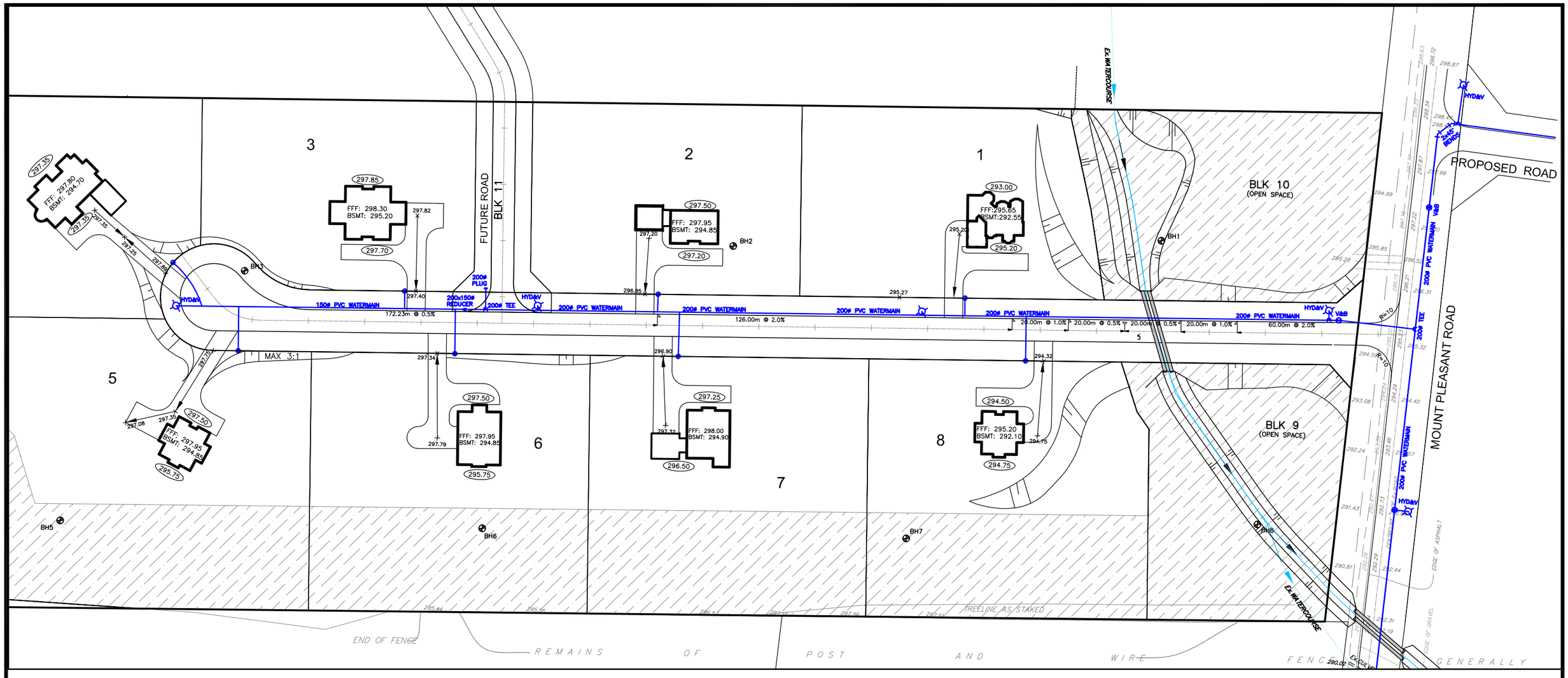
PREPARED BY	CKD. BY
D.M	D.G.
SCALE	DATE
1:2000	MAY 2018
PROJECT	DWG.
17122	FIGURE 2



LEGEND

- WATERMAIN
- WATER SERVICE CONNECTIONS
- HYDRANT AND VALVE
- VALVE AND BOX
- REDUCER
- PLUG
- TEE

PROJECT

PROPOSED ESTATE RESIDENTIAL SUBDIVISON DEVELOPMENT

TOWN OF CALEDON
REGION OF PEEL

WATER SERVICING PLAN

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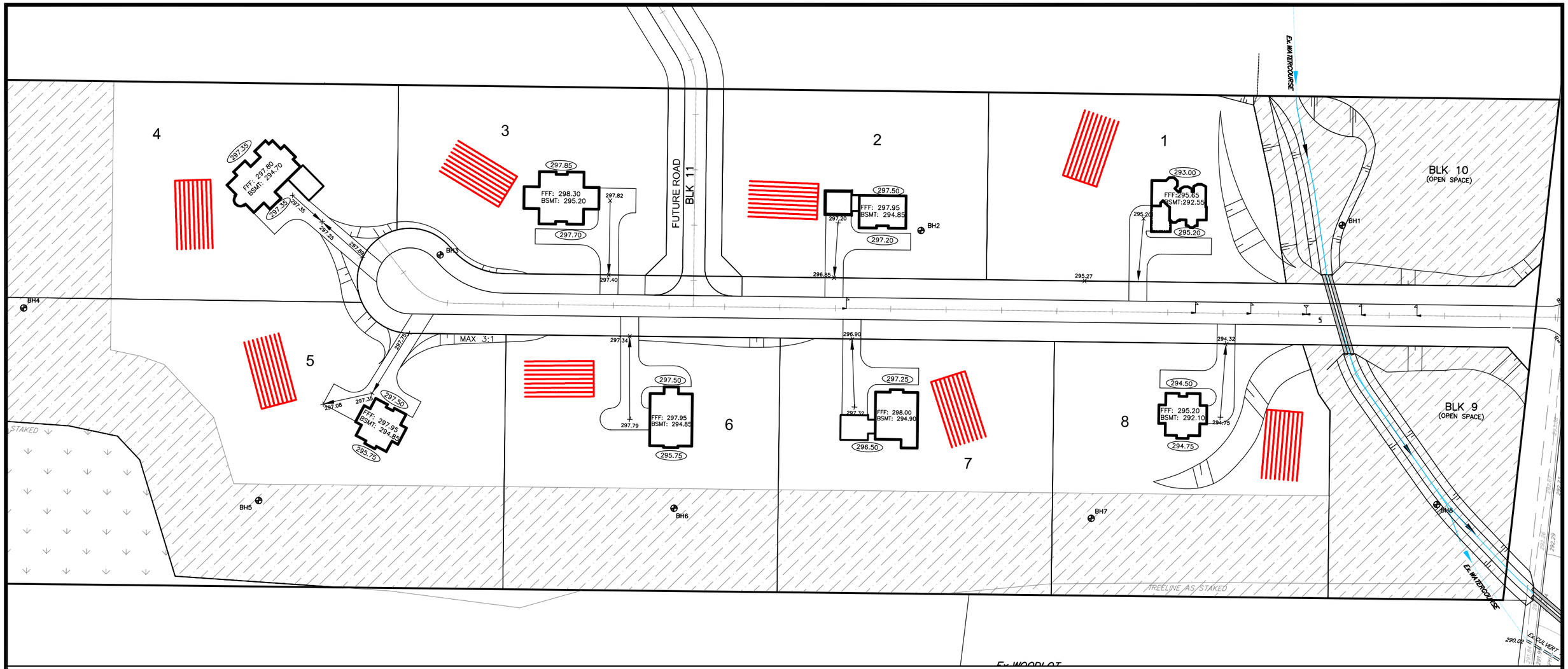
PREPARED BY: D.M	CKD. BY: D.G.
SCALE: N.T.S	DATE: MAY 2018
PROJECT: 17122	DWG.: FIGURE 3



LEGEND

SEPTIC TILE BED

PROJECT

PROPOSED ESTATE RESIDENTIAL SUBDIVISON DEVELOPMENT

TOWN OF CALEDON
REGION OF PEEL

SANITARY SERVICING PLAN

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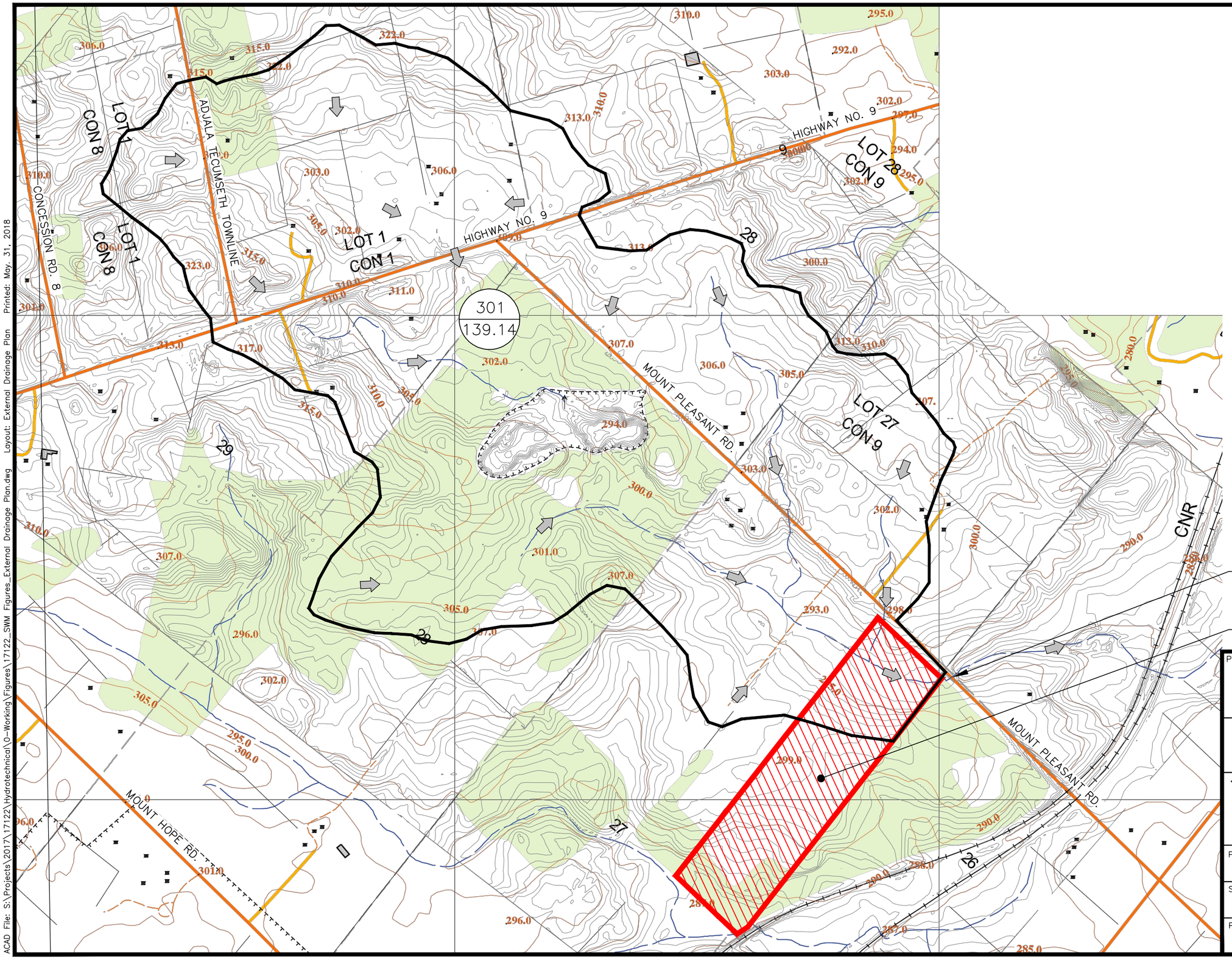
PREPARED BY: D.M.	CKD. BY: D.G.
SCALE: N.T.S.	DATE: MAY 2018
PROJECT: 17122	DWG.: FIGURE 4



LEGEND

- 301 / 139.14 — CATCHMENT ID / AREA (HA)
- DRAINAGE BOUNDARY
- OVERLAND FLOW
- EX. 800mm DIA CSP CULVERT
- SUBJECT SITE

PROJECT

PROPOSED ESTATE RESIDENTIAL SUBDIVISON DEVELOPMENT
TOWN OF CALEDON
REGION OF PEEL

FLOODPLAIN MAPPING EXTERNAL DRAINAGE PLAN

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PREPARED BY: O.B.	CKD. BY: D.G.
SCALE: 1:7500	DATE: MAY 2018
PROJECT: 17122	DWG.: FIGURE 5

ACAD File: S:\Projects\2017\17122\Hydrotechnical\0-Working\Figures\17122_SWM Figures_External Drainage Plan.dwg Layout: External Drainage Plan Printed: May. 31, 2018

17
292.97

EX. CENTERLINE OF WATERCOURSE

16
292.55

15
292.49

SUBJECT SITE

14
292.46

13
292.46

12
292.45

11
292.45

10
292.45

9
292.45

8
292.45

7
CULV.

6
291.36

5
288.25

4
287.77

3
287.45

2
287.14

1
286.35

MOUNT PLEASANT ROAD

EX. REGIONAL FLOODLINE

EX. 800mm DIA. CSP CULVERT

EX. CENTERLINE OF WATERCOURSE

MOUNT PLEASANT ROAD

LEGEND

EXISTING REGIONAL FLOODLINE

PROPERTY LINE

1 / 286.35 — HEC-RAS CROSS-SECTION / EX. REGIONAL WATER SURFACE ELEVATION (m)

SURVEY DATA PROVIDED BY VAN HARTEN SURVEYING INC. (TOPOGRAPHIC SURVEY OF PART OF LOT 27, CONCESSION 8, GEOGRAPHIC TOWNSHIP OF ALBION, TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL, 18 SEPTEMBER 2017). BEARINGS ARE GRID BEARINGS AND ARE DERIVED FROM GPS OBSERVATIONS AND ARE REFERRED TO THE UTM PROJECTION, ZONE 17, NAD 83 (CSRS-2010) ADJUSTMENT.

PROJECT

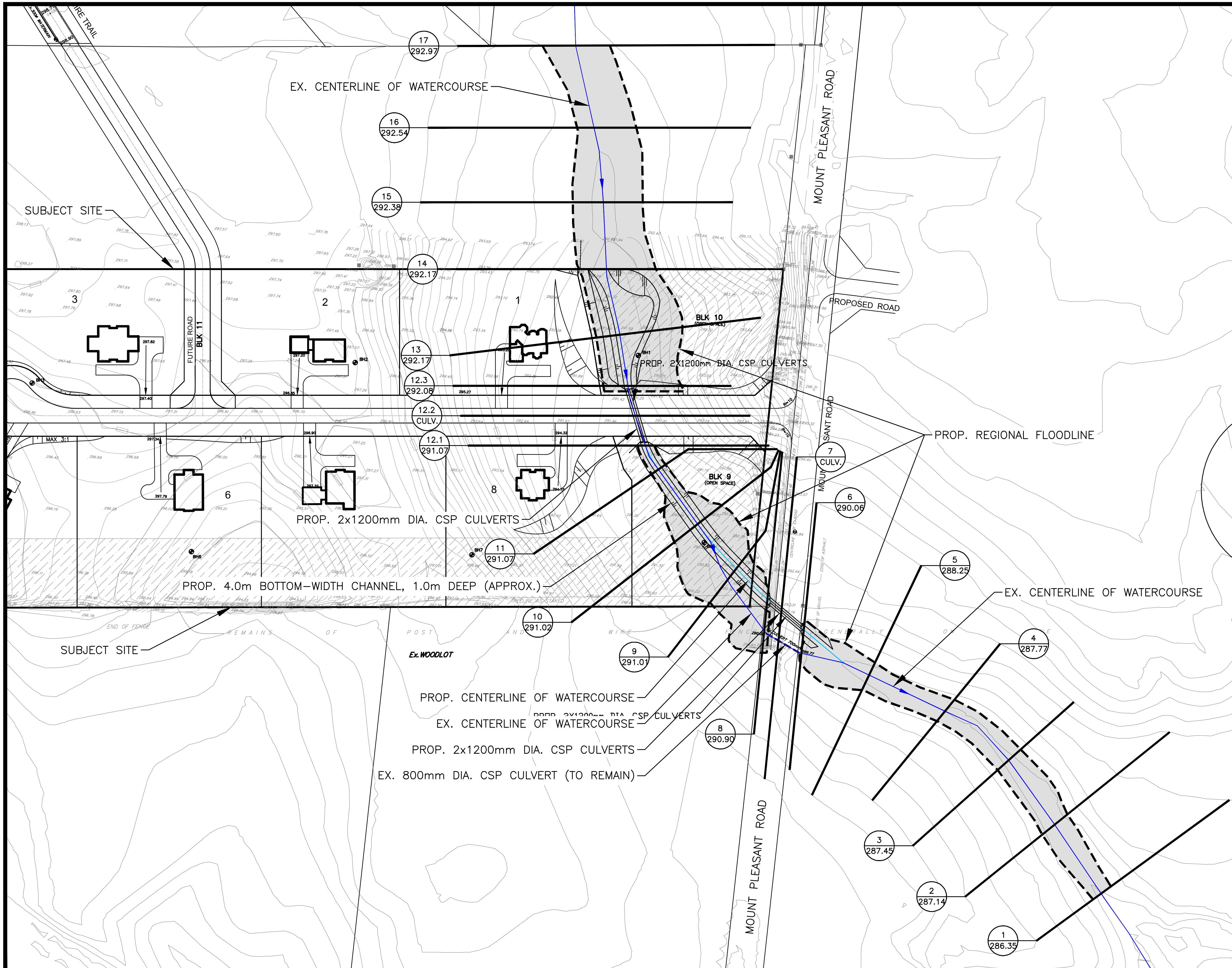
PROPOSED ESTATE RESIDENTIAL SUBDIVISON DEVELOPMENT

TOWN OF CALEDON
REGION OF PEEL

FLOODPLAIN MAPPING EXISTING CONDITIONS

VALDOR ENGINEERING INC.
Consulting Engineers - Project Managers
741 ROWNTREE DAIRY ROAD, UNIT 2, WOODBRIDGE, ONTARIO, L4L 5T9
TEL (905)264-0054, FAX (905)264-0069
E-MAIL: info@valdor-engineering.com
www.valdor-engineering.com

PREPARED BY: O.B.	CKD. BY: D.G.
SCALE: 1:2000	DATE: MAY 2018
PROJECT: 17122	DWG.: FIGURE 6



LEGEND

- PROPOSED REGIONAL FLOODLINE
- PROPERTY LINE
- 1 / 286.35 — HEC-RAS CROSS-SECTION; PROP. REGIONAL WATER SURFACE ELEVATION (m)

SURVEY DATA PROVIDED BY VAN HARTEN SURVEYING INC. (TOPOGRAPHIC SURVEY OF PART OF LOT 27, CONCESSION 8, GEOGRAPHIC TOWNSHIP OF ALBION, TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL, 18 SEPTEMBER 2017). BEARINGS ARE GRID BEARINGS AND ARE DERIVED FROM GPS OBSERVATIONS AND ARE REFERRED TO THE UTM PROJECTION, ZONE 17, NAD 83 (CSRS-2010) ADJUSTMENT.

PROJECT
PROPOSED ESTATE RESIDENTIAL SUBDIVISON DEVELOPMENT
TOWN OF CALEDON
REGION OF PEEL

FLOODPLAIN MAPPING
PROPOSED CONDITIONS

VALDOR ENGINEERING INC.
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www.valdor-engineering.com

PREPARED BY	O.B.	CKD. BY	D.G.
SCALE	1:2000	DATE	MAY 2018
PROJECT	17122	DWG.	FIGURE 7

EX. WATERCOURSE CENTERLINE

102
1.10

103
2.58

101
3.67

104
3.97

TREELINE AS STAKED

TREELINE AS STAKED

END OF FENCE

REMAINS OF POST AND WIRE FENCE

MOUNT PLEASANT ROAD

EDGE OF ASPHALT

EDGE OF ASPHALT

FLOW NODE #1
DRAINAGE WEST (CATCHMENT 101)

FLOW NODE #2
DRAINAGE EAST TO MT. PLEASANT RD. (CATCHMENTS 102–104)

LEGEND

101 / 3.67 — CATCHMENT ID / AREA (HA)

DRAINAGE BOUNDARY

OVERLAND FLOW

PROJECT
PROPOSED ESTATE RESIDENTIAL SUBDIVISON DEVELOPMENT
TOWN OF CALEDON
REGION OF PEEL

STORM DRAINAGE PLAN PRE–DEVELOPMENT

VALDOR ENGINEERING INC.
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E-MAIL: info@valdor-engineering.com
www.valdor-engineering.com

PREPARED BY: O.B.	CKD. BY: D.G.
SCALE: 1:2000	DATE: MAY 2018
PROJECT: 17122	DWG.: FIGURE 8

EX. WATERCOURSE CENTERLINE

202
1.10

201
3.47

203
1.76

204
1.52

205
3.47

TREELINE AS STAKED

END OF FENCE

REMAINS OF POST AND WIRE FENCE

TREELINE AS STAKED

MOUNT PLEASANT ROAD

EDGE OF ASPHALT

EDGE OF ASPHALT

FLOW NODE #1
DRAINAGE WEST (CATCHMENT 201)

FLOW NODE #2
DRAINAGE EAST TO MT. PLEASANT RD. (CATCHMENTS 202–205)

LEGEND

201 / 3.47 — CATCHMENT ID / AREA (HA)

DRAINAGE BOUNDARY

OVERLAND FLOW

PROJECT
PROPOSED ESTATE RESIDENTIAL SUBDIVISON DEVELOPMENT
TOWN OF CALEDON
REGION OF PEEL

STORM DRAINAGE PLAN POST–DEVELOPMENT

VALDOR ENGINEERING INC.
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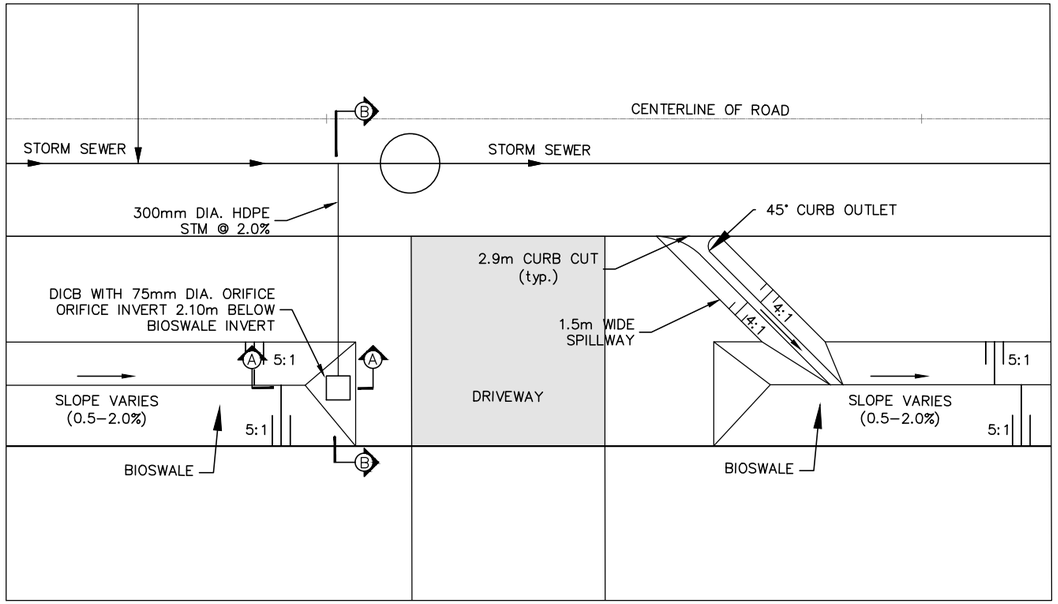
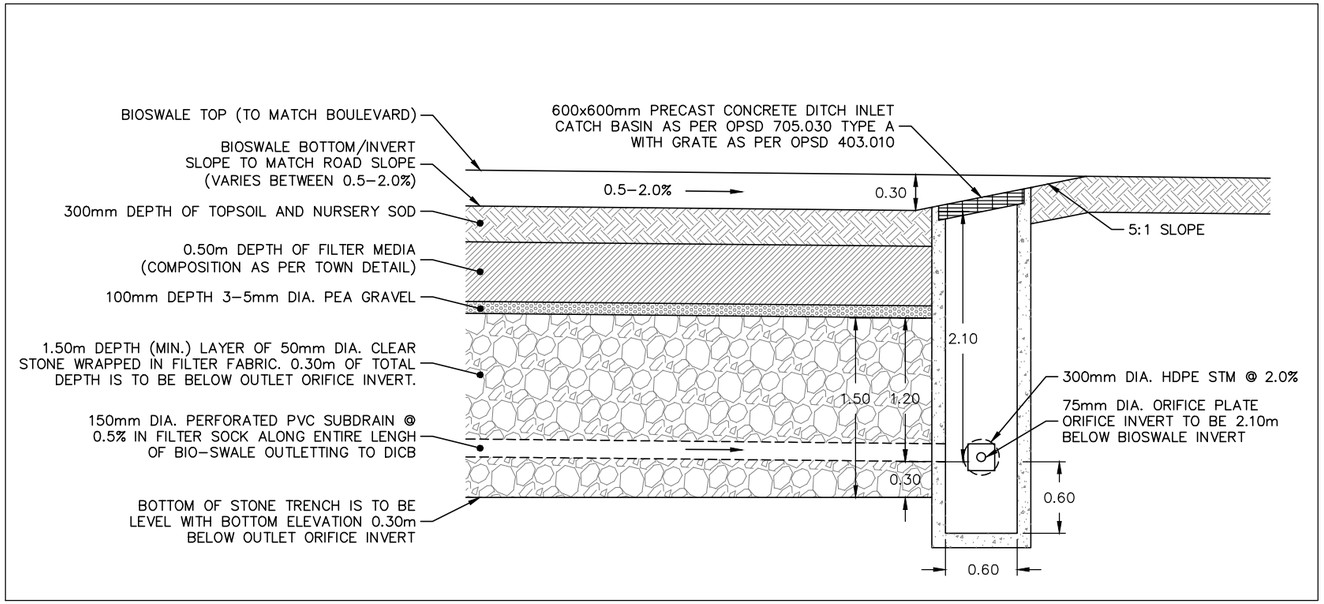
PREPARED BY: O.B.	CKD. BY: D.G.
SCALE: 1:2000	DATE: MAY 2018
PROJECT: 17122	DWG.: FIGURE 9



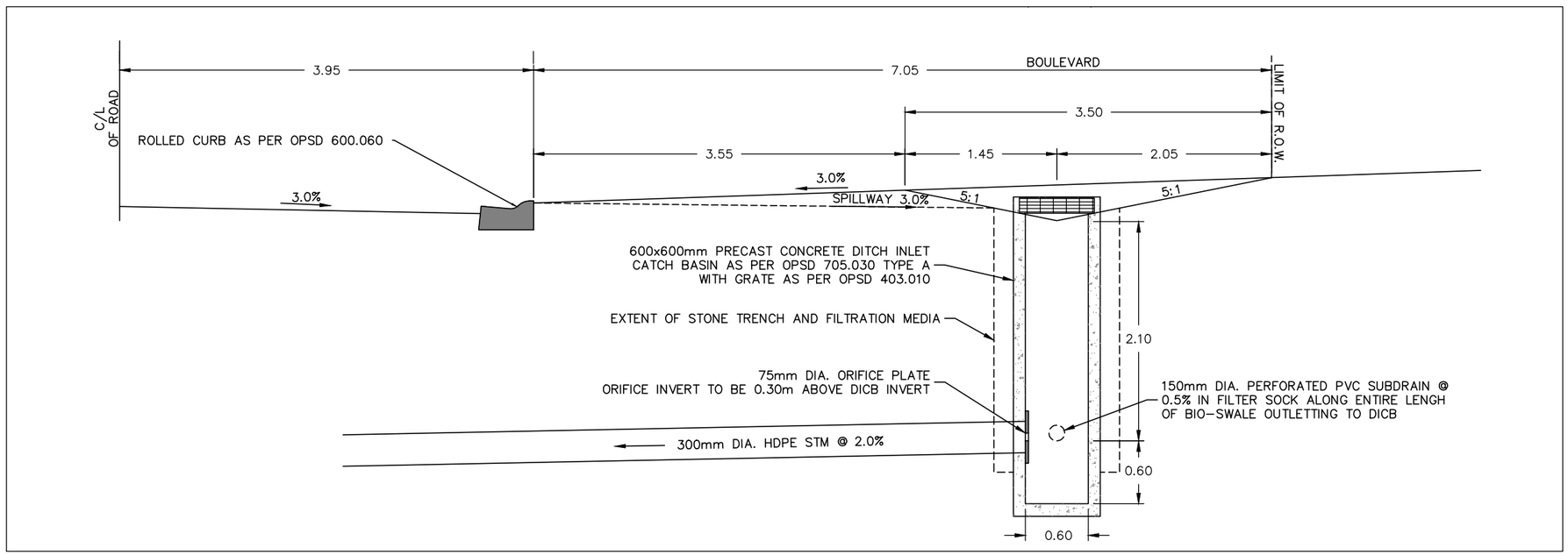
TYPICAL BIOSWALE PLAN VIEW

SCALE: 1:200



SECTION A–A

NTS



SECTION B–B

NTS

PROJECT

PROPOSED ESTATE RESIDENTIAL SUBDIVISON DEVELOPMENT

TOWN OF CALEDON
REGION OF PEEL

PRELIMINARY BIOSWALE DESIGN

VALDOR ENGINEERING INC.
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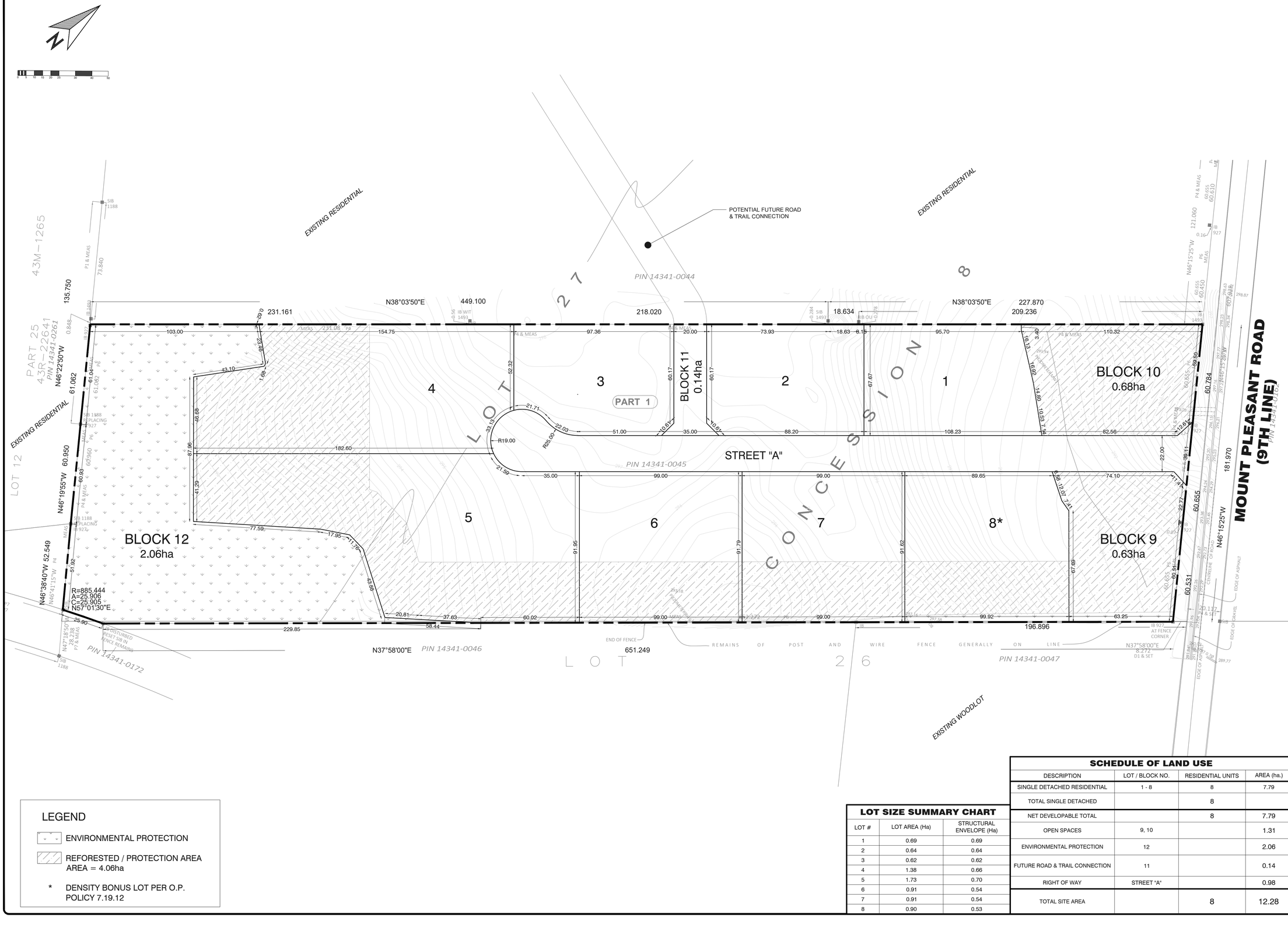
PREPARED BY: D.M./O.B.	CKD. BY: D.G.
SCALE: AS SHOWN	DATE: MAY 2018
PROJECT: 17122	DWG.: FIGURE 10

APPENDIX "A"

Draft Plan, Site Plan & Equivalent Population Calculation



LEGEND

- ENVIRONMENTAL PROTECTION
- REFORESTED / PROTECTION AREA
  AREA = 4.06ha
- * DENSITY BONUS LOT PER O.P. POLICY 7.19.12

LOT SIZE SUMMARY CHART

LOT #	LOT AREA (Ha)	STRUCTURAL ENVELOPE (Ha)
1	0.69	0.69
2	0.64	0.64
3	0.62	0.62
4	1.38	0.66
5	1.73	0.70
6	0.91	0.54
7	0.91	0.54
8	0.90	0.53

SCHEDULE OF LAND USE

DESCRIPTION	LOT / BLOCK NO.	RESIDENTIAL UNITS	AREA (ha.)
SINGLE DETACHED RESIDENTIAL	1 - 8	8	7.79
TOTAL SINGLE DETACHED		8	
NET DEVELOPABLE TOTAL		8	7.79
OPEN SPACES	9, 10		1.31
ENVIRONMENTAL PROTECTION	12		2.06
FUTURE ROAD & TRAIL CONNECTION	11		0.14
RIGHT OF WAY	STREET "A"		0.98
TOTAL SITE AREA		8	12.28

TITLE:

PROPOSED DRAFT PLAN OF SUBDIVISION

LEGAL DESCRIPTION:

PART OF LOT 27
CONCESSION 8
GEOGRAPHIC TOWNSHIP OF ALBION
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

KEY PLAN:

REQUIRED INFORMATION:

AS REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT R.S.O. 1990.

(a) SEE PLAN
(b) SEE PLAN
(c) SEE KEY MAP
(d) SEE SCHEDULE OF LAND USE
(e) SEE PLAN
(f) SEE PLAN
(g) SEE PLAN
(h) MUNICIPAL PIPED WATER AVAILABLE AT TIME OF DEVELOPMENT
(i) TOP SOIL, SAND, SANDY SILT, CLAYEY SILT
(j) SEE PLAN
(k) GARBAGE COLLECTION & FIRE PROTECTION
(l) SEE PLAN

NOTE: CONTOURS RELATE TO CANADIAN GEODETIC DATUM

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATE AND CORRECTLY SHOWN IN ACCORDANCE WITH A PLAN OF SURVEY PREPARED BY VAN HARTEN

RON MAK
VAN HARTEN

DATE

OWNER'S CERTIFICATE:

I HEREBY AUTHORIZE THE BIGLIERI GROUP LTD. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CALEDON

DAVID GOODMAN
TROPICAL LAND DEVELOPMENT LIMITED

DATE

0 MOUNT PLEASANT ROAD

APPROVAL STAMP:

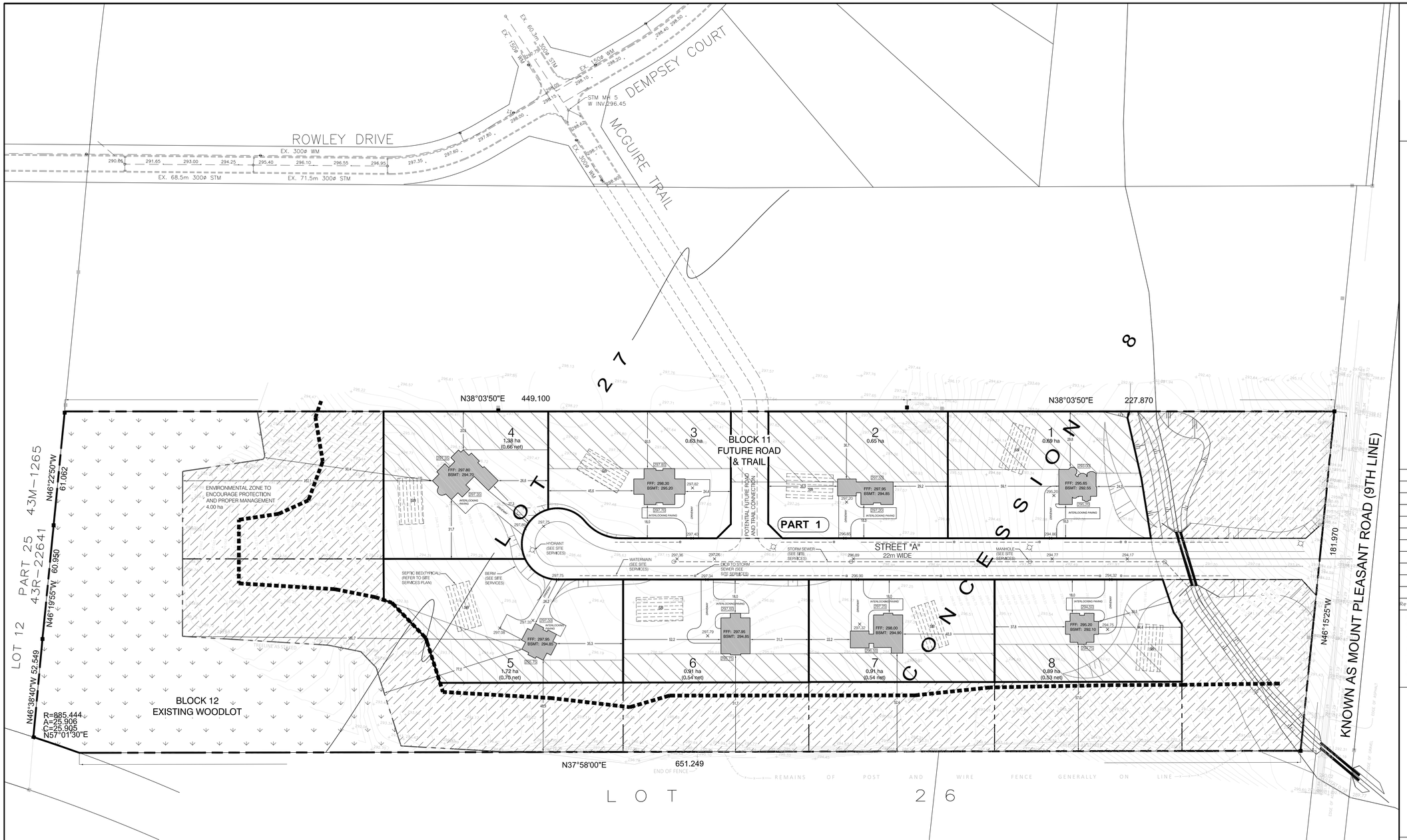
TROPICAL LAND DEVELOPMENT LTD.

REVISIONS

No.	Description	Date	Int.
3			
2			
1			

PROJECT No.: 17445
DATE: May 4, 2018
SCALE: 1:1000
DRAFTED BY: JS
CHECKED BY: MJ
DRAWING No.: **DP-01**

THE BIGLIERI GROUP LTD.
Planning | Development | Project Management
20 Leslie Street, Suite 121, Toronto, Ontario M4M 3L4
Office: (416) 693-9150 Fax: (416) 693-9133
tbg@thebiglierigroup.com



LEGEND:

- ENVIRONMENTAL ZONE
- USABLE REAR YARD
- SB — SEPTIC BED
- BUILDING
- STRUCTURAL ENVELOPE

Revision	Issued for	Date
11	ISSUED FOR CLIENT REVIEW	June 14, 2018
10	ISSUED FOR CLIENT REVIEW	June 12, 2018
9	ISSUED FOR CLIENT REVIEW	June 8, 2018
8	ISSUED FOR CLIENT REVIEW	June 7, 2018
7	ISSUED FOR CLIENT REVIEW	May 18, 2018
6	ISSUED FOR CLIENT REVIEW	May 2, 2018
5	ISSUED FOR CLIENT REVIEW	Apr. 19, 2018
4	ISSUED FOR CLIENT REVIEW	Jan. 10, 2018
3	ISSUED FOR CLIENT REVIEW	Dec. 7, 2017
2	ISSUED FOR CLIENT REVIEW	Dec. 1, 2017
1	ISSUED FOR CLIENT REVIEW	Oct. 17, 2017

MMH Architects Inc.
Architects & Planning Consultants
109 Railside Road, Suite 101
Toronto Ontario Canada M3A 1B2
E-mail: architects@mmh.ca
Telephone: 416 492-4949
Fax: 416 492-7207

Orientation: TRUE NORTH

Stamp

Project Title:
ALTON VILLAGE
MOUNT PLEASANT ROAD
CUSTOM RESIDENTIAL HOMES

Location: MOUNT PLEASANT ROAD-CALEDON

Drawing Title:
SITE PLAN
(Option 2)

Scale	1:1000	Date	October 3, 2017
Drawn By	C.K	Checked By	F.C
Project No.	201711	Drawing No.	A-101

VALDOR ENGINEERING INC.
741 Rowntree Dairy Road, Suite 2, Woodbridge, ON L4L 5T9
Tel: 905-264-0054 Fax: 905-264-0069 info@valdor-engineering.com
www.valdor-engineering.com

TABLE: A1

EQUIVALENT POPULATION CALCULATION

Project Name: **Mount Pleasnat Road, Palgrave, Town of Caledon**
File: 17122
Date: December 2017

A. Based on Region of Peel Criteria

Land Use	Density	Area (Ha)	Equivalent Population
Detached Dwellings	50 persons per hectare	10.0	500.0
		Total Equivalent Population (persons):	**500**

B. Based on Persons Per Unit

Land Use	Density	Number of Units	Equivalent Population
Detached Dwellings	4 persons per unit	8	32.0
		Total Equivalent Population (persons):	**32**

APPENDIX "B"

Water Demand Calculations & Details

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www.valdor-engineering.com

TABLE: B1

WATER DEMAND CALCULATION

Project Name: Estate Residential Subdivision, Palgrave

File: 17122

Date: December 2017

Demand Critera:

	Base Demand		Peaking Factors	
Residential	280	L/capita/day	Max Day	2.00
			Peak Hour	3.00

	Equivalent Population	Average Day (L/day)	Average Day (L/min)	Max Day (L/min)	Peak Hour (L/min)
Detached Dwellings	32.0	8,960	6.2	12.4	18.7

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www.valdor-engineering.com

TABLE: B2

REQUIRED FIRE FLOW CALCULATION

In accordance to Water Supply for Public Fire Protection, Fire Underwriters Survey 1999

Project Name: Estate Residential Subdivision, Palgrave
File: 17122
Date: December 2017

Notes:

Type of Construction - Ordinary Construction

C = 1.0

Total Floor Area: 460.00 sq.m

A = 460 sq.m

(Total Floor Area includes all storeys, but excludes basements at least 50 percent below grade)

$$F = 220\ C\ \sqrt{A}$$

F = 4,718 L/min

F = 5,000 (to nearest 1,000 Lmin)

Occupancy Factor

		Charge
Type:	Limited Combustible	-15%
	f_1 =	-15%

Sprinkler Credit

		Charge
NFPA 13 Sprinkler Standard:	NO	0%
Standard Water Supply:	NO	0%
Fully Supervised System:	NO	0%
Total Charge to Fire Flow:	f_2 =	0%

$$F' = F \times (1+f_1) \times (1+f_2)$$

F' = 4,250 L/min

Exposure Factor

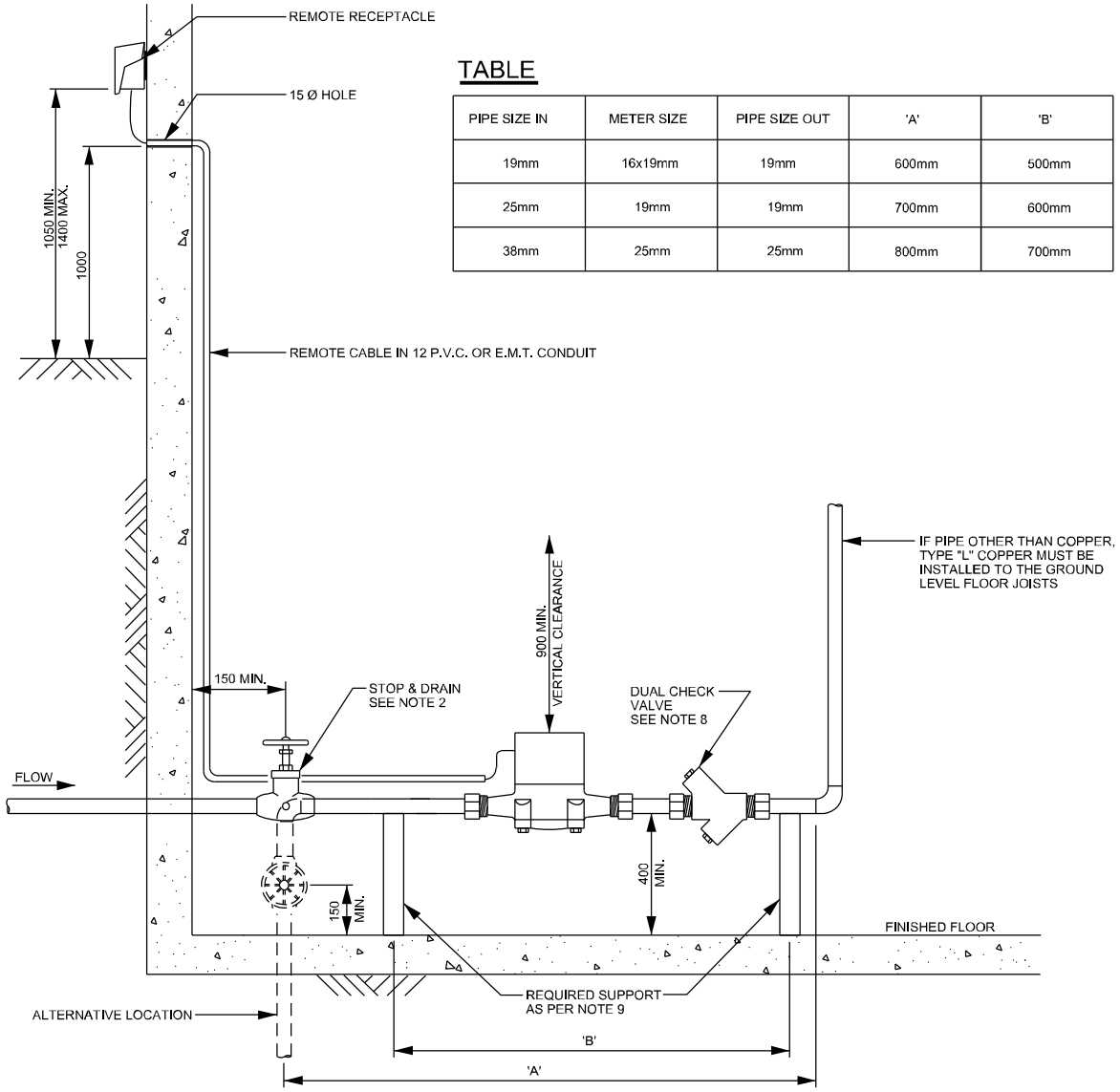
		Charge
Side 1 - Distance to Building (m):	20.1 to 30m	10%
Side 2 - Distance to Building (m):	20.1 to 30m	10%
Side 3 - Distance to Building (m):	20.1 to 30m	10%
Side 4 - Distance to Building (m):	20.1 to 30m	10%
	f_3 =	40% (maximum of 75%)

$$F'' = F' \times (1+f_3)$$

F'' = 5,950 L/min

REQUIRED FIRE FLOW

F'' = **6,000** **L/min** (to nearest 1,000 L/min)



TABLE

PIPE SIZE IN	METER SIZE	PIPE SIZE OUT	'A'	'B'
19mm	16x19mm	19mm	600mm	500mm
25mm	19mm	19mm	700mm	600mm
38mm	25mm	25mm	800mm	700mm

NOTE

1. 175mm MINIMUM CLEARANCE BETWEEN WALL AND C/L OF PIPE AND 75mm HORIZONTAL CLEARANCE BETWEEN WALL AND METER.
2. STOP AND DRAIN TO BE THE SAME SIZE AS INCOMING PIPE.
3. IF HOT WATER TANK IS WITHIN 3.0m OF METER, THEN A CHECK VALVE IS REQUIRED BETWEEN METER AND HOT WATER TANK.
4. ALL COPPER PIPING AFTER THE STOP AND DRAIN SHALL BE TYPE "L" COPPER.
   PIPING FOR METER TO BE RUN HORIZONTALLY & METER TO BE INSTALLED ON HORIZONTAL PIPING ONLY.
5. WHERE THE INCOMING PIPE IS OTHER THAN COPPER, 500mm OF HORIZONTAL TYPE "L" COPPER PIPE (AS PER ABOVE TABLE).
6. METER SIZE TO BE ONE PIPE SIZE SMALLER THAN INCOMING SERVICE SIZE.
7. METERS MUST NOT BE LOCATED BEHIND FURNACES, WATER TANKS, ETC.
8. WHERE REQUIRED, DUAL CHECK VALVE BACKFLOW PREVENTER IS TO BE INSTALLED DOWNSTREAM OF THE METER
9. IF PLUMBING RISER/WATER SERVICE IS PLASTIC, SUPPORTS SHALL BE REQUIRED FOR METER ASSEMBLY AREA.
   TO AVOID INSTALLING SUPPORTS, RISER SHALL BE COPPER AND ATTACHED TO LOWER FLOOR LEVEL JOISTS

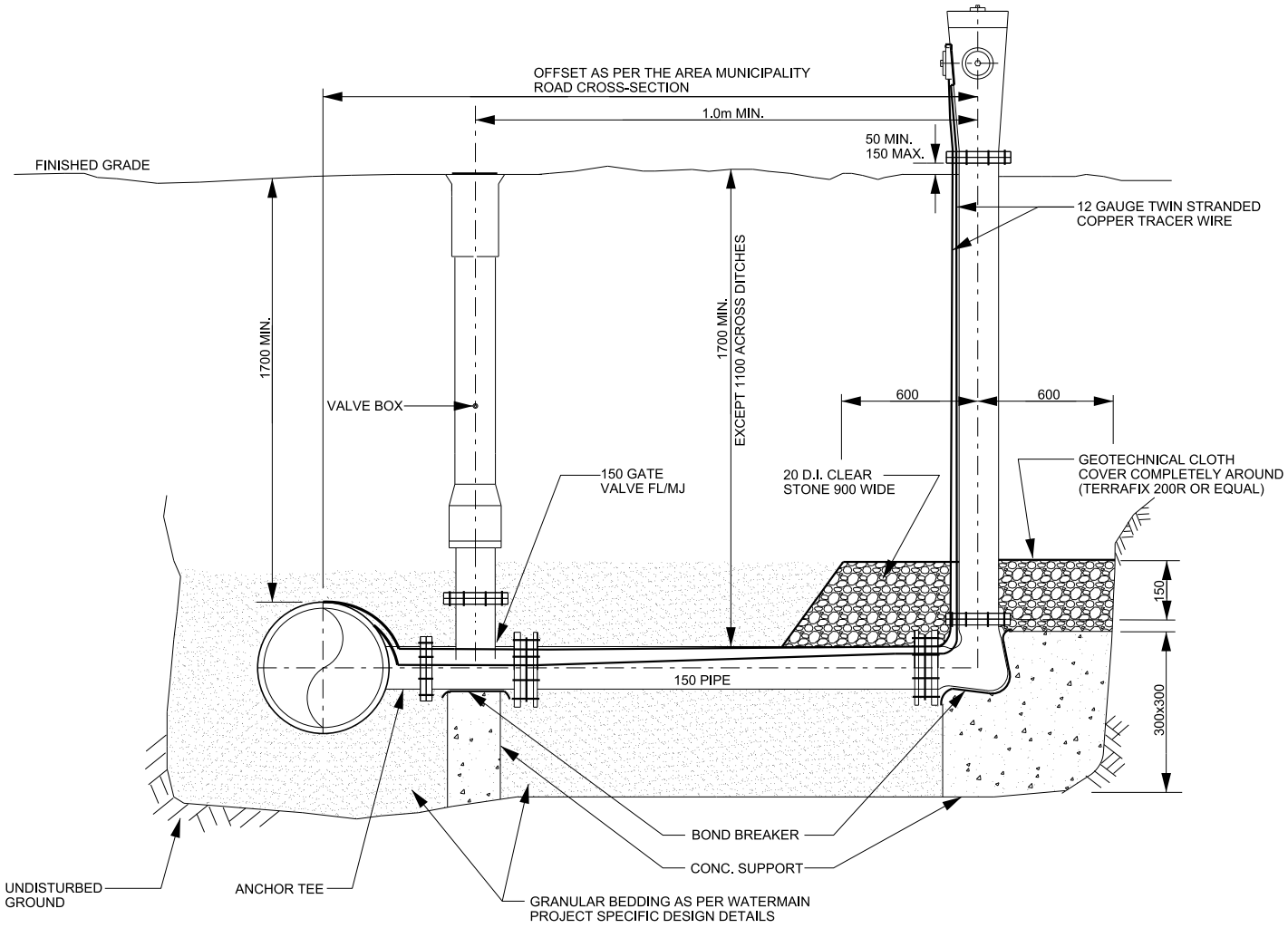
Region of Peel
Working for you

PUBLIC WORKS
STANDARD DRAWING

REV. DATE: MARCH 2017

16mm x 19mm TO 25mm METER INSTALLATION FOR 25mm 'K' COPPER WATER SERVICE IN BUILDING

APPROVED BY	DRAWN BY
J.K.	AINLEY GROUP - RDP
STD. DWG. NUMBER	SCALE
1-4-7	N.T.S.



NOTE

1. IF THE WATERMAIN IS NOT AT THE STANDARD OFFSET, THE LOCATION OF THE HYDRANT TO BE AS PER CONSTRUCTION DRAWINGS.
2. BACKFILL TRENCH WITH GRANULAR 'B' COMPACTED TO 100% STD. PROCTOR DENSITY.
3. MECHANICAL RESTRAINTS REQUIRED ON ALL PVC HYDRANT LATERALS INCLUDING VALVES AND FITTINGS AS PER REGION STANDARD DRAWING 1-5-9.
4. ALL PIPING, FITTINGS, VALVES, APPURTENANCES AND MECHANICAL RESTRAINTS TO BE c/w DENSO PASTE, DENSO MASTIC AND DENSO TAPE OR APPROVED EQUAL, APPLIED TO MANUFACTURER'S RECOMMENDATIONS.

Region of Peel
Working for you

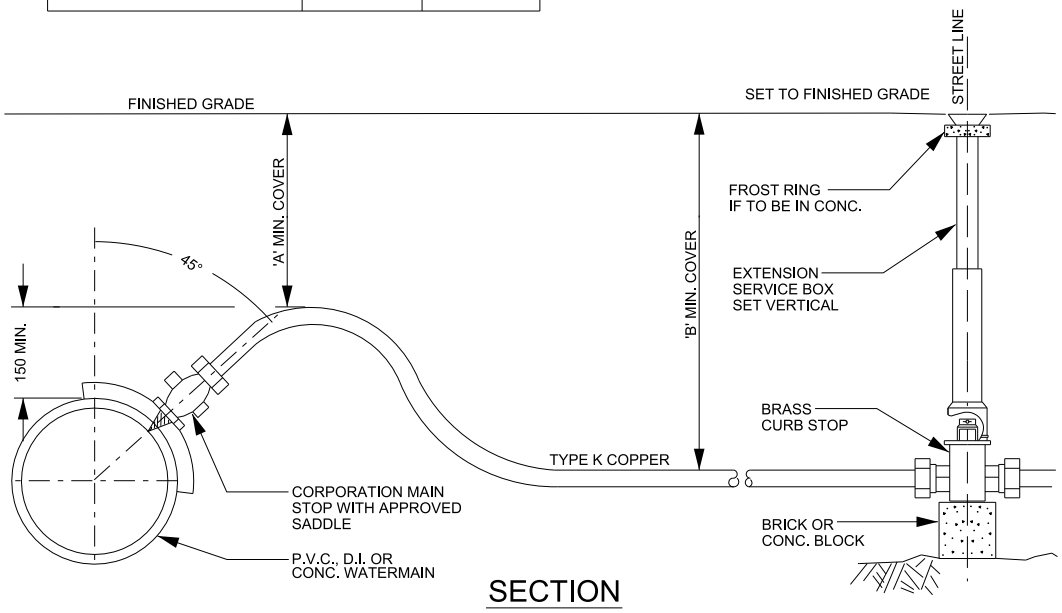
PUBLIC WORKS
STANDARD DRAWING

REV. DATE: APRIL 2014

HYDRANT SETTING
FOR D.I. OR P.V.C. PIPE

APPROVED BY	DRAWN BY
A.P.	AINLEY GROUP
STD. DWG. NUMBER	SCALE
1-6-1	N.T.S.

	'A'	'B'
ON UNIMPROVED ROADS	1950	2100
ON CURB AND GUTTER ROADS	1500	1700



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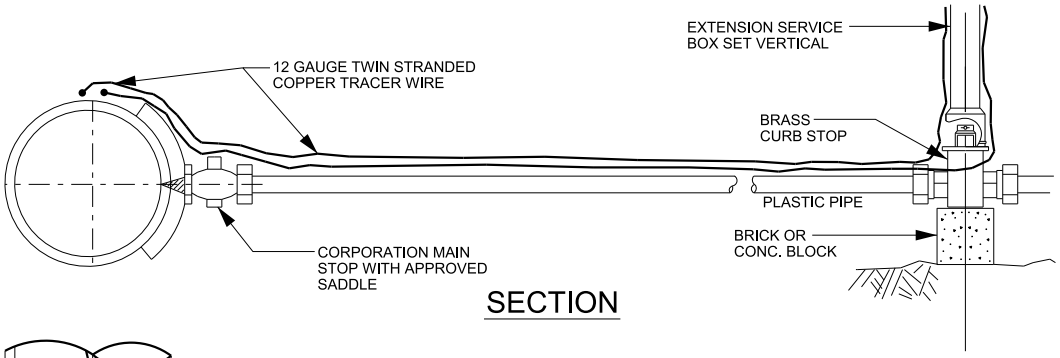

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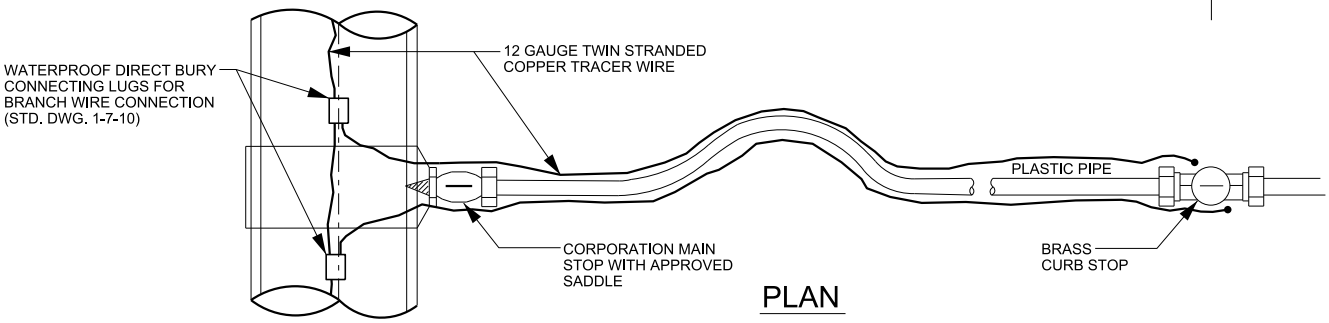


PLAN

NOTE

1. ALL SERVICES TO BE AT 90° TO THE WATERMAIN UNLESS OTHERWISE SPECIFIED.
2. WATER SERVICE TO BE A MIN. OF 1100mm UNDER THE BOTTOM OF DITCH.
3. SERVICE BOX TO BE SET TO FINISH GRADE.
4. NO DIRECT TAPPING OF PVC WATERMAINS. ALL CONNECTIONS TO PVC PIPE TO BE MADE USING AN APPROVED WIDE-BAND SERVICE SADDLE.
5. TRACER WIRE TO BE INSTALLED AS PER REGION STANDARDS.
6. ALL WATER SERVICE MATERIALS SHALL BE STORED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

Region of Peel
Working for you

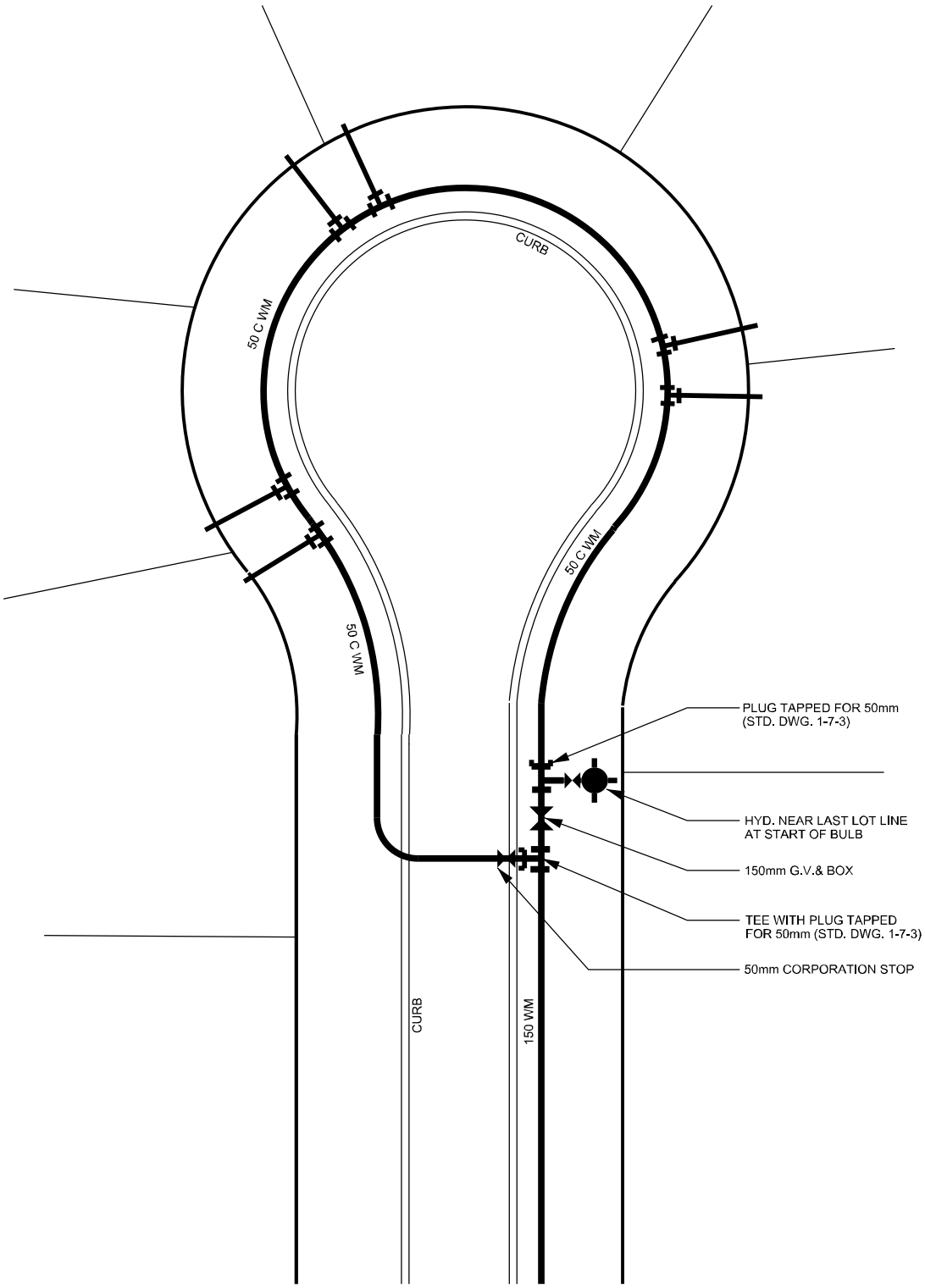
PUBLIC WORKS
STANDARD DRAWING

REV. DATE: APRIL 2014

APPROVED BY	DRAWN BY
A.P.	**AINLEY GROUP**

WATER SERVICE CONNECTION

STD. DWG. NUMBER	SCALE
1-7-1	**N.T.S.**



NOTE

1. PROVIDE 25mm DIA. SERVICE FOR LOTS 500sq.m OR GREATER
2. FOR OFFSET OF WATERMAIN FROM STREETLINE, REFER TO THE LOCAL MUNICIPALITIES RELEVANT STTANDARD CROSS-SECTION.

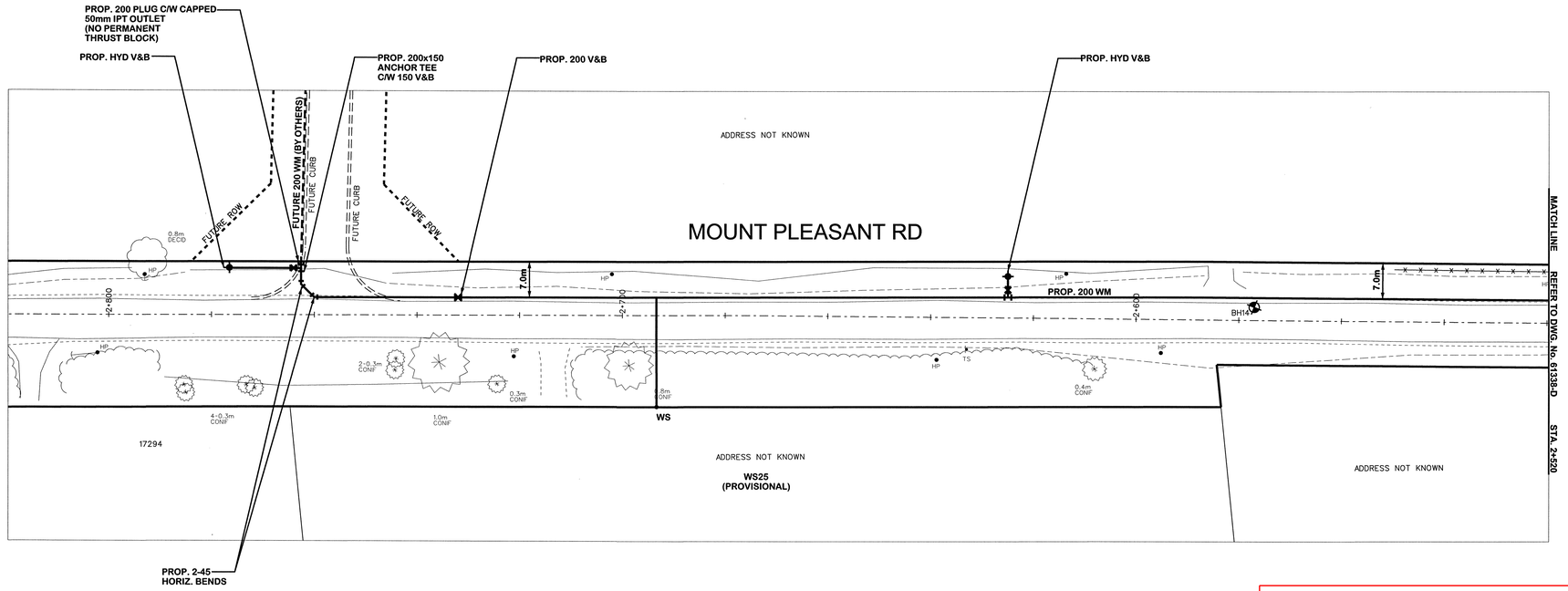
Region of Peel
Working for you

PUBLIC WORKS
STANDARD DRAWING

REV. DATE: NOVEMBER 2011

TYPICAL 50mm WATERMAIN ON CUL-DE-SAC

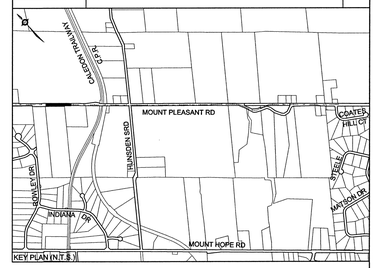
APPROVED BY	DRAWN BY
A.P.	AINLEY GROUP
STD. DWG. NUMBER	SCALE
1-7-4	N.T.S.



ISSUED FOR CONSTRUCTION
DATE: JUNE 28, 2017

SERVICE DATA					
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	OCT. 01, 2016	M.T.	GAS MAINS	MAY 13, 2016	M.T.
STORM SEWERS	OCT. 01, 2016	M.T.	BELL U/G CABLE	MAY 26, 2016	M.T.
WATERMAINS	OCT. 01, 2016	M.T.	HYDRO U/G CABLE		
TRANSIT			HYDRO ONE	MAY 25, 2016	M.T.
PARKS & REC.			CTV	MAY 30, 2016	M.T.
ONT. CLEAN WATER			COMMUNIC. CABLES		

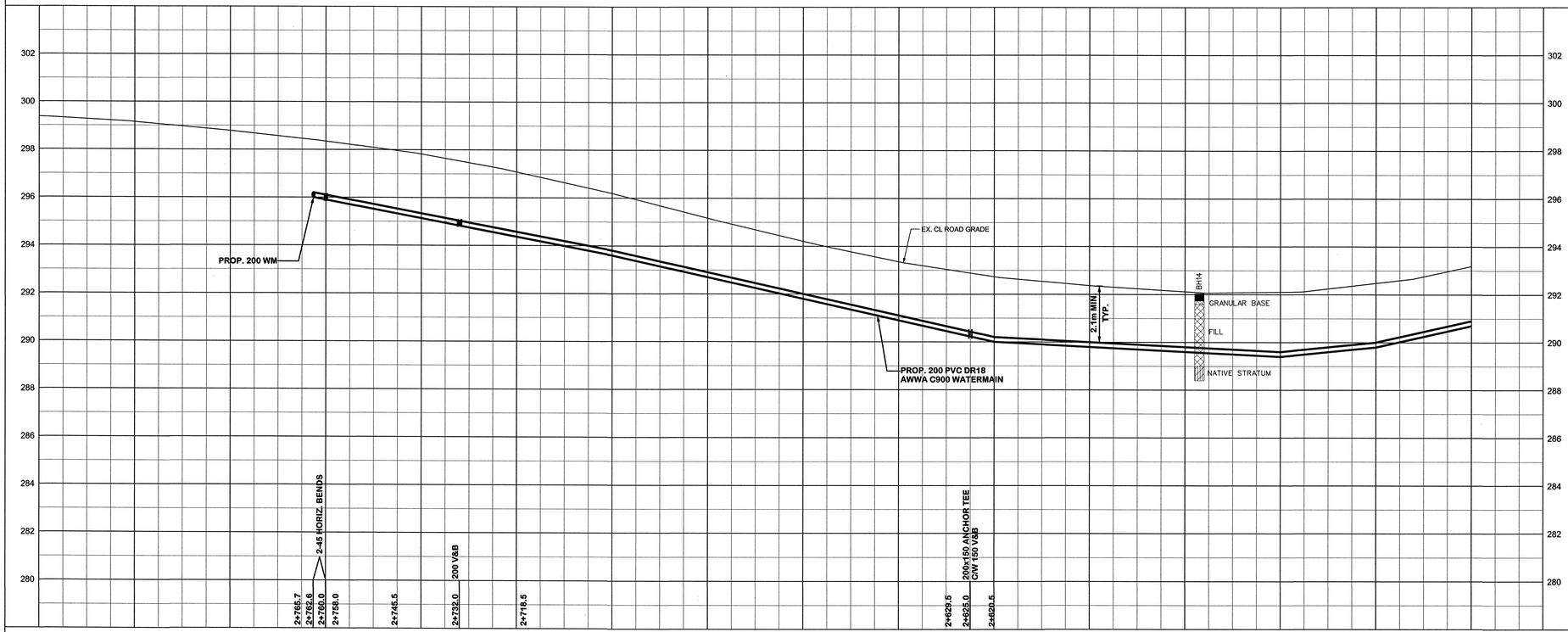
REVISIONS		
DATE	DETAILS	INIT.
DEC. 09, 2016	ISSUED FOR 60% REVIEW	M.T.
MAR. 27, 2017	ISSUED FOR PUCC	M.T.
MAY 05, 2017	ISSUED FOR 90% REVIEW	M.T.
MAY 24, 2017	ISSUED FOR TENDER	M.T.
JUNE 28, 2017	**ISSUED FOR CONSTRUCTION**	**M.T.**



NOTE:

1. FOR GENERAL NOTES, DETAILS AND LEGEND SEE DWG. 61340-D

THIS DRAWING TO BE USED FOR WATERMAIN CONSTRUCTION ONLY



RESTRAINED JOINTS														
	295.90	295.13	294.37	293.60	292.70	291.80	290.90	290.00	289.80	289.60	289.40	289.80	290.70	BOT.EL. OF WM.
298.78	298.35	297.82	297.08	296.19	295.16	294.21	293.35	292.73	292.37	292.12	292.10	292.48	293.19	EX. ROAD ELEV.
2+780	2+760	2+740	2+720	2+700	2+680	2+660	2+640	2+620	2+600	2+580	2+560	2+540	2+520	ROAD CHAINAGE

General Notes

All Driveways Are ASPHALT Unless Otherwise Noted
All Water And Sanitary Service Locations Are Approximate And Must Be Located Accurately In The Field
All Horizontal And Vertical Bends Are In Degrees
All Pipes Size In mm
20C Existing Water Service, Size In mm
WS25 Proposed Water Service, Size In mm
B.M. No. Elev.
Description
Location
The Contractor Is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction. Location Of Existing Utilities Approximate Only, To Be Verified In Field By Contractor.

CERTIFIED ENGINEERING TECHNOLOGIST — ONTARIO — LYLE LEDREW — No 808920
Designed by
MAY 24 2017
Chkd.

LICENSED PROFESSIONAL ENGINEER — D. E. DODDS — PROVINCE OF ONTARIO
2017/5/26
Approved by

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF MISSISSAUGA WORKS DEPT.
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL CANADA
ENBRIDGE INCORPORATED-GAS DISTRIBUTION
ONTARIO MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ONE NETWORKS
ENERSOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
BELL CANADA
ENERSOURCE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FCI BROADBAND)

10m 0 10 20 30m — HORIZONTAL SCALE
2m 0 2 4 6m — VERTICAL SCALE

Region of Peel
Working for you

MOUNT PLEASANT ROAD

(FROM COATES HILL CRT TO 17294 MT. PLEASANT RD)

PROP. 200mm WATERMAIN

STA. 2+520 TO STA. 2+765

CAD Area		Area	C-44/C-55
Checked by C.L. MAY 24/17		Drawn by	M.T.
Date	OCT. 2016	Sheet	12 of 12

Project No. 17-1381
Plan No. **61339-D**

APPENDIX "C"

Wastewater Servicing Calculations & Details

VALDOR ENGINEERING INC.
File: 17122
December 2017

PROJECT: **Proposed Estate Residential Subdivision**
Mount Pleasant Road, Palgrave
Town of Caledon

TABLE C1

House Data	
House Model	
Number of bedrooms	**4**
Floor Area (ft^2)	**4,950**
Floor Area (m^2)	459.9
Fixture Count (see attached calcs)	**40.0**

Soils Data	
t-time for native soil (min/cm)	**10**
t-time for fill (min/cm)	**10**

Daily Design Flow*		
Dwelling Flow (L/day) up to 5 bedrooms		2,000
Additional Flow:		2,450
i) for over 5 bedrooms	0	
ii) area - A	2,000	
area - B	450	
area - C	0	
iii) fixtures over 20 units	1,000	
Peak Daily Design Flow (L/day)		4,450
Total Peak Daily Design Flow (L/day)		**4,450**
Septic Tank Capacity (L)	Minimum:	8,900
(Available Sizes 4500L, 6800L, 9000L, 13500L)	Use:	**9,000**

* based on Ontario Building Code Table 8.2.1.3.A

if t <= 20min - Trench In-Ground Bed		
		Peak Flow
Length of pipe (m)	L = [Q*t/200]	**222.5**
Approx Bed Area (m^2)	A = [L*1.6]	356.0
if t >20min - Raised Conventional Bed		
		Peak Flow
Length of pipe (m)	L = [Q*t/200]	**222.5**
Minimum Loading Area (m^2)		445.0
if t >20min - Raised Filter Bed		
		Peak Flow
Bed Area Required (m^2)		445
Minimum Contact Area (m^2)		52
Effective Filter Area Required (m^2)		89

Dwelling design flows (L/day)*		
a) 1 Bedroom	1	750
b) 2 Bedroom	2	1100
c) 3 Bedroom	3	1600
d) 4 Bedroom	4	2000
e) 5 Bedroom	5	2500
f) Additional for:		
i) each bedroom over 5		500
ii) A) each $10m^2$ (or part thereof) over $200m^2$ up to $400m^2$		100
B) each $10m^2$ (or part thereof) over $400m^2$ up to $600m^2$		75
C) each $10m^2$ (or part thereof) over $600m^2$, or		50
iii) each fixture unit over 20 fixture units		50

* part of Ontario Building Code Table 8.2.1.3.A

Loading Rates*	
Percolation Time of Soil (min/cm)	Loading Rates (L/m^2/day)
1 < t <= 20	10
20 < t <= 35	8
35 < t <= 50	6
t > 50	4

* part of Ontario Building Code Table 8.7.4.1.A

VALDOR ENGINEERING INC.
File: 17122
December 2017

PROJECT: **Proposed Estate Residential Subdivision**
Mount Pleasant Road, Palgrave
Town of Caledon

TABLE C2

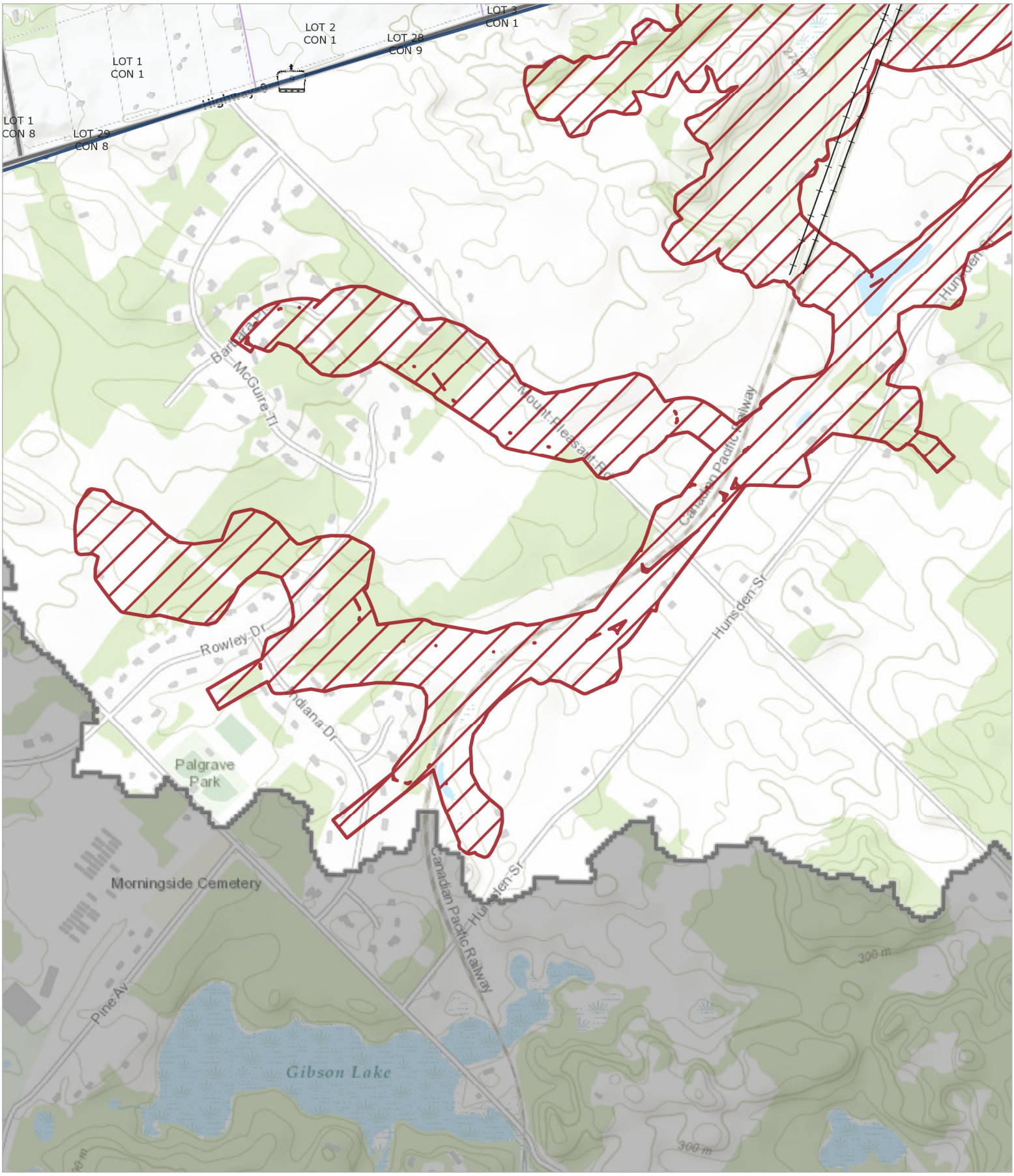
FIXTURE COUNTS			
Fixture	**Load* (units)**	**Number of Fixtures**	**Calculated Units**
BASEMENT			
Kitchen sink	1.5		0.0
Dishwasher	1.0		0.0
Toilet	4.0		0.0
Bidet	1.0		0.0
Tub/shower	1.5		0.0
Shower	1.5		0.0
Lavatory	1.0		0.0
Whirlpool	1.5		0.0
Other sink	1.5		0.0
Clothes washer	1.5	1	1.5
Laundry tub	1.5	1	1.5
Bathroom group	6.0	1	6.0
2" Floor Drain	2.0		0.0
3" Floor Drain	3.0	1	3.0
Other			0.0
Main Floor			
Kitchen sink	1.5	1	1.5
Dishwasher	1.0	1	1.0
Toilet	4.0	1	4.0
Bidet	1.0		0.0
Tub/shower	1.5		0.0
Shower	1.5		0.0
Lavatory	1.0	1	1.0
Whirlpool	1.5		0.0
Other sink	1.5		0.0
Clothes washer	1.5		0.0
Laundry tub	1.5		0.0
Bathroom group	6.0		0.0
Other			0.0
Second Floor			
Kitchen sink	1.5		0.0
Dishwasher	1.0		0.0
Toilet	4.0		0.0
Bidet	1.0		0.0
Tub/shower	1.5	1	1.5
Shower	1.5		0.0
Lavatory	1.0	1	1.0
Whirlpool	1.5		0.0
Other sink	1.5		0.0
Clothes washer	1.5		0.0
Laundry tub	1.5		0.0
Bathroom group	6.0	3	18.0
Other			0.0
TOTAL			**40.0**

* part of Ontario Building Code Table 7.4.9.3

APPENDIX "D"

Watershed Map, Regulation Mapping & IDF Data

NVCA - Web Map



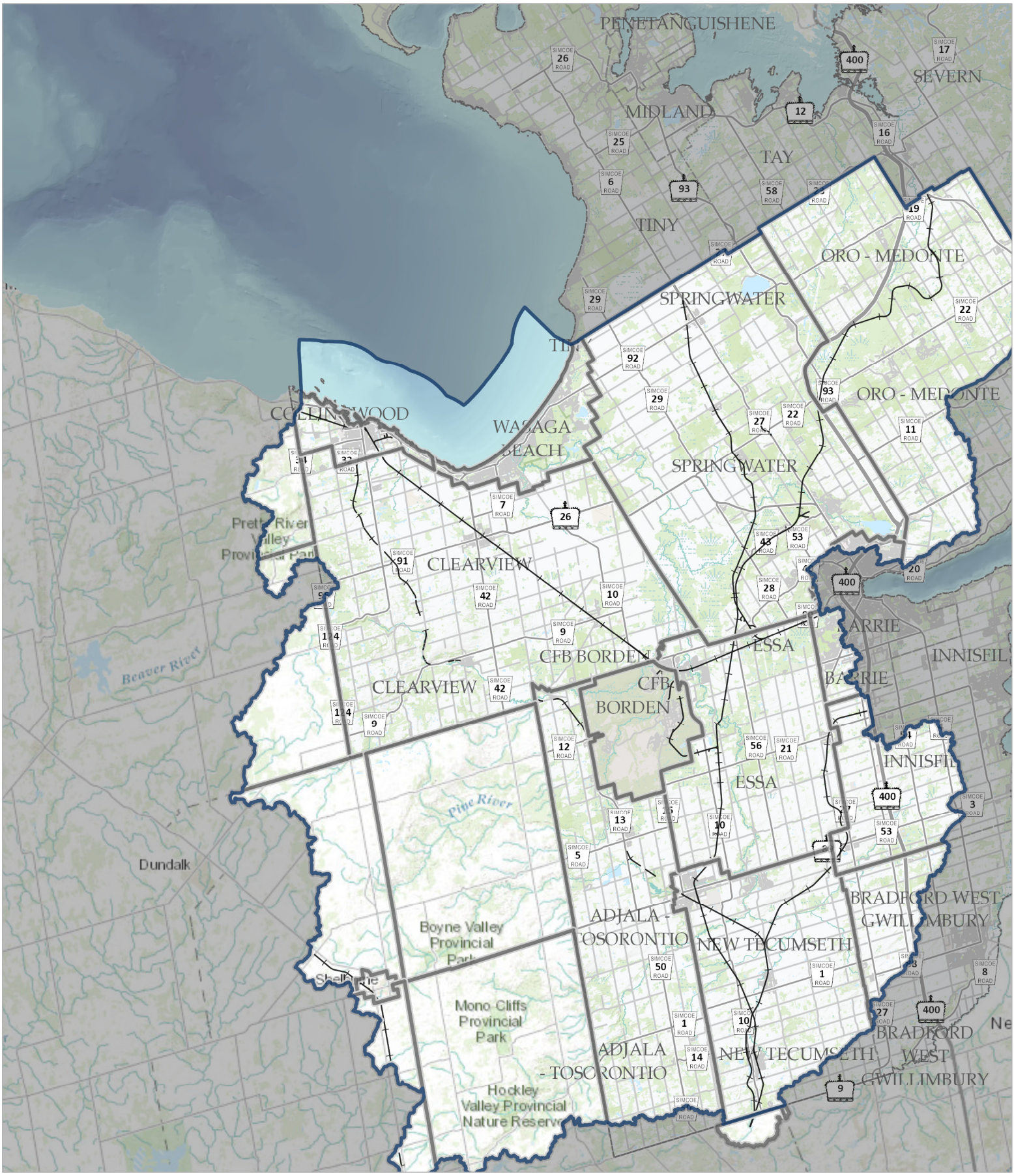
0 0.275 0.55 1.1 km

1:18,056

November 12, 2017

NOTTAWASAGA VALLEY CONSERVATION AUTHORITY

NVCA - Web Map



0 5 10 20 km

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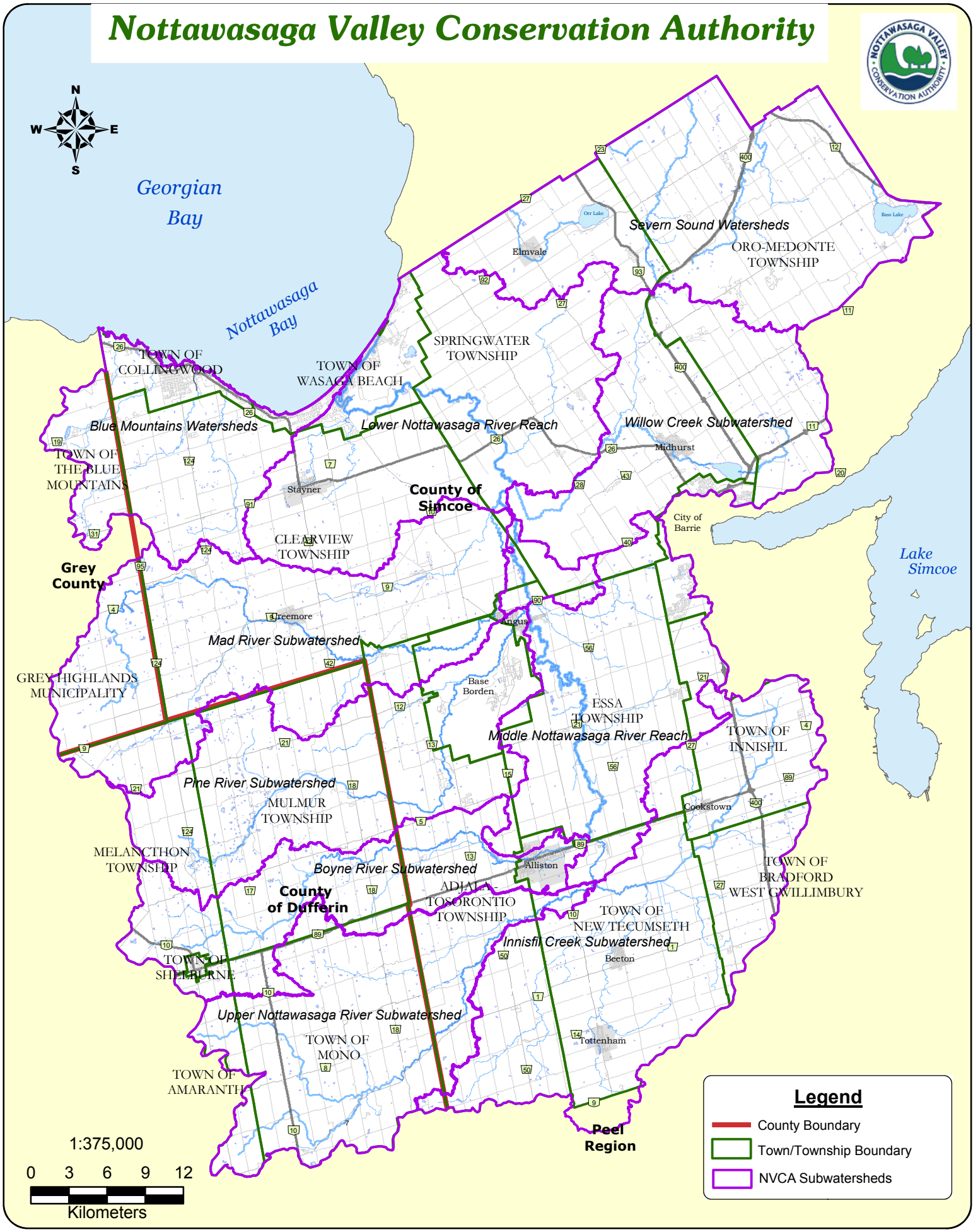
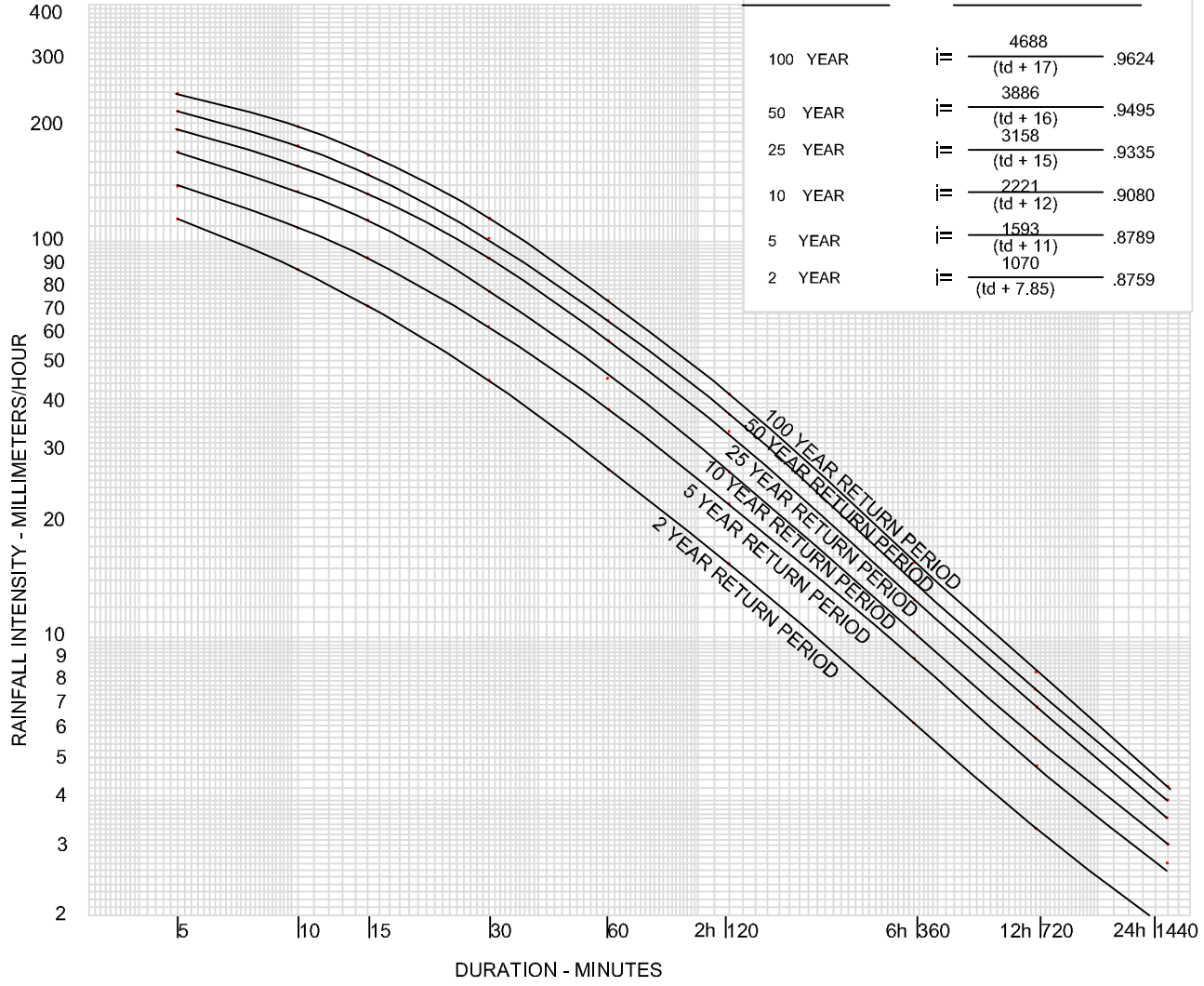
November 12, 2017

NOTTAWASAGA VALLEY CONSERVATION AUTHORITY

Nottawasaga Valley Conservation Authority





RETURN PERIOD	EQUATION OF CURVE	
100 YEAR	$i = \frac{4688}{(td + 17)}$	.9624
50 YEAR	$i = \frac{3886}{(td + 16)}$	.9495
25 YEAR	$i = \frac{3158}{(td + 15)}$	.9335
10 YEAR	$i = \frac{2221}{(td + 12)}$	.9080
5 YEAR	$i = \frac{1593}{(td + 11)}$	.8789
2 YEAR	$i = \frac{1070}{(td + 7.85)}$	.8759

INLET TIMES

SUBURBAN RESIDENTIAL	
(ROOF DRAINS UNCONNECTED)	15 min
(ROOF DRAINS CONNECTED)	10 min
SUBURBAN, COMMERCIAL, INDUSTRIAL MULTIPLE FAMILY	10 min
DOWNTOWN COMMERCIAL, HIGH DENSITY APARTMENTS, EXPRESSWAYS	5 min

RUNOFF COEFFICIENT

COMMERCIAL	
- DOWNTOWN & SUBURBAN SHOPPING	0.90
INDUSTRIAL	
- DOWNTOWN	0.90
- SUBURBAN INDUSTRIAL PARKS	0.75
RESIDENTIAL	
- APARTMENTS	0.75
- ROW DWELLINGS	0.70
- DUPLEX DWELLINGS	0.70
- SEMIDETACHED - DOWNTOWN	0.60
- SINGLE FAMILY - DOWNTOWN	0.60
- SEMIDETACHED - SUBURBAN	0.50
- SINGLE FAMILY - SUBURBAN	0.40
SCHOOLS, CHURCHES, HOSPITALS	0.75
PARKS, CEMETERIES, RAIL YARDS	
(OVER 4 Ha)	0.20
(UNDER 4 Ha)	0.25

TOWN OF CALEDON

RAINFALL INTENSITY CURVES

NO.	REVISION	APR'D	DATE
1	STANDARD 112.01 NOW 104		JUNE 08

APR'D: C.C. DATE: FEB 2000

DRAWN: BJM SCALE: N.T.S.

STANDARD No. 104

APPENDIX "E"

Floodplain Mapping

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table E.1: External Drainage Area - VO5 Model Parameters

Subcatchment	Area (ha)	DT (min)	TIMP	XIMP	CN II	IA (mm)	Tp (hr)
301	139.14	5	-	-	60	7.1	1.39
Total	**139.14**						

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table E.2: Calculation of CN Values, Initial Abstractions and Runoff Coefficients

Subcatchment	Area (ha)	Land Use and Land Cover		[1]CN II	Area Weighted CN II	[2]IA (mm)	Area Weighted IA (mm)	[3]C-Value	Area Weighted C-Value
		Type	Area (ha)						
		Woods (HSG 'AB')	36.35	46		**10**		0.08	
		Meadow (HSG 'AB')	24.30	51		**8**		0.10	
301	139.14	Cultivated (HSG 'AB')	36.47	68	**60**	**7**	**7.1**	0.22	**0.20**
		Lawn (HSG 'AB')	29.58	59		**5**		0.10	
		Impervious	12.44	100		**2**		0.95	

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table E.3: Calculation of Time to Peak (Airport Method)

Subcatchment	C Runoff Coefficient (Area Weighted)	L(m) Catchment Length	Highest Elevation (m)	Lowest Elevation (m)	S(%) Catchment Slope	$^{1}T_c$ (min)	$^{1}T_p$ (hr)
301	0.20	2235	321.00	290.00	1.39	124.5	1.39

Notes:
1) T_p calculation is based on the Airport Method:

$$T_c = 3.26 \times (1.1 - C) \times L^{0.5} / S_w^{0.33} \qquad T_P = 0.67 T_c$$

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table E.4: Summary of HEC-RAS Results - Regional Flow				
HEC-RAS Cross-Section		**Regional Flow Water Surface Elevation (m)**		
Existing	**Proposed**	**Existing**	**Proposed**	**Difference with Existing**
17	17	292.97	292.97	**0.00**
16	16	292.55	292.54	**-0.01**
15	15	292.49	292.38	**-0.11**
14	14	292.46	292.16	**-0.30**
13	13	292.46	292.17	**-0.29**
12	12.3	292.45	292.08	**-0.37**
	12.2		Prop. Culvert	
	12.1		291.02	**-1.43**
11	11	292.45	291.07	**-1.38**
10	10	292.45	291.02	**-1.43**
9	9	292.45	291.01	**-1.44**
8	8	292.45	290.90	**-1.55**
7	7	Ex./Prop. Culvert		
6	6	291.36	290.06	**-1.30**
5	5	288.25	288.25	**0.00**
4	4	287.77	287.77	**0.00**
3	3	287.45	287.45	**0.00**
2	2	287.14	287.14	**0.00**
1	1	286.35	286.35	**0.00**

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table E.5: HEC-RAS Output - Existing Conditions

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	17	Regional (Timmins)	5.90	292.63	292.97		293.02	0.009743	1.32	6.53	38.54	0.74
1	16	Regional (Timmins)	5.90	292.14	292.55		292.61	0.008473	1.38	6.09	29.73	0.71
1	15	Regional (Timmins)	5.90	291.95	292.49		292.50	0.001058	0.61	13.10	40.16	0.27
1	14	Regional (Timmins)	5.90	291.83	292.46		292.47	0.000776	0.40	19.99	54.53	0.16
1	13	Regional (Timmins)	5.90	291.51	292.46		292.46	0.000109	0.20	43.29	84.20	0.07
1	12	Regional (Timmins)	5.90	291.24	292.45		292.45	0.000036	0.14	62.15	90.64	0.04
1	11	Regional (Timmins)	5.90	291.06	292.45		292.45	0.000011	0.08	91.14	96.52	0.02
1	10	Regional (Timmins)	5.90	290.85	292.45		292.45	0.000006	0.06	112.96	102.44	0.02
1	9	Regional (Timmins)	5.90	290.66	292.45		292.45	0.00002	0.08	99.55	93.74	0.02
1	8	Regional (Timmins)	5.90	290.02	292.45	291.81	292.45	0.000012	0.08	122.27	109.62	0.02
1	7		Culvert									
1	6	Regional (Timmins)	5.90	289.77	291.36	291.36	291.36	0.000018	0.10	71.47	72.26	0.03
1	5	Regional (Timmins)	5.90	287.73	288.25		288.34	0.023417	1.34	4.49	15.34	0.74
1	4	Regional (Timmins)	5.90	287.00	287.77		287.81	0.006739	0.92	6.58	15.73	0.42
1	3	Regional (Timmins)	5.90	286.64	287.45		287.50	0.007428	1.01	6.15	15.13	0.45
1	2	Regional (Timmins)	5.90	286.30	287.14		287.18	0.007384	0.90	6.58	15.56	0.43
1	1	Regional (Timmins)	5.90	285.60	286.35	286.35	286.51	0.044444	1.76	3.35	10.61	1.00

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table E.6: HEC-RAS Output - Proposed Conditions

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	17	Regional (Timmins)	5.90	292.63	292.97		293.02	0.009056	1.29	6.71	39.08	0.72
1	16	Regional (Timmins)	5.90	292.14	292.54		292.60	0.009209	1.42	5.90	29.26	0.74
1	15	Regional (Timmins)	5.90	291.95	292.38		292.41	0.002781	0.85	9.18	34.12	0.42
1	14	Regional (Timmins)	5.90	291.83	292.16		292.20	0.016199	1.17	6.66	34.20	0.67
1	13	Regional (Timmins)	5.90	290.24	292.17		292.17	0.000151	0.38	26.13	38.78	0.09
1	12.3	Regional (Timmins)	5.90	290.10	292.08	290.90	292.15	0.001246	1.11	5.32	33.80	0.25
1	12.2		Culvert									
1	12.1	Regional (Timmins)	5.90	289.93	291.02	290.73	291.23	0.009464	2.04	2.90	10.28	0.63
1	11	Regional (Timmins)	5.90	289.86	291.07		291.09	0.001335	0.82	8.83	11.00	0.24
1	10	Regional (Timmins)	5.90	289.68	291.02		291.05	0.001126	0.81	11.87	33.25	0.22
1	9	Regional (Timmins)	5.90	289.52	291.01		291.02	0.000412	0.53	17.35	34.50	0.14
1	8	Regional (Timmins)	5.90	289.40	290.90	290.23	290.98	0.002556	1.31	4.70	34.31	0.34
1	7		Culvert									
1	6	Regional (Timmins)	5.90	289.25	290.06	290.06	290.39	0.027607	2.6	2.38	36.85	0.93
1	5	Regional (Timmins)	5.90	287.73	288.25		288.34	0.023417	1.34	4.49	15.34	0.74
1	4	Regional (Timmins)	5.90	287.00	287.77		287.81	0.006739	0.92	6.58	15.73	0.42
1	3	Regional (Timmins)	5.90	286.64	287.45		287.50	0.007428	1.01	6.15	15.13	0.45
1	2	Regional (Timmins)	5.90	286.30	287.14		287.18	0.007384	0.9	6.58	15.56	0.43
1	1	Regional (Timmins)	5.90	285.60	286.35	286.35	286.51	0.044444	1.76	3.35	10.61	1.00

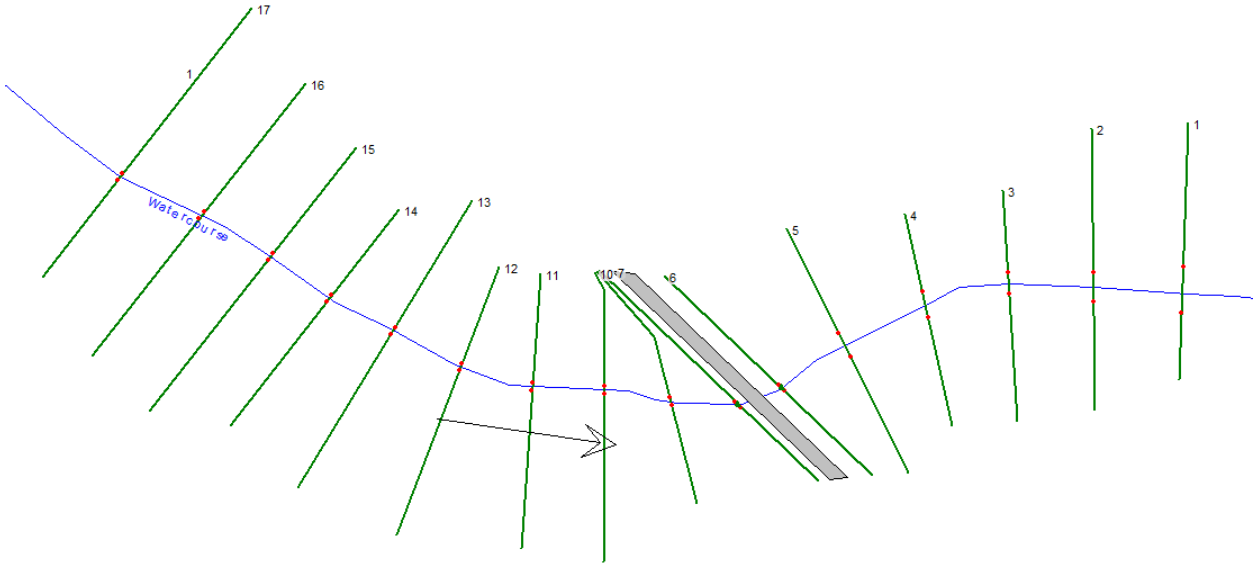


Figure E.1: HEC-RAS Model Schematic – Existing Condition

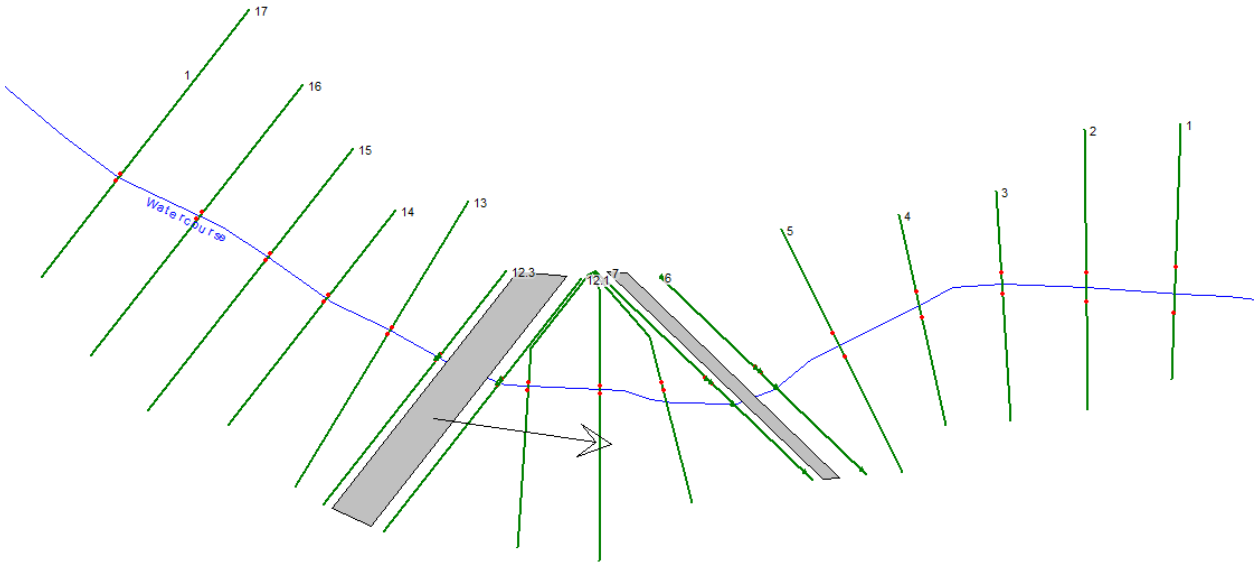


Figure E.2: HEC-RAS Model Schematic – Proposed Condition

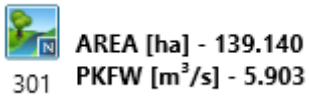


Figure E.3: VO5 Model Schematic – Flow for Floodplain Mapping

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================================================================================
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
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DATE: 05-24-2018                          TIME: 03:51:37

USER:
```

COMMENTS: **VO5 Model Output – Flow for Floodplain Mapping**

```
--------------------------------------------------------------------------------------------------
--------------
  ************************************************
  ** SIMULATION : Chicago_4hr_100yr             **
  ************************************************


-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              044de69d-3027-42d0-b604-39d8a8aa92be\7454d05d
| Ptotal= 89.89 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD   (  0301)|   Area    (ha)= 139.14   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.10   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.39

     Unit Hyd Qpeak  (cms)=   3.823

     PEAK FLOW       (cms)=   3.475 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=  27.185
     TOTAL RAINFALL   (mm)=  89.888
     RUNOFF COEFFICIENT   =   0.302

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 05-24-2018                          TIME: 03:51:37

USER:


COMMENTS: _____________________________________________________

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  ************************************************
  ** SIMULATION : SCS_24hr_100yr                **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              044de69d-3027-42d0-b604-39d8a8aa92be\8aca5f92
| Ptotal=119.47 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.39 | 12.75   17.21 | 19.00    2.15
                0.50    1.20 |  6.75    2.39 | 13.00    8.84 | 19.25    2.15
                0.75    1.20 |  7.00    2.39 | 13.25    8.84 | 19.50    2.15
```

1.00	1.20	7.25	2.39	13.50	1.67	19.75	2.15
1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15
1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43
2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43
2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43
3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43
4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43
4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

CALIB			
NASHYD (0301)	Area (ha)= 139.14	Curve Number (CN)= 60.0	
ID= 1 DT= 5.0 min	Ia (mm)= 7.10	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 1.39		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

Unit Hyd Qpeak (cms)= 3.823

PEAK FLOW (cms)= 3.795 (i)
TIME TO PEAK (hrs)= 13.583
RUNOFF VOLUME (mm)= 44.822
TOTAL RAINFALL (mm)= 119.468
RUNOFF COEFFICIENT = 0.375

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
```

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                ***** D E T A I L E D   O U T P U T *****


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f5bcedbf072b\02a15476-f52d-42ef-b14e-6896fd5b9043\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\02a15476-f52d-42ef-b14e-6896fd5b9043\scena


DATE: 05-24-2018                          TIME: 03:51:37

USER:


COMMENTS: _____________________________________________________


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  ************************************************
  ** SIMULATION : TIMMINS                       **
  ************************************************


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|                  |              044de69d-3027-42d0-b604-39d8a8aa92be\054db87d
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                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25   15.00 |  3.25    3.00 |  6.25   43.00 |  9.25   13.00
                0.50   15.00 |  3.50    3.00 |  6.50   43.00 |  9.50   13.00
                0.75   15.00 |  3.75    3.00 |  6.75   43.00 |  9.75   13.00
                1.00   15.00 |  4.00    3.00 |  7.00   43.00 | 10.00   13.00
                1.25   20.00 |  4.25    5.00 |  7.25   20.00 | 10.25   13.00
                1.50   20.00 |  4.50    5.00 |  7.50   20.00 | 10.50   13.00
                1.75   20.00 |  4.75    5.00 |  7.75   20.00 | 10.75   13.00
                2.00   20.00 |  5.00    5.00 |  8.00   20.00 | 11.00   13.00
                2.25   10.00 |  5.25   20.00 |  8.25   23.00 | 11.25    8.00
                2.50   10.00 |  5.50   20.00 |  8.50   23.00 | 11.50    8.00
                2.75   10.00 |  5.75   20.00 |  8.75   23.00 | 11.75    8.00
                3.00   10.00 |  6.00   20.00 |  9.00   23.00 | 12.00    8.00

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-------------------
| CALIB            |
| NASHYD   (  0301)|   Area    (ha)= 139.14   Curve Number   (CN)= 60.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.10   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   1.39

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083   15.00 | 3.083    3.00 | 6.083   43.00 |  9.08   13.00
               0.167   15.00 | 3.167    3.00 | 6.167   43.00 |  9.17   13.00
               0.250   15.00 | 3.250    3.00 | 6.250   43.00 |  9.25   13.00
               0.333   15.00 | 3.333    3.00 | 6.333   43.00 |  9.33   13.00
               0.417   15.00 | 3.417    3.00 | 6.417   43.00 |  9.42   13.00
               0.500   15.00 | 3.500    3.00 | 6.500   43.00 |  9.50   13.00
               0.583   15.00 | 3.583    3.00 | 6.583   43.00 |  9.58   13.00
               0.667   15.00 | 3.667    3.00 | 6.667   43.00 |  9.67   13.00
               0.750   15.00 | 3.750    3.00 | 6.750   43.00 |  9.75   13.00
               0.833   15.00 | 3.833    3.00 | 6.833   43.00 |  9.83   13.00
               0.917   15.00 | 3.917    3.00 | 6.917   43.00 |  9.92   13.00
               1.000   15.00 | 4.000    3.00 | 7.000   43.00 | 10.00   13.00
               1.083   20.00 | 4.083    5.00 | 7.083   20.00 | 10.08   13.00
               1.167   20.00 | 4.167    5.00 | 7.167   20.00 | 10.17   13.00
               1.250   20.00 | 4.250    5.00 | 7.250   20.00 | 10.25   13.00
               1.333   20.00 | 4.333    5.00 | 7.333   20.00 | 10.33   13.00
               1.417   20.00 | 4.417    5.00 | 7.417   20.00 | 10.42   13.00
               1.500   20.00 | 4.500    5.00 | 7.500   20.00 | 10.50   13.00
               1.583   20.00 | 4.583    5.00 | 7.583   20.00 | 10.58   13.00
               1.667   20.00 | 4.667    5.00 | 7.667   20.00 | 10.67   13.00
               1.750   20.00 | 4.750    5.00 | 7.750   20.00 | 10.75   13.00
               1.833   20.00 | 4.833    5.00 | 7.833   20.00 | 10.83   13.00
               1.917   20.00 | 4.917    5.00 | 7.917   20.00 | 10.92   13.00
               2.000   20.00 | 5.000    5.00 | 8.000   20.00 | 11.00   13.00
               2.083   10.00 | 5.083   20.00 | 8.083   23.00 | 11.08    8.00
               2.167   10.00 | 5.167   20.00 | 8.167   23.00 | 11.17    8.00
               2.250   10.00 | 5.250   20.00 | 8.250   23.00 | 11.25    8.00
               2.333   10.00 | 5.333   20.00 | 8.333   23.00 | 11.33    8.00
               2.417   10.00 | 5.417   20.00 | 8.417   23.00 | 11.42    8.00
               2.500   10.00 | 5.500   20.00 | 8.500   23.00 | 11.50    8.00
               2.583   10.00 | 5.583   20.00 | 8.583   23.00 | 11.58    8.00
               2.667   10.00 | 5.667   20.00 | 8.667   23.00 | 11.67    8.00
               2.750   10.00 | 5.750   20.00 | 8.750   23.00 | 11.75    8.00
               2.833   10.00 | 5.833   20.00 | 8.833   23.00 | 11.83    8.00
               2.917   10.00 | 5.917   20.00 | 8.917   23.00 | 11.92    8.00
               3.000   10.00 | 6.000   20.00 | 9.000   23.00 | 12.00    8.00

    Unit Hyd Qpeak  (cms)=   3.823

    PEAK FLOW       (cms)=   5.903 (i)
    TIME TO PEAK    (hrs)=   9.250
    RUNOFF VOLUME    (mm)=  97.285
    TOTAL RAINFALL   (mm)= 193.000
    RUNOFF COEFFICIENT   =   0.504

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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APPENDIX "F"

Stormwater Management Calculations

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table F.1: Existing Condition - VO5 Model Parameters

Subcatchment	Area (ha)	VO5 Routine	TIMP	XIMP	CN II	IA (mm)	Tp (hr)
101	3.67	NasHyd	-	-	68	7.0	0.33
102	1.10	NasHyd	-	-	59	5.0	0.37
103	2.58	NasHyd	-	-	68	7.0	0.40
104	3.97	NasHyd	-	-	68	7.0	0.46
Total	**11.32**						

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table F.2: Proposed Condition - VO5 Model Parameters

Subcatchment	Area (ha)	VO5 Routine	TIMP	XIMP	CN II	IA (mm)	Tp (hr)
201	3.47	NasHyd	-	-	61	4.9	0.35
202	1.10				[1]N/A		
203	1.76	StandHyd	35	20	59	5.0	-
204	1.52	NasHyd	-	-	61	4.9	0.32
205	3.47	NasHyd	-	-	59	5.0	0.50
Total	**11.32**						

Notes:
1) *Catchment 202* consists of external areas that might be development in the future. Should this area be developed, it is to provide its own stormwater management infrastructure (likely in the form of bioretention swales) in order to maintain pre-development flows. The associated pre-development catchment (*Catchment 102*) is therefore used in the proposed conditions VO5 model to simulate discharge from this catchment at pre-development flow rates.

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table F.3: Calculation of CN Values, Initial Abstractions and Runoff Coefficients

Subcatchment	Area (ha)	Land Use and Land Cover		[1]CN II	Area Weighted CN II	[2]IA (mm)	Area Weighted IA (mm)	[3]C-Value	Area Weighted C-Value
		Type	Area (ha)						
		Woods (HSG 'AB')	0.00	46		**10**		0.08	
		Meadows (HSG 'AB')	0.00	51		**8**		0.10	
101	3.67	Cultivated (HSG 'AB')	3.67	68	**68**	**7**	**7.0**	0.22	**0.22**
		Lawns (HSG 'AB')	0.00	59		**5**		0.10	
		Other Impervious	0.00	100		**2**		0.95	

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Table F.4: Calculation of Time to Peak (Airport Method)

Subcatchment	C Runoff Coefficient (Area Weighted)	L(m) Catchment Length	Highest Elevation (m)	Lowest Elevation (m)	S(%) Catchment Slope	^1T_c (min)	^1T_p (hr)
101	0.22	241	298.25	289.50	3.63	29.2	0.33
102	0.10	121	299.00	297.50	1.24	33.5	0.37
103	0.22	203	297.50	294.50	1.48	36.0	0.40
104	0.22	333	297.50	290.50	2.10	41.1	0.46
201	0.14	241	298.25	289.50	3.63	31.8	0.35
204	0.13	122	296.75	294.50	1.84	28.5	0.32
205	0.13	333	297.50	290.50	2.10	45.1	0.50

Notes:
1) T_p calculation is based on the Airport Method: $T_c = 3.26 \times (1.1 - C) \times L^{0.5} / S_w^{0.33}$ $T_P = 0.67 T_c$

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Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table F.5: Bioswale Storage Trench Dimensions and Equivalent Bottom Area

Bioswale #	Length (m)	Width (m)	Total Bottom Area (m^2)	Void Ratio	Equivalent Bottom Area Available for Storage Based on Void Ratio (m^2)
1	37.0	1.2	44.4	0.4	17.8
2	64.0	1.2	76.8	0.4	30.7
3	67.0	1.2	80.4	0.4	32.2
4	30.0	1.2	36.0	0.4	14.4
5	38.0	1.2	45.6	0.4	18.2
6	52.0	1.2	62.4	0.4	25.0
7	34.0	1.2	40.8	0.4	16.3
8	45.0	1.2	54.0	0.4	21.6
9	49.0	1.2	58.8	0.4	23.5
10	32.0	1.2	38.4	0.4	15.4
11	25.0	1.2	30.0	0.4	12.0
12	25.0	1.2	30.0	0.4	12.0
Total	498.0	-	597.6	-	**239.0**

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Date: May 2018

Table F.6: Bioswale Storage Trench Stage/Storage/Discharge Curve

Stage Storage Curve						Outlet Structure				
Elevation Above Bottom of Trench (m)	[1]Total Trench Sectional Area (m^2)	Average Bottom Area (m^2)	Sectional Volume (m^3)	Cumulative Volume (m^3)	Active Storage (m^3)	Invert Elevation(m) Diameter(mm)/Length(m) Box Orifice Height (m) Orifice Area (m^2)	Stage Active (m)	Discharge (m^3/s) Typ. Orifice 0.30 75 - 0.0044	Discharge (m^3/s) [2]Total Flow (1 orifice per trench for a total of 12 orifices)	**Comments:**
										Spillway Design: $Q=1.67xLxH^{1.5}$ Orifice Eq'n: $Q = 0.6A(2gH)^{0.5}$
0.00	239	-	-	0		**Bottom of Trench**				**Infiltration Provided Below Outlet Invert**
0.10	239	239	24	24						
0.20	239	239	24	48						
0.30	239	239	24	72	0	**Outlet Invert**	0.00	0.000	**0.000**	
0.40	239	239	24	96	24		0.10	0.002	**0.028**	
0.50	239	239	24	120	48		0.20	0.005	**0.057**	
0.60	239	239	24	143	72		0.30	0.006	**0.072**	
0.70	239	239	24	167	96		0.40	0.007	**0.085**	
0.80	239	239	24	191	120		0.50	0.008	**0.096**	
0.90	239	239	24	215	143		0.60	0.009	**0.106**	
1.00	239	239	24	239	167		0.70	0.010	**0.115**	
1.10	239	239	24	263	191		0.80	0.010	**0.123**	
1.20	239	239	24	287	215		0.90	0.011	**0.131**	
1.30	239	239	24	311	239		1.00	0.012	**0.138**	
1.40	239	239	24	335	263		1.10	0.012	**0.145**	
1.50	239	239	24	359	287	**Top of Trench**	1.20	0.013	**0.152**	
2.30	0	0	0	359	287	**Ground/Top of Swale**	2.00	0.016	**0.197**	

NOTES:
1) The total trench sectional area is based on the equivalent trench bottom area available for storage, based on the void ratio, as indicated in **Table F.5**.
2) Each of the 12 bioswales will be equipped with a 75 mm diameter orifice. The total discharge (as entered into the VO5 model) is therefore 12x the discharge of a single 75 mm orifice.

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File: 17122
Date: May 2018

Table F.7: TSS Removal (Site Drainage Area to Bioswales)

Surface Type	[1]Area (Ha)	Effective TSS Removal	% Area	Weighted Overall TSS Removal
Rooftop	0.040	80%	2.3%	1.8%
Pavement	0.575	0%	32.7%	0.0%
Landscape	1.145	80%	65.1%	52.0%
Total (before bioswales)	1.760		100.0%	**53.9%**
[2]Bioswales provide an additional 75% removal rate to the remaining possible TSS removal of 46.1% (ie. 100.0% - 53.9% = 46.1%), for an additional overall TSS removal of 34.6% (46.1% x 75% = 34.6 %).		75%	100.0%	34.6%
Total (after bioswales)	1.760		100.0%	**88.5%**

Notes:
1) Only the proposed development draining to the bioswales (*Catchment 203* , 1.76 ha) is considered for the quality control calculations. If the external drainage area is to be developed in the future, it shall provided it's own quality control.
2) The proposed bioswales have a TSS removal efficiency of 75%, as per *Section 3.6.1 - LID/Best Management Practices Removal Efficiencies* of the *Low Impact Development Treatment Train Tool Help Guide* (Lake Simcoe Region Conservation Authority, Credit Valley Conservation, Toronto and Region Conservation Authority, 2017).

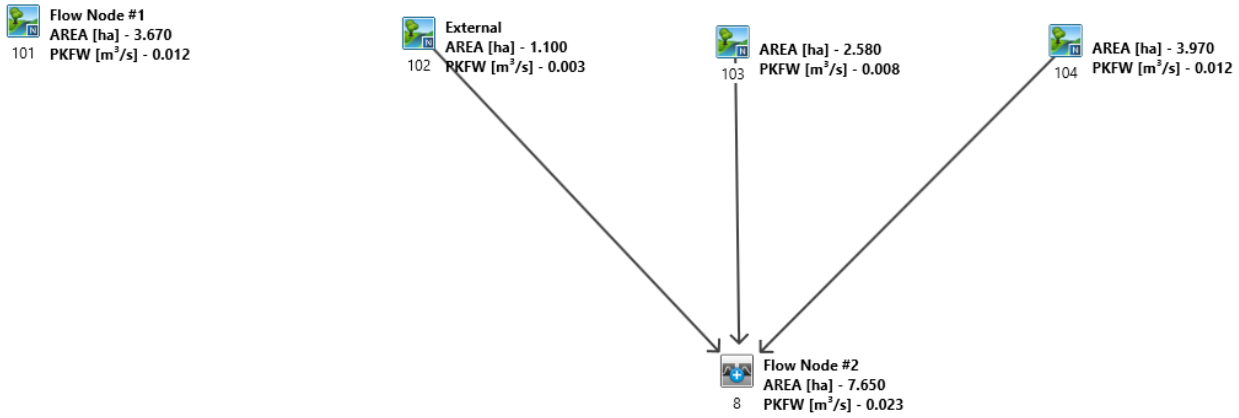

Figure F.1: VO5 Model Schematic – Pre-Development Condition

Bioswale Flow Velocity: 25mm Event

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.035	
Channel Slope	0.02000	m/m
Left Side Slope	5.00	m/m (H:V)
Right Side Slope	5.00	m/m (H:V)
Discharge	0.019	m³/s

Results

Normal Depth	0.09	m
Flow Area	0.04	m²
Wetted Perimeter	0.89	m
Hydraulic Radius	0.04	m
Top Width	0.88	m
Critical Depth	0.08	m
Critical Slope	0.03632	m/m
Velocity	0.50	m/s
Velocity Head	0.01	m
Specific Energy	0.10	m
Froude Number	0.76	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.09	m
Critical Depth	0.08	m
Channel Slope	0.02000	m/m
Critical Slope	0.03632	m/m

Bioswale Flow Capacity: 5-year Event

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.035	
Channel Slope	0.00500	m/m
Left Side Slope	5.00	m/m (H:V)
Right Side Slope	5.00	m/m (H:V)
Discharge	0.128	m³/s

Results

Normal Depth	0.23	m
Flow Area	0.27	m²
Wetted Perimeter	2.37	m
Hydraulic Radius	0.11	m
Top Width	2.32	m
Critical Depth	0.17	m
Critical Slope	0.02816	m/m
Velocity	0.47	m/s
Velocity Head	0.01	m
Specific Energy	0.24	m
Froude Number	0.44	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.23	m
Critical Depth	0.17	m
Channel Slope	0.00500	m/m
Critical Slope	0.02816	m/m

```
================================================================================
==============

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\139fa7b4-9e76-4048-a09b-ba8450b62eb6\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\139fa7b4-9e76-4048-a09b-ba8450b62eb6\scena


DATE: 05-29-2018                          TIME: 01:23:16

USER:


COMMENTS: VO5 Model Output – Existing Conditions


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  ************************************************
  ** SIMULATION : 25mmchi                       **
  ************************************************


-------------------
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|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\3ef95cde
| Ptotal= 25.02 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
                0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
                0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
                0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
                0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
                1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.33

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
               0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
               0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
               0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
               0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
               0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
               0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
               0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
               0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
               0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
               0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
               1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23

    Unit Hyd Qpeak  (cms)=   0.425

    PEAK FLOW       (cms)=   0.012 (i)
    TIME TO PEAK    (hrs)=   2.083
    RUNOFF VOLUME    (mm)=   2.361
    TOTAL RAINFALL   (mm)=  25.023
    RUNOFF COEFFICIENT   =   0.094

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\3ef95cde
| Ptotal= 25.02 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
                0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
                0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
                0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
                0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
                1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

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-------------------
| CALIB           |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
               0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
               0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
               0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
               0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
               0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
               0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
               0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
               0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
               0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
               0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
               1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23
```

```
     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=   2.039
     TOTAL RAINFALL   (mm)=  25.023
     RUNOFF COEFFICIENT   =   0.081

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\3ef95cde
| Ptotal= 25.02 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
               0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
               0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
               0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
               0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
               1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0103)|   Area    (ha)=   2.58   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.40

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                           ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
              0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
              0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
              0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
              0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
              0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
              0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
              0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
              0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
              0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
              0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
              1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23

     Unit Hyd Qpeak  (cms)=   0.246

     PEAK FLOW       (cms)=   0.008 (i)
     TIME TO PEAK    (hrs)=   2.167
     RUNOFF VOLUME    (mm)=   2.361
     TOTAL RAINFALL   (mm)=  25.023
     RUNOFF COEFFICIENT   =   0.094

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\3ef95cde
| Ptotal= 25.02 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
               0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
               0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
               0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
               0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
               1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

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--------------------
| CALIB            |
| NASHYD   (  0104)|   Area    (ha)=   3.97   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.46

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                           ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
              0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
              0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
              0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
              0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
              0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
              0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
              0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
              0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
              0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
              0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
              1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23

     Unit Hyd Qpeak  (cms)=   0.330

     PEAK FLOW       (cms)=   0.012 (i)
     TIME TO PEAK    (hrs)=   2.333
     RUNOFF VOLUME    (mm)=   2.361
     TOTAL RAINFALL   (mm)=  25.023
     RUNOFF COEFFICIENT   =   0.094

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.003     2.08     2.04
     + ID2= 2 (  0103):     2.58   0.008     2.17     2.36
       ================================================
       ID = 3 (  0008):     3.68   0.011     2.17     2.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0008)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0008):     3.68   0.011     2.17     2.26
     + ID2= 2 (  0104):     3.97   0.012     2.33     2.36
```

```
       ================================================
       ID = 1 (  0008):     7.65   0.023     2.25     2.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

 FINISH
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==============

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\6250bdea-6198-45fd-83b1-3d7d4d24bdfb\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\6250bdea-6198-45fd-83b1-3d7d4d24bdfb\scena


DATE: 05-29-2018                          TIME: 01:23:16

USER:



COMMENTS: _____________________________________________________________

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  **********************************************
  ** SIMULATION : Chicago_4hr_002yr           **
  **********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\8ab5ad10
| Ptotal= 34.23 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    1.40 |  1.08    9.12 |  2.08    5.13 |  3.08    2.01
                0.17    1.51 |  1.17   15.46 |  2.17    4.55 |  3.17    1.91
                0.25    1.63 |  1.25   39.29 |  2.25    4.08 |  3.25    1.82
                0.33    1.78 |  1.33  114.31 |  2.33    3.70 |  3.33    1.74
                0.42    1.95 |  1.42   51.17 |  2.42    3.38 |  3.42    1.67
                0.50    2.17 |  1.50   27.46 |  2.50    3.12 |  3.50    1.60
                0.58    2.44 |  1.58   17.94 |  2.58    2.89 |  3.58    1.54
                0.67    2.78 |  1.67   13.02 |  2.67    2.69 |  3.67    1.48
                0.75    3.24 |  1.75   10.09 |  2.75    2.52 |  3.75    1.43
                0.83    3.88 |  1.83    8.18 |  2.83    2.37 |  3.83    1.38
                0.92    4.83 |  1.92    6.85 |  2.92    2.23 |  3.92    1.34
                1.00    6.35 |  2.00    5.87 |  3.00    2.11 |  4.00    1.29

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.33

     Unit Hyd Qpeak  (cms)=   0.425

     PEAK FLOW       (cms)=   0.043 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=   5.049
     TOTAL RAINFALL   (mm)=  34.225
     RUNOFF COEFFICIENT   =   0.148

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\8ab5ad10
| Ptotal= 34.23 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    1.40 |  1.08    9.12 |  2.08    5.13 |  3.08    2.01
                0.17    1.51 |  1.17   15.46 |  2.17    4.55 |  3.17    1.91
                0.25    1.63 |  1.25   39.29 |  2.25    4.08 |  3.25    1.82
                0.33    1.78 |  1.33  114.31 |  2.33    3.70 |  3.33    1.74
                0.42    1.95 |  1.42   51.17 |  2.42    3.38 |  3.42    1.67
                0.50    2.17 |  1.50   27.46 |  2.50    3.12 |  3.50    1.60
                0.58    2.44 |  1.58   17.94 |  2.58    2.89 |  3.58    1.54
                0.67    2.78 |  1.67   13.02 |  2.67    2.69 |  3.67    1.48
                0.75    3.24 |  1.75   10.09 |  2.75    2.52 |  3.75    1.43
                0.83    3.88 |  1.83    8.18 |  2.83    2.37 |  3.83    1.38
                0.92    4.83 |  1.92    6.85 |  2.92    2.23 |  3.92    1.34
                1.00    6.35 |  2.00    5.87 |  3.00    2.11 |  4.00    1.29

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.010 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=   4.150
     TOTAL RAINFALL   (mm)=  34.225
     RUNOFF COEFFICIENT   =   0.121

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
```

```
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\8ab5ad10
| Ptotal= 34.23 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    1.40 |  1.08    9.12 |  2.08    5.13 |  3.08    2.01
                0.17    1.51 |  1.17   15.46 |  2.17    4.55 |  3.17    1.91
                0.25    1.63 |  1.25   39.29 |  2.25    4.08 |  3.25    1.82
                0.33    1.78 |  1.33  114.31 |  2.33    3.70 |  3.33    1.74
                0.42    1.95 |  1.42   51.17 |  2.42    3.38 |  3.42    1.67
                0.50    2.17 |  1.50   27.46 |  2.50    3.12 |  3.50    1.60
                0.58    2.44 |  1.58   17.94 |  2.58    2.89 |  3.58    1.54
                0.67    2.78 |  1.67   13.02 |  2.67    2.69 |  3.67    1.48
                0.75    3.24 |  1.75   10.09 |  2.75    2.52 |  3.75    1.43
                0.83    3.88 |  1.83    8.18 |  2.83    2.37 |  3.83    1.38
                0.92    4.83 |  1.92    6.85 |  2.92    2.23 |  3.92    1.34
                1.00    6.35 |  2.00    5.87 |  3.00    2.11 |  4.00    1.29

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-------------------
| CALIB           |
| NASHYD   (  0103)|   Area    (ha)=   2.58   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.40

     Unit Hyd Qpeak  (cms)=   0.246

     PEAK FLOW       (cms)=   0.027 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=   5.050
     TOTAL RAINFALL   (mm)=  34.225
     RUNOFF COEFFICIENT   =   0.148

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\8ab5ad10
| Ptotal= 34.23 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    1.40 |  1.08    9.12 |  2.08    5.13 |  3.08    2.01
                0.17    1.51 |  1.17   15.46 |  2.17    4.55 |  3.17    1.91
                0.25    1.63 |  1.25   39.29 |  2.25    4.08 |  3.25    1.82
                0.33    1.78 |  1.33  114.31 |  2.33    3.70 |  3.33    1.74
                0.42    1.95 |  1.42   51.17 |  2.42    3.38 |  3.42    1.67
                0.50    2.17 |  1.50   27.46 |  2.50    3.12 |  3.50    1.60
                0.58    2.44 |  1.58   17.94 |  2.58    2.89 |  3.58    1.54
                0.67    2.78 |  1.67   13.02 |  2.67    2.69 |  3.67    1.48
                0.75    3.24 |  1.75   10.09 |  2.75    2.52 |  3.75    1.43
                0.83    3.88 |  1.83    8.18 |  2.83    2.37 |  3.83    1.38
                0.92    4.83 |  1.92    6.85 |  2.92    2.23 |  3.92    1.34
                1.00    6.35 |  2.00    5.87 |  3.00    2.11 |  4.00    1.29

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-------------------
| CALIB           |
| NASHYD   (  0104)|   Area    (ha)=   3.97   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.46

     Unit Hyd Qpeak  (cms)=   0.330

     PEAK FLOW       (cms)=   0.038 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=   5.050
     TOTAL RAINFALL   (mm)=  34.225
     RUNOFF COEFFICIENT   =   0.148

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.010     1.83     4.15
     + ID2= 2 (  0103):     2.58   0.027     1.92     5.05
       ================================================
       ID = 3 (  0008):     3.68   0.037     1.83     4.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0008)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0008):     3.68   0.037     1.83     4.78
     + ID2= 2 (  0104):     3.97   0.038     2.00     5.05
       ================================================
       ID = 1 (  0008):     7.65   0.074     1.92     4.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\dc9c8a8d-1272-4df6-936d-38af232cde52\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\dc9c8a8d-1272-4df6-936d-38af232cde52\scena


DATE: 05-29-2018                          TIME: 01:23:16

USER:


COMMENTS: _____________________________________________________
```

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--------------------------------------------------------------------------------
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  ************************************************
  ** SIMULATION : Chicago_4hr_005yr             **
  ************************************************


--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\8138b3db
| Ptotal= 49.56 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.14 |  1.08   14.73 |  2.08    8.24 |  3.08    3.11
                0.17    2.31 |  1.17   24.60 |  2.17    7.29 |  3.17    2.96
                0.25    2.51 |  1.25   57.39 |  2.25    6.52 |  3.25    2.82
                0.33    2.75 |  1.33  139.29 |  2.33    5.89 |  3.33    2.69
                0.42    3.03 |  1.42   72.74 |  2.42    5.37 |  3.42    2.57
                0.50    3.38 |  1.50   42.12 |  2.50    4.93 |  3.50    2.46
                0.58    3.82 |  1.58   28.38 |  2.58    4.55 |  3.58    2.36
                0.67    4.39 |  1.67   20.88 |  2.67    4.23 |  3.67    2.27
                0.75    5.14 |  1.75   16.28 |  2.75    3.95 |  3.75    2.19
                0.83    6.20 |  1.83   13.22 |  2.83    3.70 |  3.83    2.11
                0.92    7.75 |  1.92   11.05 |  2.92    3.48 |  3.92    2.04
                1.00   10.24 |  2.00    9.46 |  3.00    3.29 |  4.00    1.97

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-------------------
| CALIB           |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.33

     Unit Hyd Qpeak  (cms)=   0.425

     PEAK FLOW       (cms)=   0.095 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  11.174
     TOTAL RAINFALL   (mm)=  49.565
     RUNOFF COEFFICIENT   =   0.225

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\8138b3db
| Ptotal= 49.56 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.14 |  1.08   14.73 |  2.08    8.24 |  3.08    3.11
                0.17    2.31 |  1.17   24.60 |  2.17    7.29 |  3.17    2.96
                0.25    2.51 |  1.25   57.39 |  2.25    6.52 |  3.25    2.82
                0.33    2.75 |  1.33  139.29 |  2.33    5.89 |  3.33    2.69
                0.42    3.03 |  1.42   72.74 |  2.42    5.37 |  3.42    2.57
                0.50    3.38 |  1.50   42.12 |  2.50    4.93 |  3.50    2.46
                0.58    3.82 |  1.58   28.38 |  2.58    4.55 |  3.58    2.36
                0.67    4.39 |  1.67   20.88 |  2.67    4.23 |  3.67    2.27
                0.75    5.14 |  1.75   16.28 |  2.75    3.95 |  3.75    2.19
                0.83    6.20 |  1.83   13.22 |  2.83    3.70 |  3.83    2.11
                0.92    7.75 |  1.92   11.05 |  2.92    3.48 |  3.92    2.04
                1.00   10.24 |  2.00    9.46 |  3.00    3.29 |  4.00    1.97

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=   8.981
     TOTAL RAINFALL   (mm)=  49.565
     RUNOFF COEFFICIENT   =   0.181

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\8138b3db
| Ptotal= 49.56 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.14 |  1.08   14.73 |  2.08    8.24 |  3.08    3.11
                0.17    2.31 |  1.17   24.60 |  2.17    7.29 |  3.17    2.96
                0.25    2.51 |  1.25   57.39 |  2.25    6.52 |  3.25    2.82
                0.33    2.75 |  1.33  139.29 |  2.33    5.89 |  3.33    2.69
                0.42    3.03 |  1.42   72.74 |  2.42    5.37 |  3.42    2.57
                0.50    3.38 |  1.50   42.12 |  2.50    4.93 |  3.50    2.46
                0.58    3.82 |  1.58   28.38 |  2.58    4.55 |  3.58    2.36
                0.67    4.39 |  1.67   20.88 |  2.67    4.23 |  3.67    2.27
                0.75    5.14 |  1.75   16.28 |  2.75    3.95 |  3.75    2.19
                0.83    6.20 |  1.83   13.22 |  2.83    3.70 |  3.83    2.11
                0.92    7.75 |  1.92   11.05 |  2.92    3.48 |  3.92    2.04
                1.00   10.24 |  2.00    9.46 |  3.00    3.29 |  4.00    1.97

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0103)|   Area    (ha)=   2.58   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.40

     Unit Hyd Qpeak  (cms)=   0.246

     PEAK FLOW       (cms)=   0.059 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  11.175
     TOTAL RAINFALL   (mm)=  49.565
     RUNOFF COEFFICIENT   =   0.225

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\8138b3db
| Ptotal= 49.56 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.14 |  1.08   14.73 |  2.08    8.24 |  3.08    3.11
```

```
               0.17    2.31 |  1.17   24.60 |  2.17    7.29 |  3.17    2.96
               0.25    2.51 |  1.25   57.39 |  2.25    6.52 |  3.25    2.82
               0.33    2.75 |  1.33  139.29 |  2.33    5.89 |  3.33    2.69
               0.42    3.03 |  1.42   72.74 |  2.42    5.37 |  3.42    2.57
               0.50    3.38 |  1.50   42.12 |  2.50    4.93 |  3.50    2.46
               0.58    3.82 |  1.58   28.38 |  2.58    4.55 |  3.58    2.36
               0.67    4.39 |  1.67   20.88 |  2.67    4.23 |  3.67    2.27
               0.75    5.14 |  1.75   16.28 |  2.75    3.95 |  3.75    2.19
               0.83    6.20 |  1.83   13.22 |  2.83    3.70 |  3.83    2.11
               0.92    7.75 |  1.92   11.05 |  2.92    3.48 |  3.92    2.04
               1.00   10.24 |  2.00    9.46 |  3.00    3.29 |  4.00    1.97

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0104)|   Area    (ha)=   3.97   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.46

     Unit Hyd Qpeak  (cms)=   0.330

     PEAK FLOW       (cms)=   0.084 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  11.176
     TOTAL RAINFALL   (mm)=  49.565
     RUNOFF COEFFICIENT   =   0.225

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0102):     1.10   0.022     1.83     8.98
      + ID2= 2 (  0103):     2.58   0.059     1.92    11.18
        ================================================
        ID = 3 (  0008):     3.68   0.081     1.83    10.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0008)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0008):     3.68   0.081     1.83    10.52
      + ID2= 2 (  0104):     3.97   0.084     1.92    11.18
        ========================================================
        ID = 1 (  0008):     7.65   0.164     1.92    10.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================================
==============

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```

```
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                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\2a2e1d49-b5c7-47c0-9895-4a90c40aa5cd\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\2a2e1d49-b5c7-47c0-9895-4a90c40aa5cd\scena

DATE: 05-29-2018                          TIME: 01:23:16

USER:


COMMENTS: _____________________________________________________

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  ***********************************************
  ** SIMULATION : Chicago_4hr_010yr             **
  ***********************************************


-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\ecada1de
| Ptotal= 58.63 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.17 |  1.08   17.41 |  2.08    9.37 |  3.08    3.25
                0.17    2.35 |  1.17   29.81 |  2.17    8.20 |  3.17    3.08
                0.25    2.57 |  1.25   70.75 |  2.25    7.27 |  3.25    2.92
                0.33    2.84 |  1.33  169.55 |  2.33    6.52 |  3.33    2.77
                0.42    3.16 |  1.42   89.76 |  2.42    5.89 |  3.42    2.64
                0.50    3.56 |  1.50   51.82 |  2.50    5.37 |  3.50    2.52
                0.58    4.07 |  1.58   34.57 |  2.58    4.93 |  3.58    2.41
                0.67    4.73 |  1.67   25.13 |  2.67    4.55 |  3.67    2.31
                0.75    5.62 |  1.75   19.35 |  2.75    4.22 |  3.75    2.21
                0.83    6.88 |  1.83   15.52 |  2.83    3.93 |  3.83    2.13
                0.92    8.77 |  1.92   12.83 |  2.92    3.68 |  3.92    2.05
                1.00   11.83 |  2.00   10.86 |  3.00    3.45 |  4.00    1.97

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.33

     Unit Hyd Qpeak  (cms)=   0.425

     PEAK FLOW       (cms)=   0.141 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  15.569
     TOTAL RAINFALL   (mm)=  58.628
     RUNOFF COEFFICIENT   =   0.266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

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--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\ecada1de
| Ptotal= 58.63 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.17 |  1.08   17.41 |  2.08    9.37 |  3.08    3.25
                0.17    2.35 |  1.17   29.81 |  2.17    8.20 |  3.17    3.08
                0.25    2.57 |  1.25   70.75 |  2.25    7.27 |  3.25    2.92
                0.33    2.84 |  1.33  169.55 |  2.33    6.52 |  3.33    2.77
                0.42    3.16 |  1.42   89.76 |  2.42    5.89 |  3.42    2.64
                0.50    3.56 |  1.50   51.82 |  2.50    5.37 |  3.50    2.52
                0.58    4.07 |  1.58   34.57 |  2.58    4.93 |  3.58    2.41
                0.67    4.73 |  1.67   25.13 |  2.67    4.55 |  3.67    2.31
                0.75    5.62 |  1.75   19.35 |  2.75    4.22 |  3.75    2.21
                0.83    6.88 |  1.83   15.52 |  2.83    3.93 |  3.83    2.13
                0.92    8.77 |  1.92   12.83 |  2.92    3.68 |  3.92    2.05
                1.00   11.83 |  2.00   10.86 |  3.00    3.45 |  4.00    1.97

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.032 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  12.494
     TOTAL RAINFALL   (mm)=  58.628
     RUNOFF COEFFICIENT   =   0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\ecada1de
| Ptotal= 58.63 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.17 |  1.08   17.41 |  2.08    9.37 |  3.08    3.25
                0.17    2.35 |  1.17   29.81 |  2.17    8.20 |  3.17    3.08
                0.25    2.57 |  1.25   70.75 |  2.25    7.27 |  3.25    2.92
                0.33    2.84 |  1.33  169.55 |  2.33    6.52 |  3.33    2.77
                0.42    3.16 |  1.42   89.76 |  2.42    5.89 |  3.42    2.64
                0.50    3.56 |  1.50   51.82 |  2.50    5.37 |  3.50    2.52
                0.58    4.07 |  1.58   34.57 |  2.58    4.93 |  3.58    2.41
                0.67    4.73 |  1.67   25.13 |  2.67    4.55 |  3.67    2.31
                0.75    5.62 |  1.75   19.35 |  2.75    4.22 |  3.75    2.21
                0.83    6.88 |  1.83   15.52 |  2.83    3.93 |  3.83    2.13
                0.92    8.77 |  1.92   12.83 |  2.92    3.68 |  3.92    2.05
                1.00   11.83 |  2.00   10.86 |  3.00    3.45 |  4.00    1.97

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0103)|   Area    (ha)=   2.58   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.40

     Unit Hyd Qpeak  (cms)=   0.246

     PEAK FLOW       (cms)=   0.088 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  15.571
     TOTAL RAINFALL   (mm)=  58.628
     RUNOFF COEFFICIENT   =   0.266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\ecada1de
| Ptotal= 58.63 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.17 |  1.08   17.41 |  2.08    9.37 |  3.08    3.25
                0.17    2.35 |  1.17   29.81 |  2.17    8.20 |  3.17    3.08
                0.25    2.57 |  1.25   70.75 |  2.25    7.27 |  3.25    2.92
                0.33    2.84 |  1.33  169.55 |  2.33    6.52 |  3.33    2.77
                0.42    3.16 |  1.42   89.76 |  2.42    5.89 |  3.42    2.64
                0.50    3.56 |  1.50   51.82 |  2.50    5.37 |  3.50    2.52
                0.58    4.07 |  1.58   34.57 |  2.58    4.93 |  3.58    2.41
                0.67    4.73 |  1.67   25.13 |  2.67    4.55 |  3.67    2.31
                0.75    5.62 |  1.75   19.35 |  2.75    4.22 |  3.75    2.21
                0.83    6.88 |  1.83   15.52 |  2.83    3.93 |  3.83    2.13
                0.92    8.77 |  1.92   12.83 |  2.92    3.68 |  3.92    2.05
                1.00   11.83 |  2.00   10.86 |  3.00    3.45 |  4.00    1.97

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--------------------
| CALIB            |
| NASHYD   (  0104)|   Area    (ha)=   3.97   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.46

     Unit Hyd Qpeak  (cms)=   0.330

     PEAK FLOW       (cms)=   0.123 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  15.572
     TOTAL RAINFALL   (mm)=  58.628
     RUNOFF COEFFICIENT   =   0.266

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.032     1.83    12.49
     + ID2= 2 (  0103):     2.58   0.088     1.83    15.57
       ================================================
       ID = 3 (  0008):     3.68   0.119     1.83    14.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0008)|
```

```
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0008):     3.68   0.119     1.83    14.65
      + ID2= 2 (  0104):     3.97   0.123     1.92    15.57
        ====================================================
        ID = 1 (  0008):     7.65   0.241     1.92    15.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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===============================================================================================
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\db2a6cd5-c837-414a-8b3e-95be457ec0f8\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\db2a6cd5-c837-414a-8b3e-95be457ec0f8\scena


DATE: 05-29-2018                          TIME: 01:23:16

USER:



COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : Chicago_4hr_025yr             **
  ***********************************************


-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\685dd626
| Ptotal= 71.60 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.40 |  1.08   22.58 |  2.08   11.85 |  3.08    3.77
                0.17    2.63 |  1.17   38.73 |  2.17   10.30 |  3.17    3.54
                0.25    2.91 |  1.25   88.12 |  2.25    9.06 |  3.25    3.34
                0.33    3.24 |  1.33  192.71 |  2.33    8.05 |  3.33    3.15
                0.42    3.65 |  1.42  110.13 |  2.42    7.22 |  3.42    2.99
                0.50    4.16 |  1.50   66.22 |  2.50    6.53 |  3.50    2.84
                0.58    4.82 |  1.58   44.84 |  2.58    5.95 |  3.58    2.70
                0.67    5.68 |  1.67   32.73 |  2.67    5.45 |  3.67    2.57
                0.75    6.86 |  1.75   25.16 |  2.75    5.02 |  3.75    2.46
                0.83    8.54 |  1.83   20.08 |  2.83    4.64 |  3.83    2.35
                0.92   11.05 |  1.92   16.49 |  2.92    4.32 |  3.92    2.25
                1.00   15.15 |  2.00   13.85 |  3.00    4.03 |  4.00    2.16

-------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.33

     Unit Hyd Qpeak  (cms)=   0.425

     PEAK FLOW       (cms)=   0.209 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  22.660
     TOTAL RAINFALL   (mm)=  71.604
     RUNOFF COEFFICIENT   =   0.316

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\685dd626
| Ptotal= 71.60 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.40 |  1.08   22.58 |  2.08   11.85 |  3.08    3.77
                0.17    2.63 |  1.17   38.73 |  2.17   10.30 |  3.17    3.54
                0.25    2.91 |  1.25   88.12 |  2.25    9.06 |  3.25    3.34
                0.33    3.24 |  1.33  192.71 |  2.33    8.05 |  3.33    3.15
                0.42    3.65 |  1.42  110.13 |  2.42    7.22 |  3.42    2.99
                0.50    4.16 |  1.50   66.22 |  2.50    6.53 |  3.50    2.84
                0.58    4.82 |  1.58   44.84 |  2.58    5.95 |  3.58    2.70
                0.67    5.68 |  1.67   32.73 |  2.67    5.45 |  3.67    2.57
                0.75    6.86 |  1.75   25.16 |  2.75    5.02 |  3.75    2.46
                0.83    8.54 |  1.83   20.08 |  2.83    4.64 |  3.83    2.35
                0.92   11.05 |  1.92   16.49 |  2.92    4.32 |  3.92    2.25
                1.00   15.15 |  2.00   13.85 |  3.00    4.03 |  4.00    2.16

-------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.047 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  18.243
     TOTAL RAINFALL   (mm)=  71.604
     RUNOFF COEFFICIENT   =   0.255

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\685dd626
```

```
| Ptotal= 71.60 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.40 |  1.08   22.58 |  2.08   11.85 |  3.08    3.77
                0.17    2.63 |  1.17   38.73 |  2.17   10.30 |  3.17    3.54
                0.25    2.91 |  1.25   88.12 |  2.25    9.06 |  3.25    3.34
                0.33    3.24 |  1.33  192.71 |  2.33    8.05 |  3.33    3.15
                0.42    3.65 |  1.42  110.13 |  2.42    7.22 |  3.42    2.99
                0.50    4.16 |  1.50   66.22 |  2.50    6.53 |  3.50    2.84
                0.58    4.82 |  1.58   44.84 |  2.58    5.95 |  3.58    2.70
                0.67    5.68 |  1.67   32.73 |  2.67    5.45 |  3.67    2.57
                0.75    6.86 |  1.75   25.16 |  2.75    5.02 |  3.75    2.46
                0.83    8.54 |  1.83   20.08 |  2.83    4.64 |  3.83    2.35
                0.92   11.05 |  1.92   16.49 |  2.92    4.32 |  3.92    2.25
                1.00   15.15 |  2.00   13.85 |  3.00    4.03 |  4.00    2.16

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD  (  0103)|   Area    (ha)=   2.58   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.40

     Unit Hyd Qpeak  (cms)=   0.246

     PEAK FLOW      (cms)=   0.130 (i)
     TIME TO PEAK   (hrs)=   1.833
     RUNOFF VOLUME   (mm)=  22.664
     TOTAL RAINFALL  (mm)=  71.604
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\685dd626
| Ptotal= 71.60 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.40 |  1.08   22.58 |  2.08   11.85 |  3.08    3.77
                0.17    2.63 |  1.17   38.73 |  2.17   10.30 |  3.17    3.54
                0.25    2.91 |  1.25   88.12 |  2.25    9.06 |  3.25    3.34
                0.33    3.24 |  1.33  192.71 |  2.33    8.05 |  3.33    3.15
                0.42    3.65 |  1.42  110.13 |  2.42    7.22 |  3.42    2.99
                0.50    4.16 |  1.50   66.22 |  2.50    6.53 |  3.50    2.84
                0.58    4.82 |  1.58   44.84 |  2.58    5.95 |  3.58    2.70
                0.67    5.68 |  1.67   32.73 |  2.67    5.45 |  3.67    2.57
                0.75    6.86 |  1.75   25.16 |  2.75    5.02 |  3.75    2.46
                0.83    8.54 |  1.83   20.08 |  2.83    4.64 |  3.83    2.35
                0.92   11.05 |  1.92   16.49 |  2.92    4.32 |  3.92    2.25
                1.00   15.15 |  2.00   13.85 |  3.00    4.03 |  4.00    2.16

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD  (  0104)|   Area    (ha)=   3.97   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.46

     Unit Hyd Qpeak  (cms)=   0.330

     PEAK FLOW      (cms)=   0.183 (i)
     TIME TO PEAK   (hrs)=   1.917
     RUNOFF VOLUME   (mm)=  22.665
     TOTAL RAINFALL  (mm)=  71.604
     RUNOFF COEFFICIENT   =   0.317

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.047     1.83    18.24
     + ID2= 2 (  0103):     2.58   0.130     1.83    22.66
       ================================================
       ID = 3 (  0008):     3.68   0.177     1.83    21.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0008)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0008):     3.68   0.177     1.83    21.34
     + ID2= 2 (  0104):     3.97   0.183     1.92    22.66
       ================================================
       ID = 1 (  0008):     7.65   0.358     1.92    22.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I      SS   U   U  AAAAA  L
       V  V    I       SS  U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\93390687-3d21-4e21-9067-a3169caf0fd3\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\93390687-3d21-4e21-9067-a3169caf0fd3\scena


DATE: 05-29-2018                          TIME: 01:23:16

USER:


COMMENTS: _____________________________________________________
```

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  **********************************************
  ** SIMULATION : Chicago_4hr_050yr            **
  **********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\de894682
| Ptotal= 80.34 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.45 |  1.08   25.64 |  2.08   13.21 |  3.08    3.97
                0.17    2.71 |  1.17   44.32 |  2.17   11.41 |  3.17    3.72
                0.25    3.01 |  1.25  100.50 |  2.25    9.99 |  3.25    3.49
                0.33    3.38 |  1.33  215.80 |  2.33    8.83 |  3.33    3.28
                0.42    3.84 |  1.42  125.29 |  2.42    7.88 |  3.42    3.10
                0.50    4.41 |  1.50   75.84 |  2.50    7.09 |  3.50    2.93
                0.58    5.15 |  1.58   51.37 |  2.58    6.43 |  3.58    2.78
                0.67    6.13 |  1.67   37.40 |  2.67    5.86 |  3.67    2.64
                0.75    7.47 |  1.75   28.63 |  2.75    5.37 |  3.75    2.51
                0.83    9.39 |  1.83   22.74 |  2.83    4.95 |  3.83    2.40
                0.92   12.29 |  1.92   18.58 |  2.92    4.58 |  3.92    2.29
                1.00   17.02 |  2.00   15.53 |  3.00    4.26 |  4.00    2.19

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-------------------
| CALIB           |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.33

     Unit Hyd Qpeak  (cms)=   0.425

     PEAK FLOW       (cms)=   0.264 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  27.878
     TOTAL RAINFALL   (mm)=  80.336
     RUNOFF COEFFICIENT   =   0.347

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\de894682
| Ptotal= 80.34 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.45 |  1.08   25.64 |  2.08   13.21 |  3.08    3.97
                0.17    2.71 |  1.17   44.32 |  2.17   11.41 |  3.17    3.72
                0.25    3.01 |  1.25  100.50 |  2.25    9.99 |  3.25    3.49
                0.33    3.38 |  1.33  215.80 |  2.33    8.83 |  3.33    3.28
                0.42    3.84 |  1.42  125.29 |  2.42    7.88 |  3.42    3.10
                0.50    4.41 |  1.50   75.84 |  2.50    7.09 |  3.50    2.93
                0.58    5.15 |  1.58   51.37 |  2.58    6.43 |  3.58    2.78
                0.67    6.13 |  1.67   37.40 |  2.67    5.86 |  3.67    2.64
                0.75    7.47 |  1.75   28.63 |  2.75    5.37 |  3.75    2.51
                0.83    9.39 |  1.83   22.74 |  2.83    4.95 |  3.83    2.40
                0.92   12.29 |  1.92   18.58 |  2.92    4.58 |  3.92    2.29
                1.00   17.02 |  2.00   15.53 |  3.00    4.26 |  4.00    2.19

------------------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.059 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  22.531
     TOTAL RAINFALL   (mm)=  80.336
     RUNOFF COEFFICIENT   =   0.280

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\de894682
| Ptotal= 80.34 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.45 |  1.08   25.64 |  2.08   13.21 |  3.08    3.97
                0.17    2.71 |  1.17   44.32 |  2.17   11.41 |  3.17    3.72
                0.25    3.01 |  1.25  100.50 |  2.25    9.99 |  3.25    3.49
                0.33    3.38 |  1.33  215.80 |  2.33    8.83 |  3.33    3.28
                0.42    3.84 |  1.42  125.29 |  2.42    7.88 |  3.42    3.10
                0.50    4.41 |  1.50   75.84 |  2.50    7.09 |  3.50    2.93
                0.58    5.15 |  1.58   51.37 |  2.58    6.43 |  3.58    2.78
                0.67    6.13 |  1.67   37.40 |  2.67    5.86 |  3.67    2.64
                0.75    7.47 |  1.75   28.63 |  2.75    5.37 |  3.75    2.51
                0.83    9.39 |  1.83   22.74 |  2.83    4.95 |  3.83    2.40
                0.92   12.29 |  1.92   18.58 |  2.92    4.58 |  3.92    2.29
                1.00   17.02 |  2.00   15.53 |  3.00    4.26 |  4.00    2.19

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-------------------
| CALIB           |
| NASHYD   (  0103)|   Area    (ha)=   2.58   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.40

     Unit Hyd Qpeak  (cms)=   0.246

     PEAK FLOW       (cms)=   0.164 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  27.882
     TOTAL RAINFALL   (mm)=  80.336
     RUNOFF COEFFICIENT   =   0.347

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\de894682
| Ptotal= 80.34 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.45 |  1.08   25.64 |  2.08   13.21 |  3.08    3.97
                0.17    2.71 |  1.17   44.32 |  2.17   11.41 |  3.17    3.72
```

```
                0.25    3.01 |  1.25  100.50 |  2.25    9.99 |  3.25    3.49
                0.33    3.38 |  1.33  215.80 |  2.33    8.83 |  3.33    3.28
                0.42    3.84 |  1.42  125.29 |  2.42    7.88 |  3.42    3.10
                0.50    4.41 |  1.50   75.84 |  2.50    7.09 |  3.50    2.93
                0.58    5.15 |  1.58   51.37 |  2.58    6.43 |  3.58    2.78
                0.67    6.13 |  1.67   37.40 |  2.67    5.86 |  3.67    2.64
                0.75    7.47 |  1.75   28.63 |  2.75    5.37 |  3.75    2.51
                0.83    9.39 |  1.83   22.74 |  2.83    4.95 |  3.83    2.40
                0.92   12.29 |  1.92   18.58 |  2.92    4.58 |  3.92    2.29
                1.00   17.02 |  2.00   15.53 |  3.00    4.26 |  4.00    2.19

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--------------------
| CALIB            |
| NASHYD   (  0104)|   Area    (ha)=   3.97   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.46

     Unit Hyd Qpeak  (cms)=   0.330

     PEAK FLOW       (cms)=   0.231 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  27.883
     TOTAL RAINFALL   (mm)=  80.336
     RUNOFF COEFFICIENT   =   0.347

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0102):     1.10   0.059     1.83    22.53
      + ID2= 2 (  0103):     2.58   0.164     1.83    27.88
        ================================================
        ID = 3 (  0008):     3.68   0.223     1.83    26.28

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0008)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0008):     3.68   0.223     1.83    26.28
      + ID2= 2 (  0104):     3.97   0.231     1.92    27.88
        ================================================
        ID = 1 (  0008):     7.65   0.450     1.92    27.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
Developed and Distributed by Civica Infrastructure
```



```
                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\2fc9ed8c-3e7a-4b80-aa0f-14bfb26a21c3\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\2fc9ed8c-3e7a-4b80-aa0f-14bfb26a21c3\scena


DATE: 05-29-2018                          TIME: 01:23:15

USER:


COMMENTS: _____________________________________________________


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  ***********************************************
  ** SIMULATION : Chicago_4hr_100yr             **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\7454d05d
| Ptotal= 89.89 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.33

     Unit Hyd Qpeak  (cms)=   0.425

     PEAK FLOW       (cms)=   0.326 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  33.932
     TOTAL RAINFALL   (mm)=  89.888
     RUNOFF COEFFICIENT   =   0.377

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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```
-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\7454d05d
| Ptotal= 89.89 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

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-------------------
| CALIB           |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.073 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  27.562
     TOTAL RAINFALL   (mm)=  89.888
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\7454d05d
| Ptotal= 89.89 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0103)|   Area    (ha)=   2.58   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.40

     Unit Hyd Qpeak  (cms)=   0.246

     PEAK FLOW       (cms)=   0.203 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  33.937
     TOTAL RAINFALL   (mm)=  89.888
     RUNOFF COEFFICIENT   =   0.378

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\7454d05d
| Ptotal= 89.89 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

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-------------------
| CALIB           |
| NASHYD   (  0104)|   Area    (ha)=   3.97   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.46

     Unit Hyd Qpeak  (cms)=   0.330

     PEAK FLOW       (cms)=   0.285 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  33.939
     TOTAL RAINFALL   (mm)=  89.888
     RUNOFF COEFFICIENT   =   0.378

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.073     1.83    27.56
     + ID2= 2 (  0103):     2.58   0.203     1.83    33.94
       ==========================================
       ID = 3 (  0008):     3.68   0.276     1.83    32.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0008)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
```

```
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0008):     3.68   0.276     1.83    32.03
     + ID2= 2 (  0104):     3.97   0.285     1.92    33.94
       ================================================
       ID = 1 (  0008):     7.65   0.556     1.92    33.02

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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==============================================================================================
==============

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                 *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\a6a66d4c-1b56-495f-a232-72e2d462b4b0\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\a6a66d4c-1b56-495f-a232-72e2d462b4b0\scena


DATE: 05-29-2018                          TIME: 01:23:16

USER:



COMMENTS: _____________________________________________________________


------------------------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : SCS_24hr_002yr               **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\4740d578
| Ptotal= 47.61 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    0.95 | 12.75    6.85 | 19.00    0.86
                0.50    0.48 |  6.75    0.95 | 13.00    3.52 | 19.25    0.86
                0.75    0.48 |  7.00    0.95 | 13.25    3.52 | 19.50    0.86
                1.00    0.48 |  7.25    0.95 | 13.50    0.67 | 19.75    0.86
                1.25    0.48 |  7.50    0.95 | 13.75    0.67 | 20.00    0.86
                1.50    0.48 |  7.75    0.95 | 14.00    3.90 | 20.25    0.86
                1.75    0.48 |  8.00    0.95 | 14.25    3.90 | 20.50    0.57
                2.00    0.48 |  8.25    0.95 | 14.50    1.43 | 20.75    0.57
                2.25    0.86 |  8.50    1.29 | 14.75    1.43 | 21.00    0.57
                2.50    0.62 |  8.75    1.29 | 15.00    1.43 | 21.25    0.57
                2.75    0.62 |  9.00    1.29 | 15.25    1.43 | 21.50    0.57
                3.00    0.62 |  9.25    1.29 | 15.50    1.43 | 21.75    0.57
                3.25    0.62 |  9.50    1.52 | 15.75    1.43 | 22.00    0.57
                3.50    0.62 |  9.75    1.52 | 16.00    1.43 | 22.25    0.57
                3.75    0.62 | 10.00    1.71 | 16.25    1.43 | 22.50    0.57
                4.00    0.62 | 10.25    1.71 | 16.50    0.86 | 22.75    0.57
                4.25    0.62 | 10.50    2.19 | 16.75    0.86 | 23.00    0.57
                4.50    0.76 | 10.75    2.19 | 17.00    0.86 | 23.25    0.57
                4.75    0.76 | 11.00    2.95 | 17.25    0.86 | 23.50    0.57
                5.00    0.76 | 11.25    2.95 | 17.50    0.86 | 23.75    0.57
                5.25    0.76 | 11.50    4.57 | 17.75    0.86 | 24.00    0.57
                5.50    0.76 | 11.75    4.57 | 18.00    0.86 | 24.25    0.57
                5.75    0.76 | 12.00   19.80 | 18.25    0.86 |
                6.00    0.76 | 12.25   52.55 | 18.50    0.86 |
                6.25    0.76 | 12.50    6.85 | 18.75    0.86 |

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--------------------
| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.33

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 6.167    0.76 |12.250   52.55 | 18.33    0.86
0.167    0.00 | 6.250    0.76 |12.333    6.86 | 18.42    0.86
0.250    0.00 | 6.333    0.95 |12.417    6.85 | 18.50    0.86
0.333    0.48 | 6.417    0.95 |12.500    6.85 | 18.58    0.86
0.417    0.48 | 6.500    0.95 |12.583    6.85 | 18.67    0.86
0.500    0.48 | 6.583    0.95 |12.667    6.85 | 18.75    0.86
0.583    0.48 | 6.667    0.95 |12.750    6.85 | 18.83    0.86
0.667    0.48 | 6.750    0.95 |12.833    3.52 | 18.92    0.86
0.750    0.48 | 6.833    0.95 |12.917    3.52 | 19.00    0.86
0.833    0.48 | 6.917    0.95 |13.000    3.52 | 19.08    0.86
0.917    0.48 | 7.000    0.95 |13.083    3.52 | 19.17    0.86
1.000    0.48 | 7.083    0.95 |13.167    3.52 | 19.25    0.86
1.083    0.48 | 7.167    0.95 |13.250    3.52 | 19.33    0.86
1.167    0.48 | 7.250    0.95 |13.333    0.67 | 19.42    0.86
1.250    0.48 | 7.333    0.95 |13.417    0.67 | 19.50    0.86
1.333    0.48 | 7.417    0.95 |13.500    0.67 | 19.58    0.86
1.417    0.48 | 7.500    0.95 |13.583    0.67 | 19.67    0.86
1.500    0.48 | 7.583    0.95 |13.667    0.67 | 19.75    0.86
1.583    0.48 | 7.667    0.95 |13.750    0.67 | 19.83    0.86
1.667    0.48 | 7.750    0.95 |13.833    3.90 | 19.92    0.86
1.750    0.48 | 7.833    0.95 |13.917    3.90 | 20.00    0.86
1.833    0.48 | 7.917    0.95 |14.000    3.90 | 20.08    0.86
1.917    0.48 | 8.000    0.95 |14.083    3.90 | 20.17    0.86
2.000    0.48 | 8.083    0.95 |14.167    3.90 | 20.25    0.86
2.083    0.86 | 8.167    0.95 |14.250    3.90 | 20.33    0.57
2.167    0.86 | 8.250    0.95 |14.333    1.43 | 20.42    0.57
2.250    0.86 | 8.333    1.29 |14.417    1.43 | 20.50    0.57
2.333    0.62 | 8.417    1.29 |14.500    1.43 | 20.58    0.57
2.417    0.62 | 8.500    1.29 |14.583    1.43 | 20.67    0.57
2.500    0.62 | 8.583    1.29 |14.667    1.43 | 20.75    0.57
2.583    0.62 | 8.667    1.29 |14.750    1.43 | 20.83    0.57
2.667    0.62 | 8.750    1.29 |14.833    1.43 | 20.92    0.57
2.750    0.62 | 8.833    1.29 |14.917    1.43 | 21.00    0.57
2.833    0.62 | 8.917    1.29 |15.000    1.43 | 21.08    0.57
2.917    0.62 | 9.000    1.29 |15.083    1.43 | 21.17    0.57
3.000    0.62 | 9.083    1.29 |15.167    1.43 | 21.25    0.57
3.083    0.62 | 9.167    1.29 |15.250    1.43 | 21.33    0.57
3.167    0.62 | 9.250    1.29 |15.333    1.43 | 21.42    0.57
3.250    0.62 | 9.333    1.52 |15.417    1.43 | 21.50    0.57
```

3.333	0.62	9.417	1.52	15.500	1.43	21.58	0.57
3.417	0.62	9.500	1.52	15.583	1.43	21.67	0.57
3.500	0.62	9.583	1.52	15.667	1.43	21.75	0.57
3.583	0.62	9.667	1.52	15.750	1.43	21.83	0.57
3.667	0.62	9.750	1.52	15.833	1.43	21.92	0.57
3.750	0.62	9.833	1.71	15.917	1.43	22.00	0.57
3.833	0.62	9.917	1.71	16.000	1.43	22.08	0.57
3.917	0.62	10.000	1.71	16.083	1.43	22.17	0.57
4.000	0.62	10.083	1.71	16.167	1.43	22.25	0.57
4.083	0.62	10.167	1.71	16.250	1.43	22.33	0.57
4.167	0.62	10.250	1.71	16.333	0.86	22.42	0.57
4.250	0.62	10.333	2.19	16.417	0.86	22.50	0.57
4.333	0.76	10.417	2.19	16.500	0.86	22.58	0.57
4.417	0.76	10.500	2.19	16.583	0.86	22.67	0.57
4.500	0.76	10.583	2.19	16.667	0.86	22.75	0.57
4.583	0.76	10.667	2.19	16.750	0.86	22.83	0.57
4.667	0.76	10.750	2.19	16.833	0.86	22.92	0.57
4.750	0.76	10.833	2.95	16.917	0.86	23.00	0.57
4.833	0.76	10.917	2.95	17.000	0.86	23.08	0.57
4.917	0.76	11.000	2.95	17.083	0.86	23.17	0.57
5.000	0.76	11.083	2.95	17.167	0.86	23.25	0.57
5.083	0.76	11.167	2.95	17.250	0.86	23.33	0.57
5.167	0.76	11.250	2.95	17.333	0.86	23.42	0.57
5.250	0.76	11.333	4.57	17.417	0.86	23.50	0.57
5.333	0.76	11.417	4.57	17.500	0.86	23.58	0.57
5.417	0.76	11.500	4.57	17.583	0.86	23.67	0.57
5.500	0.76	11.583	4.57	17.667	0.86	23.75	0.57
5.583	0.76	11.667	4.57	17.750	0.86	23.83	0.57
5.667	0.76	11.750	4.57	17.833	0.86	23.92	0.57
5.750	0.76	11.833	19.80	17.917	0.86	24.00	0.57
5.833	0.76	11.917	19.80	18.000	0.86	24.08	0.57
5.917	0.76	12.000	19.80	18.083	0.86	24.17	0.57
6.000	0.76	12.083	52.55	18.167	0.86	24.25	0.57
6.083	0.76	12.167	52.55	18.250	0.86		

Unit Hyd Qpeak (cms)= 0.425

PEAK FLOW (cms)= 0.062 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 10.297
TOTAL RAINFALL (mm)= 47.613
RUNOFF COEFFICIENT = 0.216

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\4740d578
Ptotal= 47.61 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	0.95	12.75	6.85	19.00	0.86
0.50	0.48	6.75	0.95	13.00	3.52	19.25	0.86
0.75	0.48	7.00	0.95	13.25	3.52	19.50	0.86
1.00	0.48	7.25	0.95	13.50	0.67	19.75	0.86
1.25	0.48	7.50	0.95	13.75	0.67	20.00	0.86
1.50	0.48	7.75	0.95	14.00	3.90	20.25	0.86
1.75	0.48	8.00	0.95	14.25	3.90	20.50	0.57
2.00	0.48	8.25	0.95	14.50	1.43	20.75	0.57
2.25	0.86	8.50	1.29	14.75	1.43	21.00	0.57
2.50	0.62	8.75	1.29	15.00	1.43	21.25	0.57
2.75	0.62	9.00	1.29	15.25	1.43	21.50	0.57
3.00	0.62	9.25	1.29	15.50	1.43	21.75	0.57
3.25	0.62	9.50	1.52	15.75	1.43	22.00	0.57
3.50	0.62	9.75	1.52	16.00	1.43	22.25	0.57
3.75	0.62	10.00	1.71	16.25	1.43	22.50	0.57
4.00	0.62	10.25	1.71	16.50	0.86	22.75	0.57
4.25	0.62	10.50	2.19	16.75	0.86	23.00	0.57
4.50	0.76	10.75	2.19	17.00	0.86	23.25	0.57
4.75	0.76	11.00	2.95	17.25	0.86	23.50	0.57
5.00	0.76	11.25	2.95	17.50	0.86	23.75	0.57
5.25	0.76	11.50	4.57	17.75	0.86	24.00	0.57
5.50	0.76	11.75	4.57	18.00	0.86	24.25	0.57
5.75	0.76	12.00	19.80	18.25	0.86		
6.00	0.76	12.25	52.55	18.50	0.86		
6.25	0.76	12.50	6.85	18.75	0.86		

CALIB
NASHYD (0102) | Area (ha)= 1.10 Curve Number (CN)= 59.0
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.37

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.76	12.250	52.55	18.33	0.86
0.167	0.00	6.250	0.76	12.333	6.86	18.42	0.86
0.250	0.00	6.333	0.95	12.417	6.85	18.50	0.86
0.333	0.48	6.417	0.95	12.500	6.85	18.58	0.86
0.417	0.48	6.500	0.95	12.583	6.85	18.67	0.86
0.500	0.48	6.583	0.95	12.667	6.85	18.75	0.86
0.583	0.48	6.667	0.95	12.750	6.85	18.83	0.86
0.667	0.48	6.750	0.95	12.833	3.52	18.92	0.86
0.750	0.48	6.833	0.95	12.917	3.52	19.00	0.86
0.833	0.48	6.917	0.95	13.000	3.52	19.08	0.86
0.917	0.48	7.000	0.95	13.083	3.52	19.17	0.86
1.000	0.48	7.083	0.95	13.167	3.52	19.25	0.86
1.083	0.48	7.167	0.95	13.250	3.52	19.33	0.86
1.167	0.48	7.250	0.95	13.333	0.67	19.42	0.86
1.250	0.48	7.333	0.95	13.417	0.67	19.50	0.86
1.333	0.48	7.417	0.95	13.500	0.67	19.58	0.86
1.417	0.48	7.500	0.95	13.583	0.67	19.67	0.86
1.500	0.48	7.583	0.95	13.667	0.67	19.75	0.86
1.583	0.48	7.667	0.95	13.750	0.67	19.83	0.86
1.667	0.48	7.750	0.95	13.833	3.90	19.92	0.86
1.750	0.48	7.833	0.95	13.917	3.90	20.00	0.86
1.833	0.48	7.917	0.95	14.000	3.90	20.08	0.86
1.917	0.48	8.000	0.95	14.083	3.90	20.17	0.86
2.000	0.48	8.083	0.95	14.167	3.90	20.25	0.86
2.083	0.86	8.167	0.95	14.250	3.90	20.33	0.57
2.167	0.86	8.250	0.95	14.333	1.43	20.42	0.57
2.250	0.86	8.333	1.29	14.417	1.43	20.50	0.57
2.333	0.62	8.417	1.29	14.500	1.43	20.58	0.57
2.417	0.62	8.500	1.29	14.583	1.43	20.67	0.57
2.500	0.62	8.583	1.29	14.667	1.43	20.75	0.57
2.583	0.62	8.667	1.29	14.750	1.43	20.83	0.57
2.667	0.62	8.750	1.29	14.833	1.43	20.92	0.57
2.750	0.62	8.833	1.29	14.917	1.43	21.00	0.57
2.833	0.62	8.917	1.29	15.000	1.43	21.08	0.57
2.917	0.62	9.000	1.29	15.083	1.43	21.17	0.57
3.000	0.62	9.083	1.29	15.167	1.43	21.25	0.57
3.083	0.62	9.167	1.29	15.250	1.43	21.33	0.57
3.167	0.62	9.250	1.29	15.333	1.43	21.42	0.57
3.250	0.62	9.333	1.52	15.417	1.43	21.50	0.57
3.333	0.62	9.417	1.52	15.500	1.43	21.58	0.57
3.417	0.62	9.500	1.52	15.583	1.43	21.67	0.57
3.500	0.62	9.583	1.52	15.667	1.43	21.75	0.57
3.583	0.62	9.667	1.52	15.750	1.43	21.83	0.57
3.667	0.62	9.750	1.52	15.833	1.43	21.92	0.57
3.750	0.62	9.833	1.71	15.917	1.43	22.00	0.57

3.833	0.62	9.917	1.71	16.000	1.43	22.08	0.57
3.917	0.62	10.000	1.71	16.083	1.43	22.17	0.57
4.000	0.62	10.083	1.71	16.167	1.43	22.25	0.57
4.083	0.62	10.167	1.71	16.250	1.43	22.33	0.57
4.167	0.62	10.250	1.71	16.333	0.86	22.42	0.57
4.250	0.62	10.333	2.19	16.417	0.86	22.50	0.57
4.333	0.76	10.417	2.19	16.500	0.86	22.58	0.57
4.417	0.76	10.500	2.19	16.583	0.86	22.67	0.57
4.500	0.76	10.583	2.19	16.667	0.86	22.75	0.57
4.583	0.76	10.667	2.19	16.750	0.86	22.83	0.57
4.667	0.76	10.750	2.19	16.833	0.86	22.92	0.57
4.750	0.76	10.833	2.95	16.917	0.86	23.00	0.57
4.833	0.76	10.917	2.95	17.000	0.86	23.08	0.57
4.917	0.76	11.000	2.95	17.083	0.86	23.17	0.57
5.000	0.76	11.083	2.95	17.167	0.86	23.25	0.57
5.083	0.76	11.167	2.95	17.250	0.86	23.33	0.57
5.167	0.76	11.250	2.95	17.333	0.86	23.42	0.57
5.250	0.76	11.333	4.57	17.417	0.86	23.50	0.57
5.333	0.76	11.417	4.57	17.500	0.86	23.58	0.57
5.417	0.76	11.500	4.57	17.583	0.86	23.67	0.57
5.500	0.76	11.583	4.57	17.667	0.86	23.75	0.57
5.583	0.76	11.667	4.57	17.750	0.86	23.83	0.57
5.667	0.76	11.750	4.57	17.833	0.86	23.92	0.57
5.750	0.76	11.833	19.80	17.917	0.86	24.00	0.57
5.833	0.76	11.917	19.80	18.000	0.86	24.08	0.57
5.917	0.76	12.000	19.80	18.083	0.86	24.17	0.57
6.000	0.76	12.083	52.55	18.167	0.86	24.25	0.57
6.083	0.76	12.167	52.55	18.250	0.86		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.014 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 8.285
TOTAL RAINFALL (mm)= 47.613
RUNOFF COEFFICIENT = 0.174

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\4740d578
Ptotal= 47.61 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	0.95	12.75	6.85	19.00	0.86
0.50	0.48	6.75	0.95	13.00	3.52	19.25	0.86
0.75	0.48	7.00	0.95	13.25	3.52	19.50	0.86
1.00	0.48	7.25	0.95	13.50	0.67	19.75	0.86
1.25	0.48	7.50	0.95	13.75	0.67	20.00	0.86
1.50	0.48	7.75	0.95	14.00	3.90	20.25	0.86
1.75	0.48	8.00	0.95	14.25	3.90	20.50	0.57
2.00	0.48	8.25	0.95	14.50	1.43	20.75	0.57
2.25	0.86	8.50	1.29	14.75	1.43	21.00	0.57
2.50	0.62	8.75	1.29	15.00	1.43	21.25	0.57
2.75	0.62	9.00	1.29	15.25	1.43	21.50	0.57
3.00	0.62	9.25	1.29	15.50	1.43	21.75	0.57
3.25	0.62	9.50	1.52	15.75	1.43	22.00	0.57
3.50	0.62	9.75	1.52	16.00	1.43	22.25	0.57
3.75	0.62	10.00	1.71	16.25	1.43	22.50	0.57
4.00	0.62	10.25	1.71	16.50	0.86	22.75	0.57
4.25	0.62	10.50	2.19	16.75	0.86	23.00	0.57
4.50	0.76	10.75	2.19	17.00	0.86	23.25	0.57
4.75	0.76	11.00	2.95	17.25	0.86	23.50	0.57
5.00	0.76	11.25	2.95	17.50	0.86	23.75	0.57
5.25	0.76	11.50	4.57	17.75	0.86	24.00	0.57
5.50	0.76	11.75	4.57	18.00	0.86	24.25	0.57
5.75	0.76	12.00	19.80	18.25	0.86		
6.00	0.76	12.25	52.55	18.50	0.86		
6.25	0.76	12.50	6.85	18.75	0.86		

CALIB			
NASHYD (0103)	Area (ha)= 2.58	Curve Number (CN)= 68.0	
ID= 1 DT= 5.0 min	Ia (mm)= 7.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.40		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.76	12.250	52.55	18.33	0.86
0.167	0.00	6.250	0.76	12.333	6.86	18.42	0.86
0.250	0.00	6.333	0.95	12.417	6.85	18.50	0.86
0.333	0.48	6.417	0.95	12.500	6.85	18.58	0.86
0.417	0.48	6.500	0.95	12.583	6.85	18.67	0.86
0.500	0.48	6.583	0.95	12.667	6.85	18.75	0.86
0.583	0.48	6.667	0.95	12.750	6.85	18.83	0.86
0.667	0.48	6.750	0.95	12.833	3.52	18.92	0.86
0.750	0.48	6.833	0.95	12.917	3.52	19.00	0.86
0.833	0.48	6.917	0.95	13.000	3.52	19.08	0.86
0.917	0.48	7.000	0.95	13.083	3.52	19.17	0.86
1.000	0.48	7.083	0.95	13.167	3.52	19.25	0.86
1.083	0.48	7.167	0.95	13.250	3.52	19.33	0.86
1.167	0.48	7.250	0.95	13.333	0.67	19.42	0.86
1.250	0.48	7.333	0.95	13.417	0.67	19.50	0.86
1.333	0.48	7.417	0.95	13.500	0.67	19.58	0.86
1.417	0.48	7.500	0.95	13.583	0.67	19.67	0.86
1.500	0.48	7.583	0.95	13.667	0.67	19.75	0.86
1.583	0.48	7.667	0.95	13.750	0.67	19.83	0.86
1.667	0.48	7.750	0.95	13.833	3.90	19.92	0.86
1.750	0.48	7.833	0.95	13.917	3.90	20.00	0.86
1.833	0.48	7.917	0.95	14.000	3.90	20.08	0.86
1.917	0.48	8.000	0.95	14.083	3.90	20.17	0.86
2.000	0.48	8.083	0.95	14.167	3.90	20.25	0.86
2.083	0.86	8.167	0.95	14.250	3.90	20.33	0.57
2.167	0.86	8.250	0.95	14.333	1.43	20.42	0.57
2.250	0.86	8.333	1.29	14.417	1.43	20.50	0.57
2.333	0.62	8.417	1.29	14.500	1.43	20.58	0.57
2.417	0.62	8.500	1.29	14.583	1.43	20.67	0.57
2.500	0.62	8.583	1.29	14.667	1.43	20.75	0.57
2.583	0.62	8.667	1.29	14.750	1.43	20.83	0.57
2.667	0.62	8.750	1.29	14.833	1.43	20.92	0.57
2.750	0.62	8.833	1.29	14.917	1.43	21.00	0.57
2.833	0.62	8.917	1.29	15.000	1.43	21.08	0.57
2.917	0.62	9.000	1.29	15.083	1.43	21.17	0.57
3.000	0.62	9.083	1.29	15.167	1.43	21.25	0.57
3.083	0.62	9.167	1.29	15.250	1.43	21.33	0.57
3.167	0.62	9.250	1.29	15.333	1.43	21.42	0.57
3.250	0.62	9.333	1.52	15.417	1.43	21.50	0.57
3.333	0.62	9.417	1.52	15.500	1.43	21.58	0.57
3.417	0.62	9.500	1.52	15.583	1.43	21.67	0.57
3.500	0.62	9.583	1.52	15.667	1.43	21.75	0.57
3.583	0.62	9.667	1.52	15.750	1.43	21.83	0.57
3.667	0.62	9.750	1.52	15.833	1.43	21.92	0.57
3.750	0.62	9.833	1.71	15.917	1.43	22.00	0.57
3.833	0.62	9.917	1.71	16.000	1.43	22.08	0.57
3.917	0.62	10.000	1.71	16.083	1.43	22.17	0.57
4.000	0.62	10.083	1.71	16.167	1.43	22.25	0.57
4.083	0.62	10.167	1.71	16.250	1.43	22.33	0.57
4.167	0.62	10.250	1.71	16.333	0.86	22.42	0.57
4.250	0.62	10.333	2.19	16.417	0.86	22.50	0.57

4.333	0.76	10.417	2.19	16.500	0.86	22.58	0.57
4.417	0.76	10.500	2.19	16.583	0.86	22.67	0.57
4.500	0.76	10.583	2.19	16.667	0.86	22.75	0.57
4.583	0.76	10.667	2.19	16.750	0.86	22.83	0.57
4.667	0.76	10.750	2.19	16.833	0.86	22.92	0.57
4.750	0.76	10.833	2.95	16.917	0.86	23.00	0.57
4.833	0.76	10.917	2.95	17.000	0.86	23.08	0.57
4.917	0.76	11.000	2.95	17.083	0.86	23.17	0.57
5.000	0.76	11.083	2.95	17.167	0.86	23.25	0.57
5.083	0.76	11.167	2.95	17.250	0.86	23.33	0.57
5.167	0.76	11.250	2.95	17.333	0.86	23.42	0.57
5.250	0.76	11.333	4.57	17.417	0.86	23.50	0.57
5.333	0.76	11.417	4.57	17.500	0.86	23.58	0.57
5.417	0.76	11.500	4.57	17.583	0.86	23.67	0.57
5.500	0.76	11.583	4.57	17.667	0.86	23.75	0.57
5.583	0.76	11.667	4.57	17.750	0.86	23.83	0.57
5.667	0.76	11.750	4.57	17.833	0.86	23.92	0.57
5.750	0.76	11.833	19.80	17.917	0.86	24.00	0.57
5.833	0.76	11.917	19.80	18.000	0.86	24.08	0.57
5.917	0.76	12.000	19.80	18.083	0.86	24.17	0.57
6.000	0.76	12.083	52.55	18.167	0.86	24.25	0.57
6.083	0.76	12.167	52.55	18.250	0.86		

Unit Hyd Qpeak (cms)= 0.246

PEAK FLOW (cms)= 0.038 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 10.298
TOTAL RAINFALL (mm)= 47.613
RUNOFF COEFFICIENT = 0.216

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\4740d578
Ptotal= 47.61 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	0.95	12.75	6.85	19.00	0.86
0.50	0.48	6.75	0.95	13.00	3.52	19.25	0.86
0.75	0.48	7.00	0.95	13.25	3.52	19.50	0.86
1.00	0.48	7.25	0.95	13.50	0.67	19.75	0.86
1.25	0.48	7.50	0.95	13.75	0.67	20.00	0.86
1.50	0.48	7.75	0.95	14.00	3.90	20.25	0.86
1.75	0.48	8.00	0.95	14.25	3.90	20.50	0.57
2.00	0.48	8.25	0.95	14.50	1.43	20.75	0.57
2.25	0.86	8.50	1.29	14.75	1.43	21.00	0.57
2.50	0.62	8.75	1.29	15.00	1.43	21.25	0.57
2.75	0.62	9.00	1.29	15.25	1.43	21.50	0.57
3.00	0.62	9.25	1.29	15.50	1.43	21.75	0.57
3.25	0.62	9.50	1.52	15.75	1.43	22.00	0.57
3.50	0.62	9.75	1.52	16.00	1.43	22.25	0.57
3.75	0.62	10.00	1.71	16.25	1.43	22.50	0.57
4.00	0.62	10.25	1.71	16.50	0.86	22.75	0.57
4.25	0.62	10.50	2.19	16.75	0.86	23.00	0.57
4.50	0.76	10.75	2.19	17.00	0.86	23.25	0.57
4.75	0.76	11.00	2.95	17.25	0.86	23.50	0.57
5.00	0.76	11.25	2.95	17.50	0.86	23.75	0.57
5.25	0.76	11.50	4.57	17.75	0.86	24.00	0.57
5.50	0.76	11.75	4.57	18.00	0.86	24.25	0.57
5.75	0.76	12.00	19.80	18.25	0.86		
6.00	0.76	12.25	52.55	18.50	0.86		
6.25	0.76	12.50	6.85	18.75	0.86		

CALIB
NASHYD (0104) | ID= 1 DT= 5.0 min | Area (ha)= 3.97 Curve Number (CN)= 68.0
Ia (mm)= 7.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.46

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.76	12.250	52.55	18.33	0.86
0.167	0.00	6.250	0.76	12.333	6.86	18.42	0.86
0.250	0.00	6.333	0.95	12.417	6.85	18.50	0.86
0.333	0.48	6.417	0.95	12.500	6.85	18.58	0.86
0.417	0.48	6.500	0.95	12.583	6.85	18.67	0.86
0.500	0.48	6.583	0.95	12.667	6.85	18.75	0.86
0.583	0.48	6.667	0.95	12.750	6.85	18.83	0.86
0.667	0.48	6.750	0.95	12.833	3.52	18.92	0.86
0.750	0.48	6.833	0.95	12.917	3.52	19.00	0.86
0.833	0.48	6.917	0.95	13.000	3.52	19.08	0.86
0.917	0.48	7.000	0.95	13.083	3.52	19.17	0.86
1.000	0.48	7.083	0.95	13.167	3.52	19.25	0.86
1.083	0.48	7.167	0.95	13.250	3.52	19.33	0.86
1.167	0.48	7.250	0.95	13.333	0.67	19.42	0.86
1.250	0.48	7.333	0.95	13.417	0.67	19.50	0.86
1.333	0.48	7.417	0.95	13.500	0.67	19.58	0.86
1.417	0.48	7.500	0.95	13.583	0.67	19.67	0.86
1.500	0.48	7.583	0.95	13.667	0.67	19.75	0.86
1.583	0.48	7.667	0.95	13.750	0.67	19.83	0.86
1.667	0.48	7.750	0.95	13.833	3.90	19.92	0.86
1.750	0.48	7.833	0.95	13.917	3.90	20.00	0.86
1.833	0.48	7.917	0.95	14.000	3.90	20.08	0.86
1.917	0.48	8.000	0.95	14.083	3.90	20.17	0.86
2.000	0.48	8.083	0.95	14.167	3.90	20.25	0.86
2.083	0.86	8.167	0.95	14.250	3.90	20.33	0.57
2.167	0.86	8.250	0.95	14.333	1.43	20.42	0.57
2.250	0.86	8.333	1.29	14.417	1.43	20.50	0.57
2.333	0.62	8.417	1.29	14.500	1.43	20.58	0.57
2.417	0.62	8.500	1.29	14.583	1.43	20.67	0.57
2.500	0.62	8.583	1.29	14.667	1.43	20.75	0.57
2.583	0.62	8.667	1.29	14.750	1.43	20.83	0.57
2.667	0.62	8.750	1.29	14.833	1.43	20.92	0.57
2.750	0.62	8.833	1.29	14.917	1.43	21.00	0.57
2.833	0.62	8.917	1.29	15.000	1.43	21.08	0.57
2.917	0.62	9.000	1.29	15.083	1.43	21.17	0.57
3.000	0.62	9.083	1.29	15.167	1.43	21.25	0.57
3.083	0.62	9.167	1.29	15.250	1.43	21.33	0.57
3.167	0.62	9.250	1.29	15.333	1.43	21.42	0.57
3.250	0.62	9.333	1.52	15.417	1.43	21.50	0.57
3.333	0.62	9.417	1.52	15.500	1.43	21.58	0.57
3.417	0.62	9.500	1.52	15.583	1.43	21.67	0.57
3.500	0.62	9.583	1.52	15.667	1.43	21.75	0.57
3.583	0.62	9.667	1.52	15.750	1.43	21.83	0.57
3.667	0.62	9.750	1.52	15.833	1.43	21.92	0.57
3.750	0.62	9.833	1.71	15.917	1.43	22.00	0.57
3.833	0.62	9.917	1.71	16.000	1.43	22.08	0.57
3.917	0.62	10.000	1.71	16.083	1.43	22.17	0.57
4.000	0.62	10.083	1.71	16.167	1.43	22.25	0.57
4.083	0.62	10.167	1.71	16.250	1.43	22.33	0.57
4.167	0.62	10.250	1.71	16.333	0.86	22.42	0.57
4.250	0.62	10.333	2.19	16.417	0.86	22.50	0.57
4.333	0.76	10.417	2.19	16.500	0.86	22.58	0.57
4.417	0.76	10.500	2.19	16.583	0.86	22.67	0.57
4.500	0.76	10.583	2.19	16.667	0.86	22.75	0.57
4.583	0.76	10.667	2.19	16.750	0.86	22.83	0.57
4.667	0.76	10.750	2.19	16.833	0.86	22.92	0.57
4.750	0.76	10.833	2.95	16.917	0.86	23.00	0.57

4.833	0.76	10.917	2.95	17.000	0.86	23.08	0.57
4.917	0.76	11.000	2.95	17.083	0.86	23.17	0.57
5.000	0.76	11.083	2.95	17.167	0.86	23.25	0.57
5.083	0.76	11.167	2.95	17.250	0.86	23.33	0.57
5.167	0.76	11.250	2.95	17.333	0.86	23.42	0.57
5.250	0.76	11.333	4.57	17.417	0.86	23.50	0.57
5.333	0.76	11.417	4.57	17.500	0.86	23.58	0.57
5.417	0.76	11.500	4.57	17.583	0.86	23.67	0.57
5.500	0.76	11.583	4.57	17.667	0.86	23.75	0.57
5.583	0.76	11.667	4.57	17.750	0.86	23.83	0.57
5.667	0.76	11.750	4.57	17.833	0.86	23.92	0.57
5.750	0.76	11.833	19.80	17.917	0.86	24.00	0.57
5.833	0.76	11.917	19.80	18.000	0.86	24.08	0.57
5.917	0.76	12.000	19.80	18.083	0.86	24.17	0.57
6.000	0.76	12.083	52.55	18.167	0.86	24.25	0.57
6.083	0.76	12.167	52.55	18.250	0.86		

Unit Hyd Qpeak (cms)= 0.330

PEAK FLOW (cms)= 0.053 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 10.299
TOTAL RAINFALL (mm)= 47.613
RUNOFF COEFFICIENT = 0.216

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0008)| 1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):		1.10	0.014	12.50	8.28
+ ID2= 2 (0103):		2.58	0.038	12.50	10.30
ID = 3 (0008):		3.68	0.052	12.50	9.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0008)| 3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0008):		3.68	0.052	12.50	9.70
+ ID2= 2 (0104):		3.97	0.053	12.58	10.30
ID = 1 (0008):		7.65	0.105	12.58	10.01

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```


***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-f5bcedbf072b\2597c3a0-9735-459b-8988-ce319bbc554c\scena
Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-f5bcedbf072b\2597c3a0-9735-459b-8988-ce319bbc554c\scena

DATE: 05-29-2018 TIME: 01:23:16

USER:

COMMENTS: _____

****
** SIMULATION : SCS_24hr_005yr **
****

READ STORM | Ptotal= 66.79 mm	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\c8c709b6 Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.34	12.75	9.62	19.00	1.20
0.50	0.67	6.75	1.34	13.00	4.94	19.25	1.20
0.75	0.67	7.00	1.34	13.25	4.94	19.50	1.20
1.00	0.67	7.25	1.34	13.50	0.94	19.75	1.20
1.25	0.67	7.50	1.34	13.75	0.94	20.00	1.20
1.50	0.67	7.75	1.34	14.00	5.48	20.25	1.20
1.75	0.67	8.00	1.34	14.25	5.48	20.50	0.80
2.00	0.67	8.25	1.34	14.50	2.00	20.75	0.80
2.25	1.20	8.50	1.80	14.75	2.00	21.00	0.80
2.50	0.87	8.75	1.80	15.00	2.00	21.25	0.80
2.75	0.87	9.00	1.80	15.25	2.00	21.50	0.80
3.00	0.87	9.25	1.80	15.50	2.00	21.75	0.80
3.25	0.87	9.50	2.14	15.75	2.00	22.00	0.80
3.50	0.87	9.75	2.14	16.00	2.00	22.25	0.80
3.75	0.87	10.00	2.40	16.25	2.00	22.50	0.80
4.00	0.87	10.25	2.40	16.50	1.20	22.75	0.80
4.25	0.87	10.50	3.07	16.75	1.20	23.00	0.80
4.50	1.07	10.75	3.07	17.00	1.20	23.25	0.80
4.75	1.07	11.00	4.14	17.25	1.20	23.50	0.80
5.00	1.07	11.25	4.14	17.50	1.20	23.75	0.80
5.25	1.07	11.50	6.41	17.75	1.20	24.00	0.80
5.50	1.07	11.75	6.41	18.00	1.20	24.25	0.80
5.75	1.07	12.00	27.79	18.25	1.20		
6.00	1.07	12.25	73.75	18.50	1.20		
6.25	1.07	12.50	9.62	18.75	1.20		

CALIB | NASHYD (0101)| ID= 1 DT= 5.0 min	Area (ha)= 3.67 Curve Number (CN)= 68.0 Ia (mm)= 7.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.33

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.07	12.250	73.75	18.33	1.20
0.167	0.00	6.250	1.07	12.333	9.63	18.42	1.20
0.250	0.00	6.333	1.34	12.417	9.62	18.50	1.20
0.333	0.67	6.417	1.34	12.500	9.62	18.58	1.20
0.417	0.67	6.500	1.34	12.583	9.62	18.67	1.20
0.500	0.67	6.583	1.34	12.667	9.62	18.75	1.20
0.583	0.67	6.667	1.34	12.750	9.62	18.83	1.20
0.667	0.67	6.750	1.34	12.833	4.94	18.92	1.20
0.750	0.67	6.833	1.34	12.917	4.94	19.00	1.20
0.833	0.67	6.917	1.34	13.000	4.94	19.08	1.20
0.917	0.67	7.000	1.34	13.083	4.94	19.17	1.20
1.000	0.67	7.083	1.34	13.167	4.94	19.25	1.20
1.083	0.67	7.167	1.34	13.250	4.94	19.33	1.20
1.167	0.67	7.250	1.34	13.333	0.94	19.42	1.20
1.250	0.67	7.333	1.34	13.417	0.94	19.50	1.20
1.333	0.67	7.417	1.34	13.500	0.94	19.58	1.20
1.417	0.67	7.500	1.34	13.583	0.94	19.67	1.20
1.500	0.67	7.583	1.34	13.667	0.94	19.75	1.20
1.583	0.67	7.667	1.34	13.750	0.94	19.83	1.20
1.667	0.67	7.750	1.34	13.833	5.48	19.92	1.20
1.750	0.67	7.833	1.34	13.917	5.48	20.00	1.20
1.833	0.67	7.917	1.34	14.000	5.48	20.08	1.20
1.917	0.67	8.000	1.34	14.083	5.48	20.17	1.20
2.000	0.67	8.083	1.34	14.167	5.48	20.25	1.20
2.083	1.20	8.167	1.34	14.250	5.48	20.33	0.80
2.167	1.20	8.250	1.34	14.333	2.00	20.42	0.80
2.250	1.20	8.333	1.80	14.417	2.00	20.50	0.80
2.333	0.87	8.417	1.80	14.500	2.00	20.58	0.80
2.417	0.87	8.500	1.80	14.583	2.00	20.67	0.80
2.500	0.87	8.583	1.80	14.667	2.00	20.75	0.80
2.583	0.87	8.667	1.80	14.750	2.00	20.83	0.80
2.667	0.87	8.750	1.80	14.833	2.00	20.92	0.80
2.750	0.87	8.833	1.80	14.917	2.00	21.00	0.80
2.833	0.87	8.917	1.80	15.000	2.00	21.08	0.80
2.917	0.87	9.000	1.80	15.083	2.00	21.17	0.80
3.000	0.87	9.083	1.80	15.167	2.00	21.25	0.80
3.083	0.87	9.167	1.80	15.250	2.00	21.33	0.80
3.167	0.87	9.250	1.80	15.333	2.00	21.42	0.80
3.250	0.87	9.333	2.14	15.417	2.00	21.50	0.80
3.333	0.87	9.417	2.14	15.500	2.00	21.58	0.80
3.417	0.87	9.500	2.14	15.583	2.00	21.67	0.80
3.500	0.87	9.583	2.14	15.667	2.00	21.75	0.80
3.583	0.87	9.667	2.14	15.750	2.00	21.83	0.80
3.667	0.87	9.750	2.14	15.833	2.00	21.92	0.80
3.750	0.87	9.833	2.40	15.917	2.00	22.00	0.80
3.833	0.87	9.917	2.40	16.000	2.00	22.08	0.80
3.917	0.87	10.000	2.40	16.083	2.00	22.17	0.80
4.000	0.87	10.083	2.40	16.167	2.00	22.25	0.80
4.083	0.87	10.167	2.40	16.250	2.00	22.33	0.80
4.167	0.87	10.250	2.40	16.333	1.20	22.42	0.80
4.250	0.87	10.333	3.07	16.417	1.20	22.50	0.80
4.333	1.07	10.417	3.07	16.500	1.20	22.58	0.80
4.417	1.07	10.500	3.07	16.583	1.20	22.67	0.80
4.500	1.07	10.583	3.07	16.667	1.20	22.75	0.80
4.583	1.07	10.667	3.07	16.750	1.20	22.83	0.80
4.667	1.07	10.750	3.07	16.833	1.20	22.92	0.80
4.750	1.07	10.833	4.14	16.917	1.20	23.00	0.80
4.833	1.07	10.917	4.14	17.000	1.20	23.08	0.80
4.917	1.07	11.000	4.14	17.083	1.20	23.17	0.80
5.000	1.07	11.083	4.14	17.167	1.20	23.25	0.80
5.083	1.07	11.167	4.14	17.250	1.20	23.33	0.80
5.167	1.07	11.250	4.14	17.333	1.20	23.42	0.80
5.250	1.07	11.333	6.41	17.417	1.20	23.50	0.80
5.333	1.07	11.417	6.41	17.500	1.20	23.58	0.80
5.417	1.07	11.500	6.41	17.583	1.20	23.67	0.80
5.500	1.07	11.583	6.41	17.667	1.20	23.75	0.80
5.583	1.07	11.667	6.41	17.750	1.20	23.83	0.80
5.667	1.07	11.750	6.41	17.833	1.20	23.92	0.80
5.750	1.07	11.833	27.79	17.917	1.20	24.00	0.80
5.833	1.07	11.917	27.79	18.000	1.20	24.08	0.80
5.917	1.07	12.000	27.79	18.083	1.20	24.17	0.80
6.000	1.07	12.083	73.74	18.167	1.20	24.25	0.80
6.083	1.07	12.167	73.75	18.250	1.20		

Unit Hyd Qpeak (cms)= 0.425

PEAK FLOW (cms)= 0.125 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 19.929
TOTAL RAINFALL (mm)= 66.788
RUNOFF COEFFICIENT = 0.298

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\c8c709b6
Ptotal= 66.79 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.34	12.75	9.62	19.00	1.20
0.50	0.67	6.75	1.34	13.00	4.94	19.25	1.20
0.75	0.67	7.00	1.34	13.25	4.94	19.50	1.20
1.00	0.67	7.25	1.34	13.50	0.94	19.75	1.20
1.25	0.67	7.50	1.34	13.75	0.94	20.00	1.20
1.50	0.67	7.75	1.34	14.00	5.48	20.25	1.20
1.75	0.67	8.00	1.34	14.25	5.48	20.50	0.80
2.00	0.67	8.25	1.34	14.50	2.00	20.75	0.80
2.25	1.20	8.50	1.80	14.75	2.00	21.00	0.80
2.50	0.87	8.75	1.80	15.00	2.00	21.25	0.80
2.75	0.87	9.00	1.80	15.25	2.00	21.50	0.80
3.00	0.87	9.25	1.80	15.50	2.00	21.75	0.80
3.25	0.87	9.50	2.14	15.75	2.00	22.00	0.80
3.50	0.87	9.75	2.14	16.00	2.00	22.25	0.80
3.75	0.87	10.00	2.40	16.25	2.00	22.50	0.80
4.00	0.87	10.25	2.40	16.50	1.20	22.75	0.80
4.25	0.87	10.50	3.07	16.75	1.20	23.00	0.80
4.50	1.07	10.75	3.07	17.00	1.20	23.25	0.80
4.75	1.07	11.00	4.14	17.25	1.20	23.50	0.80
5.00	1.07	11.25	4.14	17.50	1.20	23.75	0.80
5.25	1.07	11.50	6.41	17.75	1.20	24.00	0.80
5.50	1.07	11.75	6.41	18.00	1.20	24.25	0.80
5.75	1.07	12.00	27.79	18.25	1.20		
6.00	1.07	12.25	73.75	18.50	1.20		
6.25	1.07	12.50	9.62	18.75	1.20		

CALIB	NASHYD (0102)	ID= 1 DT= 5.0 min	Area (ha)= 1.10	Ia (mm)= 5.00	U.H. Tp(hrs)= 0.37	Curve Number (CN)= 59.0	# of Linear Res.(N)= 3.00

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.083	0.00	6.167	1.07	12.250	73.75	18.33	1.20
0.167	0.00	6.250	1.07	12.333	9.63	18.42	1.20
0.250	0.00	6.333	1.34	12.417	9.62	18.50	1.20
0.333	0.67	6.417	1.34	12.500	9.62	18.58	1.20
0.417	0.67	6.500	1.34	12.583	9.62	18.67	1.20
0.500	0.67	6.583	1.34	12.667	9.62	18.75	1.20
0.583	0.67	6.667	1.34	12.750	9.62	18.83	1.20
0.667	0.67	6.750	1.34	12.833	4.94	18.92	1.20
0.750	0.67	6.833	1.34	12.917	4.94	19.00	1.20
0.833	0.67	6.917	1.34	13.000	4.94	19.08	1.20
0.917	0.67	7.000	1.34	13.083	4.94	19.17	1.20
1.000	0.67	7.083	1.34	13.167	4.94	19.25	1.20
1.083	0.67	7.167	1.34	13.250	4.94	19.33	1.20
1.167	0.67	7.250	1.34	13.333	0.94	19.42	1.20
1.250	0.67	7.333	1.34	13.417	0.94	19.50	1.20
1.333	0.67	7.417	1.34	13.500	0.94	19.58	1.20
1.417	0.67	7.500	1.34	13.583	0.94	19.67	1.20
1.500	0.67	7.583	1.34	13.667	0.94	19.75	1.20
1.583	0.67	7.667	1.34	13.750	0.94	19.83	1.20
1.667	0.67	7.750	1.34	13.833	5.48	19.92	1.20
1.750	0.67	7.833	1.34	13.917	5.48	20.00	1.20
1.833	0.67	7.917	1.34	14.000	5.48	20.08	1.20
1.917	0.67	8.000	1.34	14.083	5.48	20.17	1.20
2.000	0.67	8.083	1.34	14.167	5.48	20.25	1.20
2.083	1.20	8.167	1.34	14.250	5.48	20.33	0.80
2.167	1.20	8.250	1.34	14.333	2.00	20.42	0.80
2.250	1.20	8.333	1.80	14.417	2.00	20.50	0.80
2.333	0.87	8.417	1.80	14.500	2.00	20.58	0.80
2.417	0.87	8.500	1.80	14.583	2.00	20.67	0.80
2.500	0.87	8.583	1.80	14.667	2.00	20.75	0.80
2.583	0.87	8.667	1.80	14.750	2.00	20.83	0.80
2.667	0.87	8.750	1.80	14.833	2.00	20.92	0.80
2.750	0.87	8.833	1.80	14.917	2.00	21.00	0.80
2.833	0.87	8.917	1.80	15.000	2.00	21.08	0.80
2.917	0.87	9.000	1.80	15.083	2.00	21.17	0.80
3.000	0.87	9.083	1.80	15.167	2.00	21.25	0.80
3.083	0.87	9.167	1.80	15.250	2.00	21.33	0.80
3.167	0.87	9.250	1.80	15.333	2.00	21.42	0.80
3.250	0.87	9.333	2.14	15.417	2.00	21.50	0.80
3.333	0.87	9.417	2.14	15.500	2.00	21.58	0.80
3.417	0.87	9.500	2.14	15.583	2.00	21.67	0.80
3.500	0.87	9.583	2.14	15.667	2.00	21.75	0.80
3.583	0.87	9.667	2.14	15.750	2.00	21.83	0.80
3.667	0.87	9.750	2.14	15.833	2.00	21.92	0.80
3.750	0.87	9.833	2.40	15.917	2.00	22.00	0.80
3.833	0.87	9.917	2.40	16.000	2.00	22.08	0.80
3.917	0.87	10.000	2.40	16.083	2.00	22.17	0.80
4.000	0.87	10.083	2.40	16.167	2.00	22.25	0.80
4.083	0.87	10.167	2.40	16.250	2.00	22.33	0.80
4.167	0.87	10.250	2.40	16.333	1.20	22.42	0.80
4.250	0.87	10.333	3.07	16.417	1.20	22.50	0.80
4.333	1.07	10.417	3.07	16.500	1.20	22.58	0.80
4.417	1.07	10.500	3.07	16.583	1.20	22.67	0.80
4.500	1.07	10.583	3.07	16.667	1.20	22.75	0.80
4.583	1.07	10.667	3.07	16.750	1.20	22.83	0.80
4.667	1.07	10.750	3.07	16.833	1.20	22.92	0.80
4.750	1.07	10.833	4.14	16.917	1.20	23.00	0.80
4.833	1.07	10.917	4.14	17.000	1.20	23.08	0.80
4.917	1.07	11.000	4.14	17.083	1.20	23.17	0.80
5.000	1.07	11.083	4.14	17.167	1.20	23.25	0.80
5.083	1.07	11.167	4.14	17.250	1.20	23.33	0.80
5.167	1.07	11.250	4.14	17.333	1.20	23.42	0.80
5.250	1.07	11.333	6.41	17.417	1.20	23.50	0.80
5.333	1.07	11.417	6.41	17.500	1.20	23.58	0.80
5.417	1.07	11.500	6.41	17.583	1.20	23.67	0.80
5.500	1.07	11.583	6.41	17.667	1.20	23.75	0.80
5.583	1.07	11.667	6.41	17.750	1.20	23.83	0.80
5.667	1.07	11.750	6.41	17.833	1.20	23.92	0.80
5.750	1.07	11.833	27.79	17.917	1.20	24.00	0.80
5.833	1.07	11.917	27.79	18.000	1.20	24.08	0.80
5.917	1.07	12.000	27.79	18.083	1.20	24.17	0.80
6.000	1.07	12.083	73.74	18.167	1.20	24.25	0.80
6.083	1.07	12.167	73.75	18.250	1.20		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.027 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 16.017
TOTAL RAINFALL (mm)= 66.788
RUNOFF COEFFICIENT = 0.240

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\c8c709b6
Ptotal= 66.79 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.34	12.75	9.62	19.00	1.20
0.50	0.67	6.75	1.34	13.00	4.94	19.25	1.20
0.75	0.67	7.00	1.34	13.25	4.94	19.50	1.20
1.00	0.67	7.25	1.34	13.50	0.94	19.75	1.20
1.25	0.67	7.50	1.34	13.75	0.94	20.00	1.20
1.50	0.67	7.75	1.34	14.00	5.48	20.25	1.20
1.75	0.67	8.00	1.34	14.25	5.48	20.50	0.80
2.00	0.67	8.25	1.34	14.50	2.00	20.75	0.80
2.25	1.20	8.50	1.80	14.75	2.00	21.00	0.80
2.50	0.87	8.75	1.80	15.00	2.00	21.25	0.80
2.75	0.87	9.00	1.80	15.25	2.00	21.50	0.80
3.00	0.87	9.25	1.80	15.50	2.00	21.75	0.80
3.25	0.87	9.50	2.14	15.75	2.00	22.00	0.80
3.50	0.87	9.75	2.14	16.00	2.00	22.25	0.80
3.75	0.87	10.00	2.40	16.25	2.00	22.50	0.80
4.00	0.87	10.25	2.40	16.50	1.20	22.75	0.80
4.25	0.87	10.50	3.07	16.75	1.20	23.00	0.80
4.50	1.07	10.75	3.07	17.00	1.20	23.25	0.80
4.75	1.07	11.00	4.14	17.25	1.20	23.50	0.80
5.00	1.07	11.25	4.14	17.50	1.20	23.75	0.80
5.25	1.07	11.50	6.41	17.75	1.20	24.00	0.80
5.50	1.07	11.75	6.41	18.00	1.20	24.25	0.80
5.75	1.07	12.00	27.79	18.25	1.20		
6.00	1.07	12.25	73.75	18.50	1.20		
6.25	1.07	12.50	9.62	18.75	1.20		

CALIB			
NASHYD (0103)	Area (ha)= 2.58	Curve Number (CN)= 68.0	
ID= 1 DT= 5.0 min	Ia (mm)= 7.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.40		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.07	12.250	73.75	18.33	1.20
0.167	0.00	6.250	1.07	12.333	9.63	18.42	1.20
0.250	0.00	6.333	1.34	12.417	9.62	18.50	1.20
0.333	0.67	6.417	1.34	12.500	9.62	18.58	1.20
0.417	0.67	6.500	1.34	12.583	9.62	18.67	1.20
0.500	0.67	6.583	1.34	12.667	9.62	18.75	1.20

0.583	0.67	6.667	1.34	12.750	9.62	18.83	1.20
0.667	0.67	6.750	1.34	12.833	4.94	18.92	1.20
0.750	0.67	6.833	1.34	12.917	4.94	19.00	1.20
0.833	0.67	6.917	1.34	13.000	4.94	19.08	1.20
0.917	0.67	7.000	1.34	13.083	4.94	19.17	1.20
1.000	0.67	7.083	1.34	13.167	4.94	19.25	1.20
1.083	0.67	7.167	1.34	13.250	4.94	19.33	1.20
1.167	0.67	7.250	1.34	13.333	0.94	19.42	1.20
1.250	0.67	7.333	1.34	13.417	0.94	19.50	1.20
1.333	0.67	7.417	1.34	13.500	0.94	19.58	1.20
1.417	0.67	7.500	1.34	13.583	0.94	19.67	1.20
1.500	0.67	7.583	1.34	13.667	0.94	19.75	1.20
1.583	0.67	7.667	1.34	13.750	0.94	19.83	1.20
1.667	0.67	7.750	1.34	13.833	5.48	19.92	1.20
1.750	0.67	7.833	1.34	13.917	5.48	20.00	1.20
1.833	0.67	7.917	1.34	14.000	5.48	20.08	1.20
1.917	0.67	8.000	1.34	14.083	5.48	20.17	1.20
2.000	0.67	8.083	1.34	14.167	5.48	20.25	1.20
2.083	1.20	8.167	1.34	14.250	5.48	20.33	0.80
2.167	1.20	8.250	1.34	14.333	2.00	20.42	0.80
2.250	1.20	8.333	1.80	14.417	2.00	20.50	0.80
2.333	0.87	8.417	1.80	14.500	2.00	20.58	0.80
2.417	0.87	8.500	1.80	14.583	2.00	20.67	0.80
2.500	0.87	8.583	1.80	14.667	2.00	20.75	0.80
2.583	0.87	8.667	1.80	14.750	2.00	20.83	0.80
2.667	0.87	8.750	1.80	14.833	2.00	20.92	0.80
2.750	0.87	8.833	1.80	14.917	2.00	21.00	0.80
2.833	0.87	8.917	1.80	15.000	2.00	21.08	0.80
2.917	0.87	9.000	1.80	15.083	2.00	21.17	0.80
3.000	0.87	9.083	1.80	15.167	2.00	21.25	0.80
3.083	0.87	9.167	1.80	15.250	2.00	21.33	0.80
3.167	0.87	9.250	1.80	15.333	2.00	21.42	0.80
3.250	0.87	9.333	2.14	15.417	2.00	21.50	0.80
3.333	0.87	9.417	2.14	15.500	2.00	21.58	0.80
3.417	0.87	9.500	2.14	15.583	2.00	21.67	0.80
3.500	0.87	9.583	2.14	15.667	2.00	21.75	0.80
3.583	0.87	9.667	2.14	15.750	2.00	21.83	0.80
3.667	0.87	9.750	2.14	15.833	2.00	21.92	0.80
3.750	0.87	9.833	2.40	15.917	2.00	22.00	0.80
3.833	0.87	9.917	2.40	16.000	2.00	22.08	0.80
3.917	0.87	10.000	2.40	16.083	2.00	22.17	0.80
4.000	0.87	10.083	2.40	16.167	2.00	22.25	0.80
4.083	0.87	10.167	2.40	16.250	2.00	22.33	0.80
4.167	0.87	10.250	2.40	16.333	1.20	22.42	0.80
4.250	0.87	10.333	3.07	16.417	1.20	22.50	0.80
4.333	1.07	10.417	3.07	16.500	1.20	22.58	0.80
4.417	1.07	10.500	3.07	16.583	1.20	22.67	0.80
4.500	1.07	10.583	3.07	16.667	1.20	22.75	0.80
4.583	1.07	10.667	3.07	16.750	1.20	22.83	0.80
4.667	1.07	10.750	3.07	16.833	1.20	22.92	0.80
4.750	1.07	10.833	4.14	16.917	1.20	23.00	0.80
4.833	1.07	10.917	4.14	17.000	1.20	23.08	0.80
4.917	1.07	11.000	4.14	17.083	1.20	23.17	0.80
5.000	1.07	11.083	4.14	17.167	1.20	23.25	0.80
5.083	1.07	11.167	4.14	17.250	1.20	23.33	0.80
5.167	1.07	11.250	4.14	17.333	1.20	23.42	0.80
5.250	1.07	11.333	6.41	17.417	1.20	23.50	0.80
5.333	1.07	11.417	6.41	17.500	1.20	23.58	0.80
5.417	1.07	11.500	6.41	17.583	1.20	23.67	0.80
5.500	1.07	11.583	6.41	17.667	1.20	23.75	0.80
5.583	1.07	11.667	6.41	17.750	1.20	23.83	0.80
5.667	1.07	11.750	6.41	17.833	1.20	23.92	0.80
5.750	1.07	11.833	27.79	17.917	1.20	24.00	0.80
5.833	1.07	11.917	27.79	18.000	1.20	24.08	0.80
5.917	1.07	12.000	27.79	18.083	1.20	24.17	0.80
6.000	1.07	12.083	73.74	18.167	1.20	24.25	0.80
6.083	1.07	12.167	73.75	18.250	1.20		

Unit Hyd Qpeak (cms)= 0.246

PEAK FLOW (cms)= 0.077 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 19.932
TOTAL RAINFALL (mm)= 66.788
RUNOFF COEFFICIENT = 0.298

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\c8c709b6
Ptotal= 66.79 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.34	12.75	9.62	19.00	1.20
0.50	0.67	6.75	1.34	13.00	4.94	19.25	1.20
0.75	0.67	7.00	1.34	13.25	4.94	19.50	1.20
1.00	0.67	7.25	1.34	13.50	0.94	19.75	1.20
1.25	0.67	7.50	1.34	13.75	0.94	20.00	1.20
1.50	0.67	7.75	1.34	14.00	5.48	20.25	1.20
1.75	0.67	8.00	1.34	14.25	5.48	20.50	0.80
2.00	0.67	8.25	1.34	14.50	2.00	20.75	0.80
2.25	1.20	8.50	1.80	14.75	2.00	21.00	0.80
2.50	0.87	8.75	1.80	15.00	2.00	21.25	0.80
2.75	0.87	9.00	1.80	15.25	2.00	21.50	0.80
3.00	0.87	9.25	1.80	15.50	2.00	21.75	0.80
3.25	0.87	9.50	2.14	15.75	2.00	22.00	0.80
3.50	0.87	9.75	2.14	16.00	2.00	22.25	0.80
3.75	0.87	10.00	2.40	16.25	2.00	22.50	0.80
4.00	0.87	10.25	2.40	16.50	1.20	22.75	0.80
4.25	0.87	10.50	3.07	16.75	1.20	23.00	0.80
4.50	1.07	10.75	3.07	17.00	1.20	23.25	0.80
4.75	1.07	11.00	4.14	17.25	1.20	23.50	0.80
5.00	1.07	11.25	4.14	17.50	1.20	23.75	0.80
5.25	1.07	11.50	6.41	17.75	1.20	24.00	0.80
5.50	1.07	11.75	6.41	18.00	1.20	24.25	0.80
5.75	1.07	12.00	27.79	18.25	1.20		
6.00	1.07	12.25	73.75	18.50	1.20		
6.25	1.07	12.50	9.62	18.75	1.20		

CALIB	
NASHYD (0104) | ID= 1 DT= 5.0 min	Area (ha)= 3.97 Curve Number (CN)= 68.0 Ia (mm)= 7.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.46

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.07	12.250	73.75	18.33	1.20
0.167	0.00	6.250	1.07	12.333	9.63	18.42	1.20
0.250	0.00	6.333	1.34	12.417	9.62	18.50	1.20
0.333	0.67	6.417	1.34	12.500	9.62	18.58	1.20
0.417	0.67	6.500	1.34	12.583	9.62	18.67	1.20
0.500	0.67	6.583	1.34	12.667	9.62	18.75	1.20
0.583	0.67	6.667	1.34	12.750	9.62	18.83	1.20
0.667	0.67	6.750	1.34	12.833	4.94	18.92	1.20
0.750	0.67	6.833	1.34	12.917	4.94	19.00	1.20
0.833	0.67	6.917	1.34	13.000	4.94	19.08	1.20
0.917	0.67	7.000	1.34	13.083	4.94	19.17	1.20
1.000	0.67	7.083	1.34	13.167	4.94	19.25	1.20

```
 1.083    0.67 | 7.167    1.34 |13.250    4.94 | 19.33    1.20
 1.167    0.67 | 7.250    1.34 |13.333    0.94 | 19.42    1.20
 1.250    0.67 | 7.333    1.34 |13.417    0.94 | 19.50    1.20
 1.333    0.67 | 7.417    1.34 |13.500    0.94 | 19.58    1.20
 1.417    0.67 | 7.500    1.34 |13.583    0.94 | 19.67    1.20
 1.500    0.67 | 7.583    1.34 |13.667    0.94 | 19.75    1.20
 1.583    0.67 | 7.667    1.34 |13.750    0.94 | 19.83    1.20
 1.667    0.67 | 7.750    1.34 |13.833    5.48 | 19.92    1.20
 1.750    0.67 | 7.833    1.34 |13.917    5.48 | 20.00    1.20
 1.833    0.67 | 7.917    1.34 |14.000    5.48 | 20.08    1.20
 1.917    0.67 | 8.000    1.34 |14.083    5.48 | 20.17    1.20
 2.000    0.67 | 8.083    1.34 |14.167    5.48 | 20.25    1.20
 2.083    1.20 | 8.167    1.34 |14.250    5.48 | 20.33    0.80
 2.167    1.20 | 8.250    1.34 |14.333    2.00 | 20.42    0.80
 2.250    1.20 | 8.333    1.80 |14.417    2.00 | 20.50    0.80
 2.333    0.87 | 8.417    1.80 |14.500    2.00 | 20.58    0.80
 2.417    0.87 | 8.500    1.80 |14.583    2.00 | 20.67    0.80
 2.500    0.87 | 8.583    1.80 |14.667    2.00 | 20.75    0.80
 2.583    0.87 | 8.667    1.80 |14.750    2.00 | 20.83    0.80
 2.667    0.87 | 8.750    1.80 |14.833    2.00 | 20.92    0.80
 2.750    0.87 | 8.833    1.80 |14.917    2.00 | 21.00    0.80
 2.833    0.87 | 8.917    1.80 |15.000    2.00 | 21.08    0.80
 2.917    0.87 | 9.000    1.80 |15.083    2.00 | 21.17    0.80
 3.000    0.87 | 9.083    1.80 |15.167    2.00 | 21.25    0.80
 3.083    0.87 | 9.167    1.80 |15.250    2.00 | 21.33    0.80
 3.167    0.87 | 9.250    1.80 |15.333    2.00 | 21.42    0.80
 3.250    0.87 | 9.333    2.14 |15.417    2.00 | 21.50    0.80
 3.333    0.87 | 9.417    2.14 |15.500    2.00 | 21.58    0.80
 3.417    0.87 | 9.500    2.14 |15.583    2.00 | 21.67    0.80
 3.500    0.87 | 9.583    2.14 |15.667    2.00 | 21.75    0.80
 3.583    0.87 | 9.667    2.14 |15.750    2.00 | 21.83    0.80
 3.667    0.87 | 9.750    2.14 |15.833    2.00 | 21.92    0.80
 3.750    0.87 | 9.833    2.40 |15.917    2.00 | 22.00    0.80
 3.833    0.87 | 9.917    2.40 |16.000    2.00 | 22.08    0.80
 3.917    0.87 |10.000    2.40 |16.083    2.00 | 22.17    0.80
 4.000    0.87 |10.083    2.40 |16.167    2.00 | 22.25    0.80
 4.083    0.87 |10.167    2.40 |16.250    2.00 | 22.33    0.80
 4.167    0.87 |10.250    2.40 |16.333    1.20 | 22.42    0.80
 4.250    0.87 |10.333    3.07 |16.417    1.20 | 22.50    0.80
 4.333    1.07 |10.417    3.07 |16.500    1.20 | 22.58    0.80
 4.417    1.07 |10.500    3.07 |16.583    1.20 | 22.67    0.80
 4.500    1.07 |10.583    3.07 |16.667    1.20 | 22.75    0.80
 4.583    1.07 |10.667    3.07 |16.750    1.20 | 22.83    0.80
 4.667    1.07 |10.750    3.07 |16.833    1.20 | 22.92    0.80
 4.750    1.07 |10.833    4.14 |16.917    1.20 | 23.00    0.80
 4.833    1.07 |10.917    4.14 |17.000    1.20 | 23.08    0.80
 4.917    1.07 |11.000    4.14 |17.083    1.20 | 23.17    0.80
 5.000    1.07 |11.083    4.14 |17.167    1.20 | 23.25    0.80
 5.083    1.07 |11.167    4.14 |17.250    1.20 | 23.33    0.80
 5.167    1.07 |11.250    4.14 |17.333    1.20 | 23.42    0.80
 5.250    1.07 |11.333    6.41 |17.417    1.20 | 23.50    0.80
 5.333    1.07 |11.417    6.41 |17.500    1.20 | 23.58    0.80
 5.417    1.07 |11.500    6.41 |17.583    1.20 | 23.67    0.80
 5.500    1.07 |11.583    6.41 |17.667    1.20 | 23.75    0.80
 5.583    1.07 |11.667    6.41 |17.750    1.20 | 23.83    0.80
 5.667    1.07 |11.750    6.41 |17.833    1.20 | 23.92    0.80
 5.750    1.07 |11.833   27.79 |17.917    1.20 | 24.00    0.80
 5.833    1.07 |11.917   27.79 |18.000    1.20 | 24.08    0.80
 5.917    1.07 |12.000   27.79 |18.083    1.20 | 24.17    0.80
 6.000    1.07 |12.083   73.74 |18.167    1.20 | 24.25    0.80
 6.083    1.07 |12.167   73.75 |18.250    1.20 |

Unit Hyd Qpeak  (cms)=   0.330

PEAK FLOW      (cms)=   0.107 (i)
TIME TO PEAK   (hrs)=  12.583
RUNOFF VOLUME   (mm)=  19.933
TOTAL RAINFALL  (mm)=  66.788
RUNOFF COEFFICIENT  =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.027    12.50    16.02
     + ID2= 2 (  0103):     2.58   0.077    12.50    19.93
       ================================================
       ID = 3 (  0008):     3.68   0.104    12.50    18.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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------------------
| ADD HYD  (  0008)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0008):     3.68   0.104    12.50    18.76
     + ID2= 2 (  0104):     3.97   0.107    12.58    19.93
       ================================================
       ID = 1 (  0008):     7.65   0.210    12.58    19.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
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  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\7dd6d3e5-2f77-4504-bf1a-d68ad0152b11\scena


DATE: 05-29-2018                          TIME: 01:23:16

USER:


COMMENTS: _____

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  **********************************************
  ** SIMULATION : SCS_24hr_010yr               **
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  ***********************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\789b73b3
| Ptotal= 79.60 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.59	12.75	11.46	19.00	1.43
0.50	0.80	6.75	1.59	13.00	5.89	19.25	1.43
0.75	0.80	7.00	1.59	13.25	5.89	19.50	1.43
1.00	0.80	7.25	1.59	13.50	1.11	19.75	1.43
1.25	0.80	7.50	1.59	13.75	1.11	20.00	1.43
1.50	0.80	7.75	1.59	14.00	6.53	20.25	1.43
1.75	0.80	8.00	1.59	14.25	6.53	20.50	0.96
2.00	0.80	8.25	1.59	14.50	2.39	20.75	0.96
2.25	1.43	8.50	2.15	14.75	2.39	21.00	0.96
2.50	1.03	8.75	2.15	15.00	2.39	21.25	0.96
2.75	1.03	9.00	2.15	15.25	2.39	21.50	0.96
3.00	1.03	9.25	2.15	15.50	2.39	21.75	0.96
3.25	1.03	9.50	2.55	15.75	2.39	22.00	0.96
3.50	1.03	9.75	2.55	16.00	2.39	22.25	0.96
3.75	1.03	10.00	2.87	16.25	2.39	22.50	0.96
4.00	1.03	10.25	2.87	16.50	1.43	22.75	0.96
4.25	1.03	10.50	3.66	16.75	1.43	23.00	0.96
4.50	1.27	10.75	3.66	17.00	1.43	23.25	0.96
4.75	1.27	11.00	4.94	17.25	1.43	23.50	0.96
5.00	1.27	11.25	4.94	17.50	1.43	23.75	0.96
5.25	1.27	11.50	7.64	17.75	1.43	24.00	0.96
5.50	1.27	11.75	7.64	18.00	1.43	24.25	0.96
5.75	1.27	12.00	33.11	18.25	1.43		
6.00	1.27	12.25	87.88	18.50	1.43		
6.25	1.27	12.50	11.46	18.75	1.43		

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| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.33

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.27	12.250	87.88	18.33	1.43
0.167	0.00	6.250	1.27	12.333	11.47	18.42	1.43
0.250	0.00	6.333	1.59	12.417	11.46	18.50	1.43
0.333	0.80	6.417	1.59	12.500	11.46	18.58	1.43
0.417	0.80	6.500	1.59	12.583	11.46	18.67	1.43
0.500	0.80	6.583	1.59	12.667	11.46	18.75	1.43
0.583	0.80	6.667	1.59	12.750	11.46	18.83	1.43
0.667	0.80	6.750	1.59	12.833	5.89	18.92	1.43
0.750	0.80	6.833	1.59	12.917	5.89	19.00	1.43
0.833	0.80	6.917	1.59	13.000	5.89	19.08	1.43
0.917	0.80	7.000	1.59	13.083	5.89	19.17	1.43
1.000	0.80	7.083	1.59	13.167	5.89	19.25	1.43
1.083	0.80	7.167	1.59	13.250	5.89	19.33	1.43
1.167	0.80	7.250	1.59	13.333	1.11	19.42	1.43
1.250	0.80	7.333	1.59	13.417	1.11	19.50	1.43
1.333	0.80	7.417	1.59	13.500	1.11	19.58	1.43
1.417	0.80	7.500	1.59	13.583	1.11	19.67	1.43
1.500	0.80	7.583	1.59	13.667	1.11	19.75	1.43
1.583	0.80	7.667	1.59	13.750	1.11	19.83	1.43
1.667	0.80	7.750	1.59	13.833	6.53	19.92	1.43
1.750	0.80	7.833	1.59	13.917	6.53	20.00	1.43
1.833	0.80	7.917	1.59	14.000	6.53	20.08	1.43
1.917	0.80	8.000	1.59	14.083	6.53	20.17	1.43
2.000	0.80	8.083	1.59	14.167	6.53	20.25	1.43
2.083	1.43	8.167	1.59	14.250	6.53	20.33	0.96
2.167	1.43	8.250	1.59	14.333	2.39	20.42	0.96
2.250	1.43	8.333	2.15	14.417	2.39	20.50	0.96
2.333	1.03	8.417	2.15	14.500	2.39	20.58	0.96
2.417	1.03	8.500	2.15	14.583	2.39	20.67	0.96
2.500	1.03	8.583	2.15	14.667	2.39	20.75	0.96
2.583	1.03	8.667	2.15	14.750	2.39	20.83	0.96
2.667	1.03	8.750	2.15	14.833	2.39	20.92	0.96
2.750	1.03	8.833	2.15	14.917	2.39	21.00	0.96
2.833	1.03	8.917	2.15	15.000	2.39	21.08	0.96
2.917	1.03	9.000	2.15	15.083	2.39	21.17	0.96
3.000	1.03	9.083	2.15	15.167	2.39	21.25	0.96
3.083	1.03	9.167	2.15	15.250	2.39	21.33	0.96
3.167	1.03	9.250	2.15	15.333	2.39	21.42	0.96
3.250	1.03	9.333	2.55	15.417	2.39	21.50	0.96
3.333	1.03	9.417	2.55	15.500	2.39	21.58	0.96
3.417	1.03	9.500	2.55	15.583	2.39	21.67	0.96
3.500	1.03	9.583	2.55	15.667	2.39	21.75	0.96
3.583	1.03	9.667	2.55	15.750	2.39	21.83	0.96
3.667	1.03	9.750	2.55	15.833	2.39	21.92	0.96
3.750	1.03	9.833	2.87	15.917	2.39	22.00	0.96
3.833	1.03	9.917	2.87	16.000	2.39	22.08	0.96
3.917	1.03	10.000	2.87	16.083	2.39	22.17	0.96
4.000	1.03	10.083	2.87	16.167	2.39	22.25	0.96
4.083	1.03	10.167	2.87	16.250	2.39	22.33	0.96
4.167	1.03	10.250	2.87	16.333	1.43	22.42	0.96
4.250	1.03	10.333	3.66	16.417	1.43	22.50	0.96
4.333	1.27	10.417	3.66	16.500	1.43	22.58	0.96
4.417	1.27	10.500	3.66	16.583	1.43	22.67	0.96
4.500	1.27	10.583	3.66	16.667	1.43	22.75	0.96
4.583	1.27	10.667	3.66	16.750	1.43	22.83	0.96
4.667	1.27	10.750	3.66	16.833	1.43	22.92	0.96
4.750	1.27	10.833	4.94	16.917	1.43	23.00	0.96
4.833	1.27	10.917	4.94	17.000	1.43	23.08	0.96
4.917	1.27	11.000	4.94	17.083	1.43	23.17	0.96
5.000	1.27	11.083	4.94	17.167	1.43	23.25	0.96
5.083	1.27	11.167	4.94	17.250	1.43	23.33	0.96
5.167	1.27	11.250	4.94	17.333	1.43	23.42	0.96
5.250	1.27	11.333	7.64	17.417	1.43	23.50	0.96
5.333	1.27	11.417	7.64	17.500	1.43	23.58	0.96
5.417	1.27	11.500	7.64	17.583	1.43	23.67	0.96
5.500	1.27	11.583	7.64	17.667	1.43	23.75	0.96
5.583	1.27	11.667	7.64	17.750	1.43	23.83	0.96
5.667	1.27	11.750	7.64	17.833	1.43	23.92	0.96
5.750	1.27	11.833	33.11	17.917	1.43	24.00	0.96
5.833	1.27	11.917	33.11	18.000	1.43	24.08	0.96
5.917	1.27	12.000	33.11	18.083	1.43	24.17	0.96
6.000	1.27	12.083	87.87	18.167	1.43	24.25	0.96
6.083	1.27	12.167	87.88	18.250	1.43		

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     Unit Hyd Qpeak  (cms)=   0.425

     PEAK FLOW       (cms)=   0.175 (i)
     TIME TO PEAK    (hrs)=  12.417
     RUNOFF VOLUME    (mm)=  27.426
     TOTAL RAINFALL   (mm)=  79.600
     RUNOFF COEFFICIENT   =   0.345

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
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	b7d4359b-92e1-46ae-b5a0-21821791e5b9\789b73b3
Ptotal= 79.60 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.59	12.75	11.46	19.00	1.43
0.50	0.80	6.75	1.59	13.00	5.89	19.25	1.43
0.75	0.80	7.00	1.59	13.25	5.89	19.50	1.43
1.00	0.80	7.25	1.59	13.50	1.11	19.75	1.43
1.25	0.80	7.50	1.59	13.75	1.11	20.00	1.43
1.50	0.80	7.75	1.59	14.00	6.53	20.25	1.43
1.75	0.80	8.00	1.59	14.25	6.53	20.50	0.96
2.00	0.80	8.25	1.59	14.50	2.39	20.75	0.96
2.25	1.43	8.50	2.15	14.75	2.39	21.00	0.96
2.50	1.03	8.75	2.15	15.00	2.39	21.25	0.96
2.75	1.03	9.00	2.15	15.25	2.39	21.50	0.96
3.00	1.03	9.25	2.15	15.50	2.39	21.75	0.96
3.25	1.03	9.50	2.55	15.75	2.39	22.00	0.96
3.50	1.03	9.75	2.55	16.00	2.39	22.25	0.96
3.75	1.03	10.00	2.87	16.25	2.39	22.50	0.96
4.00	1.03	10.25	2.87	16.50	1.43	22.75	0.96
4.25	1.03	10.50	3.66	16.75	1.43	23.00	0.96
4.50	1.27	10.75	3.66	17.00	1.43	23.25	0.96
4.75	1.27	11.00	4.94	17.25	1.43	23.50	0.96
5.00	1.27	11.25	4.94	17.50	1.43	23.75	0.96
5.25	1.27	11.50	7.64	17.75	1.43	24.00	0.96
5.50	1.27	11.75	7.64	18.00	1.43	24.25	0.96
5.75	1.27	12.00	33.11	18.25	1.43		
6.00	1.27	12.25	87.88	18.50	1.43		
6.25	1.27	12.50	11.46	18.75	1.43		

CALIB	
NASHYD (0102)	Area (ha)= 1.10 Curve Number (CN)= 59.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.37

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.27	12.250	87.88	18.33	1.43
0.167	0.00	6.250	1.27	12.333	11.47	18.42	1.43
0.250	0.00	6.333	1.59	12.417	11.46	18.50	1.43
0.333	0.80	6.417	1.59	12.500	11.46	18.58	1.43
0.417	0.80	6.500	1.59	12.583	11.46	18.67	1.43
0.500	0.80	6.583	1.59	12.667	11.46	18.75	1.43
0.583	0.80	6.667	1.59	12.750	11.46	18.83	1.43
0.667	0.80	6.750	1.59	12.833	5.89	18.92	1.43
0.750	0.80	6.833	1.59	12.917	5.89	19.00	1.43
0.833	0.80	6.917	1.59	13.000	5.89	19.08	1.43
0.917	0.80	7.000	1.59	13.083	5.89	19.17	1.43
1.000	0.80	7.083	1.59	13.167	5.89	19.25	1.43
1.083	0.80	7.167	1.59	13.250	5.89	19.33	1.43
1.167	0.80	7.250	1.59	13.333	1.11	19.42	1.43
1.250	0.80	7.333	1.59	13.417	1.11	19.50	1.43
1.333	0.80	7.417	1.59	13.500	1.11	19.58	1.43
1.417	0.80	7.500	1.59	13.583	1.11	19.67	1.43
1.500	0.80	7.583	1.59	13.667	1.11	19.75	1.43
1.583	0.80	7.667	1.59	13.750	1.11	19.83	1.43
1.667	0.80	7.750	1.59	13.833	6.53	19.92	1.43
1.750	0.80	7.833	1.59	13.917	6.53	20.00	1.43
1.833	0.80	7.917	1.59	14.000	6.53	20.08	1.43
1.917	0.80	8.000	1.59	14.083	6.53	20.17	1.43
2.000	0.80	8.083	1.59	14.167	6.53	20.25	1.43
2.083	1.43	8.167	1.59	14.250	6.53	20.33	0.96
2.167	1.43	8.250	1.59	14.333	2.39	20.42	0.96
2.250	1.43	8.333	2.15	14.417	2.39	20.50	0.96
2.333	1.03	8.417	2.15	14.500	2.39	20.58	0.96
2.417	1.03	8.500	2.15	14.583	2.39	20.67	0.96
2.500	1.03	8.583	2.15	14.667	2.39	20.75	0.96
2.583	1.03	8.667	2.15	14.750	2.39	20.83	0.96
2.667	1.03	8.750	2.15	14.833	2.39	20.92	0.96
2.750	1.03	8.833	2.15	14.917	2.39	21.00	0.96
2.833	1.03	8.917	2.15	15.000	2.39	21.08	0.96
2.917	1.03	9.000	2.15	15.083	2.39	21.17	0.96
3.000	1.03	9.083	2.15	15.167	2.39	21.25	0.96
3.083	1.03	9.167	2.15	15.250	2.39	21.33	0.96
3.167	1.03	9.250	2.15	15.333	2.39	21.42	0.96
3.250	1.03	9.333	2.55	15.417	2.39	21.50	0.96
3.333	1.03	9.417	2.55	15.500	2.39	21.58	0.96
3.417	1.03	9.500	2.55	15.583	2.39	21.67	0.96
3.500	1.03	9.583	2.55	15.667	2.39	21.75	0.96
3.583	1.03	9.667	2.55	15.750	2.39	21.83	0.96
3.667	1.03	9.750	2.55	15.833	2.39	21.92	0.96
3.750	1.03	9.833	2.87	15.917	2.39	22.00	0.96
3.833	1.03	9.917	2.87	16.000	2.39	22.08	0.96
3.917	1.03	10.000	2.87	16.083	2.39	22.17	0.96
4.000	1.03	10.083	2.87	16.167	2.39	22.25	0.96
4.083	1.03	10.167	2.87	16.250	2.39	22.33	0.96
4.167	1.03	10.250	2.87	16.333	1.43	22.42	0.96
4.250	1.03	10.333	3.66	16.417	1.43	22.50	0.96
4.333	1.27	10.417	3.66	16.500	1.43	22.58	0.96
4.417	1.27	10.500	3.66	16.583	1.43	22.67	0.96
4.500	1.27	10.583	3.66	16.667	1.43	22.75	0.96
4.583	1.27	10.667	3.66	16.750	1.43	22.83	0.96
4.667	1.27	10.750	3.66	16.833	1.43	22.92	0.96
4.750	1.27	10.833	4.94	16.917	1.43	23.00	0.96
4.833	1.27	10.917	4.94	17.000	1.43	23.08	0.96
4.917	1.27	11.000	4.94	17.083	1.43	23.17	0.96
5.000	1.27	11.083	4.94	17.167	1.43	23.25	0.96
5.083	1.27	11.167	4.94	17.250	1.43	23.33	0.96
5.167	1.27	11.250	4.94	17.333	1.43	23.42	0.96
5.250	1.27	11.333	7.64	17.417	1.43	23.50	0.96
5.333	1.27	11.417	7.64	17.500	1.43	23.58	0.96
5.417	1.27	11.500	7.64	17.583	1.43	23.67	0.96
5.500	1.27	11.583	7.64	17.667	1.43	23.75	0.96
5.583	1.27	11.667	7.64	17.750	1.43	23.83	0.96
5.667	1.27	11.750	7.64	17.833	1.43	23.92	0.96
5.750	1.27	11.833	33.11	17.917	1.43	24.00	0.96
5.833	1.27	11.917	33.11	18.000	1.43	24.08	0.96
5.917	1.27	12.000	33.11	18.083	1.43	24.17	0.96
6.000	1.27	12.083	87.87	18.167	1.43	24.25	0.96
6.083	1.27	12.167	87.88	18.250	1.43		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.038 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 22.158
TOTAL RAINFALL (mm)= 79.600
RUNOFF COEFFICIENT = 0.278

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppD ata\Local\Temp\ b7d4359b-92e1-46ae-b5a0-21821791e5b9\789b73b3
Ptotal= 79.60 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.59	12.75	11.46	19.00	1.43

0.50	0.80	6.75	1.59	13.00	5.89	19.25	1.43
0.75	0.80	7.00	1.59	13.25	5.89	19.50	1.43
1.00	0.80	7.25	1.59	13.50	1.11	19.75	1.43
1.25	0.80	7.50	1.59	13.75	1.11	20.00	1.43
1.50	0.80	7.75	1.59	14.00	6.53	20.25	1.43
1.75	0.80	8.00	1.59	14.25	6.53	20.50	0.96
2.00	0.80	8.25	1.59	14.50	2.39	20.75	0.96
2.25	1.43	8.50	2.15	14.75	2.39	21.00	0.96
2.50	1.03	8.75	2.15	15.00	2.39	21.25	0.96
2.75	1.03	9.00	2.15	15.25	2.39	21.50	0.96
3.00	1.03	9.25	2.15	15.50	2.39	21.75	0.96
3.25	1.03	9.50	2.55	15.75	2.39	22.00	0.96
3.50	1.03	9.75	2.55	16.00	2.39	22.25	0.96
3.75	1.03	10.00	2.87	16.25	2.39	22.50	0.96
4.00	1.03	10.25	2.87	16.50	1.43	22.75	0.96
4.25	1.03	10.50	3.66	16.75	1.43	23.00	0.96
4.50	1.27	10.75	3.66	17.00	1.43	23.25	0.96
4.75	1.27	11.00	4.94	17.25	1.43	23.50	0.96
5.00	1.27	11.25	4.94	17.50	1.43	23.75	0.96
5.25	1.27	11.50	7.64	17.75	1.43	24.00	0.96
5.50	1.27	11.75	7.64	18.00	1.43	24.25	0.96
5.75	1.27	12.00	33.11	18.25	1.43		
6.00	1.27	12.25	87.88	18.50	1.43		
6.25	1.27	12.50	11.46	18.75	1.43		

CALIB			
NASHYD (0103)	Area (ha)= 2.58	Curve Number (CN)= 68.0	
ID= 1 DT= 5.0 min	Ia (mm)= 7.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.40		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.27	12.250	87.88	18.33	1.43
0.167	0.00	6.250	1.27	12.333	11.47	18.42	1.43
0.250	0.00	6.333	1.59	12.417	11.46	18.50	1.43
0.333	0.80	6.417	1.59	12.500	11.46	18.58	1.43
0.417	0.80	6.500	1.59	12.583	11.46	18.67	1.43
0.500	0.80	6.583	1.59	12.667	11.46	18.75	1.43
0.583	0.80	6.667	1.59	12.750	11.46	18.83	1.43
0.667	0.80	6.750	1.59	12.833	5.89	18.92	1.43
0.750	0.80	6.833	1.59	12.917	5.89	19.00	1.43
0.833	0.80	6.917	1.59	13.000	5.89	19.08	1.43
0.917	0.80	7.000	1.59	13.083	5.89	19.17	1.43
1.000	0.80	7.083	1.59	13.167	5.89	19.25	1.43
1.083	0.80	7.167	1.59	13.250	5.89	19.33	1.43
1.167	0.80	7.250	1.59	13.333	1.11	19.42	1.43
1.250	0.80	7.333	1.59	13.417	1.11	19.50	1.43
1.333	0.80	7.417	1.59	13.500	1.11	19.58	1.43
1.417	0.80	7.500	1.59	13.583	1.11	19.67	1.43
1.500	0.80	7.583	1.59	13.667	1.11	19.75	1.43
1.583	0.80	7.667	1.59	13.750	1.11	19.83	1.43
1.667	0.80	7.750	1.59	13.833	6.53	19.92	1.43
1.750	0.80	7.833	1.59	13.917	6.53	20.00	1.43
1.833	0.80	7.917	1.59	14.000	6.53	20.08	1.43
1.917	0.80	8.000	1.59	14.083	6.53	20.17	1.43
2.000	0.80	8.083	1.59	14.167	6.53	20.25	1.43
2.083	1.43	8.167	1.59	14.250	6.53	20.33	0.96
2.167	1.43	8.250	1.59	14.333	2.39	20.42	0.96
2.250	1.43	8.333	2.15	14.417	2.39	20.50	0.96
2.333	1.03	8.417	2.15	14.500	2.39	20.58	0.96
2.417	1.03	8.500	2.15	14.583	2.39	20.67	0.96
2.500	1.03	8.583	2.15	14.667	2.39	20.75	0.96
2.583	1.03	8.667	2.15	14.750	2.39	20.83	0.96
2.667	1.03	8.750	2.15	14.833	2.39	20.92	0.96
2.750	1.03	8.833	2.15	14.917	2.39	21.00	0.96
2.833	1.03	8.917	2.15	15.000	2.39	21.08	0.96
2.917	1.03	9.000	2.15	15.083	2.39	21.17	0.96
3.000	1.03	9.083	2.15	15.167	2.39	21.25	0.96
3.083	1.03	9.167	2.15	15.250	2.39	21.33	0.96
3.167	1.03	9.250	2.15	15.333	2.39	21.42	0.96
3.250	1.03	9.333	2.55	15.417	2.39	21.50	0.96
3.333	1.03	9.417	2.55	15.500	2.39	21.58	0.96
3.417	1.03	9.500	2.55	15.583	2.39	21.67	0.96
3.500	1.03	9.583	2.55	15.667	2.39	21.75	0.96
3.583	1.03	9.667	2.55	15.750	2.39	21.83	0.96
3.667	1.03	9.750	2.55	15.833	2.39	21.92	0.96
3.750	1.03	9.833	2.87	15.917	2.39	22.00	0.96
3.833	1.03	9.917	2.87	16.000	2.39	22.08	0.96
3.917	1.03	10.000	2.87	16.083	2.39	22.17	0.96
4.000	1.03	10.083	2.87	16.167	2.39	22.25	0.96
4.083	1.03	10.167	2.87	16.250	2.39	22.33	0.96
4.167	1.03	10.250	2.87	16.333	1.43	22.42	0.96
4.250	1.03	10.333	3.66	16.417	1.43	22.50	0.96
4.333	1.27	10.417	3.66	16.500	1.43	22.58	0.96
4.417	1.27	10.500	3.66	16.583	1.43	22.67	0.96
4.500	1.27	10.583	3.66	16.667	1.43	22.75	0.96
4.583	1.27	10.667	3.66	16.750	1.43	22.83	0.96
4.667	1.27	10.750	3.66	16.833	1.43	22.92	0.96
4.750	1.27	10.833	4.94	16.917	1.43	23.00	0.96
4.833	1.27	10.917	4.94	17.000	1.43	23.08	0.96
4.917	1.27	11.000	4.94	17.083	1.43	23.17	0.96
5.000	1.27	11.083	4.94	17.167	1.43	23.25	0.96
5.083	1.27	11.167	4.94	17.250	1.43	23.33	0.96
5.167	1.27	11.250	4.94	17.333	1.43	23.42	0.96
5.250	1.27	11.333	7.64	17.417	1.43	23.50	0.96
5.333	1.27	11.417	7.64	17.500	1.43	23.58	0.96
5.417	1.27	11.500	7.64	17.583	1.43	23.67	0.96
5.500	1.27	11.583	7.64	17.667	1.43	23.75	0.96
5.583	1.27	11.667	7.64	17.750	1.43	23.83	0.96
5.667	1.27	11.750	7.64	17.833	1.43	23.92	0.96
5.750	1.27	11.833	33.11	17.917	1.43	24.00	0.96
5.833	1.27	11.917	33.11	18.000	1.43	24.08	0.96
5.917	1.27	12.000	33.11	18.083	1.43	24.17	0.96
6.000	1.27	12.083	87.87	18.167	1.43	24.25	0.96
6.083	1.27	12.167	87.88	18.250	1.43		

Unit Hyd Qpeak (cms)= 0.246

PEAK FLOW (cms)= 0.107 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 27.430
TOTAL RAINFALL (mm)= 79.600
RUNOFF COEFFICIENT = 0.345

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\789b73b3
Ptotal= 79.60 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.59	12.75	11.46	19.00	1.43
0.50	0.80	6.75	1.59	13.00	5.89	19.25	1.43
0.75	0.80	7.00	1.59	13.25	5.89	19.50	1.43
1.00	0.80	7.25	1.59	13.50	1.11	19.75	1.43
1.25	0.80	7.50	1.59	13.75	1.11	20.00	1.43
1.50	0.80	7.75	1.59	14.00	6.53	20.25	1.43
1.75	0.80	8.00	1.59	14.25	6.53	20.50	0.96

2.00	0.80	8.25	1.59	14.50	2.39	20.75	0.96
2.25	1.43	8.50	2.15	14.75	2.39	21.00	0.96
2.50	1.03	8.75	2.15	15.00	2.39	21.25	0.96
2.75	1.03	9.00	2.15	15.25	2.39	21.50	0.96
3.00	1.03	9.25	2.15	15.50	2.39	21.75	0.96
3.25	1.03	9.50	2.55	15.75	2.39	22.00	0.96
3.50	1.03	9.75	2.55	16.00	2.39	22.25	0.96
3.75	1.03	10.00	2.87	16.25	2.39	22.50	0.96
4.00	1.03	10.25	2.87	16.50	1.43	22.75	0.96
4.25	1.03	10.50	3.66	16.75	1.43	23.00	0.96
4.50	1.27	10.75	3.66	17.00	1.43	23.25	0.96
4.75	1.27	11.00	4.94	17.25	1.43	23.50	0.96
5.00	1.27	11.25	4.94	17.50	1.43	23.75	0.96
5.25	1.27	11.50	7.64	17.75	1.43	24.00	0.96
5.50	1.27	11.75	7.64	18.00	1.43	24.25	0.96
5.75	1.27	12.00	33.11	18.25	1.43		
6.00	1.27	12.25	87.88	18.50	1.43		
6.25	1.27	12.50	11.46	18.75	1.43		

CALIB	
NASHYD (0104)	Area (ha)= 3.97 Curve Number (CN)= 68.0
ID= 1 DT= 5.0 min	Ia (mm)= 7.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.46

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.27	12.250	87.88	18.33	1.43
0.167	0.00	6.250	1.27	12.333	11.47	18.42	1.43
0.250	0.00	6.333	1.59	12.417	11.46	18.50	1.43
0.333	0.80	6.417	1.59	12.500	11.46	18.58	1.43
0.417	0.80	6.500	1.59	12.583	11.46	18.67	1.43
0.500	0.80	6.583	1.59	12.667	11.46	18.75	1.43
0.583	0.80	6.667	1.59	12.750	11.46	18.83	1.43
0.667	0.80	6.750	1.59	12.833	5.89	18.92	1.43
0.750	0.80	6.833	1.59	12.917	5.89	19.00	1.43
0.833	0.80	6.917	1.59	13.000	5.89	19.08	1.43
0.917	0.80	7.000	1.59	13.083	5.89	19.17	1.43
1.000	0.80	7.083	1.59	13.167	5.89	19.25	1.43
1.083	0.80	7.167	1.59	13.250	5.89	19.33	1.43
1.167	0.80	7.250	1.59	13.333	1.11	19.42	1.43
1.250	0.80	7.333	1.59	13.417	1.11	19.50	1.43
1.333	0.80	7.417	1.59	13.500	1.11	19.58	1.43
1.417	0.80	7.500	1.59	13.583	1.11	19.67	1.43
1.500	0.80	7.583	1.59	13.667	1.11	19.75	1.43
1.583	0.80	7.667	1.59	13.750	1.11	19.83	1.43
1.667	0.80	7.750	1.59	13.833	6.53	19.92	1.43
1.750	0.80	7.833	1.59	13.917	6.53	20.00	1.43
1.833	0.80	7.917	1.59	14.000	6.53	20.08	1.43
1.917	0.80	8.000	1.59	14.083	6.53	20.17	1.43
2.000	0.80	8.083	1.59	14.167	6.53	20.25	1.43
2.083	1.43	8.167	1.59	14.250	6.53	20.33	0.96
2.167	1.43	8.250	1.59	14.333	2.39	20.42	0.96
2.250	1.43	8.333	2.15	14.417	2.39	20.50	0.96
2.333	1.03	8.417	2.15	14.500	2.39	20.58	0.96
2.417	1.03	8.500	2.15	14.583	2.39	20.67	0.96
2.500	1.03	8.583	2.15	14.667	2.39	20.75	0.96
2.583	1.03	8.667	2.15	14.750	2.39	20.83	0.96
2.667	1.03	8.750	2.15	14.833	2.39	20.92	0.96
2.750	1.03	8.833	2.15	14.917	2.39	21.00	0.96
2.833	1.03	8.917	2.15	15.000	2.39	21.08	0.96
2.917	1.03	9.000	2.15	15.083	2.39	21.17	0.96
3.000	1.03	9.083	2.15	15.167	2.39	21.25	0.96
3.083	1.03	9.167	2.15	15.250	2.39	21.33	0.96
3.167	1.03	9.250	2.15	15.333	2.39	21.42	0.96
3.250	1.03	9.333	2.55	15.417	2.39	21.50	0.96
3.333	1.03	9.417	2.55	15.500	2.39	21.58	0.96
3.417	1.03	9.500	2.55	15.583	2.39	21.67	0.96
3.500	1.03	9.583	2.55	15.667	2.39	21.75	0.96
3.583	1.03	9.667	2.55	15.750	2.39	21.83	0.96
3.667	1.03	9.750	2.55	15.833	2.39	21.92	0.96
3.750	1.03	9.833	2.87	15.917	2.39	22.00	0.96
3.833	1.03	9.917	2.87	16.000	2.39	22.08	0.96
3.917	1.03	10.000	2.87	16.083	2.39	22.17	0.96
4.000	1.03	10.083	2.87	16.167	2.39	22.25	0.96
4.083	1.03	10.167	2.87	16.250	2.39	22.33	0.96
4.167	1.03	10.250	2.87	16.333	1.43	22.42	0.96
4.250	1.03	10.333	3.66	16.417	1.43	22.50	0.96
4.333	1.27	10.417	3.66	16.500	1.43	22.58	0.96
4.417	1.27	10.500	3.66	16.583	1.43	22.67	0.96
4.500	1.27	10.583	3.66	16.667	1.43	22.75	0.96
4.583	1.27	10.667	3.66	16.750	1.43	22.83	0.96
4.667	1.27	10.750	3.66	16.833	1.43	22.92	0.96
4.750	1.27	10.833	4.94	16.917	1.43	23.00	0.96
4.833	1.27	10.917	4.94	17.000	1.43	23.08	0.96
4.917	1.27	11.000	4.94	17.083	1.43	23.17	0.96
5.000	1.27	11.083	4.94	17.167	1.43	23.25	0.96
5.083	1.27	11.167	4.94	17.250	1.43	23.33	0.96
5.167	1.27	11.250	4.94	17.333	1.43	23.42	0.96
5.250	1.27	11.333	7.64	17.417	1.43	23.50	0.96
5.333	1.27	11.417	7.64	17.500	1.43	23.58	0.96
5.417	1.27	11.500	7.64	17.583	1.43	23.67	0.96
5.500	1.27	11.583	7.64	17.667	1.43	23.75	0.96
5.583	1.27	11.667	7.64	17.750	1.43	23.83	0.96
5.667	1.27	11.750	7.64	17.833	1.43	23.92	0.96
5.750	1.27	11.833	33.11	17.917	1.43	24.00	0.96
5.833	1.27	11.917	33.11	18.000	1.43	24.08	0.96
5.917	1.27	12.000	33.11	18.083	1.43	24.17	0.96
6.000	1.27	12.083	87.87	18.167	1.43	24.25	0.96
6.083	1.27	12.167	87.88	18.250	1.43		

Unit Hyd Qpeak (cms)= 0.330

PEAK FLOW (cms)= 0.150 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 27.431
TOTAL RAINFALL (mm)= 79.600
RUNOFF COEFFICIENT = 0.345

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0008)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	1.10	0.038	12.50	22.16
+ ID2= 2 (0103):	2.58	0.107	12.50	27.43
ID = 3 (0008):	3.68	0.146	12.50	25.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0008)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0008):	3.68	0.146	12.50	25.85
+ ID2= 2 (0104):	3.97	0.150	12.58	27.43
ID = 1 (0008):	7.65	0.292	12.58	26.67

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
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DATE: 05-29-2018                          TIME: 01:23:16

USER:


COMMENTS: _____________________________________________________________


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  ************************************************
  ** SIMULATION : SCS_24hr_025yr                **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\304f617c
| Ptotal= 95.68 mm |    Comments:
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.91	12.75	13.78	19.00	1.72
0.50	0.96	6.75	1.91	13.00	7.08	19.25	1.72
0.75	0.96	7.00	1.91	13.25	7.08	19.50	1.72
1.00	0.96	7.25	1.91	13.50	1.34	19.75	1.72
1.25	0.96	7.50	1.91	13.75	1.34	20.00	1.72
1.50	0.96	7.75	1.91	14.00	7.85	20.25	1.72
1.75	0.96	8.00	1.91	14.25	7.85	20.50	1.15
2.00	0.96	8.25	1.91	14.50	2.87	20.75	1.15
2.25	1.72	8.50	2.58	14.75	2.87	21.00	1.15
2.50	1.24	8.75	2.58	15.00	2.87	21.25	1.15
2.75	1.24	9.00	2.58	15.25	2.87	21.50	1.15
3.00	1.24	9.25	2.58	15.50	2.87	21.75	1.15
3.25	1.24	9.50	3.06	15.75	2.87	22.00	1.15
3.50	1.24	9.75	3.06	16.00	2.87	22.25	1.15
3.75	1.24	10.00	3.45	16.25	2.87	22.50	1.15
4.00	1.24	10.25	3.45	16.50	1.72	22.75	1.15
4.25	1.24	10.50	4.40	16.75	1.72	23.00	1.15
4.50	1.53	10.75	4.40	17.00	1.72	23.25	1.15
4.75	1.53	11.00	5.93	17.25	1.72	23.50	1.15
5.00	1.53	11.25	5.93	17.50	1.72	23.75	1.15
5.25	1.53	11.50	9.19	17.75	1.72	24.00	1.15
5.50	1.53	11.75	9.19	18.00	1.72	24.25	1.15
5.75	1.53	12.00	39.81	18.25	1.72		
6.00	1.53	12.25	105.65	18.50	1.72		
6.25	1.53	12.50	13.78	18.75	1.72		

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| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.33

       NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.53	12.250	105.65	18.33	1.72
0.167	0.00	6.250	1.53	12.333	13.79	18.42	1.72
0.250	0.00	6.333	1.91	12.417	13.78	18.50	1.72
0.333	0.96	6.417	1.91	12.500	13.78	18.58	1.72
0.417	0.96	6.500	1.91	12.583	13.78	18.67	1.72
0.500	0.96	6.583	1.91	12.667	13.78	18.75	1.72
0.583	0.96	6.667	1.91	12.750	13.78	18.83	1.72
0.667	0.96	6.750	1.91	12.833	7.08	18.92	1.72
0.750	0.96	6.833	1.91	12.917	7.08	19.00	1.72
0.833	0.96	6.917	1.91	13.000	7.08	19.08	1.72
0.917	0.96	7.000	1.91	13.083	7.08	19.17	1.72
1.000	0.96	7.083	1.91	13.167	7.08	19.25	1.72
1.083	0.96	7.167	1.91	13.250	7.08	19.33	1.72
1.167	0.96	7.250	1.91	13.333	1.34	19.42	1.72
1.250	0.96	7.333	1.91	13.417	1.34	19.50	1.72
1.333	0.96	7.417	1.91	13.500	1.34	19.58	1.72
1.417	0.96	7.500	1.91	13.583	1.34	19.67	1.72
1.500	0.96	7.583	1.91	13.667	1.34	19.75	1.72
1.583	0.96	7.667	1.91	13.750	1.34	19.83	1.72
1.667	0.96	7.750	1.91	13.833	7.85	19.92	1.72
1.750	0.96	7.833	1.91	13.917	7.85	20.00	1.72
1.833	0.96	7.917	1.91	14.000	7.85	20.08	1.72
1.917	0.96	8.000	1.91	14.083	7.85	20.17	1.72
2.000	0.96	8.083	1.91	14.167	7.85	20.25	1.72
2.083	1.72	8.167	1.91	14.250	7.85	20.33	1.15
2.167	1.72	8.250	1.91	14.333	2.87	20.42	1.15
2.250	1.72	8.333	2.58	14.417	2.87	20.50	1.15
2.333	1.24	8.417	2.58	14.500	2.87	20.58	1.15
2.417	1.24	8.500	2.58	14.583	2.87	20.67	1.15
2.500	1.24	8.583	2.58	14.667	2.87	20.75	1.15
2.583	1.24	8.667	2.58	14.750	2.87	20.83	1.15
2.667	1.24	8.750	2.58	14.833	2.87	20.92	1.15
2.750	1.24	8.833	2.58	14.917	2.87	21.00	1.15
2.833	1.24	8.917	2.58	15.000	2.87	21.08	1.15
2.917	1.24	9.000	2.58	15.083	2.87	21.17	1.15
3.000	1.24	9.083	2.58	15.167	2.87	21.25	1.15
3.083	1.24	9.167	2.58	15.250	2.87	21.33	1.15
3.167	1.24	9.250	2.58	15.333	2.87	21.42	1.15
3.250	1.24	9.333	3.06	15.417	2.87	21.50	1.15
3.333	1.24	9.417	3.06	15.500	2.87	21.58	1.15
3.417	1.24	9.500	3.06	15.583	2.87	21.67	1.15
3.500	1.24	9.583	3.06	15.667	2.87	21.75	1.15
3.583	1.24	9.667	3.06	15.750	2.87	21.83	1.15
3.667	1.24	9.750	3.06	15.833	2.87	21.92	1.15

3.750	1.24	9.833	3.45	15.917	2.87	22.00	1.15
3.833	1.24	9.917	3.45	16.000	2.87	22.08	1.15
3.917	1.24	10.000	3.45	16.083	2.87	22.17	1.15
4.000	1.24	10.083	3.45	16.167	2.87	22.25	1.15
4.083	1.24	10.167	3.45	16.250	2.87	22.33	1.15
4.167	1.24	10.250	3.45	16.333	1.72	22.42	1.15
4.250	1.24	10.333	4.40	16.417	1.72	22.50	1.15
4.333	1.53	10.417	4.40	16.500	1.72	22.58	1.15
4.417	1.53	10.500	4.40	16.583	1.72	22.67	1.15
4.500	1.53	10.583	4.40	16.667	1.72	22.75	1.15
4.583	1.53	10.667	4.40	16.750	1.72	22.83	1.15
4.667	1.53	10.750	4.40	16.833	1.72	22.92	1.15
4.750	1.53	10.833	5.93	16.917	1.72	23.00	1.15
4.833	1.53	10.917	5.93	17.000	1.72	23.08	1.15
4.917	1.53	11.000	5.93	17.083	1.72	23.17	1.15
5.000	1.53	11.083	5.93	17.167	1.72	23.25	1.15
5.083	1.53	11.167	5.93	17.250	1.72	23.33	1.15
5.167	1.53	11.250	5.93	17.333	1.72	23.42	1.15
5.250	1.53	11.333	9.19	17.417	1.72	23.50	1.15
5.333	1.53	11.417	9.19	17.500	1.72	23.58	1.15
5.417	1.53	11.500	9.19	17.583	1.72	23.67	1.15
5.500	1.53	11.583	9.19	17.667	1.72	23.75	1.15
5.583	1.53	11.667	9.19	17.750	1.72	23.83	1.15
5.667	1.53	11.750	9.19	17.833	1.72	23.92	1.15
5.750	1.53	11.833	39.81	17.917	1.72	24.00	1.15
5.833	1.53	11.917	39.81	18.000	1.72	24.08	1.15
5.917	1.53	12.000	39.81	18.083	1.72	24.17	1.15
6.000	1.53	12.083	105.64	18.167	1.72	24.25	1.15
6.083	1.53	12.167	105.65	18.250	1.72		

Unit Hyd Qpeak (cms)= 0.425

PEAK FLOW (cms)= 0.244 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 37.757
TOTAL RAINFALL (mm)= 95.675
RUNOFF COEFFICIENT = 0.395

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\304f617c
Ptotal= 95.68 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.91	12.75	13.78	19.00	1.72
0.50	0.96	6.75	1.91	13.00	7.08	19.25	1.72
0.75	0.96	7.00	1.91	13.25	7.08	19.50	1.72
1.00	0.96	7.25	1.91	13.50	1.34	19.75	1.72
1.25	0.96	7.50	1.91	13.75	1.34	20.00	1.72
1.50	0.96	7.75	1.91	14.00	7.85	20.25	1.72
1.75	0.96	8.00	1.91	14.25	7.85	20.50	1.15
2.00	0.96	8.25	1.91	14.50	2.87	20.75	1.15
2.25	1.72	8.50	2.58	14.75	2.87	21.00	1.15
2.50	1.24	8.75	2.58	15.00	2.87	21.25	1.15
2.75	1.24	9.00	2.58	15.25	2.87	21.50	1.15
3.00	1.24	9.25	2.58	15.50	2.87	21.75	1.15
3.25	1.24	9.50	3.06	15.75	2.87	22.00	1.15
3.50	1.24	9.75	3.06	16.00	2.87	22.25	1.15
3.75	1.24	10.00	3.45	16.25	2.87	22.50	1.15
4.00	1.24	10.25	3.45	16.50	1.72	22.75	1.15
4.25	1.24	10.50	4.40	16.75	1.72	23.00	1.15
4.50	1.53	10.75	4.40	17.00	1.72	23.25	1.15
4.75	1.53	11.00	5.93	17.25	1.72	23.50	1.15
5.00	1.53	11.25	5.93	17.50	1.72	23.75	1.15
5.25	1.53	11.50	9.19	17.75	1.72	24.00	1.15
5.50	1.53	11.75	9.19	18.00	1.72	24.25	1.15
5.75	1.53	12.00	39.81	18.25	1.72		
6.00	1.53	12.25	105.65	18.50	1.72		
6.25	1.53	12.50	13.78	18.75	1.72		

CALIB | NASHYD (0102) | ID= 1 DT= 5.0 min | Area (ha)= 1.10 Curve Number (CN)= 59.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 0.37

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.53	12.250	105.65	18.33	1.72
0.167	0.00	6.250	1.53	12.333	13.79	18.42	1.72
0.250	0.00	6.333	1.91	12.417	13.78	18.50	1.72
0.333	0.96	6.417	1.91	12.500	13.78	18.58	1.72
0.417	0.96	6.500	1.91	12.583	13.78	18.67	1.72
0.500	0.96	6.583	1.91	12.667	13.78	18.75	1.72
0.583	0.96	6.667	1.91	12.750	13.78	18.83	1.72
0.667	0.96	6.750	1.91	12.833	7.08	18.92	1.72
0.750	0.96	6.833	1.91	12.917	7.08	19.00	1.72
0.833	0.96	6.917	1.91	13.000	7.08	19.08	1.72
0.917	0.96	7.000	1.91	13.083	7.08	19.17	1.72
1.000	0.96	7.083	1.91	13.167	7.08	19.25	1.72
1.083	0.96	7.167	1.91	13.250	7.08	19.33	1.72
1.167	0.96	7.250	1.91	13.333	1.34	19.42	1.72
1.250	0.96	7.333	1.91	13.417	1.34	19.50	1.72
1.333	0.96	7.417	1.91	13.500	1.34	19.58	1.72
1.417	0.96	7.500	1.91	13.583	1.34	19.67	1.72
1.500	0.96	7.583	1.91	13.667	1.34	19.75	1.72
1.583	0.96	7.667	1.91	13.750	1.34	19.83	1.72
1.667	0.96	7.750	1.91	13.833	7.85	19.92	1.72
1.750	0.96	7.833	1.91	13.917	7.85	20.00	1.72
1.833	0.96	7.917	1.91	14.000	7.85	20.08	1.72
1.917	0.96	8.000	1.91	14.083	7.85	20.17	1.72
2.000	0.96	8.083	1.91	14.167	7.85	20.25	1.72
2.083	1.72	8.167	1.91	14.250	7.85	20.33	1.15
2.167	1.72	8.250	1.91	14.333	2.87	20.42	1.15
2.250	1.72	8.333	2.58	14.417	2.87	20.50	1.15
2.333	1.24	8.417	2.58	14.500	2.87	20.58	1.15
2.417	1.24	8.500	2.58	14.583	2.87	20.67	1.15
2.500	1.24	8.583	2.58	14.667	2.87	20.75	1.15
2.583	1.24	8.667	2.58	14.750	2.87	20.83	1.15
2.667	1.24	8.750	2.58	14.833	2.87	20.92	1.15
2.750	1.24	8.833	2.58	14.917	2.87	21.00	1.15
2.833	1.24	8.917	2.58	15.000	2.87	21.08	1.15
2.917	1.24	9.000	2.58	15.083	2.87	21.17	1.15
3.000	1.24	9.083	2.58	15.167	2.87	21.25	1.15
3.083	1.24	9.167	2.58	15.250	2.87	21.33	1.15
3.167	1.24	9.250	2.58	15.333	2.87	21.42	1.15
3.250	1.24	9.333	3.06	15.417	2.87	21.50	1.15
3.333	1.24	9.417	3.06	15.500	2.87	21.58	1.15
3.417	1.24	9.500	3.06	15.583	2.87	21.67	1.15
3.500	1.24	9.583	3.06	15.667	2.87	21.75	1.15
3.583	1.24	9.667	3.06	15.750	2.87	21.83	1.15
3.667	1.24	9.750	3.06	15.833	2.87	21.92	1.15
3.750	1.24	9.833	3.45	15.917	2.87	22.00	1.15
3.833	1.24	9.917	3.45	16.000	2.87	22.08	1.15
3.917	1.24	10.000	3.45	16.083	2.87	22.17	1.15
4.000	1.24	10.083	3.45	16.167	2.87	22.25	1.15
4.083	1.24	10.167	3.45	16.250	2.87	22.33	1.15
4.167	1.24	10.250	3.45	16.333	1.72	22.42	1.15

4.250	1.24	10.333	4.40	16.417	1.72	22.50	1.15
4.333	1.53	10.417	4.40	16.500	1.72	22.58	1.15
4.417	1.53	10.500	4.40	16.583	1.72	22.67	1.15
4.500	1.53	10.583	4.40	16.667	1.72	22.75	1.15
4.583	1.53	10.667	4.40	16.750	1.72	22.83	1.15
4.667	1.53	10.750	4.40	16.833	1.72	22.92	1.15
4.750	1.53	10.833	5.93	16.917	1.72	23.00	1.15
4.833	1.53	10.917	5.93	17.000	1.72	23.08	1.15
4.917	1.53	11.000	5.93	17.083	1.72	23.17	1.15
5.000	1.53	11.083	5.93	17.167	1.72	23.25	1.15
5.083	1.53	11.167	5.93	17.250	1.72	23.33	1.15
5.167	1.53	11.250	5.93	17.333	1.72	23.42	1.15
5.250	1.53	11.333	9.19	17.417	1.72	23.50	1.15
5.333	1.53	11.417	9.19	17.500	1.72	23.58	1.15
5.417	1.53	11.500	9.19	17.583	1.72	23.67	1.15
5.500	1.53	11.583	9.19	17.667	1.72	23.75	1.15
5.583	1.53	11.667	9.19	17.750	1.72	23.83	1.15
5.667	1.53	11.750	9.19	17.833	1.72	23.92	1.15
5.750	1.53	11.833	39.81	17.917	1.72	24.00	1.15
5.833	1.53	11.917	39.81	18.000	1.72	24.08	1.15
5.917	1.53	12.000	39.81	18.083	1.72	24.17	1.15
6.000	1.53	12.083	105.64	18.167	1.72	24.25	1.15
6.083	1.53	12.167	105.65	18.250	1.72		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.054 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 30.767
TOTAL RAINFALL (mm)= 95.675
RUNOFF COEFFICIENT = 0.322

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\304f617c
Ptotal= 95.68 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.91	12.75	13.78	19.00	1.72
0.50	0.96	6.75	1.91	13.00	7.08	19.25	1.72
0.75	0.96	7.00	1.91	13.25	7.08	19.50	1.72
1.00	0.96	7.25	1.91	13.50	1.34	19.75	1.72
1.25	0.96	7.50	1.91	13.75	1.34	20.00	1.72
1.50	0.96	7.75	1.91	14.00	7.85	20.25	1.72
1.75	0.96	8.00	1.91	14.25	7.85	20.50	1.15
2.00	0.96	8.25	1.91	14.50	2.87	20.75	1.15
2.25	1.72	8.50	2.58	14.75	2.87	21.00	1.15
2.50	1.24	8.75	2.58	15.00	2.87	21.25	1.15
2.75	1.24	9.00	2.58	15.25	2.87	21.50	1.15
3.00	1.24	9.25	2.58	15.50	2.87	21.75	1.15
3.25	1.24	9.50	3.06	15.75	2.87	22.00	1.15
3.50	1.24	9.75	3.06	16.00	2.87	22.25	1.15
3.75	1.24	10.00	3.45	16.25	2.87	22.50	1.15
4.00	1.24	10.25	3.45	16.50	1.72	22.75	1.15
4.25	1.24	10.50	4.40	16.75	1.72	23.00	1.15
4.50	1.53	10.75	4.40	17.00	1.72	23.25	1.15
4.75	1.53	11.00	5.93	17.25	1.72	23.50	1.15
5.00	1.53	11.25	5.93	17.50	1.72	23.75	1.15
5.25	1.53	11.50	9.19	17.75	1.72	24.00	1.15
5.50	1.53	11.75	9.19	18.00	1.72	24.25	1.15
5.75	1.53	12.00	39.81	18.25	1.72		
6.00	1.53	12.25	105.65	18.50	1.72		
6.25	1.53	12.50	13.78	18.75	1.72		

CALIB	NASHYD (0103)	ID= 1 DT= 5.0 min	Area (ha)= 2.58	Ia (mm)= 7.00	U.H. Tp(hrs)= 0.40	Curve Number (CN)= 68.0	# of Linear Res.(N)= 3.00

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.53	12.250	105.65	18.33	1.72
0.167	0.00	6.250	1.53	12.333	13.79	18.42	1.72
0.250	0.00	6.333	1.91	12.417	13.78	18.50	1.72
0.333	0.96	6.417	1.91	12.500	13.78	18.58	1.72
0.417	0.96	6.500	1.91	12.583	13.78	18.67	1.72
0.500	0.96	6.583	1.91	12.667	13.78	18.75	1.72
0.583	0.96	6.667	1.91	12.750	13.78	18.83	1.72
0.667	0.96	6.750	1.91	12.833	7.08	18.92	1.72
0.750	0.96	6.833	1.91	12.917	7.08	19.00	1.72
0.833	0.96	6.917	1.91	13.000	7.08	19.08	1.72
0.917	0.96	7.000	1.91	13.083	7.08	19.17	1.72
1.000	0.96	7.083	1.91	13.167	7.08	19.25	1.72
1.083	0.96	7.167	1.91	13.250	7.08	19.33	1.72
1.167	0.96	7.250	1.91	13.333	1.34	19.42	1.72
1.250	0.96	7.333	1.91	13.417	1.34	19.50	1.72
1.333	0.96	7.417	1.91	13.500	1.34	19.58	1.72
1.417	0.96	7.500	1.91	13.583	1.34	19.67	1.72
1.500	0.96	7.583	1.91	13.667	1.34	19.75	1.72
1.583	0.96	7.667	1.91	13.750	1.34	19.83	1.72
1.667	0.96	7.750	1.91	13.833	7.85	19.92	1.72
1.750	0.96	7.833	1.91	13.917	7.85	20.00	1.72
1.833	0.96	7.917	1.91	14.000	7.85	20.08	1.72
1.917	0.96	8.000	1.91	14.083	7.85	20.17	1.72
2.000	0.96	8.083	1.91	14.167	7.85	20.25	1.72
2.083	1.72	8.167	1.91	14.250	7.85	20.33	1.15
2.167	1.72	8.250	1.91	14.333	2.87	20.42	1.15
2.250	1.72	8.333	2.58	14.417	2.87	20.50	1.15
2.333	1.24	8.417	2.58	14.500	2.87	20.58	1.15
2.417	1.24	8.500	2.58	14.583	2.87	20.67	1.15
2.500	1.24	8.583	2.58	14.667	2.87	20.75	1.15
2.583	1.24	8.667	2.58	14.750	2.87	20.83	1.15
2.667	1.24	8.750	2.58	14.833	2.87	20.92	1.15
2.750	1.24	8.833	2.58	14.917	2.87	21.00	1.15
2.833	1.24	8.917	2.58	15.000	2.87	21.08	1.15
2.917	1.24	9.000	2.58	15.083	2.87	21.17	1.15
3.000	1.24	9.083	2.58	15.167	2.87	21.25	1.15
3.083	1.24	9.167	2.58	15.250	2.87	21.33	1.15
3.167	1.24	9.250	2.58	15.333	2.87	21.42	1.15
3.250	1.24	9.333	3.06	15.417	2.87	21.50	1.15
3.333	1.24	9.417	3.06	15.500	2.87	21.58	1.15
3.417	1.24	9.500	3.06	15.583	2.87	21.67	1.15
3.500	1.24	9.583	3.06	15.667	2.87	21.75	1.15
3.583	1.24	9.667	3.06	15.750	2.87	21.83	1.15
3.667	1.24	9.750	3.06	15.833	2.87	21.92	1.15
3.750	1.24	9.833	3.45	15.917	2.87	22.00	1.15
3.833	1.24	9.917	3.45	16.000	2.87	22.08	1.15
3.917	1.24	10.000	3.45	16.083	2.87	22.17	1.15
4.000	1.24	10.083	3.45	16.167	2.87	22.25	1.15
4.083	1.24	10.167	3.45	16.250	2.87	22.33	1.15
4.167	1.24	10.250	3.45	16.333	1.72	22.42	1.15
4.250	1.24	10.333	4.40	16.417	1.72	22.50	1.15
4.333	1.53	10.417	4.40	16.500	1.72	22.58	1.15
4.417	1.53	10.500	4.40	16.583	1.72	22.67	1.15
4.500	1.53	10.583	4.40	16.667	1.72	22.75	1.15
4.583	1.53	10.667	4.40	16.750	1.72	22.83	1.15
4.667	1.53	10.750	4.40	16.833	1.72	22.92	1.15

4.750	1.53	10.833	5.93	16.917	1.72	23.00	1.15
4.833	1.53	10.917	5.93	17.000	1.72	23.08	1.15
4.917	1.53	11.000	5.93	17.083	1.72	23.17	1.15
5.000	1.53	11.083	5.93	17.167	1.72	23.25	1.15
5.083	1.53	11.167	5.93	17.250	1.72	23.33	1.15
5.167	1.53	11.250	5.93	17.333	1.72	23.42	1.15
5.250	1.53	11.333	9.19	17.417	1.72	23.50	1.15
5.333	1.53	11.417	9.19	17.500	1.72	23.58	1.15
5.417	1.53	11.500	9.19	17.583	1.72	23.67	1.15
5.500	1.53	11.583	9.19	17.667	1.72	23.75	1.15
5.583	1.53	11.667	9.19	17.750	1.72	23.83	1.15
5.667	1.53	11.750	9.19	17.833	1.72	23.92	1.15
5.750	1.53	11.833	39.81	17.917	1.72	24.00	1.15
5.833	1.53	11.917	39.81	18.000	1.72	24.08	1.15
5.917	1.53	12.000	39.81	18.083	1.72	24.17	1.15
6.000	1.53	12.083	105.64	18.167	1.72	24.25	1.15
6.083	1.53	12.167	105.65	18.250	1.72		

Unit Hyd Qpeak (cms)= 0.246

PEAK FLOW (cms)= 0.150 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 37.762
TOTAL RAINFALL (mm)= 95.675
RUNOFF COEFFICIENT = 0.395

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\304f617c
Ptotal= 95.68 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.91	12.75	13.78	19.00	1.72
0.50	0.96	6.75	1.91	13.00	7.08	19.25	1.72
0.75	0.96	7.00	1.91	13.25	7.08	19.50	1.72
1.00	0.96	7.25	1.91	13.50	1.34	19.75	1.72
1.25	0.96	7.50	1.91	13.75	1.34	20.00	1.72
1.50	0.96	7.75	1.91	14.00	7.85	20.25	1.72
1.75	0.96	8.00	1.91	14.25	7.85	20.50	1.15
2.00	0.96	8.25	1.91	14.50	2.87	20.75	1.15
2.25	1.72	8.50	2.58	14.75	2.87	21.00	1.15
2.50	1.24	8.75	2.58	15.00	2.87	21.25	1.15
2.75	1.24	9.00	2.58	15.25	2.87	21.50	1.15
3.00	1.24	9.25	2.58	15.50	2.87	21.75	1.15
3.25	1.24	9.50	3.06	15.75	2.87	22.00	1.15
3.50	1.24	9.75	3.06	16.00	2.87	22.25	1.15
3.75	1.24	10.00	3.45	16.25	2.87	22.50	1.15
4.00	1.24	10.25	3.45	16.50	1.72	22.75	1.15
4.25	1.24	10.50	4.40	16.75	1.72	23.00	1.15
4.50	1.53	10.75	4.40	17.00	1.72	23.25	1.15
4.75	1.53	11.00	5.93	17.25	1.72	23.50	1.15
5.00	1.53	11.25	5.93	17.50	1.72	23.75	1.15
5.25	1.53	11.50	9.19	17.75	1.72	24.00	1.15
5.50	1.53	11.75	9.19	18.00	1.72	24.25	1.15
5.75	1.53	12.00	39.81	18.25	1.72		
6.00	1.53	12.25	105.65	18.50	1.72		
6.25	1.53	12.50	13.78	18.75	1.72		

CALIB | NASHYD (0104) | ID= 1 DT= 5.0 min | Area (ha)= 3.97 Curve Number (CN)= 68.0 | Ia (mm)= 7.00 # of Linear Res.(N)= 3.00

U.H. Tp(hrs)= 0.46

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.53	12.250	105.65	18.33	1.72
0.167	0.00	6.250	1.53	12.333	13.79	18.42	1.72
0.250	0.00	6.333	1.91	12.417	13.78	18.50	1.72
0.333	0.96	6.417	1.91	12.500	13.78	18.58	1.72
0.417	0.96	6.500	1.91	12.583	13.78	18.67	1.72
0.500	0.96	6.583	1.91	12.667	13.78	18.75	1.72
0.583	0.96	6.667	1.91	12.750	13.78	18.83	1.72
0.667	0.96	6.750	1.91	12.833	7.08	18.92	1.72
0.750	0.96	6.833	1.91	12.917	7.08	19.00	1.72
0.833	0.96	6.917	1.91	13.000	7.08	19.08	1.72
0.917	0.96	7.000	1.91	13.083	7.08	19.17	1.72
1.000	0.96	7.083	1.91	13.167	7.08	19.25	1.72
1.083	0.96	7.167	1.91	13.250	7.08	19.33	1.72
1.167	0.96	7.250	1.91	13.333	1.34	19.42	1.72
1.250	0.96	7.333	1.91	13.417	1.34	19.50	1.72
1.333	0.96	7.417	1.91	13.500	1.34	19.58	1.72
1.417	0.96	7.500	1.91	13.583	1.34	19.67	1.72
1.500	0.96	7.583	1.91	13.667	1.34	19.75	1.72
1.583	0.96	7.667	1.91	13.750	1.34	19.83	1.72
1.667	0.96	7.750	1.91	13.833	7.85	19.92	1.72
1.750	0.96	7.833	1.91	13.917	7.85	20.00	1.72
1.833	0.96	7.917	1.91	14.000	7.85	20.08	1.72
1.917	0.96	8.000	1.91	14.083	7.85	20.17	1.72
2.000	0.96	8.083	1.91	14.167	7.85	20.25	1.72
2.083	1.72	8.167	1.91	14.250	7.85	20.33	1.15
2.167	1.72	8.250	1.91	14.333	2.87	20.42	1.15
2.250	1.72	8.333	2.58	14.417	2.87	20.50	1.15
2.333	1.24	8.417	2.58	14.500	2.87	20.58	1.15
2.417	1.24	8.500	2.58	14.583	2.87	20.67	1.15
2.500	1.24	8.583	2.58	14.667	2.87	20.75	1.15
2.583	1.24	8.667	2.58	14.750	2.87	20.83	1.15
2.667	1.24	8.750	2.58	14.833	2.87	20.92	1.15
2.750	1.24	8.833	2.58	14.917	2.87	21.00	1.15
2.833	1.24	8.917	2.58	15.000	2.87	21.08	1.15
2.917	1.24	9.000	2.58	15.083	2.87	21.17	1.15
3.000	1.24	9.083	2.58	15.167	2.87	21.25	1.15
3.083	1.24	9.167	2.58	15.250	2.87	21.33	1.15
3.167	1.24	9.250	2.58	15.333	2.87	21.42	1.15
3.250	1.24	9.333	3.06	15.417	2.87	21.50	1.15
3.333	1.24	9.417	3.06	15.500	2.87	21.58	1.15
3.417	1.24	9.500	3.06	15.583	2.87	21.67	1.15
3.500	1.24	9.583	3.06	15.667	2.87	21.75	1.15
3.583	1.24	9.667	3.06	15.750	2.87	21.83	1.15
3.667	1.24	9.750	3.06	15.833	2.87	21.92	1.15
3.750	1.24	9.833	3.45	15.917	2.87	22.00	1.15
3.833	1.24	9.917	3.45	16.000	2.87	22.08	1.15
3.917	1.24	10.000	3.45	16.083	2.87	22.17	1.15
4.000	1.24	10.083	3.45	16.167	2.87	22.25	1.15
4.083	1.24	10.167	3.45	16.250	2.87	22.33	1.15
4.167	1.24	10.250	3.45	16.333	1.72	22.42	1.15
4.250	1.24	10.333	4.40	16.417	1.72	22.50	1.15
4.333	1.53	10.417	4.40	16.500	1.72	22.58	1.15
4.417	1.53	10.500	4.40	16.583	1.72	22.67	1.15
4.500	1.53	10.583	4.40	16.667	1.72	22.75	1.15
4.583	1.53	10.667	4.40	16.750	1.72	22.83	1.15
4.667	1.53	10.750	4.40	16.833	1.72	22.92	1.15
4.750	1.53	10.833	5.93	16.917	1.72	23.00	1.15
4.833	1.53	10.917	5.93	17.000	1.72	23.08	1.15
4.917	1.53	11.000	5.93	17.083	1.72	23.17	1.15
5.000	1.53	11.083	5.93	17.167	1.72	23.25	1.15
5.083	1.53	11.167	5.93	17.250	1.72	23.33	1.15
5.167	1.53	11.250	5.93	17.333	1.72	23.42	1.15

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              5.250    1.53 |11.333    9.19 |17.417    1.72 | 23.50    1.15
              5.333    1.53 |11.417    9.19 |17.500    1.72 | 23.58    1.15
              5.417    1.53 |11.500    9.19 |17.583    1.72 | 23.67    1.15
              5.500    1.53 |11.583    9.19 |17.667    1.72 | 23.75    1.15
              5.583    1.53 |11.667    9.19 |17.750    1.72 | 23.83    1.15
              5.667    1.53 |11.750    9.19 |17.833    1.72 | 23.92    1.15
              5.750    1.53 |11.833   39.81 |17.917    1.72 | 24.00    1.15
              5.833    1.53 |11.917   39.81 |18.000    1.72 | 24.08    1.15
              5.917    1.53 |12.000   39.81 |18.083    1.72 | 24.17    1.15
              6.000    1.53 |12.083  105.64 |18.167    1.72 | 24.25    1.15
              6.083    1.53 |12.167  105.65 |18.250    1.72 |

     Unit Hyd Qpeak  (cms)=   0.330

     PEAK FLOW       (cms)=   0.209 (i)
     TIME TO PEAK    (hrs)=  12.583
     RUNOFF VOLUME    (mm)=  37.764
     TOTAL RAINFALL   (mm)=  95.675
     RUNOFF COEFFICIENT   =   0.395

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.054    12.50    30.77
     + ID2= 2 (  0103):     2.58   0.150    12.50    37.76
       ====================================================
       ID = 3 (  0008):     3.68   0.203    12.50    35.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0008)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0008):     3.68   0.203    12.50    35.67
     + ID2= 2 (  0104):     3.97   0.209    12.58    37.76
       ====================================================
       ID = 1 (  0008):     7.65   0.407    12.58    36.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\2a9546e4-8ba7-44d6-97c6-e88e6438be0d\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\2a9546e4-8ba7-44d6-97c6-e88e6438be0d\scena


DATE: 05-29-2018                          TIME: 01:23:16

USER:


COMMENTS: _____________________________________________________

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  ************************************************
  ** SIMULATION : SCS_24hr_050yr                 **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\bcbd752a
| Ptotal=107.61 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.15 | 12.75   15.49 | 19.00    1.94
                0.50    1.08 |  6.75    2.15 | 13.00    7.96 | 19.25    1.94
                0.75    1.08 |  7.00    2.15 | 13.25    7.96 | 19.50    1.94
                1.00    1.08 |  7.25    2.15 | 13.50    1.51 | 19.75    1.94
                1.25    1.08 |  7.50    2.15 | 13.75    1.51 | 20.00    1.94
                1.50    1.08 |  7.75    2.15 | 14.00    8.82 | 20.25    1.94
                1.75    1.08 |  8.00    2.15 | 14.25    8.82 | 20.50    1.29
                2.00    1.08 |  8.25    2.15 | 14.50    3.23 | 20.75    1.29
                2.25    1.94 |  8.50    2.91 | 14.75    3.23 | 21.00    1.29
                2.50    1.40 |  8.75    2.91 | 15.00    3.23 | 21.25    1.29
                2.75    1.40 |  9.00    2.91 | 15.25    3.23 | 21.50    1.29
                3.00    1.40 |  9.25    2.91 | 15.50    3.23 | 21.75    1.29
                3.25    1.40 |  9.50    3.44 | 15.75    3.23 | 22.00    1.29
                3.50    1.40 |  9.75    3.44 | 16.00    3.23 | 22.25    1.29
                3.75    1.40 | 10.00    3.87 | 16.25    3.23 | 22.50    1.29
                4.00    1.40 | 10.25    3.87 | 16.50    1.94 | 22.75    1.29
                4.25    1.40 | 10.50    4.95 | 16.75    1.94 | 23.00    1.29
                4.50    1.72 | 10.75    4.95 | 17.00    1.94 | 23.25    1.29
                4.75    1.72 | 11.00    6.67 | 17.25    1.94 | 23.50    1.29
                5.00    1.72 | 11.25    6.67 | 17.50    1.94 | 23.75    1.29
                5.25    1.72 | 11.50   10.33 | 17.75    1.94 | 24.00    1.29
                5.50    1.72 | 11.75   10.33 | 18.00    1.94 | 24.25    1.29
                5.75    1.72 | 12.00   44.76 | 18.25    1.94 |
                6.00    1.72 | 12.25  118.79 | 18.50    1.94 |
                6.25    1.72 | 12.50   15.49 | 18.75    1.94 |

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| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.33

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
```

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	1.72	12.250	118.79	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.50	18.42	1.94
0.250	0.00	6.333	2.15	12.417	15.49	18.50	1.94
0.333	1.08	6.417	2.15	12.500	15.49	18.58	1.94
0.417	1.08	6.500	2.15	12.583	15.49	18.67	1.94
0.500	1.08	6.583	2.15	12.667	15.49	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.49	18.83	1.94
0.667	1.08	6.750	2.15	12.833	7.96	18.92	1.94
0.750	1.08	6.833	2.15	12.917	7.96	19.00	1.94
0.833	1.08	6.917	2.15	13.000	7.96	19.08	1.94
0.917	1.08	7.000	2.15	13.083	7.96	19.17	1.94
1.000	1.08	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.08	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.08	7.250	2.15	13.333	1.51	19.42	1.94
1.250	1.08	7.333	2.15	13.417	1.51	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.51	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.51	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.51	19.75	1.94
1.583	1.08	7.667	2.15	13.750	1.51	19.83	1.94
1.667	1.08	7.750	2.15	13.833	8.82	19.92	1.94
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.82	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.94
2.083	1.94	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.94	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.94	8.333	2.91	14.417	3.23	20.50	1.29
2.333	1.40	8.417	2.91	14.500	3.23	20.58	1.29
2.417	1.40	8.500	2.91	14.583	3.23	20.67	1.29
2.500	1.40	8.583	2.91	14.667	3.23	20.75	1.29
2.583	1.40	8.667	2.91	14.750	3.23	20.83	1.29
2.667	1.40	8.750	2.91	14.833	3.23	20.92	1.29
2.750	1.40	8.833	2.91	14.917	3.23	21.00	1.29
2.833	1.40	8.917	2.91	15.000	3.23	21.08	1.29
2.917	1.40	9.000	2.91	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.91	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.91	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.91	15.333	3.23	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.23	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.23	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.23	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.23	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.23	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.23	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.23	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.23	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.23	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.23	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.23	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.95	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.95	16.667	1.94	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.94	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.67	16.917	1.94	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.94	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.67	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.67	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.67	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.33	17.417	1.94	23.50	1.29
5.333	1.72	11.417	10.33	17.500	1.94	23.58	1.29
5.417	1.72	11.500	10.33	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.33	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.33	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.33	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.76	17.917	1.94	24.00	1.29
5.833	1.72	11.917	44.76	18.000	1.94	24.08	1.29
5.917	1.72	12.000	44.76	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.78	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.79	18.250	1.94		

Unit Hyd Qpeak (cms)= 0.425

PEAK FLOW (cms)= 0.299 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 45.971
TOTAL RAINFALL (mm)= 107.613
RUNOFF COEFFICIENT = 0.427

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\bcbd752a
Ptotal=107.61 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.49	19.00	1.94
0.50	1.08	6.75	2.15	13.00	7.96	19.25	1.94
0.75	1.08	7.00	2.15	13.25	7.96	19.50	1.94
1.00	1.08	7.25	2.15	13.50	1.51	19.75	1.94
1.25	1.08	7.50	2.15	13.75	1.51	20.00	1.94
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.08	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.23	20.75	1.29
2.25	1.94	8.50	2.91	14.75	3.23	21.00	1.29
2.50	1.40	8.75	2.91	15.00	3.23	21.25	1.29
2.75	1.40	9.00	2.91	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.91	15.50	3.23	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.23	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.23	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.23	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.94	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.94	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.67	17.50	1.94	23.75	1.29
5.25	1.72	11.50	10.33	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.33	18.00	1.94	24.25	1.29
5.75	1.72	12.00	44.76	18.25	1.94		
6.00	1.72	12.25	118.79	18.50	1.94		
6.25	1.72	12.50	15.49	18.75	1.94		

CALIB	
NASHYD (0102)	Area (ha)= 1.10 Curve Number (CN)= 59.0
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.37

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.79	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.50	18.42	1.94
0.250	0.00	6.333	2.15	12.417	15.49	18.50	1.94
0.333	1.08	6.417	2.15	12.500	15.49	18.58	1.94
0.417	1.08	6.500	2.15	12.583	15.49	18.67	1.94

0.500	1.08	6.583	2.15	12.667	15.49	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.49	18.83	1.94
0.667	1.08	6.750	2.15	12.833	7.96	18.92	1.94
0.750	1.08	6.833	2.15	12.917	7.96	19.00	1.94
0.833	1.08	6.917	2.15	13.000	7.96	19.08	1.94
0.917	1.08	7.000	2.15	13.083	7.96	19.17	1.94
1.000	1.08	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.08	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.08	7.250	2.15	13.333	1.51	19.42	1.94
1.250	1.08	7.333	2.15	13.417	1.51	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.51	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.51	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.51	19.75	1.94
1.583	1.08	7.667	2.15	13.750	1.51	19.83	1.94
1.667	1.08	7.750	2.15	13.833	8.82	19.92	1.94
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.82	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.94
2.083	1.94	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.94	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.94	8.333	2.91	14.417	3.23	20.50	1.29
2.333	1.40	8.417	2.91	14.500	3.23	20.58	1.29
2.417	1.40	8.500	2.91	14.583	3.23	20.67	1.29
2.500	1.40	8.583	2.91	14.667	3.23	20.75	1.29
2.583	1.40	8.667	2.91	14.750	3.23	20.83	1.29
2.667	1.40	8.750	2.91	14.833	3.23	20.92	1.29
2.750	1.40	8.833	2.91	14.917	3.23	21.00	1.29
2.833	1.40	8.917	2.91	15.000	3.23	21.08	1.29
2.917	1.40	9.000	2.91	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.91	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.91	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.91	15.333	3.23	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.23	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.23	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.23	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.23	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.23	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.23	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.23	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.23	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.23	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.23	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.23	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.95	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.95	16.667	1.94	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.94	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.67	16.917	1.94	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.94	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.67	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.67	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.67	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.33	17.417	1.94	23.50	1.29
5.333	1.72	11.417	10.33	17.500	1.94	23.58	1.29
5.417	1.72	11.500	10.33	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.33	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.33	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.33	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.76	17.917	1.94	24.00	1.29
5.833	1.72	11.917	44.76	18.000	1.94	24.08	1.29
5.917	1.72	12.000	44.76	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.78	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.79	18.250	1.94		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.066 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 37.716
TOTAL RAINFALL (mm)= 107.613
RUNOFF COEFFICIENT = 0.350

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\bcbd752a
Ptotal=107.61 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.49	19.00	1.94
0.50	1.08	6.75	2.15	13.00	7.96	19.25	1.94
0.75	1.08	7.00	2.15	13.25	7.96	19.50	1.94
1.00	1.08	7.25	2.15	13.50	1.51	19.75	1.94
1.25	1.08	7.50	2.15	13.75	1.51	20.00	1.94
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.08	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.23	20.75	1.29
2.25	1.94	8.50	2.91	14.75	3.23	21.00	1.29
2.50	1.40	8.75	2.91	15.00	3.23	21.25	1.29
2.75	1.40	9.00	2.91	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.91	15.50	3.23	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.23	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.23	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.23	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.94	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.94	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.67	17.50	1.94	23.75	1.29
5.25	1.72	11.50	10.33	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.33	18.00	1.94	24.25	1.29
5.75	1.72	12.00	44.76	18.25	1.94		
6.00	1.72	12.25	118.79	18.50	1.94		
6.25	1.72	12.50	15.49	18.75	1.94		

CALIB | NASHYD (0103) | ID= 1 DT= 5.0 min | Area (ha)= 2.58 Curve Number (CN)= 68.0
Ia (mm)= 7.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.40

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.79	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.50	18.42	1.94
0.250	0.00	6.333	2.15	12.417	15.49	18.50	1.94
0.333	1.08	6.417	2.15	12.500	15.49	18.58	1.94
0.417	1.08	6.500	2.15	12.583	15.49	18.67	1.94
0.500	1.08	6.583	2.15	12.667	15.49	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.49	18.83	1.94
0.667	1.08	6.750	2.15	12.833	7.96	18.92	1.94
0.750	1.08	6.833	2.15	12.917	7.96	19.00	1.94
0.833	1.08	6.917	2.15	13.000	7.96	19.08	1.94
0.917	1.08	7.000	2.15	13.083	7.96	19.17	1.94

1.000	1.08	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.08	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.08	7.250	2.15	13.333	1.51	19.42	1.94
1.250	1.08	7.333	2.15	13.417	1.51	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.51	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.51	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.51	19.75	1.94
1.583	1.08	7.667	2.15	13.750	1.51	19.83	1.94
1.667	1.08	7.750	2.15	13.833	8.82	19.92	1.94
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.82	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.94
2.083	1.94	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.94	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.94	8.333	2.91	14.417	3.23	20.50	1.29
2.333	1.40	8.417	2.91	14.500	3.23	20.58	1.29
2.417	1.40	8.500	2.91	14.583	3.23	20.67	1.29
2.500	1.40	8.583	2.91	14.667	3.23	20.75	1.29
2.583	1.40	8.667	2.91	14.750	3.23	20.83	1.29
2.667	1.40	8.750	2.91	14.833	3.23	20.92	1.29
2.750	1.40	8.833	2.91	14.917	3.23	21.00	1.29
2.833	1.40	8.917	2.91	15.000	3.23	21.08	1.29
2.917	1.40	9.000	2.91	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.91	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.91	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.91	15.333	3.23	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.23	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.23	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.23	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.23	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.23	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.23	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.23	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.23	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.23	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.23	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.23	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.95	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.95	16.667	1.94	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.94	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.67	16.917	1.94	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.94	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.67	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.67	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.67	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.33	17.417	1.94	23.50	1.29
5.333	1.72	11.417	10.33	17.500	1.94	23.58	1.29
5.417	1.72	11.500	10.33	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.33	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.33	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.33	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.76	17.917	1.94	24.00	1.29
5.833	1.72	11.917	44.76	18.000	1.94	24.08	1.29
5.917	1.72	12.000	44.76	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.78	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.79	18.250	1.94		

Unit Hyd Qpeak (cms)= 0.246

PEAK FLOW (cms)= 0.183 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 45.978
TOTAL RAINFALL (mm)= 107.613
RUNOFF COEFFICIENT = 0.427

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\bcbd752a
Ptotal=107.61 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.49	19.00	1.94
0.50	1.08	6.75	2.15	13.00	7.96	19.25	1.94
0.75	1.08	7.00	2.15	13.25	7.96	19.50	1.94
1.00	1.08	7.25	2.15	13.50	1.51	19.75	1.94
1.25	1.08	7.50	2.15	13.75	1.51	20.00	1.94
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.08	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.23	20.75	1.29
2.25	1.94	8.50	2.91	14.75	3.23	21.00	1.29
2.50	1.40	8.75	2.91	15.00	3.23	21.25	1.29
2.75	1.40	9.00	2.91	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.91	15.50	3.23	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.23	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.23	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.23	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.94	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.94	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.67	17.50	1.94	23.75	1.29
5.25	1.72	11.50	10.33	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.33	18.00	1.94	24.25	1.29
5.75	1.72	12.00	44.76	18.25	1.94		
6.00	1.72	12.25	118.79	18.50	1.94		
6.25	1.72	12.50	15.49	18.75	1.94		

CALIB	
NASHYD (0104) | ID= 1 DT= 5.0 min	Area (ha)= 3.97 Curve Number (CN)= 68.0 Ia (mm)= 7.00 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.46

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.79	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.50	18.42	1.94
0.250	0.00	6.333	2.15	12.417	15.49	18.50	1.94
0.333	1.08	6.417	2.15	12.500	15.49	18.58	1.94
0.417	1.08	6.500	2.15	12.583	15.49	18.67	1.94
0.500	1.08	6.583	2.15	12.667	15.49	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.49	18.83	1.94
0.667	1.08	6.750	2.15	12.833	7.96	18.92	1.94
0.750	1.08	6.833	2.15	12.917	7.96	19.00	1.94
0.833	1.08	6.917	2.15	13.000	7.96	19.08	1.94
0.917	1.08	7.000	2.15	13.083	7.96	19.17	1.94
1.000	1.08	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.08	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.08	7.250	2.15	13.333	1.51	19.42	1.94
1.250	1.08	7.333	2.15	13.417	1.51	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.51	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.51	19.67	1.94

```
 1.500    1.08 |  7.583    2.15 |13.667    1.51 |  19.75    1.94
 1.583    1.08 |  7.667    2.15 |13.750    1.51 |  19.83    1.94
 1.667    1.08 |  7.750    2.15 |13.833    8.82 |  19.92    1.94
 1.750    1.08 |  7.833    2.15 |13.917    8.82 |  20.00    1.94
 1.833    1.08 |  7.917    2.15 |14.000    8.82 |  20.08    1.94
 1.917    1.08 |  8.000    2.15 |14.083    8.82 |  20.17    1.94
 2.000    1.08 |  8.083    2.15 |14.167    8.82 |  20.25    1.94
 2.083    1.94 |  8.167    2.15 |14.250    8.82 |  20.33    1.29
 2.167    1.94 |  8.250    2.15 |14.333    3.23 |  20.42    1.29
 2.250    1.94 |  8.333    2.91 |14.417    3.23 |  20.50    1.29
 2.333    1.40 |  8.417    2.91 |14.500    3.23 |  20.58    1.29
 2.417    1.40 |  8.500    2.91 |14.583    3.23 |  20.67    1.29
 2.500    1.40 |  8.583    2.91 |14.667    3.23 |  20.75    1.29
 2.583    1.40 |  8.667    2.91 |14.750    3.23 |  20.83    1.29
 2.667    1.40 |  8.750    2.91 |14.833    3.23 |  20.92    1.29
 2.750    1.40 |  8.833    2.91 |14.917    3.23 |  21.00    1.29
 2.833    1.40 |  8.917    2.91 |15.000    3.23 |  21.08    1.29
 2.917    1.40 |  9.000    2.91 |15.083    3.23 |  21.17    1.29
 3.000    1.40 |  9.083    2.91 |15.167    3.23 |  21.25    1.29
 3.083    1.40 |  9.167    2.91 |15.250    3.23 |  21.33    1.29
 3.167    1.40 |  9.250    2.91 |15.333    3.23 |  21.42    1.29
 3.250    1.40 |  9.333    3.44 |15.417    3.23 |  21.50    1.29
 3.333    1.40 |  9.417    3.44 |15.500    3.23 |  21.58    1.29
 3.417    1.40 |  9.500    3.44 |15.583    3.23 |  21.67    1.29
 3.500    1.40 |  9.583    3.44 |15.667    3.23 |  21.75    1.29
 3.583    1.40 |  9.667    3.44 |15.750    3.23 |  21.83    1.29
 3.667    1.40 |  9.750    3.44 |15.833    3.23 |  21.92    1.29
 3.750    1.40 |  9.833    3.87 |15.917    3.23 |  22.00    1.29
 3.833    1.40 |  9.917    3.87 |16.000    3.23 |  22.08    1.29
 3.917    1.40 | 10.000    3.87 |16.083    3.23 |  22.17    1.29
 4.000    1.40 | 10.083    3.87 |16.167    3.23 |  22.25    1.29
 4.083    1.40 | 10.167    3.87 |16.250    3.23 |  22.33    1.29
 4.167    1.40 | 10.250    3.87 |16.333    1.94 |  22.42    1.29
 4.250    1.40 | 10.333    4.95 |16.417    1.94 |  22.50    1.29
 4.333    1.72 | 10.417    4.95 |16.500    1.94 |  22.58    1.29
 4.417    1.72 | 10.500    4.95 |16.583    1.94 |  22.67    1.29
 4.500    1.72 | 10.583    4.95 |16.667    1.94 |  22.75    1.29
 4.583    1.72 | 10.667    4.95 |16.750    1.94 |  22.83    1.29
 4.667    1.72 | 10.750    4.95 |16.833    1.94 |  22.92    1.29
 4.750    1.72 | 10.833    6.67 |16.917    1.94 |  23.00    1.29
 4.833    1.72 | 10.917    6.67 |17.000    1.94 |  23.08    1.29
 4.917    1.72 | 11.000    6.67 |17.083    1.94 |  23.17    1.29
 5.000    1.72 | 11.083    6.67 |17.167    1.94 |  23.25    1.29
 5.083    1.72 | 11.167    6.67 |17.250    1.94 |  23.33    1.29
 5.167    1.72 | 11.250    6.67 |17.333    1.94 |  23.42    1.29
 5.250    1.72 | 11.333   10.33 |17.417    1.94 |  23.50    1.29
 5.333    1.72 | 11.417   10.33 |17.500    1.94 |  23.58    1.29
 5.417    1.72 | 11.500   10.33 |17.583    1.94 |  23.67    1.29
 5.500    1.72 | 11.583   10.33 |17.667    1.94 |  23.75    1.29
 5.583    1.72 | 11.667   10.33 |17.750    1.94 |  23.83    1.29
 5.667    1.72 | 11.750   10.33 |17.833    1.94 |  23.92    1.29
 5.750    1.72 | 11.833   44.76 |17.917    1.94 |  24.00    1.29
 5.833    1.72 | 11.917   44.76 |18.000    1.94 |  24.08    1.29
 5.917    1.72 | 12.000   44.76 |18.083    1.94 |  24.17    1.29
 6.000    1.72 | 12.083  118.78 |18.167    1.94 |  24.25    1.29
 6.083    1.72 | 12.167  118.79 |18.250    1.94 |

     Unit Hyd Qpeak  (cms)=   0.330

     PEAK FLOW      (cms)=   0.255 (i)
     TIME TO PEAK   (hrs)=  12.583
     RUNOFF VOLUME   (mm)=  45.980
     TOTAL RAINFALL  (mm)= 107.613
     RUNOFF COEFFICIENT  =   0.427

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0008)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.066    12.50    37.72
     + ID2= 2 (  0103):     2.58   0.183    12.50    45.98
       ================================================
       ID = 3 (  0008):     3.68   0.250    12.50    43.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0008)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0008):     3.68   0.250    12.50    43.51
     + ID2= 2 (  0104):     3.97   0.255    12.58    45.98
       ================================================
       ID = 1 (  0008):     7.65   0.500    12.50    44.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================================================
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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

      OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
     O   O    T      T    H   H   Y Y   MM MM  O   O
     O   O    T      T    H   H    Y    M   M  O   O
      OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\59e40f23-ceb7-4721-9c29-b273f706801a\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\59e40f23-ceb7-4721-9c29-b273f706801a\scena


DATE: 05-29-2018                          TIME: 01:23:16

USER:


COMMENTS: _____

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  ************************************************
  ** SIMULATION : SCS_24hr_100yr                 **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
```

```
|                 |             ata\Local\Temp\
|                 |             b7d4359b-92e1-46ae-b5a0-21821791e5b9\8aca5f92
| Ptotal=119.47 mm |   Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.39	12.75	17.21	19.00	2.15
0.50	1.20	6.75	2.39	13.00	8.84	19.25	2.15
0.75	1.20	7.00	2.39	13.25	8.84	19.50	2.15
1.00	1.20	7.25	2.39	13.50	1.67	19.75	2.15
1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15
1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43
2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43
2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43
3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43
4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43
4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

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--------------------
| CALIB            |
| NASHYD  (  0101)|   Area    (ha)=   3.67   Curve Number   (CN)= 68.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.33

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

```
    Unit Hyd Qpeak  (cms)=   0.425

    PEAK FLOW       (cms)=   0.356 (i)
    TIME TO PEAK    (hrs)=  12.417
    RUNOFF VOLUME    (mm)=  54.507
    TOTAL RAINFALL   (mm)= 119.468
    RUNOFF COEFFICIENT   =   0.456

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              b7d4359b-92e1-46ae-b5a0-21821791e5b9\8aca5f92
| Ptotal=119.47 mm |    Comments:
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.25	0.00	6.50	2.39	12.75	17.21	19.00	2.15
0.50	1.20	6.75	2.39	13.00	8.84	19.25	2.15
0.75	1.20	7.00	2.39	13.25	8.84	19.50	2.15
1.00	1.20	7.25	2.39	13.50	1.67	19.75	2.15
1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15
1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43
2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43
2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43
3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43
4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43
4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

CALIB			
NASHYD (0102)	Area (ha)=	1.10	Curve Number (CN)= 59.0
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.37	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.079 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 45.022
TOTAL RAINFALL (mm)= 119.468
RUNOFF COEFFICIENT = 0.377

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\8aca5f92
Ptotal=119.47 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.39	12.75	17.21	19.00	2.15
0.50	1.20	6.75	2.39	13.00	8.84	19.25	2.15
0.75	1.20	7.00	2.39	13.25	8.84	19.50	2.15
1.00	1.20	7.25	2.39	13.50	1.67	19.75	2.15
1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15

1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43
2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43
2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43
3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43
4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43
4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

CALIB			
NASHYD (0103)	Area (ha)=	2.58	Curve Number (CN)= 68.0
ID= 1 DT= 5.0 min	Ia (mm)=	7.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.40	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

Unit Hyd Qpeak (cms)= 0.246

PEAK FLOW (cms)= 0.219 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 54.515
TOTAL RAINFALL (mm)= 119.468
RUNOFF COEFFICIENT = 0.456

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\b7d4359b-92e1-46ae-b5a0-21821791e5b9\8aca5f92
Ptotal=119.47 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.39	12.75	17.21	19.00	2.15
0.50	1.20	6.75	2.39	13.00	8.84	19.25	2.15
0.75	1.20	7.00	2.39	13.25	8.84	19.50	2.15
1.00	1.20	7.25	2.39	13.50	1.67	19.75	2.15
1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15
1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43
2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43
2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43

3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43
4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43
4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

CALIB			
NASHYD (0104)	Area (ha)=	3.97	Curve Number (CN)= 68.0
ID= 1 DT= 5.0 min	Ia (mm)=	7.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.46	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

Unit Hyd Qpeak (cms)= 0.330

PEAK FLOW (cms)= 0.305 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 54.518
TOTAL RAINFALL (mm)= 119.468
RUNOFF COEFFICIENT = 0.456

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0008)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	1.10	0.079	12.50	45.02
+ ID2= 2 (0103):	2.58	0.219	12.50	54.52
ID = 3 (0008):	3.68	0.298	12.50	51.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0008)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0008):	3.68	0.298	12.50	51.68
+ ID2= 2 (0104):	3.97	0.305	12.58	54.52
ID = 1 (0008):	7.65	0.597	12.50	53.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

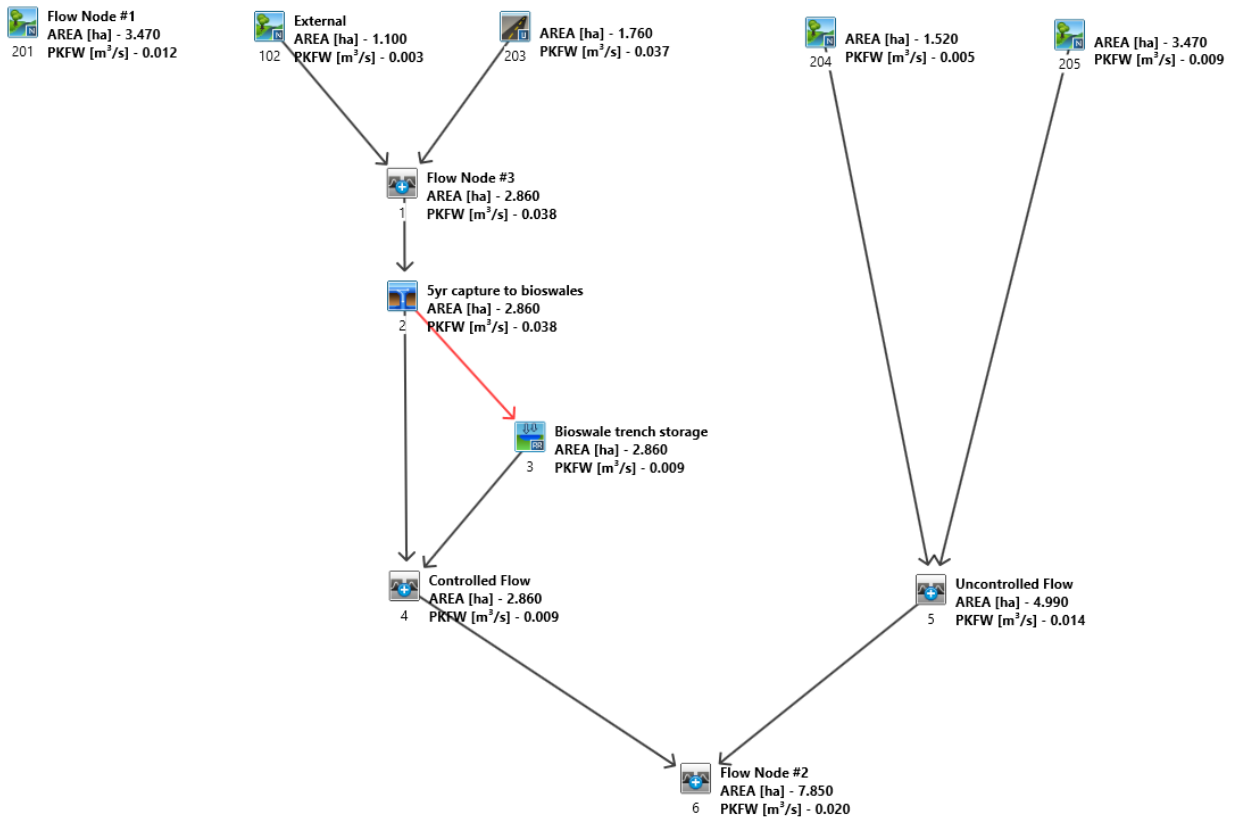

Figure F.2: VO5 Model Schematic – Post-Development Condition

```
================================================================================
==============

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\55ee2a7f-7aae-4d5c-8902-b10b37051502\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\55ee2a7f-7aae-4d5c-8902-b10b37051502\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:
```

COMMENTS: **VO5 Model Output – Proposed Conditions**

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  ************************************************
  ** SIMULATION : 25mmchi                       **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\3ef95cde
| Ptotal= 25.02 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
                0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
                0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
                0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
                0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
                1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.35

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
               0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
               0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
               0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
               0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
               0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
               0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
               0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
               0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
               0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
               0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
               1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23

    Unit Hyd Qpeak  (cms)=   0.379

    PEAK FLOW       (cms)=   0.012 (i)
    TIME TO PEAK    (hrs)=   2.000
    RUNOFF VOLUME    (mm)=   2.218
    TOTAL RAINFALL   (mm)=  25.023
    RUNOFF COEFFICIENT   =   0.089

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\3ef95cde
| Ptotal= 25.02 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
                0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
                0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
                0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
                0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
                1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0204)|   Area    (ha)=   1.52   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.32

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
               0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
               0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
               0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
               0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
               0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
               0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
               0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
               0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
               0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
               0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
               1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23
```

```
     Unit Hyd Qpeak  (cms)=   0.181

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=   2.218
     TOTAL RAINFALL   (mm)=  25.023
     RUNOFF COEFFICIENT   =   0.089

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\3ef95cde
| Ptotal= 25.02 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
                0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
                0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
                0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
                0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
                1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0205)|   Area    (ha)=   3.47   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.50

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                           ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
               0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
               0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
               0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
               0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
               0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
               0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
               0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
               0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
               0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
               0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
               1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23

     Unit Hyd Qpeak  (cms)=   0.265

     PEAK FLOW       (cms)=   0.009 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=   2.040
     TOTAL RAINFALL   (mm)=  25.023
     RUNOFF COEFFICIENT   =   0.082

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0005)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.52   0.005     2.00     2.22
     + ID2= 2 (  0205):     3.47   0.009     2.25     2.04
       ================================================
       ID = 3 (  0005):     4.99   0.014     2.17     2.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\3ef95cde
| Ptotal= 25.02 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
                0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
                0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
                0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
                0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
                1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

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-------------------
| CALIB           |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                           ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
               0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
               0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
               0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
               0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
               0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
               0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
               0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
               0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
               0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
               0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
               1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.003 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=   2.039
     TOTAL RAINFALL   (mm)=  25.023
     RUNOFF COEFFICIENT   =   0.081

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\3ef95cde
| Ptotal= 25.02 mm |    Comments:
--------------------
```

```
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
                0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
                0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
                0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
                0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
                1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| STANDHYD (  0203)|   Area    (ha)=   1.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.62         1.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     108.32        65.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
               0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
               0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
               0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
               0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
               0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
               0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
               0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
               0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
               0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
               0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
               1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23

     Max.Eff.Inten.(mm/hr)=      41.67         2.19
               over (min)        5.00        50.00
     Storage Coeff.  (min)=       4.68 (ii)   48.21 (ii)
     Unit Hyd. Tpeak (min)=       5.00        50.00
     Unit Hyd. peak  (cms)=       0.22         0.02
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.00          0.037 (iii)
     TIME TO PEAK    (hrs)=       1.50         2.58           1.50
     RUNOFF VOLUME    (mm)=      23.02         2.67           6.73
     TOTAL RAINFALL   (mm)=      25.02        25.02          25.02
     RUNOFF COEFFICIENT   =       0.92         0.11           0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.003     2.08     2.04
     + ID2= 2 (  0203):     1.76   0.037     1.50     6.73
       ================================================
       ID = 3 (  0001):     2.86   0.038     1.50     4.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.04      1.50    4.92
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   2.86      0.04      1.50    4.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0072   |   0.1150     0.0239
                          0.0280     0.0096   |   0.1230     0.0263
                          0.0570     0.0120   |   0.1310     0.0287
                          0.0720     0.0143   |   0.1380     0.0311
                          0.0850     0.0167   |   0.1450     0.0335
                          0.0960     0.0191   |   0.1520     0.0359
                          0.1060     0.0215   |   0.1970     0.0360

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)     2.860      0.038      1.50       4.92
   OUTFLOW: ID= 1 (  0003)     2.860      0.009      2.83       2.40

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.14
                  TIME SHIFT OF PEAK FLOW         (min)= 80.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0031

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0002 <ID= 1> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0004 = HYDROGRAPH 0003
       ID1= 1 (  0002):     0.00   0.000     0.00     0.00
     + ID2= 2 (  0003):     2.86   0.009     2.83     2.40
       ================================================
       ID = 3 (  0004):     2.86   0.009     2.83     2.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.009     2.83     2.40
     + ID2= 2 (  0005):     4.99   0.014     2.17     2.09
       ================================================
       ID = 3 (  0006):     7.85   0.020     2.67     2.21
```

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\ed3a2e7c-fd74-4629-a284-08ffb9eb42ec\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\ed3a2e7c-fd74-4629-a284-08ffb9eb42ec\scena


DATE: 05-29-2018                          TIME: 01:26:21

USER:



COMMENTS: _____________________________________________________

-------------------------------------------------------------------------------------------------
--------------
  ************************************************
  ** SIMULATION : Chicago_4hr_002yr             **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8ab5ad10
| Ptotal= 34.23 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    1.40 |  1.08    9.12 |  2.08    5.13 |  3.08    2.01
                0.17    1.51 |  1.17   15.46 |  2.17    4.55 |  3.17    1.91
                0.25    1.63 |  1.25   39.29 |  2.25    4.08 |  3.25    1.82
                0.33    1.78 |  1.33  114.31 |  2.33    3.70 |  3.33    1.74
                0.42    1.95 |  1.42   51.17 |  2.42    3.38 |  3.42    1.67
                0.50    2.17 |  1.50   27.46 |  2.50    3.12 |  3.50    1.60
                0.58    2.44 |  1.58   17.94 |  2.58    2.89 |  3.58    1.54
                0.67    2.78 |  1.67   13.02 |  2.67    2.69 |  3.67    1.48
                0.75    3.24 |  1.75   10.09 |  2.75    2.52 |  3.75    1.43
                0.83    3.88 |  1.83    8.18 |  2.83    2.37 |  3.83    1.38
                0.92    4.83 |  1.92    6.85 |  2.92    2.23 |  3.92    1.34
                1.00    6.35 |  2.00    5.87 |  3.00    2.11 |  4.00    1.29

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-------------------
| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.35

     Unit Hyd Qpeak  (cms)=   0.379

     PEAK FLOW       (cms)=   0.036 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=   4.484
     TOTAL RAINFALL   (mm)=  34.225
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8ab5ad10
| Ptotal= 34.23 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    1.40 |  1.08    9.12 |  2.08    5.13 |  3.08    2.01
                0.17    1.51 |  1.17   15.46 |  2.17    4.55 |  3.17    1.91
                0.25    1.63 |  1.25   39.29 |  2.25    4.08 |  3.25    1.82
                0.33    1.78 |  1.33  114.31 |  2.33    3.70 |  3.33    1.74
                0.42    1.95 |  1.42   51.17 |  2.42    3.38 |  3.42    1.67
                0.50    2.17 |  1.50   27.46 |  2.50    3.12 |  3.50    1.60
                0.58    2.44 |  1.58   17.94 |  2.58    2.89 |  3.58    1.54
                0.67    2.78 |  1.67   13.02 |  2.67    2.69 |  3.67    1.48
                0.75    3.24 |  1.75   10.09 |  2.75    2.52 |  3.75    1.43
                0.83    3.88 |  1.83    8.18 |  2.83    2.37 |  3.83    1.38
                0.92    4.83 |  1.92    6.85 |  2.92    2.23 |  3.92    1.34
                1.00    6.35 |  2.00    5.87 |  3.00    2.11 |  4.00    1.29

-------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD   (  0204)|   Area    (ha)=   1.52   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.32

     Unit Hyd Qpeak  (cms)=   0.181

     PEAK FLOW       (cms)=   0.017 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=   4.484
     TOTAL RAINFALL   (mm)=  34.225
     RUNOFF COEFFICIENT   =   0.131

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8ab5ad10
| Ptotal= 34.23 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    1.40 |  1.08    9.12 |  2.08    5.13 |  3.08    2.01
                0.17    1.51 |  1.17   15.46 |  2.17    4.55 |  3.17    1.91
                0.25    1.63 |  1.25   39.29 |  2.25    4.08 |  3.25    1.82
```

```
                0.33    1.78 |  1.33  114.31 |  2.33    3.70 |  3.33    1.74
                0.42    1.95 |  1.42   51.17 |  2.42    3.38 |  3.42    1.67
                0.50    2.17 |  1.50   27.46 |  2.50    3.12 |  3.50    1.60
                0.58    2.44 |  1.58   17.94 |  2.58    2.89 |  3.58    1.54
                0.67    2.78 |  1.67   13.02 |  2.67    2.69 |  3.67    1.48
                0.75    3.24 |  1.75   10.09 |  2.75    2.52 |  3.75    1.43
                0.83    3.88 |  1.83    8.18 |  2.83    2.37 |  3.83    1.38
                0.92    4.83 |  1.92    6.85 |  2.92    2.23 |  3.92    1.34
                1.00    6.35 |  2.00    5.87 |  3.00    2.11 |  4.00    1.29

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0205)|   Area    (ha)=   3.47   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   0.265

     PEAK FLOW       (cms)=   0.026 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=   4.151
     TOTAL RAINFALL   (mm)=  34.225
     RUNOFF COEFFICIENT   =   0.121

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0005)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0204):     1.52   0.017     1.75     4.48
      + ID2= 2 (  0205):     3.47   0.026     2.00     4.15
        ==========================================================
        ID = 3 (  0005):     4.99   0.041     1.92     4.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8ab5ad10
| Ptotal= 34.23 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    1.40 |  1.08    9.12 |  2.08    5.13 |  3.08    2.01
                0.17    1.51 |  1.17   15.46 |  2.17    4.55 |  3.17    1.91
                0.25    1.63 |  1.25   39.29 |  2.25    4.08 |  3.25    1.82
                0.33    1.78 |  1.33  114.31 |  2.33    3.70 |  3.33    1.74
                0.42    1.95 |  1.42   51.17 |  2.42    3.38 |  3.42    1.67
                0.50    2.17 |  1.50   27.46 |  2.50    3.12 |  3.50    1.60
                0.58    2.44 |  1.58   17.94 |  2.58    2.89 |  3.58    1.54
                0.67    2.78 |  1.67   13.02 |  2.67    2.69 |  3.67    1.48
                0.75    3.24 |  1.75   10.09 |  2.75    2.52 |  3.75    1.43
                0.83    3.88 |  1.83    8.18 |  2.83    2.37 |  3.83    1.38
                0.92    4.83 |  1.92    6.85 |  2.92    2.23 |  3.92    1.34
                1.00    6.35 |  2.00    5.87 |  3.00    2.11 |  4.00    1.29

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.010 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=   4.150
     TOTAL RAINFALL   (mm)=  34.225
     RUNOFF COEFFICIENT   =   0.121

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8ab5ad10
| Ptotal= 34.23 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    1.40 |  1.08    9.12 |  2.08    5.13 |  3.08    2.01
                0.17    1.51 |  1.17   15.46 |  2.17    4.55 |  3.17    1.91
                0.25    1.63 |  1.25   39.29 |  2.25    4.08 |  3.25    1.82
                0.33    1.78 |  1.33  114.31 |  2.33    3.70 |  3.33    1.74
                0.42    1.95 |  1.42   51.17 |  2.42    3.38 |  3.42    1.67
                0.50    2.17 |  1.50   27.46 |  2.50    3.12 |  3.50    1.60
                0.58    2.44 |  1.58   17.94 |  2.58    2.89 |  3.58    1.54
                0.67    2.78 |  1.67   13.02 |  2.67    2.69 |  3.67    1.48
                0.75    3.24 |  1.75   10.09 |  2.75    2.52 |  3.75    1.43
                0.83    3.88 |  1.83    8.18 |  2.83    2.37 |  3.83    1.38
                0.92    4.83 |  1.92    6.85 |  2.92    2.23 |  3.92    1.34
                1.00    6.35 |  2.00    5.87 |  3.00    2.11 |  4.00    1.29

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| STANDHYD (  0203)|   Area    (ha)=   1.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------

                                    IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           0.62          1.14
     Dep. Storage     (mm)=           2.00          5.00
     Average Slope     (%)=           0.50          2.00
     Length            (m)=         108.32         65.00
     Mannings n           =          0.013         0.250

     Max.Eff.Inten.(mm/hr)=         114.31          8.87
                   over (min)           5.00         30.00
     Storage Coeff.  (min)=           3.13 (ii)    28.02 (ii)
     Unit Hyd. Tpeak (min)=           5.00         30.00
     Unit Hyd. peak  (cms)=           0.27          0.04
                                                              *TOTALS*
     PEAK FLOW       (cms)=           0.10          0.01          0.097 (iii)
     TIME TO PEAK    (hrs)=           1.33          1.83          1.33
     RUNOFF VOLUME    (mm)=          32.23          5.24         10.63
     TOTAL RAINFALL   (mm)=          34.23         34.23         34.23
     RUNOFF COEFFICIENT   =           0.94          0.15          0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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-------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.010     1.83     4.15
     + ID2= 2 (  0203):     1.76   0.097     1.33    10.63
       ================================================
       ID = 3 (  0001):     2.86   0.098     1.33     8.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.10      1.33    8.14
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   2.86      0.10      1.33    8.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072   |   0.1150      0.0239
                         0.0280     0.0096   |   0.1230      0.0263
                         0.0570     0.0120   |   0.1310      0.0287
                         0.0720     0.0143   |   0.1380      0.0311
                         0.0850     0.0167   |   0.1450      0.0335
                         0.0960     0.0191   |   0.1520      0.0359
                         0.1060     0.0215   |   0.1970      0.0360

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)     2.860      0.098      1.33       8.14
   OUTFLOW: ID= 1 (  0003)     2.860      0.029      2.00       5.62

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 29.73
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0048

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-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0002 <ID= 1> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0004 = HYDROGRAPH 0003
       ID1= 1 (  0002):     0.00   0.000     0.00     0.00
     + ID2= 2 (  0003):     2.86   0.029     2.00     5.62
       ================================================
       ID = 3 (  0004):     2.86   0.029     2.00     5.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.029     2.00     5.62
     + ID2= 2 (  0005):     4.99   0.041     1.92     4.25
       ================================================
       ID = 3 (  0006):     7.85   0.069     1.92     4.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\662a0fc6-859d-421f-b609-c01d71286567\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\662a0fc6-859d-421f-b609-c01d71286567\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:


COMMENTS: _____________________________________________________


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  ***********************************************
  ** SIMULATION : Chicago_4hr_005yr             **
  ***********************************************


-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8138b3db
| Ptotal= 49.56 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.14 |  1.08   14.73 |  2.08    8.24 |  3.08    3.11
                0.17    2.31 |  1.17   24.60 |  2.17    7.29 |  3.17    2.96
                0.25    2.51 |  1.25   57.39 |  2.25    6.52 |  3.25    2.82
```

0.33	2.75	1.33	139.29	2.33	5.89	3.33	2.69
0.42	3.03	1.42	72.74	2.42	5.37	3.42	2.57
0.50	3.38	1.50	42.12	2.50	4.93	3.50	2.46
0.58	3.82	1.58	28.38	2.58	4.55	3.58	2.36
0.67	4.39	1.67	20.88	2.67	4.23	3.67	2.27
0.75	5.14	1.75	16.28	2.75	3.95	3.75	2.19
0.83	6.20	1.83	13.22	2.83	3.70	3.83	2.11
0.92	7.75	1.92	11.05	2.92	3.48	3.92	2.04
1.00	10.24	2.00	9.46	3.00	3.29	4.00	1.97

CALIB					
NASHYD (0201)	Area	(ha)=	3.47	Curve Number (CN)=	61.0
ID= 1 DT= 5.0 min	Ia	(mm)=	4.90	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.35		

Unit Hyd Qpeak (cms)= 0.379

PEAK FLOW (cms)= 0.075 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 9.632
TOTAL RAINFALL (mm)= 49.565
RUNOFF COEFFICIENT = 0.194

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppD ata\Local\Temp\ cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8138b3db
Ptotal= 49.56 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	2.14	1.08	14.73	2.08	8.24	3.08	3.11
0.17	2.31	1.17	24.60	2.17	7.29	3.17	2.96
0.25	2.51	1.25	57.39	2.25	6.52	3.25	2.82
0.33	2.75	1.33	139.29	2.33	5.89	3.33	2.69
0.42	3.03	1.42	72.74	2.42	5.37	3.42	2.57
0.50	3.38	1.50	42.12	2.50	4.93	3.50	2.46
0.58	3.82	1.58	28.38	2.58	4.55	3.58	2.36
0.67	4.39	1.67	20.88	2.67	4.23	3.67	2.27
0.75	5.14	1.75	16.28	2.75	3.95	3.75	2.19
0.83	6.20	1.83	13.22	2.83	3.70	3.83	2.11
0.92	7.75	1.92	11.05	2.92	3.48	3.92	2.04
1.00	10.24	2.00	9.46	3.00	3.29	4.00	1.97

CALIB					
NASHYD (0204)	Area	(ha)=	1.52	Curve Number (CN)=	61.0
ID= 1 DT= 5.0 min	Ia	(mm)=	4.90	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.32		

Unit Hyd Qpeak (cms)= 0.181

PEAK FLOW (cms)= 0.035 (i)
TIME TO PEAK (hrs)= 1.750
RUNOFF VOLUME (mm)= 9.631
TOTAL RAINFALL (mm)= 49.565
RUNOFF COEFFICIENT = 0.194

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppD ata\Local\Temp\ cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8138b3db
Ptotal= 49.56 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	2.14	1.08	14.73	2.08	8.24	3.08	3.11
0.17	2.31	1.17	24.60	2.17	7.29	3.17	2.96
0.25	2.51	1.25	57.39	2.25	6.52	3.25	2.82
0.33	2.75	1.33	139.29	2.33	5.89	3.33	2.69
0.42	3.03	1.42	72.74	2.42	5.37	3.42	2.57
0.50	3.38	1.50	42.12	2.50	4.93	3.50	2.46
0.58	3.82	1.58	28.38	2.58	4.55	3.58	2.36
0.67	4.39	1.67	20.88	2.67	4.23	3.67	2.27
0.75	5.14	1.75	16.28	2.75	3.95	3.75	2.19
0.83	6.20	1.83	13.22	2.83	3.70	3.83	2.11
0.92	7.75	1.92	11.05	2.92	3.48	3.92	2.04
1.00	10.24	2.00	9.46	3.00	3.29	4.00	1.97

READ STORM	Filename: C:\Users\Valdor\AppD ata\Local\Temp\ cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8138b3db
Ptotal= 49.56 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	2.14	1.08	14.73	2.08	8.24	3.08	3.11
0.17	2.31	1.17	24.60	2.17	7.29	3.17	2.96
0.25	2.51	1.25	57.39	2.25	6.52	3.25	2.82
0.33	2.75	1.33	139.29	2.33	5.89	3.33	2.69
0.42	3.03	1.42	72.74	2.42	5.37	3.42	2.57
0.50	3.38	1.50	42.12	2.50	4.93	3.50	2.46
0.58	3.82	1.58	28.38	2.58	4.55	3.58	2.36
0.67	4.39	1.67	20.88	2.67	4.23	3.67	2.27
0.75	5.14	1.75	16.28	2.75	3.95	3.75	2.19
0.83	6.20	1.83	13.22	2.83	3.70	3.83	2.11
0.92	7.75	1.92	11.05	2.92	3.48	3.92	2.04
1.00	10.24	2.00	9.46	3.00	3.29	4.00	1.97

CALIB					
NASHYD (0205)	Area	(ha)=	3.47	Curve Number (CN)=	59.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.50		

Unit Hyd Qpeak (cms)= 0.265

PEAK FLOW (cms)= 0.056 (i)
TIME TO PEAK (hrs)= 2.000
RUNOFF VOLUME (mm)= 8.983
TOTAL RAINFALL (mm)= 49.565
RUNOFF COEFFICIENT = 0.181

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0005)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.52	0.035	1.75	9.63
	+ ID2= 2 (0205):	3.47	0.056	2.00	8.98
	ID = 3 (0005):	4.99	0.087	1.92	9.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppD ata\Local\Temp\ cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8138b3db
Ptotal= 49.56 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	2.14	1.08	14.73	2.08	8.24	3.08	3.11
0.17	2.31	1.17	24.60	2.17	7.29	3.17	2.96
0.25	2.51	1.25	57.39	2.25	6.52	3.25	2.82
0.33	2.75	1.33	139.29	2.33	5.89	3.33	2.69
0.42	3.03	1.42	72.74	2.42	5.37	3.42	2.57
0.50	3.38	1.50	42.12	2.50	4.93	3.50	2.46
0.58	3.82	1.58	28.38	2.58	4.55	3.58	2.36

```
               0.67    4.39 |  1.67   20.88 |  2.67    4.23 |  3.67    2.27
               0.75    5.14 |  1.75   16.28 |  2.75    3.95 |  3.75    2.19
               0.83    6.20 |  1.83   13.22 |  2.83    3.70 |  3.83    2.11
               0.92    7.75 |  1.92   11.05 |  2.92    3.48 |  3.92    2.04
               1.00   10.24 |  2.00    9.46 |  3.00    3.29 |  4.00    1.97

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW      (cms)=   0.022 (i)
     TIME TO PEAK   (hrs)=   1.833
     RUNOFF VOLUME   (mm)=   8.981
     TOTAL RAINFALL  (mm)=  49.565
     RUNOFF COEFFICIENT   =   0.181

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8138b3db
| Ptotal= 49.56 mm |    Comments:
-------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.08    2.14 |  1.08   14.73 |  2.08    8.24 |  3.08    3.11
               0.17    2.31 |  1.17   24.60 |  2.17    7.29 |  3.17    2.96
               0.25    2.51 |  1.25   57.39 |  2.25    6.52 |  3.25    2.82
               0.33    2.75 |  1.33  139.29 |  2.33    5.89 |  3.33    2.69
               0.42    3.03 |  1.42   72.74 |  2.42    5.37 |  3.42    2.57
               0.50    3.38 |  1.50   42.12 |  2.50    4.93 |  3.50    2.46
               0.58    3.82 |  1.58   28.38 |  2.58    4.55 |  3.58    2.36
               0.67    4.39 |  1.67   20.88 |  2.67    4.23 |  3.67    2.27
               0.75    5.14 |  1.75   16.28 |  2.75    3.95 |  3.75    2.19
               0.83    6.20 |  1.83   13.22 |  2.83    3.70 |  3.83    2.11
               0.92    7.75 |  1.92   11.05 |  2.92    3.48 |  3.92    2.04
               1.00   10.24 |  2.00    9.46 |  3.00    3.29 |  4.00    1.97

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-------------------
| CALIB           |
| STANDHYD (  0203)|   Area    (ha)=   1.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.62         1.14
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         2.00
     Length            (m)=    108.32        65.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    139.29        19.83
                 over (min)       5.00        25.00
     Storage Coeff.  (min)=      2.89 (ii)   20.93 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.28         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.12         0.04         0.125 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.75          1.33
     RUNOFF VOLUME    (mm)=     47.56        10.96         18.27
     TOTAL RAINFALL   (mm)=     49.56        49.56         49.56
     RUNOFF COEFFICIENT   =      0.96         0.22          0.37

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.022     1.83     8.98
     + ID2= 2 (  0203):     1.76   0.125     1.33    18.27
       ================================================
       ID = 3 (  0001):     2.86   0.128     1.33    14.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.13      1.33   14.70
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      1.33   14.70
     MINOR SYS.(ID= 3):   2.86      0.13      1.33   14.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072   |   0.1150     0.0239
                         0.0280     0.0096   |   0.1230     0.0263
                         0.0570     0.0120   |   0.1310     0.0287
                         0.0720     0.0143   |   0.1380     0.0311
                         0.0850     0.0167   |   0.1450     0.0335
                         0.0960     0.0191   |   0.1520     0.0359
                         0.1060     0.0215   |   0.1970     0.0360

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)    2.858      0.127      1.33      14.70
   OUTFLOW: ID= 1 (  0003)    2.858      0.063      1.92      12.18

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 49.42
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0091

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-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.00   0.001     1.33    14.70
```

```
      + ID2= 2 (  0003):     2.86   0.063     1.92    12.18
        ================================================
        ID = 3 (  0004):     2.86   0.063     1.92    12.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.063     1.92    12.18
      + ID2= 2 (  0005):     4.99   0.087     1.92     9.18
        ================================================
        ID = 3 (  0006):     7.85   0.150     1.92    10.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\9437b666-b4d1-4f6a-9fe4-a49ac1120d7c\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\9437b666-b4d1-4f6a-9fe4-a49ac1120d7c\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : Chicago_4hr_010yr             **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\ecada1de
| Ptotal= 58.63 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	2.17	1.08	17.41	2.08	9.37	3.08	3.25
0.17	2.35	1.17	29.81	2.17	8.20	3.17	3.08
0.25	2.57	1.25	70.75	2.25	7.27	3.25	2.92
0.33	2.84	1.33	169.55	2.33	6.52	3.33	2.77
0.42	3.16	1.42	89.76	2.42	5.89	3.42	2.64
0.50	3.56	1.50	51.82	2.50	5.37	3.50	2.52
0.58	4.07	1.58	34.57	2.58	4.93	3.58	2.41
0.67	4.73	1.67	25.13	2.67	4.55	3.67	2.31
0.75	5.62	1.75	19.35	2.75	4.22	3.75	2.21
0.83	6.88	1.83	15.52	2.83	3.93	3.83	2.13
0.92	8.77	1.92	12.83	2.92	3.68	3.92	2.05
1.00	11.83	2.00	10.86	3.00	3.45	4.00	1.97

```
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

     Unit Hyd Qpeak  (cms)=   0.379

     PEAK FLOW       (cms)=   0.110 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  13.354
     TOTAL RAINFALL   (mm)=  58.628
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\ecada1de
| Ptotal= 58.63 mm |    Comments:
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	2.17	1.08	17.41	2.08	9.37	3.08	3.25
0.17	2.35	1.17	29.81	2.17	8.20	3.17	3.08
0.25	2.57	1.25	70.75	2.25	7.27	3.25	2.92
0.33	2.84	1.33	169.55	2.33	6.52	3.33	2.77
0.42	3.16	1.42	89.76	2.42	5.89	3.42	2.64
0.50	3.56	1.50	51.82	2.50	5.37	3.50	2.52
0.58	4.07	1.58	34.57	2.58	4.93	3.58	2.41
0.67	4.73	1.67	25.13	2.67	4.55	3.67	2.31
0.75	5.62	1.75	19.35	2.75	4.22	3.75	2.21
0.83	6.88	1.83	15.52	2.83	3.93	3.83	2.13
0.92	8.77	1.92	12.83	2.92	3.68	3.92	2.05
1.00	11.83	2.00	10.86	3.00	3.45	4.00	1.97

```
--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0204)|   Area    (ha)=   1.52   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.32

     Unit Hyd Qpeak  (cms)=   0.181

     PEAK FLOW       (cms)=   0.051 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  13.352
     TOTAL RAINFALL   (mm)=  58.628
```

```
     RUNOFF COEFFICIENT   =   0.228

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\ecada1de
| Ptotal= 58.63 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.17 |  1.08   17.41 |  2.08    9.37 |  3.08    3.25
                0.17    2.35 |  1.17   29.81 |  2.17    8.20 |  3.17    3.08
                0.25    2.57 |  1.25   70.75 |  2.25    7.27 |  3.25    2.92
                0.33    2.84 |  1.33  169.55 |  2.33    6.52 |  3.33    2.77
                0.42    3.16 |  1.42   89.76 |  2.42    5.89 |  3.42    2.64
                0.50    3.56 |  1.50   51.82 |  2.50    5.37 |  3.50    2.52
                0.58    4.07 |  1.58   34.57 |  2.58    4.93 |  3.58    2.41
                0.67    4.73 |  1.67   25.13 |  2.67    4.55 |  3.67    2.31
                0.75    5.62 |  1.75   19.35 |  2.75    4.22 |  3.75    2.21
                0.83    6.88 |  1.83   15.52 |  2.83    3.93 |  3.83    2.13
                0.92    8.77 |  1.92   12.83 |  2.92    3.68 |  3.92    2.05
                1.00   11.83 |  2.00   10.86 |  3.00    3.45 |  4.00    1.97

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD   (  0205)|   Area    (ha)=   3.47   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   0.265

     PEAK FLOW       (cms)=   0.082 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  12.496
     TOTAL RAINFALL   (mm)=  58.628
     RUNOFF COEFFICIENT   =   0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0005)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.52   0.051     1.75    13.35
     + ID2= 2 (  0205):     3.47   0.082     2.00    12.50
       ==========================================================
       ID = 3 (  0005):     4.99   0.127     1.92    12.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\ecada1de
| Ptotal= 58.63 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.17 |  1.08   17.41 |  2.08    9.37 |  3.08    3.25
                0.17    2.35 |  1.17   29.81 |  2.17    8.20 |  3.17    3.08
                0.25    2.57 |  1.25   70.75 |  2.25    7.27 |  3.25    2.92
                0.33    2.84 |  1.33  169.55 |  2.33    6.52 |  3.33    2.77
                0.42    3.16 |  1.42   89.76 |  2.42    5.89 |  3.42    2.64
                0.50    3.56 |  1.50   51.82 |  2.50    5.37 |  3.50    2.52
                0.58    4.07 |  1.58   34.57 |  2.58    4.93 |  3.58    2.41
                0.67    4.73 |  1.67   25.13 |  2.67    4.55 |  3.67    2.31
                0.75    5.62 |  1.75   19.35 |  2.75    4.22 |  3.75    2.21
                0.83    6.88 |  1.83   15.52 |  2.83    3.93 |  3.83    2.13
                0.92    8.77 |  1.92   12.83 |  2.92    3.68 |  3.92    2.05
                1.00   11.83 |  2.00   10.86 |  3.00    3.45 |  4.00    1.97

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.032 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  12.494
     TOTAL RAINFALL   (mm)=  58.628
     RUNOFF COEFFICIENT   =   0.213

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\ecada1de
| Ptotal= 58.63 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.17 |  1.08   17.41 |  2.08    9.37 |  3.08    3.25
                0.17    2.35 |  1.17   29.81 |  2.17    8.20 |  3.17    3.08
                0.25    2.57 |  1.25   70.75 |  2.25    7.27 |  3.25    2.92
                0.33    2.84 |  1.33  169.55 |  2.33    6.52 |  3.33    2.77
                0.42    3.16 |  1.42   89.76 |  2.42    5.89 |  3.42    2.64
                0.50    3.56 |  1.50   51.82 |  2.50    5.37 |  3.50    2.52
                0.58    4.07 |  1.58   34.57 |  2.58    4.93 |  3.58    2.41
                0.67    4.73 |  1.67   25.13 |  2.67    4.55 |  3.67    2.31
                0.75    5.62 |  1.75   19.35 |  2.75    4.22 |  3.75    2.21
                0.83    6.88 |  1.83   15.52 |  2.83    3.93 |  3.83    2.13
                0.92    8.77 |  1.92   12.83 |  2.92    3.68 |  3.92    2.05
                1.00   11.83 |  2.00   10.86 |  3.00    3.45 |  4.00    1.97

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.62          1.14
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          2.00
     Length            (m)=     108.32         65.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     169.55         32.97
               over (min)         5.00         20.00
     Storage Coeff.  (min)=       2.67 (ii)   17.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00         20.00
```

```
     Unit Hyd. peak  (cms)=       0.29         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.15         0.06          0.160 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.67           1.33
     RUNOFF VOLUME    (mm)=      56.63        15.04          23.35
     TOTAL RAINFALL   (mm)=      58.63        58.63          58.63
     RUNOFF COEFFICIENT   =       0.97         0.26           0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.032     1.83    12.49
     + ID2= 2 (  0203):     1.76   0.160     1.33    23.35
       ================================================
       ID = 3 (  0001):     2.86   0.164     1.33    19.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.16      1.33   19.17
     ================================================
     MAJOR SYS.(ID= 2):   0.06      0.04      1.33   19.17
     MINOR SYS.(ID= 3):   2.80      0.13      1.33   19.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072    |   0.1150      0.0239
                         0.0280     0.0096    |   0.1230      0.0263
                         0.0570     0.0120    |   0.1310      0.0287
                         0.0720     0.0143    |   0.1380      0.0311
                         0.0850     0.0167    |   0.1450      0.0335
                         0.0960     0.0191    |   0.1520      0.0359
                         0.1060     0.0215    |   0.1970      0.0360

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)     2.798      0.127      1.33      19.17
   OUTFLOW: ID= 1 (  0003)     2.798      0.085      2.00      16.60

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 66.88
                  TIME SHIFT OF PEAK FLOW        (min)= 40.00
                  MAXIMUM  STORAGE   USED      (ha.m.)=  0.0129

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.06   0.037     1.33    19.17
     + ID2= 2 (  0003):     2.80   0.085     2.00    16.60
       ================================================
       ID = 3 (  0004):     2.86   0.085     2.00    16.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.085     2.00    16.65
     + ID2= 2 (  0005):     4.99   0.127     1.92    12.76
       ================================================
       ID = 3 (  0006):     7.85   0.212     1.92    14.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================================
==============

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\e396291d-f855-4831-8cb0-ba01211c18b4\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\e396291d-f855-4831-8cb0-ba01211c18b4\scena


DATE: 05-29-2018                          TIME: 01:26:21

USER:


COMMENTS: _____________________________________________________


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  ***********************************************
  ** SIMULATION : Chicago_4hr_025yr             **
  ***********************************************


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```
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\685dd626
| Ptotal= 71.60 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.40 |  1.08   22.58 |  2.08   11.85 |  3.08    3.77
                0.17    2.63 |  1.17   38.73 |  2.17   10.30 |  3.17    3.54
                0.25    2.91 |  1.25   88.12 |  2.25    9.06 |  3.25    3.34
                0.33    3.24 |  1.33  192.71 |  2.33    8.05 |  3.33    3.15
                0.42    3.65 |  1.42  110.13 |  2.42    7.22 |  3.42    2.99
                0.50    4.16 |  1.50   66.22 |  2.50    6.53 |  3.50    2.84
                0.58    4.82 |  1.58   44.84 |  2.58    5.95 |  3.58    2.70
                0.67    5.68 |  1.67   32.73 |  2.67    5.45 |  3.67    2.57
                0.75    6.86 |  1.75   25.16 |  2.75    5.02 |  3.75    2.46
                0.83    8.54 |  1.83   20.08 |  2.83    4.64 |  3.83    2.35
                0.92   11.05 |  1.92   16.49 |  2.92    4.32 |  3.92    2.25
                1.00   15.15 |  2.00   13.85 |  3.00    4.03 |  4.00    2.16

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.35

     Unit Hyd Qpeak  (cms)=   0.379

     PEAK FLOW       (cms)=   0.162 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  19.417
     TOTAL RAINFALL   (mm)=  71.604
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\685dd626
| Ptotal= 71.60 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.40 |  1.08   22.58 |  2.08   11.85 |  3.08    3.77
                0.17    2.63 |  1.17   38.73 |  2.17   10.30 |  3.17    3.54
                0.25    2.91 |  1.25   88.12 |  2.25    9.06 |  3.25    3.34
                0.33    3.24 |  1.33  192.71 |  2.33    8.05 |  3.33    3.15
                0.42    3.65 |  1.42  110.13 |  2.42    7.22 |  3.42    2.99
                0.50    4.16 |  1.50   66.22 |  2.50    6.53 |  3.50    2.84
                0.58    4.82 |  1.58   44.84 |  2.58    5.95 |  3.58    2.70
                0.67    5.68 |  1.67   32.73 |  2.67    5.45 |  3.67    2.57
                0.75    6.86 |  1.75   25.16 |  2.75    5.02 |  3.75    2.46
                0.83    8.54 |  1.83   20.08 |  2.83    4.64 |  3.83    2.35
                0.92   11.05 |  1.92   16.49 |  2.92    4.32 |  3.92    2.25
                1.00   15.15 |  2.00   13.85 |  3.00    4.03 |  4.00    2.16

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0204)|   Area    (ha)=   1.52   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.32

     Unit Hyd Qpeak  (cms)=   0.181

     PEAK FLOW       (cms)=   0.075 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  19.415
     TOTAL RAINFALL   (mm)=  71.604
     RUNOFF COEFFICIENT   =   0.271

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\685dd626
| Ptotal= 71.60 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.40 |  1.08   22.58 |  2.08   11.85 |  3.08    3.77
                0.17    2.63 |  1.17   38.73 |  2.17   10.30 |  3.17    3.54
                0.25    2.91 |  1.25   88.12 |  2.25    9.06 |  3.25    3.34
                0.33    3.24 |  1.33  192.71 |  2.33    8.05 |  3.33    3.15
                0.42    3.65 |  1.42  110.13 |  2.42    7.22 |  3.42    2.99
                0.50    4.16 |  1.50   66.22 |  2.50    6.53 |  3.50    2.84
                0.58    4.82 |  1.58   44.84 |  2.58    5.95 |  3.58    2.70
                0.67    5.68 |  1.67   32.73 |  2.67    5.45 |  3.67    2.57
                0.75    6.86 |  1.75   25.16 |  2.75    5.02 |  3.75    2.46
                0.83    8.54 |  1.83   20.08 |  2.83    4.64 |  3.83    2.35
                0.92   11.05 |  1.92   16.49 |  2.92    4.32 |  3.92    2.25
                1.00   15.15 |  2.00   13.85 |  3.00    4.03 |  4.00    2.16

--------------------------------------------------------------------------------

-------------------
| CALIB           |
| NASHYD   (  0205)|   Area    (ha)=   3.47   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   0.265

     PEAK FLOW       (cms)=   0.121 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  18.246
     TOTAL RAINFALL   (mm)=  71.604
     RUNOFF COEFFICIENT   =   0.255

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0005)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.52   0.075     1.75    19.42
     + ID2= 2 (  0205):     3.47   0.121     2.00    18.25
       ================================================
       ID = 3 (  0005):     4.99   0.188     1.92    18.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\685dd626
| Ptotal= 71.60 mm |    Comments:
```

```
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.40 |  1.08   22.58 |  2.08   11.85 |  3.08    3.77
                0.17    2.63 |  1.17   38.73 |  2.17   10.30 |  3.17    3.54
                0.25    2.91 |  1.25   88.12 |  2.25    9.06 |  3.25    3.34
                0.33    3.24 |  1.33  192.71 |  2.33    8.05 |  3.33    3.15
                0.42    3.65 |  1.42  110.13 |  2.42    7.22 |  3.42    2.99
                0.50    4.16 |  1.50   66.22 |  2.50    6.53 |  3.50    2.84
                0.58    4.82 |  1.58   44.84 |  2.58    5.95 |  3.58    2.70
                0.67    5.68 |  1.67   32.73 |  2.67    5.45 |  3.67    2.57
                0.75    6.86 |  1.75   25.16 |  2.75    5.02 |  3.75    2.46
                0.83    8.54 |  1.83   20.08 |  2.83    4.64 |  3.83    2.35
                0.92   11.05 |  1.92   16.49 |  2.92    4.32 |  3.92    2.25
                1.00   15.15 |  2.00   13.85 |  3.00    4.03 |  4.00    2.16

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.047 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  18.243
     TOTAL RAINFALL   (mm)=  71.604
     RUNOFF COEFFICIENT   =   0.255

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\685dd626
| Ptotal= 71.60 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.40 |  1.08   22.58 |  2.08   11.85 |  3.08    3.77
                0.17    2.63 |  1.17   38.73 |  2.17   10.30 |  3.17    3.54
                0.25    2.91 |  1.25   88.12 |  2.25    9.06 |  3.25    3.34
                0.33    3.24 |  1.33  192.71 |  2.33    8.05 |  3.33    3.15
                0.42    3.65 |  1.42  110.13 |  2.42    7.22 |  3.42    2.99
                0.50    4.16 |  1.50   66.22 |  2.50    6.53 |  3.50    2.84
                0.58    4.82 |  1.58   44.84 |  2.58    5.95 |  3.58    2.70
                0.67    5.68 |  1.67   32.73 |  2.67    5.45 |  3.67    2.57
                0.75    6.86 |  1.75   25.16 |  2.75    5.02 |  3.75    2.46
                0.83    8.54 |  1.83   20.08 |  2.83    4.64 |  3.83    2.35
                0.92   11.05 |  1.92   16.49 |  2.92    4.32 |  3.92    2.25
                1.00   15.15 |  2.00   13.85 |  3.00    4.03 |  4.00    2.16

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.62         1.14
     Dep. Storage     (mm)=      2.00         5.00
     Average Slope     (%)=      0.50         2.00
     Length            (m)=    108.32        65.00
     Mannings n           =     0.013        0.250

     Max.Eff.Inten.(mm/hr)=    192.71        46.66
                over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.54 (ii)   15.35 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.29         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.17         0.09          0.189 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.67           1.33
     RUNOFF VOLUME    (mm)=      69.60        21.62          31.22
     TOTAL RAINFALL   (mm)=      71.60        71.60          71.60
     RUNOFF COEFFICIENT   =       0.97         0.30           0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.047     1.83    18.24
     + ID2= 2 (  0203):     1.76   0.189     1.33    31.22
       ================================================
       ID = 3 (  0001):     2.86   0.196     1.33    26.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.20      1.33   26.23
     ================================================
     MAJOR SYS.(ID= 2):   0.30      0.07      1.33   26.23
     MINOR SYS.(ID= 3):   2.56      0.13      1.33   26.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0072   |   0.1150     0.0239
                          0.0280     0.0096   |   0.1230     0.0263
                          0.0570     0.0120   |   0.1310     0.0287
                          0.0720     0.0143   |   0.1380     0.0311
                          0.0850     0.0167   |   0.1450     0.0335
                          0.0960     0.0191   |   0.1520     0.0359
                          0.1060     0.0215   |   0.1970     0.0360

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)     2.558     0.127      1.33      26.23
   OUTFLOW: ID= 1 (  0003)     2.558     0.101      2.08      23.41

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 79.73
```

```
                TIME SHIFT OF PEAK FLOW        (min)= 45.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0204

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.30   0.069     1.33    26.23
     + ID2= 2 (  0003):     2.56   0.101     2.08    23.41
       ====================================================
       ID = 3 (  0004):     2.86   0.119     1.67    23.71

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
-------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.119     1.67    23.71
     + ID2= 2 (  0005):     4.99   0.188     1.92    18.60
       ====================================================
       ID = 3 (  0006):     7.85   0.298     1.83    20.46

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================================
==============

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\264464bc-f93f-4159-9e9d-db33d8464cb0\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\264464bc-f93f-4159-9e9d-db33d8464cb0\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:



COMMENTS: _____________________________________________________________

--------------------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : Chicago_4hr_050yr            **
  ***********************************************


-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\de894682
| Ptotal= 80.34 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.45 |  1.08   25.64 |  2.08   13.21 |  3.08    3.97
                0.17    2.71 |  1.17   44.32 |  2.17   11.41 |  3.17    3.72
                0.25    3.01 |  1.25  100.50 |  2.25    9.99 |  3.25    3.49
                0.33    3.38 |  1.33  215.80 |  2.33    8.83 |  3.33    3.28
                0.42    3.84 |  1.42  125.29 |  2.42    7.88 |  3.42    3.10
                0.50    4.41 |  1.50   75.84 |  2.50    7.09 |  3.50    2.93
                0.58    5.15 |  1.58   51.37 |  2.58    6.43 |  3.58    2.78
                0.67    6.13 |  1.67   37.40 |  2.67    5.86 |  3.67    2.64
                0.75    7.47 |  1.75   28.63 |  2.75    5.37 |  3.75    2.51
                0.83    9.39 |  1.83   22.74 |  2.83    4.95 |  3.83    2.40
                0.92   12.29 |  1.92   18.58 |  2.92    4.58 |  3.92    2.29
                1.00   17.02 |  2.00   15.53 |  3.00    4.26 |  4.00    2.19

--------------------------------------------------------------------------------

-------------------
| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.35

    Unit Hyd Qpeak  (cms)=   0.379

    PEAK FLOW       (cms)=   0.204 (i)
    TIME TO PEAK    (hrs)=   1.750
    RUNOFF VOLUME    (mm)=  23.922
    TOTAL RAINFALL   (mm)=  80.336
    RUNOFF COEFFICIENT   =   0.298

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\de894682
| Ptotal= 80.34 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.45 |  1.08   25.64 |  2.08   13.21 |  3.08    3.97
                0.17    2.71 |  1.17   44.32 |  2.17   11.41 |  3.17    3.72
                0.25    3.01 |  1.25  100.50 |  2.25    9.99 |  3.25    3.49
                0.33    3.38 |  1.33  215.80 |  2.33    8.83 |  3.33    3.28
                0.42    3.84 |  1.42  125.29 |  2.42    7.88 |  3.42    3.10
                0.50    4.41 |  1.50   75.84 |  2.50    7.09 |  3.50    2.93
                0.58    5.15 |  1.58   51.37 |  2.58    6.43 |  3.58    2.78
                0.67    6.13 |  1.67   37.40 |  2.67    5.86 |  3.67    2.64
                0.75    7.47 |  1.75   28.63 |  2.75    5.37 |  3.75    2.51
                0.83    9.39 |  1.83   22.74 |  2.83    4.95 |  3.83    2.40
                0.92   12.29 |  1.92   18.58 |  2.92    4.58 |  3.92    2.29
                1.00   17.02 |  2.00   15.53 |  3.00    4.26 |  4.00    2.19

--------------------------------------------------------------------------------

-------------------
| CALIB            |
```

```
| NASHYD   (  0204)|   Area    (ha)=   1.52   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.32

     Unit Hyd Qpeak  (cms)=   0.181

     PEAK FLOW       (cms)=   0.095 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  23.920
     TOTAL RAINFALL   (mm)=  80.336
     RUNOFF COEFFICIENT   =   0.298

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\de894682
| Ptotal= 80.34 mm |    Comments:
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	2.45	1.08	25.64	2.08	13.21	3.08	3.97
0.17	2.71	1.17	44.32	2.17	11.41	3.17	3.72
0.25	3.01	1.25	100.50	2.25	9.99	3.25	3.49
0.33	3.38	1.33	215.80	2.33	8.83	3.33	3.28
0.42	3.84	1.42	125.29	2.42	7.88	3.42	3.10
0.50	4.41	1.50	75.84	2.50	7.09	3.50	2.93
0.58	5.15	1.58	51.37	2.58	6.43	3.58	2.78
0.67	6.13	1.67	37.40	2.67	5.86	3.67	2.64
0.75	7.47	1.75	28.63	2.75	5.37	3.75	2.51
0.83	9.39	1.83	22.74	2.83	4.95	3.83	2.40
0.92	12.29	1.92	18.58	2.92	4.58	3.92	2.29
1.00	17.02	2.00	15.53	3.00	4.26	4.00	2.19

```
-------------------
| CALIB            |
| NASHYD   (  0205)|   Area    (ha)=   3.47   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   0.265

     PEAK FLOW       (cms)=   0.153 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  22.534
     TOTAL RAINFALL   (mm)=  80.336
     RUNOFF COEFFICIENT   =   0.281

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
| ADD HYD  (  0005)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.52   0.095     1.75     23.92
     + ID2= 2 (  0205):     3.47   0.153     2.00     22.53
       ================================================
       ID = 3 (  0005):     4.99   0.237     1.92     22.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
```

```
-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\de894682
| Ptotal= 80.34 mm |    Comments:
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	2.45	1.08	25.64	2.08	13.21	3.08	3.97
0.17	2.71	1.17	44.32	2.17	11.41	3.17	3.72
0.25	3.01	1.25	100.50	2.25	9.99	3.25	3.49
0.33	3.38	1.33	215.80	2.33	8.83	3.33	3.28
0.42	3.84	1.42	125.29	2.42	7.88	3.42	3.10
0.50	4.41	1.50	75.84	2.50	7.09	3.50	2.93
0.58	5.15	1.58	51.37	2.58	6.43	3.58	2.78
0.67	6.13	1.67	37.40	2.67	5.86	3.67	2.64
0.75	7.47	1.75	28.63	2.75	5.37	3.75	2.51
0.83	9.39	1.83	22.74	2.83	4.95	3.83	2.40
0.92	12.29	1.92	18.58	2.92	4.58	3.92	2.29
1.00	17.02	2.00	15.53	3.00	4.26	4.00	2.19

```
-------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.059 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  22.531
     TOTAL RAINFALL   (mm)=  80.336
     RUNOFF COEFFICIENT   =   0.280

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\de894682
| Ptotal= 80.34 mm |    Comments:
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.08	2.45	1.08	25.64	2.08	13.21	3.08	3.97
0.17	2.71	1.17	44.32	2.17	11.41	3.17	3.72
0.25	3.01	1.25	100.50	2.25	9.99	3.25	3.49
0.33	3.38	1.33	215.80	2.33	8.83	3.33	3.28
0.42	3.84	1.42	125.29	2.42	7.88	3.42	3.10
0.50	4.41	1.50	75.84	2.50	7.09	3.50	2.93
0.58	5.15	1.58	51.37	2.58	6.43	3.58	2.78
0.67	6.13	1.67	37.40	2.67	5.86	3.67	2.64
0.75	7.47	1.75	28.63	2.75	5.37	3.75	2.51
0.83	9.39	1.83	22.74	2.83	4.95	3.83	2.40
0.92	12.29	1.92	18.58	2.92	4.58	3.92	2.29
1.00	17.02	2.00	15.53	3.00	4.26	4.00	2.19

```
-------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
-------------------

                         IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=       0.62         1.14
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     108.32        65.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=     215.80        58.13
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.43 (ii)   14.16 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.30         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.12          0.227 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      78.34        26.48          36.85
     TOTAL RAINFALL   (mm)=      80.34        80.34          80.34
     RUNOFF COEFFICIENT   =       0.98         0.33           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.059     1.83    22.53
     + ID2= 2 (  0203):     1.76   0.227     1.33    36.85
       ================================================
       ID = 3 (  0001):     2.86   0.235     1.33    31.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.24      1.33   31.34
     ================================================
     MAJOR SYS.(ID= 2):   0.57      0.11      1.33   31.34
     MINOR SYS.(ID= 3):   2.29      0.13      1.33   31.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0072    |   0.1150      0.0239
                        0.0280     0.0096    |   0.1230      0.0263
                        0.0570     0.0120    |   0.1310      0.0287
                        0.0720     0.0143    |   0.1380      0.0311
                        0.0850     0.0167    |   0.1450      0.0335
                        0.0960     0.0191    |   0.1520      0.0359
                        0.1060     0.0215    |   0.1970      0.0360

                             AREA     QPEAK     TPEAK       R.V.
                                       (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)      2.285      0.127      1.33      31.34
   OUTFLOW: ID= 1 (  0003)      2.285      0.105      2.17      28.19

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.59
                  TIME SHIFT OF PEAK FLOW         (min)= 50.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0213

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.57   0.108     1.33    31.34
     + ID2= 2 (  0003):     2.29   0.105     2.17    28.19
       ================================================
       ID = 3 (  0004):     2.86   0.165     1.58    28.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.165     1.58    28.82
     + ID2= 2 (  0005):     4.99   0.237     1.92    22.96
       ================================================
       ID = 3 (  0006):     7.85   0.378     1.75    25.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================================
===============

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\1f0df8e5-0136-40a1-a0f3-72a4c98cb595\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\1f0df8e5-0136-40a1-a0f3-72a4c98cb595\scena


DATE: 05-29-2018                          TIME: 01:26:19

USER:


COMMENTS: _____________________________________________________________
```

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  ************************************************
  ** SIMULATION : Chicago_4hr_100yr             **
  ************************************************


--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\7454d05d
| Ptotal= 89.89 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

     Unit Hyd Qpeak  (cms)=   0.379

     PEAK FLOW       (cms)=   0.253 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  29.191
     TOTAL RAINFALL   (mm)=  89.888
     RUNOFF COEFFICIENT   =   0.325

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\7454d05d
| Ptotal= 89.89 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0204)|   Area    (ha)=   1.52   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.32

     Unit Hyd Qpeak  (cms)=   0.181

     PEAK FLOW       (cms)=   0.117 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  29.188
     TOTAL RAINFALL   (mm)=  89.888
     RUNOFF COEFFICIENT   =   0.325

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\7454d05d
| Ptotal= 89.89 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0205)|   Area    (ha)=   3.47   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

     Unit Hyd Qpeak  (cms)=   0.265

     PEAK FLOW       (cms)=   0.189 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  27.565
     TOTAL RAINFALL   (mm)=  89.888
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0005)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.52   0.117     1.75    29.19
     + ID2= 2 (  0205):     3.47   0.189     2.00    27.57
       ================================================
       ID = 3 (  0005):     4.99   0.294     1.92    28.06
```

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\7454d05d
| Ptotal= 89.89 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.37

     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.073 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  27.562
     TOTAL RAINFALL   (mm)=  89.888
     RUNOFF COEFFICIENT   =   0.307

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\7454d05d
| Ptotal= 89.89 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.08    2.55 |  1.08   29.10 |  2.08   14.80 |  3.08    4.24
                0.17    2.83 |  1.17   50.50 |  2.17   12.73 |  3.17    3.95
                0.25    3.16 |  1.25  113.67 |  2.25   11.09 |  3.25    3.70
                0.33    3.58 |  1.33  239.35 |  2.33    9.76 |  3.33    3.47
                0.42    4.09 |  1.42  141.25 |  2.42    8.68 |  3.42    3.26
                0.50    4.73 |  1.50   86.23 |  2.50    7.78 |  3.50    3.08
                0.58    5.57 |  1.58   58.55 |  2.58    7.02 |  3.58    2.91
                0.67    6.68 |  1.67   42.60 |  2.67    6.37 |  3.67    2.76
                0.75    8.21 |  1.75   32.53 |  2.75    5.82 |  3.75    2.62
                0.83   10.40 |  1.83   25.76 |  2.83    5.34 |  3.83    2.49
                0.92   13.73 |  1.92   20.97 |  2.92    4.93 |  3.92    2.37
                1.00   19.18 |  2.00   17.46 |  3.00    4.56 |  4.00    2.26

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.62          1.14
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          2.00
     Length            (m)=     108.32         65.00
     Mannings n           =      0.013         0.250

     Max.Eff.Inten.(mm/hr)=     239.35         71.18
               over (min)        5.00         15.00
     Storage Coeff.  (min)=       2.33 (ii)    13.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.30          0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.22          0.15       0.260 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.58        1.33
     RUNOFF VOLUME    (mm)=      87.89         32.13       43.28
     TOTAL RAINFALL   (mm)=      89.89         89.89       89.89
     RUNOFF COEFFICIENT   =       0.98          0.36        0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.073     1.83    27.56
     + ID2= 2 (  0203):     1.76   0.260     1.33    43.28
       ==========================================================
       ID = 3 (  0001):     2.86   0.271     1.33    37.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.27      1.33   37.23
     ================================================
     MAJOR SYS.(ID= 2):   0.79      0.14      1.33   37.23
     MINOR SYS.(ID= 3):   2.07      0.13      1.33   37.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

--------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072    |   0.1150      0.0239
                         0.0280     0.0096    |   0.1230      0.0263
                         0.0570     0.0120    |   0.1310      0.0287
                         0.0720     0.0143    |   0.1380      0.0311
```

```
                        0.0850     0.0167   |   0.1450      0.0335
                        0.0960     0.0191   |   0.1520      0.0359
                        0.1060     0.0215   |   0.1970      0.0360

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)      2.072      0.127      1.33      37.23
   OUTFLOW: ID= 1 (  0003)      2.072      0.108      2.25      33.76

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 85.28
                  TIME SHIFT OF PEAK FLOW         (min)= 55.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0221

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.79   0.144     1.33    37.23
     + ID2= 2 (  0003):     2.07   0.108     2.25    33.76
       ====================================================
       ID = 3 (  0004):     2.86   0.217     1.58    34.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.217     1.58    34.72
     + ID2= 2 (  0005):     4.99   0.294     1.92    28.06
       ================================================
       ID = 3 (  0006):     7.85   0.476     1.75    30.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================================
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      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\cd9e5b07-4d5b-4614-be1f-2a5bd65f7801\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\cd9e5b07-4d5b-4614-be1f-2a5bd65f7801\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:


COMMENTS: _____________________________________________________________

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  ************************************************
  ** SIMULATION : SCS_24hr_002yr                **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\4740d578
| Ptotal= 47.61 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    0.95 | 12.75    6.85 | 19.00    0.86
                0.50    0.48 |  6.75    0.95 | 13.00    3.52 | 19.25    0.86
                0.75    0.48 |  7.00    0.95 | 13.25    3.52 | 19.50    0.86
                1.00    0.48 |  7.25    0.95 | 13.50    0.67 | 19.75    0.86
                1.25    0.48 |  7.50    0.95 | 13.75    0.67 | 20.00    0.86
                1.50    0.48 |  7.75    0.95 | 14.00    3.90 | 20.25    0.86
                1.75    0.48 |  8.00    0.95 | 14.25    3.90 | 20.50    0.57
                2.00    0.48 |  8.25    0.95 | 14.50    1.43 | 20.75    0.57
                2.25    0.86 |  8.50    1.29 | 14.75    1.43 | 21.00    0.57
                2.50    0.62 |  8.75    1.29 | 15.00    1.43 | 21.25    0.57
                2.75    0.62 |  9.00    1.29 | 15.25    1.43 | 21.50    0.57
                3.00    0.62 |  9.25    1.29 | 15.50    1.43 | 21.75    0.57
                3.25    0.62 |  9.50    1.52 | 15.75    1.43 | 22.00    0.57
                3.50    0.62 |  9.75    1.52 | 16.00    1.43 | 22.25    0.57
                3.75    0.62 | 10.00    1.71 | 16.25    1.43 | 22.50    0.57
                4.00    0.62 | 10.25    1.71 | 16.50    0.86 | 22.75    0.57
                4.25    0.62 | 10.50    2.19 | 16.75    0.86 | 23.00    0.57
                4.50    0.76 | 10.75    2.19 | 17.00    0.86 | 23.25    0.57
                4.75    0.76 | 11.00    2.95 | 17.25    0.86 | 23.50    0.57
                5.00    0.76 | 11.25    2.95 | 17.50    0.86 | 23.75    0.57
                5.25    0.76 | 11.50    4.57 | 17.75    0.86 | 24.00    0.57
                5.50    0.76 | 11.75    4.57 | 18.00    0.86 | 24.25    0.57
                5.75    0.76 | 12.00   19.80 | 18.25    0.86 |
                6.00    0.76 | 12.25   52.55 | 18.50    0.86 |
                6.25    0.76 | 12.50    6.85 | 18.75    0.86 |

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| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.35

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    0.76 |12.250   52.55 | 18.33    0.86
               0.167    0.00 | 6.250    0.76 |12.333    6.86 | 18.42    0.86
               0.250    0.00 | 6.333    0.95 |12.417    6.85 | 18.50    0.86
               0.333    0.48 | 6.417    0.95 |12.500    6.85 | 18.58    0.86
               0.417    0.48 | 6.500    0.95 |12.583    6.85 | 18.67    0.86
               0.500    0.48 | 6.583    0.95 |12.667    6.85 | 18.75    0.86
               0.583    0.48 | 6.667    0.95 |12.750    6.85 | 18.83    0.86
               0.667    0.48 | 6.750    0.95 |12.833    3.52 | 18.92    0.86
```

0.750	0.48	6.833	0.95	12.917	3.52	19.00	0.86
0.833	0.48	6.917	0.95	13.000	3.52	19.08	0.86
0.917	0.48	7.000	0.95	13.083	3.52	19.17	0.86
1.000	0.48	7.083	0.95	13.167	3.52	19.25	0.86
1.083	0.48	7.167	0.95	13.250	3.52	19.33	0.86
1.167	0.48	7.250	0.95	13.333	0.67	19.42	0.86
1.250	0.48	7.333	0.95	13.417	0.67	19.50	0.86
1.333	0.48	7.417	0.95	13.500	0.67	19.58	0.86
1.417	0.48	7.500	0.95	13.583	0.67	19.67	0.86
1.500	0.48	7.583	0.95	13.667	0.67	19.75	0.86
1.583	0.48	7.667	0.95	13.750	0.67	19.83	0.86
1.667	0.48	7.750	0.95	13.833	3.90	19.92	0.86
1.750	0.48	7.833	0.95	13.917	3.90	20.00	0.86
1.833	0.48	7.917	0.95	14.000	3.90	20.08	0.86
1.917	0.48	8.000	0.95	14.083	3.90	20.17	0.86
2.000	0.48	8.083	0.95	14.167	3.90	20.25	0.86
2.083	0.86	8.167	0.95	14.250	3.90	20.33	0.57
2.167	0.86	8.250	0.95	14.333	1.43	20.42	0.57
2.250	0.86	8.333	1.29	14.417	1.43	20.50	0.57
2.333	0.62	8.417	1.29	14.500	1.43	20.58	0.57
2.417	0.62	8.500	1.29	14.583	1.43	20.67	0.57
2.500	0.62	8.583	1.29	14.667	1.43	20.75	0.57
2.583	0.62	8.667	1.29	14.750	1.43	20.83	0.57
2.667	0.62	8.750	1.29	14.833	1.43	20.92	0.57
2.750	0.62	8.833	1.29	14.917	1.43	21.00	0.57
2.833	0.62	8.917	1.29	15.000	1.43	21.08	0.57
2.917	0.62	9.000	1.29	15.083	1.43	21.17	0.57
3.000	0.62	9.083	1.29	15.167	1.43	21.25	0.57
3.083	0.62	9.167	1.29	15.250	1.43	21.33	0.57
3.167	0.62	9.250	1.29	15.333	1.43	21.42	0.57
3.250	0.62	9.333	1.52	15.417	1.43	21.50	0.57
3.333	0.62	9.417	1.52	15.500	1.43	21.58	0.57
3.417	0.62	9.500	1.52	15.583	1.43	21.67	0.57
3.500	0.62	9.583	1.52	15.667	1.43	21.75	0.57
3.583	0.62	9.667	1.52	15.750	1.43	21.83	0.57
3.667	0.62	9.750	1.52	15.833	1.43	21.92	0.57
3.750	0.62	9.833	1.71	15.917	1.43	22.00	0.57
3.833	0.62	9.917	1.71	16.000	1.43	22.08	0.57
3.917	0.62	10.000	1.71	16.083	1.43	22.17	0.57
4.000	0.62	10.083	1.71	16.167	1.43	22.25	0.57
4.083	0.62	10.167	1.71	16.250	1.43	22.33	0.57
4.167	0.62	10.250	1.71	16.333	0.86	22.42	0.57
4.250	0.62	10.333	2.19	16.417	0.86	22.50	0.57
4.333	0.76	10.417	2.19	16.500	0.86	22.58	0.57
4.417	0.76	10.500	2.19	16.583	0.86	22.67	0.57
4.500	0.76	10.583	2.19	16.667	0.86	22.75	0.57
4.583	0.76	10.667	2.19	16.750	0.86	22.83	0.57
4.667	0.76	10.750	2.19	16.833	0.86	22.92	0.57
4.750	0.76	10.833	2.95	16.917	0.86	23.00	0.57
4.833	0.76	10.917	2.95	17.000	0.86	23.08	0.57
4.917	0.76	11.000	2.95	17.083	0.86	23.17	0.57
5.000	0.76	11.083	2.95	17.167	0.86	23.25	0.57
5.083	0.76	11.167	2.95	17.250	0.86	23.33	0.57
5.167	0.76	11.250	2.95	17.333	0.86	23.42	0.57
5.250	0.76	11.333	4.57	17.417	0.86	23.50	0.57
5.333	0.76	11.417	4.57	17.500	0.86	23.58	0.57
5.417	0.76	11.500	4.57	17.583	0.86	23.67	0.57
5.500	0.76	11.583	4.57	17.667	0.86	23.75	0.57
5.583	0.76	11.667	4.57	17.750	0.86	23.83	0.57
5.667	0.76	11.750	4.57	17.833	0.86	23.92	0.57
5.750	0.76	11.833	19.80	17.917	0.86	24.00	0.57
5.833	0.76	11.917	19.80	18.000	0.86	24.08	0.57
5.917	0.76	12.000	19.80	18.083	0.86	24.17	0.57
6.000	0.76	12.083	52.55	18.167	0.86	24.25	0.57
6.083	0.76	12.167	52.55	18.250	0.86		

Unit Hyd Qpeak (cms)= 0.379

PEAK FLOW (cms)= 0.049 (i)
TIME TO PEAK (hrs)= 12.500

RUNOFF VOLUME (mm)= 8.893
TOTAL RAINFALL (mm)= 47.613
RUNOFF COEFFICIENT = 0.187

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\4740d578
Ptotal= 47.61 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	0.95	12.75	6.85	19.00	0.86
0.50	0.48	6.75	0.95	13.00	3.52	19.25	0.86
0.75	0.48	7.00	0.95	13.25	3.52	19.50	0.86
1.00	0.48	7.25	0.95	13.50	0.67	19.75	0.86
1.25	0.48	7.50	0.95	13.75	0.67	20.00	0.86
1.50	0.48	7.75	0.95	14.00	3.90	20.25	0.86
1.75	0.48	8.00	0.95	14.25	3.90	20.50	0.57
2.00	0.48	8.25	0.95	14.50	1.43	20.75	0.57
2.25	0.86	8.50	1.29	14.75	1.43	21.00	0.57
2.50	0.62	8.75	1.29	15.00	1.43	21.25	0.57
2.75	0.62	9.00	1.29	15.25	1.43	21.50	0.57
3.00	0.62	9.25	1.29	15.50	1.43	21.75	0.57
3.25	0.62	9.50	1.52	15.75	1.43	22.00	0.57
3.50	0.62	9.75	1.52	16.00	1.43	22.25	0.57
3.75	0.62	10.00	1.71	16.25	1.43	22.50	0.57
4.00	0.62	10.25	1.71	16.50	0.86	22.75	0.57
4.25	0.62	10.50	2.19	16.75	0.86	23.00	0.57
4.50	0.76	10.75	2.19	17.00	0.86	23.25	0.57
4.75	0.76	11.00	2.95	17.25	0.86	23.50	0.57
5.00	0.76	11.25	2.95	17.50	0.86	23.75	0.57
5.25	0.76	11.50	4.57	17.75	0.86	24.00	0.57
5.50	0.76	11.75	4.57	18.00	0.86	24.25	0.57
5.75	0.76	12.00	19.80	18.25	0.86		
6.00	0.76	12.25	52.55	18.50	0.86		
6.25	0.76	12.50	6.85	18.75	0.86		

CALIB				
NASHYD (0204)	Area (ha)= 1.52	Curve Number (CN)= 61.0		
ID= 1 DT= 5.0 min	Ia (mm)= 4.90	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.32			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.76	12.250	52.55	18.33	0.86
0.167	0.00	6.250	0.76	12.333	6.86	18.42	0.86
0.250	0.00	6.333	0.95	12.417	6.85	18.50	0.86
0.333	0.48	6.417	0.95	12.500	6.85	18.58	0.86
0.417	0.48	6.500	0.95	12.583	6.85	18.67	0.86
0.500	0.48	6.583	0.95	12.667	6.85	18.75	0.86
0.583	0.48	6.667	0.95	12.750	6.85	18.83	0.86
0.667	0.48	6.750	0.95	12.833	3.52	18.92	0.86
0.750	0.48	6.833	0.95	12.917	3.52	19.00	0.86
0.833	0.48	6.917	0.95	13.000	3.52	19.08	0.86
0.917	0.48	7.000	0.95	13.083	3.52	19.17	0.86
1.000	0.48	7.083	0.95	13.167	3.52	19.25	0.86
1.083	0.48	7.167	0.95	13.250	3.52	19.33	0.86
1.167	0.48	7.250	0.95	13.333	0.67	19.42	0.86

1.250	0.48	7.333	0.95	13.417	0.67	19.50	0.86
1.333	0.48	7.417	0.95	13.500	0.67	19.58	0.86
1.417	0.48	7.500	0.95	13.583	0.67	19.67	0.86
1.500	0.48	7.583	0.95	13.667	0.67	19.75	0.86
1.583	0.48	7.667	0.95	13.750	0.67	19.83	0.86
1.667	0.48	7.750	0.95	13.833	3.90	19.92	0.86
1.750	0.48	7.833	0.95	13.917	3.90	20.00	0.86
1.833	0.48	7.917	0.95	14.000	3.90	20.08	0.86
1.917	0.48	8.000	0.95	14.083	3.90	20.17	0.86
2.000	0.48	8.083	0.95	14.167	3.90	20.25	0.86
2.083	0.86	8.167	0.95	14.250	3.90	20.33	0.57
2.167	0.86	8.250	0.95	14.333	1.43	20.42	0.57
2.250	0.86	8.333	1.29	14.417	1.43	20.50	0.57
2.333	0.62	8.417	1.29	14.500	1.43	20.58	0.57
2.417	0.62	8.500	1.29	14.583	1.43	20.67	0.57
2.500	0.62	8.583	1.29	14.667	1.43	20.75	0.57
2.583	0.62	8.667	1.29	14.750	1.43	20.83	0.57
2.667	0.62	8.750	1.29	14.833	1.43	20.92	0.57
2.750	0.62	8.833	1.29	14.917	1.43	21.00	0.57
2.833	0.62	8.917	1.29	15.000	1.43	21.08	0.57
2.917	0.62	9.000	1.29	15.083	1.43	21.17	0.57
3.000	0.62	9.083	1.29	15.167	1.43	21.25	0.57
3.083	0.62	9.167	1.29	15.250	1.43	21.33	0.57
3.167	0.62	9.250	1.29	15.333	1.43	21.42	0.57
3.250	0.62	9.333	1.52	15.417	1.43	21.50	0.57
3.333	0.62	9.417	1.52	15.500	1.43	21.58	0.57
3.417	0.62	9.500	1.52	15.583	1.43	21.67	0.57
3.500	0.62	9.583	1.52	15.667	1.43	21.75	0.57
3.583	0.62	9.667	1.52	15.750	1.43	21.83	0.57
3.667	0.62	9.750	1.52	15.833	1.43	21.92	0.57
3.750	0.62	9.833	1.71	15.917	1.43	22.00	0.57
3.833	0.62	9.917	1.71	16.000	1.43	22.08	0.57
3.917	0.62	10.000	1.71	16.083	1.43	22.17	0.57
4.000	0.62	10.083	1.71	16.167	1.43	22.25	0.57
4.083	0.62	10.167	1.71	16.250	1.43	22.33	0.57
4.167	0.62	10.250	1.71	16.333	0.86	22.42	0.57
4.250	0.62	10.333	2.19	16.417	0.86	22.50	0.57
4.333	0.76	10.417	2.19	16.500	0.86	22.58	0.57
4.417	0.76	10.500	2.19	16.583	0.86	22.67	0.57
4.500	0.76	10.583	2.19	16.667	0.86	22.75	0.57
4.583	0.76	10.667	2.19	16.750	0.86	22.83	0.57
4.667	0.76	10.750	2.19	16.833	0.86	22.92	0.57
4.750	0.76	10.833	2.95	16.917	0.86	23.00	0.57
4.833	0.76	10.917	2.95	17.000	0.86	23.08	0.57
4.917	0.76	11.000	2.95	17.083	0.86	23.17	0.57
5.000	0.76	11.083	2.95	17.167	0.86	23.25	0.57
5.083	0.76	11.167	2.95	17.250	0.86	23.33	0.57
5.167	0.76	11.250	2.95	17.333	0.86	23.42	0.57
5.250	0.76	11.333	4.57	17.417	0.86	23.50	0.57
5.333	0.76	11.417	4.57	17.500	0.86	23.58	0.57
5.417	0.76	11.500	4.57	17.583	0.86	23.67	0.57
5.500	0.76	11.583	4.57	17.667	0.86	23.75	0.57
5.583	0.76	11.667	4.57	17.750	0.86	23.83	0.57
5.667	0.76	11.750	4.57	17.833	0.86	23.92	0.57
5.750	0.76	11.833	19.80	17.917	0.86	24.00	0.57
5.833	0.76	11.917	19.80	18.000	0.86	24.08	0.57
5.917	0.76	12.000	19.80	18.083	0.86	24.17	0.57
6.000	0.76	12.083	52.55	18.167	0.86	24.25	0.57
6.083	0.76	12.167	52.55	18.250	0.86		

Unit Hyd Qpeak (cms)= 0.181

PEAK FLOW (cms)= 0.023 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 8.892
TOTAL RAINFALL (mm)= 47.613
RUNOFF COEFFICIENT = 0.187

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\4740d578
Ptotal= 47.61 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	0.95	12.75	6.85	19.00	0.86
0.50	0.48	6.75	0.95	13.00	3.52	19.25	0.86
0.75	0.48	7.00	0.95	13.25	3.52	19.50	0.86
1.00	0.48	7.25	0.95	13.50	0.67	19.75	0.86
1.25	0.48	7.50	0.95	13.75	0.67	20.00	0.86
1.50	0.48	7.75	0.95	14.00	3.90	20.25	0.86
1.75	0.48	8.00	0.95	14.25	3.90	20.50	0.57
2.00	0.48	8.25	0.95	14.50	1.43	20.75	0.57
2.25	0.86	8.50	1.29	14.75	1.43	21.00	0.57
2.50	0.62	8.75	1.29	15.00	1.43	21.25	0.57
2.75	0.62	9.00	1.29	15.25	1.43	21.50	0.57
3.00	0.62	9.25	1.29	15.50	1.43	21.75	0.57
3.25	0.62	9.50	1.52	15.75	1.43	22.00	0.57
3.50	0.62	9.75	1.52	16.00	1.43	22.25	0.57
3.75	0.62	10.00	1.71	16.25	1.43	22.50	0.57
4.00	0.62	10.25	1.71	16.50	0.86	22.75	0.57
4.25	0.62	10.50	2.19	16.75	0.86	23.00	0.57
4.50	0.76	10.75	2.19	17.00	0.86	23.25	0.57
4.75	0.76	11.00	2.95	17.25	0.86	23.50	0.57
5.00	0.76	11.25	2.95	17.50	0.86	23.75	0.57
5.25	0.76	11.50	4.57	17.75	0.86	24.00	0.57
5.50	0.76	11.75	4.57	18.00	0.86	24.25	0.57
5.75	0.76	12.00	19.80	18.25	0.86		
6.00	0.76	12.25	52.55	18.50	0.86		
6.25	0.76	12.50	6.85	18.75	0.86		

CALIB | NASHYD (0205) | ID= 1 DT= 5.0 min | Area (ha)= 3.47 Curve Number (CN)= 59.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 0.50

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.76	12.250	52.55	18.33	0.86
0.167	0.00	6.250	0.76	12.333	6.86	18.42	0.86
0.250	0.00	6.333	0.95	12.417	6.85	18.50	0.86
0.333	0.48	6.417	0.95	12.500	6.85	18.58	0.86
0.417	0.48	6.500	0.95	12.583	6.85	18.67	0.86
0.500	0.48	6.583	0.95	12.667	6.85	18.75	0.86
0.583	0.48	6.667	0.95	12.750	6.85	18.83	0.86
0.667	0.48	6.750	0.95	12.833	3.52	18.92	0.86
0.750	0.48	6.833	0.95	12.917	3.52	19.00	0.86
0.833	0.48	6.917	0.95	13.000	3.52	19.08	0.86
0.917	0.48	7.000	0.95	13.083	3.52	19.17	0.86
1.000	0.48	7.083	0.95	13.167	3.52	19.25	0.86
1.083	0.48	7.167	0.95	13.250	3.52	19.33	0.86
1.167	0.48	7.250	0.95	13.333	0.67	19.42	0.86
1.250	0.48	7.333	0.95	13.417	0.67	19.50	0.86
1.333	0.48	7.417	0.95	13.500	0.67	19.58	0.86
1.417	0.48	7.500	0.95	13.583	0.67	19.67	0.86
1.500	0.48	7.583	0.95	13.667	0.67	19.75	0.86
1.583	0.48	7.667	0.95	13.750	0.67	19.83	0.86
1.667	0.48	7.750	0.95	13.833	3.90	19.92	0.86

1.750	0.48	7.833	0.95	13.917	3.90	20.00	0.86
1.833	0.48	7.917	0.95	14.000	3.90	20.08	0.86
1.917	0.48	8.000	0.95	14.083	3.90	20.17	0.86
2.000	0.48	8.083	0.95	14.167	3.90	20.25	0.86
2.083	0.86	8.167	0.95	14.250	3.90	20.33	0.57
2.167	0.86	8.250	0.95	14.333	1.43	20.42	0.57
2.250	0.86	8.333	1.29	14.417	1.43	20.50	0.57
2.333	0.62	8.417	1.29	14.500	1.43	20.58	0.57
2.417	0.62	8.500	1.29	14.583	1.43	20.67	0.57
2.500	0.62	8.583	1.29	14.667	1.43	20.75	0.57
2.583	0.62	8.667	1.29	14.750	1.43	20.83	0.57
2.667	0.62	8.750	1.29	14.833	1.43	20.92	0.57
2.750	0.62	8.833	1.29	14.917	1.43	21.00	0.57
2.833	0.62	8.917	1.29	15.000	1.43	21.08	0.57
2.917	0.62	9.000	1.29	15.083	1.43	21.17	0.57
3.000	0.62	9.083	1.29	15.167	1.43	21.25	0.57
3.083	0.62	9.167	1.29	15.250	1.43	21.33	0.57
3.167	0.62	9.250	1.29	15.333	1.43	21.42	0.57
3.250	0.62	9.333	1.52	15.417	1.43	21.50	0.57
3.333	0.62	9.417	1.52	15.500	1.43	21.58	0.57
3.417	0.62	9.500	1.52	15.583	1.43	21.67	0.57
3.500	0.62	9.583	1.52	15.667	1.43	21.75	0.57
3.583	0.62	9.667	1.52	15.750	1.43	21.83	0.57
3.667	0.62	9.750	1.52	15.833	1.43	21.92	0.57
3.750	0.62	9.833	1.71	15.917	1.43	22.00	0.57
3.833	0.62	9.917	1.71	16.000	1.43	22.08	0.57
3.917	0.62	10.000	1.71	16.083	1.43	22.17	0.57
4.000	0.62	10.083	1.71	16.167	1.43	22.25	0.57
4.083	0.62	10.167	1.71	16.250	1.43	22.33	0.57
4.167	0.62	10.250	1.71	16.333	0.86	22.42	0.57
4.250	0.62	10.333	2.19	16.417	0.86	22.50	0.57
4.333	0.76	10.417	2.19	16.500	0.86	22.58	0.57
4.417	0.76	10.500	2.19	16.583	0.86	22.67	0.57
4.500	0.76	10.583	2.19	16.667	0.86	22.75	0.57
4.583	0.76	10.667	2.19	16.750	0.86	22.83	0.57
4.667	0.76	10.750	2.19	16.833	0.86	22.92	0.57
4.750	0.76	10.833	2.95	16.917	0.86	23.00	0.57
4.833	0.76	10.917	2.95	17.000	0.86	23.08	0.57
4.917	0.76	11.000	2.95	17.083	0.86	23.17	0.57
5.000	0.76	11.083	2.95	17.167	0.86	23.25	0.57
5.083	0.76	11.167	2.95	17.250	0.86	23.33	0.57
5.167	0.76	11.250	2.95	17.333	0.86	23.42	0.57
5.250	0.76	11.333	4.57	17.417	0.86	23.50	0.57
5.333	0.76	11.417	4.57	17.500	0.86	23.58	0.57
5.417	0.76	11.500	4.57	17.583	0.86	23.67	0.57
5.500	0.76	11.583	4.57	17.667	0.86	23.75	0.57
5.583	0.76	11.667	4.57	17.750	0.86	23.83	0.57
5.667	0.76	11.750	4.57	17.833	0.86	23.92	0.57
5.750	0.76	11.833	19.80	17.917	0.86	24.00	0.57
5.833	0.76	11.917	19.80	18.000	0.86	24.08	0.57
5.917	0.76	12.000	19.80	18.083	0.86	24.17	0.57
6.000	0.76	12.083	52.55	18.167	0.86	24.25	0.57
6.083	0.76	12.167	52.55	18.250	0.86		

Unit Hyd Qpeak (cms)= 0.265

PEAK FLOW (cms)= 0.035 (i)
TIME TO PEAK (hrs)= 12.667
RUNOFF VOLUME (mm)= 8.286
TOTAL RAINFALL (mm)= 47.613
RUNOFF COEFFICIENT = 0.174

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0005)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.52	0.023	12.42	8.89
	+ ID2= 2 (0205):	3.47	0.035	12.67	8.29
	ID = 3 (0005):	4.99	0.056	12.58	8.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\4740d578
Ptotal= 47.61 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	0.95	12.75	6.85	19.00	0.86
0.50	0.48	6.75	0.95	13.00	3.52	19.25	0.86
0.75	0.48	7.00	0.95	13.25	3.52	19.50	0.86
1.00	0.48	7.25	0.95	13.50	0.67	19.75	0.86
1.25	0.48	7.50	0.95	13.75	0.67	20.00	0.86
1.50	0.48	7.75	0.95	14.00	3.90	20.25	0.86
1.75	0.48	8.00	0.95	14.25	3.90	20.50	0.57
2.00	0.48	8.25	0.95	14.50	1.43	20.75	0.57
2.25	0.86	8.50	1.29	14.75	1.43	21.00	0.57
2.50	0.62	8.75	1.29	15.00	1.43	21.25	0.57
2.75	0.62	9.00	1.29	15.25	1.43	21.50	0.57
3.00	0.62	9.25	1.29	15.50	1.43	21.75	0.57
3.25	0.62	9.50	1.52	15.75	1.43	22.00	0.57
3.50	0.62	9.75	1.52	16.00	1.43	22.25	0.57
3.75	0.62	10.00	1.71	16.25	1.43	22.50	0.57
4.00	0.62	10.25	1.71	16.50	0.86	22.75	0.57
4.25	0.62	10.50	2.19	16.75	0.86	23.00	0.57
4.50	0.76	10.75	2.19	17.00	0.86	23.25	0.57
4.75	0.76	11.00	2.95	17.25	0.86	23.50	0.57
5.00	0.76	11.25	2.95	17.50	0.86	23.75	0.57
5.25	0.76	11.50	4.57	17.75	0.86	24.00	0.57
5.50	0.76	11.75	4.57	18.00	0.86	24.25	0.57
5.75	0.76	12.00	19.80	18.25	0.86		
6.00	0.76	12.25	52.55	18.50	0.86		
6.25	0.76	12.50	6.85	18.75	0.86		

CALIB | NASHYD (0102) | ID= 1 DT= 5.0 min | Area (ha)= 1.10 | Ia (mm)= 5.00 | U.H. Tp(hrs)= 0.37 | Curve Number (CN)= 59.0 | # of Linear Res.(N)= 3.00

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.76	12.250	52.55	18.33	0.86
0.167	0.00	6.250	0.76	12.333	6.86	18.42	0.86
0.250	0.00	6.333	0.95	12.417	6.85	18.50	0.86
0.333	0.48	6.417	0.95	12.500	6.85	18.58	0.86
0.417	0.48	6.500	0.95	12.583	6.85	18.67	0.86
0.500	0.48	6.583	0.95	12.667	6.85	18.75	0.86
0.583	0.48	6.667	0.95	12.750	6.85	18.83	0.86
0.667	0.48	6.750	0.95	12.833	3.52	18.92	0.86
0.750	0.48	6.833	0.95	12.917	3.52	19.00	0.86
0.833	0.48	6.917	0.95	13.000	3.52	19.08	0.86
0.917	0.48	7.000	0.95	13.083	3.52	19.17	0.86
1.000	0.48	7.083	0.95	13.167	3.52	19.25	0.86
1.083	0.48	7.167	0.95	13.250	3.52	19.33	0.86

1.167	0.48	7.250	0.95	13.333	0.67	19.42	0.86
1.250	0.48	7.333	0.95	13.417	0.67	19.50	0.86
1.333	0.48	7.417	0.95	13.500	0.67	19.58	0.86
1.417	0.48	7.500	0.95	13.583	0.67	19.67	0.86
1.500	0.48	7.583	0.95	13.667	0.67	19.75	0.86
1.583	0.48	7.667	0.95	13.750	0.67	19.83	0.86
1.667	0.48	7.750	0.95	13.833	3.90	19.92	0.86
1.750	0.48	7.833	0.95	13.917	3.90	20.00	0.86
1.833	0.48	7.917	0.95	14.000	3.90	20.08	0.86
1.917	0.48	8.000	0.95	14.083	3.90	20.17	0.86
2.000	0.48	8.083	0.95	14.167	3.90	20.25	0.86
2.083	0.86	8.167	0.95	14.250	3.90	20.33	0.57
2.167	0.86	8.250	0.95	14.333	1.43	20.42	0.57
2.250	0.86	8.333	1.29	14.417	1.43	20.50	0.57
2.333	0.62	8.417	1.29	14.500	1.43	20.58	0.57
2.417	0.62	8.500	1.29	14.583	1.43	20.67	0.57
2.500	0.62	8.583	1.29	14.667	1.43	20.75	0.57
2.583	0.62	8.667	1.29	14.750	1.43	20.83	0.57
2.667	0.62	8.750	1.29	14.833	1.43	20.92	0.57
2.750	0.62	8.833	1.29	14.917	1.43	21.00	0.57
2.833	0.62	8.917	1.29	15.000	1.43	21.08	0.57
2.917	0.62	9.000	1.29	15.083	1.43	21.17	0.57
3.000	0.62	9.083	1.29	15.167	1.43	21.25	0.57
3.083	0.62	9.167	1.29	15.250	1.43	21.33	0.57
3.167	0.62	9.250	1.29	15.333	1.43	21.42	0.57
3.250	0.62	9.333	1.52	15.417	1.43	21.50	0.57
3.333	0.62	9.417	1.52	15.500	1.43	21.58	0.57
3.417	0.62	9.500	1.52	15.583	1.43	21.67	0.57
3.500	0.62	9.583	1.52	15.667	1.43	21.75	0.57
3.583	0.62	9.667	1.52	15.750	1.43	21.83	0.57
3.667	0.62	9.750	1.52	15.833	1.43	21.92	0.57
3.750	0.62	9.833	1.71	15.917	1.43	22.00	0.57
3.833	0.62	9.917	1.71	16.000	1.43	22.08	0.57
3.917	0.62	10.000	1.71	16.083	1.43	22.17	0.57
4.000	0.62	10.083	1.71	16.167	1.43	22.25	0.57
4.083	0.62	10.167	1.71	16.250	1.43	22.33	0.57
4.167	0.62	10.250	1.71	16.333	0.86	22.42	0.57
4.250	0.62	10.333	2.19	16.417	0.86	22.50	0.57
4.333	0.76	10.417	2.19	16.500	0.86	22.58	0.57
4.417	0.76	10.500	2.19	16.583	0.86	22.67	0.57
4.500	0.76	10.583	2.19	16.667	0.86	22.75	0.57
4.583	0.76	10.667	2.19	16.750	0.86	22.83	0.57
4.667	0.76	10.750	2.19	16.833	0.86	22.92	0.57
4.750	0.76	10.833	2.95	16.917	0.86	23.00	0.57
4.833	0.76	10.917	2.95	17.000	0.86	23.08	0.57
4.917	0.76	11.000	2.95	17.083	0.86	23.17	0.57
5.000	0.76	11.083	2.95	17.167	0.86	23.25	0.57
5.083	0.76	11.167	2.95	17.250	0.86	23.33	0.57
5.167	0.76	11.250	2.95	17.333	0.86	23.42	0.57
5.250	0.76	11.333	4.57	17.417	0.86	23.50	0.57
5.333	0.76	11.417	4.57	17.500	0.86	23.58	0.57
5.417	0.76	11.500	4.57	17.583	0.86	23.67	0.57
5.500	0.76	11.583	4.57	17.667	0.86	23.75	0.57
5.583	0.76	11.667	4.57	17.750	0.86	23.83	0.57
5.667	0.76	11.750	4.57	17.833	0.86	23.92	0.57
5.750	0.76	11.833	19.80	17.917	0.86	24.00	0.57
5.833	0.76	11.917	19.80	18.000	0.86	24.08	0.57
5.917	0.76	12.000	19.80	18.083	0.86	24.17	0.57
6.000	0.76	12.083	52.55	18.167	0.86	24.25	0.57
6.083	0.76	12.167	52.55	18.250	0.86		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.014 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 8.285
TOTAL RAINFALL (mm)= 47.613
RUNOFF COEFFICIENT = 0.174

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\4740d578
Ptotal= 47.61 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	0.95	12.75	6.85	19.00	0.86
0.50	0.48	6.75	0.95	13.00	3.52	19.25	0.86
0.75	0.48	7.00	0.95	13.25	3.52	19.50	0.86
1.00	0.48	7.25	0.95	13.50	0.67	19.75	0.86
1.25	0.48	7.50	0.95	13.75	0.67	20.00	0.86
1.50	0.48	7.75	0.95	14.00	3.90	20.25	0.86
1.75	0.48	8.00	0.95	14.25	3.90	20.50	0.57
2.00	0.48	8.25	0.95	14.50	1.43	20.75	0.57
2.25	0.86	8.50	1.29	14.75	1.43	21.00	0.57
2.50	0.62	8.75	1.29	15.00	1.43	21.25	0.57
2.75	0.62	9.00	1.29	15.25	1.43	21.50	0.57
3.00	0.62	9.25	1.29	15.50	1.43	21.75	0.57
3.25	0.62	9.50	1.52	15.75	1.43	22.00	0.57
3.50	0.62	9.75	1.52	16.00	1.43	22.25	0.57
3.75	0.62	10.00	1.71	16.25	1.43	22.50	0.57
4.00	0.62	10.25	1.71	16.50	0.86	22.75	0.57
4.25	0.62	10.50	2.19	16.75	0.86	23.00	0.57
4.50	0.76	10.75	2.19	17.00	0.86	23.25	0.57
4.75	0.76	11.00	2.95	17.25	0.86	23.50	0.57
5.00	0.76	11.25	2.95	17.50	0.86	23.75	0.57
5.25	0.76	11.50	4.57	17.75	0.86	24.00	0.57
5.50	0.76	11.75	4.57	18.00	0.86	24.25	0.57
5.75	0.76	12.00	19.80	18.25	0.86		
6.00	0.76	12.25	52.55	18.50	0.86		
6.25	0.76	12.50	6.85	18.75	0.86		

CALIB	
STANDHYD (0203)	Area (ha)= 1.76
ID= 1 DT= 5.0 min	Total Imp(%)= 35.00 Dir. Conn.(%)= 20.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.62	1.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	2.00
Length	(m)=	108.32	65.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.76	12.250	52.55	18.33	0.86
0.167	0.00	6.250	0.76	12.333	6.86	18.42	0.86
0.250	0.00	6.333	0.95	12.417	6.85	18.50	0.86
0.333	0.48	6.417	0.95	12.500	6.85	18.58	0.86
0.417	0.48	6.500	0.95	12.583	6.85	18.67	0.86
0.500	0.48	6.583	0.95	12.667	6.85	18.75	0.86
0.583	0.48	6.667	0.95	12.750	6.85	18.83	0.86
0.667	0.48	6.750	0.95	12.833	3.52	18.92	0.86
0.750	0.48	6.833	0.95	12.917	3.52	19.00	0.86
0.833	0.48	6.917	0.95	13.000	3.52	19.08	0.86
0.917	0.48	7.000	0.95	13.083	3.52	19.17	0.86
1.000	0.48	7.083	0.95	13.167	3.52	19.25	0.86
1.083	0.48	7.167	0.95	13.250	3.52	19.33	0.86

```
 1.167   0.48 | 7.250   0.95 |13.333   0.67 | 19.42   0.86
 1.250   0.48 | 7.333   0.95 |13.417   0.67 | 19.50   0.86
 1.333   0.48 | 7.417   0.95 |13.500   0.67 | 19.58   0.86
 1.417   0.48 | 7.500   0.95 |13.583   0.67 | 19.67   0.86
 1.500   0.48 | 7.583   0.95 |13.667   0.67 | 19.75   0.86
 1.583   0.48 | 7.667   0.95 |13.750   0.67 | 19.83   0.86
 1.667   0.48 | 7.750   0.95 |13.833   3.90 | 19.92   0.86
 1.750   0.48 | 7.833   0.95 |13.917   3.90 | 20.00   0.86
 1.833   0.48 | 7.917   0.95 |14.000   3.90 | 20.08   0.86
 1.917   0.48 | 8.000   0.95 |14.083   3.90 | 20.17   0.86
 2.000   0.48 | 8.083   0.95 |14.167   3.90 | 20.25   0.86
 2.083   0.86 | 8.167   0.95 |14.250   3.90 | 20.33   0.57
 2.167   0.86 | 8.250   0.95 |14.333   1.43 | 20.42   0.57
 2.250   0.86 | 8.333   1.29 |14.417   1.43 | 20.50   0.57
 2.333   0.62 | 8.417   1.29 |14.500   1.43 | 20.58   0.57
 2.417   0.62 | 8.500   1.29 |14.583   1.43 | 20.67   0.57
 2.500   0.62 | 8.583   1.29 |14.667   1.43 | 20.75   0.57
 2.583   0.62 | 8.667   1.29 |14.750   1.43 | 20.83   0.57
 2.667   0.62 | 8.750   1.29 |14.833   1.43 | 20.92   0.57
 2.750   0.62 | 8.833   1.29 |14.917   1.43 | 21.00   0.57
 2.833   0.62 | 8.917   1.29 |15.000   1.43 | 21.08   0.57
 2.917   0.62 | 9.000   1.29 |15.083   1.43 | 21.17   0.57
 3.000   0.62 | 9.083   1.29 |15.167   1.43 | 21.25   0.57
 3.083   0.62 | 9.167   1.29 |15.250   1.43 | 21.33   0.57
 3.167   0.62 | 9.250   1.29 |15.333   1.43 | 21.42   0.57
 3.250   0.62 | 9.333   1.52 |15.417   1.43 | 21.50   0.57
 3.333   0.62 | 9.417   1.52 |15.500   1.43 | 21.58   0.57
 3.417   0.62 | 9.500   1.52 |15.583   1.43 | 21.67   0.57
 3.500   0.62 | 9.583   1.52 |15.667   1.43 | 21.75   0.57
 3.583   0.62 | 9.667   1.52 |15.750   1.43 | 21.83   0.57
 3.667   0.62 | 9.750   1.52 |15.833   1.43 | 21.92   0.57
 3.750   0.62 | 9.833   1.71 |15.917   1.43 | 22.00   0.57
 3.833   0.62 | 9.917   1.71 |16.000   1.43 | 22.08   0.57
 3.917   0.62 |10.000   1.71 |16.083   1.43 | 22.17   0.57
 4.000   0.62 |10.083   1.71 |16.167   1.43 | 22.25   0.57
 4.083   0.62 |10.167   1.71 |16.250   1.43 | 22.33   0.57
 4.167   0.62 |10.250   1.71 |16.333   0.86 | 22.42   0.57
 4.250   0.62 |10.333   2.19 |16.417   0.86 | 22.50   0.57
 4.333   0.76 |10.417   2.19 |16.500   0.86 | 22.58   0.57
 4.417   0.76 |10.500   2.19 |16.583   0.86 | 22.67   0.57
 4.500   0.76 |10.583   2.19 |16.667   0.86 | 22.75   0.57
 4.583   0.76 |10.667   2.19 |16.750   0.86 | 22.83   0.57
 4.667   0.76 |10.750   2.19 |16.833   0.86 | 22.92   0.57
 4.750   0.76 |10.833   2.95 |16.917   0.86 | 23.00   0.57
 4.833   0.76 |10.917   2.95 |17.000   0.86 | 23.08   0.57
 4.917   0.76 |11.000   2.95 |17.083   0.86 | 23.17   0.57
 5.000   0.76 |11.083   2.95 |17.167   0.86 | 23.25   0.57
 5.083   0.76 |11.167   2.95 |17.250   0.86 | 23.33   0.57
 5.167   0.76 |11.250   2.95 |17.333   0.86 | 23.42   0.57
 5.250   0.76 |11.333   4.57 |17.417   0.86 | 23.50   0.57
 5.333   0.76 |11.417   4.57 |17.500   0.86 | 23.58   0.57
 5.417   0.76 |11.500   4.57 |17.583   0.86 | 23.67   0.57
 5.500   0.76 |11.583   4.57 |17.667   0.86 | 23.75   0.57
 5.583   0.76 |11.667   4.57 |17.750   0.86 | 23.83   0.57
 5.667   0.76 |11.750   4.57 |17.833   0.86 | 23.92   0.57
 5.750   0.76 |11.833  19.80 |17.917   0.86 | 24.00   0.57
 5.833   0.76 |11.917  19.80 |18.000   0.86 | 24.08   0.57
 5.917   0.76 |12.000  19.80 |18.083   0.86 | 24.17   0.57
 6.000   0.76 |12.083  52.55 |18.167   0.86 | 24.25   0.57
 6.083   0.76 |12.167  52.55 |18.250   0.86 |

Max.Eff.Inten.(mm/hr)=      52.55        10.73
          over (min)        5.00        30.00
Storage Coeff.  (min)=       4.27 (ii)   27.33 (ii)
Unit Hyd. Tpeak (min)=       5.00        30.00
Unit Hyd. peak  (cms)=       0.23         0.04
                                          *TOTALS*
PEAK FLOW       (cms)=       0.05         0.02          0.060 (iii)
TIME TO PEAK    (hrs)=      12.25        12.58          12.25
RUNOFF VOLUME    (mm)=      45.61        10.14          17.23

     TOTAL RAINFALL   (mm)=      47.61        47.61          47.61
     RUNOFF COEFFICIENT   =       0.96         0.21           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.014    12.50     8.28
     + ID2= 2 (  0203):     1.76   0.060    12.25    17.23
       ================================================
       ID = 3 (  0001):     2.86   0.069    12.25    13.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.07     12.25   13.79
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   2.86      0.07     12.25   13.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072   |   0.1150     0.0239
                         0.0280     0.0096   |   0.1230     0.0263
                         0.0570     0.0120   |   0.1310     0.0287
                         0.0720     0.0143   |   0.1380     0.0311
                         0.0850     0.0167   |   0.1450     0.0335
                         0.0960     0.0191   |   0.1520     0.0359
                         0.1060     0.0215   |   0.1970     0.0360

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)     2.860      0.069     12.25      13.79
   OUTFLOW: ID= 1 (  0003)     2.860      0.040     12.58      11.27

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 58.28
                  TIME SHIFT OF PEAK FLOW         (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0106

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0002 <ID= 1> IS DRY.
```

```
*** W A R N I N G :  HYDROGRAPH   0004 = HYDROGRAPH 0003
        ID1= 1 (  0002):     0.00   0.000     0.00     0.00
      + ID2= 2 (  0003):     2.86   0.040    12.58    11.27
        ====================================================
        ID = 3 (  0004):     2.86   0.040    12.58    11.27

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0004):     2.86   0.040    12.58    11.27
      + ID2= 2 (  0005):     4.99   0.056    12.58     8.47
        ====================================================
        ID = 3 (  0006):     7.85   0.096    12.58     9.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

------------------------------------------------------------------------------
==============================================================================================
==============

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\87604373-ac29-4506-a9cf-745f24250e2e\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\87604373-ac29-4506-a9cf-745f24250e2e\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:



COMMENTS: _____________________________________________________________


------------------------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : SCS_24hr_005yr               **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\c8c709b6
| Ptotal= 66.79 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    1.34 | 12.75    9.62 | 19.00    1.20
                0.50    0.67 |  6.75    1.34 | 13.00    4.94 | 19.25    1.20
                0.75    0.67 |  7.00    1.34 | 13.25    4.94 | 19.50    1.20
                1.00    0.67 |  7.25    1.34 | 13.50    0.94 | 19.75    1.20
                1.25    0.67 |  7.50    1.34 | 13.75    0.94 | 20.00    1.20
                1.50    0.67 |  7.75    1.34 | 14.00    5.48 | 20.25    1.20
                1.75    0.67 |  8.00    1.34 | 14.25    5.48 | 20.50    0.80
                2.00    0.67 |  8.25    1.34 | 14.50    2.00 | 20.75    0.80
                2.25    1.20 |  8.50    1.80 | 14.75    2.00 | 21.00    0.80
                2.50    0.87 |  8.75    1.80 | 15.00    2.00 | 21.25    0.80
                2.75    0.87 |  9.00    1.80 | 15.25    2.00 | 21.50    0.80
                3.00    0.87 |  9.25    1.80 | 15.50    2.00 | 21.75    0.80
                3.25    0.87 |  9.50    2.14 | 15.75    2.00 | 22.00    0.80
                3.50    0.87 |  9.75    2.14 | 16.00    2.00 | 22.25    0.80
                3.75    0.87 | 10.00    2.40 | 16.25    2.00 | 22.50    0.80
                4.00    0.87 | 10.25    2.40 | 16.50    1.20 | 22.75    0.80
                4.25    0.87 | 10.50    3.07 | 16.75    1.20 | 23.00    0.80
                4.50    1.07 | 10.75    3.07 | 17.00    1.20 | 23.25    0.80
                4.75    1.07 | 11.00    4.14 | 17.25    1.20 | 23.50    0.80
                5.00    1.07 | 11.25    4.14 | 17.50    1.20 | 23.75    0.80
                5.25    1.07 | 11.50    6.41 | 17.75    1.20 | 24.00    0.80
                5.50    1.07 | 11.75    6.41 | 18.00    1.20 | 24.25    0.80
                5.75    1.07 | 12.00   27.79 | 18.25    1.20 |
                6.00    1.07 | 12.25   73.75 | 18.50    1.20 |
                6.25    1.07 | 12.50    9.62 | 18.75    1.20 |

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-------------------
| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.35

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    1.07 |12.250   73.75 | 18.33    1.20
               0.167    0.00 | 6.250    1.07 |12.333    9.63 | 18.42    1.20
               0.250    0.00 | 6.333    1.34 |12.417    9.62 | 18.50    1.20
               0.333    0.67 | 6.417    1.34 |12.500    9.62 | 18.58    1.20
               0.417    0.67 | 6.500    1.34 |12.583    9.62 | 18.67    1.20
               0.500    0.67 | 6.583    1.34 |12.667    9.62 | 18.75    1.20
               0.583    0.67 | 6.667    1.34 |12.750    9.62 | 18.83    1.20
               0.667    0.67 | 6.750    1.34 |12.833    4.94 | 18.92    1.20
               0.750    0.67 | 6.833    1.34 |12.917    4.94 | 19.00    1.20
               0.833    0.67 | 6.917    1.34 |13.000    4.94 | 19.08    1.20
               0.917    0.67 | 7.000    1.34 |13.083    4.94 | 19.17    1.20
               1.000    0.67 | 7.083    1.34 |13.167    4.94 | 19.25    1.20
               1.083    0.67 | 7.167    1.34 |13.250    4.94 | 19.33    1.20
               1.167    0.67 | 7.250    1.34 |13.333    0.94 | 19.42    1.20
               1.250    0.67 | 7.333    1.34 |13.417    0.94 | 19.50    1.20
               1.333    0.67 | 7.417    1.34 |13.500    0.94 | 19.58    1.20
               1.417    0.67 | 7.500    1.34 |13.583    0.94 | 19.67    1.20
               1.500    0.67 | 7.583    1.34 |13.667    0.94 | 19.75    1.20
               1.583    0.67 | 7.667    1.34 |13.750    0.94 | 19.83    1.20
               1.667    0.67 | 7.750    1.34 |13.833    5.48 | 19.92    1.20
               1.750    0.67 | 7.833    1.34 |13.917    5.48 | 20.00    1.20
               1.833    0.67 | 7.917    1.34 |14.000    5.48 | 20.08    1.20
               1.917    0.67 | 8.000    1.34 |14.083    5.48 | 20.17    1.20
               2.000    0.67 | 8.083    1.34 |14.167    5.48 | 20.25    1.20
               2.083    1.20 | 8.167    1.34 |14.250    5.48 | 20.33    0.80
               2.167    1.20 | 8.250    1.34 |14.333    2.00 | 20.42    0.80
```

2.250	1.20	8.333	1.80	14.417	2.00	20.50	0.80
2.333	0.87	8.417	1.80	14.500	2.00	20.58	0.80
2.417	0.87	8.500	1.80	14.583	2.00	20.67	0.80
2.500	0.87	8.583	1.80	14.667	2.00	20.75	0.80
2.583	0.87	8.667	1.80	14.750	2.00	20.83	0.80
2.667	0.87	8.750	1.80	14.833	2.00	20.92	0.80
2.750	0.87	8.833	1.80	14.917	2.00	21.00	0.80
2.833	0.87	8.917	1.80	15.000	2.00	21.08	0.80
2.917	0.87	9.000	1.80	15.083	2.00	21.17	0.80
3.000	0.87	9.083	1.80	15.167	2.00	21.25	0.80
3.083	0.87	9.167	1.80	15.250	2.00	21.33	0.80
3.167	0.87	9.250	1.80	15.333	2.00	21.42	0.80
3.250	0.87	9.333	2.14	15.417	2.00	21.50	0.80
3.333	0.87	9.417	2.14	15.500	2.00	21.58	0.80
3.417	0.87	9.500	2.14	15.583	2.00	21.67	0.80
3.500	0.87	9.583	2.14	15.667	2.00	21.75	0.80
3.583	0.87	9.667	2.14	15.750	2.00	21.83	0.80
3.667	0.87	9.750	2.14	15.833	2.00	21.92	0.80
3.750	0.87	9.833	2.40	15.917	2.00	22.00	0.80
3.833	0.87	9.917	2.40	16.000	2.00	22.08	0.80
3.917	0.87	10.000	2.40	16.083	2.00	22.17	0.80
4.000	0.87	10.083	2.40	16.167	2.00	22.25	0.80
4.083	0.87	10.167	2.40	16.250	2.00	22.33	0.80
4.167	0.87	10.250	2.40	16.333	1.20	22.42	0.80
4.250	0.87	10.333	3.07	16.417	1.20	22.50	0.80
4.333	1.07	10.417	3.07	16.500	1.20	22.58	0.80
4.417	1.07	10.500	3.07	16.583	1.20	22.67	0.80
4.500	1.07	10.583	3.07	16.667	1.20	22.75	0.80
4.583	1.07	10.667	3.07	16.750	1.20	22.83	0.80
4.667	1.07	10.750	3.07	16.833	1.20	22.92	0.80
4.750	1.07	10.833	4.14	16.917	1.20	23.00	0.80
4.833	1.07	10.917	4.14	17.000	1.20	23.08	0.80
4.917	1.07	11.000	4.14	17.083	1.20	23.17	0.80
5.000	1.07	11.083	4.14	17.167	1.20	23.25	0.80
5.083	1.07	11.167	4.14	17.250	1.20	23.33	0.80
5.167	1.07	11.250	4.14	17.333	1.20	23.42	0.80
5.250	1.07	11.333	6.41	17.417	1.20	23.50	0.80
5.333	1.07	11.417	6.41	17.500	1.20	23.58	0.80
5.417	1.07	11.500	6.41	17.583	1.20	23.67	0.80
5.500	1.07	11.583	6.41	17.667	1.20	23.75	0.80
5.583	1.07	11.667	6.41	17.750	1.20	23.83	0.80
5.667	1.07	11.750	6.41	17.833	1.20	23.92	0.80
5.750	1.07	11.833	27.79	17.917	1.20	24.00	0.80
5.833	1.07	11.917	27.79	18.000	1.20	24.08	0.80
5.917	1.07	12.000	27.79	18.083	1.20	24.17	0.80
6.000	1.07	12.083	73.74	18.167	1.20	24.25	0.80
6.083	1.07	12.167	73.75	18.250	1.20		

Unit Hyd Qpeak (cms)= 0.379

PEAK FLOW (cms)= 0.096 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 17.073
TOTAL RAINFALL (mm)= 66.788
RUNOFF COEFFICIENT = 0.256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\c8c709b6
Ptotal= 66.79 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.34	12.75	9.62	19.00	1.20
0.50	0.67	6.75	1.34	13.00	4.94	19.25	1.20
0.75	0.67	7.00	1.34	13.25	4.94	19.50	1.20
1.00	0.67	7.25	1.34	13.50	0.94	19.75	1.20
1.25	0.67	7.50	1.34	13.75	0.94	20.00	1.20
1.50	0.67	7.75	1.34	14.00	5.48	20.25	1.20
1.75	0.67	8.00	1.34	14.25	5.48	20.50	0.80
2.00	0.67	8.25	1.34	14.50	2.00	20.75	0.80
2.25	1.20	8.50	1.80	14.75	2.00	21.00	0.80
2.50	0.87	8.75	1.80	15.00	2.00	21.25	0.80
2.75	0.87	9.00	1.80	15.25	2.00	21.50	0.80
3.00	0.87	9.25	1.80	15.50	2.00	21.75	0.80
3.25	0.87	9.50	2.14	15.75	2.00	22.00	0.80
3.50	0.87	9.75	2.14	16.00	2.00	22.25	0.80
3.75	0.87	10.00	2.40	16.25	2.00	22.50	0.80
4.00	0.87	10.25	2.40	16.50	1.20	22.75	0.80
4.25	0.87	10.50	3.07	16.75	1.20	23.00	0.80
4.50	1.07	10.75	3.07	17.00	1.20	23.25	0.80
4.75	1.07	11.00	4.14	17.25	1.20	23.50	0.80
5.00	1.07	11.25	4.14	17.50	1.20	23.75	0.80
5.25	1.07	11.50	6.41	17.75	1.20	24.00	0.80
5.50	1.07	11.75	6.41	18.00	1.20	24.25	0.80
5.75	1.07	12.00	27.79	18.25	1.20		
6.00	1.07	12.25	73.75	18.50	1.20		
6.25	1.07	12.50	9.62	18.75	1.20		

CALIB			
NASHYD (0204)	Area (ha)= 1.52	Curve Number (CN)= 61.0	
ID= 1 DT= 5.0 min	Ia (mm)= 4.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.32		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.07	12.250	73.75	18.33	1.20
0.167	0.00	6.250	1.07	12.333	9.63	18.42	1.20
0.250	0.00	6.333	1.34	12.417	9.62	18.50	1.20
0.333	0.67	6.417	1.34	12.500	9.62	18.58	1.20
0.417	0.67	6.500	1.34	12.583	9.62	18.67	1.20
0.500	0.67	6.583	1.34	12.667	9.62	18.75	1.20
0.583	0.67	6.667	1.34	12.750	9.62	18.83	1.20
0.667	0.67	6.750	1.34	12.833	4.94	18.92	1.20
0.750	0.67	6.833	1.34	12.917	4.94	19.00	1.20
0.833	0.67	6.917	1.34	13.000	4.94	19.08	1.20
0.917	0.67	7.000	1.34	13.083	4.94	19.17	1.20
1.000	0.67	7.083	1.34	13.167	4.94	19.25	1.20
1.083	0.67	7.167	1.34	13.250	4.94	19.33	1.20
1.167	0.67	7.250	1.34	13.333	0.94	19.42	1.20
1.250	0.67	7.333	1.34	13.417	0.94	19.50	1.20
1.333	0.67	7.417	1.34	13.500	0.94	19.58	1.20
1.417	0.67	7.500	1.34	13.583	0.94	19.67	1.20
1.500	0.67	7.583	1.34	13.667	0.94	19.75	1.20
1.583	0.67	7.667	1.34	13.750	0.94	19.83	1.20
1.667	0.67	7.750	1.34	13.833	5.48	19.92	1.20
1.750	0.67	7.833	1.34	13.917	5.48	20.00	1.20
1.833	0.67	7.917	1.34	14.000	5.48	20.08	1.20
1.917	0.67	8.000	1.34	14.083	5.48	20.17	1.20
2.000	0.67	8.083	1.34	14.167	5.48	20.25	1.20
2.083	1.20	8.167	1.34	14.250	5.48	20.33	0.80
2.167	1.20	8.250	1.34	14.333	2.00	20.42	0.80
2.250	1.20	8.333	1.80	14.417	2.00	20.50	0.80
2.333	0.87	8.417	1.80	14.500	2.00	20.58	0.80
2.417	0.87	8.500	1.80	14.583	2.00	20.67	0.80
2.500	0.87	8.583	1.80	14.667	2.00	20.75	0.80
2.583	0.87	8.667	1.80	14.750	2.00	20.83	0.80
2.667	0.87	8.750	1.80	14.833	2.00	20.92	0.80

2.750	0.87	8.833	1.80	14.917	2.00	21.00	0.80
2.833	0.87	8.917	1.80	15.000	2.00	21.08	0.80
2.917	0.87	9.000	1.80	15.083	2.00	21.17	0.80
3.000	0.87	9.083	1.80	15.167	2.00	21.25	0.80
3.083	0.87	9.167	1.80	15.250	2.00	21.33	0.80
3.167	0.87	9.250	1.80	15.333	2.00	21.42	0.80
3.250	0.87	9.333	2.14	15.417	2.00	21.50	0.80
3.333	0.87	9.417	2.14	15.500	2.00	21.58	0.80
3.417	0.87	9.500	2.14	15.583	2.00	21.67	0.80
3.500	0.87	9.583	2.14	15.667	2.00	21.75	0.80
3.583	0.87	9.667	2.14	15.750	2.00	21.83	0.80
3.667	0.87	9.750	2.14	15.833	2.00	21.92	0.80
3.750	0.87	9.833	2.40	15.917	2.00	22.00	0.80
3.833	0.87	9.917	2.40	16.000	2.00	22.08	0.80
3.917	0.87	10.000	2.40	16.083	2.00	22.17	0.80
4.000	0.87	10.083	2.40	16.167	2.00	22.25	0.80
4.083	0.87	10.167	2.40	16.250	2.00	22.33	0.80
4.167	0.87	10.250	2.40	16.333	1.20	22.42	0.80
4.250	0.87	10.333	3.07	16.417	1.20	22.50	0.80
4.333	1.07	10.417	3.07	16.500	1.20	22.58	0.80
4.417	1.07	10.500	3.07	16.583	1.20	22.67	0.80
4.500	1.07	10.583	3.07	16.667	1.20	22.75	0.80
4.583	1.07	10.667	3.07	16.750	1.20	22.83	0.80
4.667	1.07	10.750	3.07	16.833	1.20	22.92	0.80
4.750	1.07	10.833	4.14	16.917	1.20	23.00	0.80
4.833	1.07	10.917	4.14	17.000	1.20	23.08	0.80
4.917	1.07	11.000	4.14	17.083	1.20	23.17	0.80
5.000	1.07	11.083	4.14	17.167	1.20	23.25	0.80
5.083	1.07	11.167	4.14	17.250	1.20	23.33	0.80
5.167	1.07	11.250	4.14	17.333	1.20	23.42	0.80
5.250	1.07	11.333	6.41	17.417	1.20	23.50	0.80
5.333	1.07	11.417	6.41	17.500	1.20	23.58	0.80
5.417	1.07	11.500	6.41	17.583	1.20	23.67	0.80
5.500	1.07	11.583	6.41	17.667	1.20	23.75	0.80
5.583	1.07	11.667	6.41	17.750	1.20	23.83	0.80
5.667	1.07	11.750	6.41	17.833	1.20	23.92	0.80
5.750	1.07	11.833	27.79	17.917	1.20	24.00	0.80
5.833	1.07	11.917	27.79	18.000	1.20	24.08	0.80
5.917	1.07	12.000	27.79	18.083	1.20	24.17	0.80
6.000	1.07	12.083	73.74	18.167	1.20	24.25	0.80
6.083	1.07	12.167	73.75	18.250	1.20		

Unit Hyd Qpeak (cms)= 0.181

PEAK FLOW (cms)= 0.045 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 17.072
TOTAL RAINFALL (mm)= 66.788
RUNOFF COEFFICIENT = 0.256

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\c8c709b6
Ptotal= 66.79 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.34	12.75	9.62	19.00	1.20
0.50	0.67	6.75	1.34	13.00	4.94	19.25	1.20
0.75	0.67	7.00	1.34	13.25	4.94	19.50	1.20
1.00	0.67	7.25	1.34	13.50	0.94	19.75	1.20
1.25	0.67	7.50	1.34	13.75	0.94	20.00	1.20
1.50	0.67	7.75	1.34	14.00	5.48	20.25	1.20
1.75	0.67	8.00	1.34	14.25	5.48	20.50	0.80
2.00	0.67	8.25	1.34	14.50	2.00	20.75	0.80
2.25	1.20	8.50	1.80	14.75	2.00	21.00	0.80
2.50	0.87	8.75	1.80	15.00	2.00	21.25	0.80
2.75	0.87	9.00	1.80	15.25	2.00	21.50	0.80
3.00	0.87	9.25	1.80	15.50	2.00	21.75	0.80
3.25	0.87	9.50	2.14	15.75	2.00	22.00	0.80
3.50	0.87	9.75	2.14	16.00	2.00	22.25	0.80
3.75	0.87	10.00	2.40	16.25	2.00	22.50	0.80
4.00	0.87	10.25	2.40	16.50	1.20	22.75	0.80
4.25	0.87	10.50	3.07	16.75	1.20	23.00	0.80
4.50	1.07	10.75	3.07	17.00	1.20	23.25	0.80
4.75	1.07	11.00	4.14	17.25	1.20	23.50	0.80
5.00	1.07	11.25	4.14	17.50	1.20	23.75	0.80
5.25	1.07	11.50	6.41	17.75	1.20	24.00	0.80
5.50	1.07	11.75	6.41	18.00	1.20	24.25	0.80
5.75	1.07	12.00	27.79	18.25	1.20		
6.00	1.07	12.25	73.75	18.50	1.20		
6.25	1.07	12.50	9.62	18.75	1.20		

CALIB			
NASHYD (0205)	Area (ha)= 3.47	Curve Number (CN)= 59.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.50		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.07	12.250	73.75	18.33	1.20
0.167	0.00	6.250	1.07	12.333	9.63	18.42	1.20
0.250	0.00	6.333	1.34	12.417	9.62	18.50	1.20
0.333	0.67	6.417	1.34	12.500	9.62	18.58	1.20
0.417	0.67	6.500	1.34	12.583	9.62	18.67	1.20
0.500	0.67	6.583	1.34	12.667	9.62	18.75	1.20
0.583	0.67	6.667	1.34	12.750	9.62	18.83	1.20
0.667	0.67	6.750	1.34	12.833	4.94	18.92	1.20
0.750	0.67	6.833	1.34	12.917	4.94	19.00	1.20
0.833	0.67	6.917	1.34	13.000	4.94	19.08	1.20
0.917	0.67	7.000	1.34	13.083	4.94	19.17	1.20
1.000	0.67	7.083	1.34	13.167	4.94	19.25	1.20
1.083	0.67	7.167	1.34	13.250	4.94	19.33	1.20
1.167	0.67	7.250	1.34	13.333	0.94	19.42	1.20
1.250	0.67	7.333	1.34	13.417	0.94	19.50	1.20
1.333	0.67	7.417	1.34	13.500	0.94	19.58	1.20
1.417	0.67	7.500	1.34	13.583	0.94	19.67	1.20
1.500	0.67	7.583	1.34	13.667	0.94	19.75	1.20
1.583	0.67	7.667	1.34	13.750	0.94	19.83	1.20
1.667	0.67	7.750	1.34	13.833	5.48	19.92	1.20
1.750	0.67	7.833	1.34	13.917	5.48	20.00	1.20
1.833	0.67	7.917	1.34	14.000	5.48	20.08	1.20
1.917	0.67	8.000	1.34	14.083	5.48	20.17	1.20
2.000	0.67	8.083	1.34	14.167	5.48	20.25	1.20
2.083	1.20	8.167	1.34	14.250	5.48	20.33	0.80
2.167	1.20	8.250	1.34	14.333	2.00	20.42	0.80
2.250	1.20	8.333	1.80	14.417	2.00	20.50	0.80
2.333	0.87	8.417	1.80	14.500	2.00	20.58	0.80
2.417	0.87	8.500	1.80	14.583	2.00	20.67	0.80
2.500	0.87	8.583	1.80	14.667	2.00	20.75	0.80
2.583	0.87	8.667	1.80	14.750	2.00	20.83	0.80
2.667	0.87	8.750	1.80	14.833	2.00	20.92	0.80
2.750	0.87	8.833	1.80	14.917	2.00	21.00	0.80
2.833	0.87	8.917	1.80	15.000	2.00	21.08	0.80
2.917	0.87	9.000	1.80	15.083	2.00	21.17	0.80
3.000	0.87	9.083	1.80	15.167	2.00	21.25	0.80
3.083	0.87	9.167	1.80	15.250	2.00	21.33	0.80
3.167	0.87	9.250	1.80	15.333	2.00	21.42	0.80

3.250	0.87	9.333	2.14	15.417	2.00	21.50	0.80
3.333	0.87	9.417	2.14	15.500	2.00	21.58	0.80
3.417	0.87	9.500	2.14	15.583	2.00	21.67	0.80
3.500	0.87	9.583	2.14	15.667	2.00	21.75	0.80
3.583	0.87	9.667	2.14	15.750	2.00	21.83	0.80
3.667	0.87	9.750	2.14	15.833	2.00	21.92	0.80
3.750	0.87	9.833	2.40	15.917	2.00	22.00	0.80
3.833	0.87	9.917	2.40	16.000	2.00	22.08	0.80
3.917	0.87	10.000	2.40	16.083	2.00	22.17	0.80
4.000	0.87	10.083	2.40	16.167	2.00	22.25	0.80
4.083	0.87	10.167	2.40	16.250	2.00	22.33	0.80
4.167	0.87	10.250	2.40	16.333	1.20	22.42	0.80
4.250	0.87	10.333	3.07	16.417	1.20	22.50	0.80
4.333	1.07	10.417	3.07	16.500	1.20	22.58	0.80
4.417	1.07	10.500	3.07	16.583	1.20	22.67	0.80
4.500	1.07	10.583	3.07	16.667	1.20	22.75	0.80
4.583	1.07	10.667	3.07	16.750	1.20	22.83	0.80
4.667	1.07	10.750	3.07	16.833	1.20	22.92	0.80
4.750	1.07	10.833	4.14	16.917	1.20	23.00	0.80
4.833	1.07	10.917	4.14	17.000	1.20	23.08	0.80
4.917	1.07	11.000	4.14	17.083	1.20	23.17	0.80
5.000	1.07	11.083	4.14	17.167	1.20	23.25	0.80
5.083	1.07	11.167	4.14	17.250	1.20	23.33	0.80
5.167	1.07	11.250	4.14	17.333	1.20	23.42	0.80
5.250	1.07	11.333	6.41	17.417	1.20	23.50	0.80
5.333	1.07	11.417	6.41	17.500	1.20	23.58	0.80
5.417	1.07	11.500	6.41	17.583	1.20	23.67	0.80
5.500	1.07	11.583	6.41	17.667	1.20	23.75	0.80
5.583	1.07	11.667	6.41	17.750	1.20	23.83	0.80
5.667	1.07	11.750	6.41	17.833	1.20	23.92	0.80
5.750	1.07	11.833	27.79	17.917	1.20	24.00	0.80
5.833	1.07	11.917	27.79	18.000	1.20	24.08	0.80
5.917	1.07	12.000	27.79	18.083	1.20	24.17	0.80
6.000	1.07	12.083	73.74	18.167	1.20	24.25	0.80
6.083	1.07	12.167	73.75	18.250	1.20		

Unit Hyd Qpeak (cms)= 0.265

PEAK FLOW (cms)= 0.070 (i)
TIME TO PEAK (hrs)= 12.667
RUNOFF VOLUME (mm)= 16.020
TOTAL RAINFALL (mm)= 66.788
RUNOFF COEFFICIENT = 0.240

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0005)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.52	0.045	12.42	17.07
	+ ID2= 2 (0205):	3.47	0.070	12.67	16.02
	ID = 3 (0005):	4.99	0.110	12.50	16.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\c8c709b6
Ptotal= 66.79 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.34	12.75	9.62	19.00	1.20
0.50	0.67	6.75	1.34	13.00	4.94	19.25	1.20
0.75	0.67	7.00	1.34	13.25	4.94	19.50	1.20
1.00	0.67	7.25	1.34	13.50	0.94	19.75	1.20
1.25	0.67	7.50	1.34	13.75	0.94	20.00	1.20
1.50	0.67	7.75	1.34	14.00	5.48	20.25	1.20
1.75	0.67	8.00	1.34	14.25	5.48	20.50	0.80
2.00	0.67	8.25	1.34	14.50	2.00	20.75	0.80
2.25	1.20	8.50	1.80	14.75	2.00	21.00	0.80
2.50	0.87	8.75	1.80	15.00	2.00	21.25	0.80
2.75	0.87	9.00	1.80	15.25	2.00	21.50	0.80
3.00	0.87	9.25	1.80	15.50	2.00	21.75	0.80
3.25	0.87	9.50	2.14	15.75	2.00	22.00	0.80
3.50	0.87	9.75	2.14	16.00	2.00	22.25	0.80
3.75	0.87	10.00	2.40	16.25	2.00	22.50	0.80
4.00	0.87	10.25	2.40	16.50	1.20	22.75	0.80
4.25	0.87	10.50	3.07	16.75	1.20	23.00	0.80
4.50	1.07	10.75	3.07	17.00	1.20	23.25	0.80
4.75	1.07	11.00	4.14	17.25	1.20	23.50	0.80
5.00	1.07	11.25	4.14	17.50	1.20	23.75	0.80
5.25	1.07	11.50	6.41	17.75	1.20	24.00	0.80
5.50	1.07	11.75	6.41	18.00	1.20	24.25	0.80
5.75	1.07	12.00	27.79	18.25	1.20		
6.00	1.07	12.25	73.75	18.50	1.20		
6.25	1.07	12.50	9.62	18.75	1.20		

CALIB | NASHYD (0102) | ID= 1 DT= 5.0 min | Area (ha)= 1.10 | Ia (mm)= 5.00 | U.H. Tp(hrs)= 0.37 | Curve Number (CN)= 59.0 | # of Linear Res.(N)= 3.00

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.07	12.250	73.75	18.33	1.20
0.167	0.00	6.250	1.07	12.333	9.63	18.42	1.20
0.250	0.00	6.333	1.34	12.417	9.62	18.50	1.20
0.333	0.67	6.417	1.34	12.500	9.62	18.58	1.20
0.417	0.67	6.500	1.34	12.583	9.62	18.67	1.20
0.500	0.67	6.583	1.34	12.667	9.62	18.75	1.20
0.583	0.67	6.667	1.34	12.750	9.62	18.83	1.20
0.667	0.67	6.750	1.34	12.833	4.94	18.92	1.20
0.750	0.67	6.833	1.34	12.917	4.94	19.00	1.20
0.833	0.67	6.917	1.34	13.000	4.94	19.08	1.20
0.917	0.67	7.000	1.34	13.083	4.94	19.17	1.20
1.000	0.67	7.083	1.34	13.167	4.94	19.25	1.20
1.083	0.67	7.167	1.34	13.250	4.94	19.33	1.20
1.167	0.67	7.250	1.34	13.333	0.94	19.42	1.20
1.250	0.67	7.333	1.34	13.417	0.94	19.50	1.20
1.333	0.67	7.417	1.34	13.500	0.94	19.58	1.20
1.417	0.67	7.500	1.34	13.583	0.94	19.67	1.20
1.500	0.67	7.583	1.34	13.667	0.94	19.75	1.20
1.583	0.67	7.667	1.34	13.750	0.94	19.83	1.20
1.667	0.67	7.750	1.34	13.833	5.48	19.92	1.20
1.750	0.67	7.833	1.34	13.917	5.48	20.00	1.20
1.833	0.67	7.917	1.34	14.000	5.48	20.08	1.20
1.917	0.67	8.000	1.34	14.083	5.48	20.17	1.20
2.000	0.67	8.083	1.34	14.167	5.48	20.25	1.20
2.083	1.20	8.167	1.34	14.250	5.48	20.33	0.80
2.167	1.20	8.250	1.34	14.333	2.00	20.42	0.80
2.250	1.20	8.333	1.80	14.417	2.00	20.50	0.80
2.333	0.87	8.417	1.80	14.500	2.00	20.58	0.80
2.417	0.87	8.500	1.80	14.583	2.00	20.67	0.80
2.500	0.87	8.583	1.80	14.667	2.00	20.75	0.80
2.583	0.87	8.667	1.80	14.750	2.00	20.83	0.80

2.667	0.87	8.750	1.80	14.833	2.00	20.92	0.80
2.750	0.87	8.833	1.80	14.917	2.00	21.00	0.80
2.833	0.87	8.917	1.80	15.000	2.00	21.08	0.80
2.917	0.87	9.000	1.80	15.083	2.00	21.17	0.80
3.000	0.87	9.083	1.80	15.167	2.00	21.25	0.80
3.083	0.87	9.167	1.80	15.250	2.00	21.33	0.80
3.167	0.87	9.250	1.80	15.333	2.00	21.42	0.80
3.250	0.87	9.333	2.14	15.417	2.00	21.50	0.80
3.333	0.87	9.417	2.14	15.500	2.00	21.58	0.80
3.417	0.87	9.500	2.14	15.583	2.00	21.67	0.80
3.500	0.87	9.583	2.14	15.667	2.00	21.75	0.80
3.583	0.87	9.667	2.14	15.750	2.00	21.83	0.80
3.667	0.87	9.750	2.14	15.833	2.00	21.92	0.80
3.750	0.87	9.833	2.40	15.917	2.00	22.00	0.80
3.833	0.87	9.917	2.40	16.000	2.00	22.08	0.80
3.917	0.87	10.000	2.40	16.083	2.00	22.17	0.80
4.000	0.87	10.083	2.40	16.167	2.00	22.25	0.80
4.083	0.87	10.167	2.40	16.250	2.00	22.33	0.80
4.167	0.87	10.250	2.40	16.333	1.20	22.42	0.80
4.250	0.87	10.333	3.07	16.417	1.20	22.50	0.80
4.333	1.07	10.417	3.07	16.500	1.20	22.58	0.80
4.417	1.07	10.500	3.07	16.583	1.20	22.67	0.80
4.500	1.07	10.583	3.07	16.667	1.20	22.75	0.80
4.583	1.07	10.667	3.07	16.750	1.20	22.83	0.80
4.667	1.07	10.750	3.07	16.833	1.20	22.92	0.80
4.750	1.07	10.833	4.14	16.917	1.20	23.00	0.80
4.833	1.07	10.917	4.14	17.000	1.20	23.08	0.80
4.917	1.07	11.000	4.14	17.083	1.20	23.17	0.80
5.000	1.07	11.083	4.14	17.167	1.20	23.25	0.80
5.083	1.07	11.167	4.14	17.250	1.20	23.33	0.80
5.167	1.07	11.250	4.14	17.333	1.20	23.42	0.80
5.250	1.07	11.333	6.41	17.417	1.20	23.50	0.80
5.333	1.07	11.417	6.41	17.500	1.20	23.58	0.80
5.417	1.07	11.500	6.41	17.583	1.20	23.67	0.80
5.500	1.07	11.583	6.41	17.667	1.20	23.75	0.80
5.583	1.07	11.667	6.41	17.750	1.20	23.83	0.80
5.667	1.07	11.750	6.41	17.833	1.20	23.92	0.80
5.750	1.07	11.833	27.79	17.917	1.20	24.00	0.80
5.833	1.07	11.917	27.79	18.000	1.20	24.08	0.80
5.917	1.07	12.000	27.79	18.083	1.20	24.17	0.80
6.000	1.07	12.083	73.74	18.167	1.20	24.25	0.80
6.083	1.07	12.167	73.75	18.250	1.20		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.027 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 16.017
TOTAL RAINFALL (mm)= 66.788
RUNOFF COEFFICIENT = 0.240

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\c8c709b6
Ptotal= 66.79 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.34	12.75	9.62	19.00	1.20
0.50	0.67	6.75	1.34	13.00	4.94	19.25	1.20
0.75	0.67	7.00	1.34	13.25	4.94	19.50	1.20
1.00	0.67	7.25	1.34	13.50	0.94	19.75	1.20
1.25	0.67	7.50	1.34	13.75	0.94	20.00	1.20
1.50	0.67	7.75	1.34	14.00	5.48	20.25	1.20
1.75	0.67	8.00	1.34	14.25	5.48	20.50	0.80
2.00	0.67	8.25	1.34	14.50	2.00	20.75	0.80
2.25	1.20	8.50	1.80	14.75	2.00	21.00	0.80
2.50	0.87	8.75	1.80	15.00	2.00	21.25	0.80
2.75	0.87	9.00	1.80	15.25	2.00	21.50	0.80
3.00	0.87	9.25	1.80	15.50	2.00	21.75	0.80
3.25	0.87	9.50	2.14	15.75	2.00	22.00	0.80
3.50	0.87	9.75	2.14	16.00	2.00	22.25	0.80
3.75	0.87	10.00	2.40	16.25	2.00	22.50	0.80
4.00	0.87	10.25	2.40	16.50	1.20	22.75	0.80
4.25	0.87	10.50	3.07	16.75	1.20	23.00	0.80
4.50	1.07	10.75	3.07	17.00	1.20	23.25	0.80
4.75	1.07	11.00	4.14	17.25	1.20	23.50	0.80
5.00	1.07	11.25	4.14	17.50	1.20	23.75	0.80
5.25	1.07	11.50	6.41	17.75	1.20	24.00	0.80
5.50	1.07	11.75	6.41	18.00	1.20	24.25	0.80
5.75	1.07	12.00	27.79	18.25	1.20		
6.00	1.07	12.25	73.75	18.50	1.20		
6.25	1.07	12.50	9.62	18.75	1.20		

CALIB	STANDHYD (0203)	ID= 1 DT= 5.0 min	Area (ha)= 1.76	Total Imp(%)= 35.00	Dir. Conn.(%)= 20.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.62	1.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	2.00
Length	(m)=	108.32	65.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.07	12.250	73.75	18.33	1.20
0.167	0.00	6.250	1.07	12.333	9.63	18.42	1.20
0.250	0.00	6.333	1.34	12.417	9.62	18.50	1.20
0.333	0.67	6.417	1.34	12.500	9.62	18.58	1.20
0.417	0.67	6.500	1.34	12.583	9.62	18.67	1.20
0.500	0.67	6.583	1.34	12.667	9.62	18.75	1.20
0.583	0.67	6.667	1.34	12.750	9.62	18.83	1.20
0.667	0.67	6.750	1.34	12.833	4.94	18.92	1.20
0.750	0.67	6.833	1.34	12.917	4.94	19.00	1.20
0.833	0.67	6.917	1.34	13.000	4.94	19.08	1.20
0.917	0.67	7.000	1.34	13.083	4.94	19.17	1.20
1.000	0.67	7.083	1.34	13.167	4.94	19.25	1.20
1.083	0.67	7.167	1.34	13.250	4.94	19.33	1.20
1.167	0.67	7.250	1.34	13.333	0.94	19.42	1.20
1.250	0.67	7.333	1.34	13.417	0.94	19.50	1.20
1.333	0.67	7.417	1.34	13.500	0.94	19.58	1.20
1.417	0.67	7.500	1.34	13.583	0.94	19.67	1.20
1.500	0.67	7.583	1.34	13.667	0.94	19.75	1.20
1.583	0.67	7.667	1.34	13.750	0.94	19.83	1.20
1.667	0.67	7.750	1.34	13.833	5.48	19.92	1.20
1.750	0.67	7.833	1.34	13.917	5.48	20.00	1.20
1.833	0.67	7.917	1.34	14.000	5.48	20.08	1.20
1.917	0.67	8.000	1.34	14.083	5.48	20.17	1.20
2.000	0.67	8.083	1.34	14.167	5.48	20.25	1.20
2.083	1.20	8.167	1.34	14.250	5.48	20.33	0.80
2.167	1.20	8.250	1.34	14.333	2.00	20.42	0.80
2.250	1.20	8.333	1.80	14.417	2.00	20.50	0.80
2.333	0.87	8.417	1.80	14.500	2.00	20.58	0.80
2.417	0.87	8.500	1.80	14.583	2.00	20.67	0.80
2.500	0.87	8.583	1.80	14.667	2.00	20.75	0.80
2.583	0.87	8.667	1.80	14.750	2.00	20.83	0.80

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                2.667    0.87 | 8.750    1.80 |14.833    2.00 | 20.92    0.80
                2.750    0.87 | 8.833    1.80 |14.917    2.00 | 21.00    0.80
                2.833    0.87 | 8.917    1.80 |15.000    2.00 | 21.08    0.80
                2.917    0.87 | 9.000    1.80 |15.083    2.00 | 21.17    0.80
                3.000    0.87 | 9.083    1.80 |15.167    2.00 | 21.25    0.80
                3.083    0.87 | 9.167    1.80 |15.250    2.00 | 21.33    0.80
                3.167    0.87 | 9.250    1.80 |15.333    2.00 | 21.42    0.80
                3.250    0.87 | 9.333    2.14 |15.417    2.00 | 21.50    0.80
                3.333    0.87 | 9.417    2.14 |15.500    2.00 | 21.58    0.80
                3.417    0.87 | 9.500    2.14 |15.583    2.00 | 21.67    0.80
                3.500    0.87 | 9.583    2.14 |15.667    2.00 | 21.75    0.80
                3.583    0.87 | 9.667    2.14 |15.750    2.00 | 21.83    0.80
                3.667    0.87 | 9.750    2.14 |15.833    2.00 | 21.92    0.80
                3.750    0.87 | 9.833    2.40 |15.917    2.00 | 22.00    0.80
                3.833    0.87 | 9.917    2.40 |16.000    2.00 | 22.08    0.80
                3.917    0.87 |10.000    2.40 |16.083    2.00 | 22.17    0.80
                4.000    0.87 |10.083    2.40 |16.167    2.00 | 22.25    0.80
                4.083    0.87 |10.167    2.40 |16.250    2.00 | 22.33    0.80
                4.167    0.87 |10.250    2.40 |16.333    1.20 | 22.42    0.80
                4.250    0.87 |10.333    3.07 |16.417    1.20 | 22.50    0.80
                4.333    1.07 |10.417    3.07 |16.500    1.20 | 22.58    0.80
                4.417    1.07 |10.500    3.07 |16.583    1.20 | 22.67    0.80
                4.500    1.07 |10.583    3.07 |16.667    1.20 | 22.75    0.80
                4.583    1.07 |10.667    3.07 |16.750    1.20 | 22.83    0.80
                4.667    1.07 |10.750    3.07 |16.833    1.20 | 22.92    0.80
                4.750    1.07 |10.833    4.14 |16.917    1.20 | 23.00    0.80
                4.833    1.07 |10.917    4.14 |17.000    1.20 | 23.08    0.80
                4.917    1.07 |11.000    4.14 |17.083    1.20 | 23.17    0.80
                5.000    1.07 |11.083    4.14 |17.167    1.20 | 23.25    0.80
                5.083    1.07 |11.167    4.14 |17.250    1.20 | 23.33    0.80
                5.167    1.07 |11.250    4.14 |17.333    1.20 | 23.42    0.80
                5.250    1.07 |11.333    6.41 |17.417    1.20 | 23.50    0.80
                5.333    1.07 |11.417    6.41 |17.500    1.20 | 23.58    0.80
                5.417    1.07 |11.500    6.41 |17.583    1.20 | 23.67    0.80
                5.500    1.07 |11.583    6.41 |17.667    1.20 | 23.75    0.80
                5.583    1.07 |11.667    6.41 |17.750    1.20 | 23.83    0.80
                5.667    1.07 |11.750    6.41 |17.833    1.20 | 23.92    0.80
                5.750    1.07 |11.833   27.79 |17.917    1.20 | 24.00    0.80
                5.833    1.07 |11.917   27.79 |18.000    1.20 | 24.08    0.80
                5.917    1.07 |12.000   27.79 |18.083    1.20 | 24.17    0.80
                6.000    1.07 |12.083   73.74 |18.167    1.20 | 24.25    0.80
                6.083    1.07 |12.167   73.75 |18.250    1.20 |

     Max.Eff.Inten.(mm/hr)=      73.75        23.94
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      3.73 (ii)   20.46 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.25         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.07         0.05         0.098 (iii)
     TIME TO PEAK    (hrs)=     12.25        12.50         12.25
     RUNOFF VOLUME    (mm)=     64.79        19.09         28.22
     TOTAL RAINFALL   (mm)=     66.79        66.79         66.79
     RUNOFF COEFFICIENT   =      0.97         0.29          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.027    12.50    16.02
     + ID2= 2 (  0203):     1.76   0.098    12.25    28.22
       ================================================
       ID = 3 (  0001):     2.86   0.116    12.25    23.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=    1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.12     12.25   23.53
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   2.86      0.12     12.25   23.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072    |  0.1150      0.0239
                         0.0280     0.0096    |  0.1230      0.0263
                         0.0570     0.0120    |  0.1310      0.0287
                         0.0720     0.0143    |  0.1380      0.0311
                         0.0850     0.0167    |  0.1450      0.0335
                         0.0960     0.0191    |  0.1520      0.0359
                         0.1060     0.0215    |  0.1970      0.0360

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)     2.860      0.116     12.25      23.53
   OUTFLOW: ID= 1 (  0003)     2.860      0.075     12.67      21.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 64.62
                  TIME SHIFT OF PEAK FLOW         (min)= 25.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0149

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--------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0002 <ID= 1> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0004 = HYDROGRAPH 0003
       ID1= 1 (  0002):     0.00   0.000     0.00     0.00
     + ID2= 2 (  0003):     2.86   0.075    12.67    21.01
       ================================================
       ID = 3 (  0004):     2.86   0.075    12.67    21.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.075    12.67    21.01
     + ID2= 2 (  0005):     4.99   0.110    12.50    16.34
       ================================================
       ID = 3 (  0006):     7.85   0.184    12.58    18.04
```

```
     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
==============

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\2633f70a-5a8a-4a06-bcca-f07c45f9991f\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\2633f70a-5a8a-4a06-bcca-f07c45f9991f\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:


COMMENTS: _____________________________________________________________


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  ************************************************
  ** SIMULATION : SCS_24hr_010yr                **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\789b73b3
| Ptotal= 79.60 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    1.59 | 12.75   11.46 | 19.00    1.43
                0.50    0.80 |  6.75    1.59 | 13.00    5.89 | 19.25    1.43
                0.75    0.80 |  7.00    1.59 | 13.25    5.89 | 19.50    1.43
                1.00    0.80 |  7.25    1.59 | 13.50    1.11 | 19.75    1.43
                1.25    0.80 |  7.50    1.59 | 13.75    1.11 | 20.00    1.43
                1.50    0.80 |  7.75    1.59 | 14.00    6.53 | 20.25    1.43
                1.75    0.80 |  8.00    1.59 | 14.25    6.53 | 20.50    0.96
                2.00    0.80 |  8.25    1.59 | 14.50    2.39 | 20.75    0.96
                2.25    1.43 |  8.50    2.15 | 14.75    2.39 | 21.00    0.96
                2.50    1.03 |  8.75    2.15 | 15.00    2.39 | 21.25    0.96
                2.75    1.03 |  9.00    2.15 | 15.25    2.39 | 21.50    0.96
                3.00    1.03 |  9.25    2.15 | 15.50    2.39 | 21.75    0.96
                3.25    1.03 |  9.50    2.55 | 15.75    2.39 | 22.00    0.96
                3.50    1.03 |  9.75    2.55 | 16.00    2.39 | 22.25    0.96
                3.75    1.03 | 10.00    2.87 | 16.25    2.39 | 22.50    0.96
                4.00    1.03 | 10.25    2.87 | 16.50    1.43 | 22.75    0.96
                4.25    1.03 | 10.50    3.66 | 16.75    1.43 | 23.00    0.96
                4.50    1.27 | 10.75    3.66 | 17.00    1.43 | 23.25    0.96
                4.75    1.27 | 11.00    4.94 | 17.25    1.43 | 23.50    0.96
                5.00    1.27 | 11.25    4.94 | 17.50    1.43 | 23.75    0.96
                5.25    1.27 | 11.50    7.64 | 17.75    1.43 | 24.00    0.96
                5.50    1.27 | 11.75    7.64 | 18.00    1.43 | 24.25    0.96
                5.75    1.27 | 12.00   33.11 | 18.25    1.43 |
                6.00    1.27 | 12.25   87.88 | 18.50    1.43 |
                6.25    1.27 | 12.50   11.46 | 18.75    1.43 |

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| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.35

       NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 6.167    1.27 |12.250   87.88 | 18.33    1.43
0.167    0.00 | 6.250    1.27 |12.333   11.47 | 18.42    1.43
0.250    0.00 | 6.333    1.59 |12.417   11.46 | 18.50    1.43
0.333    0.80 | 6.417    1.59 |12.500   11.46 | 18.58    1.43
0.417    0.80 | 6.500    1.59 |12.583   11.46 | 18.67    1.43
0.500    0.80 | 6.583    1.59 |12.667   11.46 | 18.75    1.43
0.583    0.80 | 6.667    1.59 |12.750   11.46 | 18.83    1.43
0.667    0.80 | 6.750    1.59 |12.833    5.89 | 18.92    1.43
0.750    0.80 | 6.833    1.59 |12.917    5.89 | 19.00    1.43
0.833    0.80 | 6.917    1.59 |13.000    5.89 | 19.08    1.43
0.917    0.80 | 7.000    1.59 |13.083    5.89 | 19.17    1.43
1.000    0.80 | 7.083    1.59 |13.167    5.89 | 19.25    1.43
1.083    0.80 | 7.167    1.59 |13.250    5.89 | 19.33    1.43
1.167    0.80 | 7.250    1.59 |13.333    1.11 | 19.42    1.43
1.250    0.80 | 7.333    1.59 |13.417    1.11 | 19.50    1.43
1.333    0.80 | 7.417    1.59 |13.500    1.11 | 19.58    1.43
1.417    0.80 | 7.500    1.59 |13.583    1.11 | 19.67    1.43
1.500    0.80 | 7.583    1.59 |13.667    1.11 | 19.75    1.43
1.583    0.80 | 7.667    1.59 |13.750    1.11 | 19.83    1.43
1.667    0.80 | 7.750    1.59 |13.833    6.53 | 19.92    1.43
1.750    0.80 | 7.833    1.59 |13.917    6.53 | 20.00    1.43
1.833    0.80 | 7.917    1.59 |14.000    6.53 | 20.08    1.43
1.917    0.80 | 8.000    1.59 |14.083    6.53 | 20.17    1.43
2.000    0.80 | 8.083    1.59 |14.167    6.53 | 20.25    1.43
2.083    1.43 | 8.167    1.59 |14.250    6.53 | 20.33    0.96
2.167    1.43 | 8.250    1.59 |14.333    2.39 | 20.42    0.96
2.250    1.43 | 8.333    2.15 |14.417    2.39 | 20.50    0.96
2.333    1.03 | 8.417    2.15 |14.500    2.39 | 20.58    0.96
2.417    1.03 | 8.500    2.15 |14.583    2.39 | 20.67    0.96
2.500    1.03 | 8.583    2.15 |14.667    2.39 | 20.75    0.96
2.583    1.03 | 8.667    2.15 |14.750    2.39 | 20.83    0.96
2.667    1.03 | 8.750    2.15 |14.833    2.39 | 20.92    0.96
2.750    1.03 | 8.833    2.15 |14.917    2.39 | 21.00    0.96
2.833    1.03 | 8.917    2.15 |15.000    2.39 | 21.08    0.96
2.917    1.03 | 9.000    2.15 |15.083    2.39 | 21.17    0.96
3.000    1.03 | 9.083    2.15 |15.167    2.39 | 21.25    0.96
3.083    1.03 | 9.167    2.15 |15.250    2.39 | 21.33    0.96
3.167    1.03 | 9.250    2.15 |15.333    2.39 | 21.42    0.96
3.250    1.03 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
3.333    1.03 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
3.417    1.03 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
3.500    1.03 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
3.583    1.03 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
3.667    1.03 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
```

3.750	1.03	9.833	2.87	15.917	2.39	22.00	0.96
3.833	1.03	9.917	2.87	16.000	2.39	22.08	0.96
3.917	1.03	10.000	2.87	16.083	2.39	22.17	0.96
4.000	1.03	10.083	2.87	16.167	2.39	22.25	0.96
4.083	1.03	10.167	2.87	16.250	2.39	22.33	0.96
4.167	1.03	10.250	2.87	16.333	1.43	22.42	0.96
4.250	1.03	10.333	3.66	16.417	1.43	22.50	0.96
4.333	1.27	10.417	3.66	16.500	1.43	22.58	0.96
4.417	1.27	10.500	3.66	16.583	1.43	22.67	0.96
4.500	1.27	10.583	3.66	16.667	1.43	22.75	0.96
4.583	1.27	10.667	3.66	16.750	1.43	22.83	0.96
4.667	1.27	10.750	3.66	16.833	1.43	22.92	0.96
4.750	1.27	10.833	4.94	16.917	1.43	23.00	0.96
4.833	1.27	10.917	4.94	17.000	1.43	23.08	0.96
4.917	1.27	11.000	4.94	17.083	1.43	23.17	0.96
5.000	1.27	11.083	4.94	17.167	1.43	23.25	0.96
5.083	1.27	11.167	4.94	17.250	1.43	23.33	0.96
5.167	1.27	11.250	4.94	17.333	1.43	23.42	0.96
5.250	1.27	11.333	7.64	17.417	1.43	23.50	0.96
5.333	1.27	11.417	7.64	17.500	1.43	23.58	0.96
5.417	1.27	11.500	7.64	17.583	1.43	23.67	0.96
5.500	1.27	11.583	7.64	17.667	1.43	23.75	0.96
5.583	1.27	11.667	7.64	17.750	1.43	23.83	0.96
5.667	1.27	11.750	7.64	17.833	1.43	23.92	0.96
5.750	1.27	11.833	33.11	17.917	1.43	24.00	0.96
5.833	1.27	11.917	33.11	18.000	1.43	24.08	0.96
5.917	1.27	12.000	33.11	18.083	1.43	24.17	0.96
6.000	1.27	12.083	87.87	18.167	1.43	24.25	0.96
6.083	1.27	12.167	87.88	18.250	1.43		

Unit Hyd Qpeak (cms)= 0.379

PEAK FLOW (cms)= 0.133 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 23.530
TOTAL RAINFALL (mm)= 79.600
RUNOFF COEFFICIENT = 0.296

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\789b73b3
Ptotal= 79.60 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.59	12.75	11.46	19.00	1.43
0.50	0.80	6.75	1.59	13.00	5.89	19.25	1.43
0.75	0.80	7.00	1.59	13.25	5.89	19.50	1.43
1.00	0.80	7.25	1.59	13.50	1.11	19.75	1.43
1.25	0.80	7.50	1.59	13.75	1.11	20.00	1.43
1.50	0.80	7.75	1.59	14.00	6.53	20.25	1.43
1.75	0.80	8.00	1.59	14.25	6.53	20.50	0.96
2.00	0.80	8.25	1.59	14.50	2.39	20.75	0.96
2.25	1.43	8.50	2.15	14.75	2.39	21.00	0.96
2.50	1.03	8.75	2.15	15.00	2.39	21.25	0.96
2.75	1.03	9.00	2.15	15.25	2.39	21.50	0.96
3.00	1.03	9.25	2.15	15.50	2.39	21.75	0.96
3.25	1.03	9.50	2.55	15.75	2.39	22.00	0.96
3.50	1.03	9.75	2.55	16.00	2.39	22.25	0.96
3.75	1.03	10.00	2.87	16.25	2.39	22.50	0.96
4.00	1.03	10.25	2.87	16.50	1.43	22.75	0.96
4.25	1.03	10.50	3.66	16.75	1.43	23.00	0.96
4.50	1.27	10.75	3.66	17.00	1.43	23.25	0.96
4.75	1.27	11.00	4.94	17.25	1.43	23.50	0.96
5.00	1.27	11.25	4.94	17.50	1.43	23.75	0.96
5.25	1.27	11.50	7.64	17.75	1.43	24.00	0.96
5.50	1.27	11.75	7.64	18.00	1.43	24.25	0.96
5.75	1.27	12.00	33.11	18.25	1.43		
6.00	1.27	12.25	87.88	18.50	1.43		
6.25	1.27	12.50	11.46	18.75	1.43		

CALIB | NASHYD (0204) | ID= 1 DT= 5.0 min | Area (ha)= 1.52 Curve Number (CN)= 61.0 | Ia (mm)= 4.90 # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 0.32

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.27	12.250	87.88	18.33	1.43
0.167	0.00	6.250	1.27	12.333	11.47	18.42	1.43
0.250	0.00	6.333	1.59	12.417	11.46	18.50	1.43
0.333	0.80	6.417	1.59	12.500	11.46	18.58	1.43
0.417	0.80	6.500	1.59	12.583	11.46	18.67	1.43
0.500	0.80	6.583	1.59	12.667	11.46	18.75	1.43
0.583	0.80	6.667	1.59	12.750	11.46	18.83	1.43
0.667	0.80	6.750	1.59	12.833	5.89	18.92	1.43
0.750	0.80	6.833	1.59	12.917	5.89	19.00	1.43
0.833	0.80	6.917	1.59	13.000	5.89	19.08	1.43
0.917	0.80	7.000	1.59	13.083	5.89	19.17	1.43
1.000	0.80	7.083	1.59	13.167	5.89	19.25	1.43
1.083	0.80	7.167	1.59	13.250	5.89	19.33	1.43
1.167	0.80	7.250	1.59	13.333	1.11	19.42	1.43
1.250	0.80	7.333	1.59	13.417	1.11	19.50	1.43
1.333	0.80	7.417	1.59	13.500	1.11	19.58	1.43
1.417	0.80	7.500	1.59	13.583	1.11	19.67	1.43
1.500	0.80	7.583	1.59	13.667	1.11	19.75	1.43
1.583	0.80	7.667	1.59	13.750	1.11	19.83	1.43
1.667	0.80	7.750	1.59	13.833	6.53	19.92	1.43
1.750	0.80	7.833	1.59	13.917	6.53	20.00	1.43
1.833	0.80	7.917	1.59	14.000	6.53	20.08	1.43
1.917	0.80	8.000	1.59	14.083	6.53	20.17	1.43
2.000	0.80	8.083	1.59	14.167	6.53	20.25	1.43
2.083	1.43	8.167	1.59	14.250	6.53	20.33	0.96
2.167	1.43	8.250	1.59	14.333	2.39	20.42	0.96
2.250	1.43	8.333	2.15	14.417	2.39	20.50	0.96
2.333	1.03	8.417	2.15	14.500	2.39	20.58	0.96
2.417	1.03	8.500	2.15	14.583	2.39	20.67	0.96
2.500	1.03	8.583	2.15	14.667	2.39	20.75	0.96
2.583	1.03	8.667	2.15	14.750	2.39	20.83	0.96
2.667	1.03	8.750	2.15	14.833	2.39	20.92	0.96
2.750	1.03	8.833	2.15	14.917	2.39	21.00	0.96
2.833	1.03	8.917	2.15	15.000	2.39	21.08	0.96
2.917	1.03	9.000	2.15	15.083	2.39	21.17	0.96
3.000	1.03	9.083	2.15	15.167	2.39	21.25	0.96
3.083	1.03	9.167	2.15	15.250	2.39	21.33	0.96
3.167	1.03	9.250	2.15	15.333	2.39	21.42	0.96
3.250	1.03	9.333	2.55	15.417	2.39	21.50	0.96
3.333	1.03	9.417	2.55	15.500	2.39	21.58	0.96
3.417	1.03	9.500	2.55	15.583	2.39	21.67	0.96
3.500	1.03	9.583	2.55	15.667	2.39	21.75	0.96
3.583	1.03	9.667	2.55	15.750	2.39	21.83	0.96
3.667	1.03	9.750	2.55	15.833	2.39	21.92	0.96
3.750	1.03	9.833	2.87	15.917	2.39	22.00	0.96
3.833	1.03	9.917	2.87	16.000	2.39	22.08	0.96
3.917	1.03	10.000	2.87	16.083	2.39	22.17	0.96
4.000	1.03	10.083	2.87	16.167	2.39	22.25	0.96
4.083	1.03	10.167	2.87	16.250	2.39	22.33	0.96
4.167	1.03	10.250	2.87	16.333	1.43	22.42	0.96

4.250	1.03	10.333	3.66	16.417	1.43	22.50	0.96
4.333	1.27	10.417	3.66	16.500	1.43	22.58	0.96
4.417	1.27	10.500	3.66	16.583	1.43	22.67	0.96
4.500	1.27	10.583	3.66	16.667	1.43	22.75	0.96
4.583	1.27	10.667	3.66	16.750	1.43	22.83	0.96
4.667	1.27	10.750	3.66	16.833	1.43	22.92	0.96
4.750	1.27	10.833	4.94	16.917	1.43	23.00	0.96
4.833	1.27	10.917	4.94	17.000	1.43	23.08	0.96
4.917	1.27	11.000	4.94	17.083	1.43	23.17	0.96
5.000	1.27	11.083	4.94	17.167	1.43	23.25	0.96
5.083	1.27	11.167	4.94	17.250	1.43	23.33	0.96
5.167	1.27	11.250	4.94	17.333	1.43	23.42	0.96
5.250	1.27	11.333	7.64	17.417	1.43	23.50	0.96
5.333	1.27	11.417	7.64	17.500	1.43	23.58	0.96
5.417	1.27	11.500	7.64	17.583	1.43	23.67	0.96
5.500	1.27	11.583	7.64	17.667	1.43	23.75	0.96
5.583	1.27	11.667	7.64	17.750	1.43	23.83	0.96
5.667	1.27	11.750	7.64	17.833	1.43	23.92	0.96
5.750	1.27	11.833	33.11	17.917	1.43	24.00	0.96
5.833	1.27	11.917	33.11	18.000	1.43	24.08	0.96
5.917	1.27	12.000	33.11	18.083	1.43	24.17	0.96
6.000	1.27	12.083	87.87	18.167	1.43	24.25	0.96
6.083	1.27	12.167	87.88	18.250	1.43		

Unit Hyd Qpeak (cms)= 0.181

PEAK FLOW (cms)= 0.063 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 23.528
TOTAL RAINFALL (mm)= 79.600
RUNOFF COEFFICIENT = 0.296

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\ccccc41bc-b9d3-477f-9e1c-b31495f7ae02\789b73b3
Ptotal= 79.60 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.59	12.75	11.46	19.00	1.43
0.50	0.80	6.75	1.59	13.00	5.89	19.25	1.43
0.75	0.80	7.00	1.59	13.25	5.89	19.50	1.43
1.00	0.80	7.25	1.59	13.50	1.11	19.75	1.43
1.25	0.80	7.50	1.59	13.75	1.11	20.00	1.43
1.50	0.80	7.75	1.59	14.00	6.53	20.25	1.43
1.75	0.80	8.00	1.59	14.25	6.53	20.50	0.96
2.00	0.80	8.25	1.59	14.50	2.39	20.75	0.96
2.25	1.43	8.50	2.15	14.75	2.39	21.00	0.96
2.50	1.03	8.75	2.15	15.00	2.39	21.25	0.96
2.75	1.03	9.00	2.15	15.25	2.39	21.50	0.96
3.00	1.03	9.25	2.15	15.50	2.39	21.75	0.96
3.25	1.03	9.50	2.55	15.75	2.39	22.00	0.96
3.50	1.03	9.75	2.55	16.00	2.39	22.25	0.96
3.75	1.03	10.00	2.87	16.25	2.39	22.50	0.96
4.00	1.03	10.25	2.87	16.50	1.43	22.75	0.96
4.25	1.03	10.50	3.66	16.75	1.43	23.00	0.96
4.50	1.27	10.75	3.66	17.00	1.43	23.25	0.96
4.75	1.27	11.00	4.94	17.25	1.43	23.50	0.96
5.00	1.27	11.25	4.94	17.50	1.43	23.75	0.96
5.25	1.27	11.50	7.64	17.75	1.43	24.00	0.96
5.50	1.27	11.75	7.64	18.00	1.43	24.25	0.96
5.75	1.27	12.00	33.11	18.25	1.43		
6.00	1.27	12.25	87.88	18.50	1.43		
6.25	1.27	12.50	11.46	18.75	1.43		

CALIB	NASHYD (0205)	ID= 1 DT= 5.0 min

Area (ha)= 3.47 Curve Number (CN)= 59.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.50

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.27	12.250	87.88	18.33	1.43
0.167	0.00	6.250	1.27	12.333	11.47	18.42	1.43
0.250	0.00	6.333	1.59	12.417	11.46	18.50	1.43
0.333	0.80	6.417	1.59	12.500	11.46	18.58	1.43
0.417	0.80	6.500	1.59	12.583	11.46	18.67	1.43
0.500	0.80	6.583	1.59	12.667	11.46	18.75	1.43
0.583	0.80	6.667	1.59	12.750	11.46	18.83	1.43
0.667	0.80	6.750	1.59	12.833	5.89	18.92	1.43
0.750	0.80	6.833	1.59	12.917	5.89	19.00	1.43
0.833	0.80	6.917	1.59	13.000	5.89	19.08	1.43
0.917	0.80	7.000	1.59	13.083	5.89	19.17	1.43
1.000	0.80	7.083	1.59	13.167	5.89	19.25	1.43
1.083	0.80	7.167	1.59	13.250	5.89	19.33	1.43
1.167	0.80	7.250	1.59	13.333	1.11	19.42	1.43
1.250	0.80	7.333	1.59	13.417	1.11	19.50	1.43
1.333	0.80	7.417	1.59	13.500	1.11	19.58	1.43
1.417	0.80	7.500	1.59	13.583	1.11	19.67	1.43
1.500	0.80	7.583	1.59	13.667	1.11	19.75	1.43
1.583	0.80	7.667	1.59	13.750	1.11	19.83	1.43
1.667	0.80	7.750	1.59	13.833	6.53	19.92	1.43
1.750	0.80	7.833	1.59	13.917	6.53	20.00	1.43
1.833	0.80	7.917	1.59	14.000	6.53	20.08	1.43
1.917	0.80	8.000	1.59	14.083	6.53	20.17	1.43
2.000	0.80	8.083	1.59	14.167	6.53	20.25	1.43
2.083	1.43	8.167	1.59	14.250	6.53	20.33	0.96
2.167	1.43	8.250	1.59	14.333	2.39	20.42	0.96
2.250	1.43	8.333	2.15	14.417	2.39	20.50	0.96
2.333	1.03	8.417	2.15	14.500	2.39	20.58	0.96
2.417	1.03	8.500	2.15	14.583	2.39	20.67	0.96
2.500	1.03	8.583	2.15	14.667	2.39	20.75	0.96
2.583	1.03	8.667	2.15	14.750	2.39	20.83	0.96
2.667	1.03	8.750	2.15	14.833	2.39	20.92	0.96
2.750	1.03	8.833	2.15	14.917	2.39	21.00	0.96
2.833	1.03	8.917	2.15	15.000	2.39	21.08	0.96
2.917	1.03	9.000	2.15	15.083	2.39	21.17	0.96
3.000	1.03	9.083	2.15	15.167	2.39	21.25	0.96
3.083	1.03	9.167	2.15	15.250	2.39	21.33	0.96
3.167	1.03	9.250	2.15	15.333	2.39	21.42	0.96
3.250	1.03	9.333	2.55	15.417	2.39	21.50	0.96
3.333	1.03	9.417	2.55	15.500	2.39	21.58	0.96
3.417	1.03	9.500	2.55	15.583	2.39	21.67	0.96
3.500	1.03	9.583	2.55	15.667	2.39	21.75	0.96
3.583	1.03	9.667	2.55	15.750	2.39	21.83	0.96
3.667	1.03	9.750	2.55	15.833	2.39	21.92	0.96
3.750	1.03	9.833	2.87	15.917	2.39	22.00	0.96
3.833	1.03	9.917	2.87	16.000	2.39	22.08	0.96
3.917	1.03	10.000	2.87	16.083	2.39	22.17	0.96
4.000	1.03	10.083	2.87	16.167	2.39	22.25	0.96
4.083	1.03	10.167	2.87	16.250	2.39	22.33	0.96
4.167	1.03	10.250	2.87	16.333	1.43	22.42	0.96
4.250	1.03	10.333	3.66	16.417	1.43	22.50	0.96
4.333	1.27	10.417	3.66	16.500	1.43	22.58	0.96
4.417	1.27	10.500	3.66	16.583	1.43	22.67	0.96
4.500	1.27	10.583	3.66	16.667	1.43	22.75	0.96
4.583	1.27	10.667	3.66	16.750	1.43	22.83	0.96
4.667	1.27	10.750	3.66	16.833	1.43	22.92	0.96

4.750	1.27	10.833	4.94	16.917	1.43	23.00	0.96
4.833	1.27	10.917	4.94	17.000	1.43	23.08	0.96
4.917	1.27	11.000	4.94	17.083	1.43	23.17	0.96
5.000	1.27	11.083	4.94	17.167	1.43	23.25	0.96
5.083	1.27	11.167	4.94	17.250	1.43	23.33	0.96
5.167	1.27	11.250	4.94	17.333	1.43	23.42	0.96
5.250	1.27	11.333	7.64	17.417	1.43	23.50	0.96
5.333	1.27	11.417	7.64	17.500	1.43	23.58	0.96
5.417	1.27	11.500	7.64	17.583	1.43	23.67	0.96
5.500	1.27	11.583	7.64	17.667	1.43	23.75	0.96
5.583	1.27	11.667	7.64	17.750	1.43	23.83	0.96
5.667	1.27	11.750	7.64	17.833	1.43	23.92	0.96
5.750	1.27	11.833	33.11	17.917	1.43	24.00	0.96
5.833	1.27	11.917	33.11	18.000	1.43	24.08	0.96
5.917	1.27	12.000	33.11	18.083	1.43	24.17	0.96
6.000	1.27	12.083	87.87	18.167	1.43	24.25	0.96
6.083	1.27	12.167	87.88	18.250	1.43		

Unit Hyd Qpeak (cms)= 0.265

PEAK FLOW (cms)= 0.097 (i)
TIME TO PEAK (hrs)= 12.667
RUNOFF VOLUME (mm)= 22.161
TOTAL RAINFALL (mm)= 79.600
RUNOFF COEFFICIENT = 0.278

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0005)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0204):	1.52	0.063	12.42	23.53
	+ ID2= 2 (0205):	3.47	0.097	12.67	22.16
	ID = 3 (0005):	4.99	0.153	12.50	22.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\789b73b3
Ptotal= 79.60 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.59	12.75	11.46	19.00	1.43
0.50	0.80	6.75	1.59	13.00	5.89	19.25	1.43
0.75	0.80	7.00	1.59	13.25	5.89	19.50	1.43
1.00	0.80	7.25	1.59	13.50	1.11	19.75	1.43
1.25	0.80	7.50	1.59	13.75	1.11	20.00	1.43
1.50	0.80	7.75	1.59	14.00	6.53	20.25	1.43
1.75	0.80	8.00	1.59	14.25	6.53	20.50	0.96
2.00	0.80	8.25	1.59	14.50	2.39	20.75	0.96
2.25	1.43	8.50	2.15	14.75	2.39	21.00	0.96
2.50	1.03	8.75	2.15	15.00	2.39	21.25	0.96
2.75	1.03	9.00	2.15	15.25	2.39	21.50	0.96
3.00	1.03	9.25	2.15	15.50	2.39	21.75	0.96
3.25	1.03	9.50	2.55	15.75	2.39	22.00	0.96
3.50	1.03	9.75	2.55	16.00	2.39	22.25	0.96
3.75	1.03	10.00	2.87	16.25	2.39	22.50	0.96
4.00	1.03	10.25	2.87	16.50	1.43	22.75	0.96
4.25	1.03	10.50	3.66	16.75	1.43	23.00	0.96
4.50	1.27	10.75	3.66	17.00	1.43	23.25	0.96
4.75	1.27	11.00	4.94	17.25	1.43	23.50	0.96
5.00	1.27	11.25	4.94	17.50	1.43	23.75	0.96
5.25	1.27	11.50	7.64	17.75	1.43	24.00	0.96
5.50	1.27	11.75	7.64	18.00	1.43	24.25	0.96
5.75	1.27	12.00	33.11	18.25	1.43		
6.00	1.27	12.25	87.88	18.50	1.43		
6.25	1.27	12.50	11.46	18.75	1.43		

CALIB | NASHYD (0102) | ID= 1 DT= 5.0 min | Area (ha)= 1.10 Curve Number (CN)= 59.0 | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 0.37

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.27	12.250	87.88	18.33	1.43
0.167	0.00	6.250	1.27	12.333	11.47	18.42	1.43
0.250	0.00	6.333	1.59	12.417	11.46	18.50	1.43
0.333	0.80	6.417	1.59	12.500	11.46	18.58	1.43
0.417	0.80	6.500	1.59	12.583	11.46	18.67	1.43
0.500	0.80	6.583	1.59	12.667	11.46	18.75	1.43
0.583	0.80	6.667	1.59	12.750	11.46	18.83	1.43
0.667	0.80	6.750	1.59	12.833	5.89	18.92	1.43
0.750	0.80	6.833	1.59	12.917	5.89	19.00	1.43
0.833	0.80	6.917	1.59	13.000	5.89	19.08	1.43
0.917	0.80	7.000	1.59	13.083	5.89	19.17	1.43
1.000	0.80	7.083	1.59	13.167	5.89	19.25	1.43
1.083	0.80	7.167	1.59	13.250	5.89	19.33	1.43
1.167	0.80	7.250	1.59	13.333	1.11	19.42	1.43
1.250	0.80	7.333	1.59	13.417	1.11	19.50	1.43
1.333	0.80	7.417	1.59	13.500	1.11	19.58	1.43
1.417	0.80	7.500	1.59	13.583	1.11	19.67	1.43
1.500	0.80	7.583	1.59	13.667	1.11	19.75	1.43
1.583	0.80	7.667	1.59	13.750	1.11	19.83	1.43
1.667	0.80	7.750	1.59	13.833	6.53	19.92	1.43
1.750	0.80	7.833	1.59	13.917	6.53	20.00	1.43
1.833	0.80	7.917	1.59	14.000	6.53	20.08	1.43
1.917	0.80	8.000	1.59	14.083	6.53	20.17	1.43
2.000	0.80	8.083	1.59	14.167	6.53	20.25	1.43
2.083	1.43	8.167	1.59	14.250	6.53	20.33	0.96
2.167	1.43	8.250	1.59	14.333	2.39	20.42	0.96
2.250	1.43	8.333	2.15	14.417	2.39	20.50	0.96
2.333	1.03	8.417	2.15	14.500	2.39	20.58	0.96
2.417	1.03	8.500	2.15	14.583	2.39	20.67	0.96
2.500	1.03	8.583	2.15	14.667	2.39	20.75	0.96
2.583	1.03	8.667	2.15	14.750	2.39	20.83	0.96
2.667	1.03	8.750	2.15	14.833	2.39	20.92	0.96
2.750	1.03	8.833	2.15	14.917	2.39	21.00	0.96
2.833	1.03	8.917	2.15	15.000	2.39	21.08	0.96
2.917	1.03	9.000	2.15	15.083	2.39	21.17	0.96
3.000	1.03	9.083	2.15	15.167	2.39	21.25	0.96
3.083	1.03	9.167	2.15	15.250	2.39	21.33	0.96
3.167	1.03	9.250	2.15	15.333	2.39	21.42	0.96
3.250	1.03	9.333	2.55	15.417	2.39	21.50	0.96
3.333	1.03	9.417	2.55	15.500	2.39	21.58	0.96
3.417	1.03	9.500	2.55	15.583	2.39	21.67	0.96
3.500	1.03	9.583	2.55	15.667	2.39	21.75	0.96
3.583	1.03	9.667	2.55	15.750	2.39	21.83	0.96
3.667	1.03	9.750	2.55	15.833	2.39	21.92	0.96
3.750	1.03	9.833	2.87	15.917	2.39	22.00	0.96
3.833	1.03	9.917	2.87	16.000	2.39	22.08	0.96
3.917	1.03	10.000	2.87	16.083	2.39	22.17	0.96
4.000	1.03	10.083	2.87	16.167	2.39	22.25	0.96
4.083	1.03	10.167	2.87	16.250	2.39	22.33	0.96

4.167	1.03	10.250	2.87	16.333	1.43	22.42	0.96
4.250	1.03	10.333	3.66	16.417	1.43	22.50	0.96
4.333	1.27	10.417	3.66	16.500	1.43	22.58	0.96
4.417	1.27	10.500	3.66	16.583	1.43	22.67	0.96
4.500	1.27	10.583	3.66	16.667	1.43	22.75	0.96
4.583	1.27	10.667	3.66	16.750	1.43	22.83	0.96
4.667	1.27	10.750	3.66	16.833	1.43	22.92	0.96
4.750	1.27	10.833	4.94	16.917	1.43	23.00	0.96
4.833	1.27	10.917	4.94	17.000	1.43	23.08	0.96
4.917	1.27	11.000	4.94	17.083	1.43	23.17	0.96
5.000	1.27	11.083	4.94	17.167	1.43	23.25	0.96
5.083	1.27	11.167	4.94	17.250	1.43	23.33	0.96
5.167	1.27	11.250	4.94	17.333	1.43	23.42	0.96
5.250	1.27	11.333	7.64	17.417	1.43	23.50	0.96
5.333	1.27	11.417	7.64	17.500	1.43	23.58	0.96
5.417	1.27	11.500	7.64	17.583	1.43	23.67	0.96
5.500	1.27	11.583	7.64	17.667	1.43	23.75	0.96
5.583	1.27	11.667	7.64	17.750	1.43	23.83	0.96
5.667	1.27	11.750	7.64	17.833	1.43	23.92	0.96
5.750	1.27	11.833	33.11	17.917	1.43	24.00	0.96
5.833	1.27	11.917	33.11	18.000	1.43	24.08	0.96
5.917	1.27	12.000	33.11	18.083	1.43	24.17	0.96
6.000	1.27	12.083	87.87	18.167	1.43	24.25	0.96
6.083	1.27	12.167	87.88	18.250	1.43		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.038 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 22.158
TOTAL RAINFALL (mm)= 79.600
RUNOFF COEFFICIENT = 0.278

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\789b73b3
Ptotal= 79.60 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.59	12.75	11.46	19.00	1.43
0.50	0.80	6.75	1.59	13.00	5.89	19.25	1.43
0.75	0.80	7.00	1.59	13.25	5.89	19.50	1.43
1.00	0.80	7.25	1.59	13.50	1.11	19.75	1.43
1.25	0.80	7.50	1.59	13.75	1.11	20.00	1.43
1.50	0.80	7.75	1.59	14.00	6.53	20.25	1.43
1.75	0.80	8.00	1.59	14.25	6.53	20.50	0.96
2.00	0.80	8.25	1.59	14.50	2.39	20.75	0.96
2.25	1.43	8.50	2.15	14.75	2.39	21.00	0.96
2.50	1.03	8.75	2.15	15.00	2.39	21.25	0.96
2.75	1.03	9.00	2.15	15.25	2.39	21.50	0.96
3.00	1.03	9.25	2.15	15.50	2.39	21.75	0.96
3.25	1.03	9.50	2.55	15.75	2.39	22.00	0.96
3.50	1.03	9.75	2.55	16.00	2.39	22.25	0.96
3.75	1.03	10.00	2.87	16.25	2.39	22.50	0.96
4.00	1.03	10.25	2.87	16.50	1.43	22.75	0.96
4.25	1.03	10.50	3.66	16.75	1.43	23.00	0.96
4.50	1.27	10.75	3.66	17.00	1.43	23.25	0.96
4.75	1.27	11.00	4.94	17.25	1.43	23.50	0.96
5.00	1.27	11.25	4.94	17.50	1.43	23.75	0.96
5.25	1.27	11.50	7.64	17.75	1.43	24.00	0.96
5.50	1.27	11.75	7.64	18.00	1.43	24.25	0.96
5.75	1.27	12.00	33.11	18.25	1.43		
6.00	1.27	12.25	87.88	18.50	1.43		
6.25	1.27	12.50	11.46	18.75	1.43		

CALIB	Area (ha)= 1.76
STANDHYD (0203)	Total Imp(%)= 35.00 Dir. Conn.(%)= 20.00
ID= 1 DT= 5.0 min	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.62	1.14
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	2.00
Length (m)=	108.32	65.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.27	12.250	87.88	18.33	1.43
0.167	0.00	6.250	1.27	12.333	11.47	18.42	1.43
0.250	0.00	6.333	1.59	12.417	11.46	18.50	1.43
0.333	0.80	6.417	1.59	12.500	11.46	18.58	1.43
0.417	0.80	6.500	1.59	12.583	11.46	18.67	1.43
0.500	0.80	6.583	1.59	12.667	11.46	18.75	1.43
0.583	0.80	6.667	1.59	12.750	11.46	18.83	1.43
0.667	0.80	6.750	1.59	12.833	5.89	18.92	1.43
0.750	0.80	6.833	1.59	12.917	5.89	19.00	1.43
0.833	0.80	6.917	1.59	13.000	5.89	19.08	1.43
0.917	0.80	7.000	1.59	13.083	5.89	19.17	1.43
1.000	0.80	7.083	1.59	13.167	5.89	19.25	1.43
1.083	0.80	7.167	1.59	13.250	5.89	19.33	1.43
1.167	0.80	7.250	1.59	13.333	1.11	19.42	1.43
1.250	0.80	7.333	1.59	13.417	1.11	19.50	1.43
1.333	0.80	7.417	1.59	13.500	1.11	19.58	1.43
1.417	0.80	7.500	1.59	13.583	1.11	19.67	1.43
1.500	0.80	7.583	1.59	13.667	1.11	19.75	1.43
1.583	0.80	7.667	1.59	13.750	1.11	19.83	1.43
1.667	0.80	7.750	1.59	13.833	6.53	19.92	1.43
1.750	0.80	7.833	1.59	13.917	6.53	20.00	1.43
1.833	0.80	7.917	1.59	14.000	6.53	20.08	1.43
1.917	0.80	8.000	1.59	14.083	6.53	20.17	1.43
2.000	0.80	8.083	1.59	14.167	6.53	20.25	1.43
2.083	1.43	8.167	1.59	14.250	6.53	20.33	0.96
2.167	1.43	8.250	1.59	14.333	2.39	20.42	0.96
2.250	1.43	8.333	2.15	14.417	2.39	20.50	0.96
2.333	1.03	8.417	2.15	14.500	2.39	20.58	0.96
2.417	1.03	8.500	2.15	14.583	2.39	20.67	0.96
2.500	1.03	8.583	2.15	14.667	2.39	20.75	0.96
2.583	1.03	8.667	2.15	14.750	2.39	20.83	0.96
2.667	1.03	8.750	2.15	14.833	2.39	20.92	0.96
2.750	1.03	8.833	2.15	14.917	2.39	21.00	0.96
2.833	1.03	8.917	2.15	15.000	2.39	21.08	0.96
2.917	1.03	9.000	2.15	15.083	2.39	21.17	0.96
3.000	1.03	9.083	2.15	15.167	2.39	21.25	0.96
3.083	1.03	9.167	2.15	15.250	2.39	21.33	0.96
3.167	1.03	9.250	2.15	15.333	2.39	21.42	0.96
3.250	1.03	9.333	2.55	15.417	2.39	21.50	0.96
3.333	1.03	9.417	2.55	15.500	2.39	21.58	0.96
3.417	1.03	9.500	2.55	15.583	2.39	21.67	0.96
3.500	1.03	9.583	2.55	15.667	2.39	21.75	0.96
3.583	1.03	9.667	2.55	15.750	2.39	21.83	0.96
3.667	1.03	9.750	2.55	15.833	2.39	21.92	0.96
3.750	1.03	9.833	2.87	15.917	2.39	22.00	0.96
3.833	1.03	9.917	2.87	16.000	2.39	22.08	0.96
3.917	1.03	10.000	2.87	16.083	2.39	22.17	0.96
4.000	1.03	10.083	2.87	16.167	2.39	22.25	0.96
4.083	1.03	10.167	2.87	16.250	2.39	22.33	0.96

```
                4.167    1.03 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                4.250    1.03 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                5.250    1.27 |11.333    7.64 |17.417    1.43 | 23.50    0.96
                5.333    1.27 |11.417    7.64 |17.500    1.43 | 23.58    0.96
                5.417    1.27 |11.500    7.64 |17.583    1.43 | 23.67    0.96
                5.500    1.27 |11.583    7.64 |17.667    1.43 | 23.75    0.96
                5.583    1.27 |11.667    7.64 |17.750    1.43 | 23.83    0.96
                5.667    1.27 |11.750    7.64 |17.833    1.43 | 23.92    0.96
                5.750    1.27 |11.833   33.11 |17.917    1.43 | 24.00    0.96
                5.833    1.27 |11.917   33.11 |18.000    1.43 | 24.08    0.96
                5.917    1.27 |12.000   33.11 |18.083    1.43 | 24.17    0.96
                6.000    1.27 |12.083   87.87 |18.167    1.43 | 24.25    0.96
                6.083    1.27 |12.167   87.88 |18.250    1.43 |

     Max.Eff.Inten.(mm/hr)=      87.88        40.10
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       3.47 (ii)   17.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.26         0.06
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.07          0.135 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.42          12.25
     RUNOFF VOLUME    (mm)=      77.60        26.06          36.36
     TOTAL RAINFALL   (mm)=      79.60        79.60          79.60
     RUNOFF COEFFICIENT   =       0.97         0.33           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.038    12.50    22.16
     + ID2= 2 (  0203):     1.76   0.135    12.25    36.36
       ================================================
       ID = 3 (  0001):     2.86   0.160    12.25    30.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.16     12.25   30.90
     ======================================================
     MAJOR SYS.(ID= 3):   2.82      0.13     12.17   30.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072   |   0.1150      0.0239
                         0.0280     0.0096   |   0.1230      0.0263
                         0.0570     0.0120   |   0.1310      0.0287
                         0.0720     0.0143   |   0.1380      0.0311
                         0.0850     0.0167   |   0.1450      0.0335
                         0.0960     0.0191   |   0.1520      0.0359
                         0.1060     0.0215   |   0.1970      0.0360

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)     2.822      0.127     12.17      30.90
   OUTFLOW: ID= 1 (  0003)     2.822      0.095     12.67      28.35

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 74.68
                TIME SHIFT OF PEAK FLOW         (min)= 30.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0189

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.04   0.033    12.25    30.90
     + ID2= 2 (  0003):     2.82   0.095    12.67    28.35
       ================================================
       ID = 3 (  0004):     2.86   0.107    12.25    28.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.107    12.25    28.38
     + ID2= 2 (  0005):     4.99   0.153    12.50    22.58
       ================================================
       ID = 3 (  0006):     7.85   0.247    12.58    24.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
==============

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                ***** D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\c5950f05-6ae0-4f03-b70d-49aa7e820d7f\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\c5950f05-6ae0-4f03-b70d-49aa7e820d7f\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:


COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : SCS_24hr_025yr               **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\304f617c
| Ptotal= 95.68 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  6.50    1.91 | 12.75   13.78 | 19.00    1.72
               0.50    0.96 |  6.75    1.91 | 13.00    7.08 | 19.25    1.72
               0.75    0.96 |  7.00    1.91 | 13.25    7.08 | 19.50    1.72
               1.00    0.96 |  7.25    1.91 | 13.50    1.34 | 19.75    1.72
               1.25    0.96 |  7.50    1.91 | 13.75    1.34 | 20.00    1.72
               1.50    0.96 |  7.75    1.91 | 14.00    7.85 | 20.25    1.72
               1.75    0.96 |  8.00    1.91 | 14.25    7.85 | 20.50    1.15
               2.00    0.96 |  8.25    1.91 | 14.50    2.87 | 20.75    1.15
               2.25    1.72 |  8.50    2.58 | 14.75    2.87 | 21.00    1.15
               2.50    1.24 |  8.75    2.58 | 15.00    2.87 | 21.25    1.15
               2.75    1.24 |  9.00    2.58 | 15.25    2.87 | 21.50    1.15
               3.00    1.24 |  9.25    2.58 | 15.50    2.87 | 21.75    1.15
               3.25    1.24 |  9.50    3.06 | 15.75    2.87 | 22.00    1.15
               3.50    1.24 |  9.75    3.06 | 16.00    2.87 | 22.25    1.15
               3.75    1.24 | 10.00    3.45 | 16.25    2.87 | 22.50    1.15
               4.00    1.24 | 10.25    3.45 | 16.50    1.72 | 22.75    1.15
               4.25    1.24 | 10.50    4.40 | 16.75    1.72 | 23.00    1.15
               4.50    1.53 | 10.75    4.40 | 17.00    1.72 | 23.25    1.15
               4.75    1.53 | 11.00    5.93 | 17.25    1.72 | 23.50    1.15
               5.00    1.53 | 11.25    5.93 | 17.50    1.72 | 23.75    1.15
               5.25    1.53 | 11.50    9.19 | 17.75    1.72 | 24.00    1.15
               5.50    1.53 | 11.75    9.19 | 18.00    1.72 | 24.25    1.15
               5.75    1.53 | 12.00   39.81 | 18.25    1.72 |
               6.00    1.53 | 12.25  105.65 | 18.50    1.72 |
               6.25    1.53 | 12.50   13.78 | 18.75    1.72 |

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--------------------
| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35


NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 6.167    1.53 |12.250  105.65 | 18.33    1.72
0.167    0.00 | 6.250    1.53 |12.333   13.79 | 18.42    1.72
0.250    0.00 | 6.333    1.91 |12.417   13.78 | 18.50    1.72
0.333    0.96 | 6.417    1.91 |12.500   13.78 | 18.58    1.72
0.417    0.96 | 6.500    1.91 |12.583   13.78 | 18.67    1.72
0.500    0.96 | 6.583    1.91 |12.667   13.78 | 18.75    1.72
0.583    0.96 | 6.667    1.91 |12.750   13.78 | 18.83    1.72
0.667    0.96 | 6.750    1.91 |12.833    7.08 | 18.92    1.72
0.750    0.96 | 6.833    1.91 |12.917    7.08 | 19.00    1.72
0.833    0.96 | 6.917    1.91 |13.000    7.08 | 19.08    1.72
0.917    0.96 | 7.000    1.91 |13.083    7.08 | 19.17    1.72
1.000    0.96 | 7.083    1.91 |13.167    7.08 | 19.25    1.72
1.083    0.96 | 7.167    1.91 |13.250    7.08 | 19.33    1.72
1.167    0.96 | 7.250    1.91 |13.333    1.34 | 19.42    1.72
1.250    0.96 | 7.333    1.91 |13.417    1.34 | 19.50    1.72
1.333    0.96 | 7.417    1.91 |13.500    1.34 | 19.58    1.72
1.417    0.96 | 7.500    1.91 |13.583    1.34 | 19.67    1.72
1.500    0.96 | 7.583    1.91 |13.667    1.34 | 19.75    1.72
1.583    0.96 | 7.667    1.91 |13.750    1.34 | 19.83    1.72
1.667    0.96 | 7.750    1.91 |13.833    7.85 | 19.92    1.72
1.750    0.96 | 7.833    1.91 |13.917    7.85 | 20.00    1.72
1.833    0.96 | 7.917    1.91 |14.000    7.85 | 20.08    1.72
1.917    0.96 | 8.000    1.91 |14.083    7.85 | 20.17    1.72
2.000    0.96 | 8.083    1.91 |14.167    7.85 | 20.25    1.72
2.083    1.72 | 8.167    1.91 |14.250    7.85 | 20.33    1.15
2.167    1.72 | 8.250    1.91 |14.333    2.87 | 20.42    1.15
2.250    1.72 | 8.333    2.58 |14.417    2.87 | 20.50    1.15
2.333    1.24 | 8.417    2.58 |14.500    2.87 | 20.58    1.15
2.417    1.24 | 8.500    2.58 |14.583    2.87 | 20.67    1.15
2.500    1.24 | 8.583    2.58 |14.667    2.87 | 20.75    1.15
2.583    1.24 | 8.667    2.58 |14.750    2.87 | 20.83    1.15
2.667    1.24 | 8.750    2.58 |14.833    2.87 | 20.92    1.15
2.750    1.24 | 8.833    2.58 |14.917    2.87 | 21.00    1.15
2.833    1.24 | 8.917    2.58 |15.000    2.87 | 21.08    1.15
2.917    1.24 | 9.000    2.58 |15.083    2.87 | 21.17    1.15
3.000    1.24 | 9.083    2.58 |15.167    2.87 | 21.25    1.15
3.083    1.24 | 9.167    2.58 |15.250    2.87 | 21.33    1.15
3.167    1.24 | 9.250    2.58 |15.333    2.87 | 21.42    1.15
3.250    1.24 | 9.333    3.06 |15.417    2.87 | 21.50    1.15
3.333    1.24 | 9.417    3.06 |15.500    2.87 | 21.58    1.15
3.417    1.24 | 9.500    3.06 |15.583    2.87 | 21.67    1.15
3.500    1.24 | 9.583    3.06 |15.667    2.87 | 21.75    1.15
3.583    1.24 | 9.667    3.06 |15.750    2.87 | 21.83    1.15
3.667    1.24 | 9.750    3.06 |15.833    2.87 | 21.92    1.15
3.750    1.24 | 9.833    3.45 |15.917    2.87 | 22.00    1.15
3.833    1.24 | 9.917    3.45 |16.000    2.87 | 22.08    1.15
3.917    1.24 |10.000    3.45 |16.083    2.87 | 22.17    1.15
4.000    1.24 |10.083    3.45 |16.167    2.87 | 22.25    1.15
4.083    1.24 |10.167    3.45 |16.250    2.87 | 22.33    1.15
4.167    1.24 |10.250    3.45 |16.333    1.72 | 22.42    1.15
4.250    1.24 |10.333    4.40 |16.417    1.72 | 22.50    1.15
4.333    1.53 |10.417    4.40 |16.500    1.72 | 22.58    1.15
4.417    1.53 |10.500    4.40 |16.583    1.72 | 22.67    1.15
4.500    1.53 |10.583    4.40 |16.667    1.72 | 22.75    1.15
4.583    1.53 |10.667    4.40 |16.750    1.72 | 22.83    1.15
4.667    1.53 |10.750    4.40 |16.833    1.72 | 22.92    1.15
4.750    1.53 |10.833    5.93 |16.917    1.72 | 23.00    1.15
4.833    1.53 |10.917    5.93 |17.000    1.72 | 23.08    1.15
4.917    1.53 |11.000    5.93 |17.083    1.72 | 23.17    1.15
5.000    1.53 |11.083    5.93 |17.167    1.72 | 23.25    1.15
5.083    1.53 |11.167    5.93 |17.250    1.72 | 23.33    1.15
5.167    1.53 |11.250    5.93 |17.333    1.72 | 23.42    1.15
5.250    1.53 |11.333    9.19 |17.417    1.72 | 23.50    1.15
5.333    1.53 |11.417    9.19 |17.500    1.72 | 23.58    1.15
```

5.417	1.53	11.500	9.19	17.583	1.72	23.67	1.15
5.500	1.53	11.583	9.19	17.667	1.72	23.75	1.15
5.583	1.53	11.667	9.19	17.750	1.72	23.83	1.15
5.667	1.53	11.750	9.19	17.833	1.72	23.92	1.15
5.750	1.53	11.833	39.81	17.917	1.72	24.00	1.15
5.833	1.53	11.917	39.81	18.000	1.72	24.08	1.15
5.917	1.53	12.000	39.81	18.083	1.72	24.17	1.15
6.000	1.53	12.083	105.64	18.167	1.72	24.25	1.15
6.083	1.53	12.167	105.65	18.250	1.72		

Unit Hyd Qpeak (cms)= 0.379

PEAK FLOW (cms)= 0.186 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 32.541
TOTAL RAINFALL (mm)= 95.675
RUNOFF COEFFICIENT = 0.340

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\304f617c
Ptotal= 95.68 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.91	12.75	13.78	19.00	1.72
0.50	0.96	6.75	1.91	13.00	7.08	19.25	1.72
0.75	0.96	7.00	1.91	13.25	7.08	19.50	1.72
1.00	0.96	7.25	1.91	13.50	1.34	19.75	1.72
1.25	0.96	7.50	1.91	13.75	1.34	20.00	1.72
1.50	0.96	7.75	1.91	14.00	7.85	20.25	1.72
1.75	0.96	8.00	1.91	14.25	7.85	20.50	1.15
2.00	0.96	8.25	1.91	14.50	2.87	20.75	1.15
2.25	1.72	8.50	2.58	14.75	2.87	21.00	1.15
2.50	1.24	8.75	2.58	15.00	2.87	21.25	1.15
2.75	1.24	9.00	2.58	15.25	2.87	21.50	1.15
3.00	1.24	9.25	2.58	15.50	2.87	21.75	1.15
3.25	1.24	9.50	3.06	15.75	2.87	22.00	1.15
3.50	1.24	9.75	3.06	16.00	2.87	22.25	1.15
3.75	1.24	10.00	3.45	16.25	2.87	22.50	1.15
4.00	1.24	10.25	3.45	16.50	1.72	22.75	1.15
4.25	1.24	10.50	4.40	16.75	1.72	23.00	1.15
4.50	1.53	10.75	4.40	17.00	1.72	23.25	1.15
4.75	1.53	11.00	5.93	17.25	1.72	23.50	1.15
5.00	1.53	11.25	5.93	17.50	1.72	23.75	1.15
5.25	1.53	11.50	9.19	17.75	1.72	24.00	1.15
5.50	1.53	11.75	9.19	18.00	1.72	24.25	1.15
5.75	1.53	12.00	39.81	18.25	1.72		
6.00	1.53	12.25	105.65	18.50	1.72		
6.25	1.53	12.50	13.78	18.75	1.72		

CALIB | NASHYD (0204) | ID= 1 DT= 5.0 min | Area (ha)= 1.52 Curve Number (CN)= 61.0 | Ia (mm)= 4.90 # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 0.32

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.53	12.250	105.65	18.33	1.72
0.167	0.00	6.250	1.53	12.333	13.79	18.42	1.72
0.250	0.00	6.333	1.91	12.417	13.78	18.50	1.72
0.333	0.96	6.417	1.91	12.500	13.78	18.58	1.72
0.417	0.96	6.500	1.91	12.583	13.78	18.67	1.72
0.500	0.96	6.583	1.91	12.667	13.78	18.75	1.72
0.583	0.96	6.667	1.91	12.750	13.78	18.83	1.72
0.667	0.96	6.750	1.91	12.833	7.08	18.92	1.72
0.750	0.96	6.833	1.91	12.917	7.08	19.00	1.72
0.833	0.96	6.917	1.91	13.000	7.08	19.08	1.72
0.917	0.96	7.000	1.91	13.083	7.08	19.17	1.72
1.000	0.96	7.083	1.91	13.167	7.08	19.25	1.72
1.083	0.96	7.167	1.91	13.250	7.08	19.33	1.72
1.167	0.96	7.250	1.91	13.333	1.34	19.42	1.72
1.250	0.96	7.333	1.91	13.417	1.34	19.50	1.72
1.333	0.96	7.417	1.91	13.500	1.34	19.58	1.72
1.417	0.96	7.500	1.91	13.583	1.34	19.67	1.72
1.500	0.96	7.583	1.91	13.667	1.34	19.75	1.72
1.583	0.96	7.667	1.91	13.750	1.34	19.83	1.72
1.667	0.96	7.750	1.91	13.833	7.85	19.92	1.72
1.750	0.96	7.833	1.91	13.917	7.85	20.00	1.72
1.833	0.96	7.917	1.91	14.000	7.85	20.08	1.72
1.917	0.96	8.000	1.91	14.083	7.85	20.17	1.72
2.000	0.96	8.083	1.91	14.167	7.85	20.25	1.72
2.083	1.72	8.167	1.91	14.250	7.85	20.33	1.15
2.167	1.72	8.250	1.91	14.333	2.87	20.42	1.15
2.250	1.72	8.333	2.58	14.417	2.87	20.50	1.15
2.333	1.24	8.417	2.58	14.500	2.87	20.58	1.15
2.417	1.24	8.500	2.58	14.583	2.87	20.67	1.15
2.500	1.24	8.583	2.58	14.667	2.87	20.75	1.15
2.583	1.24	8.667	2.58	14.750	2.87	20.83	1.15
2.667	1.24	8.750	2.58	14.833	2.87	20.92	1.15
2.750	1.24	8.833	2.58	14.917	2.87	21.00	1.15
2.833	1.24	8.917	2.58	15.000	2.87	21.08	1.15
2.917	1.24	9.000	2.58	15.083	2.87	21.17	1.15
3.000	1.24	9.083	2.58	15.167	2.87	21.25	1.15
3.083	1.24	9.167	2.58	15.250	2.87	21.33	1.15
3.167	1.24	9.250	2.58	15.333	2.87	21.42	1.15
3.250	1.24	9.333	3.06	15.417	2.87	21.50	1.15
3.333	1.24	9.417	3.06	15.500	2.87	21.58	1.15
3.417	1.24	9.500	3.06	15.583	2.87	21.67	1.15
3.500	1.24	9.583	3.06	15.667	2.87	21.75	1.15
3.583	1.24	9.667	3.06	15.750	2.87	21.83	1.15
3.667	1.24	9.750	3.06	15.833	2.87	21.92	1.15
3.750	1.24	9.833	3.45	15.917	2.87	22.00	1.15
3.833	1.24	9.917	3.45	16.000	2.87	22.08	1.15
3.917	1.24	10.000	3.45	16.083	2.87	22.17	1.15
4.000	1.24	10.083	3.45	16.167	2.87	22.25	1.15
4.083	1.24	10.167	3.45	16.250	2.87	22.33	1.15
4.167	1.24	10.250	3.45	16.333	1.72	22.42	1.15
4.250	1.24	10.333	4.40	16.417	1.72	22.50	1.15
4.333	1.53	10.417	4.40	16.500	1.72	22.58	1.15
4.417	1.53	10.500	4.40	16.583	1.72	22.67	1.15
4.500	1.53	10.583	4.40	16.667	1.72	22.75	1.15
4.583	1.53	10.667	4.40	16.750	1.72	22.83	1.15
4.667	1.53	10.750	4.40	16.833	1.72	22.92	1.15
4.750	1.53	10.833	5.93	16.917	1.72	23.00	1.15
4.833	1.53	10.917	5.93	17.000	1.72	23.08	1.15
4.917	1.53	11.000	5.93	17.083	1.72	23.17	1.15
5.000	1.53	11.083	5.93	17.167	1.72	23.25	1.15
5.083	1.53	11.167	5.93	17.250	1.72	23.33	1.15
5.167	1.53	11.250	5.93	17.333	1.72	23.42	1.15
5.250	1.53	11.333	9.19	17.417	1.72	23.50	1.15
5.333	1.53	11.417	9.19	17.500	1.72	23.58	1.15
5.417	1.53	11.500	9.19	17.583	1.72	23.67	1.15
5.500	1.53	11.583	9.19	17.667	1.72	23.75	1.15
5.583	1.53	11.667	9.19	17.750	1.72	23.83	1.15
5.667	1.53	11.750	9.19	17.833	1.72	23.92	1.15
5.750	1.53	11.833	39.81	17.917	1.72	24.00	1.15
5.833	1.53	11.917	39.81	18.000	1.72	24.08	1.15

5.917	1.53	12.000	39.81	18.083	1.72	24.17	1.15
6.000	1.53	12.083	105.64	18.167	1.72	24.25	1.15
6.083	1.53	12.167	105.65	18.250	1.72		

Unit Hyd Qpeak (cms)= 0.181

PEAK FLOW (cms)= 0.087 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 32.538
TOTAL RAINFALL (mm)= 95.675
RUNOFF COEFFICIENT = 0.340

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\304f617c
Ptotal= 95.68 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.91	12.75	13.78	19.00	1.72
0.50	0.96	6.75	1.91	13.00	7.08	19.25	1.72
0.75	0.96	7.00	1.91	13.25	7.08	19.50	1.72
1.00	0.96	7.25	1.91	13.50	1.34	19.75	1.72
1.25	0.96	7.50	1.91	13.75	1.34	20.00	1.72
1.50	0.96	7.75	1.91	14.00	7.85	20.25	1.72
1.75	0.96	8.00	1.91	14.25	7.85	20.50	1.15
2.00	0.96	8.25	1.91	14.50	2.87	20.75	1.15
2.25	1.72	8.50	2.58	14.75	2.87	21.00	1.15
2.50	1.24	8.75	2.58	15.00	2.87	21.25	1.15
2.75	1.24	9.00	2.58	15.25	2.87	21.50	1.15
3.00	1.24	9.25	2.58	15.50	2.87	21.75	1.15
3.25	1.24	9.50	3.06	15.75	2.87	22.00	1.15
3.50	1.24	9.75	3.06	16.00	2.87	22.25	1.15
3.75	1.24	10.00	3.45	16.25	2.87	22.50	1.15
4.00	1.24	10.25	3.45	16.50	1.72	22.75	1.15
4.25	1.24	10.50	4.40	16.75	1.72	23.00	1.15
4.50	1.53	10.75	4.40	17.00	1.72	23.25	1.15
4.75	1.53	11.00	5.93	17.25	1.72	23.50	1.15
5.00	1.53	11.25	5.93	17.50	1.72	23.75	1.15
5.25	1.53	11.50	9.19	17.75	1.72	24.00	1.15
5.50	1.53	11.75	9.19	18.00	1.72	24.25	1.15
5.75	1.53	12.00	39.81	18.25	1.72		
6.00	1.53	12.25	105.65	18.50	1.72		
6.25	1.53	12.50	13.78	18.75	1.72		

CALIB | NASHYD (0205) | ID= 1 DT= 5.0 min | Area (ha)= 3.47 | Ia (mm)= 5.00 | U.H. Tp(hrs)= 0.50 | Curve Number (CN)= 59.0 | # of Linear Res.(N)= 3.00

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.53	12.250	105.65	18.33	1.72
0.167	0.00	6.250	1.53	12.333	13.79	18.42	1.72
0.250	0.00	6.333	1.91	12.417	13.78	18.50	1.72
0.333	0.96	6.417	1.91	12.500	13.78	18.58	1.72
0.417	0.96	6.500	1.91	12.583	13.78	18.67	1.72
0.500	0.96	6.583	1.91	12.667	13.78	18.75	1.72
0.583	0.96	6.667	1.91	12.750	13.78	18.83	1.72
0.667	0.96	6.750	1.91	12.833	7.08	18.92	1.72
0.750	0.96	6.833	1.91	12.917	7.08	19.00	1.72
0.833	0.96	6.917	1.91	13.000	7.08	19.08	1.72
0.917	0.96	7.000	1.91	13.083	7.08	19.17	1.72
1.000	0.96	7.083	1.91	13.167	7.08	19.25	1.72
1.083	0.96	7.167	1.91	13.250	7.08	19.33	1.72
1.167	0.96	7.250	1.91	13.333	1.34	19.42	1.72
1.250	0.96	7.333	1.91	13.417	1.34	19.50	1.72
1.333	0.96	7.417	1.91	13.500	1.34	19.58	1.72
1.417	0.96	7.500	1.91	13.583	1.34	19.67	1.72
1.500	0.96	7.583	1.91	13.667	1.34	19.75	1.72
1.583	0.96	7.667	1.91	13.750	1.34	19.83	1.72
1.667	0.96	7.750	1.91	13.833	7.85	19.92	1.72
1.750	0.96	7.833	1.91	13.917	7.85	20.00	1.72
1.833	0.96	7.917	1.91	14.000	7.85	20.08	1.72
1.917	0.96	8.000	1.91	14.083	7.85	20.17	1.72
2.000	0.96	8.083	1.91	14.167	7.85	20.25	1.72
2.083	1.72	8.167	1.91	14.250	7.85	20.33	1.15
2.167	1.72	8.250	1.91	14.333	2.87	20.42	1.15
2.250	1.72	8.333	2.58	14.417	2.87	20.50	1.15
2.333	1.24	8.417	2.58	14.500	2.87	20.58	1.15
2.417	1.24	8.500	2.58	14.583	2.87	20.67	1.15
2.500	1.24	8.583	2.58	14.667	2.87	20.75	1.15
2.583	1.24	8.667	2.58	14.750	2.87	20.83	1.15
2.667	1.24	8.750	2.58	14.833	2.87	20.92	1.15
2.750	1.24	8.833	2.58	14.917	2.87	21.00	1.15
2.833	1.24	8.917	2.58	15.000	2.87	21.08	1.15
2.917	1.24	9.000	2.58	15.083	2.87	21.17	1.15
3.000	1.24	9.083	2.58	15.167	2.87	21.25	1.15
3.083	1.24	9.167	2.58	15.250	2.87	21.33	1.15
3.167	1.24	9.250	2.58	15.333	2.87	21.42	1.15
3.250	1.24	9.333	3.06	15.417	2.87	21.50	1.15
3.333	1.24	9.417	3.06	15.500	2.87	21.58	1.15
3.417	1.24	9.500	3.06	15.583	2.87	21.67	1.15
3.500	1.24	9.583	3.06	15.667	2.87	21.75	1.15
3.583	1.24	9.667	3.06	15.750	2.87	21.83	1.15
3.667	1.24	9.750	3.06	15.833	2.87	21.92	1.15
3.750	1.24	9.833	3.45	15.917	2.87	22.00	1.15
3.833	1.24	9.917	3.45	16.000	2.87	22.08	1.15
3.917	1.24	10.000	3.45	16.083	2.87	22.17	1.15
4.000	1.24	10.083	3.45	16.167	2.87	22.25	1.15
4.083	1.24	10.167	3.45	16.250	2.87	22.33	1.15
4.167	1.24	10.250	3.45	16.333	1.72	22.42	1.15
4.250	1.24	10.333	4.40	16.417	1.72	22.50	1.15
4.333	1.53	10.417	4.40	16.500	1.72	22.58	1.15
4.417	1.53	10.500	4.40	16.583	1.72	22.67	1.15
4.500	1.53	10.583	4.40	16.667	1.72	22.75	1.15
4.583	1.53	10.667	4.40	16.750	1.72	22.83	1.15
4.667	1.53	10.750	4.40	16.833	1.72	22.92	1.15
4.750	1.53	10.833	5.93	16.917	1.72	23.00	1.15
4.833	1.53	10.917	5.93	17.000	1.72	23.08	1.15
4.917	1.53	11.000	5.93	17.083	1.72	23.17	1.15
5.000	1.53	11.083	5.93	17.167	1.72	23.25	1.15
5.083	1.53	11.167	5.93	17.250	1.72	23.33	1.15
5.167	1.53	11.250	5.93	17.333	1.72	23.42	1.15
5.250	1.53	11.333	9.19	17.417	1.72	23.50	1.15
5.333	1.53	11.417	9.19	17.500	1.72	23.58	1.15
5.417	1.53	11.500	9.19	17.583	1.72	23.67	1.15
5.500	1.53	11.583	9.19	17.667	1.72	23.75	1.15
5.583	1.53	11.667	9.19	17.750	1.72	23.83	1.15
5.667	1.53	11.750	9.19	17.833	1.72	23.92	1.15
5.750	1.53	11.833	39.81	17.917	1.72	24.00	1.15
5.833	1.53	11.917	39.81	18.000	1.72	24.08	1.15
5.917	1.53	12.000	39.81	18.083	1.72	24.17	1.15
6.000	1.53	12.083	105.64	18.167	1.72	24.25	1.15
6.083	1.53	12.167	105.65	18.250	1.72		

Unit Hyd Qpeak (cms)= 0.265

```
     PEAK FLOW      (cms)=   0.136 (i)
     TIME TO PEAK   (hrs)=  12.667
     RUNOFF VOLUME   (mm)=  30.771
     TOTAL RAINFALL  (mm)=  95.675
     RUNOFF COEFFICIENT  =   0.322

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0005)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0204):     1.52   0.087    12.42    32.54
      + ID2= 2 (  0205):     3.47   0.136    12.67    30.77
        ================================================
        ID = 3 (  0005):     4.99   0.215    12.50    31.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\304f617c
| Ptotal= 95.68 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    1.91 | 12.75   13.78 | 19.00    1.72
                0.50    0.96 |  6.75    1.91 | 13.00    7.08 | 19.25    1.72
                0.75    0.96 |  7.00    1.91 | 13.25    7.08 | 19.50    1.72
                1.00    0.96 |  7.25    1.91 | 13.50    1.34 | 19.75    1.72
                1.25    0.96 |  7.50    1.91 | 13.75    1.34 | 20.00    1.72
                1.50    0.96 |  7.75    1.91 | 14.00    7.85 | 20.25    1.72
                1.75    0.96 |  8.00    1.91 | 14.25    7.85 | 20.50    1.15
                2.00    0.96 |  8.25    1.91 | 14.50    2.87 | 20.75    1.15
                2.25    1.72 |  8.50    2.58 | 14.75    2.87 | 21.00    1.15
                2.50    1.24 |  8.75    2.58 | 15.00    2.87 | 21.25    1.15
                2.75    1.24 |  9.00    2.58 | 15.25    2.87 | 21.50    1.15
                3.00    1.24 |  9.25    2.58 | 15.50    2.87 | 21.75    1.15
                3.25    1.24 |  9.50    3.06 | 15.75    2.87 | 22.00    1.15
                3.50    1.24 |  9.75    3.06 | 16.00    2.87 | 22.25    1.15
                3.75    1.24 | 10.00    3.45 | 16.25    2.87 | 22.50    1.15
                4.00    1.24 | 10.25    3.45 | 16.50    1.72 | 22.75    1.15
                4.25    1.24 | 10.50    4.40 | 16.75    1.72 | 23.00    1.15
                4.50    1.53 | 10.75    4.40 | 17.00    1.72 | 23.25    1.15
                4.75    1.53 | 11.00    5.93 | 17.25    1.72 | 23.50    1.15
                5.00    1.53 | 11.25    5.93 | 17.50    1.72 | 23.75    1.15
                5.25    1.53 | 11.50    9.19 | 17.75    1.72 | 24.00    1.15
                5.50    1.53 | 11.75    9.19 | 18.00    1.72 | 24.25    1.15
                5.75    1.53 | 12.00   39.81 | 18.25    1.72 |
                6.00    1.53 | 12.25  105.65 | 18.50    1.72 |
                6.25    1.53 | 12.50   13.78 | 18.75    1.72 |

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-------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.37

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    1.53 |12.250  105.65 | 18.33    1.72
               0.167    0.00 | 6.250    1.53 |12.333   13.79 | 18.42    1.72
               0.250    0.00 | 6.333    1.91 |12.417   13.78 | 18.50    1.72
               0.333    0.96 | 6.417    1.91 |12.500   13.78 | 18.58    1.72
               0.417    0.96 | 6.500    1.91 |12.583   13.78 | 18.67    1.72
               0.500    0.96 | 6.583    1.91 |12.667   13.78 | 18.75    1.72
               0.583    0.96 | 6.667    1.91 |12.750   13.78 | 18.83    1.72
               0.667    0.96 | 6.750    1.91 |12.833    7.08 | 18.92    1.72
               0.750    0.96 | 6.833    1.91 |12.917    7.08 | 19.00    1.72
               0.833    0.96 | 6.917    1.91 |13.000    7.08 | 19.08    1.72
               0.917    0.96 | 7.000    1.91 |13.083    7.08 | 19.17    1.72
               1.000    0.96 | 7.083    1.91 |13.167    7.08 | 19.25    1.72
               1.083    0.96 | 7.167    1.91 |13.250    7.08 | 19.33    1.72
               1.167    0.96 | 7.250    1.91 |13.333    1.34 | 19.42    1.72
               1.250    0.96 | 7.333    1.91 |13.417    1.34 | 19.50    1.72
               1.333    0.96 | 7.417    1.91 |13.500    1.34 | 19.58    1.72
               1.417    0.96 | 7.500    1.91 |13.583    1.34 | 19.67    1.72
               1.500    0.96 | 7.583    1.91 |13.667    1.34 | 19.75    1.72
               1.583    0.96 | 7.667    1.91 |13.750    1.34 | 19.83    1.72
               1.667    0.96 | 7.750    1.91 |13.833    7.85 | 19.92    1.72
               1.750    0.96 | 7.833    1.91 |13.917    7.85 | 20.00    1.72
               1.833    0.96 | 7.917    1.91 |14.000    7.85 | 20.08    1.72
               1.917    0.96 | 8.000    1.91 |14.083    7.85 | 20.17    1.72
               2.000    0.96 | 8.083    1.91 |14.167    7.85 | 20.25    1.72
               2.083    1.72 | 8.167    1.91 |14.250    7.85 | 20.33    1.15
               2.167    1.72 | 8.250    1.91 |14.333    2.87 | 20.42    1.15
               2.250    1.72 | 8.333    2.58 |14.417    2.87 | 20.50    1.15
               2.333    1.24 | 8.417    2.58 |14.500    2.87 | 20.58    1.15
               2.417    1.24 | 8.500    2.58 |14.583    2.87 | 20.67    1.15
               2.500    1.24 | 8.583    2.58 |14.667    2.87 | 20.75    1.15
               2.583    1.24 | 8.667    2.58 |14.750    2.87 | 20.83    1.15
               2.667    1.24 | 8.750    2.58 |14.833    2.87 | 20.92    1.15
               2.750    1.24 | 8.833    2.58 |14.917    2.87 | 21.00    1.15
               2.833    1.24 | 8.917    2.58 |15.000    2.87 | 21.08    1.15
               2.917    1.24 | 9.000    2.58 |15.083    2.87 | 21.17    1.15
               3.000    1.24 | 9.083    2.58 |15.167    2.87 | 21.25    1.15
               3.083    1.24 | 9.167    2.58 |15.250    2.87 | 21.33    1.15
               3.167    1.24 | 9.250    2.58 |15.333    2.87 | 21.42    1.15
               3.250    1.24 | 9.333    3.06 |15.417    2.87 | 21.50    1.15
               3.333    1.24 | 9.417    3.06 |15.500    2.87 | 21.58    1.15
               3.417    1.24 | 9.500    3.06 |15.583    2.87 | 21.67    1.15
               3.500    1.24 | 9.583    3.06 |15.667    2.87 | 21.75    1.15
               3.583    1.24 | 9.667    3.06 |15.750    2.87 | 21.83    1.15
               3.667    1.24 | 9.750    3.06 |15.833    2.87 | 21.92    1.15
               3.750    1.24 | 9.833    3.45 |15.917    2.87 | 22.00    1.15
               3.833    1.24 | 9.917    3.45 |16.000    2.87 | 22.08    1.15
               3.917    1.24 |10.000    3.45 |16.083    2.87 | 22.17    1.15
               4.000    1.24 |10.083    3.45 |16.167    2.87 | 22.25    1.15
               4.083    1.24 |10.167    3.45 |16.250    2.87 | 22.33    1.15
               4.167    1.24 |10.250    3.45 |16.333    1.72 | 22.42    1.15
               4.250    1.24 |10.333    4.40 |16.417    1.72 | 22.50    1.15
               4.333    1.53 |10.417    4.40 |16.500    1.72 | 22.58    1.15
               4.417    1.53 |10.500    4.40 |16.583    1.72 | 22.67    1.15
               4.500    1.53 |10.583    4.40 |16.667    1.72 | 22.75    1.15
               4.583    1.53 |10.667    4.40 |16.750    1.72 | 22.83    1.15
               4.667    1.53 |10.750    4.40 |16.833    1.72 | 22.92    1.15
               4.750    1.53 |10.833    5.93 |16.917    1.72 | 23.00    1.15
               4.833    1.53 |10.917    5.93 |17.000    1.72 | 23.08    1.15
               4.917    1.53 |11.000    5.93 |17.083    1.72 | 23.17    1.15
               5.000    1.53 |11.083    5.93 |17.167    1.72 | 23.25    1.15
               5.083    1.53 |11.167    5.93 |17.250    1.72 | 23.33    1.15
               5.167    1.53 |11.250    5.93 |17.333    1.72 | 23.42    1.15
               5.250    1.53 |11.333    9.19 |17.417    1.72 | 23.50    1.15
               5.333    1.53 |11.417    9.19 |17.500    1.72 | 23.58    1.15
               5.417    1.53 |11.500    9.19 |17.583    1.72 | 23.67    1.15
               5.500    1.53 |11.583    9.19 |17.667    1.72 | 23.75    1.15
               5.583    1.53 |11.667    9.19 |17.750    1.72 | 23.83    1.15
               5.667    1.53 |11.750    9.19 |17.833    1.72 | 23.92    1.15
               5.750    1.53 |11.833   39.81 |17.917    1.72 | 24.00    1.15
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5.833	1.53	11.917	39.81	18.000	1.72	24.08	1.15
5.917	1.53	12.000	39.81	18.083	1.72	24.17	1.15
6.000	1.53	12.083	105.64	18.167	1.72	24.25	1.15
6.083	1.53	12.167	105.65	18.250	1.72		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.054 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 30.767
TOTAL RAINFALL (mm)= 95.675
RUNOFF COEFFICIENT = 0.322

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM | Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\304f617c
Ptotal= 95.68 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.91	12.75	13.78	19.00	1.72
0.50	0.96	6.75	1.91	13.00	7.08	19.25	1.72
0.75	0.96	7.00	1.91	13.25	7.08	19.50	1.72
1.00	0.96	7.25	1.91	13.50	1.34	19.75	1.72
1.25	0.96	7.50	1.91	13.75	1.34	20.00	1.72
1.50	0.96	7.75	1.91	14.00	7.85	20.25	1.72
1.75	0.96	8.00	1.91	14.25	7.85	20.50	1.15
2.00	0.96	8.25	1.91	14.50	2.87	20.75	1.15
2.25	1.72	8.50	2.58	14.75	2.87	21.00	1.15
2.50	1.24	8.75	2.58	15.00	2.87	21.25	1.15
2.75	1.24	9.00	2.58	15.25	2.87	21.50	1.15
3.00	1.24	9.25	2.58	15.50	2.87	21.75	1.15
3.25	1.24	9.50	3.06	15.75	2.87	22.00	1.15
3.50	1.24	9.75	3.06	16.00	2.87	22.25	1.15
3.75	1.24	10.00	3.45	16.25	2.87	22.50	1.15
4.00	1.24	10.25	3.45	16.50	1.72	22.75	1.15
4.25	1.24	10.50	4.40	16.75	1.72	23.00	1.15
4.50	1.53	10.75	4.40	17.00	1.72	23.25	1.15
4.75	1.53	11.00	5.93	17.25	1.72	23.50	1.15
5.00	1.53	11.25	5.93	17.50	1.72	23.75	1.15
5.25	1.53	11.50	9.19	17.75	1.72	24.00	1.15
5.50	1.53	11.75	9.19	18.00	1.72	24.25	1.15
5.75	1.53	12.00	39.81	18.25	1.72		
6.00	1.53	12.25	105.65	18.50	1.72		
6.25	1.53	12.50	13.78	18.75	1.72		

CALIB | STANDHYD (0203) | ID= 1 DT= 5.0 min | Area (ha)= 1.76 | Total Imp(%)= 35.00 | Dir. Conn.(%)= 20.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.62	1.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	2.00
Length	(m)=	108.32	65.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.53	12.250	105.65	18.33	1.72
0.167	0.00	6.250	1.53	12.333	13.79	18.42	1.72
0.250	0.00	6.333	1.91	12.417	13.78	18.50	1.72
0.333	0.96	6.417	1.91	12.500	13.78	18.58	1.72
0.417	0.96	6.500	1.91	12.583	13.78	18.67	1.72
0.500	0.96	6.583	1.91	12.667	13.78	18.75	1.72
0.583	0.96	6.667	1.91	12.750	13.78	18.83	1.72
0.667	0.96	6.750	1.91	12.833	7.08	18.92	1.72
0.750	0.96	6.833	1.91	12.917	7.08	19.00	1.72
0.833	0.96	6.917	1.91	13.000	7.08	19.08	1.72
0.917	0.96	7.000	1.91	13.083	7.08	19.17	1.72
1.000	0.96	7.083	1.91	13.167	7.08	19.25	1.72
1.083	0.96	7.167	1.91	13.250	7.08	19.33	1.72
1.167	0.96	7.250	1.91	13.333	1.34	19.42	1.72
1.250	0.96	7.333	1.91	13.417	1.34	19.50	1.72
1.333	0.96	7.417	1.91	13.500	1.34	19.58	1.72
1.417	0.96	7.500	1.91	13.583	1.34	19.67	1.72
1.500	0.96	7.583	1.91	13.667	1.34	19.75	1.72
1.583	0.96	7.667	1.91	13.750	1.34	19.83	1.72
1.667	0.96	7.750	1.91	13.833	7.85	19.92	1.72
1.750	0.96	7.833	1.91	13.917	7.85	20.00	1.72
1.833	0.96	7.917	1.91	14.000	7.85	20.08	1.72
1.917	0.96	8.000	1.91	14.083	7.85	20.17	1.72
2.000	0.96	8.083	1.91	14.167	7.85	20.25	1.72
2.083	1.72	8.167	1.91	14.250	7.85	20.33	1.15
2.167	1.72	8.250	1.91	14.333	2.87	20.42	1.15
2.250	1.72	8.333	2.58	14.417	2.87	20.50	1.15
2.333	1.24	8.417	2.58	14.500	2.87	20.58	1.15
2.417	1.24	8.500	2.58	14.583	2.87	20.67	1.15
2.500	1.24	8.583	2.58	14.667	2.87	20.75	1.15
2.583	1.24	8.667	2.58	14.750	2.87	20.83	1.15
2.667	1.24	8.750	2.58	14.833	2.87	20.92	1.15
2.750	1.24	8.833	2.58	14.917	2.87	21.00	1.15
2.833	1.24	8.917	2.58	15.000	2.87	21.08	1.15
2.917	1.24	9.000	2.58	15.083	2.87	21.17	1.15
3.000	1.24	9.083	2.58	15.167	2.87	21.25	1.15
3.083	1.24	9.167	2.58	15.250	2.87	21.33	1.15
3.167	1.24	9.250	2.58	15.333	2.87	21.42	1.15
3.250	1.24	9.333	3.06	15.417	2.87	21.50	1.15
3.333	1.24	9.417	3.06	15.500	2.87	21.58	1.15
3.417	1.24	9.500	3.06	15.583	2.87	21.67	1.15
3.500	1.24	9.583	3.06	15.667	2.87	21.75	1.15
3.583	1.24	9.667	3.06	15.750	2.87	21.83	1.15
3.667	1.24	9.750	3.06	15.833	2.87	21.92	1.15
3.750	1.24	9.833	3.45	15.917	2.87	22.00	1.15
3.833	1.24	9.917	3.45	16.000	2.87	22.08	1.15
3.917	1.24	10.000	3.45	16.083	2.87	22.17	1.15
4.000	1.24	10.083	3.45	16.167	2.87	22.25	1.15
4.083	1.24	10.167	3.45	16.250	2.87	22.33	1.15
4.167	1.24	10.250	3.45	16.333	1.72	22.42	1.15
4.250	1.24	10.333	4.40	16.417	1.72	22.50	1.15
4.333	1.53	10.417	4.40	16.500	1.72	22.58	1.15
4.417	1.53	10.500	4.40	16.583	1.72	22.67	1.15
4.500	1.53	10.583	4.40	16.667	1.72	22.75	1.15
4.583	1.53	10.667	4.40	16.750	1.72	22.83	1.15
4.667	1.53	10.750	4.40	16.833	1.72	22.92	1.15
4.750	1.53	10.833	5.93	16.917	1.72	23.00	1.15
4.833	1.53	10.917	5.93	17.000	1.72	23.08	1.15
4.917	1.53	11.000	5.93	17.083	1.72	23.17	1.15
5.000	1.53	11.083	5.93	17.167	1.72	23.25	1.15
5.083	1.53	11.167	5.93	17.250	1.72	23.33	1.15
5.167	1.53	11.250	5.93	17.333	1.72	23.42	1.15
5.250	1.53	11.333	9.19	17.417	1.72	23.50	1.15
5.333	1.53	11.417	9.19	17.500	1.72	23.58	1.15
5.417	1.53	11.500	9.19	17.583	1.72	23.67	1.15
5.500	1.53	11.583	9.19	17.667	1.72	23.75	1.15
5.583	1.53	11.667	9.19	17.750	1.72	23.83	1.15
5.667	1.53	11.750	9.19	17.833	1.72	23.92	1.15
5.750	1.53	11.833	39.81	17.917	1.72	24.00	1.15

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               5.833    1.53 |11.917   39.81 |18.000    1.72 | 24.08    1.15
               5.917    1.53 |12.000   39.81 |18.083    1.72 | 24.17    1.15
               6.000    1.53 |12.083  105.64 |18.167    1.72 | 24.25    1.15
               6.083    1.53 |12.167  105.65 |18.250    1.72 |

     Max.Eff.Inten.(mm/hr)=     105.65        55.25
               over (min)          5.00        20.00
     Storage Coeff.  (min)=       3.23 (ii)   15.20 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.27         0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.10         0.176 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.42         12.25
     RUNOFF VOLUME    (mm)=      93.68        35.71         47.30
     TOTAL RAINFALL   (mm)=      95.68        95.68         95.68
     RUNOFF COEFFICIENT   =       0.98         0.37          0.49

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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-------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.054    12.50    30.77
     + ID2= 2 (  0203):     1.76   0.176    12.25    47.30
       ================================================
       ID = 3 (  0001):     2.86   0.212    12.25    40.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=    1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.21     12.25   40.94
     ================================================
     MAJOR SYS.(ID= 2):   0.21      0.08     12.25   40.94
     MINOR SYS.(ID= 3):   2.65      0.13     12.08   40.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072   |   0.1150     0.0239
                         0.0280     0.0096   |   0.1230     0.0263
                         0.0570     0.0120   |   0.1310     0.0287
                         0.0720     0.0143   |   0.1380     0.0311
                         0.0850     0.0167   |   0.1450     0.0335
                         0.0960     0.0191   |   0.1520     0.0359
                         0.1060     0.0215   |   0.1970     0.0360

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)      2.651      0.127     12.08      40.94
   OUTFLOW: ID= 1 (  0003)      2.651      0.104     12.75      38.22

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 82.18
                    TIME SHIFT OF PEAK FLOW         (min)= 40.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0212

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-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.21   0.085    12.25    40.94
     + ID2= 2 (  0003):     2.65   0.104    12.75    38.22
       ================================================
       ID = 3 (  0004):     2.86   0.164    12.25    38.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.164    12.25    38.42
     + ID2= 2 (  0005):     4.99   0.215    12.50    31.31
       ================================================
       ID = 3 (  0006):     7.85   0.348    12.50    33.90

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
===============

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\835c0dc3-5d95-44f9-9c85-ba588d9dac4c\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\835c0dc3-5d95-44f9-9c85-ba588d9dac4c\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:


COMMENTS: _____
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  ************************************************
  ** SIMULATION : SCS_24hr_050yr                 **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\bcbd752a
| Ptotal=107.61 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.15 | 12.75   15.49 | 19.00    1.94
                0.50    1.08 |  6.75    2.15 | 13.00    7.96 | 19.25    1.94
                0.75    1.08 |  7.00    2.15 | 13.25    7.96 | 19.50    1.94
                1.00    1.08 |  7.25    2.15 | 13.50    1.51 | 19.75    1.94
                1.25    1.08 |  7.50    2.15 | 13.75    1.51 | 20.00    1.94
                1.50    1.08 |  7.75    2.15 | 14.00    8.82 | 20.25    1.94
                1.75    1.08 |  8.00    2.15 | 14.25    8.82 | 20.50    1.29
                2.00    1.08 |  8.25    2.15 | 14.50    3.23 | 20.75    1.29
                2.25    1.94 |  8.50    2.91 | 14.75    3.23 | 21.00    1.29
                2.50    1.40 |  8.75    2.91 | 15.00    3.23 | 21.25    1.29
                2.75    1.40 |  9.00    2.91 | 15.25    3.23 | 21.50    1.29
                3.00    1.40 |  9.25    2.91 | 15.50    3.23 | 21.75    1.29
                3.25    1.40 |  9.50    3.44 | 15.75    3.23 | 22.00    1.29
                3.50    1.40 |  9.75    3.44 | 16.00    3.23 | 22.25    1.29
                3.75    1.40 | 10.00    3.87 | 16.25    3.23 | 22.50    1.29
                4.00    1.40 | 10.25    3.87 | 16.50    1.94 | 22.75    1.29
                4.25    1.40 | 10.50    4.95 | 16.75    1.94 | 23.00    1.29
                4.50    1.72 | 10.75    4.95 | 17.00    1.94 | 23.25    1.29
                4.75    1.72 | 11.00    6.67 | 17.25    1.94 | 23.50    1.29
                5.00    1.72 | 11.25    6.67 | 17.50    1.94 | 23.75    1.29
                5.25    1.72 | 11.50   10.33 | 17.75    1.94 | 24.00    1.29
                5.50    1.72 | 11.75   10.33 | 18.00    1.94 | 24.25    1.29
                5.75    1.72 | 12.00   44.76 | 18.25    1.94 |
                6.00    1.72 | 12.25  118.79 | 18.50    1.94 |
                6.25    1.72 | 12.50   15.49 | 18.75    1.94 |

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| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    1.72 |12.250  118.79 | 18.33    1.94
               0.167    0.00 | 6.250    1.72 |12.333   15.50 | 18.42    1.94
               0.250    0.00 | 6.333    2.15 |12.417   15.49 | 18.50    1.94
               0.333    1.08 | 6.417    2.15 |12.500   15.49 | 18.58    1.94
               0.417    1.08 | 6.500    2.15 |12.583   15.49 | 18.67    1.94
               0.500    1.08 | 6.583    2.15 |12.667   15.49 | 18.75    1.94
               0.583    1.08 | 6.667    2.15 |12.750   15.49 | 18.83    1.94
               0.667    1.08 | 6.750    2.15 |12.833    7.96 | 18.92    1.94
               0.750    1.08 | 6.833    2.15 |12.917    7.96 | 19.00    1.94
               0.833    1.08 | 6.917    2.15 |13.000    7.96 | 19.08    1.94
               0.917    1.08 | 7.000    2.15 |13.083    7.96 | 19.17    1.94
               1.000    1.08 | 7.083    2.15 |13.167    7.96 | 19.25    1.94
               1.083    1.08 | 7.167    2.15 |13.250    7.96 | 19.33    1.94
               1.167    1.08 | 7.250    2.15 |13.333    1.51 | 19.42    1.94
               1.250    1.08 | 7.333    2.15 |13.417    1.51 | 19.50    1.94
               1.333    1.08 | 7.417    2.15 |13.500    1.51 | 19.58    1.94
               1.417    1.08 | 7.500    2.15 |13.583    1.51 | 19.67    1.94
               1.500    1.08 | 7.583    2.15 |13.667    1.51 | 19.75    1.94
               1.583    1.08 | 7.667    2.15 |13.750    1.51 | 19.83    1.94
               1.667    1.08 | 7.750    2.15 |13.833    8.82 | 19.92    1.94
               1.750    1.08 | 7.833    2.15 |13.917    8.82 | 20.00    1.94
               1.833    1.08 | 7.917    2.15 |14.000    8.82 | 20.08    1.94
               1.917    1.08 | 8.000    2.15 |14.083    8.82 | 20.17    1.94
               2.000    1.08 | 8.083    2.15 |14.167    8.82 | 20.25    1.94
               2.083    1.94 | 8.167    2.15 |14.250    8.82 | 20.33    1.29
               2.167    1.94 | 8.250    2.15 |14.333    3.23 | 20.42    1.29
               2.250    1.94 | 8.333    2.91 |14.417    3.23 | 20.50    1.29
               2.333    1.40 | 8.417    2.91 |14.500    3.23 | 20.58    1.29
               2.417    1.40 | 8.500    2.91 |14.583    3.23 | 20.67    1.29
               2.500    1.40 | 8.583    2.91 |14.667    3.23 | 20.75    1.29
               2.583    1.40 | 8.667    2.91 |14.750    3.23 | 20.83    1.29
               2.667    1.40 | 8.750    2.91 |14.833    3.23 | 20.92    1.29
               2.750    1.40 | 8.833    2.91 |14.917    3.23 | 21.00    1.29
               2.833    1.40 | 8.917    2.91 |15.000    3.23 | 21.08    1.29
               2.917    1.40 | 9.000    2.91 |15.083    3.23 | 21.17    1.29
               3.000    1.40 | 9.083    2.91 |15.167    3.23 | 21.25    1.29
               3.083    1.40 | 9.167    2.91 |15.250    3.23 | 21.33    1.29
               3.167    1.40 | 9.250    2.91 |15.333    3.23 | 21.42    1.29
               3.250    1.40 | 9.333    3.44 |15.417    3.23 | 21.50    1.29
               3.333    1.40 | 9.417    3.44 |15.500    3.23 | 21.58    1.29
               3.417    1.40 | 9.500    3.44 |15.583    3.23 | 21.67    1.29
               3.500    1.40 | 9.583    3.44 |15.667    3.23 | 21.75    1.29
               3.583    1.40 | 9.667    3.44 |15.750    3.23 | 21.83    1.29
               3.667    1.40 | 9.750    3.44 |15.833    3.23 | 21.92    1.29
               3.750    1.40 | 9.833    3.87 |15.917    3.23 | 22.00    1.29
               3.833    1.40 | 9.917    3.87 |16.000    3.23 | 22.08    1.29
               3.917    1.40 |10.000    3.87 |16.083    3.23 | 22.17    1.29
               4.000    1.40 |10.083    3.87 |16.167    3.23 | 22.25    1.29
               4.083    1.40 |10.167    3.87 |16.250    3.23 | 22.33    1.29
               4.167    1.40 |10.250    3.87 |16.333    1.94 | 22.42    1.29
               4.250    1.40 |10.333    4.95 |16.417    1.94 | 22.50    1.29
               4.333    1.72 |10.417    4.95 |16.500    1.94 | 22.58    1.29
               4.417    1.72 |10.500    4.95 |16.583    1.94 | 22.67    1.29
               4.500    1.72 |10.583    4.95 |16.667    1.94 | 22.75    1.29
               4.583    1.72 |10.667    4.95 |16.750    1.94 | 22.83    1.29
               4.667    1.72 |10.750    4.95 |16.833    1.94 | 22.92    1.29
               4.750    1.72 |10.833    6.67 |16.917    1.94 | 23.00    1.29
               4.833    1.72 |10.917    6.67 |17.000    1.94 | 23.08    1.29
               4.917    1.72 |11.000    6.67 |17.083    1.94 | 23.17    1.29
               5.000    1.72 |11.083    6.67 |17.167    1.94 | 23.25    1.29
               5.083    1.72 |11.167    6.67 |17.250    1.94 | 23.33    1.29
               5.167    1.72 |11.250    6.67 |17.333    1.94 | 23.42    1.29
               5.250    1.72 |11.333   10.33 |17.417    1.94 | 23.50    1.29
               5.333    1.72 |11.417   10.33 |17.500    1.94 | 23.58    1.29
               5.417    1.72 |11.500   10.33 |17.583    1.94 | 23.67    1.29
               5.500    1.72 |11.583   10.33 |17.667    1.94 | 23.75    1.29
               5.583    1.72 |11.667   10.33 |17.750    1.94 | 23.83    1.29
               5.667    1.72 |11.750   10.33 |17.833    1.94 | 23.92    1.29
               5.750    1.72 |11.833   44.76 |17.917    1.94 | 24.00    1.29
               5.833    1.72 |11.917   44.76 |18.000    1.94 | 24.08    1.29
               5.917    1.72 |12.000   44.76 |18.083    1.94 | 24.17    1.29
               6.000    1.72 |12.083  118.78 |18.167    1.94 | 24.25    1.29
               6.083    1.72 |12.167  118.79 |18.250    1.94 |

Unit Hyd Qpeak  (cms)=   0.379

PEAK FLOW       (cms)=   0.228 (i)
TIME TO PEAK    (hrs)=  12.500
RUNOFF VOLUME    (mm)=  39.786
TOTAL RAINFALL   (mm)= 107.613
RUNOFF COEFFICIENT   =   0.370

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\bcbd752a
| Ptotal=107.61 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.15 | 12.75   15.49 | 19.00    1.94
                0.50    1.08 |  6.75    2.15 | 13.00    7.96 | 19.25    1.94
                0.75    1.08 |  7.00    2.15 | 13.25    7.96 | 19.50    1.94
                1.00    1.08 |  7.25    2.15 | 13.50    1.51 | 19.75    1.94
                1.25    1.08 |  7.50    2.15 | 13.75    1.51 | 20.00    1.94
                1.50    1.08 |  7.75    2.15 | 14.00    8.82 | 20.25    1.94
                1.75    1.08 |  8.00    2.15 | 14.25    8.82 | 20.50    1.29
                2.00    1.08 |  8.25    2.15 | 14.50    3.23 | 20.75    1.29
                2.25    1.94 |  8.50    2.91 | 14.75    3.23 | 21.00    1.29
                2.50    1.40 |  8.75    2.91 | 15.00    3.23 | 21.25    1.29
                2.75    1.40 |  9.00    2.91 | 15.25    3.23 | 21.50    1.29
                3.00    1.40 |  9.25    2.91 | 15.50    3.23 | 21.75    1.29
                3.25    1.40 |  9.50    3.44 | 15.75    3.23 | 22.00    1.29
                3.50    1.40 |  9.75    3.44 | 16.00    3.23 | 22.25    1.29
                3.75    1.40 | 10.00    3.87 | 16.25    3.23 | 22.50    1.29
                4.00    1.40 | 10.25    3.87 | 16.50    1.94 | 22.75    1.29
                4.25    1.40 | 10.50    4.95 | 16.75    1.94 | 23.00    1.29
                4.50    1.72 | 10.75    4.95 | 17.00    1.94 | 23.25    1.29
                4.75    1.72 | 11.00    6.67 | 17.25    1.94 | 23.50    1.29
                5.00    1.72 | 11.25    6.67 | 17.50    1.94 | 23.75    1.29
                5.25    1.72 | 11.50   10.33 | 17.75    1.94 | 24.00    1.29
                5.50    1.72 | 11.75   10.33 | 18.00    1.94 | 24.25    1.29
                5.75    1.72 | 12.00   44.76 | 18.25    1.94 |
                6.00    1.72 | 12.25  118.79 | 18.50    1.94 |
                6.25    1.72 | 12.50   15.49 | 18.75    1.94 |

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| CALIB            |
| NASHYD   (  0204)|   Area    (ha)=   1.52   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.32

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    1.72 |12.250  118.79 | 18.33    1.94
               0.167    0.00 | 6.250    1.72 |12.333   15.50 | 18.42    1.94
               0.250    0.00 | 6.333    2.15 |12.417   15.49 | 18.50    1.94
               0.333    1.08 | 6.417    2.15 |12.500   15.49 | 18.58    1.94
               0.417    1.08 | 6.500    2.15 |12.583   15.49 | 18.67    1.94
               0.500    1.08 | 6.583    2.15 |12.667   15.49 | 18.75    1.94
               0.583    1.08 | 6.667    2.15 |12.750   15.49 | 18.83    1.94
               0.667    1.08 | 6.750    2.15 |12.833    7.96 | 18.92    1.94
               0.750    1.08 | 6.833    2.15 |12.917    7.96 | 19.00    1.94
               0.833    1.08 | 6.917    2.15 |13.000    7.96 | 19.08    1.94
               0.917    1.08 | 7.000    2.15 |13.083    7.96 | 19.17    1.94
               1.000    1.08 | 7.083    2.15 |13.167    7.96 | 19.25    1.94
               1.083    1.08 | 7.167    2.15 |13.250    7.96 | 19.33    1.94
               1.167    1.08 | 7.250    2.15 |13.333    1.51 | 19.42    1.94
               1.250    1.08 | 7.333    2.15 |13.417    1.51 | 19.50    1.94
               1.333    1.08 | 7.417    2.15 |13.500    1.51 | 19.58    1.94
               1.417    1.08 | 7.500    2.15 |13.583    1.51 | 19.67    1.94
               1.500    1.08 | 7.583    2.15 |13.667    1.51 | 19.75    1.94
               1.583    1.08 | 7.667    2.15 |13.750    1.51 | 19.83    1.94
               1.667    1.08 | 7.750    2.15 |13.833    8.82 | 19.92    1.94
               1.750    1.08 | 7.833    2.15 |13.917    8.82 | 20.00    1.94
               1.833    1.08 | 7.917    2.15 |14.000    8.82 | 20.08    1.94
               1.917    1.08 | 8.000    2.15 |14.083    8.82 | 20.17    1.94
               2.000    1.08 | 8.083    2.15 |14.167    8.82 | 20.25    1.94
               2.083    1.94 | 8.167    2.15 |14.250    8.82 | 20.33    1.29
               2.167    1.94 | 8.250    2.15 |14.333    3.23 | 20.42    1.29
               2.250    1.94 | 8.333    2.91 |14.417    3.23 | 20.50    1.29
               2.333    1.40 | 8.417    2.91 |14.500    3.23 | 20.58    1.29
               2.417    1.40 | 8.500    2.91 |14.583    3.23 | 20.67    1.29
               2.500    1.40 | 8.583    2.91 |14.667    3.23 | 20.75    1.29
               2.583    1.40 | 8.667    2.91 |14.750    3.23 | 20.83    1.29
               2.667    1.40 | 8.750    2.91 |14.833    3.23 | 20.92    1.29
               2.750    1.40 | 8.833    2.91 |14.917    3.23 | 21.00    1.29
               2.833    1.40 | 8.917    2.91 |15.000    3.23 | 21.08    1.29
               2.917    1.40 | 9.000    2.91 |15.083    3.23 | 21.17    1.29
               3.000    1.40 | 9.083    2.91 |15.167    3.23 | 21.25    1.29
               3.083    1.40 | 9.167    2.91 |15.250    3.23 | 21.33    1.29
               3.167    1.40 | 9.250    2.91 |15.333    3.23 | 21.42    1.29
               3.250    1.40 | 9.333    3.44 |15.417    3.23 | 21.50    1.29
               3.333    1.40 | 9.417    3.44 |15.500    3.23 | 21.58    1.29
               3.417    1.40 | 9.500    3.44 |15.583    3.23 | 21.67    1.29
               3.500    1.40 | 9.583    3.44 |15.667    3.23 | 21.75    1.29
               3.583    1.40 | 9.667    3.44 |15.750    3.23 | 21.83    1.29
               3.667    1.40 | 9.750    3.44 |15.833    3.23 | 21.92    1.29
               3.750    1.40 | 9.833    3.87 |15.917    3.23 | 22.00    1.29
               3.833    1.40 | 9.917    3.87 |16.000    3.23 | 22.08    1.29
               3.917    1.40 |10.000    3.87 |16.083    3.23 | 22.17    1.29
               4.000    1.40 |10.083    3.87 |16.167    3.23 | 22.25    1.29
               4.083    1.40 |10.167    3.87 |16.250    3.23 | 22.33    1.29
               4.167    1.40 |10.250    3.87 |16.333    1.94 | 22.42    1.29
               4.250    1.40 |10.333    4.95 |16.417    1.94 | 22.50    1.29
               4.333    1.72 |10.417    4.95 |16.500    1.94 | 22.58    1.29
               4.417    1.72 |10.500    4.95 |16.583    1.94 | 22.67    1.29
               4.500    1.72 |10.583    4.95 |16.667    1.94 | 22.75    1.29
               4.583    1.72 |10.667    4.95 |16.750    1.94 | 22.83    1.29
               4.667    1.72 |10.750    4.95 |16.833    1.94 | 22.92    1.29
               4.750    1.72 |10.833    6.67 |16.917    1.94 | 23.00    1.29
               4.833    1.72 |10.917    6.67 |17.000    1.94 | 23.08    1.29
               4.917    1.72 |11.000    6.67 |17.083    1.94 | 23.17    1.29
               5.000    1.72 |11.083    6.67 |17.167    1.94 | 23.25    1.29
               5.083    1.72 |11.167    6.67 |17.250    1.94 | 23.33    1.29
               5.167    1.72 |11.250    6.67 |17.333    1.94 | 23.42    1.29
               5.250    1.72 |11.333   10.33 |17.417    1.94 | 23.50    1.29
               5.333    1.72 |11.417   10.33 |17.500    1.94 | 23.58    1.29
               5.417    1.72 |11.500   10.33 |17.583    1.94 | 23.67    1.29
               5.500    1.72 |11.583   10.33 |17.667    1.94 | 23.75    1.29
               5.583    1.72 |11.667   10.33 |17.750    1.94 | 23.83    1.29
               5.667    1.72 |11.750   10.33 |17.833    1.94 | 23.92    1.29
               5.750    1.72 |11.833   44.76 |17.917    1.94 | 24.00    1.29
               5.833    1.72 |11.917   44.76 |18.000    1.94 | 24.08    1.29
               5.917    1.72 |12.000   44.76 |18.083    1.94 | 24.17    1.29
               6.000    1.72 |12.083  118.78 |18.167    1.94 | 24.25    1.29
               6.083    1.72 |12.167  118.79 |18.250    1.94 |

    Unit Hyd Qpeak  (cms)=   0.181

    PEAK FLOW       (cms)=   0.107 (i)
    TIME TO PEAK    (hrs)=  12.417
    RUNOFF VOLUME    (mm)=  39.783
    TOTAL RAINFALL   (mm)= 107.613
    RUNOFF COEFFICIENT   =   0.370

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| Ptotal=107.61 mm | Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.49	19.00	1.94
0.50	1.08	6.75	2.15	13.00	7.96	19.25	1.94
0.75	1.08	7.00	2.15	13.25	7.96	19.50	1.94
1.00	1.08	7.25	2.15	13.50	1.51	19.75	1.94
1.25	1.08	7.50	2.15	13.75	1.51	20.00	1.94
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.08	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.23	20.75	1.29
2.25	1.94	8.50	2.91	14.75	3.23	21.00	1.29
2.50	1.40	8.75	2.91	15.00	3.23	21.25	1.29
2.75	1.40	9.00	2.91	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.91	15.50	3.23	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.23	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.23	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.23	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.94	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.94	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.67	17.50	1.94	23.75	1.29
5.25	1.72	11.50	10.33	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.33	18.00	1.94	24.25	1.29
5.75	1.72	12.00	44.76	18.25	1.94		
6.00	1.72	12.25	118.79	18.50	1.94		
6.25	1.72	12.50	15.49	18.75	1.94		

CALIB	NASHYD (0205)	ID= 1 DT= 5.0 min

Area (ha)= 3.47 Curve Number (CN)= 59.0
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.50

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.79	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.50	18.42	1.94
0.250	0.00	6.333	2.15	12.417	15.49	18.50	1.94
0.333	1.08	6.417	2.15	12.500	15.49	18.58	1.94
0.417	1.08	6.500	2.15	12.583	15.49	18.67	1.94
0.500	1.08	6.583	2.15	12.667	15.49	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.49	18.83	1.94
0.667	1.08	6.750	2.15	12.833	7.96	18.92	1.94
0.750	1.08	6.833	2.15	12.917	7.96	19.00	1.94
0.833	1.08	6.917	2.15	13.000	7.96	19.08	1.94
0.917	1.08	7.000	2.15	13.083	7.96	19.17	1.94
1.000	1.08	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.08	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.08	7.250	2.15	13.333	1.51	19.42	1.94
1.250	1.08	7.333	2.15	13.417	1.51	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.51	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.51	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.51	19.75	1.94
1.583	1.08	7.667	2.15	13.750	1.51	19.83	1.94
1.667	1.08	7.750	2.15	13.833	8.82	19.92	1.94
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.82	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.94
2.083	1.94	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.94	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.94	8.333	2.91	14.417	3.23	20.50	1.29
2.333	1.40	8.417	2.91	14.500	3.23	20.58	1.29
2.417	1.40	8.500	2.91	14.583	3.23	20.67	1.29
2.500	1.40	8.583	2.91	14.667	3.23	20.75	1.29
2.583	1.40	8.667	2.91	14.750	3.23	20.83	1.29
2.667	1.40	8.750	2.91	14.833	3.23	20.92	1.29
2.750	1.40	8.833	2.91	14.917	3.23	21.00	1.29
2.833	1.40	8.917	2.91	15.000	3.23	21.08	1.29
2.917	1.40	9.000	2.91	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.91	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.91	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.91	15.333	3.23	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.23	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.23	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.23	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.23	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.23	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.23	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.23	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.23	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.23	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.23	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.23	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.95	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.95	16.667	1.94	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.94	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.67	16.917	1.94	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.94	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.67	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.67	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.67	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.33	17.417	1.94	23.50	1.29
5.333	1.72	11.417	10.33	17.500	1.94	23.58	1.29
5.417	1.72	11.500	10.33	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.33	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.33	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.33	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.76	17.917	1.94	24.00	1.29
5.833	1.72	11.917	44.76	18.000	1.94	24.08	1.29
5.917	1.72	12.000	44.76	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.78	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.79	18.250	1.94		

Unit Hyd Qpeak (cms)= 0.265

PEAK FLOW (cms)= 0.168 (i)
TIME TO PEAK (hrs)= 12.667
RUNOFF VOLUME (mm)= 37.721
TOTAL RAINFALL (mm)= 107.613
RUNOFF COEFFICIENT = 0.351

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0005)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0204):		1.52	0.107	12.42	39.78
	+ ID2= 2 (0205):		3.47	0.168	12.67	37.72
	ID = 3 (0005):		4.99	0.265	12.50	38.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| Ptotal=107.61 mm |    Comments:
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.49	19.00	1.94
0.50	1.08	6.75	2.15	13.00	7.96	19.25	1.94
0.75	1.08	7.00	2.15	13.25	7.96	19.50	1.94
1.00	1.08	7.25	2.15	13.50	1.51	19.75	1.94
1.25	1.08	7.50	2.15	13.75	1.51	20.00	1.94
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.08	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.23	20.75	1.29
2.25	1.94	8.50	2.91	14.75	3.23	21.00	1.29
2.50	1.40	8.75	2.91	15.00	3.23	21.25	1.29
2.75	1.40	9.00	2.91	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.91	15.50	3.23	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.23	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.23	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.23	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.94	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.94	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.67	17.50	1.94	23.75	1.29
5.25	1.72	11.50	10.33	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.33	18.00	1.94	24.25	1.29
5.75	1.72	12.00	44.76	18.25	1.94		
6.00	1.72	12.25	118.79	18.50	1.94		
6.25	1.72	12.50	15.49	18.75	1.94		

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| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.37

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                    ---- TRANSFORMED HYETOGRAPH ----
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.79	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.50	18.42	1.94
0.250	0.00	6.333	2.15	12.417	15.49	18.50	1.94
0.333	1.08	6.417	2.15	12.500	15.49	18.58	1.94
0.417	1.08	6.500	2.15	12.583	15.49	18.67	1.94
0.500	1.08	6.583	2.15	12.667	15.49	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.49	18.83	1.94
0.667	1.08	6.750	2.15	12.833	7.96	18.92	1.94
0.750	1.08	6.833	2.15	12.917	7.96	19.00	1.94
0.833	1.08	6.917	2.15	13.000	7.96	19.08	1.94
0.917	1.08	7.000	2.15	13.083	7.96	19.17	1.94
1.000	1.08	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.08	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.08	7.250	2.15	13.333	1.51	19.42	1.94
1.250	1.08	7.333	2.15	13.417	1.51	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.51	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.51	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.51	19.75	1.94
1.583	1.08	7.667	2.15	13.750	1.51	19.83	1.94
1.667	1.08	7.750	2.15	13.833	8.82	19.92	1.94
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.82	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.94
2.083	1.94	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.94	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.94	8.333	2.91	14.417	3.23	20.50	1.29
2.333	1.40	8.417	2.91	14.500	3.23	20.58	1.29
2.417	1.40	8.500	2.91	14.583	3.23	20.67	1.29
2.500	1.40	8.583	2.91	14.667	3.23	20.75	1.29
2.583	1.40	8.667	2.91	14.750	3.23	20.83	1.29
2.667	1.40	8.750	2.91	14.833	3.23	20.92	1.29
2.750	1.40	8.833	2.91	14.917	3.23	21.00	1.29
2.833	1.40	8.917	2.91	15.000	3.23	21.08	1.29
2.917	1.40	9.000	2.91	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.91	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.91	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.91	15.333	3.23	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.23	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.23	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.23	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.23	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.23	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.23	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.23	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.23	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.23	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.23	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.23	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.95	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.95	16.667	1.94	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.94	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.67	16.917	1.94	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.94	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.67	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.67	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.67	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.33	17.417	1.94	23.50	1.29
5.333	1.72	11.417	10.33	17.500	1.94	23.58	1.29
5.417	1.72	11.500	10.33	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.33	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.33	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.33	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.76	17.917	1.94	24.00	1.29
5.833	1.72	11.917	44.76	18.000	1.94	24.08	1.29
5.917	1.72	12.000	44.76	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.78	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.79	18.250	1.94		

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     Unit Hyd Qpeak  (cms)=   0.114

     PEAK FLOW       (cms)=   0.066 (i)
     TIME TO PEAK    (hrs)=  12.500
     RUNOFF VOLUME    (mm)=  37.716
     TOTAL RAINFALL   (mm)= 107.613
     RUNOFF COEFFICIENT   =   0.350

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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|                 |             cccc41bc-b9d3-477f-9e1c-b31495f7ae02\bcbd752a
| Ptotal=107.61 mm |    Comments:
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.49	19.00	1.94
0.50	1.08	6.75	2.15	13.00	7.96	19.25	1.94
0.75	1.08	7.00	2.15	13.25	7.96	19.50	1.94
1.00	1.08	7.25	2.15	13.50	1.51	19.75	1.94
1.25	1.08	7.50	2.15	13.75	1.51	20.00	1.94
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.08	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.23	20.75	1.29
2.25	1.94	8.50	2.91	14.75	3.23	21.00	1.29
2.50	1.40	8.75	2.91	15.00	3.23	21.25	1.29
2.75	1.40	9.00	2.91	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.91	15.50	3.23	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.23	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.23	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.23	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.94	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.94	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.67	17.50	1.94	23.75	1.29
5.25	1.72	11.50	10.33	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.33	18.00	1.94	24.25	1.29
5.75	1.72	12.00	44.76	18.25	1.94		
6.00	1.72	12.25	118.79	18.50	1.94		
6.25	1.72	12.50	15.49	18.75	1.94		

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  35.00   Dir. Conn.(%)=  20.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.62	1.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	2.00
Length	(m)=	108.32	65.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.79	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.50	18.42	1.94
0.250	0.00	6.333	2.15	12.417	15.49	18.50	1.94
0.333	1.08	6.417	2.15	12.500	15.49	18.58	1.94
0.417	1.08	6.500	2.15	12.583	15.49	18.67	1.94
0.500	1.08	6.583	2.15	12.667	15.49	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.49	18.83	1.94
0.667	1.08	6.750	2.15	12.833	7.96	18.92	1.94
0.750	1.08	6.833	2.15	12.917	7.96	19.00	1.94
0.833	1.08	6.917	2.15	13.000	7.96	19.08	1.94
0.917	1.08	7.000	2.15	13.083	7.96	19.17	1.94
1.000	1.08	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.08	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.08	7.250	2.15	13.333	1.51	19.42	1.94
1.250	1.08	7.333	2.15	13.417	1.51	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.51	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.51	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.51	19.75	1.94
1.583	1.08	7.667	2.15	13.750	1.51	19.83	1.94
1.667	1.08	7.750	2.15	13.833	8.82	19.92	1.94
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.82	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.94
2.083	1.94	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.94	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.94	8.333	2.91	14.417	3.23	20.50	1.29
2.333	1.40	8.417	2.91	14.500	3.23	20.58	1.29
2.417	1.40	8.500	2.91	14.583	3.23	20.67	1.29
2.500	1.40	8.583	2.91	14.667	3.23	20.75	1.29
2.583	1.40	8.667	2.91	14.750	3.23	20.83	1.29
2.667	1.40	8.750	2.91	14.833	3.23	20.92	1.29
2.750	1.40	8.833	2.91	14.917	3.23	21.00	1.29
2.833	1.40	8.917	2.91	15.000	3.23	21.08	1.29
2.917	1.40	9.000	2.91	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.91	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.91	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.91	15.333	3.23	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.23	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.23	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.23	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.23	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.23	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.23	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.23	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.23	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.23	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.23	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.23	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.95	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.95	16.667	1.94	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.94	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.67	16.917	1.94	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.94	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.67	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.67	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.67	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.33	17.417	1.94	23.50	1.29
5.333	1.72	11.417	10.33	17.500	1.94	23.58	1.29
5.417	1.72	11.500	10.33	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.33	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.33	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.33	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.76	17.917	1.94	24.00	1.29
5.833	1.72	11.917	44.76	18.000	1.94	24.08	1.29
5.917	1.72	12.000	44.76	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.78	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.79	18.250	1.94		

				TOTALS
Max.Eff.Inten.(mm/hr)=		118.79	67.35	
over (min)		5.00	15.00	
Storage Coeff. (min)=		3.08 (ii)	14.14 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.27	0.08	
PEAK FLOW	(cms)=	0.12	0.13	0.233 (iii)
TIME TO PEAK	(hrs)=	12.25	12.33	12.25
RUNOFF VOLUME	(mm)=	105.61	43.42	55.85
TOTAL RAINFALL	(mm)=	107.61	107.61	107.61
RUNOFF COEFFICIENT	=	0.98	0.40	0.52

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.066    12.50    37.72
     + ID2= 2 (  0203):     1.76   0.233    12.25    55.85
       ================================================
       ID = 3 (  0001):     2.86   0.278    12.25    48.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------       (ha)     (cms)     (hrs)    (mm)
    TOTAL HYD.(ID= 1):   2.86      0.28     12.25   48.88
    ================================================
    MAJOR SYS.(ID= 2):   0.35      0.15     12.25   48.88
    MINOR SYS.(ID= 3):   2.51      0.13     12.08   48.88

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072   |   0.1150      0.0239
                         0.0280     0.0096   |   0.1230      0.0263
                         0.0570     0.0120   |   0.1310      0.0287
                         0.0720     0.0143   |   0.1380      0.0311
                         0.0850     0.0167   |   0.1450      0.0335
                         0.0960     0.0191   |   0.1520      0.0359
                         0.1060     0.0215   |   0.1970      0.0360

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)    2.506      0.127     12.08      48.88
   OUTFLOW: ID= 1 (  0003)    2.506      0.108     12.83      46.00

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 84.70
                 TIME SHIFT OF PEAK FLOW        (min)= 45.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0220

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.35   0.151    12.25    48.88
     + ID2= 2 (  0003):     2.51   0.108    12.83    46.00
       ================================================
       ID = 3 (  0004):     2.86   0.233    12.25    46.36

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.233    12.25    46.36
     + ID2= 2 (  0005):     4.99   0.265    12.50    38.35
       ================================================
       ID = 3 (  0006):     7.85   0.432    12.42    41.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
===============

      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
       V  V    I      SS   U   U  A   A  L
        VV     I    SSSSS  UUUUU  A   A  LLLLL

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\541ef274-ef17-4302-b9bc-64f0c3a2927b\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\541ef274-ef17-4302-b9bc-64f0c3a2927b\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:


COMMENTS: _____________________________________________________


--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : SCS_24hr_100yr                **
  ***********************************************


-------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8aca5f92
| Ptotal=119.47 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.39 | 12.75   17.21 | 19.00    2.15
                0.50    1.20 |  6.75    2.39 | 13.00    8.84 | 19.25    2.15
                0.75    1.20 |  7.00    2.39 | 13.25    8.84 | 19.50    2.15
                1.00    1.20 |  7.25    2.39 | 13.50    1.67 | 19.75    2.15
```

1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15
1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43
2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43
2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43
3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43
4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43
4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

CALIB			
NASHYD (0201)	Area (ha)= 3.47	Curve Number (CN)= 61.0	
ID= 1 DT= 5.0 min	Ia (mm)= 4.90	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.35		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

Unit Hyd Qpeak (cms)= 0.379

PEAK FLOW (cms)= 0.273 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 47.382
TOTAL RAINFALL (mm)= 119.468
RUNOFF COEFFICIENT = 0.397

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8aca5f92
Ptotal=119.47 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.39	12.75	17.21	19.00	2.15
0.50	1.20	6.75	2.39	13.00	8.84	19.25	2.15
0.75	1.20	7.00	2.39	13.25	8.84	19.50	2.15
1.00	1.20	7.25	2.39	13.50	1.67	19.75	2.15
1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15
1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43
2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43

2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43
3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43
4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43
4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

CALIB			
NASHYD (0204)	Area (ha)=	1.52	Curve Number (CN)= 61.0
ID= 1 DT= 5.0 min	Ia (mm)=	4.90	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.32	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

Unit Hyd Qpeak (cms)= 0.181

PEAK FLOW (cms)= 0.129 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 47.377
TOTAL RAINFALL (mm)= 119.468
RUNOFF COEFFICIENT = 0.397

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8aca5f92
Ptotal=119.47 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.39	12.75	17.21	19.00	2.15
0.50	1.20	6.75	2.39	13.00	8.84	19.25	2.15
0.75	1.20	7.00	2.39	13.25	8.84	19.50	2.15
1.00	1.20	7.25	2.39	13.50	1.67	19.75	2.15
1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15
1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43
2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43
2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43
3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43
4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43

4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

CALIB			
NASHYD (0205)	Area (ha)= 3.47	Curve Number (CN)= 59.0	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.50		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

Unit Hyd Qpeak (cms)= 0.265

PEAK FLOW (cms)= 0.202 (i)
TIME TO PEAK (hrs)= 12.667
RUNOFF VOLUME (mm)= 45.028
TOTAL RAINFALL (mm)= 119.468
RUNOFF COEFFICIENT = 0.377

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0005)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0204):	1.52	0.129	12.42	47.38
+ ID2= 2 (0205):	3.47	0.202	12.67	45.03
ID = 3 (0005):	4.99	0.318	12.50	45.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8aca5f92
Ptotal=119.47 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.39	12.75	17.21	19.00	2.15
0.50	1.20	6.75	2.39	13.00	8.84	19.25	2.15
0.75	1.20	7.00	2.39	13.25	8.84	19.50	2.15
1.00	1.20	7.25	2.39	13.50	1.67	19.75	2.15
1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15
1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43

2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43
2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43
3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43
4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43
4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

CALIB					
NASHYD (0102)	Area	(ha)=	1.10	Curve Number (CN)=	59.0
ID= 1 DT= 5.0 min	Ia	(mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.37		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.079 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 45.022
TOTAL RAINFALL (mm)= 119.468
RUNOFF COEFFICIENT = 0.377

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\8aca5f92
Ptotal=119.47 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.39	12.75	17.21	19.00	2.15
0.50	1.20	6.75	2.39	13.00	8.84	19.25	2.15
0.75	1.20	7.00	2.39	13.25	8.84	19.50	2.15
1.00	1.20	7.25	2.39	13.50	1.67	19.75	2.15
1.25	1.20	7.50	2.39	13.75	1.67	20.00	2.15
1.50	1.20	7.75	2.39	14.00	9.80	20.25	2.15
1.75	1.20	8.00	2.39	14.25	9.80	20.50	1.43
2.00	1.20	8.25	2.39	14.50	3.58	20.75	1.43
2.25	2.15	8.50	3.23	14.75	3.58	21.00	1.43
2.50	1.55	8.75	3.23	15.00	3.58	21.25	1.43
2.75	1.55	9.00	3.23	15.25	3.58	21.50	1.43
3.00	1.55	9.25	3.23	15.50	3.58	21.75	1.43
3.25	1.55	9.50	3.82	15.75	3.58	22.00	1.43
3.50	1.55	9.75	3.82	16.00	3.58	22.25	1.43
3.75	1.55	10.00	4.30	16.25	3.58	22.50	1.43

4.00	1.55	10.25	4.30	16.50	2.15	22.75	1.43
4.25	1.55	10.50	5.50	16.75	2.15	23.00	1.43
4.50	1.91	10.75	5.50	17.00	2.15	23.25	1.43
4.75	1.91	11.00	7.41	17.25	2.15	23.50	1.43
5.00	1.91	11.25	7.41	17.50	2.15	23.75	1.43
5.25	1.91	11.50	11.47	17.75	2.15	24.00	1.43
5.50	1.91	11.75	11.47	18.00	2.15	24.25	1.43
5.75	1.91	12.00	49.71	18.25	2.15		
6.00	1.91	12.25	131.93	18.50	2.15		
6.25	1.91	12.50	17.21	18.75	2.15		

CALIB		
STANDHYD (0203)	Area (ha)=	1.76
ID= 1 DT= 5.0 min	Total Imp(%)=	35.00 Dir. Conn.(%)= 20.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.62	1.14
Dep. Storage	(mm)=	2.00	5.00
Average Slope	(%)=	0.50	2.00
Length	(m)=	108.32	65.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.91	12.250	131.93	18.33	2.15
0.167	0.00	6.250	1.91	12.333	17.22	18.42	2.15
0.250	0.00	6.333	2.39	12.417	17.21	18.50	2.15
0.333	1.20	6.417	2.39	12.500	17.21	18.58	2.15
0.417	1.20	6.500	2.39	12.583	17.21	18.67	2.15
0.500	1.20	6.583	2.39	12.667	17.21	18.75	2.15
0.583	1.20	6.667	2.39	12.750	17.21	18.83	2.15
0.667	1.20	6.750	2.39	12.833	8.84	18.92	2.15
0.750	1.20	6.833	2.39	12.917	8.84	19.00	2.15
0.833	1.20	6.917	2.39	13.000	8.84	19.08	2.15
0.917	1.20	7.000	2.39	13.083	8.84	19.17	2.15
1.000	1.20	7.083	2.39	13.167	8.84	19.25	2.15
1.083	1.20	7.167	2.39	13.250	8.84	19.33	2.15
1.167	1.20	7.250	2.39	13.333	1.67	19.42	2.15
1.250	1.20	7.333	2.39	13.417	1.67	19.50	2.15
1.333	1.20	7.417	2.39	13.500	1.67	19.58	2.15
1.417	1.20	7.500	2.39	13.583	1.67	19.67	2.15
1.500	1.20	7.583	2.39	13.667	1.67	19.75	2.15
1.583	1.20	7.667	2.39	13.750	1.67	19.83	2.15
1.667	1.20	7.750	2.39	13.833	9.80	19.92	2.15
1.750	1.20	7.833	2.39	13.917	9.80	20.00	2.15
1.833	1.20	7.917	2.39	14.000	9.80	20.08	2.15
1.917	1.20	8.000	2.39	14.083	9.80	20.17	2.15
2.000	1.20	8.083	2.39	14.167	9.80	20.25	2.15
2.083	2.15	8.167	2.39	14.250	9.80	20.33	1.43
2.167	2.15	8.250	2.39	14.333	3.58	20.42	1.43
2.250	2.15	8.333	3.23	14.417	3.58	20.50	1.43
2.333	1.55	8.417	3.23	14.500	3.58	20.58	1.43
2.417	1.55	8.500	3.23	14.583	3.58	20.67	1.43
2.500	1.55	8.583	3.23	14.667	3.58	20.75	1.43
2.583	1.55	8.667	3.23	14.750	3.58	20.83	1.43
2.667	1.55	8.750	3.23	14.833	3.58	20.92	1.43
2.750	1.55	8.833	3.23	14.917	3.58	21.00	1.43
2.833	1.55	8.917	3.23	15.000	3.58	21.08	1.43
2.917	1.55	9.000	3.23	15.083	3.58	21.17	1.43
3.000	1.55	9.083	3.23	15.167	3.58	21.25	1.43
3.083	1.55	9.167	3.23	15.250	3.58	21.33	1.43
3.167	1.55	9.250	3.23	15.333	3.58	21.42	1.43
3.250	1.55	9.333	3.82	15.417	3.58	21.50	1.43
3.333	1.55	9.417	3.82	15.500	3.58	21.58	1.43
3.417	1.55	9.500	3.82	15.583	3.58	21.67	1.43
3.500	1.55	9.583	3.82	15.667	3.58	21.75	1.43
3.583	1.55	9.667	3.82	15.750	3.58	21.83	1.43
3.667	1.55	9.750	3.82	15.833	3.58	21.92	1.43
3.750	1.55	9.833	4.30	15.917	3.58	22.00	1.43
3.833	1.55	9.917	4.30	16.000	3.58	22.08	1.43
3.917	1.55	10.000	4.30	16.083	3.58	22.17	1.43
4.000	1.55	10.083	4.30	16.167	3.58	22.25	1.43
4.083	1.55	10.167	4.30	16.250	3.58	22.33	1.43
4.167	1.55	10.250	4.30	16.333	2.15	22.42	1.43
4.250	1.55	10.333	5.50	16.417	2.15	22.50	1.43
4.333	1.91	10.417	5.50	16.500	2.15	22.58	1.43
4.417	1.91	10.500	5.50	16.583	2.15	22.67	1.43
4.500	1.91	10.583	5.50	16.667	2.15	22.75	1.43
4.583	1.91	10.667	5.50	16.750	2.15	22.83	1.43
4.667	1.91	10.750	5.50	16.833	2.15	22.92	1.43
4.750	1.91	10.833	7.41	16.917	2.15	23.00	1.43
4.833	1.91	10.917	7.41	17.000	2.15	23.08	1.43
4.917	1.91	11.000	7.41	17.083	2.15	23.17	1.43
5.000	1.91	11.083	7.41	17.167	2.15	23.25	1.43
5.083	1.91	11.167	7.41	17.250	2.15	23.33	1.43
5.167	1.91	11.250	7.41	17.333	2.15	23.42	1.43
5.250	1.91	11.333	11.47	17.417	2.15	23.50	1.43
5.333	1.91	11.417	11.47	17.500	2.15	23.58	1.43
5.417	1.91	11.500	11.47	17.583	2.15	23.67	1.43
5.500	1.91	11.583	11.47	17.667	2.15	23.75	1.43
5.583	1.91	11.667	11.47	17.750	2.15	23.83	1.43
5.667	1.91	11.750	11.47	17.833	2.15	23.92	1.43
5.750	1.91	11.833	49.71	17.917	2.15	24.00	1.43
5.833	1.91	11.917	49.71	18.000	2.15	24.08	1.43
5.917	1.91	12.000	49.71	18.083	2.15	24.17	1.43
6.000	1.91	12.083	131.92	18.167	2.15	24.25	1.43
6.083	1.91	12.167	131.93	18.250	2.15		

Max.Eff.Inten.(mm/hr)=		131.93	80.05	
over (min)		5.00	15.00	
Storage Coeff. (min)=		2.95 (ii)	13.28 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.28	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.13	0.16	0.273 (iii)
TIME TO PEAK	(hrs)=	12.25	12.33	12.25
RUNOFF VOLUME	(mm)=	117.47	51.46	64.65
TOTAL RAINFALL	(mm)=	119.47	119.47	119.47
RUNOFF COEFFICIENT	=	0.98	0.43	0.54

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0001)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	1.10	0.079	12.50	45.02
+ ID2= 2 (0203):	1.76	0.273	12.25	64.65
ID = 3 (0001):	2.86	0.327	12.25	57.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.33     12.25   57.10
     ==================================================
     MAJOR SYS.(ID= 2):   0.46      0.20     12.25   57.10
     MINOR SYS.(ID= 3):   2.40      0.13     12.08   57.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072   |   0.1150      0.0239
                         0.0280     0.0096   |   0.1230      0.0263
                         0.0570     0.0120   |   0.1310      0.0287
                         0.0720     0.0143   |   0.1380      0.0311
                         0.0850     0.0167   |   0.1450      0.0335
                         0.0960     0.0191   |   0.1520      0.0359
                         0.1060     0.0215   |   0.1970      0.0360

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)      2.395      0.127     12.08      57.10
   OUTFLOW: ID= 1 (  0003)      2.395      0.110     12.92      54.10

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 86.65
                 TIME SHIFT OF PEAK FLOW        (min)= 50.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0226

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-------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.46   0.200    12.25    57.10
     + ID2= 2 (  0003):     2.40   0.110    12.92    54.10
       ================================================
       ID = 3 (  0004):     2.86   0.286    12.25    54.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.286    12.25    54.58
     + ID2= 2 (  0005):     4.99   0.318    12.50    45.74
       ================================================
       ID = 3 (  0006):     7.85   0.527    12.42    48.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
==============

       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\460892bb-abd1-4adf-bdf0-1021ac6b6e17\scena
  Summary filename: C:\Users\Valdor\AppData\Local\Civica\VH5\c5d7a53e-68a7-49cd-8ccf-
f5bcedbf072b\460892bb-abd1-4adf-bdf0-1021ac6b6e17\scena


DATE: 05-29-2018                          TIME: 01:26:20

USER:


COMMENTS: _____________________________________________________


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  ***********************************************
  ** SIMULATION : TIMMINS                      **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\054db87d
| Ptotal=193.00 mm |    Comments:
-------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25   15.00 |  3.25    3.00 |  6.25   43.00 |  9.25   13.00
                0.50   15.00 |  3.50    3.00 |  6.50   43.00 |  9.50   13.00
                0.75   15.00 |  3.75    3.00 |  6.75   43.00 |  9.75   13.00
                1.00   15.00 |  4.00    3.00 |  7.00   43.00 | 10.00   13.00
                1.25   20.00 |  4.25    5.00 |  7.25   20.00 | 10.25   13.00
                1.50   20.00 |  4.50    5.00 |  7.50   20.00 | 10.50   13.00
                1.75   20.00 |  4.75    5.00 |  7.75   20.00 | 10.75   13.00
                2.00   20.00 |  5.00    5.00 |  8.00   20.00 | 11.00   13.00
                2.25   10.00 |  5.25   20.00 |  8.25   23.00 | 11.25    8.00
                2.50   10.00 |  5.50   20.00 |  8.50   23.00 | 11.50    8.00
                2.75   10.00 |  5.75   20.00 |  8.75   23.00 | 11.75    8.00
                3.00   10.00 |  6.00   20.00 |  9.00   23.00 | 12.00    8.00

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| CALIB            |
| NASHYD   (  0201)|   Area    (ha)=   3.47   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.35

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

```
                    ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083   15.00 | 3.083    3.00 | 6.083   43.00 |  9.08   13.00
0.167   15.00 | 3.167    3.00 | 6.167   43.00 |  9.17   13.00
0.250   15.00 | 3.250    3.00 | 6.250   43.00 |  9.25   13.00
0.333   15.00 | 3.333    3.00 | 6.333   43.00 |  9.33   13.00
0.417   15.00 | 3.417    3.00 | 6.417   43.00 |  9.42   13.00
0.500   15.00 | 3.500    3.00 | 6.500   43.00 |  9.50   13.00
0.583   15.00 | 3.583    3.00 | 6.583   43.00 |  9.58   13.00
0.667   15.00 | 3.667    3.00 | 6.667   43.00 |  9.67   13.00
0.750   15.00 | 3.750    3.00 | 6.750   43.00 |  9.75   13.00
0.833   15.00 | 3.833    3.00 | 6.833   43.00 |  9.83   13.00
0.917   15.00 | 3.917    3.00 | 6.917   43.00 |  9.92   13.00
1.000   15.00 | 4.000    3.00 | 7.000   43.00 | 10.00   13.00
1.083   20.00 | 4.083    5.00 | 7.083   20.00 | 10.08   13.00
1.167   20.00 | 4.167    5.00 | 7.167   20.00 | 10.17   13.00
1.250   20.00 | 4.250    5.00 | 7.250   20.00 | 10.25   13.00
1.333   20.00 | 4.333    5.00 | 7.333   20.00 | 10.33   13.00
1.417   20.00 | 4.417    5.00 | 7.417   20.00 | 10.42   13.00
1.500   20.00 | 4.500    5.00 | 7.500   20.00 | 10.50   13.00
1.583   20.00 | 4.583    5.00 | 7.583   20.00 | 10.58   13.00
1.667   20.00 | 4.667    5.00 | 7.667   20.00 | 10.67   13.00
1.750   20.00 | 4.750    5.00 | 7.750   20.00 | 10.75   13.00
1.833   20.00 | 4.833    5.00 | 7.833   20.00 | 10.83   13.00
1.917   20.00 | 4.917    5.00 | 7.917   20.00 | 10.92   13.00
2.000   20.00 | 5.000    5.00 | 8.000   20.00 | 11.00   13.00
2.083   10.00 | 5.083   20.00 | 8.083   23.00 | 11.08    8.00
2.167   10.00 | 5.167   20.00 | 8.167   23.00 | 11.17    8.00
2.250   10.00 | 5.250   20.00 | 8.250   23.00 | 11.25    8.00
2.333   10.00 | 5.333   20.00 | 8.333   23.00 | 11.33    8.00
2.417   10.00 | 5.417   20.00 | 8.417   23.00 | 11.42    8.00
2.500   10.00 | 5.500   20.00 | 8.500   23.00 | 11.50    8.00
2.583   10.00 | 5.583   20.00 | 8.583   23.00 | 11.58    8.00
2.667   10.00 | 5.667   20.00 | 8.667   23.00 | 11.67    8.00
2.750   10.00 | 5.750   20.00 | 8.750   23.00 | 11.75    8.00
2.833   10.00 | 5.833   20.00 | 8.833   23.00 | 11.83    8.00
2.917   10.00 | 5.917   20.00 | 8.917   23.00 | 11.92    8.00
3.000   10.00 | 6.000   20.00 | 9.000   23.00 | 12.00    8.00

    Unit Hyd Qpeak  (cms)=   0.379

    PEAK FLOW       (cms)=   0.237 (i)
    TIME TO PEAK    (hrs)=   7.083
    RUNOFF VOLUME    (mm)= 100.926
    TOTAL RAINFALL   (mm)= 193.000
    RUNOFF COEFFICIENT   =   0.523

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\054db87d
| Ptotal=193.00 mm |    Comments:
--------------------
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.25    15.00 |  3.25    3.00 |  6.25   43.00 |  9.25   13.00
0.50    15.00 |  3.50    3.00 |  6.50   43.00 |  9.50   13.00
0.75    15.00 |  3.75    3.00 |  6.75   43.00 |  9.75   13.00
1.00    15.00 |  4.00    3.00 |  7.00   43.00 | 10.00   13.00
1.25    20.00 |  4.25    5.00 |  7.25   20.00 | 10.25   13.00
1.50    20.00 |  4.50    5.00 |  7.50   20.00 | 10.50   13.00
1.75    20.00 |  4.75    5.00 |  7.75   20.00 | 10.75   13.00
2.00    20.00 |  5.00    5.00 |  8.00   20.00 | 11.00   13.00
2.25    10.00 |  5.25   20.00 |  8.25   23.00 | 11.25    8.00
2.50    10.00 |  5.50   20.00 |  8.50   23.00 | 11.50    8.00
2.75    10.00 |  5.75   20.00 |  8.75   23.00 | 11.75    8.00
3.00    10.00 |  6.00   20.00 |  9.00   23.00 | 12.00    8.00

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--------------------
| CALIB            |
| NASHYD   (  0204)|   Area    (ha)=   1.52   Curve Number   (CN)= 61.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.90   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.32

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                    ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083   15.00 | 3.083    3.00 | 6.083   43.00 |  9.08   13.00
0.167   15.00 | 3.167    3.00 | 6.167   43.00 |  9.17   13.00
0.250   15.00 | 3.250    3.00 | 6.250   43.00 |  9.25   13.00
0.333   15.00 | 3.333    3.00 | 6.333   43.00 |  9.33   13.00
0.417   15.00 | 3.417    3.00 | 6.417   43.00 |  9.42   13.00
0.500   15.00 | 3.500    3.00 | 6.500   43.00 |  9.50   13.00
0.583   15.00 | 3.583    3.00 | 6.583   43.00 |  9.58   13.00
0.667   15.00 | 3.667    3.00 | 6.667   43.00 |  9.67   13.00
0.750   15.00 | 3.750    3.00 | 6.750   43.00 |  9.75   13.00
0.833   15.00 | 3.833    3.00 | 6.833   43.00 |  9.83   13.00
0.917   15.00 | 3.917    3.00 | 6.917   43.00 |  9.92   13.00
1.000   15.00 | 4.000    3.00 | 7.000   43.00 | 10.00   13.00
1.083   20.00 | 4.083    5.00 | 7.083   20.00 | 10.08   13.00
1.167   20.00 | 4.167    5.00 | 7.167   20.00 | 10.17   13.00
1.250   20.00 | 4.250    5.00 | 7.250   20.00 | 10.25   13.00
1.333   20.00 | 4.333    5.00 | 7.333   20.00 | 10.33   13.00
1.417   20.00 | 4.417    5.00 | 7.417   20.00 | 10.42   13.00
1.500   20.00 | 4.500    5.00 | 7.500   20.00 | 10.50   13.00
1.583   20.00 | 4.583    5.00 | 7.583   20.00 | 10.58   13.00
1.667   20.00 | 4.667    5.00 | 7.667   20.00 | 10.67   13.00
1.750   20.00 | 4.750    5.00 | 7.750   20.00 | 10.75   13.00
1.833   20.00 | 4.833    5.00 | 7.833   20.00 | 10.83   13.00
1.917   20.00 | 4.917    5.00 | 7.917   20.00 | 10.92   13.00
2.000   20.00 | 5.000    5.00 | 8.000   20.00 | 11.00   13.00
2.083   10.00 | 5.083   20.00 | 8.083   23.00 | 11.08    8.00
2.167   10.00 | 5.167   20.00 | 8.167   23.00 | 11.17    8.00
2.250   10.00 | 5.250   20.00 | 8.250   23.00 | 11.25    8.00
2.333   10.00 | 5.333   20.00 | 8.333   23.00 | 11.33    8.00
2.417   10.00 | 5.417   20.00 | 8.417   23.00 | 11.42    8.00
2.500   10.00 | 5.500   20.00 | 8.500   23.00 | 11.50    8.00
2.583   10.00 | 5.583   20.00 | 8.583   23.00 | 11.58    8.00
2.667   10.00 | 5.667   20.00 | 8.667   23.00 | 11.67    8.00
2.750   10.00 | 5.750   20.00 | 8.750   23.00 | 11.75    8.00
2.833   10.00 | 5.833   20.00 | 8.833   23.00 | 11.83    8.00
2.917   10.00 | 5.917   20.00 | 8.917   23.00 | 11.92    8.00
3.000   10.00 | 6.000   20.00 | 9.000   23.00 | 12.00    8.00

    Unit Hyd Qpeak  (cms)=   0.181

    PEAK FLOW       (cms)=   0.105 (i)
    TIME TO PEAK    (hrs)=   7.000
    RUNOFF VOLUME    (mm)= 100.917
    TOTAL RAINFALL   (mm)= 193.000
    RUNOFF COEFFICIENT   =   0.523

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------

--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\054db87d
```

```
| Ptotal=193.00 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25   15.00 |  3.25    3.00 |  6.25   43.00 |  9.25   13.00
                0.50   15.00 |  3.50    3.00 |  6.50   43.00 |  9.50   13.00
                0.75   15.00 |  3.75    3.00 |  6.75   43.00 |  9.75   13.00
                1.00   15.00 |  4.00    3.00 |  7.00   43.00 | 10.00   13.00
                1.25   20.00 |  4.25    5.00 |  7.25   20.00 | 10.25   13.00
                1.50   20.00 |  4.50    5.00 |  7.50   20.00 | 10.50   13.00
                1.75   20.00 |  4.75    5.00 |  7.75   20.00 | 10.75   13.00
                2.00   20.00 |  5.00    5.00 |  8.00   20.00 | 11.00   13.00
                2.25   10.00 |  5.25   20.00 |  8.25   23.00 | 11.25    8.00
                2.50   10.00 |  5.50   20.00 |  8.50   23.00 | 11.50    8.00
                2.75   10.00 |  5.75   20.00 |  8.75   23.00 | 11.75    8.00
                3.00   10.00 |  6.00   20.00 |  9.00   23.00 | 12.00    8.00

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--------------------
| CALIB            |
| NASHYD   (  0205)|   Area    (ha)=   3.47   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083   15.00 | 3.083    3.00 | 6.083   43.00 |  9.08   13.00
               0.167   15.00 | 3.167    3.00 | 6.167   43.00 |  9.17   13.00
               0.250   15.00 | 3.250    3.00 | 6.250   43.00 |  9.25   13.00
               0.333   15.00 | 3.333    3.00 | 6.333   43.00 |  9.33   13.00
               0.417   15.00 | 3.417    3.00 | 6.417   43.00 |  9.42   13.00
               0.500   15.00 | 3.500    3.00 | 6.500   43.00 |  9.50   13.00
               0.583   15.00 | 3.583    3.00 | 6.583   43.00 |  9.58   13.00
               0.667   15.00 | 3.667    3.00 | 6.667   43.00 |  9.67   13.00
               0.750   15.00 | 3.750    3.00 | 6.750   43.00 |  9.75   13.00
               0.833   15.00 | 3.833    3.00 | 6.833   43.00 |  9.83   13.00
               0.917   15.00 | 3.917    3.00 | 6.917   43.00 |  9.92   13.00
               1.000   15.00 | 4.000    3.00 | 7.000   43.00 | 10.00   13.00
               1.083   20.00 | 4.083    5.00 | 7.083   20.00 | 10.08   13.00
               1.167   20.00 | 4.167    5.00 | 7.167   20.00 | 10.17   13.00
               1.250   20.00 | 4.250    5.00 | 7.250   20.00 | 10.25   13.00
               1.333   20.00 | 4.333    5.00 | 7.333   20.00 | 10.33   13.00
               1.417   20.00 | 4.417    5.00 | 7.417   20.00 | 10.42   13.00
               1.500   20.00 | 4.500    5.00 | 7.500   20.00 | 10.50   13.00
               1.583   20.00 | 4.583    5.00 | 7.583   20.00 | 10.58   13.00
               1.667   20.00 | 4.667    5.00 | 7.667   20.00 | 10.67   13.00
               1.750   20.00 | 4.750    5.00 | 7.750   20.00 | 10.75   13.00
               1.833   20.00 | 4.833    5.00 | 7.833   20.00 | 10.83   13.00
               1.917   20.00 | 4.917    5.00 | 7.917   20.00 | 10.92   13.00
               2.000   20.00 | 5.000    5.00 | 8.000   20.00 | 11.00   13.00
               2.083   10.00 | 5.083   20.00 | 8.083   23.00 | 11.08    8.00
               2.167   10.00 | 5.167   20.00 | 8.167   23.00 | 11.17    8.00
               2.250   10.00 | 5.250   20.00 | 8.250   23.00 | 11.25    8.00
               2.333   10.00 | 5.333   20.00 | 8.333   23.00 | 11.33    8.00
               2.417   10.00 | 5.417   20.00 | 8.417   23.00 | 11.42    8.00
               2.500   10.00 | 5.500   20.00 | 8.500   23.00 | 11.50    8.00
               2.583   10.00 | 5.583   20.00 | 8.583   23.00 | 11.58    8.00
               2.667   10.00 | 5.667   20.00 | 8.667   23.00 | 11.67    8.00
               2.750   10.00 | 5.750   20.00 | 8.750   23.00 | 11.75    8.00
               2.833   10.00 | 5.833   20.00 | 8.833   23.00 | 11.83    8.00
               2.917   10.00 | 5.917   20.00 | 8.917   23.00 | 11.92    8.00
               3.000   10.00 | 6.000   20.00 | 9.000   23.00 | 12.00    8.00

    Unit Hyd Qpeak  (cms)=   0.265

    PEAK FLOW      (cms)=   0.208 (i)
    TIME TO PEAK   (hrs)=   7.167
    RUNOFF VOLUME   (mm)=  96.958
    TOTAL RAINFALL  (mm)= 193.000
    RUNOFF COEFFICIENT  =   0.502

    (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0005)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0204):     1.52   0.105     7.00   100.92
     + ID2= 2 (  0205):     3.47   0.208     7.17    96.96
       ================================================
       ID = 3 (  0005):     4.99   0.310     7.08    98.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\Valdor\AppD
|                  |              ata\Local\Temp\
|                  |              cccc41bc-b9d3-477f-9e1c-b31495f7ae02\054db87d
| Ptotal=193.00 mm |    Comments:
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25   15.00 |  3.25    3.00 |  6.25   43.00 |  9.25   13.00
                0.50   15.00 |  3.50    3.00 |  6.50   43.00 |  9.50   13.00
                0.75   15.00 |  3.75    3.00 |  6.75   43.00 |  9.75   13.00
                1.00   15.00 |  4.00    3.00 |  7.00   43.00 | 10.00   13.00
                1.25   20.00 |  4.25    5.00 |  7.25   20.00 | 10.25   13.00
                1.50   20.00 |  4.50    5.00 |  7.50   20.00 | 10.50   13.00
                1.75   20.00 |  4.75    5.00 |  7.75   20.00 | 10.75   13.00
                2.00   20.00 |  5.00    5.00 |  8.00   20.00 | 11.00   13.00
                2.25   10.00 |  5.25   20.00 |  8.25   23.00 | 11.25    8.00
                2.50   10.00 |  5.50   20.00 |  8.50   23.00 | 11.50    8.00
                2.75   10.00 |  5.75   20.00 |  8.75   23.00 | 11.75    8.00
                3.00   10.00 |  6.00   20.00 |  9.00   23.00 | 12.00    8.00

--------------------------------------------------------------------------------

--------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   1.10   Curve Number   (CN)= 59.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.37

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083   15.00 | 3.083    3.00 | 6.083   43.00 |  9.08   13.00
               0.167   15.00 | 3.167    3.00 | 6.167   43.00 |  9.17   13.00
               0.250   15.00 | 3.250    3.00 | 6.250   43.00 |  9.25   13.00
               0.333   15.00 | 3.333    3.00 | 6.333   43.00 |  9.33   13.00
               0.417   15.00 | 3.417    3.00 | 6.417   43.00 |  9.42   13.00
               0.500   15.00 | 3.500    3.00 | 6.500   43.00 |  9.50   13.00
               0.583   15.00 | 3.583    3.00 | 6.583   43.00 |  9.58   13.00
               0.667   15.00 | 3.667    3.00 | 6.667   43.00 |  9.67   13.00
               0.750   15.00 | 3.750    3.00 | 6.750   43.00 |  9.75   13.00
               0.833   15.00 | 3.833    3.00 | 6.833   43.00 |  9.83   13.00
               0.917   15.00 | 3.917    3.00 | 6.917   43.00 |  9.92   13.00
               1.000   15.00 | 4.000    3.00 | 7.000   43.00 | 10.00   13.00
```

1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.114

PEAK FLOW (cms)= 0.071 (i)
TIME TO PEAK (hrs)= 7.083
RUNOFF VOLUME (mm)= 96.946
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.502

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

READ STORM	Filename: C:\Users\Valdor\AppData\Local\Temp\cccc41bc-b9d3-477f-9e1c-b31495f7ae02\054db87d
Ptotal=193.00 mm	Comments:

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	15.00	3.25	3.00	6.25	43.00	9.25	13.00
0.50	15.00	3.50	3.00	6.50	43.00	9.50	13.00
0.75	15.00	3.75	3.00	6.75	43.00	9.75	13.00
1.00	15.00	4.00	3.00	7.00	43.00	10.00	13.00
1.25	20.00	4.25	5.00	7.25	20.00	10.25	13.00
1.50	20.00	4.50	5.00	7.50	20.00	10.50	13.00
1.75	20.00	4.75	5.00	7.75	20.00	10.75	13.00
2.00	20.00	5.00	5.00	8.00	20.00	11.00	13.00
2.25	10.00	5.25	20.00	8.25	23.00	11.25	8.00
2.50	10.00	5.50	20.00	8.50	23.00	11.50	8.00
2.75	10.00	5.75	20.00	8.75	23.00	11.75	8.00
3.00	10.00	6.00	20.00	9.00	23.00	12.00	8.00

CALIB STANDHYD (0203) ID= 1 DT= 5.0 min	Area (ha)= 1.76	Total Imp(%)= 35.00	Dir. Conn.(%)= 20.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.62	1.14
Dep. Storage (mm)=	2.00	5.00
Average Slope (%)=	0.50	2.00
Length (m)=	108.32	65.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

			TOTALS
Max.Eff.Inten.(mm/hr)=	43.00	35.50	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.62 (ii)	18.92 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.22	0.06	
PEAK FLOW (cms)=	0.04	0.10	0.144 (iii)
TIME TO PEAK (hrs)=	6.92	7.00	7.00
RUNOFF VOLUME (mm)=	191.00	107.41	124.12
TOTAL RAINFALL (mm)=	193.00	193.00	193.00
RUNOFF COEFFICIENT =	0.99	0.56	0.64

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD  (  0001)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0102):     1.10   0.071     7.08    96.95
     + ID2= 2 (  0203):     1.76   0.144     7.00   124.12
       ================================================
       ID = 3 (  0001):     2.86   0.215     7.00   113.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| DUHYD    (  0002)|
| Inlet Cap.= 0.127|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   2.86      0.21      7.00  113.67
     ================================================
     MAJOR SYS.(ID= 2):   0.23      0.09      7.00  113.67
     MINOR SYS.(ID= 3):   2.63      0.13      6.25  113.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
------------------
| RESERVOIR(  0003)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0072   |   0.1150      0.0239
                         0.0280     0.0096   |   0.1230      0.0263
                         0.0570     0.0120   |   0.1310      0.0287
                         0.0720     0.0143   |   0.1380      0.0311
                         0.0850     0.0167   |   0.1450      0.0335
                         0.0960     0.0191   |   0.1520      0.0359
                         0.1060     0.0215   |   0.1970      0.0360

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0002)      2.626      0.127      6.25     113.67
   OUTFLOW: ID= 1 (  0003)      2.626      0.125      9.17     110.92

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 98.70
                 TIME SHIFT OF PEAK FLOW         (min)=175.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0270

--------------------------------------------------------------------------------

------------------
| ADD HYD  (  0004)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0002):     0.23   0.088     7.00   113.67
     + ID2= 2 (  0003):     2.63   0.125     9.17   110.92
       ================================================
       ID = 3 (  0004):     2.86   0.201     7.00   111.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------

------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0004):     2.86   0.201     7.00   111.15
     + ID2= 2 (  0005):     4.99   0.310     7.08    98.16
       ========================================================
       ID = 3 (  0006):     7.85   0.504     7.00   102.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
```

APPENDIX "G"

Water Balance Calculations

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table G.1: Infiltration Trench Calculations

[1] Total Req'd Annual Infiltration Volume to Achieve Target (m^3)	Infiltration Trench Volume Provided (m^3)	[2] Req'd Design Storm Depth to Achieve Annual Infiltration Requirements (Assuming Ia=4.0 mm) (mm)	[3] Initial Abstraction (Trench Drainage Area) (mm)	Minimum Drainage Area Required to Infiltration Trenches (ha)	[4] Total Drainage Area Available to Infiltration Trenches (ha)	Total Annual Rainfall Depth (Per 1971-2000 Climate Normals for Richmond Hill) (mm)	Total Rainfall Depth Available for Infiltration Per Rainfall Analysis Assuming Ia=4.0mm (mm)	Total Actual Annual Infiltration Volume per Design (m^3)
658	71.7	15.0	4.0	0.65	1.76	735.6	315.28	**2,055**

Design Infiltration Rate	
In-Situ Measured Infiltration Rate (mm/hr):	**22.5**
Factor of Safety:	**2.5**
P, Design Soil Infiltration Rate (mm/h):	**9.0**

Maximum Allowable Depth	
P, Design Soil Infiltration Rate (mm/h):	**9.0**
T, Max. Allowable Drawdown Time (hr):	**48**
d, Max. Allowable Depth (m):	**0.43**

$$d = \frac{P \cdot T}{1000}$$ *Equation 4.2, Stormwater Management Planning and Design Manual, MOE, 2003*

Minimum Bottom Area	
V, Storage Volume Provided (m^3):	**71.7**
P, Design Soil Infiltration Rate (mm/h):	**9.0**
n, Void Ratio (clear stone):	**0.40**
Δt, Max. Drawdown Time (hr):	**48**
A, Min. Bottom Area (m^2):	**415**

$$A = \frac{1000 \cdot V}{P \cdot n \cdot \Delta t}$$ *Equation 4.3, Stormwater Management Planning and Design Manual, MOE, 2003*

Drawdown Time Based on Design Depth	
P, Design Soil Infiltration Rate (mm/h):	**9.0**
d, Design Depth (m):	**0.30**
T, Drawdown Time (hr):	**33.3**

Infiltration Trench Design

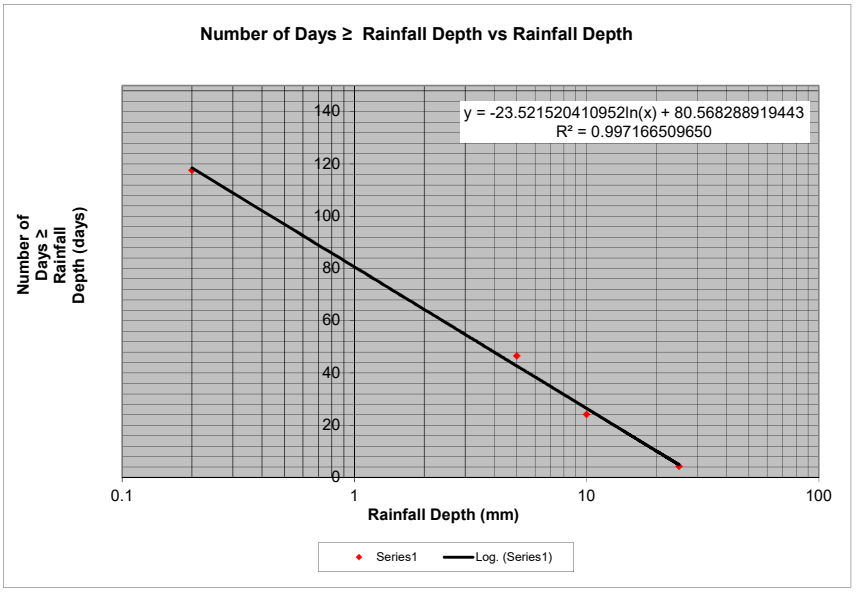
Infiltration Trench Location	Length (m)	Width (m)	Design Depth (m)	Bottom Area (m^2)	Void Ratio	Infiltration Volume (m^3)
Bioswale #1	37.0	1.20	0.30	44	0.40	5.3
Bioswale #2	64.0	1.20	0.30	77	0.40	9.2
Bioswale #3	67.0	1.20	0.30	80	0.40	9.6
Bioswale #4	30.0	1.20	0.30	36	0.40	4.3
Bioswale #5	38.0	1.20	0.30	46	0.40	5.5
Bioswale #6	52.0	1.20	0.30	62	0.40	7.5
Bioswale #7	34.0	1.20	0.30	41	0.40	4.9
Bioswale #8	45.0	1.20	0.30	54	0.40	6.5
Bioswale #9	49.0	1.20	0.30	59	0.40	7.1
Bioswale #10	32.0	1.20	0.30	38	0.40	4.6
Bioswale #11	25.0	1.20	0.30	30	0.40	3.6
Bioswale #12	25.0	1.20	0.30	30	0.40	3.6
				Total Infiltration Volume Provided (m^3):		**71.7**
				Total Bottom Area Provided (m^2):		**598**

Notes:

(1) The annual water balance infiltration deficit is 658 m3, as per the *Hydrogeological Impact Study* (Sirati & Partners Consultants Ltd., 23 April 2018).
(2) Infiltration trench volume should be sized based on the runoff generated by a 4-hr 15-mm event or smaller (SWMPDM, MOE, 2003).
(3) The area-weighted initial abstraction for *Catchment 203* is 4.0 mm (2 mm for impervious x 35% + 5 mm for lawns x 65% = 4.0 mm)
(4) Drainage area should be sufficient to provide required runoff quantity.
(3) The maximum allowable depth of the infiltration facility is based on the soil infiltrate rate and the retention time.
(4) It is feasible to convey the runoff to the infiltration facility.
(5) The seasonal high water table should be at least 1 m below the infiltration trench.

VALDOR ENGINEERING INC.
Project: Proposed Estate Residential Subdivision
File: 17122
Date: May 2018

Table G2: Rainfall Analysis



Normal Rainfall Depth (mm)	Normal Days ≥ Rainfall Depth (days)
0.2	117.6
5	46.5
10	24.1
25	4.2

Richmond Hill Climate Normals (1971 - 2000)
735.6 Normal Annual Rainfall Depth (mm)
117.6 Normal Annual Days with Rainfall (≥ 0.2 mm)
892.4 Normal Annual Precipitation Depth (mm)

Simulated Depth (mm)	Simulated Days ≥ Sim Depth (days)	Average Event Depth (mm)	Simulated Days Equal to Avg Depth (days)	Assumed IA (mm)	Runoff (Rain - IA) (mm)	INF Design Storm (mm)	Event Based Maximum Design INF Depth (mm)	Event Based Design INF Depth (mm)	Annual Incremental Design INF Depth (mm)	Annual Cumulative Design INF Depth (mm)	Annual Incremental Total Rain Depth (mm)	Annual Percent of Total Rain (%)	Annual Cumulative Total Rain Depth (mm)	Annual Cumulative Percent of Total Depth (%)
0.2	118.42													
0.5	96.87	0.2 - 0.5	21.55	**4.00**	0.00	**15.00**	11.00	0.00	0.00	0.00		0.000	0.0	0.0%
1.5	71.03	1	25.84	4.00	0.00	15.00	11.00	0.00	0.00	0.00	25.84	0.035	25.8	3.5%
2.5	59.02	2	12.02	4.00	0.00	15.00	11.00	0.00	0.00	0.00	24.03	0.033	49.9	6.8%
3.5	51.10	3	7.91	4.00	0.00	15.00	11.00	0.00	0.00	0.00	23.74	0.032	73.6	10.0%
4.5	45.19	4	5.91	4.00	0.00	15.00	11.00	0.00	0.00	0.00	23.65	0.032	97.3	13.2%
5.5	40.47	5	4.72	4.00	1.00	15.00	11.00	1.00	4.72	4.72	23.60	0.032	120.9	16.4%
6.5	36.54	6	3.93	4.00	2.00	15.00	11.00	2.00	7.86	12.58	23.58	0.032	144.4	19.6%
7.5	33.17	7	3.37	4.00	3.00	15.00	11.00	3.00	10.10	22.68	23.56	0.032	168.0	22.8%
8.5	30.23	8	2.94	4.00	4.00	15.00	11.00	4.00	11.78	34.45	23.55	0.032	191.6	26.0%
9.5	27.61	9	2.62	4.00	5.00	15.00	11.00	5.00	13.08	47.53	23.55	0.032	215.1	29.2%
10.5	25.26	10	2.35	4.00	6.00	15.00	11.00	6.00	14.12	61.66	23.54	0.032	238.6	32.4%
11.5	23.12	11	2.14	4.00	7.00	15.00	11.00	7.00	14.98	76.64	23.54	0.032	262.2	35.6%
12.5	21.16	12	1.96	4.00	8.00	15.00	11.00	8.00	15.69	92.33	23.54	0.032	285.7	38.8%
13.5	19.35	13	1.81	4.00	9.00	15.00	11.00	9.00	16.29	108.62	23.53	0.032	309.2	42.0%
14.5	17.67	14	1.68	4.00	10.00	15.00	11.00	10.00	16.81	125.43	23.53	0.032	332.8	45.2%
15.5	16.10	15	1.57	4.00	11.00	15.00	11.00	11.00	17.26	142.68	23.53	0.032	356.3	48.4%
16.5	14.63	16	1.47	4.00	12.00	15.00	11.00	11.00	16.18	158.86	23.53	0.032	379.8	51.6%
17.5	13.24	17	1.38	4.00	13.00	15.00	11.00	11.00	15.22	174.08	23.53	0.032	403.4	54.8%
18.5	11.94	18	1.31	4.00	14.00	15.00	11.00	11.00	14.38	188.46	23.53	0.032	426.9	58.0%
19.5	10.70	19	1.24	4.00	15.00	15.00	11.00	11.00	13.62	202.08	23.53	0.032	450.4	61.2%
20.5	9.52	20	1.18	4.00	16.00	15.00	11.00	11.00	12.94	215.02	23.53	0.032	473.9	64.4%
21.5	8.40	21	1.12	4.00	17.00	15.00	11.00	11.00	12.32	227.35	23.53	0.032	497.5	67.6%
22.5	7.33	22	1.07	4.00	18.00	15.00	11.00	11.00	11.76	239.11	23.53	0.032	521.0	70.8%
23.5	6.31	23	1.02	4.00	19.00	15.00	11.00	11.00	11.25	250.36	23.53	0.032	544.5	74.0%
24.5	5.33	24	0.98	4.00	20.00	15.00	11.00	11.00	10.78	261.14	23.52	0.032	568.0	77.2%
25.5	4.39	25	0.94	4.00	21.00	15.00	11.00	11.00	10.35	271.49	23.52	0.032	591.6	80.4%
26.5	3.48	26	0.90	4.00	22.00	15.00	11.00	11.00	9.95	281.44	23.52	0.032	615.1	83.6%
27.5	2.61	27	0.87	4.00	23.00	15.00	11.00	11.00	9.58	291.03	23.52	0.032	638.6	86.8%
28.5	1.77	28	0.84	4.00	24.00	15.00	11.00	11.00	9.24	300.27	23.52	0.032	662.1	90.0%
29	1.36	≥ 29	1.36	4.00	25.00	15.00	11.00	11.00	15.01	**315.28**	73.46	0.100	735.6	100.0%

HYDROGEOLOGICAL IMPACT STUDY
PROPOSED NEW SUB-DIVISION

0 MT. PLEASANT ROAD, TOWN OF CALEDON, ON.

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

Prepared For: 1029629 Ontario Inc.

5/17/2018

Project No.: SP17-212-30

which then discharges the water from the house to the sewer line or downhill away from the house, effectively protecting the structure.

12 ASSESSMENT OF POTENTIAL IMPACTS

Short-Term Discharge of Pumped Ground Water (Construction)

No short-term groundwater control system is required at the Site as no dewatering is expected at the Subject Property and hence, no environmental impacts are anticipated. Also, no well interference is expected to occur on the private water supply wells within 500 m radius around the Site.

Long-Term Discharge of Pumped Ground Water (Post Construction)

For a development of this type consisting of individual homes with independent basement dewatering systems, the issue of long-term discharge of pumped groundwater does not arise and is not a requirement.

Source Water Protection and Well Head Protection Areas.

The Subject property lies within the Palgrave municipal supply well No.3 wellhead protection area (WHPA) and within the WHPA-D (5 and 25-year time of travel zone, Figure 13-1), secondary protection zone. Also, based on the Figure 13-2, the Subject Property is situated on the low-vulnerability score area within the WHPA, in terms of groundwater vulnerability for contamination. Moreover, there is no construction dewatering activity at the Site and hence no environmental impacts, either qualitative or quantitative of any kind are expected to occur on the WHPAs and on the municipal water supplies of the area due to the property development.

13 WATER BALANCE

A preliminary water balance for the Site was calculated for both pre-development and post-development conditions in order to assess the change in overall rate of infiltration. Impermeable and permeable surfaces in pre-development and post-development plans were identified and their surface areas (as measured and cross-checked using the drawings/information provided by the client) were used for calculating the amount of run-off and infiltration. The post-development plan consists of different types of surface as listed in Table 14.1.

Table 14.1. Pre-and Post-development plan statistics for the property.

Type of Land Coverage	Pre-Development Area(ha)	Post- Development Area (ha)
Roofs	-	0.28
Roadway/Paving/Parking	-	1.26
Bioswales' Area	-	0.19
Landscape/Vegetated Area	12.28	10.55
Total	**12.28**	**12.28**

Monthly average temperature and precipitation data were obtained from Environment Canada, for Orangeville WPCP station (climate identifier: 6155790) as the nearest station located at about 8 km distance from the Property. Data was available between the years 1962 to 2006. Temporal variations of temperature and rainfall are shown in Figures 14-1 and 14-2. Long-term average annual rainfall at the Property is 725 mm.

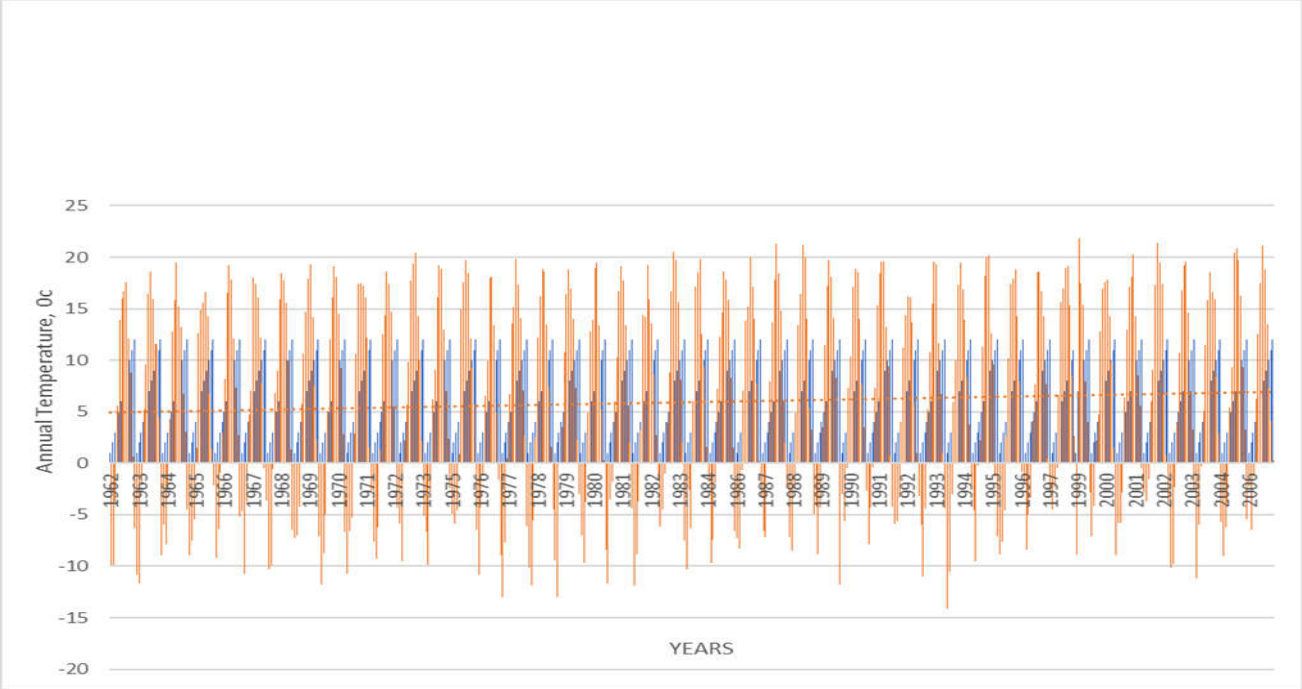


Figure 14-1 Average Annual Temperature at the Site

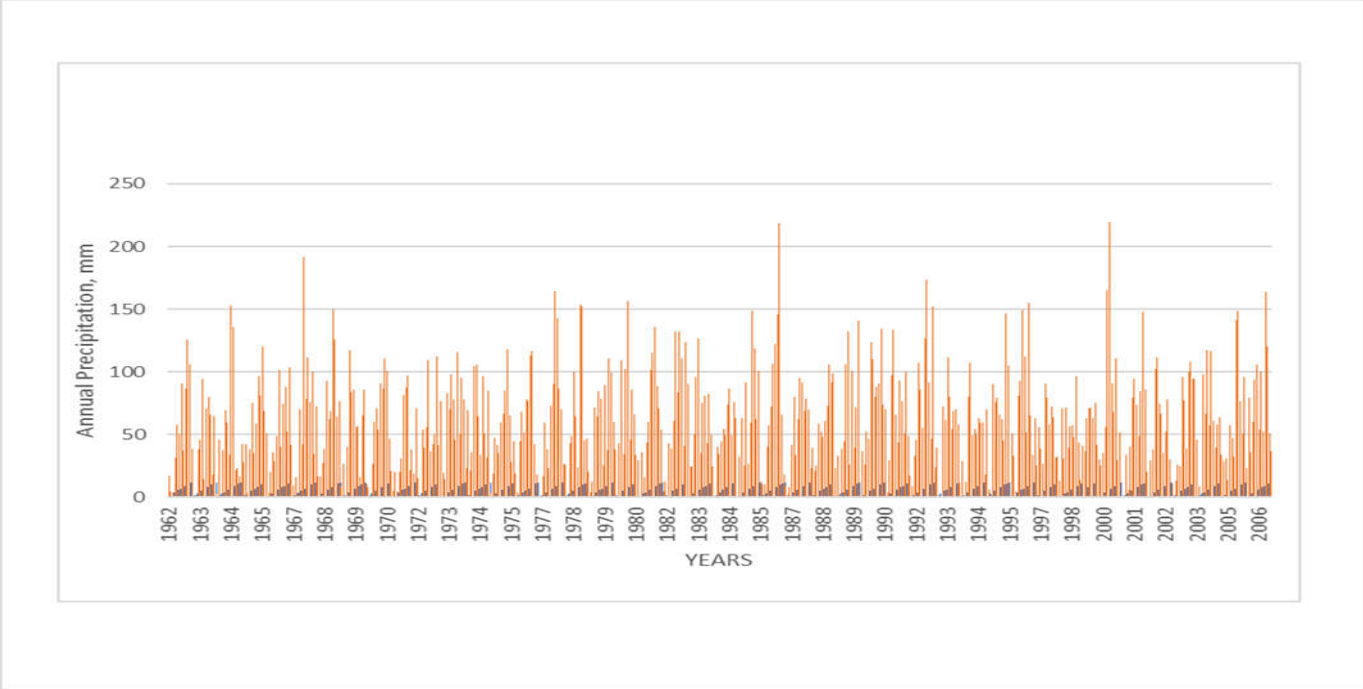


Figure 14-2 Average Annual Precipitation at the Site

Average monthly variations of both temperature and precipitation were calculated for the period from 1962 to 2006 and is presented below in Figures 14-3 and 14-4, respectively. The highest temperature was recorded in the month of July, while the highest rainfall was in the month of August.

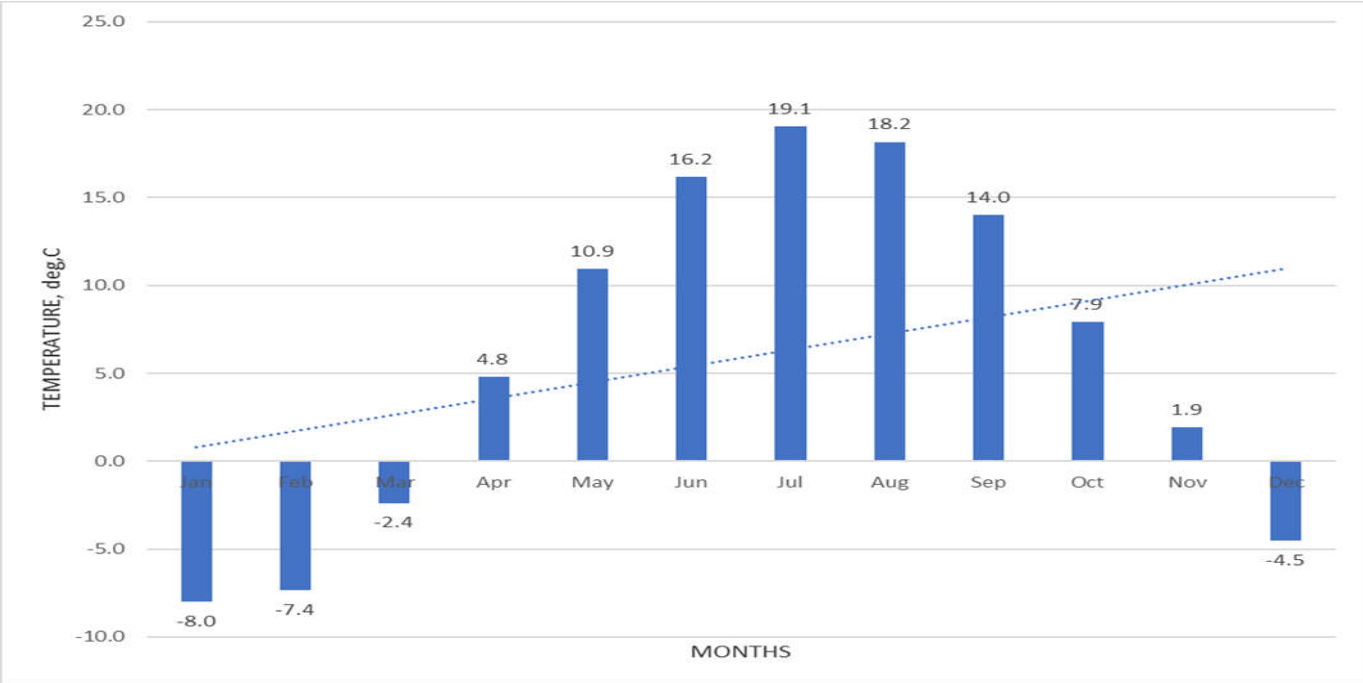


Figure 14-3 Average Monthly Temperature at the Site

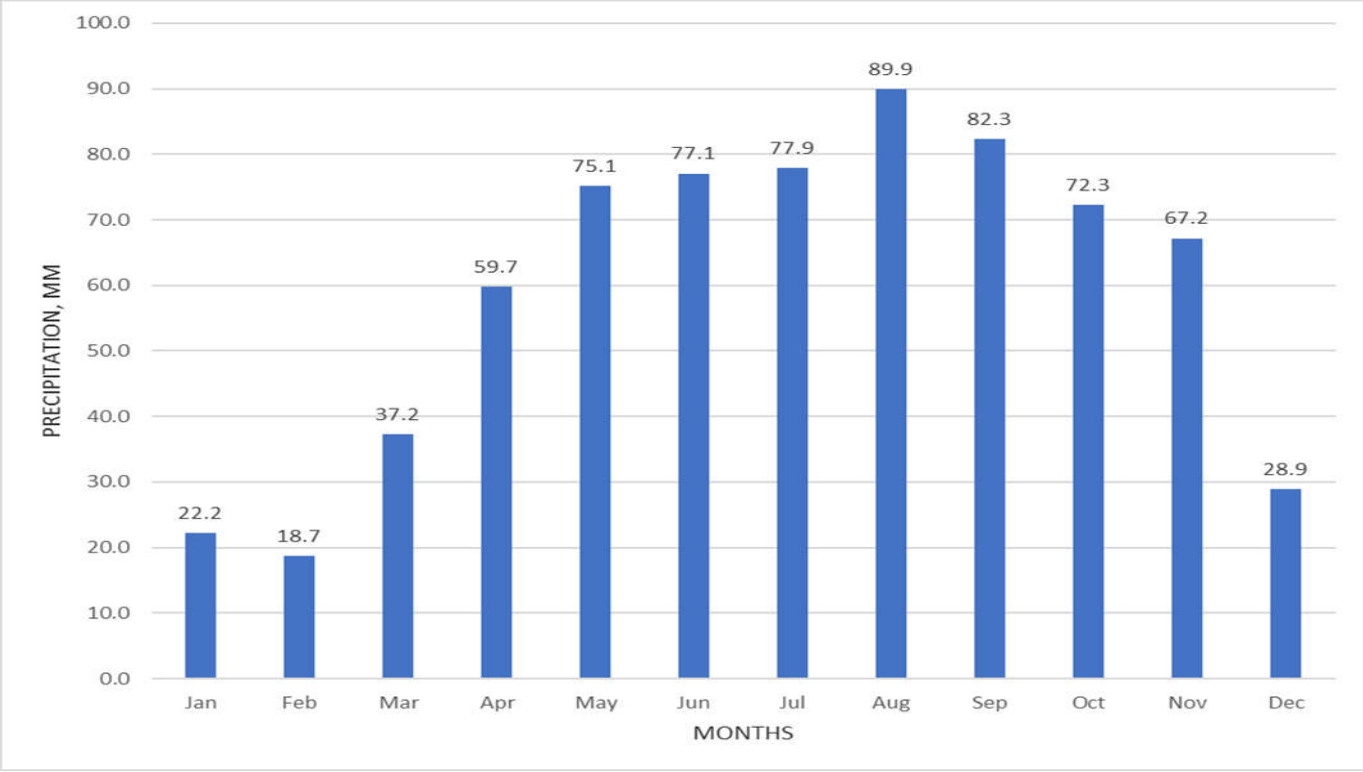


Figure 14-4 Average Monthly Precipitation at the Site

Table 14.2 Pre- and Post Development Water Balance Calculation.

Pre-Development	Area	Precipitation	Evapotrans-piration	Precipitation	Evapotrans-piration	Runoff	Infiltration
	(m^2)	(mm)	(mm)	(m^3)	(m^3)	(m^3)	(m^3)
Landscape/vegetated Areas	122800	725	529	89030	64961	4814	19255
Bioswale Area							
Roadway/Parking/Paving							
Roof Area							
Total	122800				**64961**	**4814**	**19255**
Post-Development	Area (m2)	(mm)	(mm)	**m3**	**m3**	**m3**	
Landscape/vegetated Areas	105500	725	529	76488	55810	4136	16542
Bioswale Area	1930	725	529	1399	102	0	1297
Roadway/Parking/Paving	12550	725	529	9099	5311	3030	758
Roof Area	2820	725	529	2045	1492	553	0
Total	122800				**62715**	**7718**	**18597**
Difference (-deficit, + increase) in m3/year					**-2247**	**2905**	**-658**

Note: The Precipitation and Evapotranspiration values were obtained from the Thonthwaite program run.

The client is proposing roadside bioretention swales (Figure 3-2), as per the Town's standard detail, to capture and convey road run-off. The water will flow along the length of the bioretention swale and filter through a 0.50 m deep filtration media to a 1.2 m wide by 1.2 m deep stone trench below for infiltration. Bioswales protect water quality by protecting local waterways from stormwater pollutants and reduce standing water (puddles) that can attract mosquitoes.

Potential evapotranspiration was estimated to be about 529 mm/annum using the USGS Thornthwaite Monthly Water Balance software (Appendix D) utilizing average monthly temperature and precipitation results of the preliminary water balance presented in Table 14-2, indicated about 658 m^3/annum deficit in infiltration and an increase of about 2,905 m^3/annum in run-off.

The Low Impact Development Treatment Train Tool (LID TTT) has been developed by Lake Simcoe Region Conservation Authority (LSRCA), Credit Valley Conservation (CVC) and Toronto and Region Conservation Authority (TRCA) (http://www.lsrca.on.ca/Pages/LIDTTTool.aspx) as a tool to help developers, consultants, municipalities and landowners understand and implement more sustainable stormwater management planning and design practices in their watersheds.

Accordingly, water balance was also calculated alternatively using the new Version 1.2.1 of the LID TTT and the infiltration deficit as a result of site development was calculated to be at 1,223 m^3 whereas run-off was increased by 8,900 m^3. A report generated by LIDTT Tool is presented in Appendix D.

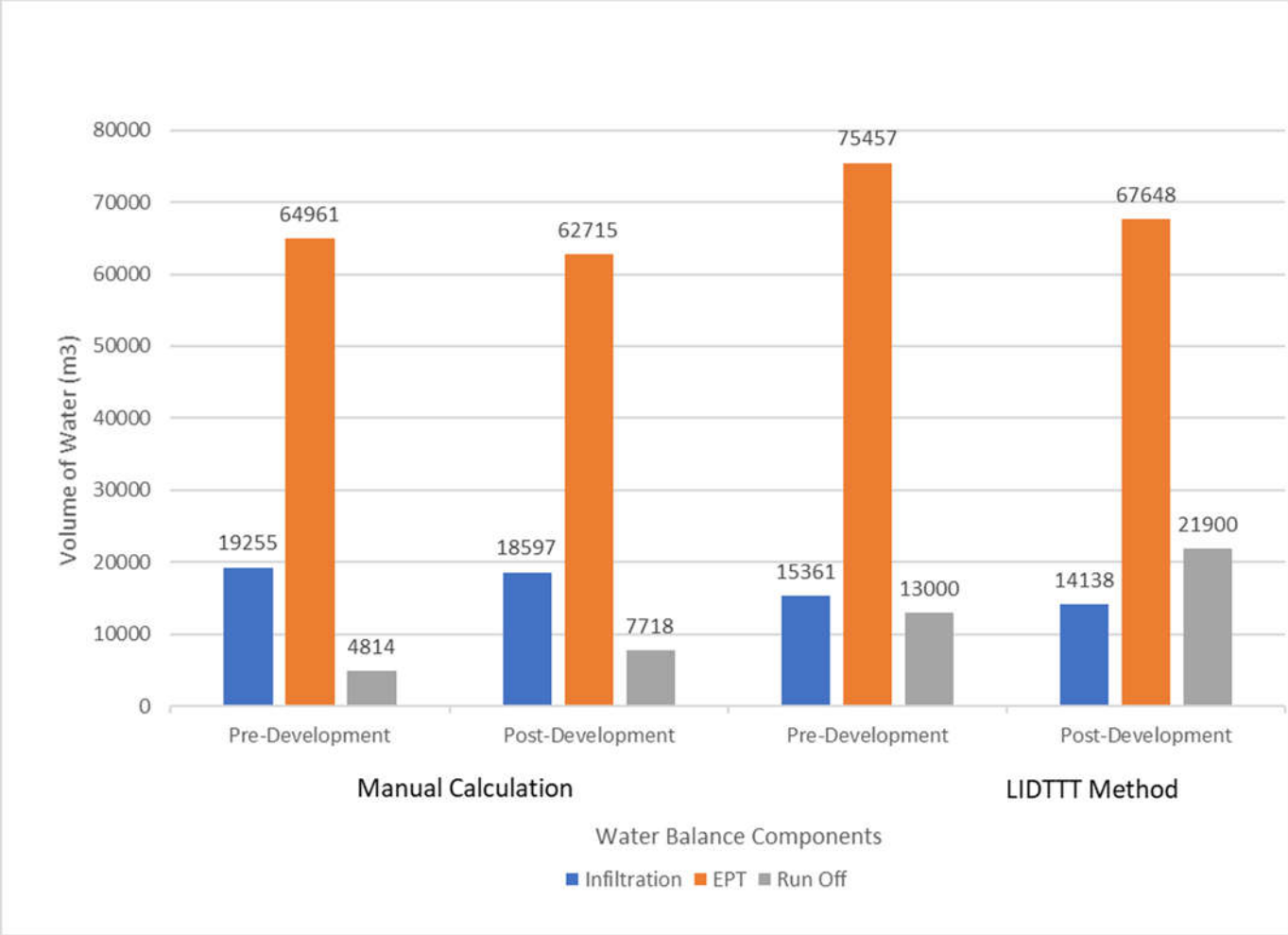


Figure 14-5. Comparison of Manual and LIDTTT Water Balance Components

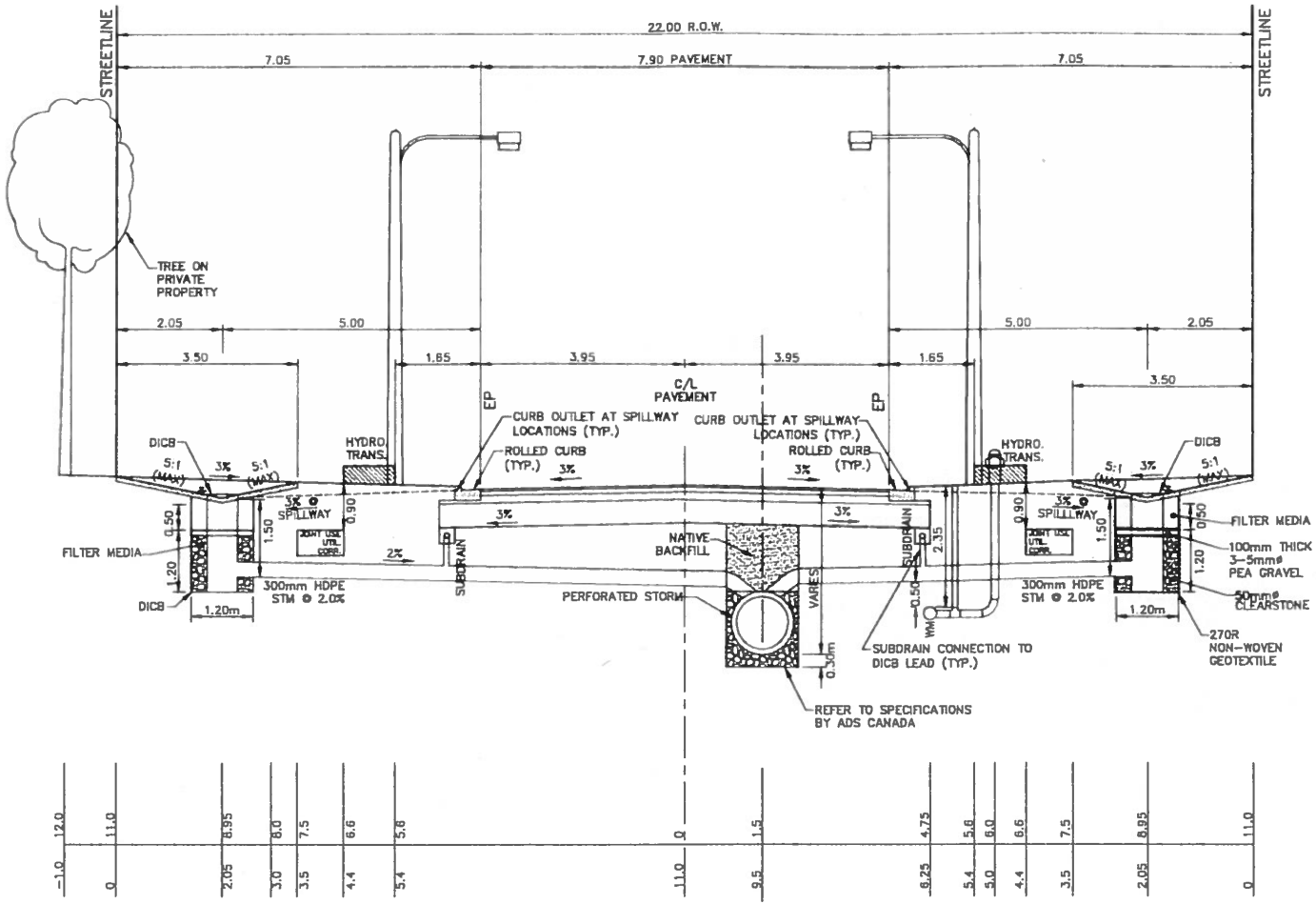
The Property mainly includes sandy silt to silty sand and clayey silt till. Appropriate low-impact development techniques can be applied to maintain the overall groundwater recharge across the Site area. The net increase in run-off provides huge potential to compensate the infiltration deficit and an opportunity for maintenance of groundwater recharge through a variety of infiltration techniques. The amount of deficit in infiltration upon development of the Site does seem to be low being about 658 m^3/annum or about 2 m^3/day.

Low Impact Development (LID) techniques are, however, recommended to be considered as part of the storm water management concept for the Site, in order to reduce the infiltration deficit. The following measures can be incorporated in the development:

- Collection of clean run-off from the building rooftops and redirection to grassed areas and overland flow.
- Use of infiltration trenches or perforated pipes at selected areas
- Provision of an extra thickness of topsoil at the Site (approximately 0.3 m) on open areas to promote water storage in surficial soil and infiltration.
- Provision of gradual slopes to open areas and back-yards in order to allow time for roof run-off to infiltrate into the topsoil.

APPENDIX "H"

Road Details



TYPICAL SECTION
22m LOCAL URBAN/RURAL
(7.9m PAVEMENT)

SCALE 1:100

NOTES:

1. UTILITY CORRIDOR TO HAVE A MINIMUM COVER OF 0.9m.
2. WATERMAIN TO HAVE MINIMUM COVER OF 2.35m.
3. THE FOLLOWING IS A MINIMUM ROAD BASE AND WILL REQUIRE A SOILS REPORT VERIFICATION
   40mm HL-3
   65mm HL-8
   150mm GRANULAR "A"
   400mm GRANULAR "B"
4. THE BOULEVARDS REQUIRE A MINIMUM OF 300mm OF TOPSOIL AND NURSERY SOD.
5. FILTER MEDIA COMPOSITION
   FILTER SOIL MIXTURES TO CONTAIN
   -85 TO 88% SAND
   - 8 TO 12% SOIL FINES
   - 3 TO 5% ORGANIC MATTER IN FORM OF LEAF COMPOST
   OTHER CRITERIA:
   - PHOSPHORUS SOIL TEST (P-INDEX) VALUE 10 TO 30 FPM
   - CATIONIC EXCHANGE CAPACITY (CEC) GREATER THAN 10 MEQ/100G
   - PH BETWEEN 5.5 TO 7.5
   CLEAR STONE.
   - WASHED 50MM DIAMETER CLEAR STONE SHOULD BE USED AND FOR THE GRAVEL STORAGE LAYER. WASHED 3 TO 10MM DIAMETER PEA GRAVEL CHOKING LAYER.
6. TREES TO BE PLACED IN LOCATIONS PER APPROVED LANDSCAPE PLAN.
7. STREETLIGHT FIXTURE PER APPROVED TOWN STANDARD.
8. ON A CRESCENT THE WATERMAIN SHALL BE PLACED ON THE OUTSIDE.
9. FULL LENGTH MINIMUM 100mm DIA. SUB-DRAINS C/W FILTERCLOTH SHALL BE INSTALLED AS PER TOWN OF CALEDON APPROVED STANDARDS No.218.
10. SUB-GRADE SHALL BE COMPACTED TO A MINIMUM 95% OF S.P.D. AT OPTIMUM MOISTURE CONTENT.
11. WHERE POSSIBLE MANHOLE LIDS TO BE LOCATED OUT OF TIRE LANE TRAFFIC.

NOTE:

1. TEMPORARY ASPHALT CURB OUTLET SHALL BE CONSTRUCTED AND MAINTAINED UNTIL TOP OF ASPHALT IS PLACED ON THE ROAD.

APPENDIX "I"

Excerpts from Preliminary Geotechnical Investigation

REPORT ON
PRELIMINARY GEOTECHNICAL INVESTIGATION
PROPOSED NEW SUBDIVISION
MOUNT PLEASANT ROAD
CALEDON, ONTARIO

Prepared for:

1029629 ONTARIO INC.

Prepared By:

SIRATI & PARTNERS CONSULTANTS LIMITED

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

Project: SP17-212-10
July 21, 2017

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Fax: 905.669.4488

flight auger equipment by a drilling sub-contractor under the direction and supervision of SPCL personnel. Samples were retrieved at regular intervals with a 50 mm O.D. split-barrel sampler driven with a hammer weighing 624 N and dropping 760 mm in accordance with the Standard Penetration Test (SPT) method. The samples were logged in the field and returned to the SPCL laboratory for detailed examination by the project engineer and for laboratory testing.

In addition to visual examination in the laboratory, all soil samples were tested for moisture content. Selected three soil samples were subjected to grain size analyses and gradation curves are presented in Figure 12.

Water level observations were made during drilling and in the open boreholes at the completion of the drilling operations. Monitoring wells were installed in five (5) boreholes (BH1, BH2, BH4, BH6 and BH8) for the long-term (stabilized) groundwater level monitoring.

The elevations at the borehole locations were surveyed by an SPCL personnel using differential GPS system and varied from 290.9 to 297.7m.

3. SITE AND SUBSURFACE CONDITIONS

The borehole location plan is shown in Drawing 1. Notes on soil descriptions are presented in Drawing 1A. The subsurface conditions in the boreholes are presented in the individual borehole logs (Encl. 2 to 9 inclusive). Generalized sub-surface profiles are presented on Drawings 10 and 11. The subsurface conditions in the boreholes are summarized in the following paragraphs.

3.1 SOIL CONDITIONS:

Topsoil/Fill Material: A 150 mm to 500 mm thick surficial layer of topsoil was found at all borehole locations, except BH5. The thickness of the topsoil in each borehole was shown in the borehole log. It should be noted that the thickness of the topsoil explored at the borehole locations may not be representative for the entire site and should not be relied on to calculate the amount of topsoil at the site.

Below the topsoil, fill material was encountered in boreholes BH1, BH4, BH6, BH7, and BH8, extending to depths ranging from 0.8 m to 1.6 m. The fill material mainly consisted of sand, silty sand, and sandy silt with trace to some inclusions of topsoil. The measured SPT 'N' values in the fill material ranged from 2 to 7 blows for 300mm penetration, indicating its very loose to loose state.

Sand to Silty Sand: The native soil underlying the fill material in all boreholes consisted of cohesionless soils of sand and silty sand. The layer was found to be in a loose to dense state, with measured SPT 'N' values ranging from 2 to 41 blows per 300 mm penetration. The layer was not fully penetrated in BH1 and BH3.

Grain size analysis of one (1) sand sample (BH1/SS5) was conducted and the results are presented in Figure 12, with the following fractions:

Clay: 2%
Silt: 2%
Sand: 96%

Silt to Sandy Silt: A water bearing silt to sandy silt deposit was observed underlying the above-mentioned sand to silty sand deposit in BH2, BH4, BH5, and BH6, and overlain by a layer of silty clay to clayey silt deposits in BH8. This deposit was found to be in a compact to dense state, with measured SPT 'N' values ranging from 13 to 42 blows per 300 mm penetration. The layer was not fully penetrated in BH4, BH5, BH6, and BH7.

Grain size analyses of two (2) silt to sandy silt samples (BH2/SS7 and BH5/SS6) were conducted and the results are presented in Figure 12, with the following fractions:

Clay: 12 to 24%
Silt: 65 to 66%
Sand: 10 to 23%

Clayey Silt to Silty Clay: A cohesive layer of clayey silt to silty clay soils was observed in BH2 and BH8, underlying the sand to silty sand layer. The layer was found to be in a firm to stiff state, with measured SPT 'N' values ranging from 9 to 13 blows per 300 mm penetration. The layer was not fully penetrated in BH2.

3.2 GROUNDWATER CONDITIONS

During drilling (short-term), groundwater was found in the boreholes at depths ranging from 4.6 to 9.1m below the existing grade. The stabilized groundwater table observed in the monitoring wells on June 16, 2017 was at depths ranging from 4.7 to 9.8 mbgs, corresponding to Elevations ranging from 286.9 to 282.1 m, as listed on Table 1. Monitoring well installed in BH6 was found to be wet at bottom. It should be noted that the groundwater levels can vary and are subject to seasonal fluctuations in response to major weather events.

Table 1: Groundwater Levels Observed in Monitoring Wells

BH No.	Date of Drilling	Date of Observation	Depth of Groundwater (m)	Elevation of Groundwater (m)
BH1	June 2, 2017	June 16, 2017	9.8	282.1
BH2	June 1, 2017	June 16, 2017	9.6	286.2
BH4	June 1, 2017	June 16, 2017	4.7	286.9
BH6	June 1, 2017	June 16, 2017	8.2	286.9
BH8	June 2, 2017	June 16, 2017	8.8	282.1

Drawings

BH ID	Easting	Northing
1	594852.00	4869286.00
2	594760.00	4869162.00
3	594661.00	4869016.00
4	594585.00	4868883.00
5	594694.00	4868909.00
6	594787.00	4869029.00
7	594882.00	4869149.00
8	594954.00	4869253.00

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North:

Legend:

Property Boundary

BH#

BH: Borehole

Project Title:

Geotechnical Investigation

Site Location:

Mt. Pleasant Road, Caledon, ON

Figure Title:

Borehole Location Plan

Scale:	Project Number:
As Shown	SP17-212-10
Date:	**Figure Number:**
May 2017	1

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

LOG OF BOREHOLE BH1

PROJECT: Geotechnical, Environmental and Hydrogeological Services
CLIENT: 1029629 Ontario Inc.
PROJECT LOCATION: Mt Pleasent Road, Caledon, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 200mm
Date: Jun/02/2017

REF. NO.: SP17-212-10
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
291.9												
0.0 / 291.6	**TOPSOIL:** 350mm		1	SS	7							
0.4 / 291.1	**FILL:** silty sand, trace clay, trace rootlets, brown, moist, loose											
1 0.8	**SAND:** trace silt, trace gravel, brown, moist, very loose		2	SS	3		291					
			3	SS	2		290					
2			4	SS	2							
3			5	SS	4		289					0 96 2 2
4			6	SS	2		288					
5							287					
6	compact below 6.1m		7	SS	12		286					
7							285					
8			8	SS	22		284					
9	very moist to wet below 9.1m		9	SS	17		283					
10						W. L. 282.1 m Jun 16, 2017						
11 280.7			10	SS	17		281					
11.2	**END OF BOREHOLE** Notes: 1) Monitoring well installed in the borehole upon completion. 2) Water level in monitoring well at 9.8m on June 16, 2017.											

SPCL SOIL LOG SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/5/17

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

LOG OF BOREHOLE BH2

PROJECT: Geotechnical, Environmental and Hydrogeological Services
CLIENT: 1029629 Ontario Inc.
PROJECT LOCATION: Mt Pleasant Road, Caledon, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 200mm
Date: Jun/01/2017

REF. NO.: SP17-212-10
ENCL NO.: 3

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
295.8												
295.6	**TOPSOIL:** 200mm											
0.2	**SAND:** trace silt, trace gravel, brown, moist, loose to compact		1	SS	6							
			2	SS	18		295					
			3	SS	21		294					
			4	SS	16		293					
	occasional silt seams at 3m		5	SS	20							
			6	SS	26		292					
289.7							291					
6.1	**SILT TO SANDY SILT:** trace clay, trace gravel, grey, wet, compact		7	SS	20		290					0 10 66 24
288.2							289					
7.6	**SILTY SAND:** trace clay, brown, wet, compact		8	SS	29		288					
286.7							287					
9.1	**CLAYEY SILT TO SILTY CLAY:** trace sand, occasional sand seams, greyish brown, wet, stiff		9	SS	9	▽						
							W. L. 286.2 m Jun 16, 2017					
			10	SS	13		285					
284.6												
11.2	**END OF BOREHOLE** Notes: 1) Monitoring well installed in the borehole upon completion. 2) Water level in monitoring well at 9.6m on June 16, 2017.											

SPCL SOIL LOG SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/5/17

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ ε_f=3% Strain at Failure

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

LOG OF BOREHOLE BH3

PROJECT: Geotechnical, Environmental and Hydrogeological Services
CLIENT: 1029629 Ontario Inc.
PROJECT LOCATION: Mt Pleasant Road, Caledon, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 200mm
Date: Jun/01/2017

REF. NO.: SP17-212-10
ENCL NO.: 4

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L / WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
297.7												
297.6	**TOPSOIL:** 150mm											
0.2	**SAND:** weathered/disturbed, trace silt, brown, moist, loose		1	SS	6							
296.9							297					
1 0.8	**SAND:** trace silt, brown, moist, compact occasional silt seams at 1.5m		2	SS	12							
			3	SS	23		296					
2			4	SS	27		295					
3			5	SS	24		294					
4			6	SS	25		293					
5							292					
6			7	SS	25		291					
7												
8 289.5			8	SS	26		290					
8.2	**END OF BOREHOLE** Notes: 1) Borehole dry on completion.											

SPCL SOIL LOG SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/5/17

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

LOG OF BOREHOLE BH4

PROJECT: Geotechnical, Environmental and Hydrogeological Services
CLIENT: 1029629 Ontario Inc.
PROJECT LOCATION: Mt Pleasant Road, Caledon, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 200mm
Date: Jun/01/2017

REF. NO.: SP17-212-10
ENCL NO.: 5

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
291.6												
291.6 / 0.0	**TOPSOIL:** 150mm											
291.4 / 0.2	**FILL:** silty sand, trace topsoil, dark brown, moist, very loose		1	SS	4		291					
			2	SS	3							
290.1 / 1.5	**SAND:** some silt, brown, moist, compact		3	SS	17		290					
			4	SS	26		289					
			5	SS	21							
287.0 / 4.6	**SANDY SILT:** trace clay, trace gravel, grey, wet, compact		6	SS	19	▽	288 / 287	W. L. 286.9 m Jun 16, 2017				
			7	SS	16		286 / 285					
284.0 / 7.6	**SILT:** trace sand, grey, wet, compact		8	SS	19		284					
283.4 / 8.2	**END OF BOREHOLE** Notes: 1) Monitoring well installed in the borehole upon completion. 2) Water level in monitoring well at 4.7m on June 16, 2017.											

SPCL SOIL LOG SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/5/17

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ε_f=3% Strain at Failure

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

LOG OF BOREHOLE BH5

PROJECT: Geotechnical, Environmental and Hydrogeological Services
CLIENT: 1029629 Ontario Inc.
PROJECT LOCATION: Mt Pleasant Road, Caledon, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 200mm
Date: Jun/01/2017

REF. NO.: SP17-212-10
ENCL NO.: 6

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
294.3												
0.0	**SAND:** trace silt, trace gravel, brown, moist, loose to compact		1	SS	7		294					
			2	SS	6							
							293					
			3	SS	9							
							292					
			4	SS	11							
			5	SS	13		291					
							290					
289.7												
4.6	**SANDY SILT TO SILTY SAND:** trace clay, greyish brown, moist to wet, compact		6	SS	25							0 23 65 12
							289					
			7	SS	22		288					
							287					
286.7												
7.6	**INTERBEDED SAND AND SILT:** trace clay, brown, moist, dense		8	SS	35							
286.1												
8.2	**END OF BOREHOLE** Notes: 1) Borehole open and dry on completion.											

SPCL SOIL LOG SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/5/17

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ ε_f=3% Strain at Failure

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

LOG OF BOREHOLE BH6

PROJECT: Geotechnical, Environmental and Hydrogeological Services
CLIENT: 1029629 Ontario Inc.
PROJECT LOCATION: Mt Pleasant Road, Caledon, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 200mm
Date: Jun/01/2017

REF. NO.: SP17-212-10
ENCL NO.: 7

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS / 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
295.1							
0.0 / 294.6	**TOPSOIL:** 500mm		1	SS	5		295
0.5 / 294.3	**FILL:** sandy silt, trace topsoil, brown, moist, loose						
1 0.8 / 293.5	**POSSIBLE FILL:** sand, trace silt, brown, moist, very loose		2	SS	2		294
1.6 / 292.8	**SILTY SAND:** trace clay, brown, moist, very loose		3	SS	4		293
2 2.3	**SAND:** trace silt, trace gravel, occasional silt layers, brown to greyish brown, moist to very moist, compact to dense		4	SS	25		
3			5	SS	27		292
4							291
			6	SS	34		
5							290
6							289
			7	SS	41		
7							288
287.5							
7.6 / 286.9	**SILT TO SANDY SILT:** trace clay, grey, moist, compact		8	SS	28		287
8.2	**END OF BOREHOLE**						

Notes:
1) Monitoring well installed in the borehole upon completion.

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)
REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
$+^3$, $\times^3$: Numbers refer to Sensitivity
○ $^{\varepsilon_f}$=3% Strain at Failure

SPCL SOIL LOG SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/5/17

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

LOG OF BOREHOLE BH7

PROJECT: Geotechnical, Environmental and Hydrogeological Services
CLIENT: 1029629 Ontario Inc.
PROJECT LOCATION: Mt Pleasant Road, Caledon, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 200mm
Date: Jun/02/2017

REF. NO.: SP17-212-10
ENCL NO.: 8

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
296.6												
0.0 / 296.4	**TOPSOIL:** 250mm											
0.3 / 295.8	**FILL:** sand, some silt, brown, moist, loose		1	SS	6		296					
0.9 / 295.7	**FILL:** sandy silt to silty sand mixed with topsoil, brown, moist, compact		2	SS	15							
	SAND: trace silt, trace gravel, brown to greyish brown, moist, compact		3	SS	18		295					
			4	SS	22		294					
			5	SS	33		293					
			6	SS	21		292					
			7	SS	22		291					
289.0							290					
7.6 / 288.4	**SILTY FINE SAND:** trace clay, layer of silt, brown, wet, compact		8	SS	21		289					
8.2	**END OF BOREHOLE** Notes: 1) Borehole open and water level at 7.8m during drilling.											

SPCL SOIL LOG SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/5/17

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ $^{\varepsilon}$=3% Strain at Failure

Sirati & Partners Consultants Ltd.
Geotechnical & Environmental Services
Engineering Solutions

LOG OF BOREHOLE BH8

PROJECT: Geotechnical, Environmental and Hydrogeological Services
CLIENT: 1029629 Ontario Inc.
PROJECT LOCATION: Mt Pleasant Road, Caledon, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1

DRILLING DATA
Method: Hollow Stem Augers
Diameter: 200mm
Date: Jun/02/2017

REF. NO.: SP17-212-10
ENCL NO.: 9

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
290.9							
0.0 / 290.5	**TOPSOIL:** 430mm		1	SS	8		
0.4 / 290.0	**FILL:** silty sand, trace clay, dark brown, moist, loose						
0.9 / 289.1	**SAND:** trace silt, brown, moist, very loose to compact		2	SS	4		290
1.8 / 287.9	**CLAYEY SILT TO SILTY CLAY:** trace sand, brown, moist, stiff		3	SS	11		289
			4	SS	10		
3.0	**SANDY SILT TO SILTY SAND:** trace clay, trace gravel, brown, moist, compact to dense		5	SS	13		288
			6	SS	42		287
							286
			7	SS	37		285
	wet below 7.6m						284
			8	SS	34		283
						W. L. 282.1 m Jun 16, 2017	
281.1			9	SS	25		
9.8	**END OF BOREHOLE** Notes: 1) Monitoring well installed in the borehole upon completion. 2) Water level in monitoring well at 8.8m on June 16, 2017.						

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE

PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

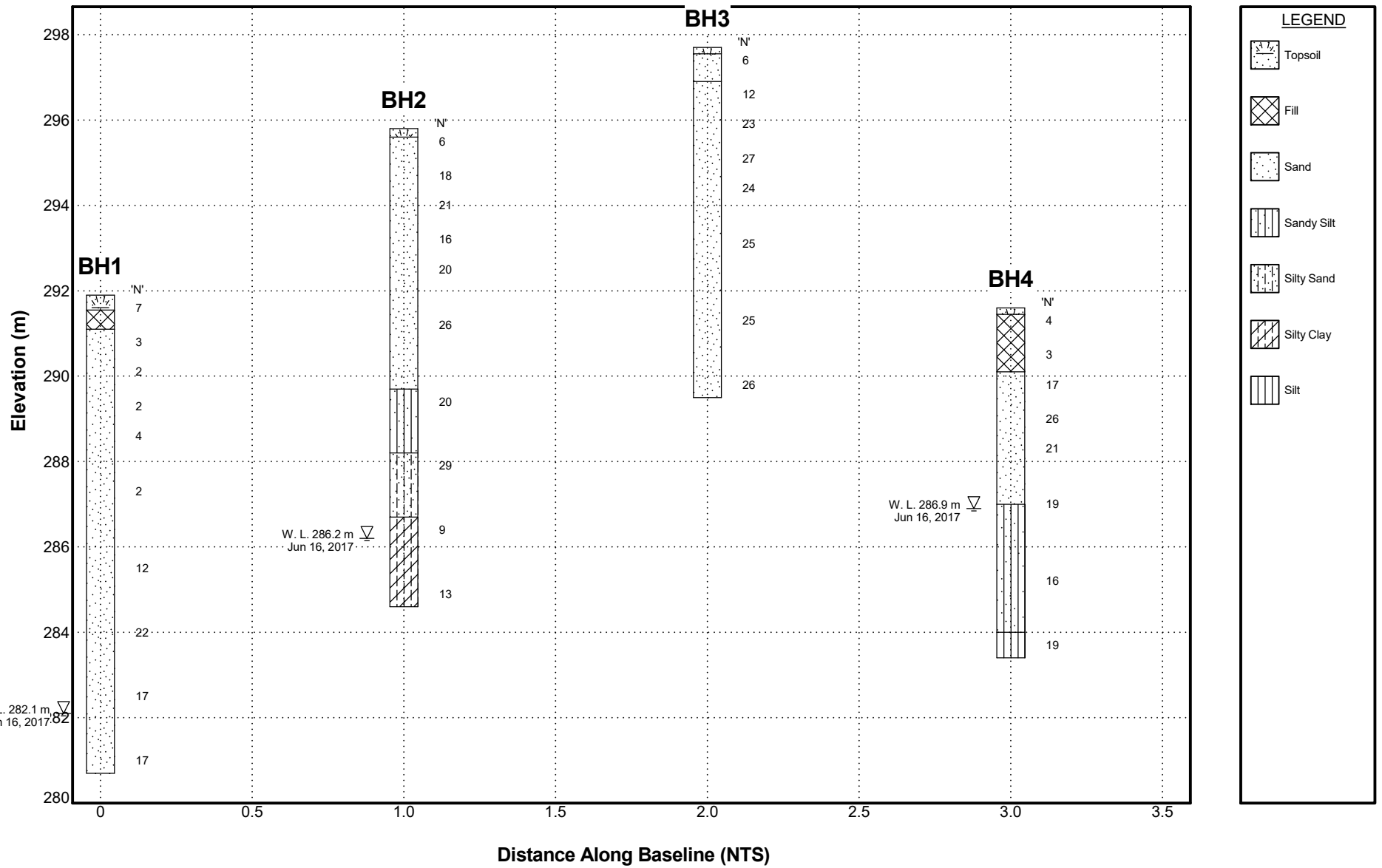
POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

SPCL SOIL LOG SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/5/17

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure



SPCL FENCE (M) SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/21/17

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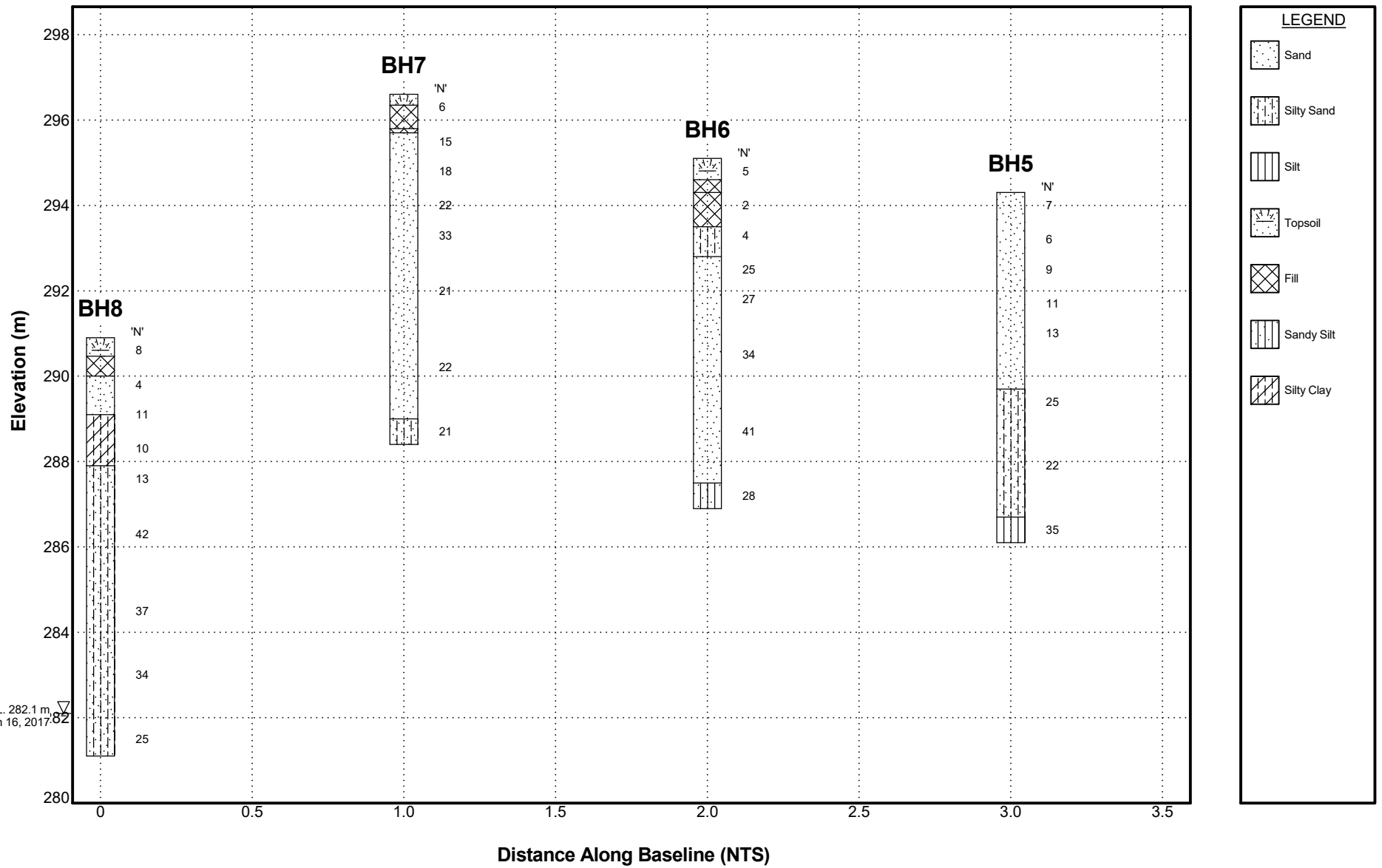
GENERALIZED SUB-SURFACE PROFILE

DRAWING NO.	10
JOB NO.	SP17-212-10
DATE	July, 2017



SPCL FENCE (M) SP17-212-10 - MOUNT PLEASANT, CALEDON.GPJ SPCL.GDT 7/21/17

Sirati & Partners Consultants Ltd.
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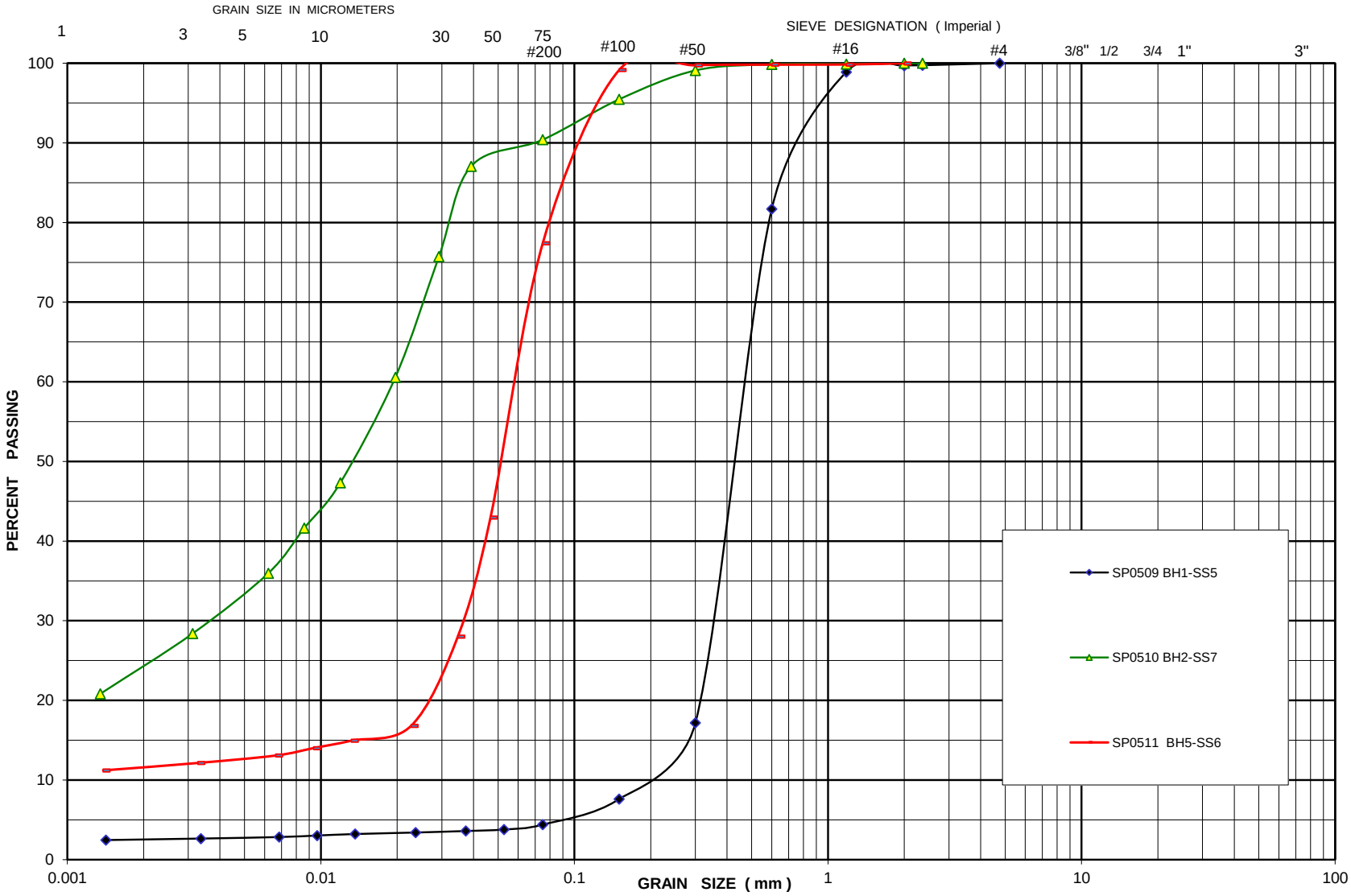
GENERALIZED SUB-SURFACE PROFILE

DRAWING NO.	11
JOB NO.	SP17-212-10
DATE	July 2017

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



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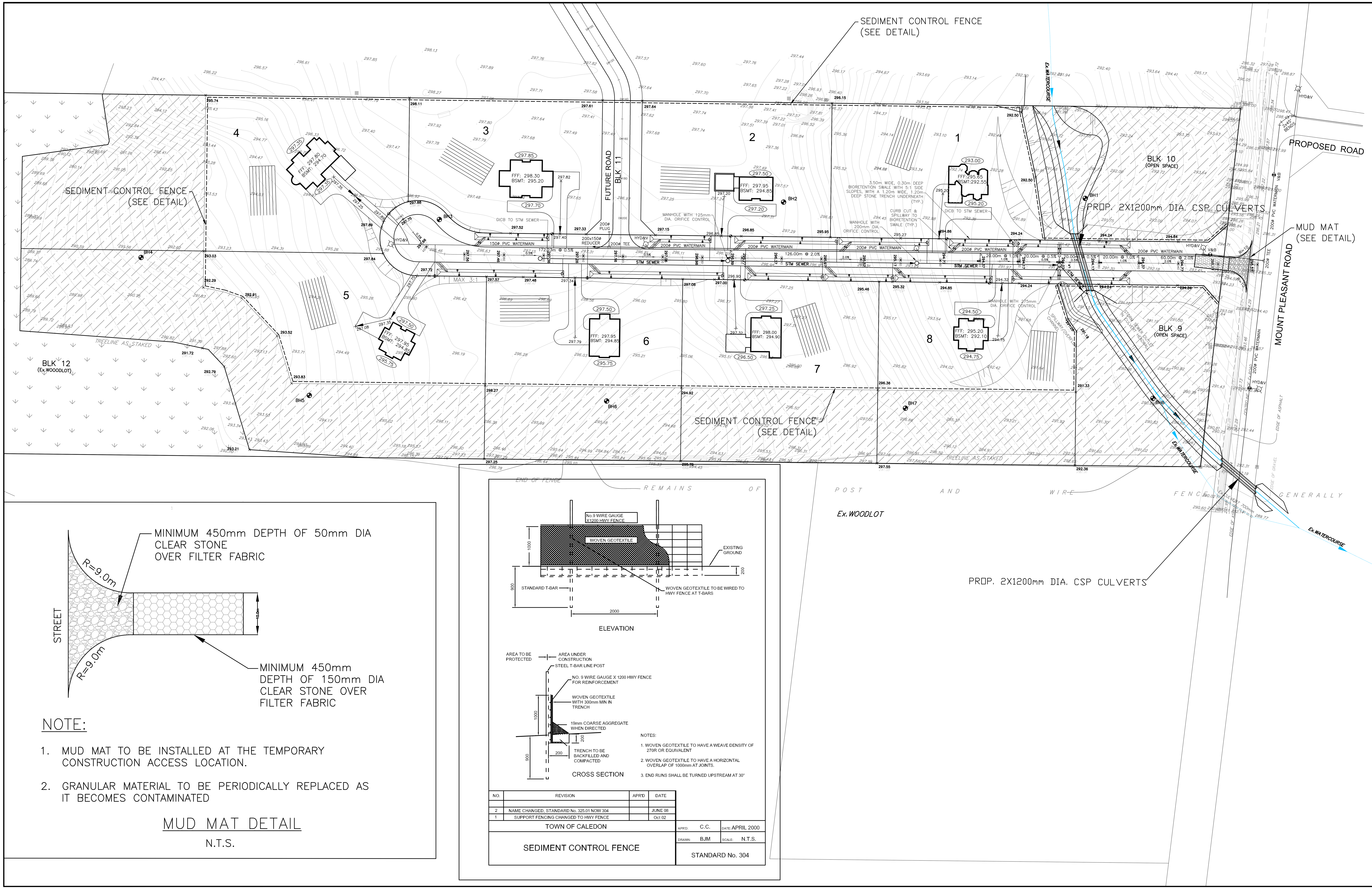
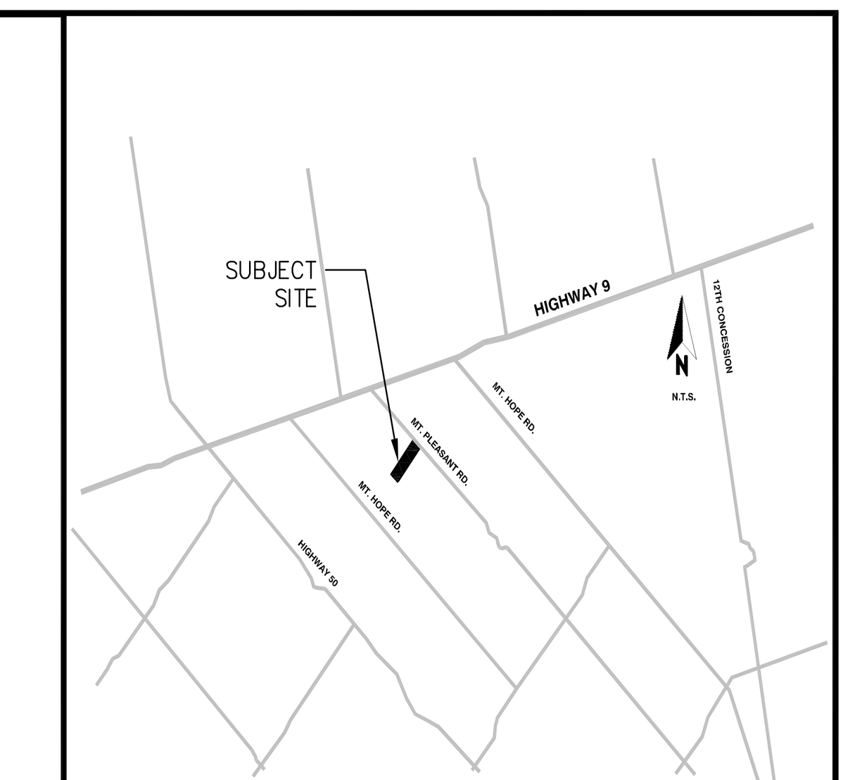
GRAIN SIZE DISTRIBUTION

Fig: 12

Project: SP17-212-10

Date: June 2017


SEDIMENT CONTROL FENCE
(SEE DETAIL)
PROP. 2X1200mm DIA. CSP CULVERTS
MUD MAT
(SEE DETAIL)
MOUNT PLEASANT ROAD
PROPOSED ROAD
FUTURE ROAD
BLK 11
BLK 10
(OPEN SPACE)
BLK 9
(OPEN SPACE)
BLK 12
(Ex.WOODLOT)
Ex.WOODLOT
Ex.WATERCOURSE
TREELINE AS STAKED
POST AND WIRE FENCE GENERALLY REMAINS OF
3.50m WIDE, 0.30m DEEP BIORETENTION SWALE WITH 5:1 SIDE SLOPES, WITH A 1.20m WIDE, 1.20m DEEP STONE TRENCH UNDERNEATH (TYP.)
CURB CUT & SPILLWAY TO BIORETENTION SWALE (TYP.)
MANHOLE WITH 200mm DIA. ORIFICE CONTROL
MANHOLE WITH 125mm DIA. ORIFICE CONTROL
MANHOLE WITH 275mm DIA. ORIFICE CONTROL
DICB TO STM SEWER
200Ø PVC WATERMAIN
150Ø PVC WATERMAIN
STM SEWER
MAX 3:1
MINIMUM 450mm DEPTH OF 50mm DIA CLEAR STONE OVER FILTER FABRIC
MINIMUM 450mm DEPTH OF 150mm DIA CLEAR STONE OVER FILTER FABRIC
R=9.0m
STREET
NOTE:
1. MUD MAT TO BE INSTALLED AT THE TEMPORARY CONSTRUCTION ACCESS LOCATION.
2. GRANULAR MATERIAL TO BE PERIODICALLY REPLACED AS IT BECOMES CONTAMINATED
MUD MAT DETAIL
N.T.S.
No.9 WIRE GAUGE X1200 HWY FENCE
WOVEN GEOTEXTILE
EXISTING GROUND
STANDARD T-BAR
WOVEN GEOTEXTILE TO BE WIRED TO HWY FENCE AT T-BARS
ELEVATION
AREA TO BE PROTECTED
AREA UNDER CONSTRUCTION
STEEL T-BAR LINE POST
NO. 9 WIRE GAUGE X 1200 HWY FENCE FOR REINFORCEMENT
WOVEN GEOTEXTILE WITH 300mm MIN IN TRENCH
19mm COARSE AGGREGATE WHEN DIRECTED
TRENCH TO BE BACKFILLED AND COMPACTED
CROSS SECTION
NOTES:
1. WOVEN GEOTEXTILE TO HAVE A WEAVE DENSITY OF 270R OR EQUIVALENT
2. WOVEN GEOTEXTILE TO HAVE A HORIZONTAL OVERLAP OF 1000mm AT JOINTS.
3. END RUNS SHALL BE TURNED UPSTREAM AT 30°
NO. REVISION APP'D DATE
2 NAME CHANGED, STANDARD No. 325.01 NOW 304 JUNE 06
1 SUPPORT FENCING CHANGED TO HWY FENCE Oct 02
TOWN OF CALEDON
SEDIMENT CONTROL FENCE
APP'D: C.C. DATE: APRIL 2000
DRAWN: BJM SCALE: N.T.S.
STANDARD No. 304



KEY PLAN
N.T.S

LEGEND:

- EXISTING ELEVATION
- EXISTING CONTOUR
- DRAINAGE FLOW DIRECTION AND SLOPE
- x 126.50 PROPOSED ELEVATION
- FFF FINISHED FIRST FLOOR ELEVATION
- BSMT BASEMENT ELEVATION
- STORM MANHOLE
- PROPOSED ELEVATION AT HOUSE
- CATCHBASIN
- VALVE AND BOX
- HYD&V
- PROP. OVERLAND FLOW DIRECTION
- WATER SERVICE CONNECTION
- ENVIRONMENTAL PROTECTION ZONE
- SEPTIC TILE BED
- SEDIMENT CONTROL FENCE
- MUD MAT

METRIC:
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METERS AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARING AND COORDINATE NOTE:

1. BEARINGS ARE GRID BEARINGS AND ARE DERIVED FROM GPS OBSERVATIONS AND ARE REFERED TO THE UTM PROJECTION, ZONE 17, NAD 83 (CSRS-2010) ADJUSTMENT.
2. DISTANCES SHOWN ON THIS PLAN ARE ADJUSTED GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY AN AVERAGED COMBINED SCALE FACTOR OF 0.999671.
3. COORDINATES ON THIS PLAN ARE UTM, ZONE 17, NAD83 (CSRS-2010) ADJUSTMENT AND ARE BASED ON GPS OBSERVATIONS FROM A NETWORK OF PERMANENT GPS REFERENCE STATIONS.

NOTE:
THIS SURVEY WAS COMPLETED ON AUGUST 3, 2017 BY VAN HARTEN SURVEYING INC.

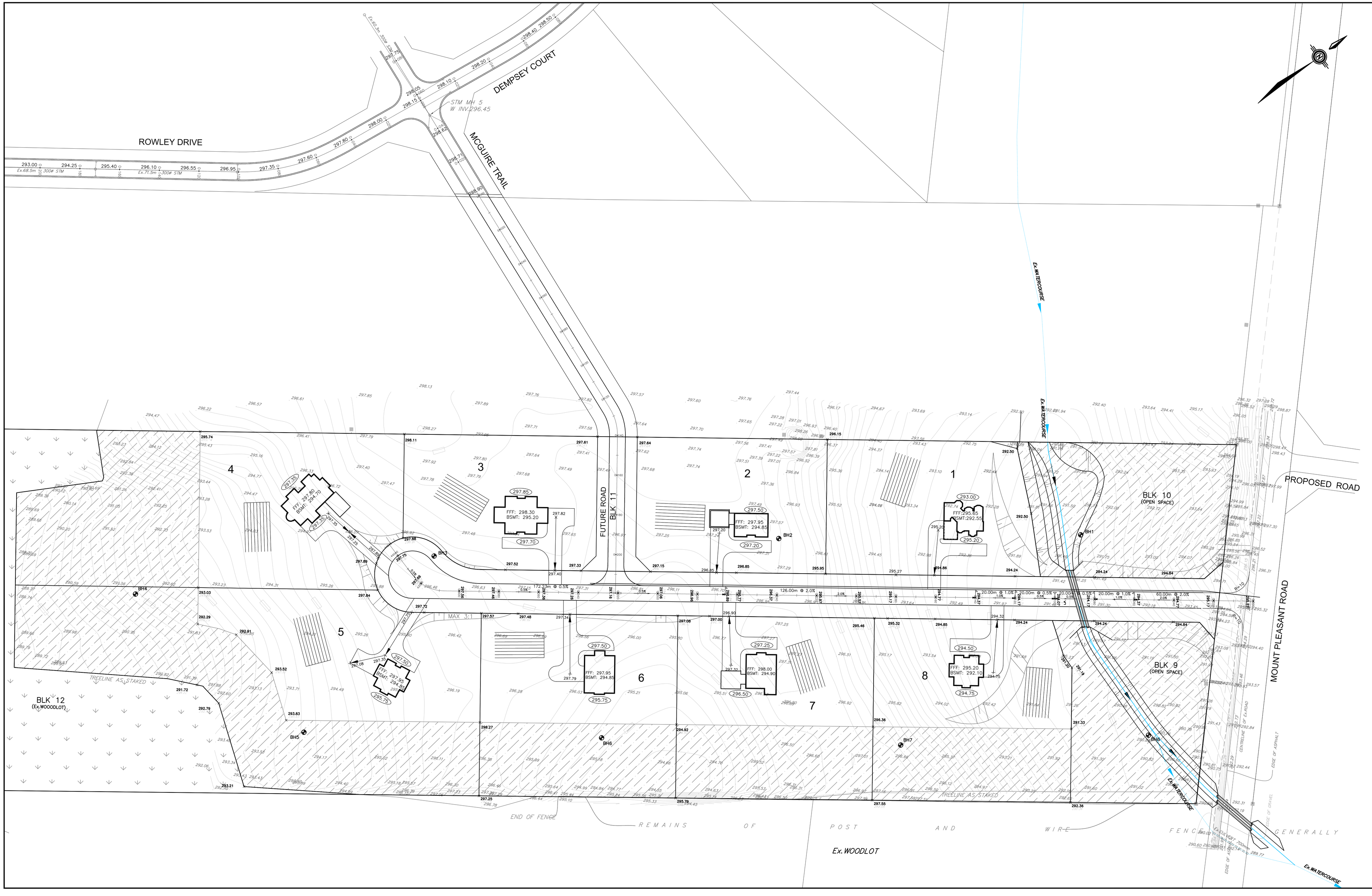
NO.	DATE	REVISIONS	BY

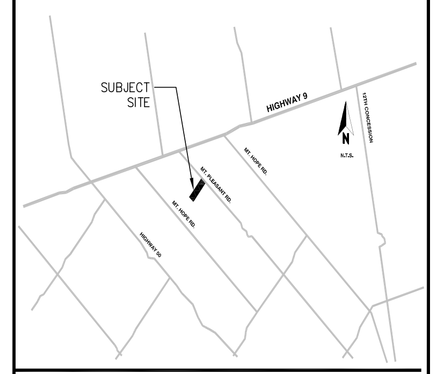
VALDOR ENGINEERING INC.
Consulting Engineers - Project Managers

ESTATE RESIDENTIAL SUBDIVISION
MOUNT PLEASANT ROAD
TOWN OF CALEDON
REGION OF PEEL

EROSION AND SEDIMENT CONTROL PLAN

SCALE:	DATE OF DWG.	PROJECT NO.
1:750	MAY 17, 2018	17122
DRAWN BY: E.T.	DRAWING NO.	
CHKD BY D.G.	ESC-1	





KEY PLAN
N.T.S

LEGEND:

+ 301.08	EXISTING ELEVATION
188.5	EXISTING CONTOUR
2%	DRAINAGE FLOW DIRECTION AND SLOPE
x 126.50	PROPOSED ELEVATION
FFF	FINISHED FIRST FLOOR ELEVATION
BSMT	BASEMENT ELEVATION
	STORM MANHOLE
297.30	PROPOSED ELEVATION AT HOUSE
	CATCHBASIN
	VALVE AND BOX
	HYD&V
	PROP. OVERLAND FLOW DIRECTION
	WATER SERVICE CONNECTION
	ENVIRONMENTAL PROTECTION ZONE
	SEPTIC TILE BED

METRIC:
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METERS AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARING AND COORDINATE NOTE:

1. BEARINGS ARE GRID BEARINGS AND ARE DERIVED FROM GPS OBSERVATIONS AND ARE REFERED TO THE UTM PROJECTION, ZONE 17, NAD 83 (CSRS–2010) ADJUSTMENT.
2. DISTANCES SHOWN ON THIS PLAN ARE ADJESTED GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY AN AVERAGED COMBINED SCALE FACTOR OF 0.999671.
3. COORDINATES ON THIS PLAN ARE UTM, ZONE 17, NAD83 (CSRS–2010) ADJUSTMENT AND ARE BASED ON GPS OBSERVATIONS FROM A NETWORK OF PERMANENT GPS REFERENCE STATIONS.

NOTE:
THIS SURVEY WAS COMPLETED ON AUGUST 3, 2017 BY VAN HARTEN SURVEYING INC.

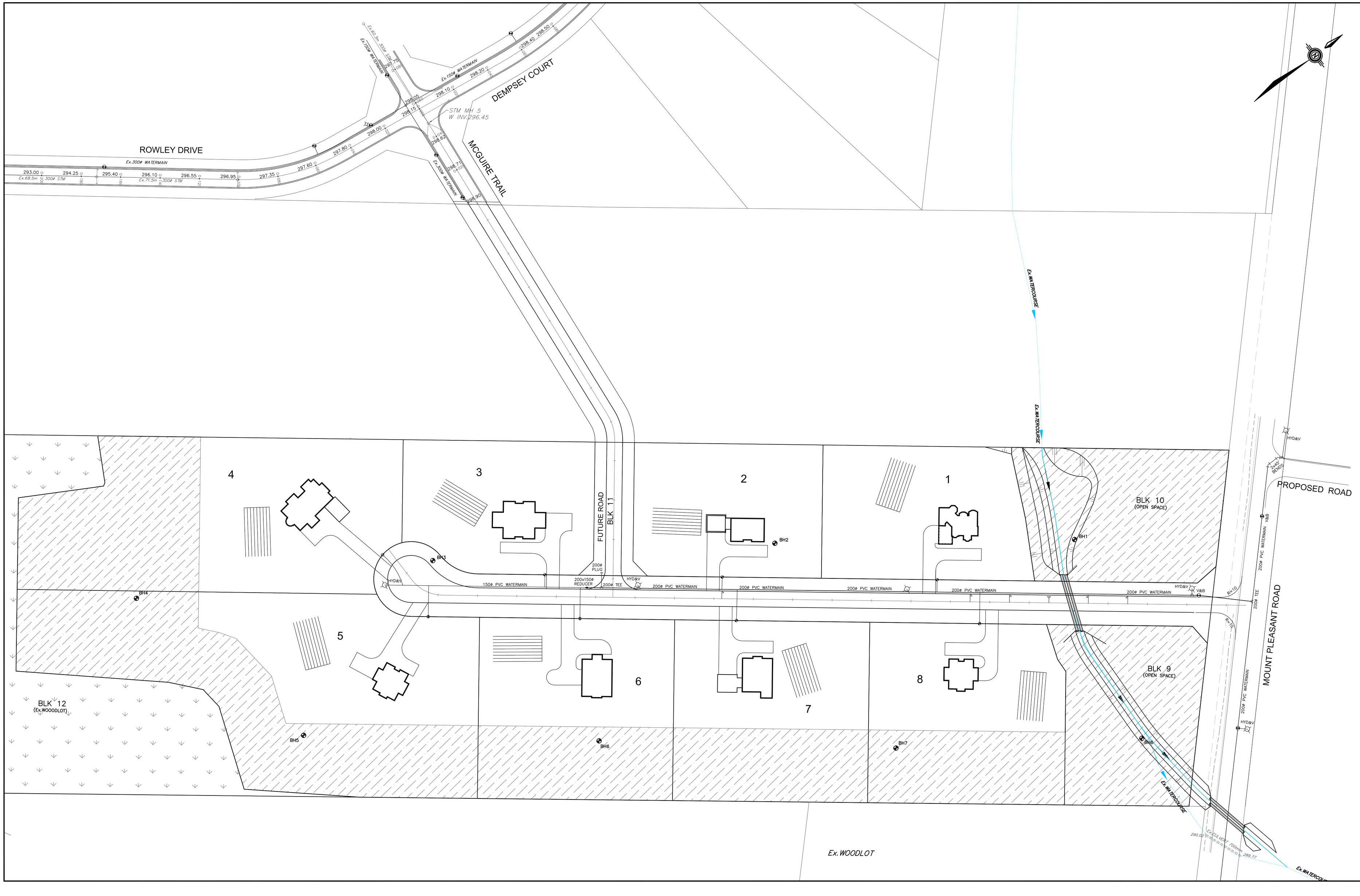
NO.	DATE	REVISIONS	BY

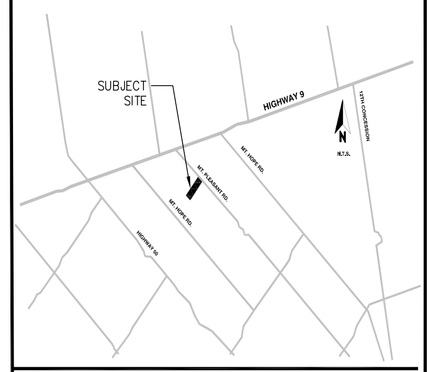
VALDOR ENGINEERING INC.
Consulting Engineers - Project Managers
741 Rowntree Dairy Road, Suite 2 Woodbridge, Ontario, L4L 8Y5
TEL (905)264-0054, FAX (905)264-0349
E-MAIL: info@valdor-engineering.com
www.valdor-engineering.com

ESTATE RESIDENTIAL SUBDIVISION
MOUNT PLEASANT ROAD
TOWN OF CALEDON
REGION OF PEEL

GRADING PLAN

SCALE:	DATE OF DWG.	PROJECT NO.
1:750	MAY 17, 2018	17122
DRAWN BY: E.T.	DRAWING NO.	
CHKD BY D.G.	PGR-1	





KEY PLAN
N.T.S

LEGEND:

- STORM MANHOLE
- VALVE AND BOX
- HYD&V
- PROP. OVERLAND FLOW DIRECTION
- WATER SERVICE CONNECTION
- ENVIRONMENTAL PROTECTION ZONE
- SEPTIC TILE BED

METRIC:
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METERS AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARING AND COORDINATE NOTE:

1. BEARINGS ARE GRID BEARINGS AND ARE DERIVED FROM GPS OBSERVATIONS AND ARE REFERED TO THE UTM PROJECTION, ZONE 17, NAD 83 (CSRS-2010) ADJUSTMENT.
2. DISTANCES SHOWN ON THIS PLAN ARE ADJESTED GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY AN AVERAGED COMBINED SCALE FACTOR OF 0.999671.
3. COORDINATES ON THIS PLAN ARE UTM, ZONE 17, NAD83 (CSRS-2010) ADJUSTMENT AND ARE BASED ON GPS OBSERVATIONS FROM A NETWORK OF PERMANENT GPS REFERENCE STATIONS.

NOTE:
THIS SURVEY WAS COMPLETED ON AUGUST 3, 2017 BY VAN HARTEN SURVEYING INC.

NO.	DATE	REVISIONS	BY

VALDOR ENGINEERING INC.
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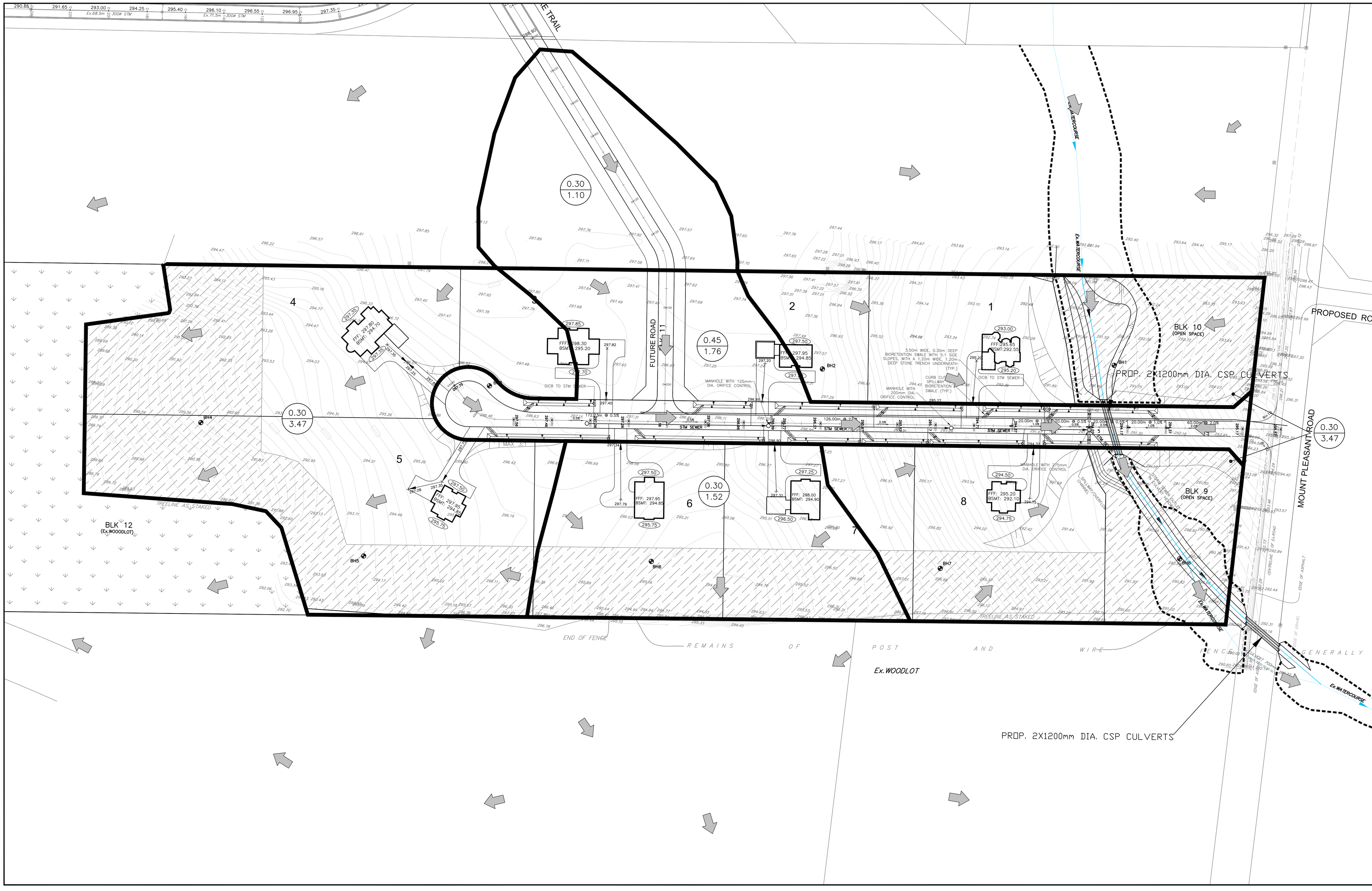
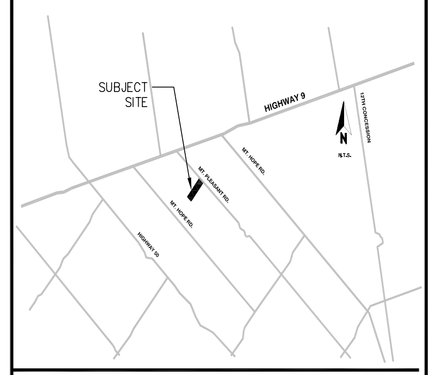
www.valdor-engineering.com

ESTATE RESIDENTIAL SUBDIVISION
MOUNT PLEASANT ROAD
TOWN OF CALEDON
REGION OF PEEL

SERVICING PLAN

SCALE:	DATE OF DWG.	PROJECT NO.
1:750	MAY 17, 2018	17122
DRAWN BY: E.T.	DRAWING NO.	
CHKD BY D.G.	PS-1	





KEY PLAN
N.T.S

LEGEND:

- 301.08 — EXISTING ELEVATION
- 188.5 — EXISTING CONTOUR
- 2% — DRAINAGE FLOW DIRECTION AND SLOPE
- × 126.50 — PROPOSED ELEVATION
- FFF — FINISHED FIRST FLOOR ELEVATION
- BSMT — BASEMENT ELEVATION
- STORM MANHOLE
- (297.35) — PROPOSED ELEVATION AT HOUSE
- CATCHBASIN
- VALVE AND BOX
- HYD&V
- PROP. OVERLAND FLOW DIRECTION
- WATER SERVICE CONNECTION
- ENVIRONMENTAL PROTECTION ZONE
- REGIONAL FLOODLINE
- DRAINAGE BOUNDARY
- 0.30 / 1.10 — RUNOFF COEFFICIENT / AREA (ha)

METRIC:
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METERS AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARING AND COORDINATE NOTE:

1. BEARINGS ARE GRID BEARINGS AND ARE DERIVED FROM GPS OBSERVATIONS AND ARE REFERED TO THE UTM PROJECTION, ZONE 17, NAD 83 (CSRS-2010) ADJUSTMENT.
2. DISTANCES SHOWN ON THIS PLAN ARE ADJESTED GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY AN AVERAGED COMBINED SCALE FACTOR OF 0.999671.
3. COORDINATES ON THIS PLAN ARE UTM, ZONE 17, NAD83 (CSRS-2010) ADJUSTMENT AND ARE BASED ON GPS OBSERVATIONS FROM A NETWORK OF PERMANENT GPS REFERENCE STATIONS.

NOTE:
THIS SURVEY WAS COMPLETED ON AUGUST 3, 2017 BY VAN HARTEN SURVEYING INC.

NO.	DATE	REVISIONS	BY

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ESTATE RESIDENTIAL SUBDIVISION
MOUNT PLEASANT ROAD
TOWN OF CALEDON
REGION OF PEEL

STORM DRAINAGE PLAN

SCALE:	DATE OF DWG.	PROJECT NO.
1:750	MAY 17, 2018	17122
DRAWN BY: E.T.	DRAWING NO.	
CHKD BY D.G.	STM-1	