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A REPORT TO
UNITED HOLDINGS INC.

PRELIMINARY HYDROGEOLOGICAL ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT

NORTHWEST QUADRANT OF MOUNT HOPE ROAD AND COLUMBIA WAY,
TOWN OF CALEDON

REFERENCE NO. 2309-W138

January 24, 2024

DISTRIBUTION

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One must understand that the mandate of Soil Engineers Ltd. is to obtain readily available current and past information pertinent to the Subject Site for a Hydrogeological Study only. No other warranty or representation, expressed or implied, as to the accuracy of the information is included or intended by this assessment. Site conditions are not static and this report documents site conditions observed at the time of the Subject Site reconnaissance.

Issues and Revisions Registry

Modification	Date	Description of issued and/or revision
1st Draft Report	December 20, 2024	For Review
2nd Draft Report	January 23, 2025	For Comments Response from Client
Final Report	January 24, 2025	For Review

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1.0 EXECUTIVE SUMMARY

United Holdings Inc. retained Soil Engineers Ltd. (SEL) to conduct a hydrogeological assessment for the property located at the northwest quadrant of the intersection of Mount Hope Road and Columbia Way in the Town of Caledon, Ontario (the Subject Site).

The Subject Site is currently a vacant land utilized as agricultural land, and it is surrounded by agricultural fields and rural residential properties.

Based on the Concept Plan and a Draft Plan provided by SGL Planning and Design Inc. dated January 23, 2025, it is understood that the proposed development will include the construction of residential lots, a Mid/High Rise Block located on the southeast, a commercial block in the southwest portions of the Subject Site along with stormwater management blocks and a park block. The proposed subdivision will also be provided with roads and municipal services.

The current investigation revealed that:

- The Subject Site lies within the physiographic region of southern Ontario known as the South Slope and the landform is identified as Till Plain (Drumlinized).
- The Subject Site is located within an area mapped as Clay to silt-textured till (derived from glaciolacustrine deposits or shale) (5d).
- The Subject Site is located within the Humber River Watershed that falls in the Toronto and Region Conservation Authority (TRCA) jurisdiction.
- The ground surface elevation ranges approximately between 257.6 metres above sea level (masl) to 263.0 masl based on ground surface elevations measured at the borehole and monitoring wells' locations.
- The subsoil investigation has revealed that beneath the topsoil veneer, and the Earth fill at the western portion of the site mainly comprises silty clay and silty clay till with interbedded layers of silty fine sand within the northwestern portion of the Subject Site.
- Based on the review of the Hydrographs and manual groundwater levels the highest and lowest stabilized shallow groundwater levels measured at El. 263.1 masl and 255.5 masl at BH/MW 12 and BH/MW 5, respectively.
- Based on the review of the Hydrographs and manual water table data, the highest and lowest stabilized surficial water tables interacting with the shallow stratigraphy measured at El. 262.1 masl and 256.3 masl at MP 1 and MP 12, respectively.
- The results of analysis for the unfiltered groundwater indicate no exceedance when compared and evaluated against the Region of Peel Sanitary and Storm Sewer Use By-Law parameters.

- Based on the review of the draft concept plan the details for the residential subdivision are not available for review at the time of preparation of this report. Therefore, the dewatering requirement and the short-term dewatering and long-term foundation drainage flow rates should be assessed once the detailed design becomes available.
- Considering the early stage of the proposed development, the construction approach, detailed design drawings and excavation phases are not available. As such, recommendations on obtaining a permit from MECP should be assessed once the data become available for review. The potential dewatering impact should be assessed, and a mitigation plan should be provided once the detailed design becomes available for the proposed development.
- Obtaining a discharge permit from the Region of Peel may be required if the potential collected discharge water during construction is proposed to be discharged to the region's sewer system.

2.0 INTRODUCTION

2.1 Site Location and Project Description

United Holdings Inc. retained Soil Engineers Ltd. (SEL) to conduct a hydrogeological assessment for the property located on the Northwest Quadrant of Mount Hope Road and Columbia Way in the Town of Caledon, Ontario (the Subject Site).

The Subject Site is currently a vacant land utilized as agricultural land and it is surrounded by agricultural fields and rural residential properties. The location of the Subject Site is shown on **Drawing 1**.

Based on the Concept Plan and a Draft Plan provided by SGL Planning and Design Inc. dated January 23, 2025, it is understood that the proposed development will include the construction of residential lots, a Mid/High Rise Block located on the southeast, a commercial block in the southwest portions of the Subject Site along with stormwater management blocks and a park block. The proposed subdivision will also be provided with roads and municipal services.

2.2 Project Objectives

The current preliminary hydrogeological assessment report presents the regional and local setting of the Subject Site. The findings of the fieldwork, including subsoil investigation, groundwater level and surface water monitoring, groundwater quality assessment and hydraulic conductivity testing are presented in the report.

Potential needs for short-term dewatering and long-term foundation drainage control will be assessed, and hydrogeological impacts of the proposed development to the nearby groundwater receptors including water supply wells, natural heritage features, and structures will be assessed (if applicable) and presented in the final hydrogeological assessment. The final hydrogeological assessment report will provide mitigation plans on the potential impacts of the proposed development to the groundwater receptors, and structures. Comments and recommendations will be provided on any needs for applying for a Permit to Take Water (PTTW) or posting Environmental Activity and Sector Registry (EASR) with the Ministry of the Environment, Conservation and Parks (MECP).

2.3 Scope of Work

The scope of work for the hydrogeological assessment is summarized below:

- *Background Review:* Available background geological and hydrogeological information for the Subject Site including topographic mapping, surface geological, natural heritage features

databases, Town of Caledon official plans, Toronto and Region Conservation Authority (TRCA) regulated area plans, and MECP water well records were reviewed.

- *Fieldwork:* Fieldwork includes inspecting the Subject Site and surrounding properties concerning the natural features, groundwater receptors, and structures, as well as installing and developing the monitoring wells. Additionally, groundwater levels within the installed monitoring wells were monitored over ten (10) monitoring events, in-situ hydraulic conductivity testing was completed within the installed monitoring wells. Additionally, one (1) set of groundwater samples was collected and submitted to a CALA laboratory to characterize groundwater quality in comparison with the Region of Peel Storm and Sanitary Sewer Use By-Law parameters.
- *Wetlands and Watercourses Monitoring Program:* Installation of piezometers and staff gauges and establishment of the surface water flow monitoring stations within the wetland areas and watercourses. The wetland monitoring program consists of the monitoring of the installed piezometers, staff gauges and flow monitoring stations over a 2-year monitoring program. Additionally, the surface water quality monitoring program for the watercourses over 2 years is proposed for the selected locations. The location of the surface water sampling is proposed based on the review of the Town of Caledon Terms of Reference for the Local Sub watershed Studies Dated May 2024.
- *Short-Term Dewatering Needs:* Based on a review of the available design drawings, findings of the current subsurface investigation, and recommendations provided in the geotechnical investigation report (if available), short-term dewatering flow rate including groundwater seepage, and anticipated water that should be collected over potential storm events will be calculated and presented in the final hydrogeological assessment report. A mitigation plan will be recommended to mitigate potential short-term dewatering impacts to the nearby groundwater receptors (including natural heritage features and water supply wells), and structures, if applicable.
- *Permit Requirements:* Considering the estimated short-term construction dewatering and long-term foundation drainage flow rates, as a part of the final hydrogeological assessment report, recommendations will be provided on any need for applying for a PTTW or posting on the EASR with the MECP, and the Town of Caledon/ Region of Peel, if required.

3.0 APPLICABLE REGULATIONS AND OFFICIAL PLANS

The regulations and policies relevant to this hydrogeological assessment and the location of the Subject Site within the official plans are summarized below.

3.1 Toronto Regional Conservation Authority (TRCA) Policies and Regulation (O. Reg. 41/24)

Under Section 28 of the Conservation Authorities Act, local conservation authorities are mandated to protect the health and integrity of the regional greenspace system and to maintain or improve the hydrological and ecological functions performed by valley and stream corridors. The TRCA, through its regulatory mandate, is responsible for issuing permits under Ontario Regulation (O. Reg.) 41/24, Development, Interference with Wetlands and Alterations to Shorelines and Watercourses for development proposal or Site alteration work to shorelines and watercourses within the regulated areas.

TRCA Regulated Area online mapping was reviewed on December 16, 2024. It is our understanding that the small area surrounding the two existing creeks or swales, which cross the Subject Site from northwest to southeast in the north portion of the Subject Site, and another originating from the southern portion of the Subject Site to the southeast boundary, falls within a TRCA Regulated Area. Therefore, it is expected that obtaining a permit from the TRCA under O. Reg. 41/24 will be necessary for the proposed development.

3.2 Clean Water Act

The MECP mandates the protection of existing and future sources of drinking water under the Clean Water Act, 2006 (CWA). Initiatives under the CWA include the delineation of Wellhead Protection Areas (WHPAs), significant groundwater recharge areas (SGRAs) and Highly Vulnerable Aquifers (HVAs) as well as the assessment of drinking water quality and quantity threats within Source Protection Regions. Source Protection Plans are developed under the CWA and include the restriction and prohibition of certain types of activities and land uses within WHPAs.

Based on a regional-scale source water protection mapping (Source Water Protection Information atlas) provided by the MECP on December 17, 2024, the Subject Site is not located within a WHPA area Q1 and Q2, issue contributing area and intake protection zone, event-based area and HVA. However Subject Site is located in the Significant Groundwater Recharge Area (SGRA)

3.3 Future Town of Caledon Official Plan

The Town of Caledon Official Plan establishes the policies to guide the development of the Town. Caledon Council on March 26, 2024, adopted the future Caledon Official Plan to shape the future of

Caledon for the next 30 years. The Future Caledon Official Plan implements the Region of Peel Official Plan (April 2022) which identifies the Mount Hope West lands as "2051 Urban Area" on Schedule E-1 (Regional Structure).

Future Caledon Official Plan maps were reviewed for the current study with the results summarized below:

- Schedule B1 (Town Structure) - A review of the map, dated March 2024, delineates the Mount Hope West lands as "Urban Area".
- Schedule B2 (Growth Management) – A review of the map, dated march 2024, delineates the Mount Hope Land as “New Urban Area 2051”.
- Schedule B4 (Land Use Designation) - A review of the map, dated March 2024, indicates that the Subject Site is located within the New Community Area.

Based on the information reviewed from the Notice of the Passing of Zoning By-Bylaw 2024-057, it is understood that the purpose and effect of By-law 2024-057 is to amend Comprehensive Zoning By-law No. 2006-50, as amended to rezone lands to provide a range of housing and land uses that aim to advance Caledon’s Housing Pledge and the prescribed provincial priority of building 1.5 million new residential units by December 2031. The town of Caledon Council in November 2024 also approved a Growth Management and Phasing Plan which identified the Mount Hope West lands as being in Phase 1 of the town's future Growth.

4.0 METHODOLOGY

4.1 Borehole Advancement, Monitoring Well and Piezometer Installation

Drilling boreholes and construction of monitoring wells were conducted for geotechnical investigation by SEL Ltd (SEL). Between September 23 and 26, 2023. The program consisted of the drilling of thirteen (13) boreholes (BH) and the installation of twelve (12) monitoring wells for geotechnical and hydrogeological assessment purposes.

Moreover, additional drilling and installation of the monitoring wells and mini piezometers (MP), and piezometer (PZ) were conducted for the hydrogeological assessment and wetland monitoring program by SEL Ltd (SEL) between May 8 and May 9, 2024. The program consisted of the drilling and installation of nine (9) monitoring wells and twelve (12) mini piezometers for wetland monitoring and hydrogeological assessment. The locations of the boreholes and monitoring wells are shown on **Drawing 2**.

Borehole drilling and monitoring well construction were completed by a licensed water well contractor, under the full-time supervision of a drilling supervisor from SEL. SEL's geotechnical/hydrogeological supervisor logged the soil strata encountered during borehole advancement and collected representative soil samples for textural classification. The boreholes were drilled using a track-mounted drill rig equipped with continuous flight, solid-stem augers. Detailed descriptions of the encountered subsoil and groundwater conditions are provided by SEL and presented on the borehole and monitoring well logs, on the enclosed **Appendix A-1 and Appendix A-2**.

The monitoring wells were constructed using 50-mm diameter Trilock pipes and 1.5 to 3.0 m long slotted well screens, which were installed in each of the selected geotechnical boreholes. All of the monitoring wells were equipped with monument protective casings above the ground surface.

The 30 mm diameter Trilock pipes and 0.6 m long slotted well screen, were installed at the selected location. The mini piezometers were installed to observe the surficial water interaction with the shallow stratigraphy at the selected locations close to the wetland and or drainage features.

The UTM coordinates and ground surface elevations at the monitoring wells and piezometer locations, as well as the construction details, are presented in **Table 4-1**. The ground surface elevations and horizontal coordinates at the monitoring wells and piezometers' locations were determined at the time of the investigation, using a TSC 3 SP 60 (Trimble) handheld Global Navigation Satellite System.

Table 4-1 Monitoring Well and Piezometer Installation Details

MW, MP, PZ ID	Installation Date	UTM Coordinates (m)		Ground El. (masl)	Screen Interval (mbgs)	Soil in the Screen Interval	Casing Dia. (mm)	Protective Casing Type
		Easting	Northing					
BH/MW 1	October 24, 2023	601146.9	4861361.0	262.5	13.8 – 16.8	Silty Clay Till	50	Monument
BH/MW 2S	October 26, 2023	601039.9	4861194.0	262.6	4.6 – 6.1	Silty Clay Till	50	Monument

MW, MP, PZ ID	Installation Date	UTM Coordinates (m)		Ground El. (masl)	Screen Interval (mbgs)	Soil in the Screen Interval	Casing Dia. (mm)	Protective Casing Type
		Easting	Northing					
BH/MW 2D	October 26, 2023	601041.9	4861194.6	262.7	15.1 – 16.6	Silty Clay	50	Monument
BH/MW 4	October 25, 2023	600901.5	4861281.0	261.0	13.6 – 16.6	Silty Clay Till	50	Monument
BH/MW 5	October 25, 2023	600762.5	4861114.5	259.2	6.2 – 7.7	Silty Clay	50	Monument
BH/MW 6	October 25, 2023	600742.8	4861271.6	258.9	6.2 – 7.7	Silty Clay	50	Monument
MP 3	May 8, 2024	600777.2	4861281.8	258.7	0.8 – 1.4	Earth Fill	30	NA
MP 4	May 8, 2024	600656.7	4861357.3	259.9	0.8 – 1.4	Silty Clay (interpolated)	30	NA
BH/MW 7	October 23, 2023	600948.6	4861533.2	259.0	3.1 – 6.1	Silty Clay	50	Monument
MP 12	May 8, 2024	600966.5	4861545.8	257.6	0.9 – 1.5	Silty Clay	30	NA
BH/MW 8	May 9, 2024	600741.9	4861547.5	262.0	2.8 – 5.8	Silty Clay and Silty Clay Till	50	Monument
BH/MW 9	October 24, 2023	600753.9	4861727.0	260.6	3.2 – 6.2	Silly Clay and Silty Clay Till	50	Monument
BH/MW 10	October 23, 2023	600530.9	4861721.7	263.1	3.1 – 6.1	Silty Clay	50	Monument
BH/MW 12	October 24, 2023	600343.4	4861928.9	263.0	3.1 – 6.1	Silty Clay and Silty Clay Till	50	Monument
BH/MW 13	October 24, 2023	600326.8	4862131.4	262.0	3.3 – 6.3	Silty Clay	50	Monument
BH/MW 101	May 9, 2024	600993.9	4861264.1	262.2	2.9 – 4.6	Silty Clay	50	Monument
MP 1	May 8, 2024	600992.9	4861249.2	262.0	0.8 – 1.4	Silty Clay	30	NA
BH/MW 102	May 9, 2024	600943.4	4861385.8	259.5	3.0 – 4.5	Silty Clay	50	Monument
MP 2	May 8, 2024	600937.3	4861382.4	259.4	0.9 – 1.5	Silty Clay	30	NA
BH/MW 103	May 8, 2024	600594.0	4861494.2	259.1	3.1 – 4.6	Silty Clay	50	Monument
MP 5	May 8, 2024	600582.3	4861515.7	259.0	0.9 – 1.5	Silty Clay	30	NA
BH/MW 104	May 8, 2024	600456.8	4861666.4	261.6	3.1 – 4.6	Silty Clay and Silty Fine Sand	50	Monument
MP 6	May 8, 2024	600464.0	4861665.3	261.6	0.9 – 1.5	Silty Clay	30	NA
BH/MW 105	May 8, 2024	600375.0	4861775.8	261.8	3.1 – 4.6	Silty Clay and Silty Fine Sand	50	Monument
MP 7	May 8, 2024	600373.9	4861783.0	261.6	0.8 – 1.4	Silty Clay	30	NA
MP 8	May 8, 2024	600342.6	4861753.2	261.5	0.8 – 1.4	Silty Clay	30	NA
BH/MW 106	May 8, 2024	600293.4	4861830.3	261.5	3.1 – 4.6	Silty Clay	50	Monument
MP 9	May 8, 2024	600257.5	4861819.4	261.3	0.7 – 1.3	Silty Clay & Silty Fine Sand	30	NA
BH/MW 107	May 9, 2024	600466.1	4862007.4	259.9	3.1 – 4.6	Silty Clay	50	Monument
MP 10	May 8, 2024	600484.2	4862022.1	259.4	0.9 – 1.5	Silty Clay	30	NA
BH/MW 108	May 9, 2024	600689.0	4861819.8	259.3	3.1 – 4.6	Silty Clay	50	Monument
MP 11	May 8, 2024	600686.3	4861821.9	259.2	0.9 – 1.5	Silty Clay	30	NA

MW, MP, PZ ID	Installation Date	UTM Coordinates (m)		Ground El. (masl)	Screen Interval (mbgs)	Soil in the Screen Interval	Casing Dia. (mm)	Protective Casing Type
		Easting	Northing					
PZ 1S	December 7, 2023	600283.2	4862009.2	260.4	3.0 – 4.5	Silty Clay	20	Monument
PZ 1D	December 7, 2023	600283.4	4862009.8	260.4	4.8 – 6.3	Silty Clay	20	Monument

Notes:
mbgs metres below ground surface,
masl metres above sea level,
MP- Mini Piezometer,
PZ- Piezometer
S- Shallow nested monitoring well/piezometer
D- deep nested monitoring well/piezometer

4.2 MECP Water Well Records Review

MECP Water Well Records (WWRs) were reviewed for the registered wells located at the Subject Site and within a 500 m radius of the Subject Site boundaries (Study Area). The water well records indicate that twenty-three (23) wells are located within the 500 m zone of influence Study Area relative to the Subject Site. The findings of the MECP well records are summarized in **Section 5.6** of the current report.

4.3 Groundwater and Wetland/Surface Water Monitoring

All Twenty (20) installed monitoring wells were utilized to measure and monitor groundwater and Twelve (12) mini piezometers and piezometers were utilized to measure and monitor wetlands and water courses in the Subject Site and adjacent land to the north and west of the Subject Site.

Monitoring wells BH/MW 1 to 7 and BH/MW 9 to 13 were developed on November 15, 2023, and BH/MW 101 to 108 and BH/MW 8 were developed on May 28, 2024. BH/MW 1, 8, 101 to 108, and MP 1 to 12 were instrumented with the automated transducer data logger to continuously monitor the groundwater and water table fluctuation in the wetland features and watercourse/water bodies. The groundwater level and water table monitoring program in the wetland features is currently ongoing and this report will be updated upon completion of the 2-year long-term groundwater and wetland monitoring program.

The stabilized groundwater levels were also measured manually over ten (10) monitoring events from November 15, 2023, to November 4-5, 2024, with the results presented in **Appendices C** and **D**.

4.4 In-Situ Hydraulic Conductivity Test

SEL has conducted in-situ hydraulic conductivity tests (falling head) at all the BH/MW locations. The in-situ hydraulic conductivity test (falling head and rising head) provides estimated hydraulic conductivity (K) for subsoil strata at the depths of the well screens. The monitoring wells were developed in advance of the tests. Well development involves the purging and removal of groundwater from each monitoring

well to remove remnants of clay, silt and other debris introduced into the monitoring well during construction, and to induce the flow of formation groundwater through the well screens, thereby improving the transmissivity of the subsoil strata formation at the well screen depths.

The in-situ falling head hydraulic conductivity test involves the placement of a slug of known volume into the monitoring well, below the water table, to displace the groundwater level upward. The in-situ rising head hydraulic conductivity test involves removing a volume of water from the monitoring well to displace the groundwater level downward. The rate at which the water level recovers to static conditions (rising head/falling head) is tracked manually using a water level tape and a data logger. The rate at which the water table recovers to static conditions is used to estimate the K value for the water-bearing strata formation at the well screen depth using the Bouwer and Rice method (1976). The findings for the hydraulic conductivity testing are presented in **Section 7.6** of the current report.

4.5 Groundwater Quality Assessment

SEL completed a groundwater quality assessment on January 4, 2024. One (1) set of groundwater samples was collected from one (1) selected monitoring well (BH/MW 2D) to characterize its quality for evaluation against the Region of Peel Sanitary and Storm Sewer Use By-Law parameters. This assesses whether any anticipated dewatering effluent can be disposed of into the Region of Peel Storm and Sanitary Sewer system during construction. Based on the results, recommendations for any pre-treatment for any dewatering/drainage effluent can be developed, if required.

SGS Canada Inc. performed the sample analysis and the results of the analysis are discussed in **Section 7.7** of the current report.

4.6 Review of Regional Data and Available Reports for the Subject Site

The maps, data, and documents provided by the MECP, Ontario Geological Survey (OGS), Ministry of Natural Resource (MNR), Oak Ridges Moraine Group (ORMGP), and TRCA were reviewed. Additionally, an issued geotechnical report was reviewed at the time of preparation of the current hydrogeological assessment report, with the findings summarized in **Sections 5 and 6**.

5.0 REGIONAL AND LOCAL SITE SETTING

5.1 Regional Geology

The current understanding of the surface geological setting of the Subject Site is based on scientific work conducted by the OGS (OGS, 2003). The Subject Site is located within an area mapped as Clay to silt-textured till (derived from glaciolacustrine deposits or shale) (5d). **Drawing 3** illustrates the mapped surficial geology for the Subject Site and the surrounding area.

The Oak Ridges Moraine Groundwater Program (ORMGP) produced a cross-sectional geological map to aid in the characterization of the general area. Considering the regional cross-section, it is understood that the overburden units prevalent in this area are as follows, with the youngest unit at the top:

- *Undifferentiated Sediments:* Undifferentiated sediments present in the ground surface, with an approximate thickness of ranging from 0.07 to 1.38 m the Subject Site.
- *Halton Till (Upper Till):* The Halton Till is mainly comprised of sandy silt to clayey silt till interbedded with silt, clay, and a number of discontinuous sand and gravel lenses. It was deposited approximately 12,500 years ago. Based on cross-section, the Halton Till or equivalent can be contacted beneath the undifferentiated sediments with an approximate thickness ranging from 9.6 m to 30.2 m.
- *Oak Ridges Moraine:* The Oak Ridges Aquifer Complex (ORAC) is a regionally significant aquifer in southern Ontario. It is primarily composed of interbedded fine sand and silt deposits with localized coarse sand and gravel deposits. The ORAC is approximately 90 m thick beneath the crest of the moraine but thins out rapidly towards the margins. The approximate thickness of the ORAC ranges from 36 m to 54 m in across the Subject Site.
- *Lower New Newmarket Till:* The Newmarket Till is a regionally extensive till formation that acts as an aquitard separating the Oak Ridges Aquifer Complex (ORAC) from the underlying Thorncliffe Formation. Based on the ORMGP cross-section, Newmarket Till is mapped beneath the ORAC. The thickness of the lower Newmarket Till ranges from 0.2 to 2.3 m beneath the Subject Site.
- *Thorncliffe Formation:* The Thorncliffe Formation consists of glaciofluvial and glaciolacustrine sand and silt deposited approximately 30,000 to 50,000 years ago. The Thorncliffe Formation shows a considerable variation in grain size and thickness, both locally and regionally. It acts as a regional aquifer. Based on the ORMGP cross-section, the approximate thickness of the Thorncliffe at the Subject Site ranges from 5.8 to 16.2 m across the Subject Site.

The underlying bedrock at the Subject Site is the Georgian Bay Formation, which consists of limestone along with shale (OGS, 2007). A review of the ORMGP cross-section indicates that the bedrock could be

contacted at an approximate depth ranging between 52 and 104.0 metres below ground surface (mbgs) beneath the Subject Site.

5.2 Regional Physiography

The Subject Site lies within the physiographic region of southern Ontario known as the South Slope and the landform is identified as Till Plain (Drumlinized). **Drawing 4** shows the location of the Subject Site within the regional physiography map.

5.3 Regional Topography and Drainage

A review of a regional topography map presented on **Drawing 5** indicates that the topography of the Subject Site and surrounding area is gradually sloping towards the south. The site topography is undulating. The ground surface elevation ranges approximately between 257.6 metres above sea level (masl) to 263.0 masl based on ground surface elevations measured at the borehole and monitoring wells' locations.

5.4 Watershed Setting

The Subject Site is located within the Humber River Watershed that falls in the Toronto and Region Conservation Authority (TRCA) jurisdiction.

5.5 Local Surface Water and Natural Heritage Features

The MNR database was reviewed for any natural heritage features including, watercourses, bodies of water, wetland features, Area of Natural and Scientific Interest (ANSI) and wooded areas. **Drawing 6-1** shows the location of the Subject Site within the surrounding Natural Heritage Features.

Record review Indicates that there are a total of two (2) tributaries of the Cold Creek that outlet to Humber River. One (1) Tributary is mapped in the Northern portion of the Subject Site flowing from the west to the southeast direction. The second tributary is located in the southern portion of the Subject Site flowing from the east to the southwest direction and eventually south/southeasterly direction towards the Humber River.

Records of water bodies (pounded water) are mapped within the Subject Site and surrounding lands. Three (3) records are mapped in the north, central and south portions of the Subject Site.

The record review indicates that there is a wetland feature, not evaluated as per Ontario Evaluation Wetland System (OWES), within the south portion of the Subject Site (marked as A on **Drawing 6-2**). A body of water is also mapped at this location, where a watercourse generates and flows east/northeasterly

direction. Furthermore, as per the reviewed records, records of wetland features are mapped around the Subject Site as follows:

- Three (3) wetlands are mapped as unevaluated wetland features outside of the west boundary of the Subject Site. The records are marked as B, C and D on **Drawing 6-2**.
- Four (4) wetlands are mapped as Provincially Significant Wetland (PSW) including two (2) records in the northwest and two (2) records in the west outside of the Subject Site boundary. The records are marked as E, F, G and H on **Drawing 6-2**.

SEL installed mini piezometers and monitoring wells to monitor the selected existing wetlands mapped within and in close proximity to the Subject Site. The location of the monitoring stations is presented in **Drawing 6-2**. The names and types and nearby monitoring wells and details of the wetlands are provided in **Table 5-1**.

"The Natural Heritage Characterization Report for Mount Hope Lands", prepared by GEI Consultants on December 20, 2024, has been reviewed. A summary of information is presented in **Table 5-1**. In cases where there are discrepancies between the mapping in the Natural Heritage Characterization Report and the MNR datasets, the map prepared by GEI should be considered as it reflects actual site conditions based on ground-truthed surveys. Preliminary Natural Heritage Constraints is provided in the **Appendix A-3**.

Table 5-1 List of the Evaluated and unevaluated Wetlands and Nearby Monitoring Wells

Nearby Installed Monitoring Wells, Mini Piezometers and Piezometers by Soil Engineers Ltd.	Wetland Name and Significance Based on the review of the MNRF's Natural Heritage Area Map	Based on the review "Natural Heritage Characterization Report for Mount Hope Lands", prepared by GEI Consultants on December 20, 2024	
		Wetland Type	Details
BH/MW 101 and MP 1	NA	Marsh	Unevaluated Wetlands to be removed and replicated in greenbelt
BH/MW 102 and MP 2	Unevaluated Wetland	Marsh	Unevaluated Wetlands to be removed and replicated in greenbelt
BH/MW 6 and MP 3	NA	Marsh	Provincially Significant Wetland to be removed and replicated along the realigned water course
MP 4	Watercourse	NA	Watercourse
BH/MW 103 and MP 5	Unevaluated Wetland	Marsh	Two unevaluated wetlands (requiring evaluation) located close to the monitoring well and mini piezometer
BH/MW 104 and MP 6	Castlederg Wetland Complex – Evaluated Provincial	Marsh	Provincially Significant Wetland (PSW)
BH/MW 105 and MP7	Waterbody	NA	Based on Figure 6 in GEI's report, no wetland was identified at this location

Nearby Installed Monitoring Wells, Mini Piezometers and Piezometers by Soil Engineers Ltd.	Wetland Name and Significance Based on the review of the MNRF's Natural Heritage Area Map	Based on the review "Natural Heritage Characterization Report for Mount Hope Lands", prepared by GEI Consultants on December 20, 2024	
		Wetland Type	Details
MP 8	Unevaluated Wetland and Waterbody	NA	Based on Figure 6 in GEI's report, no wetland was identified at this location
BH/MW 106 and MP 9	Unevaluated Wetland	Marsh	Unevaluated Wetland
BH/MW 13, PZ 1S and PZ 1D	Castlederg Wetland Complex – Evaluated Provincial	Thicket Swamp	Provincially Significant Wetland (PSW) to be re-evaluated
BH/MW 13, PZ 1S and PZ 1D	Castlederg Wetland Complex – Evaluated Provincial	Marsh	Provincially Significant Wetland (PSW) to be re-evaluated
BH/MW 107 and MP 10	Waterbody associated with drainage feature	Marsh	Provincially Significant Wetland (PSW) to be re-evaluated
BH/MW 108 and MP 11	NA	NA	Headwater Drainage Feature
BH/MW 7 and MP 12	NA	NA	Headwater Drainage Feature

NA- Not Available

There are records of wooded areas associated with the above-motioned wetland features. Small bodies of water are also mapped within and close proximity of the Subject Site.

5.6 Ground Water Resources (MECP Well Records)

The MECP well record database was reviewed for records located within a radius of 500 m from the approximate Site boundary (the Study Area). The records indicate that twenty-three (23) well records are located within the Study Area relative to the Subject Site boundaries. A summary of data obtained from the records review is presented in **Table 5-1**.

The locations of the well records, based on the UTM coordinates provided by the records, are shown on **Drawing 7**. Details of the MECP water well records that were reviewed are provided in **Appendix B**.

Table 5-2 MECP Well Record Summary

Water Use (Final Status)	
Status	**Number of Records**
Unknown	2
Abandoned-Other	4
Abandoned-Supply	1
Abandoned-Quality	1
Monitoring and Test Hole	2
Water Supply	12
Test Hole	1
Total	**23**

The above summary indicates that there are two (2) records of water supply wells located within the Subject Site. Additionally, there are records of water supply wells within the close proximity of the Subject Site.

5.7 Active Permit to Take Water Application Record Review

The MECP website was reviewed for any active PTTW application records within a 1.0 km radius of the Subject Site on December 17, 2024. Record review indicates there are no records for active PTTW within the Study Area.

5.8 Active EASR Registration Record Review

The MECP Website was reviewed for any active EASR Registration record within a 1.0 Km radius of the Subject Site on December 17, 2024. Record review indicates that there are no records of active EASR registration within the study area.

6.0 SOIL LITHOLOGY AND SUBSURFACE INVESTIGATION

The subsoil investigation has revealed that beneath the topsoil veneer, and the Earth fill the Subject Site mainly comprises silty clay, silty clay till and silty fine sand. Information regarding borehole logs is presented in **Appendix A-1 and A-2**. The approximate locations of boreholes are shown on **Drawing 2**. Additionally, a cross-section Key plan and geological cross-sections are presented on **Drawings 8-1, 8-2A** and **8-2B**, respectively. Based on a review of the geotechnical investigation report prepared by SEL and additional hydrogeological and wetland monitoring the stratigraphy beneath the investigated areas of the Subject Site generally consists of the following:

6.1 Topsoil

A surficial topsoil layer was encountered at all borehole locations. The measured topsoil depths ranged from 10 cm to 36 cm.

6.2 Earth Fill

A layer of earth fill, consisting of silty clay with topsoil and organics inclusion, was contacted beneath the topsoil veneer at Boreholes 5 and 6. The fill extends to depths of 4.7 m and 3.7 mbgs, respectively. The water content values range from 13% to 26%, with a median of 21%, indicating the fill is in a moist condition.

6.3 Silty Clay Till and Silty Clay

Native silty clay till and silty clay were generally contacted beneath the topsoil veneer and earth fill. Occasional wet sand and silt layers were also identified within the drift.

The natural water content values range from 9% to 37%, with a median of 23%, indicating that silty clay till and silty clay are generally in moist conditions. The colour change from brown to grey was observed at approximately 3.5 to 7.0 mbgs.

The estimated permeability for the silty clay unit encountered at BH/MW 1, 2, 7, 4, 5, 12, 103 and 101 at depths of 10.7, 15.2, 3.1, 10.7, 6.1, 2.3, 4.6, and 3.0 mbgs is about 10^{-7} cm/sec. Grain size analyses were performed on eight (8) subsoil samples, and the gradation is plotted in **Appendix A-1** (**Figure 14-15)** and **Appendix A-2 (10 and 11)**.

6.4 Silty Fine Sand

A layer of silty fine sand was encountered in BH/MW 104, 105 and 106 and was encountered within the silty clay unit. The natural water content of the soil samples ranges between 18% and 20%, at a median of 19%, showing a moist to very moist condition. The consistency of the soil ranges from loose to dense.

The silty clay material was observed brown in color. The estimated permeability for the silty fine sand unit encountered at BH/MW 105 at a depth of 2.5 mbgs is about 10^{-3} cm/sec. Grain size analyses were performed on one (1) subsoil sample, and the gradation is plotted in **Appendix A-2** (**Figure 12)**.

7.0 LOCAL HYDROGEOLOGICAL STUDY

7.1 Monitoring Well Development and Groundwater Level Monitoring

All Twenty (20) installed monitoring wells were utilized to measure and monitor groundwater level fluctuation. Monitoring wells BH/MW 1 to 7 and BH/MW 9 to 13 were developed on November 15, 2023, and BH/MW 101 to 108 and BH/MW 8 were developed on May 28, 2024. BH/MW 1, 8, 101 to 108 were instrumented with the automated transducer data logger to continuously monitor the groundwater level fluctuation. The monitoring program is currently ongoing and this report will be updated upon completion of the 2-year long-term groundwater and wetland monitoring program.

The stabilized groundwater levels were also measured manually over ten (10) monitoring events from November 15, 2023, to November 4-5, 2024. SEL measured the groundwater levels using an interface probe (Heron Water Tape Series #1900). A summary of the groundwater level observations and their corresponding elevations are provided in **Appendix C**.

The automated transducer Dataloggers were also installed to record groundwater fluctuation hourly basis. The hydrographs are presented in **Appendix D (Pages 1 to 10)**.

Based on the review of the manual groundwater level monitoring data presented in **Appendix C** and hydrographs presented in **Appendix D**, the highest and lowest stabilized shallow groundwater levels were measured ranging between El. 263.1 masl and 255.5 masl at BH/MW 12 and BH/MW 5, respectively.

A review of the groundwater levels measured in shallow and deep nested monitoring wells BH/MW 2S and BH/MW 2D installed at depths of 6.1 mbgs and 16.6 mbgs, respectively indicates a downward vertical hydraulic gradient.

7.2 Wetland and Surface Water Fluctuation Monitoring

Twelve (12) mini piezometers were utilized to measure and monitor wetlands or surface water including the existing watercourses and water bodies.

MP 1 to 12 were instrumented with the automated transducer data logger to continuously monitor the water table fluctuation in the wetland features. The water table monitoring beneath the Subject Site is currently ongoing and this report will be updated upon completion of a 2-year long-term wetland monitoring program.

Furthermore, water table fluctuations were manually measured over ten (10) monitoring events from November 15, 2023, to November 4-5, 2024.

Based on the review of the Hydrographs presented in **Appendix D (Pages 11 to 22)** and manual water table monitoring presented in **Appendix C** the highest and lowest surficial water table interacting within the shallow stratigraphy measured at El. 262.1 masl and 256.3 masl at MP 1 and MP 12, respectively.

The existing water bodies were also equipped with staff gauges. The findings will be interpreted and presented in the updated report.

7.3 Surface Water Flow Monitoring

Surface water flow monitoring stations were established at the upstream and downstream of both creeks located on the Subject Site. Creek 1 is located in the southern portion of the Subject Site and Creek 2 is located in the northern portion of the Subject Site.

Creek flow monitoring was completed at the created surface water monitoring stations in upstream and downstream locations for each creek. The OTT MF pro-meter was utilized at the established sections of the creeks using a Cross-Sectional Discharge Measurement Technique. Since direct measurement of stream discharge is not possible; instead, it is calculated using directly measurable variables such as stream depth, width, and flow velocity. Typically, this calculation involves multiplying the stream's cross-sectional area by the water's average velocity within that section.

During the site visits conducted on June 17, August 29 and November 5, 2024, both of the creeks were observed dry at the established flow station locations. The summary of the observation is presented in **Appendix E**.

7.4 Surface Water and Groundwater Interaction Monitoring

Interaction between surface water and groundwater was monitored in multiple locations at the Subject Site. A summary of findings is presented as follows:

- A review of the groundwater level and shallow water table in BH/MW 101 ad MP1 installed within the south portion of the Subject Site indicates a downward hydraulic gradient.
- Monitoring BH/MW102 and piezometer MP2 were installed adjacent to the existing water body. A review of the water table fluctuation indicates a downward hydraulic gradient.
- Monitoring well BH/MW 103 and piezometer MP5 were installed adjacent to a potential wetland a review of the monitoring data indicates a downward hydraulic gradient.
- Monitoring well BH/MW 7 and piezometer MP12 were installed adjacent to an intermittent stream. A review of the findings indicates an upward hydraulic gradient.

- Monitoring Well BH/MW 104 and piezometer MP6 were installed adjacent to an existing water body located in adjacent land to the west boundary of the Subject Site. A review of the findings indicates a downward hydraulic gradient.
- A review of the monitoring data collected from BH/MW 108 and piezometer MP11 indicates a downward hydraulic gradient.
- Monitoring Well BH/MW 105 and piezometer MP 7 and MP 8 were installed adjacent to an existing water body located in adjacent land to the west boundary of the Subject Site. A review of the findings indicates a downward hydraulic gradient.
- Monitoring Well BH/MW 106 and piezometer MP 9 were installed adjacent to an existing water body located in adjacent land to the west boundary of the Subject Site. A review of the findings indicates a downward hydraulic gradient.
- Monitoring Well BH/MW 107 and piezometer MP 10 were installed adjacent to an existing water body located in the north portion of the Subject Site. A review of the findings indicates an upward hydraulic gradient.

A review of the findings during the monitoring program at the Subject Site generally indicates a downward hydraulic gradient, except for two locations near an intermittent stream and in the north portion of the site, which show an upward hydraulic gradient As previously mentioned, the monitoring program is ongoing and the findings will be updated when the monitoring program is completed.

7.5 Shallow Groundwater Flow Pattern

Groundwater level elevations measured on June 17, 2024, were considered to interpret the shallow groundwater flow pattern beneath the Subject Site. This interpretation suggests that it flows mainly towards the tributaries of the cold creek in an easterly westerly and southern direction from the center of the Subject Site.

It is important to note that this groundwater flow pattern will be updated following the completion of the long-term groundwater monitoring program. The interpreted shallow groundwater flow pattern beneath the Subject Site is illustrated on **Drawing 9**.

7.6 Single Well Response Test

Selected BH/MWs underwent single well response testing (SWRTs) to assess the hydraulic conductivity (K) for saturated shallow aquifer or water-bearing units at the depths of the well screens. Each monitoring well was equipped with a digital transducer to record the fluctuation made to complete the SWRT. The results of the SWRT tests are presented in **Appendix F**, with a summary of the findings provided in **Table 7-1**.

Table 7-1 A Summary of Falling Head Hydraulic Conductivity Testing

Well ID	Ground El. (masl)	Monitoring Well Depth (mbgs)	Screen Interval (mbgs)	Screened Soil Strata	Hydraulic Conductivity (K in m/s)	Test Method
BH/MW 2D	262.6	16.6	15.1 – 16.6	Silty Clay	2.0×10^{-6}	Falling Head Test
BH/MW 2S	262.6	6.2	4.7 – 6.2	Silty Clay Till	6.2×10^{-7}	Falling Head Test
BH/MW 4	261.0	16.6	13.6 – 16.6	Silty Clay Till	3.1×10^{-7}	Falling Head Test
BH/MW 5	259.2	7.7	6.2 – 7.7	Silty Clay	4.9×10^{-8}	Falling Head Test
BH/MW 7	259.0	6.1	3.1 – 6.1	Silty Clay	1.3×10^{-7}	Falling Head Test
BH/MW 9	260.6	6.2	3.2 – 6.2	Silty Clay and Silty Clay Till	4.6×10^{-7}	Falling Head Test
BH/MW 12	263.0	5.9	2.9 – 5.9	Silty Clay and Silty Clay Till	5.0×10^{-8}	Falling Head Test
BH/MW 13	262.0	6.3	3.3 – 6.3	Silty Clay	1.1×10^{-7}	Falling Head Test

Notes:
mbgs metres below ground surface
masl metres above sea level

7.7 Groundwater Quality

One (1) set of groundwater samples was collected for analysis from the monitoring well BH/MW 2D on January 4, 2024, by SEL. The samples were submitted for analysis and evaluation against the Region of Peel Sanitary and Storm Sewer Use By-Law parameters. After sampling, all the bottles were placed in a cooler for shipment to the analytical laboratory. Sample analysis was performed by SGS Canada Inc., which is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA). Results of the analysis are provided in **Appendix G**, with a discussion of the findings provided below. The chain of custody number for the submitted samples that underwent analysis is 038107.

The groundwater samples collected, comprised unfiltered groundwater. As per the Region of Peel Sanitary and Combined and Storm Sewer Use By-Law parameters sewer use analysis, a complete set of unfiltered groundwater samples were submitted to the laboratory with the results being presented as totals for various analyzed parameters.

The results of analysis for the unfiltered groundwater indicate no exceedance when compared and evaluated against the Region of Peel Sanitary and Storm Sewer Use By-Law parameters.

The final design for any dewatering effluent pre-treatment system is the responsibility of the contractors responsible for construction, or of the water treatment system design specialist, or mechanical engineer, if required, for any long-term foundation drainage system for the completed underground structure.

8.0 DISCHARGE WATER CONTROL

8.1 A Review of Proposed Development Plans

Based on the Concept Plan and a Draft Plan provided by SGL Planning and Design Inc. dated January 23, 2025, it is understood that the proposed development will include the construction of residential lots, a Mid/High Rise Block located on the southeast, a commercial block in the southwest portions along with stormwater management blocks and a park block. The proposed subdivision will be provided with roads and municipal services.

Considering the early stage of the development, a detailed design of the proposed development was not available for review. Therefore, this report needs to be updated once the detailed design becomes available. The reviewed plan is presented in **Appendix H**.

8.2 A Review of Geotechnical Investigation Report

A review of the Geotechnical Investigation report prepared by SEL Ltd. dated December 2023, indicates that:

- The investigation revealed that beneath a veneer of topsoil, and a layer of earth fill in places, the site is generally underlain by strata of silty clay and silty clay till.
- The topsoil must be stripped before site grading and construction. It can only be reused for landscaping purposes. Any surplus should be disposed of off-site.
- The existing earth fill and any badly weathered/ploughed soils should be sub excavated, inspected, and sorted free of organics and/or deleterious material, before reusing for structural backfill or engineered fill.
- Where site grading with additional fill is required, the earth fill should be constructed in an engineered manner for building foundation, underground services and road construction.
- The low-rise residential dwellings with basements can be supported with conventional spread and strip footings founded on engineered fill or sound native soils. In conventional design, the foundation wall must be damp-proofed and provided with a perimeter sub drain at the wall base, connected to a positive outlet.
- Bulk excavation for the mid-rise buildings with 2 levels of underground parking will likely extend to at least 6 to 7 m below grade, in which native silty clay till or silty clay is anticipated, and it is suitable to support the proposed structure on conventional spread and strip footing.

- Excavation should be carried out in accordance with O. Reg. 213/91. Where safe sloped excavation is not feasible, temporary braced shoring walls will be required for the excavation and construction of the underground parking and foundation.

8.3 Construction Dewatering Requirements

Based on the review of the draft concept plan the details for the proposed residential subdivision are not available for review at the time of preparation of this report. Therefore, the dewatering requirement and the short-term dewatering and long-term foundation drainage flow rates should be assessed once the detail design become available.

8.4 Permit Requirements

Short-Term Construction Dewatering: Water takings of more than 50,000 L/day but less than 400,000 L/day are to be registered on EASR, while water takings of more than 400,000 L/day require a PTTW issued by the MECP. If it is identified that an EASR or PTTW is required for the Subject Site, a hydrogeological assessment report will need to be submitted in support of the application.

However, considering the early stage of the proposed development, the construction approach, detailed design drawings and excavation phases are not available. As such, recommendations on permit requirements should be assessed once the data become available for review.

Obtaining a discharge permit from the Region of Peel may be required if the potential collected discharge water during construction is proposed to be discharged to the region's sewer system.

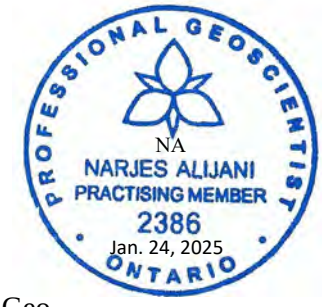
9.0 CONCLUSIONS AND RECOMMENDATIONS

- The Subject Site lies within the physiographic region of southern Ontario known as the South Slope and the landform is identified as Till Plain (Drumlinized).
- The Subject Site is located within an area mapped as Clay to silt-textured till (derived from glaciolacustrine deposits or shale) (5d).
- The Subject Site is located within the Humber River Watershed that falls in the Toronto and Region Conservation Authority (TRCA) jurisdiction.
- The ground surface elevation ranges approximately between 257.6 metres above sea level (masl) to 263.0 masl based on ground surface elevations measured at the borehole and monitoring wells' locations.
- The subsoil investigation has revealed that beneath the topsoil veneer, and the Earth fill at the western portion of the site mainly comprises silty clay and silty clay till with interbedded layers of silty fine sand within the northwestern portion of the Subject Site.
- Based on the review of the Hydrographs and manual groundwater levels the highest and lowest stabilized shallow groundwater levels measured at El. 263.1 masl and 255.5 masl at BH/MW 12 and BH/MW 5, respectively.
- Based on the review of the Hydrographs and manual water table data, the highest and lowest stabilized surficial water tables interacting with the shallow stratigraphy measured at El. 262.1 masl and 256.3 masl at MP 1 and MP 12, respectively.
- The results of analysis for the unfiltered groundwater indicate no exceedance when compared and evaluated against the Region of Peel Sanitary and Storm Sewer Use By-Law parameters.
- Based on the review of the draft concept plan the details for the residential subdivision are not available for review at the time of preparation of this report. Therefore, the dewatering requirement and the short-term dewatering and long-term foundation drainage flow rates should be assessed once the detailed design becomes available.
- Considering the early stage of the proposed development, the construction approach, detailed design drawings and excavation phases are not available. As such, recommendations on obtaining a permit from MECP should be assessed once the data become available for review. The potential dewatering impact should be assessed, and a mitigation plan should be provided once the detailed design becomes available for the proposed development.
- Obtaining a discharge permit from the Region of Peel may be required if the potential collected discharge water during construction is proposed to be discharged to the region's sewer system.

10.0 CLOSURE

We trust that the above-noted information is suitable for your review. If you have any questions regarding this information, please do not hesitate to contact the undersigned.

Yours truly,
SOIL ENGINEERS LTD.



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Project Manager-Hydrogeological Services

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Department Manager-Hydrogeological Services

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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

Drawings

REFERENCE NO. 2309-W139

598500 600000 601500 603000

4862500

4861000

CASTLEDERG SIDEROAD
MOUNT PLEASANT ROAD
MOUNT HOPE ROAD
CALEDON KING TOWNLINE SOUTH
EMIL KOLB PARKWAY
HIGHWAY 50
COLUMBIA WAY
FOXCHASE DRIVE
TAYLORWOOD AVENUE
KINGS VIEW DRIVE
GOODFELLOW CRESCENT
WESTCHESTER BOULEVARD
ST MICHAELS CRESCENT
LONGWOOD DRIVE
WHITEHEAD CRESCENT
SILVERVALLEY DRIVE
CRESTWOOD ROAD
KING STREET EAST
OLD KING ROAD
CASTELLI COURT
Gold Creek
Humber River (rivière Humber)

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598500 600000 601500 603000

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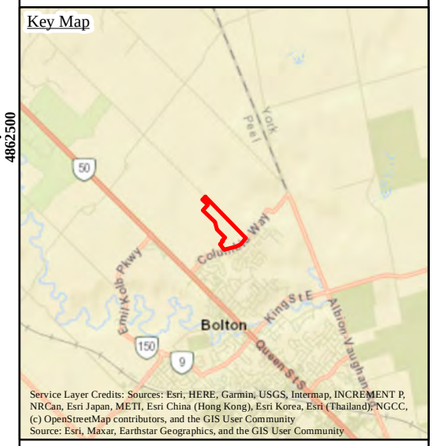
References: Ontario Ministry of Natural Resources and Forestry

Key Map



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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

- Approximate Boundary of Subject Site
- Major Road
- Local Road
- Waterbody
- Watercourse

Soil Engineers Ltd.

Site Location Plan

Hydrogeological Assessment
Proposed Residential Development
Northwest Quadrant of
Mount Hope Road and Columbia Way
Town of Caledon

Reference No. 2309-W138

Date: January 15, 2024

Scale:
0 80 160 320 480 640 800
Metres

Drawing No. 1

600000
600500
601000
601500
4862000
4861500

BH/MW 13
Flow Station 3
Flow Station 4
PZ1S
PZ1D
MP 10
BH/MW 107
BH/MW 12
BH 11
Gold Creek
BH/MW 106
MP 9
BH/MW 108
MP 11
MP 7
MP 8
BH/MW 105
BH/MW 10
BH/MW 9
BH/MW 104
MP 6
BH 8
BHMW 8
BH/MW 7
MP 12
MP 5
BH/MW 103
MP 4
BH/MW 102
MP 2
BH 3
BH/MW 1
BH/MW 6
MP 3
Flow Station 1
BH/MW 4
BH/MW 101
MP 1
BH/MW 2S
BH/MW 2
BH/MW 5
Flow Station 2
COLUMBIA WAY
SENATOR WAY
FOREST GATE AVENUE
KNOLLHAVEN CIRCLE
MOUNT HOPE ROAD
EWART STREET
BEEHIVE DRIVE
GOODFELLOW CRESCENT
McCABE CRESCENT

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N

References: Ontario Ministry of Natural Resources and Forestry
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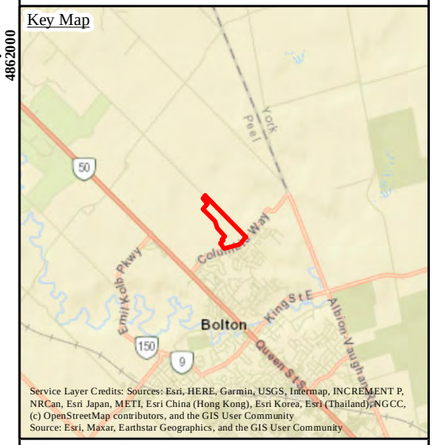
Key Map



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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

- Approximate Boundary of Subject Site
- Waterbody
- Watercourse
- Local Road
- 2023 Borehole (3)
- 2023 Borehole with Monitoring Well (10)
- 2024 Borehole With Monitoring Well (9)
- 2024 Mini Piezometers (12)
- Piezometer (2)
- Flow Station (4)

Soil Engineers Ltd.

Borehole and Monitoring Well Location Plan

Hydrogeological Assessment
Proposed Residential Development
Northwest Quadrant of
Mount Hope Road and Columbia Way
Town of Caledon

Reference No. 2309-W138

Date: December 18, 2024

Scale:
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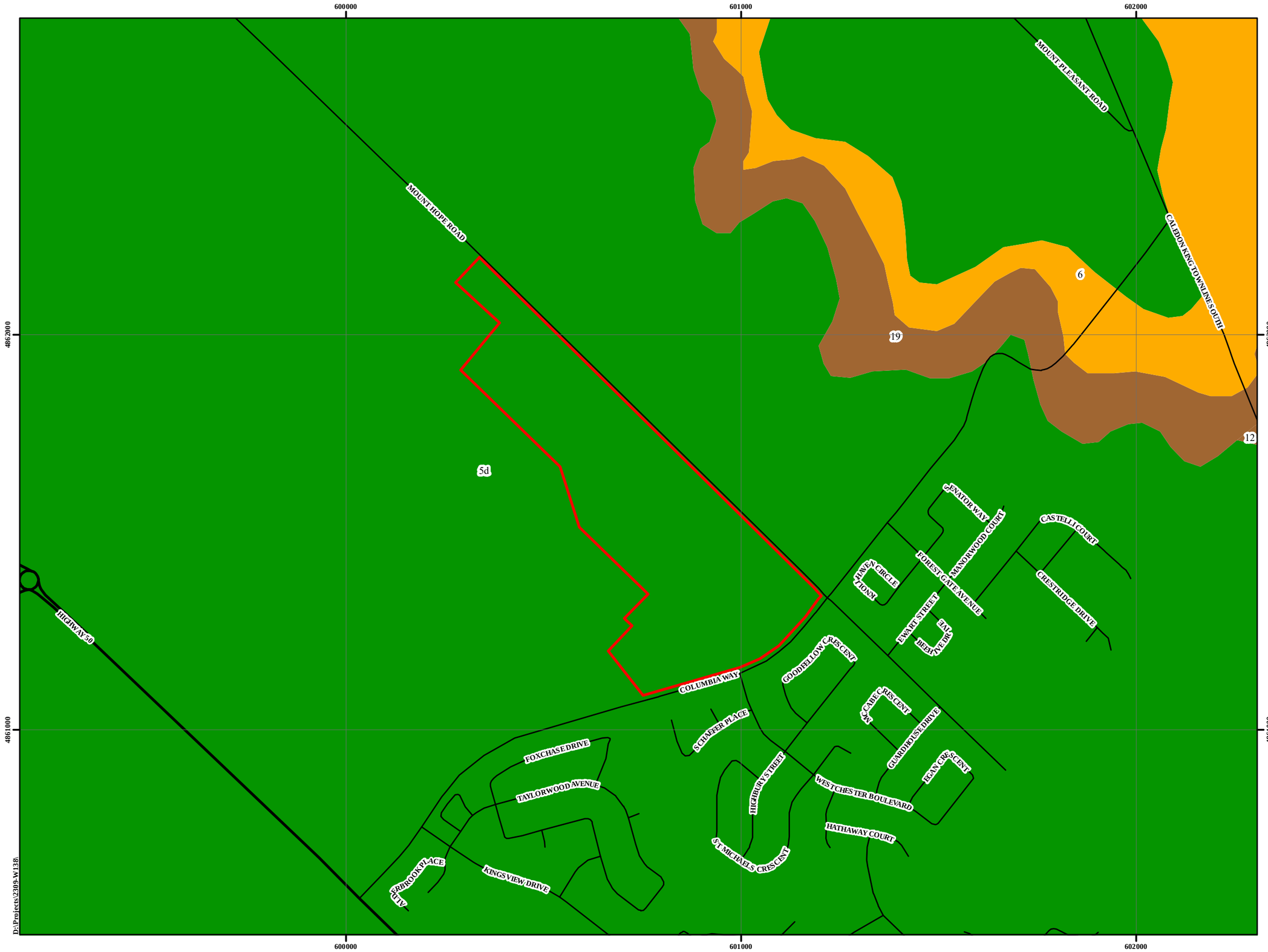
Metres

Drawing No. 2



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Key Map

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Legend

- Approximate Boundary of Subject Site
- 500 Metres From Subject Site Boundary
- Major Road
- Local Road
- 5d: Halton Till; consisting of diamicton
- 6: Ice-contact stratified drift; consisting of sand clay, silt, gravel, diamicton:ice-contact
- 12: Older Alluvium; consisting of silt, sand, gravel
- 19: Modern Alluvium; consisting of silt, sand, gravel

Soil Engineers Ltd.

Surface Geology Map

Hydrogeological Assessment
Proposed Residential Development
Northwest Quadrant of
Mount Hope Road and Columbia Way
Town of Caledon

Reference No. 2309-W138

Date: January 17, 2024

Scale:
0 100 200 300 400 500
Metres

Drawing No. 3

Source: Ontario Geological Survey, 1997, Miscellaneous Release---Data 0014

600000
601000
602000
4862000
4861000

MOUNT HOPE ROAD
MOUNT PLEASANT ROAD
CALEDON KING TOWNLINE SOUTH
HIGHWAY 50
COLUMBIA WAY
SCHAEFER PLACE
GOODFELLOW CRESCENT
FOXCHASE DRIVE
TAYLORWOOD AVENUE
KINGS VIEW DRIVE
HIGHBURY STREET
ST MICHAELS CRESCENT
WESTCHESTER BOULEVARD
HATHAWAY COURT
GUARDHOUSE DRIVE
MCCABE CRESCENT
BEAN CRESCENT
SENATOR WAY
MANORWOOD COURT
FOREST GATE AVENUE
IVENHOE CIRCLE
EWART STREET
BEECH AVE DR
CASTELLI COURT
CRESTRIDGE DRIVE

South Slope

Till Plains
(Drumlinized)

N

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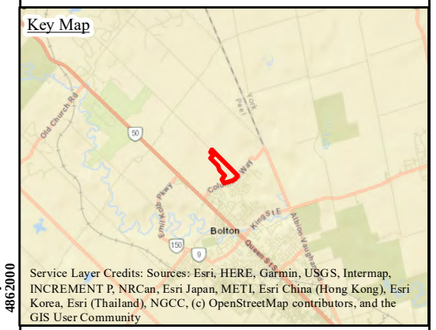
Key Map



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Legend

- Approximate Boundary of Subject Site
- Major Road
- Local Road
- Region Boundary
- Till Plains (Drumlinized)

Soil Engineers Ltd.

Physiographic Map

Hydrogeological Assessment
Proposed Residential Development
Northwest Quadrant of
Mount Hope Road and Columbia Way
Town of Caledon

Reference No. 2309-W138

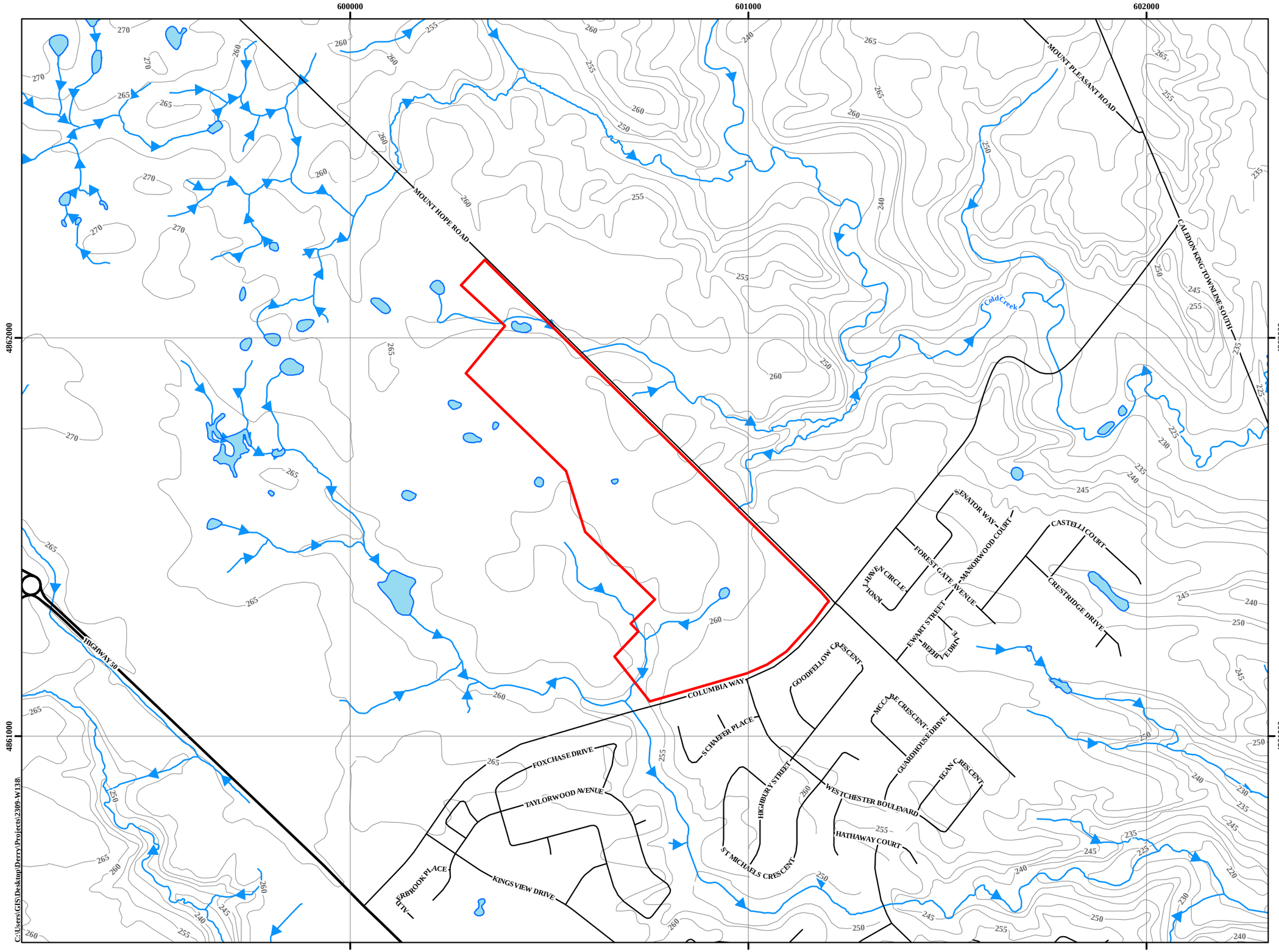
Date: January 17, 2024

Scale:
0 50 100 200 300 400 500
Metres

Drawing No. 4

D:\Projects\2309-W138\

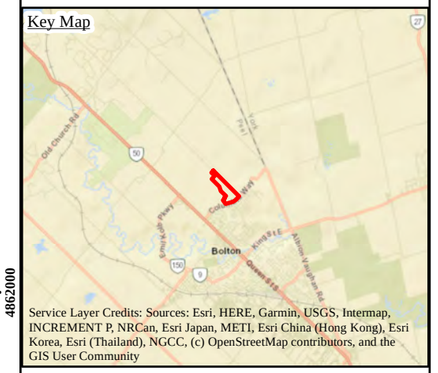
Source: Chapman, L.J. and Putnam, D.F. 2007. Physiography of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 228 ISBN 978-1-4249-5158-1



N

References: Ontario Ministry of Natural Resources and Forestry
Ⓒ Queen's Printer for Ontario, 2022

Key Map



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Legend

- Approximately Boundary of Subject Site
- Major Road
- Local Road
- Waterbody
- Watercourse
- Ontario - 5 m

Soil Engineers Ltd.

Topographic Map

Hydrogeological Assessment
Proposed Residential Development
Northwest Quadrant of
Mount Hope Road and Columbia Way
Town of Caledon

Reference No. 2309-W138

Date: January 17, 2024

Scale:

0 55 110 220 330 440 550
Metres

Drawing No. 5

600000
601000
602000
4862000
4861000
D:\Projects\2309-W138\

MOUNT HOPE ROAD
MOUNT PLEASANT ROAD
CALEDON/KING TOWNLINE SOUTH
HIGHWAY 50
COLUMBIA WAY
SCHAEFER PLACE
FOXCHASE DRIVE
TAYLORWOOD AVENUE
FERBROOK PLACE
KINGS VIEW DRIVE
GOODFELLOW CRESCENT
HIGHBURY STREET
ST MICHAELS CRESCENT
WESTCHESTER BOULEVARD
HATHAWAY COURT
MCCABE CRESCENT
GUARDHOUSE DRIVE
EGAN CRESCENT
SENATOR WAY
MANORWOOD COURT
FOREST GATE AVENUE
HAVEN CIRCLE
KNOLL
EWART STREET
BEEMAN DRIVE
CASTELLI COURT
CRESTRIDGE DRIVE
Cold Creek

N

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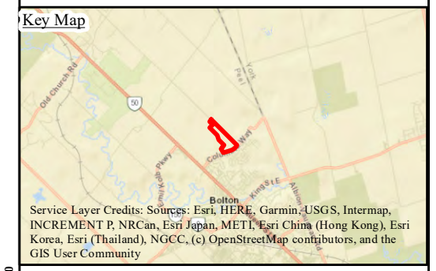
Key Map



Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Legend

- Approximate Boundary of Subject Site
- Major Road
- Local Road
- Wooded Area *Wooded Area*
- Wetland (classified as Provincial)
- Wetland (Not evaluated per OWES)
- Waterbody
- Watercourse

Soil Engineers Ltd.

Natural Features and Protection Area Plan

Hydrogeological Assessment
Proposed Residential Development
Northwest Quadrant of
Mount Hope Road and Columbia Way
Town of Caledon

Reference No. 2309-W138

Date: January 17, 2024

Scale:

0 110 220 330 440 550
Metres

Drawing No. 6-1

600000
600500
601000
601500
4862000
4861500

H
G
D
C
F
E
B
A

BH/MW 13
PZ1S
PZ1D
Flow Station 3
Flow Station 4
MP 10
BH/MW 107
BH/MW 12
BH 11
BH/MW 106
MP 9
BH/MW 105
MP 7
MP 8
BH/MW 108
MP 11
BH/MW 10
BH/MW 9
BH/MW 104
MP 6
Cold Creek
BHMW 8
BH 8
BH/MW 7
MP 12
MP 5
BH/MW 103
MP 4
BH/MW 102
MP 2
BH 3
BH/MW 1
BH/MW 6
MP 3
Flow Station 1
BH/MW 4
BH/MW 101
MP 1
BH/MW 2S
BH/MW 2
BH/MW 5
Flow Station 2

SENATOR WAY
FOREST GATE AVENUE
KNOLL HAVEN CIRCLE
MOUNT HOPE ROAD
EWART STREET
BEEHIVE DRIVE
GOODFELLOW CRESCENT
MCCABE CRESCENT
COLUMBIA WAY

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N

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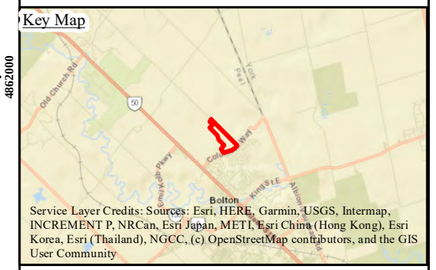
Key Map



Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Legend

- Approximate Boundary of Subject Site
- Local Road
- Wooded Area *Wooded Area*
- Wetland (classified as Provincial)
- Wetland (Not evaluated per OWES)
- Waterbody
- Watercourse
- Piezometer
- Flow Station
- 2024 Borehole With Monitoring Well
- 2024 Mini Piezometers
- 2023 Borehole
- 2023 Borehole with Monitoring Well

Soil Engineers Ltd.

Natural Heritage Map with BH/MW Locations

Hydrogeological Assessment
Proposed Residential Development
Northwest Quadrant of
Mount Hope Road and Columbia Way
Town of Caledon

Reference No. 2309-W138

Date: January 17, 2024

Scale:
0 50 100 150 200 250
Metres

Drawing No. 6-2

600000
601000
602000
4862000
4861000

MOUNT PLEASANT ROAD
CALEDON KINGTOWNLINE SOUTH
MOUNT HOPE ROAD
HIGHWAY 50
Cold Creek
SENATOR WAY
FOREST GATE AVENUE
CASTELLI COURT
KNOLLRIDGE STREET
CRESTRIDGE DRIVE
EWART STREET
COLUMBIA WAY
GOODFELLOW CRESCENT
SCHAEFER PLACE
FOXCHASE DRIVE
FOXBURY PLACE
TAYLORWOOD AVENUE
HIGHBURY STREET
WEST CHESTER BOULEVARD
GUARDHOUSE DRIVE
EGAN CRESCENT
ST MICHAELS CRESCENT
HATHAWAY COURT
COLEMAN COURT
KINGS VIEW DRIVE
THORNBURY ROAD

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

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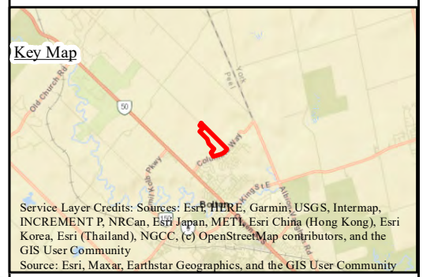
N

References: ESRI, DigitalGlobe, GeoEye, Earthstar Geograp -hics, CNES/Airbus Ds, USDA, USGS, AeroGRIS, IGN, and the GIS User Community produced by Soil Engineers Ltd. Copyright (c) Queen's Printer 2020. Water Well Information System Ministry of the Environment, Conservation and Parks, 2020

Key Map



Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Legend

- Approximate Boundary of Subject Site
- Major Road
- Local Road
- Waterbody
- Watercourse
- Unknown
- Abandoned-Quality
- Abandoned-Supply
- Monitoring and Test Hole
- Test Hole
- Water Supply

Soil Engineers Ltd.

MECP Well Location Plan

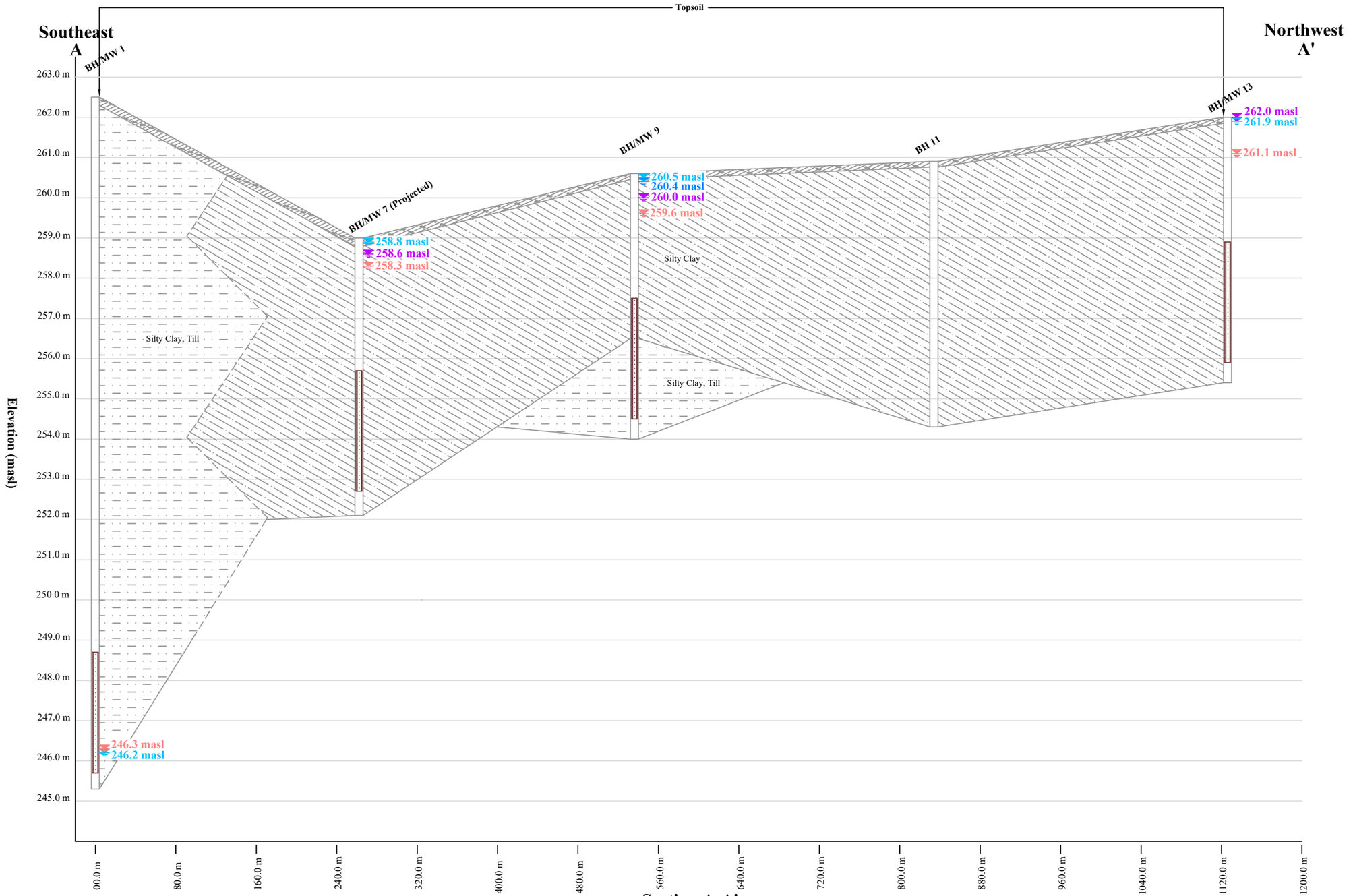
Hydrogeological Assessment
Proposed Residential Development
Northwest Quadrant of
Mount Hope Road and Columbia Way
Town of Caledon

Reference No. 2309-W138

Date: January 17, 2024

Scale:
0 50 100 200 300 400 500
Metres

Drawing No. 7



Section A-A'

Topsoil

Silty Clay Till

Silty Clay

3.0 m Screen

2024 Spring High level Reading

- Water Table on March 27, 2024
- Water Table on April 24, 2024
- Water Table on May 28, 2024
- Water Table on June 17, 2024

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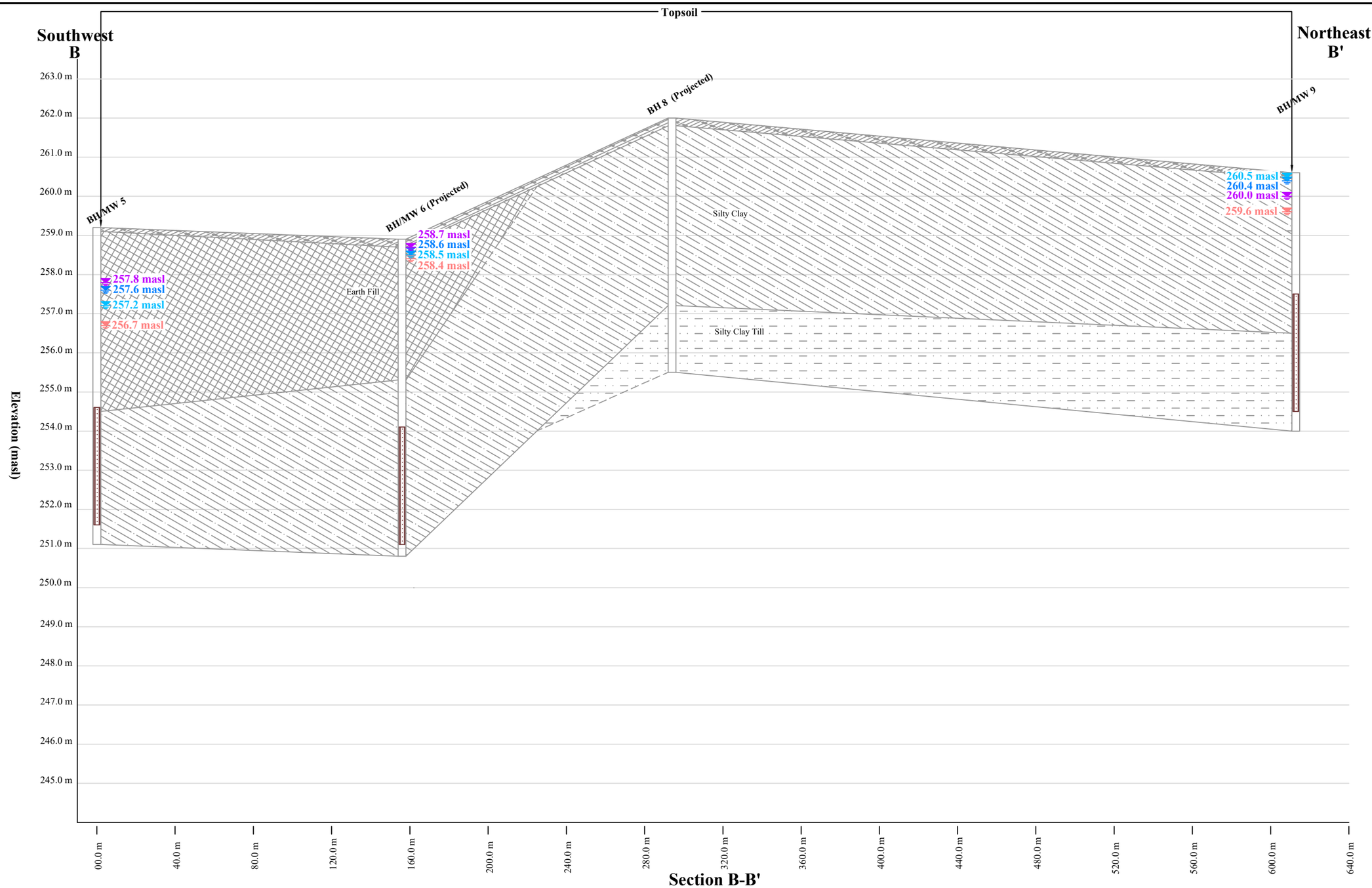
CONSULTING SOIL, FOUNDATION & ENVIRONMENTAL ENGINEERS

Title: Geological Cross-Section (A-A')

Project: Hydrogeological Assessment
Proposed Residential Development
Northwest of Mount Hope Road and Columbia Way, Town of Caledon

Reference No:	Date:	Scale: V	Scale: H	Drawing No.
2309-W138	December, 2024	1:100	1:4000	8-2A



Section B-B'

Topsoil
Earth Fill
Silty Clay Till
Silty Clay

3.0 m Screen

2024 Spring High level Reading

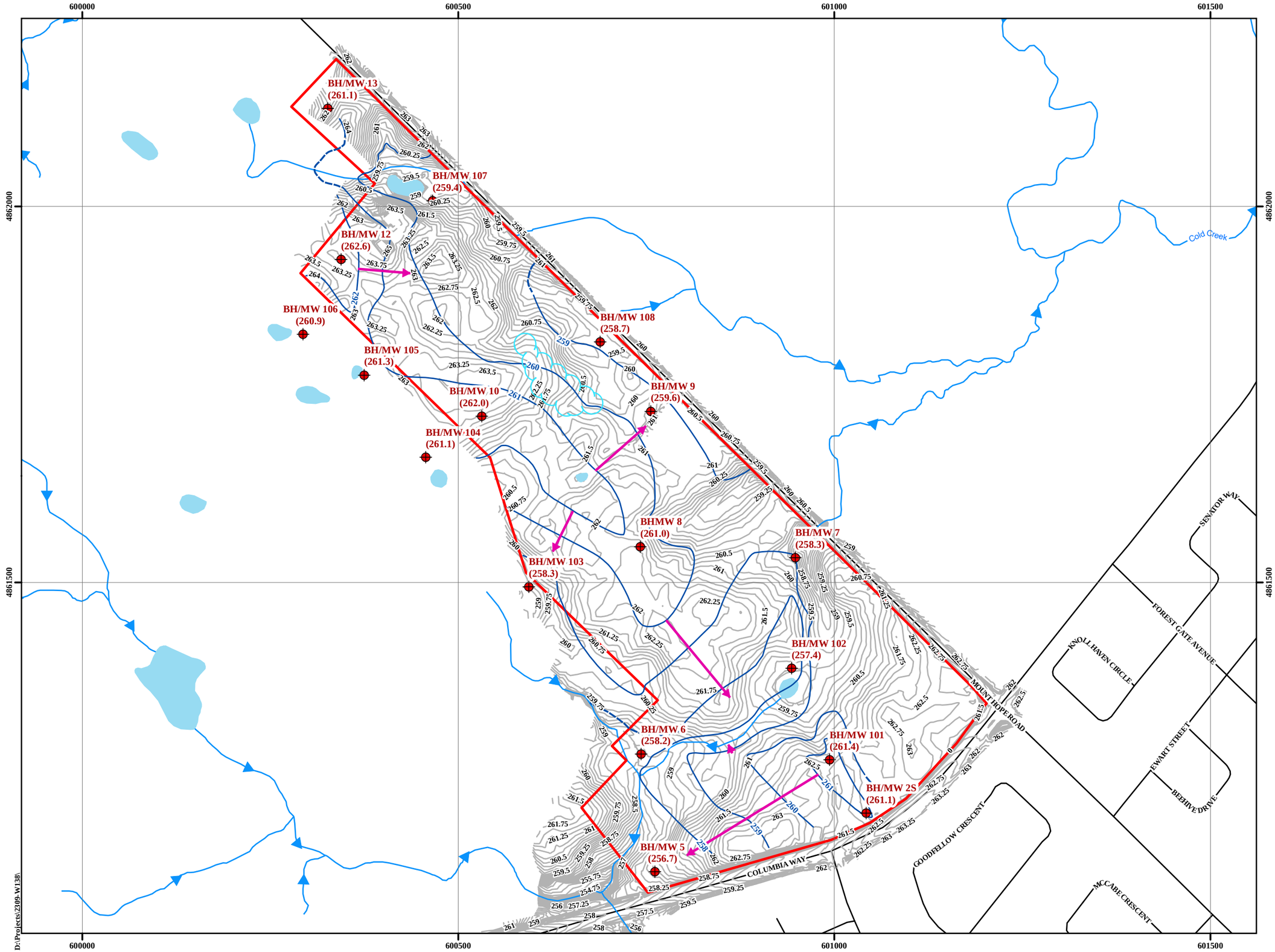
- Water Table on March 27, 2024
- Water Table on April 24, 2024
- Water Table on May 28, 2024
- Water Table on June 17, 2024

Soil Engineers Ltd.
CONSULTING SOIL, FOUNDATION & ENVIRONMENTAL ENGINEERS

Title: Geological Cross-Section (B-B')

Project: Hydrogeological Assessment
Proposed Residential Development
Northwest of Mount Hope Road and Columbia Way, Town of Caledon

Reference No:	Date:	Scale: V	Scale: H	Drawing No.
2309-W138	December, 2024	1:100	1:2000	8-2B



N

References: Ontario Ministry of Natural Resources and Forestry
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Key Map

Legend

- Approximate Boundary of Subject Site
- Borehole with Monitoring Well
- Local Road
- Contour - 0.25m
- Waterbody
- Watercourse
- Highest Interpreted Shallow Groundwater Elevation Contour
- Highest Inferred Shallow Groundwater Elevation Contour
- Interpreted Shallow Groundwater Flow Direction
- (261.9) Highest Shallow Groundwater Level Measured on June 17, 2024

Soil Engineers Ltd.

Shallow Groundwater Flow Pattern Plan

Hydrogeological Assessment
Proposed Residential Development
Northwest Quadrant of
Mount Hope Road and Columbia Way
Town of Caledon

Reference No. 2309-W138

Date: October 15, 2024

Scale:

0 25 50 100 150 200 250
Metres

Drawing No. 9

Soil Engineers Ltd.
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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'A-1'

Borehole Logs and Grain size Distribution Graphs
Drilling Program of 2023

REFERENCE NO. 2309-W138

LIST OF ABBREVIATIONS AND DESCRIPTION OF TERMS

The abbreviations and terms commonly employed on the borehole logs and figures, and in the text of the report, are as follows:

SAMPLE TYPES

AS Auger sample
CS Chunk sample
DO Drive open (split spoon)
DS Denison type sample
FS Foil sample
RC Rock core (with size and percentage recovery)
ST Slotted tube
TO Thin-walled, open
TP Thin-walled, piston
WS Wash sample

PENETRATION RESISTANCE

Dynamic Cone Penetration Resistance:

A continuous profile showing the number of blows for each foot of penetration of a 2-inch diameter, 90° point cone driven by a 140-pound hammer falling 30 inches.

Plotted as '—●—'

Standard Penetration Resistance or 'N' Value:

The number of blows of a 140-pound hammer falling 30 inches required to advance a 2-inch O.D. drive open sampler one foot into undisturbed soil.

Plotted as '○'

WH Sampler advanced by static weight
PH Sampler advanced by hydraulic pressure
PM Sampler advanced by manual pressure
NP No penetration

SOIL DESCRIPTION

Cohesionless Soils:

'N' (blows/ft)	Relative Density
0 to 4	very loose
4 to 10	loose
10 to 30	compact
30 to 50	dense
over 50	very dense

Cohesive Soils:

Undrained Shear Strength (ksf)	'N' (blows/ft)	Consistency
less than 0.25	0 to 2	very soft
0.25 to 0.50	2 to 4	soft
0.50 to 1.0	4 to 8	firm
1.0 to 2.0	8 to 16	stiff
2.0 to 4.0	16 to 32	very stiff
over 4.0	over 32	hard

Method of Determination of Undrained Shear Strength of Cohesive Soils:

x 0.0 Field vane test in borehole; the number denotes the sensitivity to remoulding

△ Laboratory vane test

□ Compression test in laboratory

For a saturated cohesive soil, the undrained shear strength is taken as one half of the undrained compressive strength

METRIC CONVERSION FACTORS

1 ft = 0.3048 metres
1lb = 0.454 kg
1 inch = 25.4 mm
1ksf = 47.88 kPa

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 1

FIGURE NO.: 1

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Hollow Stem Augers with Tricone

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 24, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
262.5	Ground Surface							
0.0	**23 cm TOPSOIL**	1	DO	13	0		20	
	Stiff to hard **SILTY CLAY TILL** traces of sand and gravel	2	DO	22	1		17	
		3	DO	26	2		16	
		4	DO	34			17	
	brown / grey	5A 5B	DO	25	3		18	
		6	DO	24	4		18	
	clay layer	7	DO	12	5		25	
		8	DO	19	6		14	
		9	DO	17	7		17	
	clay layer	10	DO	24	8		20	
		11	DO	43	9		14	
		12	DO	92/28	10		11	
	sand layer	13A 13B	DO	86/28	11		13 18	
245.3		14	DO	78	12		15	
17.2	**END OF BOREHOLE**				13			
	Installed 50 mm Ø PVC monitoring well to 16.8 m with 3.0 m screen Sand backfill from 13.1 to 16.8 m Bentonite seal from 0.0 m to 13.1 m Provided with monument casing				14			
					15			
					16			
					17			
					18			
					19			
					20			
					21			
					22			
					23			
					24			

Water Level Reading:
W.L. @ El. 246.4 masl on Nov 15, 2023
Dry on Dec 04, 2023
Dry on Jan 04, 2024
Dry on Jan 26, 2024
W.L. @ El. 246.2 masl on Mar 27, 2024
W.L. @ El. 246.2 masl on Apr 24, 2024
W.L. @ El. 246.2 masl on May 28, 2024
W.L. @ El. 246.3 masl on Jun 17, 2024
W.L. @ El. 246.5 masl on Aug 29, 2024
W.L. @ El. 246.3 masl on Nov 4 - 5, 2024

Soil Engineers Ltd.

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 2D

FIGURE NO.: 2

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Hollow Stem Augers with Tricone

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 26, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
262.6	Ground Surface							
0.0	**23 cm TOPSOIL**	1A 1B	DO	10	0		14 17	
	Brown, stiff to hard **SILTY CLAY** a trace of sand	2	DO	25	1		17	
		3	DO	37	2		18	
		4	DO	39			19	
		5	DO	30	3			
	wet silt layer	6	DO	32	4		19	
257.0					5			
5.6	Grey, very stiff to hard **SILTY CLAY TILL** traces of sand and gravel	7	DO	24	6		11	
		8	DO	16	7		20	
		9	DO	24	8		17	
	wet silt layer	10A 10B	DO	52	9		11 23	
		11	DO	63	10		18	
		12	DO	56	11		9	
247.9					12			
14.7	Grey, hard **SILTY CLAY** a trace of sand	13	DO	50/13	13		15	
245.6		14	DO	50/13	14		14	
17.0	**END OF BOREHOLE**				15			
	Installed 50 mm Ø PVC monitoring well to 16.8 m with 1.5 m screen Sand backfill from 14.6 to 16.8 m Bentonite seal from 0.0 m to 14.6 m Provided with monument casing				16			
					17			
					18			
					19			
					20			
					21			
					22			
					23			
					24			

Water Level Reading:
W.L. @ El. 251.2 masl on Nov 15, 2023
W.L. @ El. 251.4 masl on Dec 04, 2023
W.L. @ El. 251.4 masl on Jan 04, 2024
W.L. @ El. 251.6 masl on Jan 26, 2024
W.L. @ El. 251.7 masl on Mar 27, 2024
W.L. @ El. 251.7 masl on Apr 24, 2024
W.L. @ El. 251.7 masl on May 28, 2024
W.L. @ El. 252.2 masl on Jun 17, 2024
W.L. @ El. 251.5 masl on Aug 29, 2024
W.L. @ El. 251.6 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 2S

FIGURE NO.: 3

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 26, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	SAMPLES Type	SAMPLES N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
262.6	Ground Surface							
0.0	**23 cm TOPSOIL**				0			
	Brown, stiff to hard **SILTY CLAY** a trace of sand				1			
	Grey, very stiff to hard **SILTY CLAY TILL** traces of sand and gravel				2			
					3			
					4			
					5			
256.5								
5.6	Grey, very stiff to hard **SILTY CLAY TILL** traces of sand and gravel				6			
6.1	**END OF BOREHOLE** Installed 50 mm Ø PVC monitoring well to 6.1 m with 1.5 m screen Sand backfill from 4 to 6.1 m Bentonite seal from 0.0 m to 4 m Provided with monument casing				7			
					8			
					9			
					10			
					11			
					12			
					13			
					14			

Water Level Reading:
W.L. @ El. 259.2 masl on Nov 15, 2023
W.L. @ El. 259.4 masl on Dec 04, 2023
W.L. @ El. 261.7 masl on Jan 04, 2024
W.L. @ El. 261.4 masl on Jan 26, 2024
W.L. @ El. 261.8 masl on Mar 27, 2024
W.L. @ El. 261.8 masl on Apr 24, 2024
W.L. @ El. 261.9 masl on May 28, 2024
W.L. @ El. 261.1 masl on Jun 17, 2024
W.L. @ El. 260.4 masl on Aug 29, 2024
W.L. @ El. 259.5 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH 3

FIGURE NO.: 4

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 23, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
260.3	Ground Surface							
0.0	**18 cm TOPSOIL**	1A 1B	DO	12	0		17	
	Stiff to hard **SILTY CLAY** a trace of sand	2	DO	20	1		23	
		3	DO	27	2		15	
		4	DO	38			16	
	brown / grey	5	DO	27	3		17	
		6	DO	22	4 5		13	
253.7		7	DO	28	6		17	
6.5	**END OF BOREHOLE**				7 8 9 10 11 12 13 14			

Soil Engineers Ltd.

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 4

FIGURE NO.: 5

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Hollow Stem Augers with Tricone

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 25, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
261.0	Ground Surface							
0.0	**36 cm TOPSOIL**	1	DO	10	0		20	
	Brown, stiff to hard **SILTY CLAY TILL** traces of sand and gravel occ. sand seams	2	DO	15	1		18	
		3	DO	28	2		14	
		4	DO	28			12	
		5	DO	37	3			
257.0					4			
4.0	Grey, very stiff **SILTY CLAY** a trace of sand	6	DO	21	5		19	
		7	DO	24	6		18	
		8	DO	22	7		24	
		9	DO	19	8		21	
		10	DO	18	9		21	
249.4					10			
11.7	Grey, very stiff to hard **SILTY CLAY TILL** traces of sand and gravel occ. sand layers	11	DO	19	11		13	
		12	DO	20	12		16	
		13	DO	66	13		10	
243.8		14	DO	65	14		12	
17.2	**END OF BOREHOLE**				15			
	Installed 50 mm Ø PVC monitoring well to 16.8 m with 3.0 m screen Sand backfill from 13.1 to 16.8 m Bentonite seal from 0.0 m to 13.1 m Provided with monument casing				16			
					17			
					18			
					19			
					20			
					21			
					22			
					23			
					24			

Water Level Reading:
W.L. @ El. 248.8 masl on Nov 15, 2023
W.L. @ El. 248.6 masl on Dec 04, 2023
W.L. @ El. 248.5 masl on Jan 04, 2024
W.L. @ El. 248.6 masl on Jan 26, 2024
W.L. @ El. 248.8 masl on Mar 27, 2024
W.L. @ El. 248.8 masl on Apr 24, 2024
W.L. @ El. 248.9 masl on May 28, 2024
W.L. @ El. 248.8 masl on Jun 17, 2024
W.L. @ El. 248.7 masl on Aug 29, 2024
W.L. @ El. 248.7 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 5

FIGURE NO.: 6

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 25, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
259.2	Ground Surface				
0.0	**10 cm TOPSOIL**	1A			0
	EARTH FILL Dark brown, silty clay occ. organics inclusion	1B	DO	16	
		2	DO	9	1
		3	DO	8	2
		4	DO	7	
		5	DO	9	3
		6	DO	8	4
254.5		7A			
4.7	Very stiff to hard **SILTY CLAY** a trace of sand	7B	DO	22	5
	— — — brown / grey	8	DO	38	6
		9	DO	21	7
251.1					8
8.1	**END OF BOREHOLE**				
	Installed 50 mm Ø PVC monitoring well to 7.6 m with 1.5 m screen Sand backfill from 5.5 to 7.6 m Bentonite seal from 0.0 m to 5.5 m Provided with monument casing				9
					10
					11
					12
					13
					14

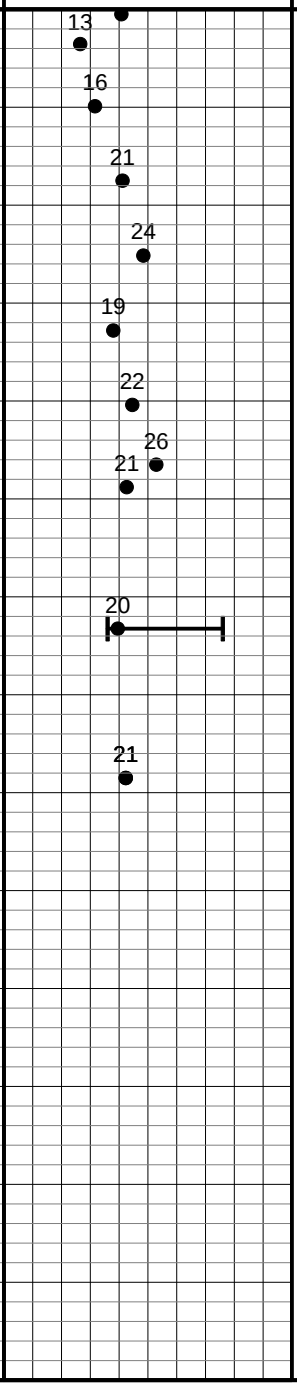
Dynamic Cone (blows/30 cm) 10 30 50 70 90

Shear Strength (kN/m²) 50 100 150 200

Penetration Resistance (blows/30 cm) 10 30 50 70 90

Atterberg Limits PL LL

Moisture Content (%) 10 20 30 40



WATER LEVEL

Water Level Reading:
W.L. @ El. 255.5 masl on Nov 15, 2023
W.L. @ El. 255.8 masl on Dec 04, 2023
W.L. @ El. 258.5 masl on Jan 04, 2024
W.L. @ El. 257.4 masl on Jan 26, 2024
W.L. @ El. 257.6 masl on Mar 27, 2024
W.L. @ El. 257.8 masl on Apr 24, 2024
W.L. @ El. 257.2 masl on May 28, 2024
W.L. @ El. 256.7 masl on Jun 17, 2024
W.L. @ El. 257.0 masl on Aug 29, 2024
W.L. @ El. 255.8 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 6

FIGURE NO.: 7

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 25, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
258.9	Ground Surface							
0.0	**18 cm TOPSOIL**	1A 1B	DO	11	0		15	
	EARTH FILL Dark brown, silty clay occ. organics inclusion and asphalt debris	2	DO	7	1		24	
		3	DO	8	2		23	
		4	DO	9			25	
255.3		5	DO	10	3		19	
3.7	Very stiff to hard **SILTY CLAY** a trace of sand	6	DO	27	4		24	
		7	DO	35	5		15	
	brown / grey	8	DO	30	6		18	
					7			
250.8		9	DO	23	8		17	
8.1	**END OF BOREHOLE** Installed 50 mm Ø PVC monitoring well to 7.6 m with 1.5 m screen Sand backfill from 5.5 to 7.6 m Bentonite seal from 0.0 m to 5.5 m Provided with monument casing				9			
					10			
					11			
					12			
					13			
					14			

Water Level Reading:
W.L. @ El. 257.6 masl on Nov 15, 2023
W.L. @ El. 257.9 masl on Dec 04, 2023
W.L. @ El. 258.4 masl on Jan 04, 2024
W.L. @ El. 258.5 masl on Jan 26, 2024
W.L. @ El. 258.6 masl on Mar 27, 2024
W.L. @ El. 258.7 masl on Apr 24, 2024
W.L. @ El. 258.5 masl on May 28, 2024
W.L. @ El. 258.4 masl on Jun 17, 2024
W.L. @ El. 258.3 masl on Aug 29, 2024
W.L. @ El. 257.6 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 7

FIGURE NO.: 8

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 23, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
259.0 / 0.0	Ground Surface				
	18 cm TOPSOIL	1A			0
	Stiff to hard **SILTY CLAY** a trace of sand	1B	DO	15	
		2	DO	29	1
		3	DO	36	2
		4	DO	35	
	brown grey	5	DO	32	3
	wet sandy silt layer	6A 6B	DO	49	4 5
252.5		7	DO	25	6
6.5	**END OF BOREHOLE**				7
	Installed 50 mm Ø PVC monitoring well to 6.1 m with 3.0 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with monument casing				8 9 10 11 12 13 14

Dynamic Cone (blows/30 cm): 10 30 50 70 90

Shear Strength (kN/m²): 50 100 150 200

Penetration Resistance (blows/30 cm): 10 30 50 70 90

Atterberg Limits: PL — LL

Moisture Content (%): 10 20 30 40

Moisture Content (%): 15, 16, 16, 15, 16, 15, 17, 19

WATER LEVEL

Water Level Reading:
W.L. @ El. 257.3 masl on Nov 15, 2023
W.L. @ El. 258.1 masl on Dec 04, 2023
W.L. @ El. 258.6 masl on Jan 04, 2024
W.L. @ El. 258.5 masl on Jan 26, 2024
W.L. @ El. 258.8 masl on Mar 27, 2024
W.L. @ El. 258.6 masl on Apr 24, 2024
W.L. @ El. 258.8 masl on May 28, 2024
W.L. @ El. 258.3 masl on Jun 17, 2024
W.L. @ El. 257.6 masl on Aug 29, 2024
W.L. @ El. 256.9 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 9

FIGURE NO.: 9

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 24, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
260.6 / 0.0	Ground Surface				
	15 cm TOPSOIL	1A			0
	Brown, stiff to very stiff **SILTY CLAY** a trace of sand	1B	DO	12	
		2	DO	25	1
		3	DO	25	2
	wet sandy silt layer	4A 4B	DO	11	
		5	DO	11	3
256.5 / 4.0	Grey, very stiff **SILTY CLAY TILL** traces of sand and gravel	6	DO	19	4
					5
					6
254.0 / 6.5		7	DO	28	
	END OF BOREHOLE				7
	Installed 50 mm Ø PVC monitoring well to 6.1 m with 3.0 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with monument casing				8
					9
					10
					11
					12
					13
					14

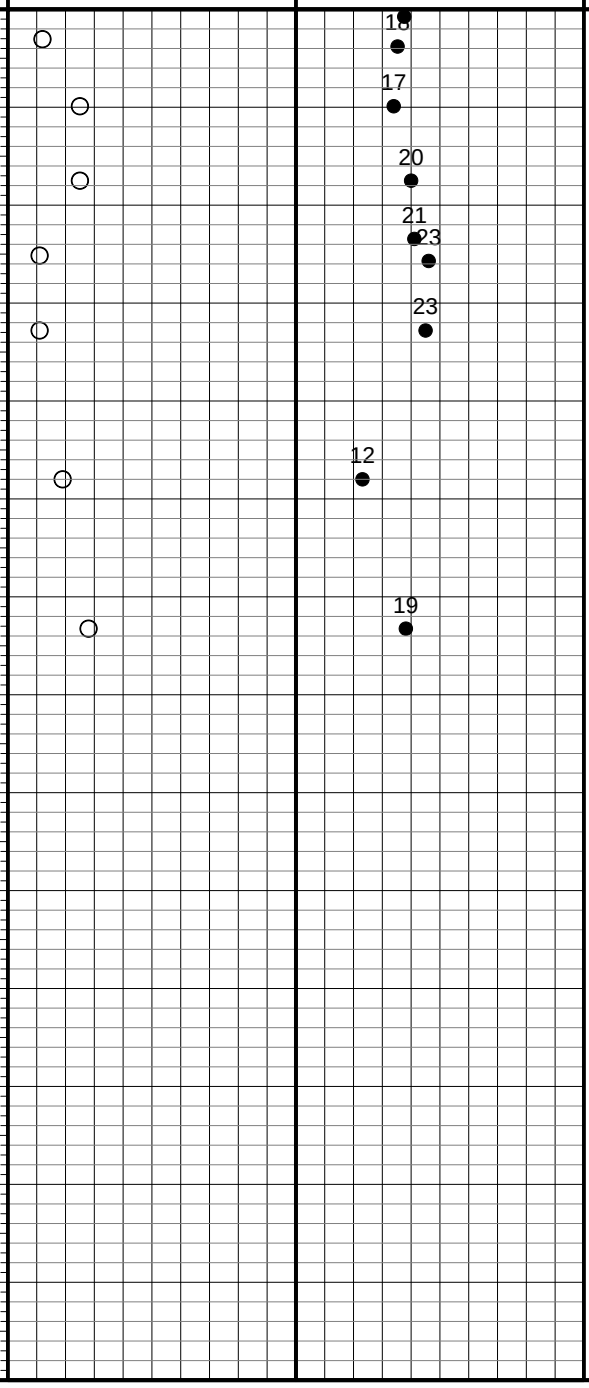
Dynamic Cone (blows/30 cm) 10 30 50 70 90

Shear Strength (kN/m²) 50 100 150 200

Penetration Resistance (blows/30 cm) 10 30 50 70 90

Atterberg Limits PL LL

Moisture Content (%) 10 20 30 40



WATER LEVEL

Water Level Reading:
W.L. @ El. 259.4 masl on Nov 15, 2023
W.L. @ El. 260.2 masl on Dec 04, 2023
W.L. @ El. 260.1 masl on Jan 04, 2024
W.L. @ El. 260.3 masl on Jan 26, 2024
W.L. @ El. 260.4 masl on Mar 27, 2024
W.L. @ El. 260.0 masl on Apr 24, 2024
W.L. @ El. 260.5 masl on May 28, 2024
W.L. @ El. 259.6 masl on Jun 17, 2024
W.L. @ El. 259.2 masl on Aug 29, 2024
W.L. @ El. 258.5 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 10

FIGURE NO.: 10

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 23, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
263.1	Ground Surface							
0.0	**25 cm TOPSOIL**	1A	DO	13	0		21	
	Stiff to hard **SILTY CLAY** a trace of sand	1B						
		2	DO	23	1		17	
		3	DO	19	2		19	
		4	DO	36			17	
		5	DO	48	3		16	
	brown / grey				4			
		6	DO	34	5		15	
					6			
256.5		7	DO	27			17	
6.5	**END OF BOREHOLE**				7			
	Installed 50 mm Ø PVC monitoring well to 6.1 m with 3.0 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with monument casing				8			
					9			
					10			
					11			
					12			
					13			
					14			

Water Level Reading:
W.L. @ El. 258.0 masl on Nov 15, 2023
W.L. @ El. 258.4 masl on Dec 04, 2023
W.L. @ El. 262.2 masl on Jan 04, 2024
W.L. @ El. 262.2 masl on Jan 26, 2024
W.L. @ El. 262.5 masl on Mar 27, 2024
W.L. @ El. 262.5 masl on Apr 24, 2024
W.L. @ El. 262.4 masl on May 28, 2024
W.L. @ El. 262.0 masl on Jun 17, 2024
W.L. @ El. 261.6 masl on Aug 29, 2024
W.L. @ El. 260.0 masl on Nov 4 - 5, 2024

Soil Engineers Ltd.

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH 11

FIGURE NO.: 11

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 24, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
260.9	Ground Surface							
0.0	**13 cm TOPSOIL**	1A			0		18	
	Stiff to hard **SILTY CLAY** a trace of sand	1B	DO	12				
		2	DO	18	1		18	
		3	DO	25	2		19	
		4	DO	26			19	
		5	DO	32	3		20	
	brown / grey				4			
		6	DO	17	5		18	
					6			
254.3		7	DO	23			17	
6.5	**END OF BOREHOLE**				7			
					8			
					9			
					10			
					11			
					12			
					13			
					14			

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 12

FIGURE NO.: 12

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 24, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
263.0	Ground Surface				
0.0	**30 cm TOPSOIL**	1A	DO	8	0
	Firm to hard **SILTY CLAY** a trace of sand	1B			
		2	DO	11	1
		3	DO	12	2
		4	DO	29	
		5	DO	48	3
	brown grey				4
	wet sandy silt layer	6A 6B	DO	44	5
257.4					
5.6	Hard **SILTY CLAY TILL** traces of sand and gravel	7	DO	37	6
256.4					
6.5	**END OF BOREHOLE**				7
	Installed 50 mm Ø PVC monitoring well to 6.1 m with 3.0 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with monument casing				8
					9
					10
					11
					12
					13
					14

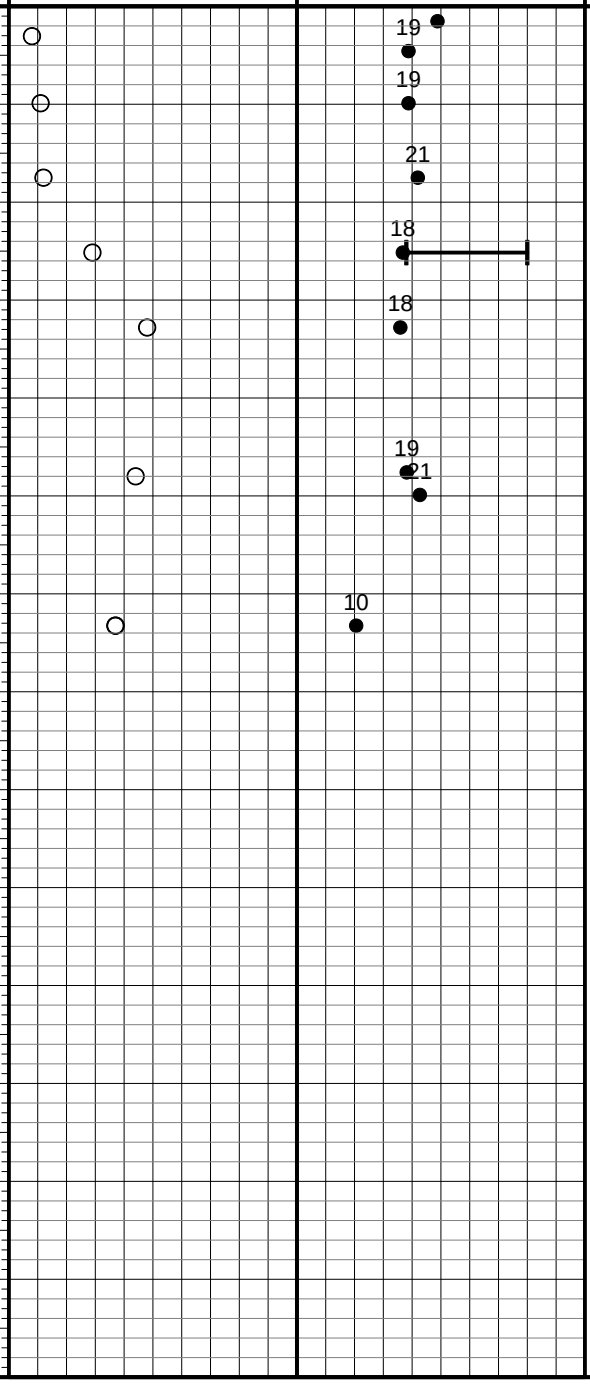
Dynamic Cone (blows/30 cm) 10 30 50 70 90

Shear Strength (kN/m²) 50 100 150 200

Penetration Resistance (blows/30 cm) 10 30 50 70 90

Atterberg Limits PL LL

Moisture Content (%) 10 20 30 40



WATER LEVEL

Water Level Reading:
W.L. @ El. 260.3 masl on Nov 15, 2023
W.L. @ El. 260.1 masl on Dec 04, 2023
W.L. @ El. 262.3 masl on Jan 04, 2024
W.L. @ El. 263.0 masl on Jan 26, 2024
W.L. @ El. 263.0 masl on Mar 27, 2024
W.L. @ El. 263.1 masl on Apr 24, 2024
W.L. @ El. 263.0 masl on May 28, 2024
W.L. @ El. 262.6 masl on Jun 17, 2024
W.L. @ El. 262.5 masl on Aug 29, 2024
W.L. @ El. 261.0 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 13

FIGURE NO.: 13

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 24, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
262.0 / 0.0	Ground Surface				
	15 cm TOPSOIL	1A			0
	Stiff to hard **SILTY CLAY** a trace of sand	1B	DO	9	
		2	DO	25	1
		3	DO	23	
					2
		4	DO	33	
	brown / grey				
		5	DO	19	3
					4
	wet sandy silt layer	6A / 6B	DO	25	5
					6
255.4 / 6.5		7	DO	28	
	END OF BOREHOLE				7
	Installed 50 mm Ø PVC monitoring well to 6.1 m with 3.0 m screen Sand backfill from 2.4 to 6.1 m Bentonite seal from 0.0 m to 2.4 m Provided with monument casing				8
					9
					10
					11
					12
					13
					14

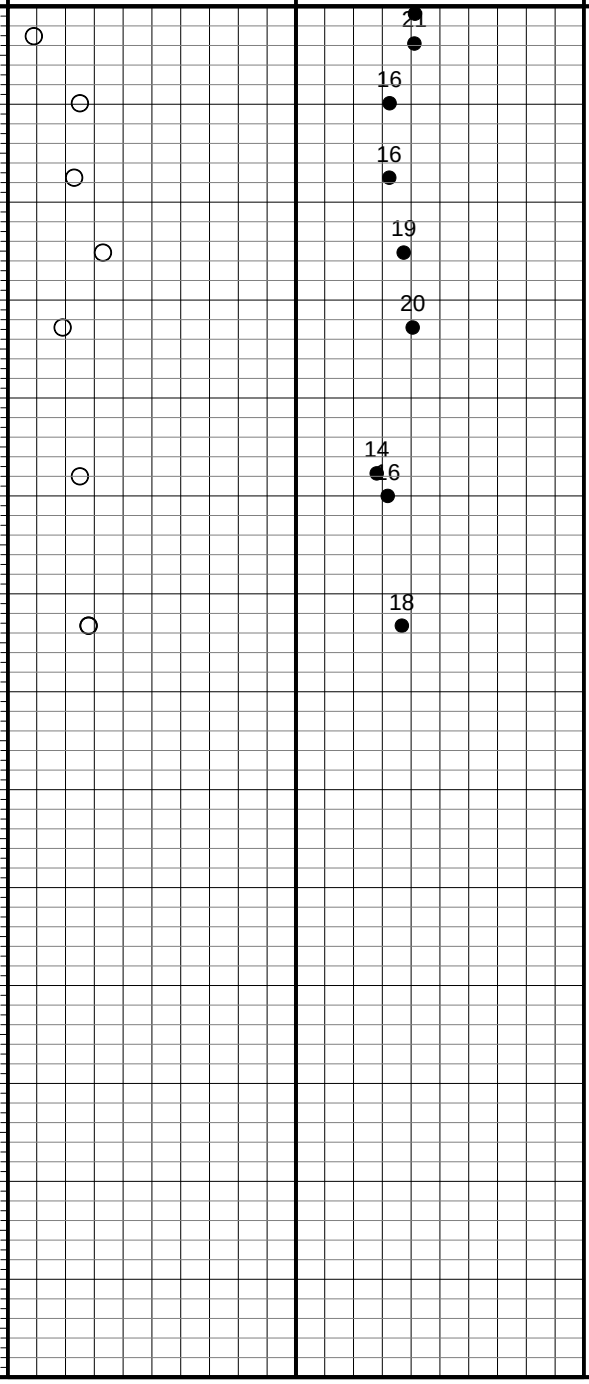
Dynamic Cone (blows/30 cm) 10 30 50 70 90

Shear Strength (kN/m²) 50 100 150 200

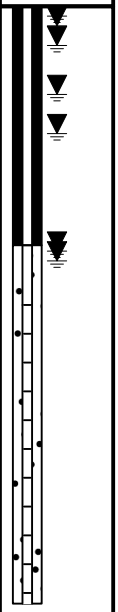
Penetration Resistance (blows/30 cm) 10 30 50 70 90

Atterberg Limits PL LL

Moisture Content (%) 10 20 30 40



WATER LEVEL



Water Level Reading:
W.L. @ El. 259.4 masl on Nov 15, 2023
W.L. @ El. 259.5 masl on Dec 04, 2023
W.L. @ El. 261.6 masl on Jan 04, 2024
W.L. @ El. 261.8 masl on Jan 26, 2024
W.L. @ El. 261.9 masl on Mar 27, 2024
W.L. @ El. 262.0 masl on Apr 24, 2024
W.L. @ El. 261.9 masl on May 28, 2024
W.L. @ El. 261.1 masl on Jun 17, 2024
W.L. @ El. 260.7 masl on Aug 29, 2024
W.L. @ El. 259.4 masl on Nov 4 - 5, 2024

Soil Engineers Ltd.

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GRAIN SIZE DISTRIBUTION

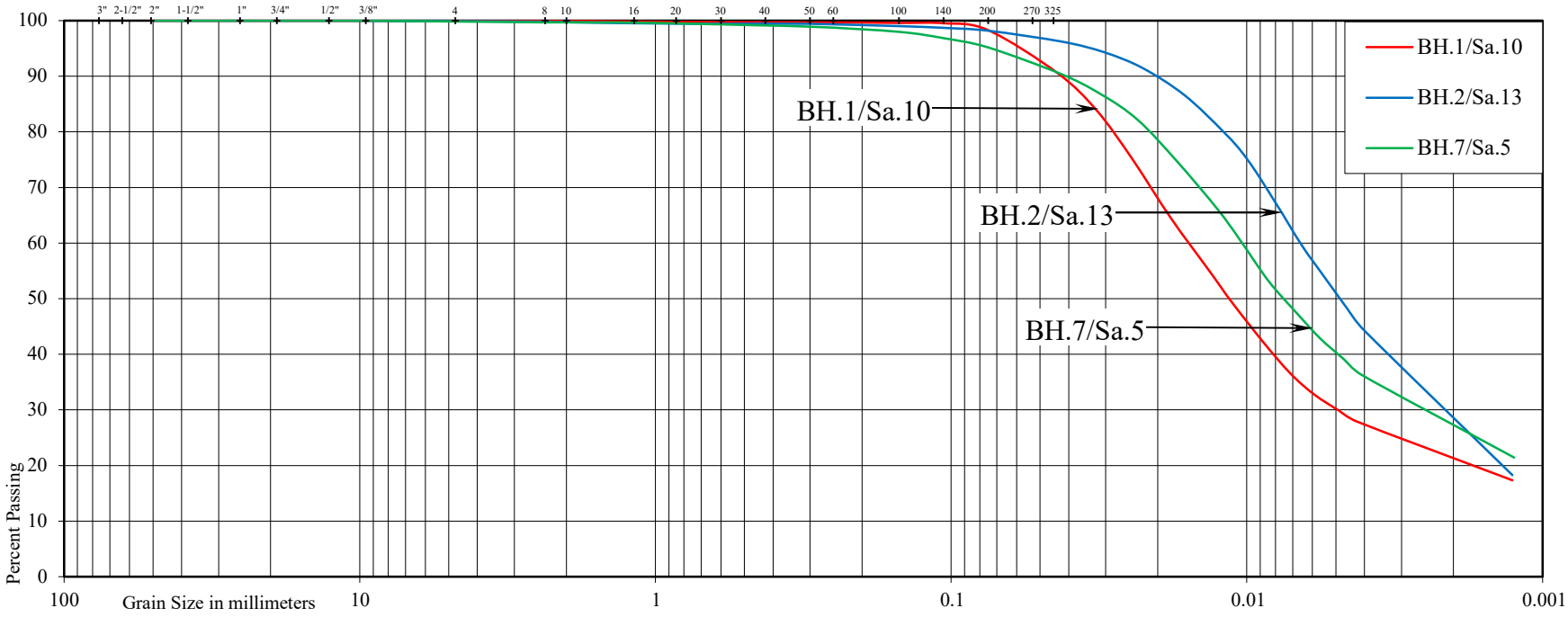
Reference No: 2309-W138

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Residential Development

Location: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

Borehole No:	1	2	7
Sample No:	10	13	5
Depth (m):	10.7	15.2	3.1
Elevation (m):	251.8	247.4	256.0

BH./Sa.	1/10	2/13	7/5
Liquid Limit (%) =	25	-	-
Plastic Limit (%) =	16	-	-
Plasticity Index (%) =	9	-	-
Moisture Content (%) =	20	15	16
Estimated Permeability (cm./sec.) =	10^{-7}	10^{-7}	10^{-7}

Classification of Sample [& Group Symbol]: SILTY CLAY
a trace of sand

Figure: 14

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

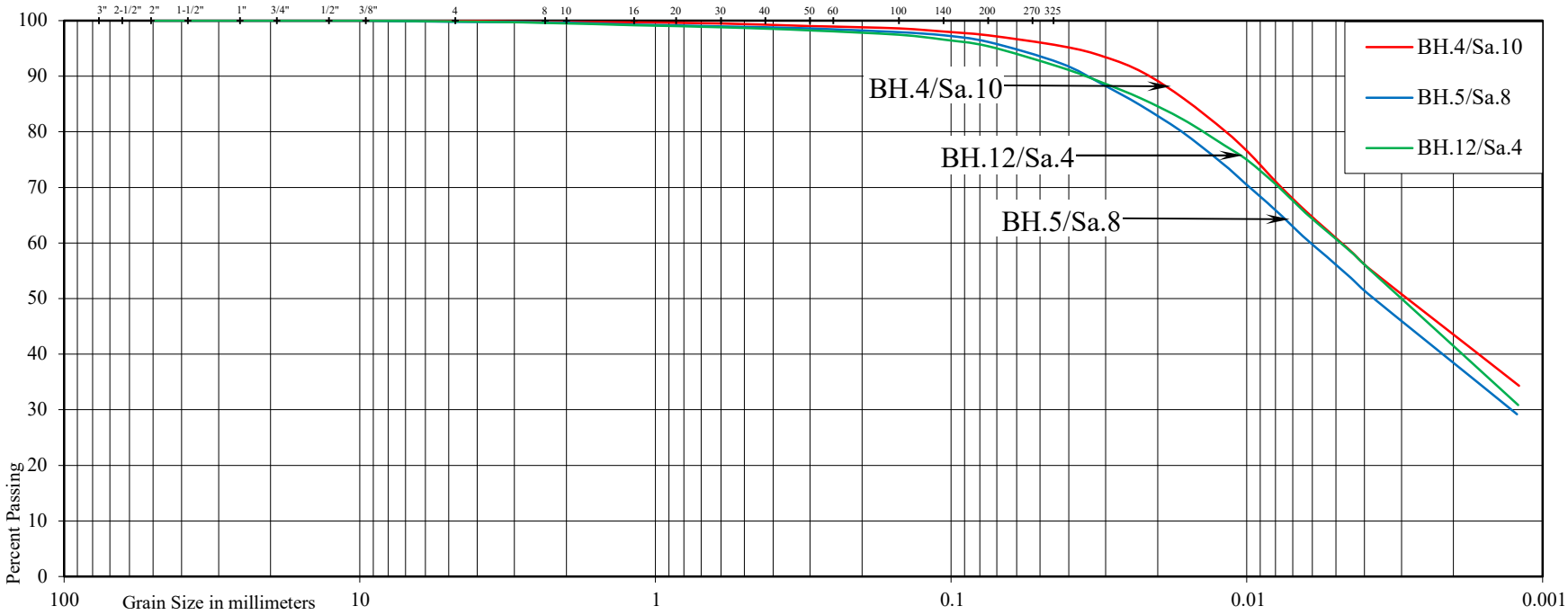
Reference No: 2309-W138

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Residential Development

Location: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

Borehole No:	4	5	12
Sample No:	10	8	4
Depth (m):	10.7	6.1	2.3
Elevation (m):	250.4	253.1	260.7

BH./Sa.	4/10	5/8	12/4
Liquid Limit (%) =	-	38	40
Plastic Limit (%) =	-	18	19
Plasticity Index (%) =	-	20	21
Moisture Content (%) =	21	20	18
Estimated Permeability (cm./sec.) =	10^{-7}	10^{-7}	10^{-7}

Classification of Sample [& Group Symbol]: SILTY CLAY

a trace of sand

Figure: 15

Soil Engineers Ltd.
CONSULTING ENGINEERS
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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'A-2'

Borehole Logs and Grain size Distribution Graphs
Drilling Program Conducted during 2024

REFERENCE NO. 2309-W138

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 101

FIGURE NO.: 1

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Auger

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

DRILLING DATE: May 9, 2024

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
262.2	Ground Surface							
0.0	**10 cm Topsoil**	1	DO	7	0		22	
	Firm to hard **SILTY CLAY** a trace of fine sand occ. fine gravel	2A	DO	15	1		26	
	weathered	2B					16	
		3	DO	34	2		19	
		4	DO	32	3		20	
	brown grey	5	DO	40	4		19	
257.1		6	DO	19	5		19	
5.1	**END OF BOREHOLE**				6			
	Installed 50 mm Ø monitoring well to 4.6 m completed with 1.5 m screen Sand backfill from 2.4 m to 4.6 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				7			
					8			

Water Level Reading:
W.L. @ El. 257.8 masl on May 28, 2024
W.L. @ El. 261.4 masl on Jun 17, 2024
W.L. @ El. 261.4 masl on Aug 29, 2024
W.L. @ El. 260.9 masl on Nov 4 - 5, 2024

Soil Engineers Ltd.

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 102

FIGURE NO.: 2

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Auger

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

DRILLING DATE: May 9, 2024

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
259.5	Ground Surface							
0.0	**15 cm Topsoil**	1	DO	5	0		27	
	Firm to to hard **SILTY CLAY** a trace of fine sand occ. fine gravel weathered	2	DO	12	1		33	
		3	DO	24	2		14	
		4	DO	34	3		17	
	brown grey	5	DO	30	4		17	
254.4		6	DO	10	5		17	
5.1	**END OF BOREHOLE**				6			
	Installed 50 mm Ø monitoring well to 4.6 m completed with 1.5 m screen Sand backfill from 2.4 m to 4.6 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				7			
					8			

Water Level Reading:
W.L. @ El. 255.0 masl on May 28, 2024
W.L. @ El. 257.4 masl on Jun 17, 2024
W.L. @ El. 258.8 masl on Aug 29, 2024
W.L. @ El. 257.9 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 103

FIGURE NO.: 3

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Auger

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

DRILLING DATE: May 8, 2024

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
259.1	Ground Surface							
0.0	**20 cm Topsoil**	1	DO	10	0		27	
	Stiff to to hard **SILTY CLAY** a trace of sand occ. fine gravel — weathered	2	DO	12	1		25	
		3	DO	15	2		23	
		4	DO	23			16	
		5	DO	30	3		20	
	— — brown grey	6	DO	22	4		19	
254.0					5			
5.1	**END OF BOREHOLE**				6			
	Installed 50 mm Ø monitoring well to 4.6 m completed with 1.5 m screen Sand backfill from 2.4 m to 4.6 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				7			
					8			

Water Level Reading:
W.L. @ El. 255.4 masl on May 28, 2024
W.L. @ El. 258.4 masl on Jun 17, 2024
W.L. @ El. 258.4 masl on Aug 29, 2024
W.L. @ El. 258.2 masl on Nov 4 - 5, 2024

Soil Engineers Ltd.

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 104

FIGURE NO.: 4

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Auger

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

DRILLING DATE: May 8, 2024

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) 10 30 50 70 90 / Shear Strength (kN/m²) 50 100 150 200 / Penetration Resistance (blows/30 cm) 10 30 50 70 90	Atterberg Limits PL LL / Moisture Content (%) 10 20 30 40	WATER LEVEL
261.6	Ground Surface							
0.0	**15 cm Topsoil**	1	DO	7	0		36	
	Brown firm to very stiff **SILTY CLAY** a trace of fine sand occ. fine gravel — weathered	2	DO	10	1			
		3	DO	23	2		20	
259.1		4A	DO	37			18	
2.5	Brown, dense, wet **SILTY FINE SAND** a trace of clay	4B					21	
		5	DO	35	3		20	
257.7								
3.9	Grey, very stiff **SILTY CLAY** a trace of fine sand occ. fine gravel	6	DO	30	4		16	
256.5					5			
5.1	**END OF BOREHOLE**				6			
	Installed 50 mm Ø monitoring well to 4.6 m completed with 1.5 m screen Sand backfill from 2.4 m to 4.6 m Bentonite seal from 0.0 m to 2.4 m Provided with a momument steel casing				7			
					8			

Water Level Reading:
W.L. @ El. 258.3 masl on May 28, 2024
W.L. @ El. 261.1 masl on Jun 17, 2024
W.L. @ El. 260.6 masl on Aug 29, 2024
W.L. @ El. 259.8 masl on Nov 4 - 5, 2024

Soil Engineers Ltd.

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 105

FIGURE NO.: 5

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Auger

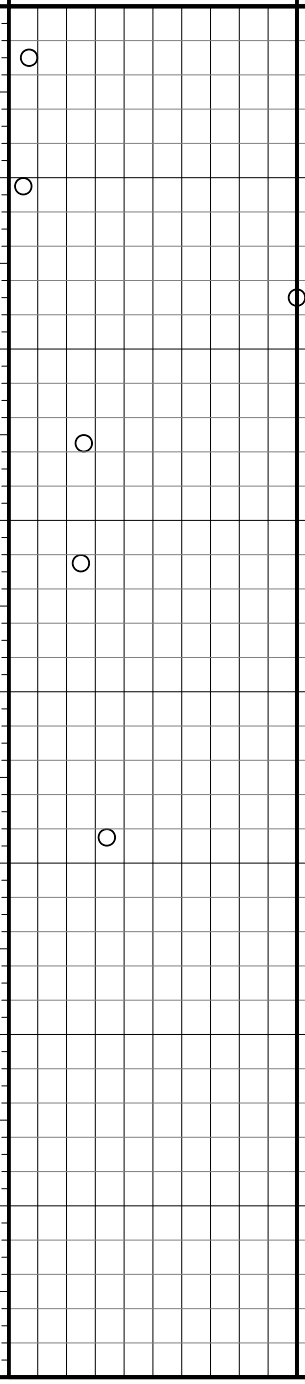
PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

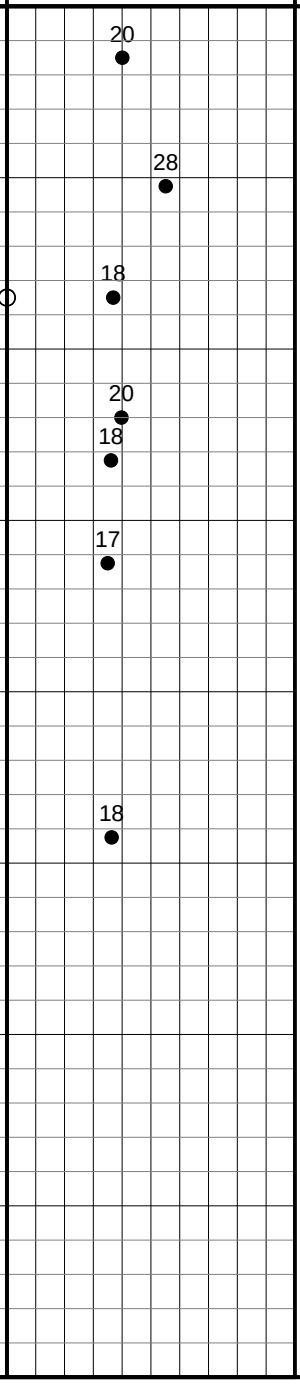
DRILLING DATE: May 8, 2024

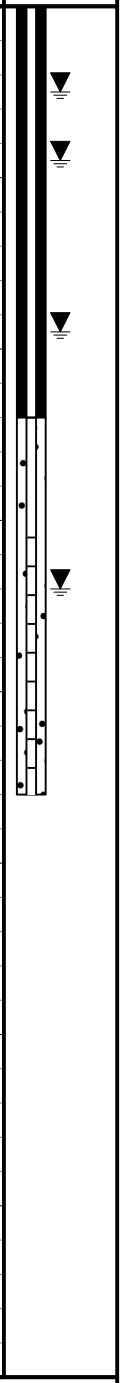
El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
261.8 / 0.0	Ground Surface				
	15 cm Topsoil	1	DO	7	0
	Brown, firm to hard **SILTY CLAY** a trace of sand occ. gravel — weathered	2	DO	5	1
		3	DO	63/28	2
259.3 / 2.5	Brown, compact, wet **SILTY FINE SAND** a trace of clay	4A / 4B	DO	26	
258.8 / 3.0	Grey, very stiff to hard **SILTY CLAY** a trace of sand occ. gravel	5	DO	25	3
		6	DO	34	4 / 5
256.7 / 5.1	**END OF BOREHOLE**				6 / 7 / 8

Installed 50 mm Ø monitoring well to 4.6 m
completed with 1.5 m screen
Sand backfill from 2.4 m to 4.6 m
Bentonite seal from 0.0 m to 2.4 m
Provided with a momument steel casing

Water Level Reading:
W.L. @ El. 258.4 masl on May 28, 2024
W.L. @ El. 261.3 masl on Jun 17, 2024
W.L. @ El. 260.9 masl on Aug 29, 2024
W.L. @ El. 259.9 masl on Nov 4 - 5, 2024







Soil Engineers Ltd.

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 106

FIGURE NO.: 6

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Auger

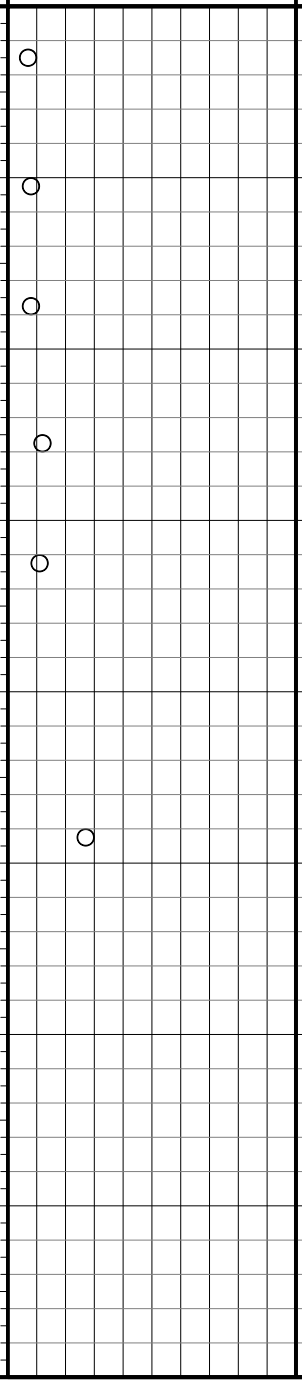
PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

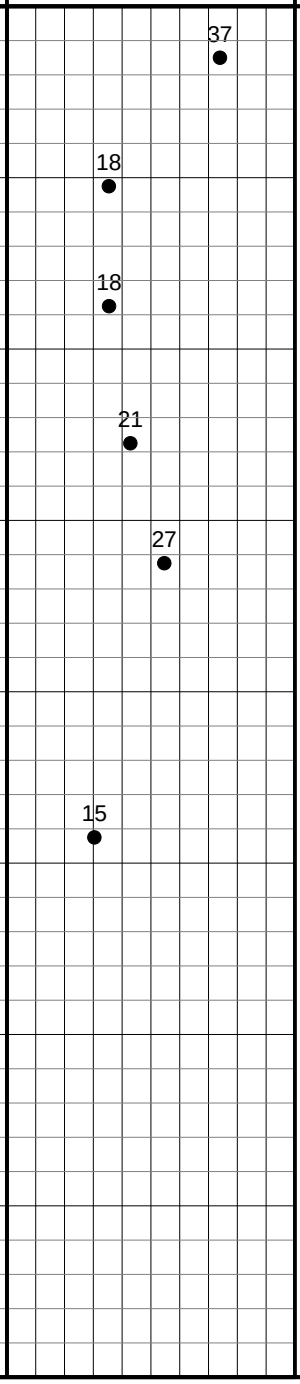
DRILLING DATE: May 8, 2024

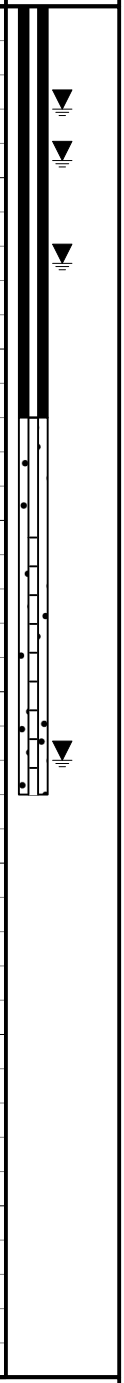
El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value
261.5 / 0.0	Ground Surface			
	15 cm Topsoil	1	DO	7
	Dark brown, firm **SILTY CLAY** — weathered			
260.8 / 0.7	a trace of sand and occ. topsoil inclusion			
	Brown, loose, very moist **SILTY FINE SAND** occ. fine gravel	2	DO	8
260.1 / 1.4				
		3	DO	8
	Stiff to very stiff **SILTY CLAY** occ. fine gravel			
	— sand layers	4	DO	12
	— — brown grey	5	DO	11
		6	DO	27
256.4 / 5.1	**END OF BOREHOLE**			

Installed 50 mm Ø monitoring well to 4.6 m
completed with 1.5 m screen
Sand backfill from 2.4 m to 4.6 m
Bentonite seal from 0.0 m to 2.4 m
Provided with a momument steel casing

Water Level Reading:
W.L. @ El. 257.1 masl on May 28, 2024
W.L. @ El. 260.9 masl on Jun 17, 2024
W.L. @ El. 260.6 masl on Aug 29, 2024
W.L. @ El. 260.0 masl on Nov 4 - 5, 2024







Soil Engineers Ltd.

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 107

FIGURE NO.: 7

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Auger

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

DRILLING DATE: May 9, 2024

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
259.9	Ground Surface				
0.0	**13 cm Topsoil**	1	DO	5	0
	weathered				
	Firm to very stiff **SILTY CLAY** a trace of sand occ. sand seams	2	DO	14	1
		3	DO	19	2
	brown grey	4	DO	16	
		5	DO	25	3
					4
		6	DO	14	5
254.8					
5.1	**END OF BOREHOLE**				6
					7
					8

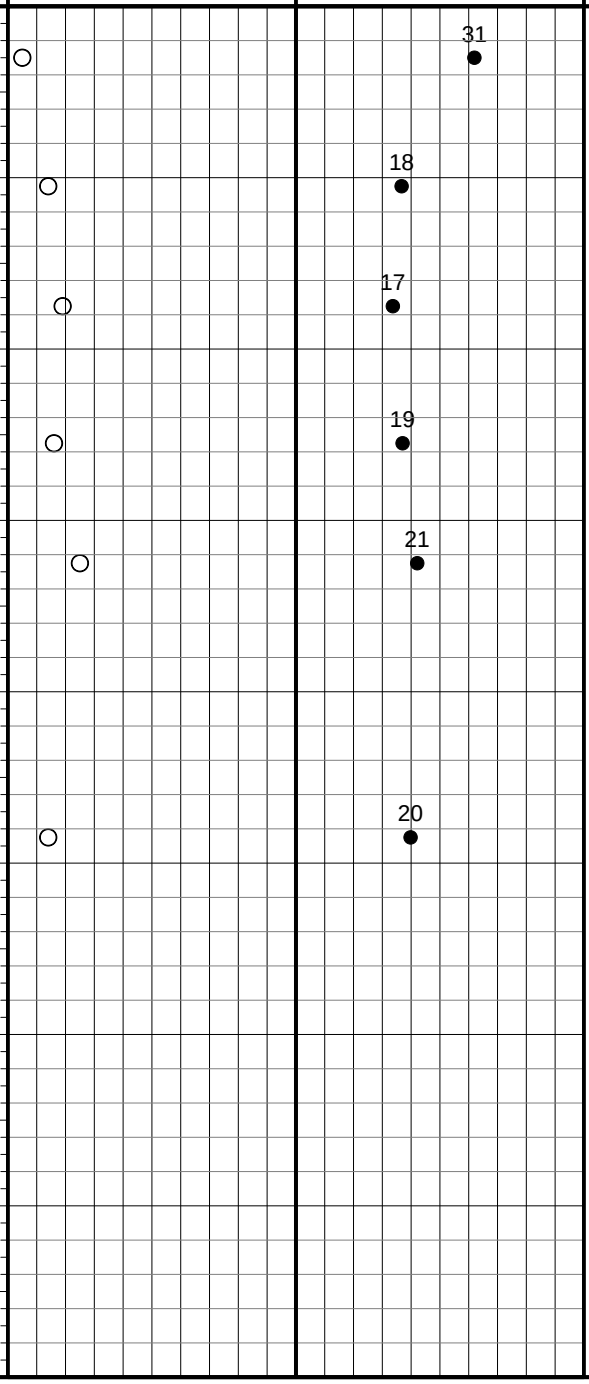
Dynamic Cone (blows/30 cm) 10 30 50 70 90

Shear Strength (kN/m²) 50 100 150 200

Penetration Resistance (blows/30 cm) 10 30 50 70 90

Atterberg Limits PL LL

Moisture Content (%) 10 20 30 40



WATER LEVEL

Installed 50 mm Ø monitoring well to 4.6 m
completed with 1.5 m screen
Sand backfill from 2.4 m to 4.6 m
Bentonite seal from 0.0 m to 2.4 m
Provided with a momument steel casing

Water Level Reading:
W.L. @ El. 256.3 masl on May 28, 2024
W.L. @ El. 259.4 masl on Jun 17, 2024
W.L. @ El. 259.2 masl on Aug 29, 2024
W.L. @ El. 259.0 masl on Nov 4 - 5, 2024

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 108

FIGURE NO.: 8

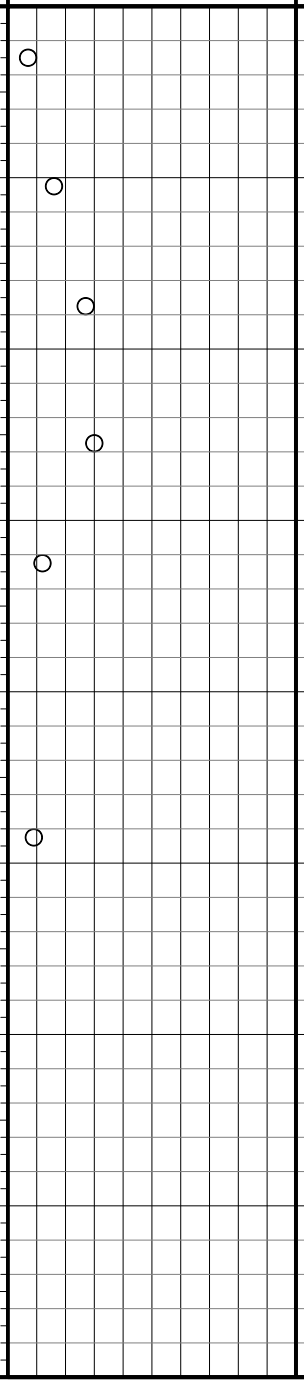
PROJECT DESCRIPTION: Proposed Residential Development

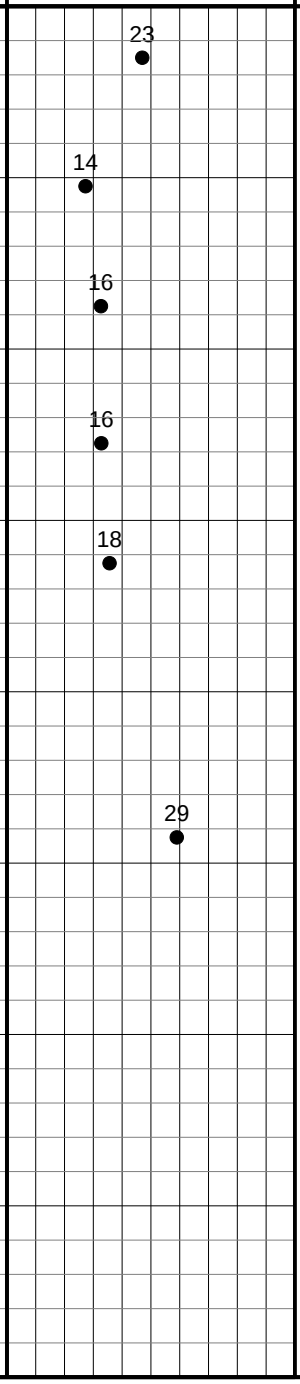
METHOD OF BORING: Solid Stem Auger

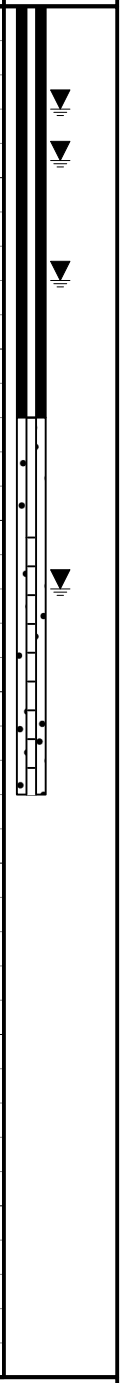
PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way, Town of Caledon

DRILLING DATE: May 9, 2024

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
259.3 / 0.0	Ground Surface				
	13 cm Topsoil	1	DO	7	0
	weathered				
	Firm to very stiff **SILTY CLAY** a trace of fine sand occ. fine gravel	2	DO	16	1
		3	DO	27	2
		4	DO	30	
	brown grey	5	DO	12	3
	wet	6	DO	9	4
254.2 / 5.1	**END OF BOREHOLE**				5
					6
					7
					8







Water Level Reading:
W.L. @ El. 255.9 masl on May 28, 2024
W.L. @ El. 258.7 masl on Jun 17, 2024
W.L. @ El. 258.4 masl on Aug 29, 2024

Installed 50 mm Ø monitoring well to 4.6 m
completed with 1.5 m screen
Sand backfill from 2.4 m to 4.6 m
Bentonite seal from 0.0 m to 2.4 m
Provided with a momument steel casing

Soil Engineers Ltd.

JOB NO.: 2309-W138

LOG OF BOREHOLE:BH/MW 8

FIGURE NO.: 9

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Solid Stem Augers

PROJECT LOCATION: Northwest of Mount Hope Road and Columbia Way
Town of Caledon

DRILLING DATE: October 23, 2023

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)
262.0	Ground Surface				
0.0	**20 cm TOPSOIL**	1A / 1B	DO	17	0
	Brown, very stiff to hard **SILTY CLAY** a trace of sand	2	DO	32	1
		3	DO	29	2
		4A / 4B	DO	40	3
	wet sandy silt layer	5A / 5B	DO	20	
257.2		6	DO	18	4
4.8	Grey, very stiff **SILTY CLAY TILL** traces of sand and gravel				5
255.5		7	DO	21	6
6.5	**END OF BOREHOLE**				7
	Installed 50 mm Ø PVC monitoring well to 5.8 m with 3.0 m screen Sand backfill from 2.5 to 5.8 m Bentonite seal from 0.0 m to 2.5 m Provided with monument casing				8
					9
					10
					11
					12
					13
					14

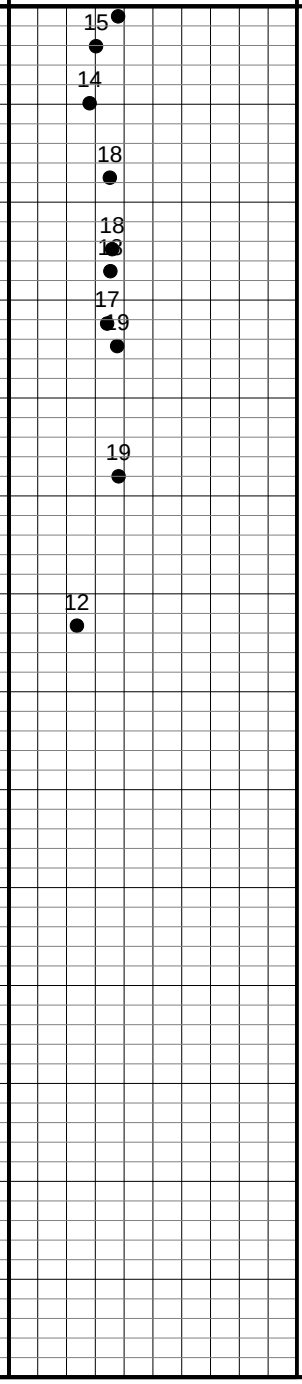
Dynamic Cone (blows/30 cm) 10 30 50 70 90

Shear Strength (kN/m²) 50 100 150 200

Penetration Resistance (blows/30 cm) 10 30 50 70 90

Atterberg Limits PL LL

Moisture Content (%) 10 20 30 40



WATER LEVEL

Water Level Reading:
W.L. @ El. 257.5 masl on May 28, 2024
W.L. @ El. 261.0 masl on Jun 17, 2024
W.L. @ El. 260.5 masl on Aug 29, 2024
W.L. @ El. 259.6 masl on Nov 4 - 5, 2024

Soil Engineers Ltd.

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

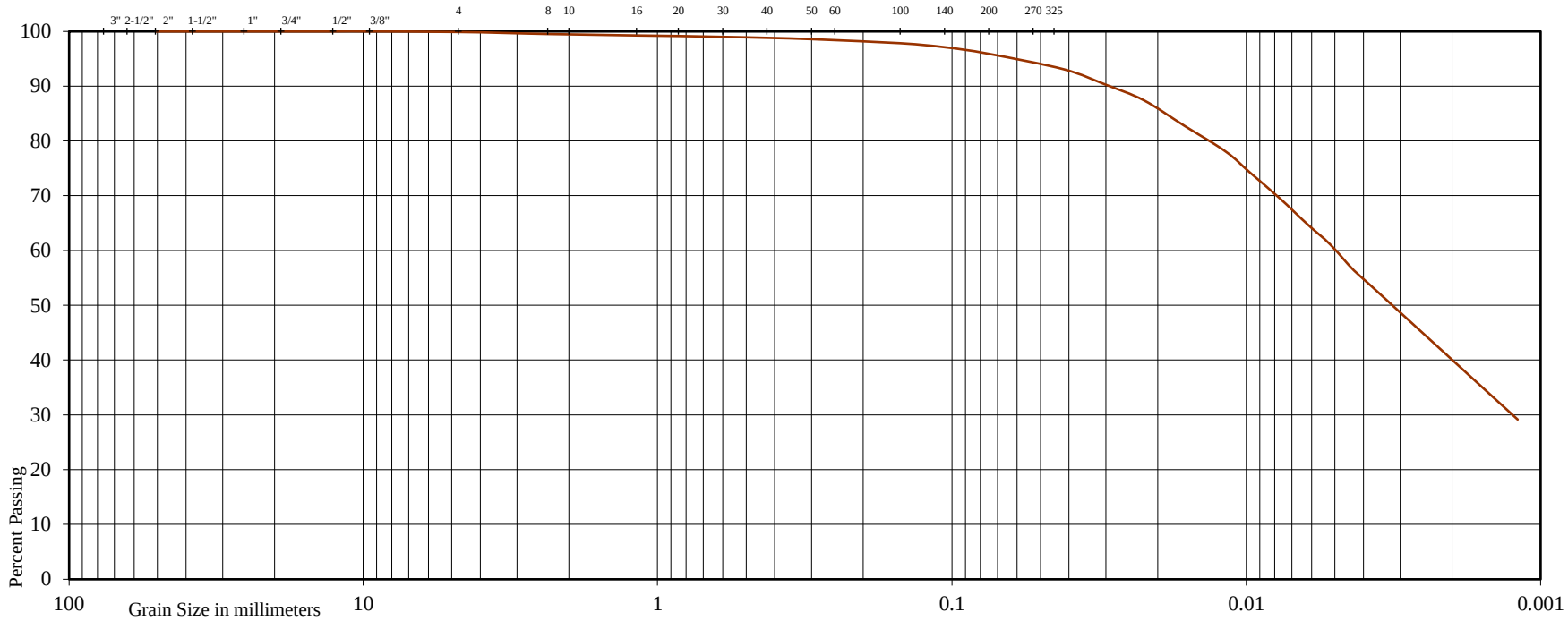
Reference No: 2309-W138

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Residential Development

Location: Northwest Quadrant of Mount Hope Road and Columbia Way, Town of Caledon

Borehole No: 103

Sample No: 6

Depth (m): 4.6

Elevation (m): 254.5

Liquid Limit (%) = -

Plastic Limit (%) = -

Plasticity Index (%) = -

Moisture Content (%) = -

Estimated Permeability (cm./sec.) = 10^{-7}

Classification of Sample [& Group Symbol]: SILTY CLAY
a trace of sand

Figure: 10

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

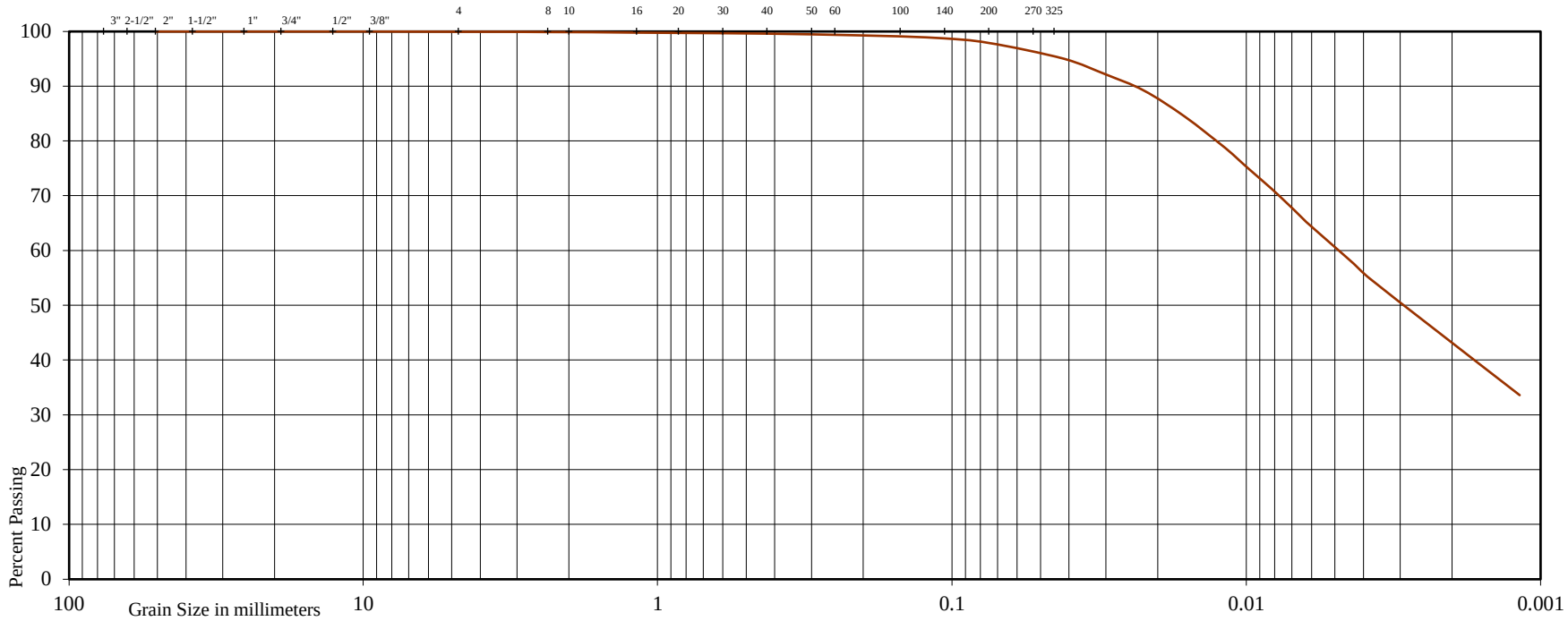
Reference No: 2309-W138

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Residential Development

Location: Northwest Quadrant of Mount Hope Road and Columbia Way, Town of Caledon

Borehole No: 101

Sample No: 5

Depth (m): 3.0

Elevation (m): 259.2

Liquid Limit (%) = -

Plastic Limit (%) = -

Plasticity Index (%) = -

Moisture Content (%) = -

Estimated Permeability (cm./sec.) = 10^{-7}

Classification of Sample [& Group Symbol]: SILTY CLAY
a trace of fine sand

Figure: 11

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

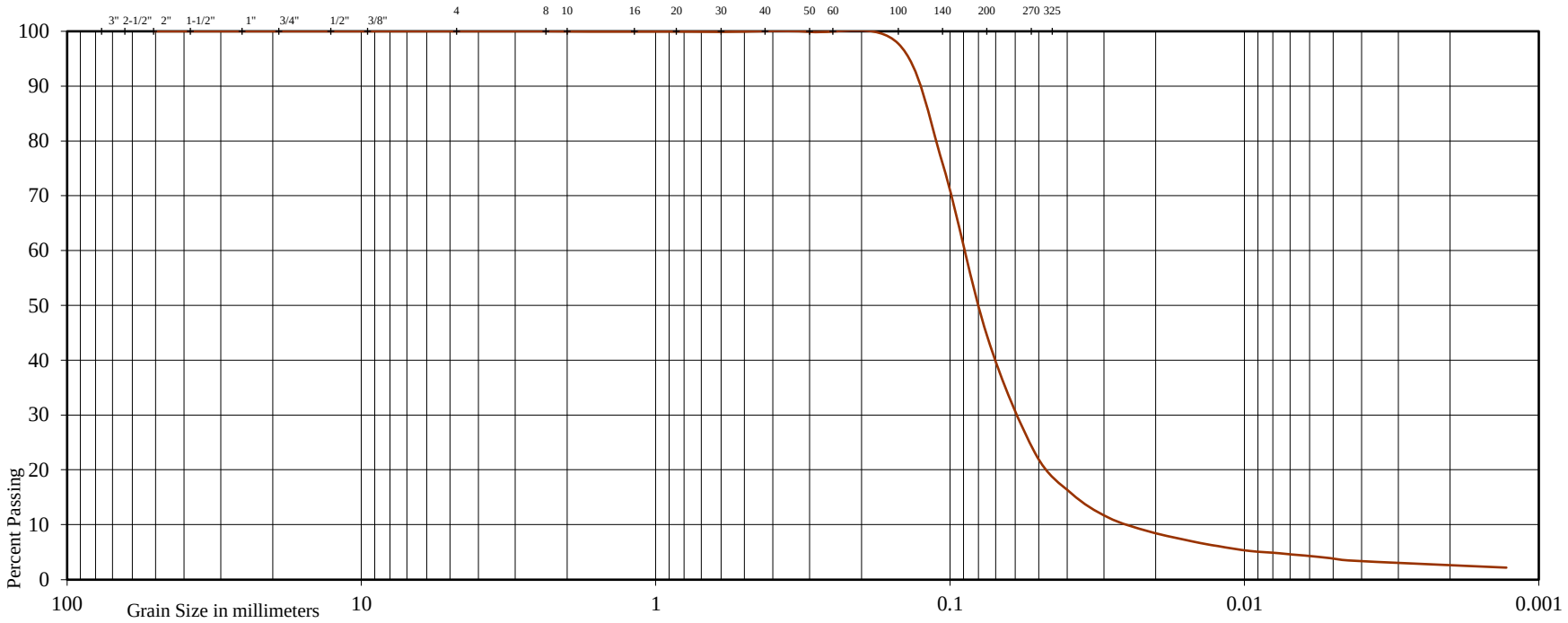
Reference No: 2309-W138

U.S. BUREAU OF SOILS CLASSIFICATION

GRAVEL		SAND				SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	V. FINE		

UNIFIED SOIL CLASSIFICATION

GRAVEL		SAND			SILT & CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	



Project: Proposed Residential Development

Location: Northwest Quadrant of Mount Hope Road and Columbia Way, Town of Caledon

Borehole No: 105

Sample No: 4B

Depth (m): 2.5

Elevation (m): 259.3

Liquid Limit (%) = -

Plastic Limit (%) = -

Plasticity Index (%) = -

Moisture Content (%) = -

Estimated Permeability (cm./sec.) = 10^{-3}

Classification of Sample [& Group Symbol]: SILTY FINE SAND
a trace of clay

Figure: 12

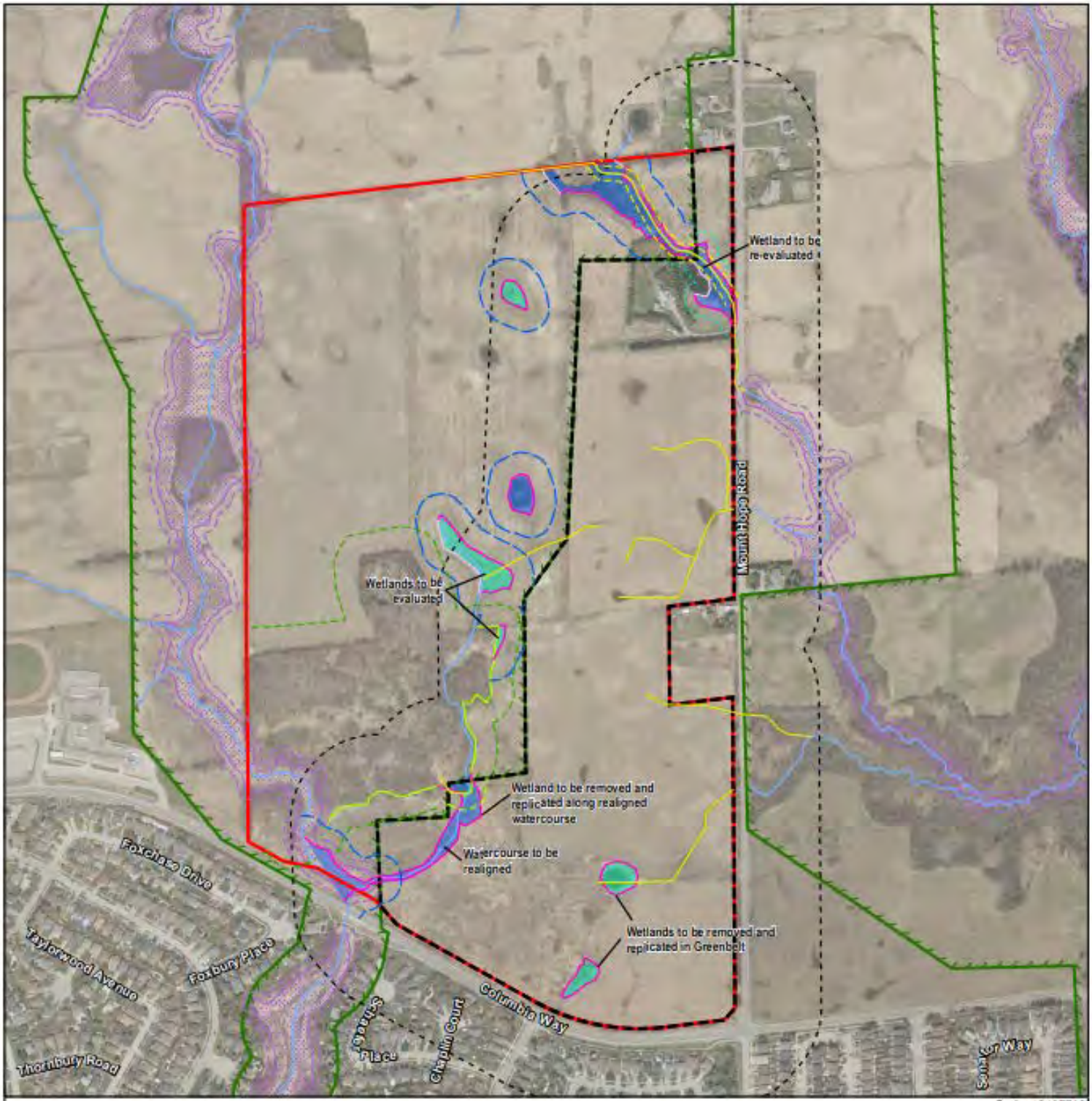
Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE
90 WEST BEAVER CREEK ROAD, SUITE 100, RICHMOND HILL, ONTARIO L4B 1E7 · TEL: (416) 754-8515 · FAX: (905) 881-8335

BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	MUSKOKA	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'A-3'

Preliminary Natural Heritage Constraints Map
Prepared by GEI Dated December 20, 2024

REFERENCE NO. 2309-W138



NOTES:
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2024.
3. Orthoimagery © First Base Solutions, 2024. Imagery from 2022.

Legend

- Subject Lands
- Urban Area
- Urban Area + 120 m
- Greenbelt Plan Boundary
- Watercourse
- Headwater Drainage Feature
- Headwater Drainage Feature + 10 metres
- Floodplain (TRCA)
- Floodplain + 10 metres
- Staked Significant Woodland (R-PE Surveying, August 16, 2024)
- Dripline (Urban Area) + 20 metres
- Dripline (Greenbelt) + 10 metres
- Staked Wetland (R-PE Surveying, August 16, 2024)
- Wetland (GEI Air Photo Interpretation)
- Unevaluated Wetland
- Provincially Significant Wetland
- Non-PSW Wetland
- PSW and Non-PSW Wetland

0 100 m

Project 2407713

Natural Heritage Characterization Report
Mount Hope West Lands
United Holdings Inc.

Figure 6
Preliminary Natural Heritage Constraints

GEI Consultants

Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE
90 WEST BEAVER CREEK ROAD, SUITE 100, RICHMOND HILL, ONTARIO L4B 1E7 · TEL: (416) 754-8515 · FAX: (905) 881-8335

BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	MUSKOKA	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'B'

MECP Water Well Records

REFERENCE NO. 2309-W138

MECP Well Records Summary

WELL ID	MECP* WWR ID	Construction Method	Well Depth (m)**	Well Usage		Static Water Level (m)**	Top of Screen Depth (m)**	Bottom of Screen Depth (m)**	Date Completed
				Final Status	First Use				
1	4900449	Cable Tool	64	Water Supply	Domestic	27.4	-	-	1966-06-18
2	4900450	Cable Tool	60	Water Supply	Domestic	28.3	58.8	60	1967-10-21
3	4900452	Rotary (Convent.)	89	Test Hole	Not Used	0.0	-	-	1959-12-03
4	4900384	Boring	24.1	Water Supply	Domestic	19.5	-	-	1956-06-16
5	4900388	Cable Tool	64	Water Supply	Livestock	24.4	62.2	64	1959-08-03
6	4900448	Boring	19.8	Abandoned-Supply	-	-	-	-	1966-05-17
7	4904451	Rotary (Convent.)	24.7	Water Supply	Domestic	17.7	23.8	24.7	1974-08-12
8	4905297	Cable Tool	33.5	Water Supply	Domestic	22.6	-	-	1977-08-02
9	4905630	Rotary (Convent.)	56.4	Water Supply	Domestic	20.7	40.8	41.8	1979-09-19
10	4905852	Rotary (Convent.)	68.6	Water Supply	Domestic	21.0	67.4	68.6	1981-07-18
11	4906046	Cable Tool	70.1	Water Supply	Domestic	17.1	62.5	64.3	1983-03-04
12	4906158	Rotary (Convent.)	93	Water Supply	Domestic	24.7	-	-	1984-03-05
13	4906769	Rotary (Convent.)	33.5	Water Supply	Domestic	1.8	24.4	25.3	1987-10-13
14	4908423	Other Method	54.9	Abandoned-Quality	Not Used	28.0	-	-	1998-11-03
15	4908424	Not Known	-	Abandoned-Other	Not Used	-	-	-	1998-11-03
16	4908593	Digging	-	Abandoned-Other	Not Used	-	-	-	2000-04-19
17	4908660	Cable Tool	52.7	Water Supply	Domestic	21.3	50.9	52.1	2000-06-25
18	7040135	-	15.2	Abandoned-Other	-	-	-	-	2006-08-30
19	7040137	-	-	Abandoned-Other	-	-	-	-	2006-11-06
20	7297324	Boring	3	Monitoring and Test Hole	-	-	3	1.5	2017-07-31
21	7297325	Boring	3	Monitoring and Test Hole	Test Hole	-	-	3	2017-07-31
22	7355088	-	-	-	-	-	-	-	
23	7370378	-	-	-	-	-	-	-	2020-09-02

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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'C'

Groundwater Monitoring Summary

REFERENCE NO. 2309-W138

MW* ID	Units	November 15, 2023	December 4, 2023	January 4, 2024	January 26, 2024	March 27, 2024	April 24, 2024	May 28, 2024	June 17, 2024	August 29, 2024	Nov 4 - 5, 2024
BH/MW 1	mbgs	16.1	Dry	Dry	Dry	16.3	16.3	16.3	16.2	16	16.2
	masl	246.4	Dry	Dry	Dry	246.2	246.2	246.2	246.3	246.5	246.3
BH/MW 2S	mbgs	3.4	3.2	0.9	1.2	0.8	0.8	0.7	1.5	2.2	3.1
	masl	259.2	259.4	261.7	261.4	261.8	261.8	261.9	261.1	260.4	259.5
BH/MW 2D	mbgs	11.4	11.2	11.2	11	10.9	10.9	10.9	10.4	11.1	11
	masl	251.2	251.4	251.4	251.6	251.7	251.7	251.7	252.2	251.5	251.6
BH/MW 4	mbgs	12.2	12.4	12.5	12.4	12.2	12.2	12.1	12.2	12.3	12.3
	masl	248.8	248.6	248.5	248.6	248.8	248.8	248.9	248.8	248.7	248.7
BH/MW 5	mbgs	3.7	3.4	0.7	1.8	1.6	1.4	2	2.5	2.2	3.4
	masl	255.5	255.8	258.5	257.4	257.6	257.8	257.2	256.7	257	255.8
BH/MW 6	mbgs	1.3	1	0.5	0.4	0.3	0.2	0.4	0.5	0.6	1.3
	masl	257.6	257.9	258.4	258.5	258.6	258.7	258.5	258.4	258.3	257.6
MP 3	mbgs	NA	NA	NA	NA	NA	NA	0.3	0.6	0.5	0.7
	masl	NA	NA	NA	NA	NA	NA	258.4	258.1	258.2	258
MP 4	mbgs	NA	NA	NA	NA	NA	NA	1.1	1.2	1.2	1.4
	masl	NA	NA	NA	NA	NA	NA	258.8	258.7	258.7	258.5
BH/MW 7	mbgs	1.7	0.9	0.4	0.5	0.2	0.4	0.2	0.7	1.4	2.1
	masl	257.3	258.1	258.6	258.5	258.8	258.6	258.8	258.3	257.6	256.9
MP 12	mbgs	NA	NA	NA	NA	NA	NA	0	0.5	1	1.3
	masl	NA	NA	NA	NA	NA	NA	257.6	257.1	256.6	256.3
BH/MW 8	mbgs	NA	NA	NA	NA	NA	NA	4.5	1.01	1.5	2.4
	masl	NA	NA	NA	NA	NA	NA	257.5	260.99	260.5	259.6
BH/MW 9	mbgs	1.2	0.4	0.5	0.3	0.2	0.6	0.1	1	1.4	2.1
	masl	259.4	260.2	260.1	260.3	260.4	260	260.5	259.6	259.2	258.5
BH/MW 10	mbgs	5.1	4.7	0.9	0.9	0.6	0.6	0.7	1.1	1.5	3.1
	masl	258	258.4	262.2	262.2	262.5	262.5	262.4	262	261.6	260
BH/MW 12	mbgs	2.7	2.9	0.7	0	0	-0.1	0	0.4	0.5	2
	masl	260.3	260.1	262.3	263	263	263.1	263	262.6	262.5	261
BH/MW 13	mbgs	2.6	2.5	0.4	0.2	0.1	0	0.1	0.9	1.3	2.6
	masl	259.4	259.5	261.6	261.8	261.9	262	261.9	261.1	260.7	259.4
BH/MW 101	mbgs	NA	NA	NA	NA	NA	NA	4.4	0.8	0.8	1.3
	masl	NA	NA	NA	NA	NA	NA	257.8	261.4	261.4	260.9
MP 1	mbgs	NA	NA	NA	NA	NA	NA	0.1	0.1	0.1	0.3
	masl	NA	NA	NA	NA	NA	NA	261.9	261.9	261.9	261.7
BH/MW 102	mbgs	NA	NA	NA	NA	NA	NA	4.5	2.1	0.7	1.6
	masl	NA	NA	NA	NA	NA	NA	255	257.4	258.8	257.9
MP 2	mbgs	NA	NA	NA	NA	NA	NA	0.1	0.3	0.5	0.4
	masl	NA	NA	NA	NA	NA	NA	259.3	259.1	258.9	259
BH/MW 103	mbgs	NA	NA	NA	NA	NA	NA	3.8	0.8	0.8	1
	masl	NA	NA	NA	NA	NA	NA	255.3	258.3	258.3	258.1
MP 5	mbgs	NA	NA	NA	NA	NA	NA	0.1	0.6	0.7	0.9
	masl	NA	NA	NA	NA	NA	NA	258.9	258.4	258.3	258.1
BH/MW 104	mbgs	NA	NA	NA	NA	NA	NA	3.3	0.5	1	1.8
	masl	NA	NA	NA	NA	NA	NA	258.3	261.1	260.6	259.8
MP 6	mbgs	NA	NA	NA	NA	NA	NA	0.6	0.8	0.4	0.5
	masl	NA	NA	NA	NA	NA	NA	261	260.8	261.2	261.1
BH/MW 105	mbgs	NA	NA	NA	NA	NA	NA	3.4	0.5	0.9	1.9
	masl	NA	NA	NA	NA	NA	NA	258.4	261.3	260.9	259.9
MP 7	mbgs	NA	NA	NA	NA	NA	NA	0	0.6	0.7	1
	masl	NA	NA	NA	NA	NA	NA	261.6	261	260.9	260.6

MW* ID	Units	November 15, 2023	December 4, 2023	January 4, 2024	January 26, 2024	March 27, 2024	April 24, 2024	May 28, 2024	June 17, 2024	August 29, 2024	Nov 4 - 5, 2024
MP 8	mbgs	NA	NA	NA	NA	NA	NA	0.4	0.5	0.7	1.1
	masl	NA	NA	NA	NA	NA	NA	261.1	261	260.8	260.4
BH/MW 106	mbgs	NA	NA	NA	NA	NA	NA	4.4	0.6	0.9	1.5
	masl	NA	NA	NA	NA	NA	NA	257.1	260.9	260.6	260
MP 9	mbgs	NA	NA	NA	NA	NA	NA	-0.1	0.3	0.4	0.9
	masl	NA	NA	NA	NA	NA	NA	261.4	261	260.9	260.4
BH/MW 107	mbgs	NA	NA	NA	NA	NA	NA	3.6	0.5	0.7	0.9
	masl	NA	NA	NA	NA	NA	NA	256.3	259.4	259.2	259
MP 10	mbgs	NA	NA	NA	NA	NA	NA	0.1	0.2	0.4	0.7
	masl	NA	NA	NA	NA	NA	NA	259.3	259.2	259	258.7
BH/MW 108	mbgs	NA	NA	NA	NA	NA	NA	3.4	0.6	0.9	1.6
	masl	NA	NA	NA	NA	NA	NA	255.9	258.7	258.4	257.7
MP 11	mbgs	NA	NA	NA	NA	NA	NA	0.2	0.3	0.5	0.7
	masl	NA	NA	NA	NA	NA	NA	259	258.9	258.7	258.5
PZ-1S	mbgs	NA	NA	NA	0.3	0.4	0.8	0.5	1	1	1.3
	masl	NA	NA	NA	260.1	260	259.6	259.9	259.4	259.4	259.1
PZ-1D	mbgs	NA	NA	NA	0.6	0.2	0.5	0.2	0.8	0.8	1.1
	masl	NA	NA	NA	259.8	260.2	259.9	260.2	259.6	259.6	259.3

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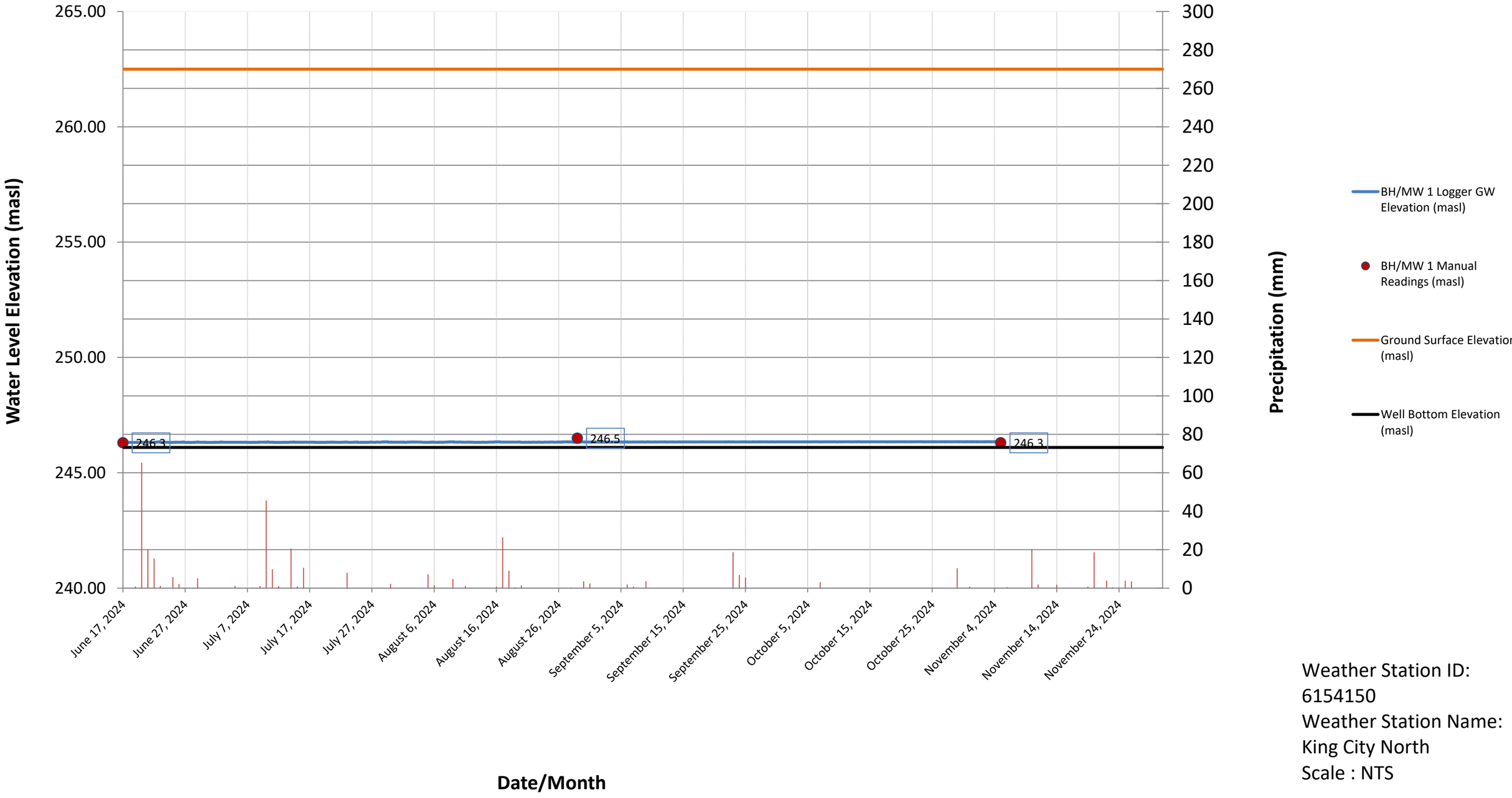
APPENDIX 'D'

Hydrographs

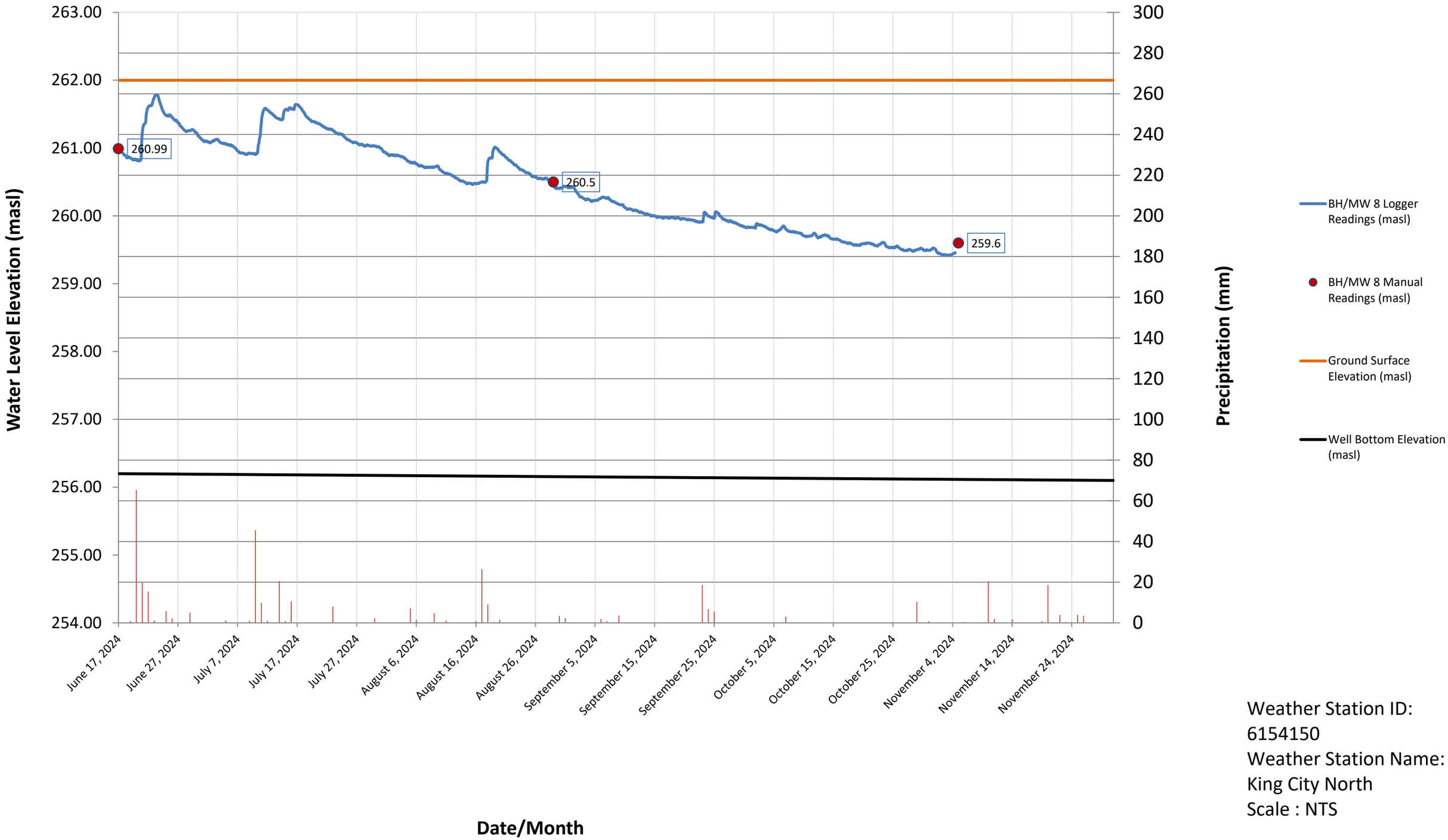
REFERENCE NO. 2309-W139

Hydrograph : BH/MW 1



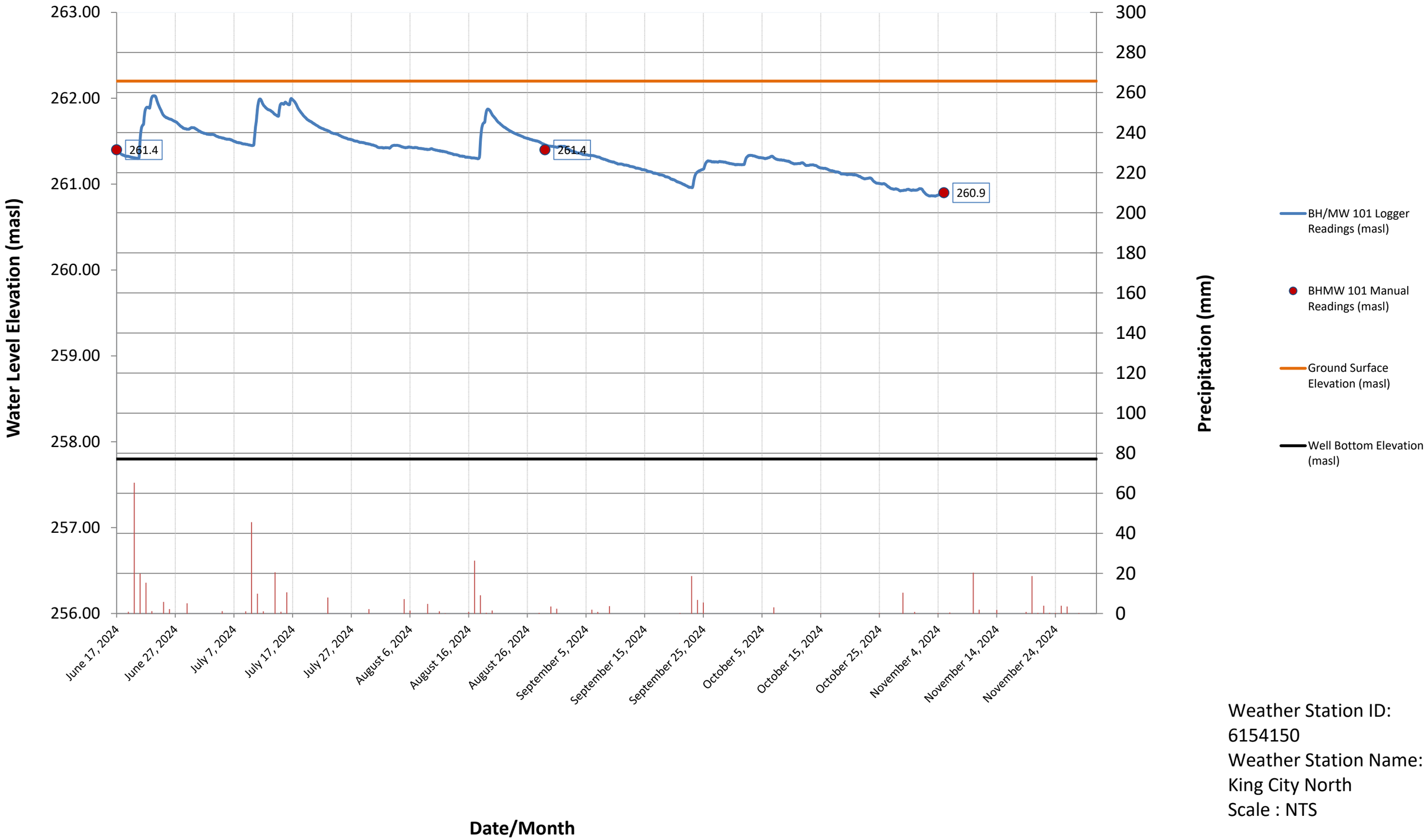
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : BH/MW 8



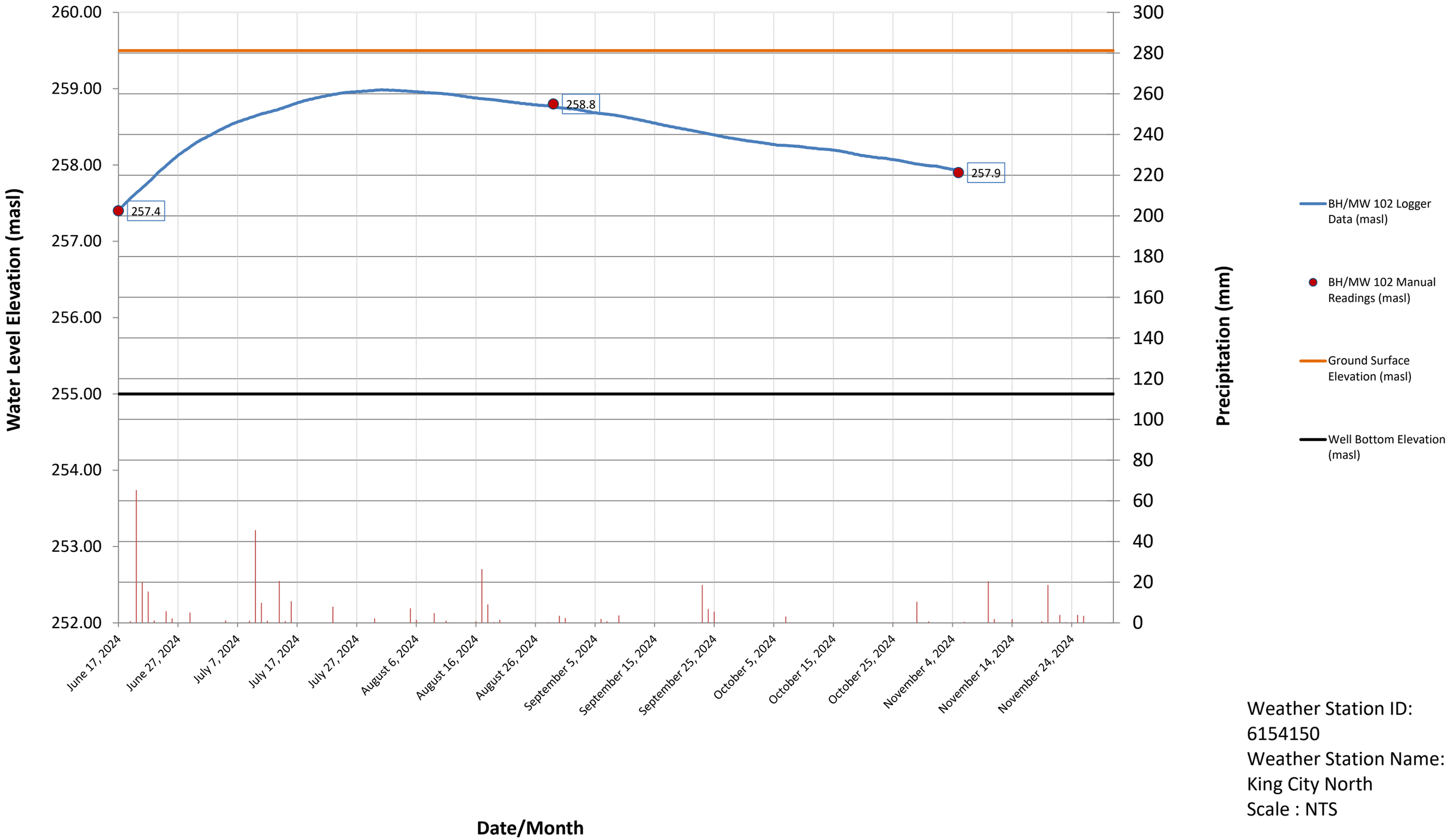
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : BHMW 101



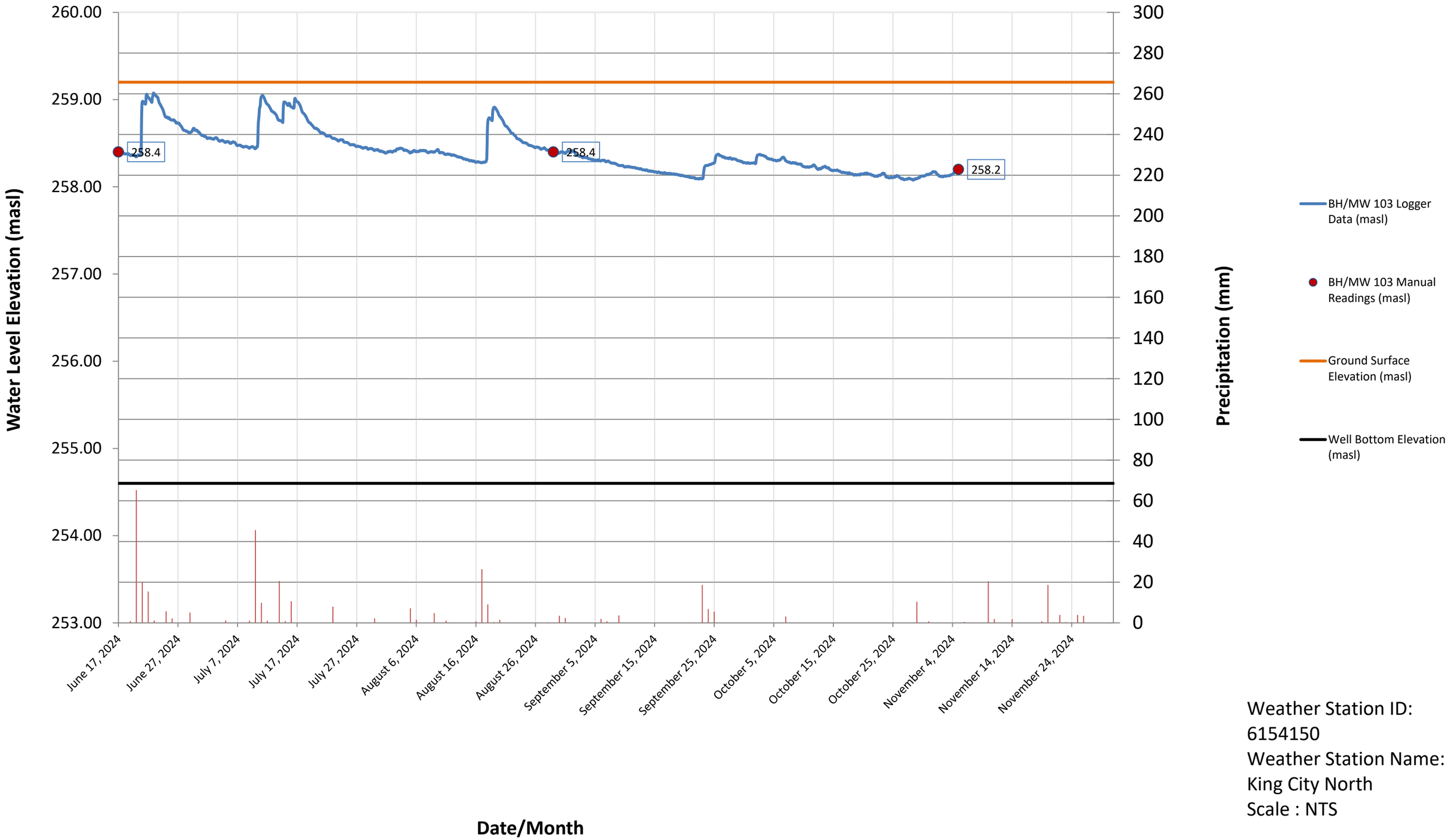
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : BH/MW 102



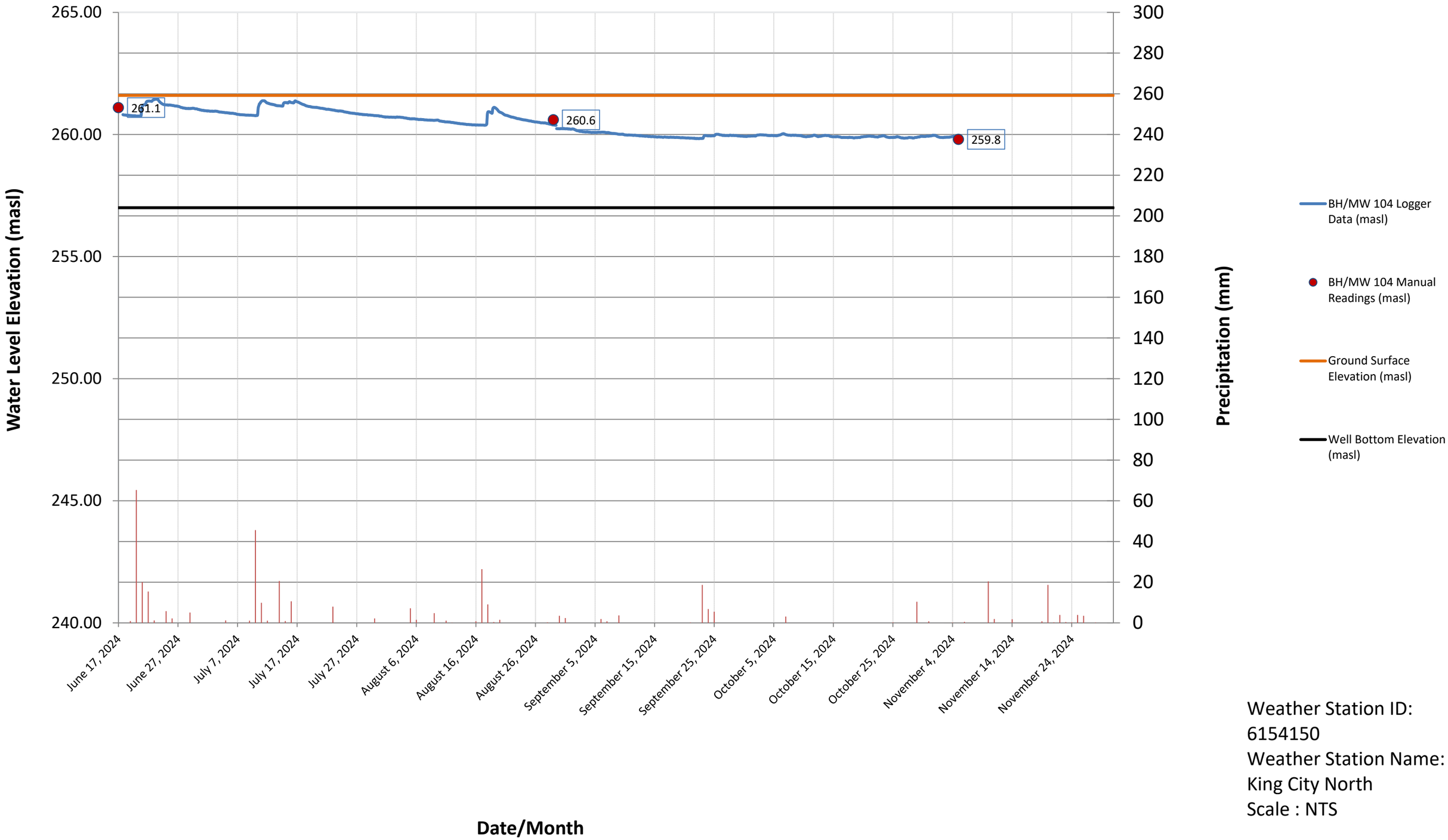
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : BH/MW 103



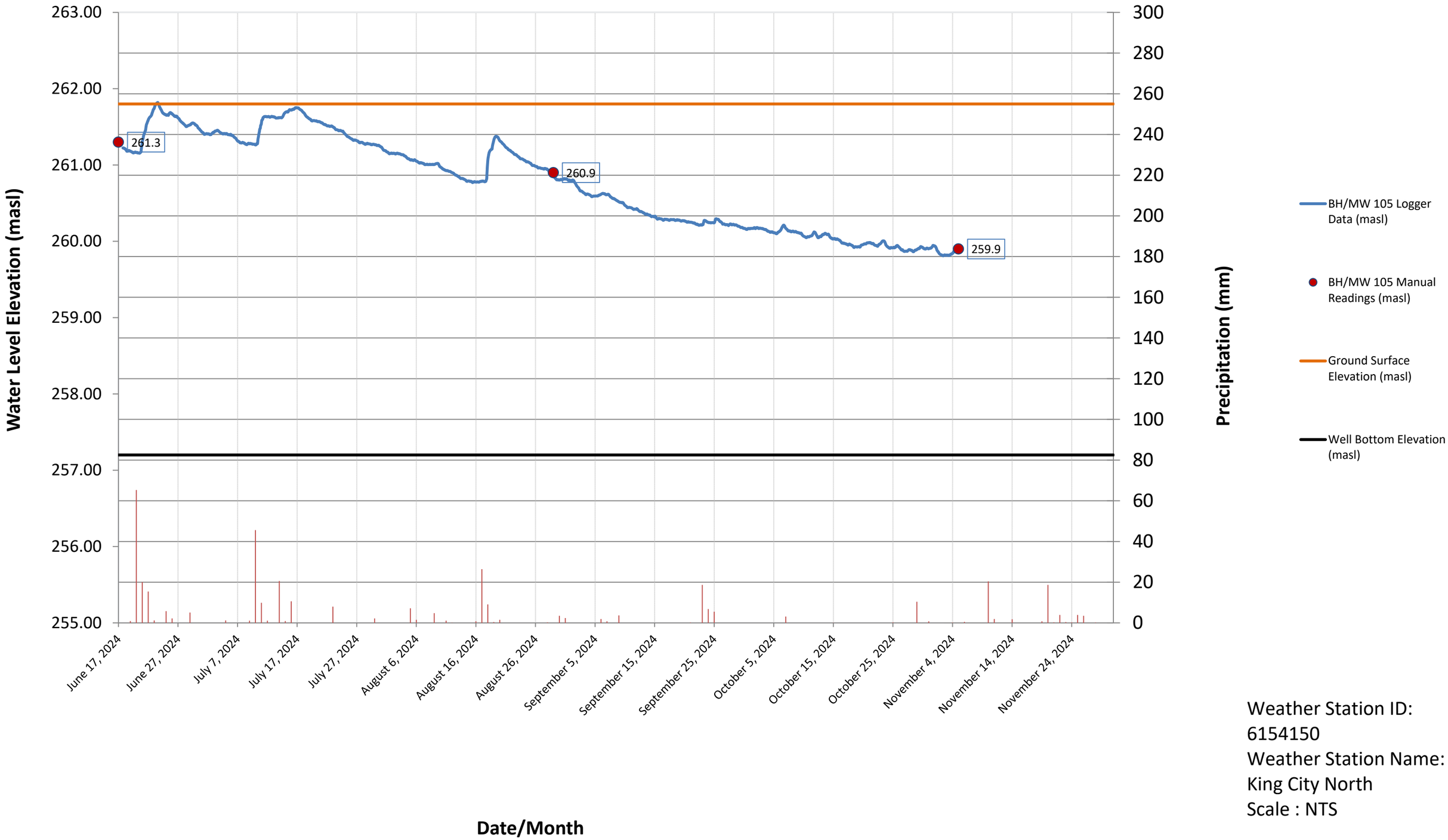
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : BH/MW 104



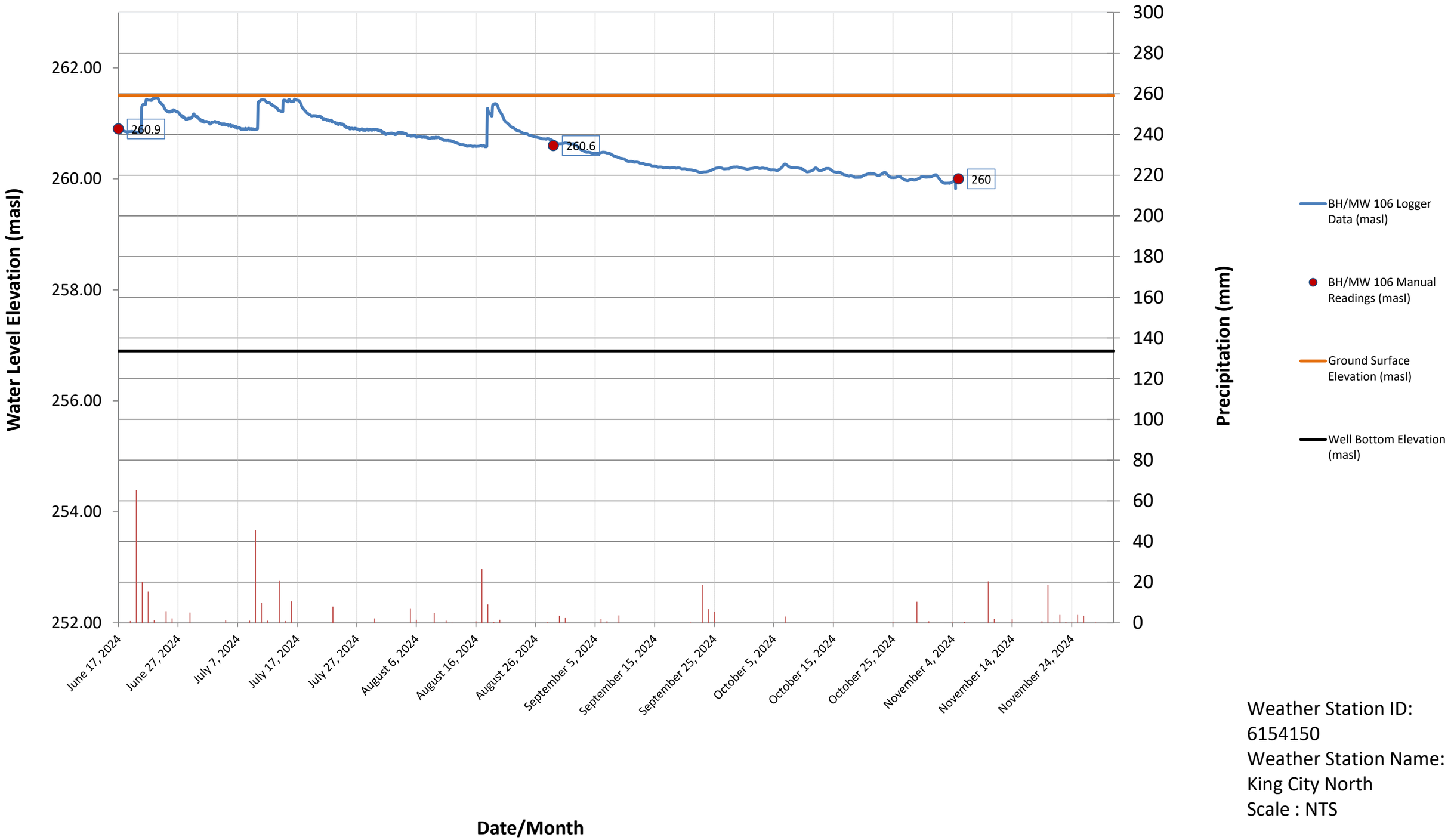
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : BH/MW 105



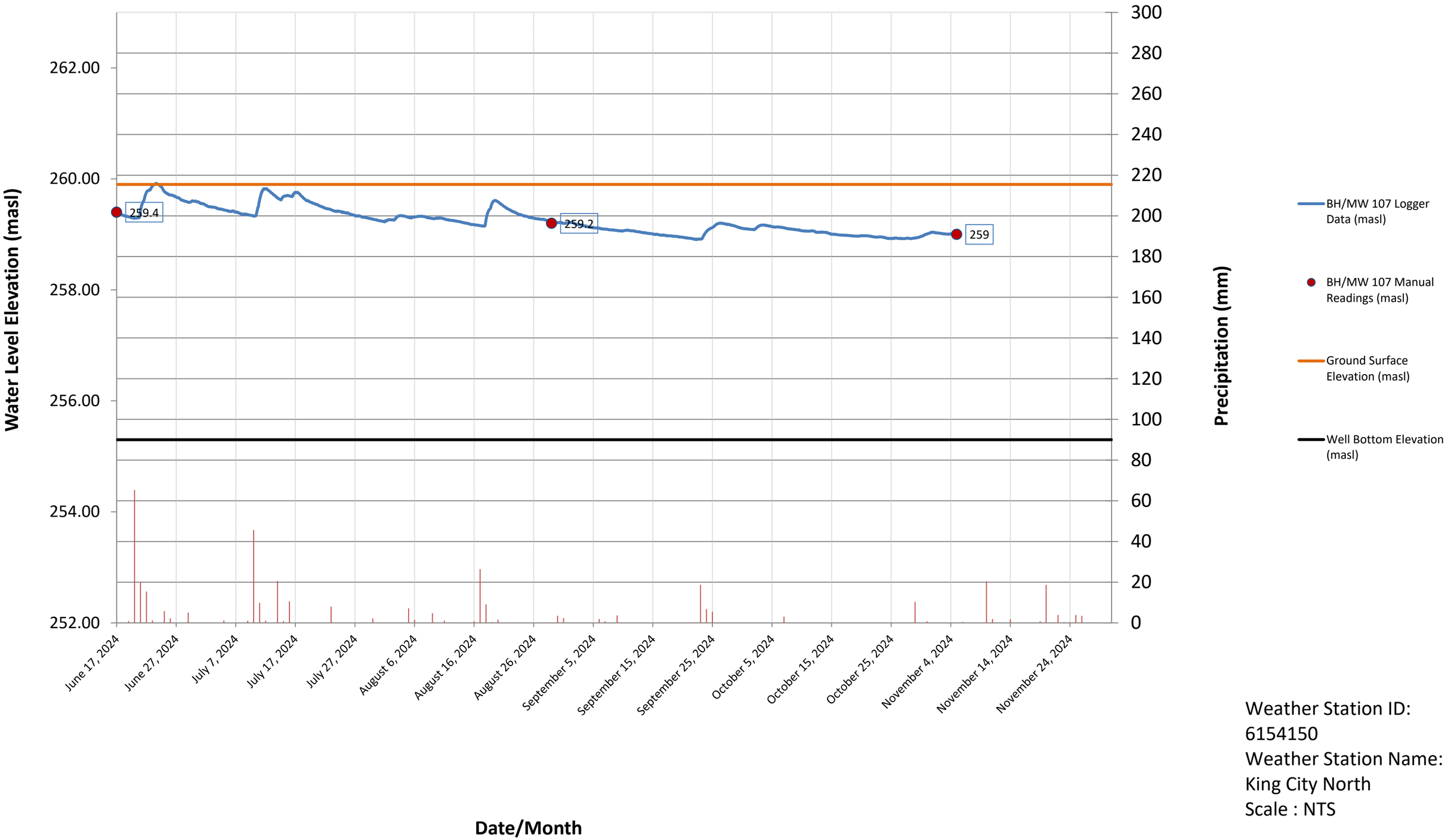
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : BH/MW 106



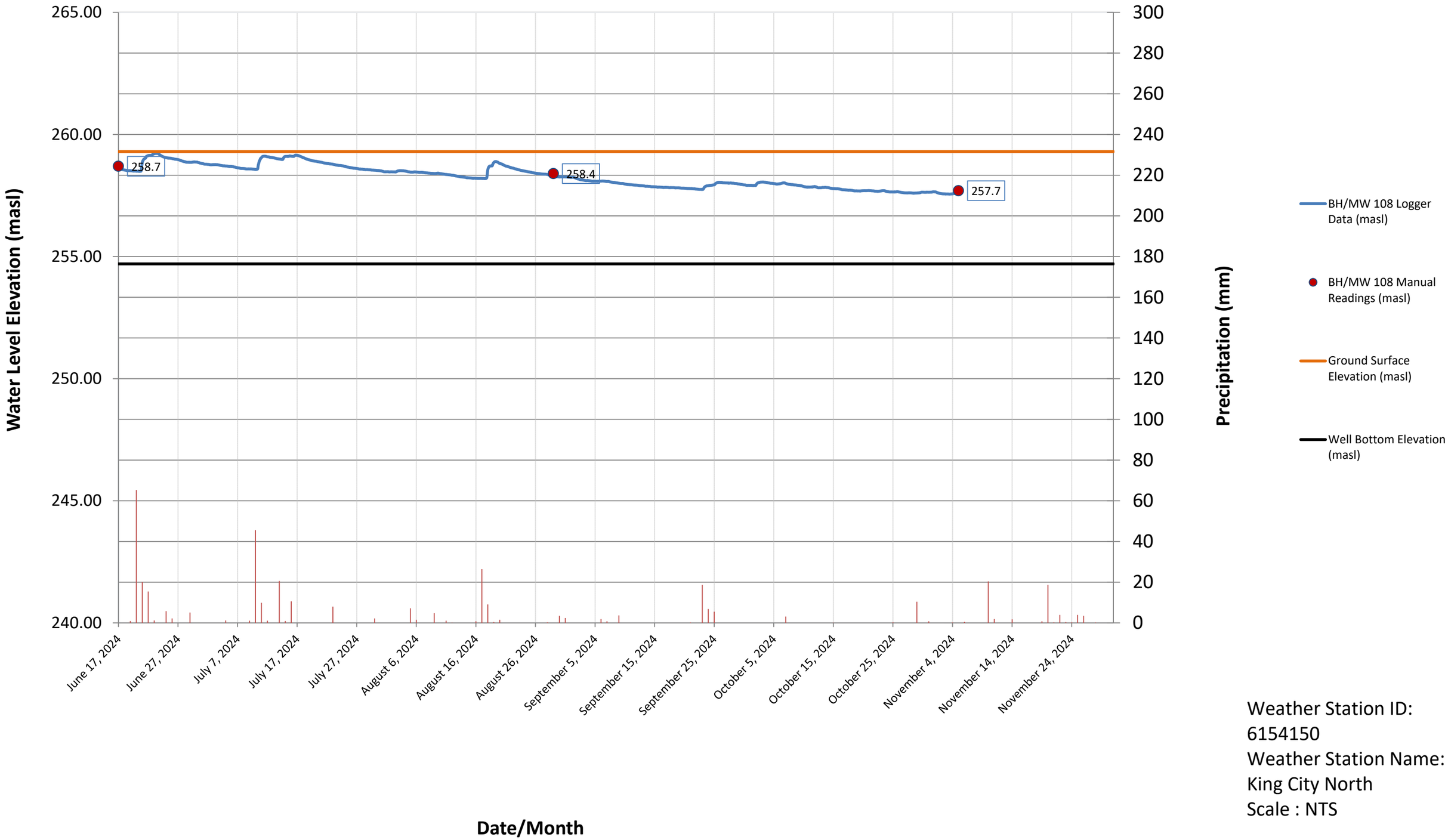
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : BH/MW 107



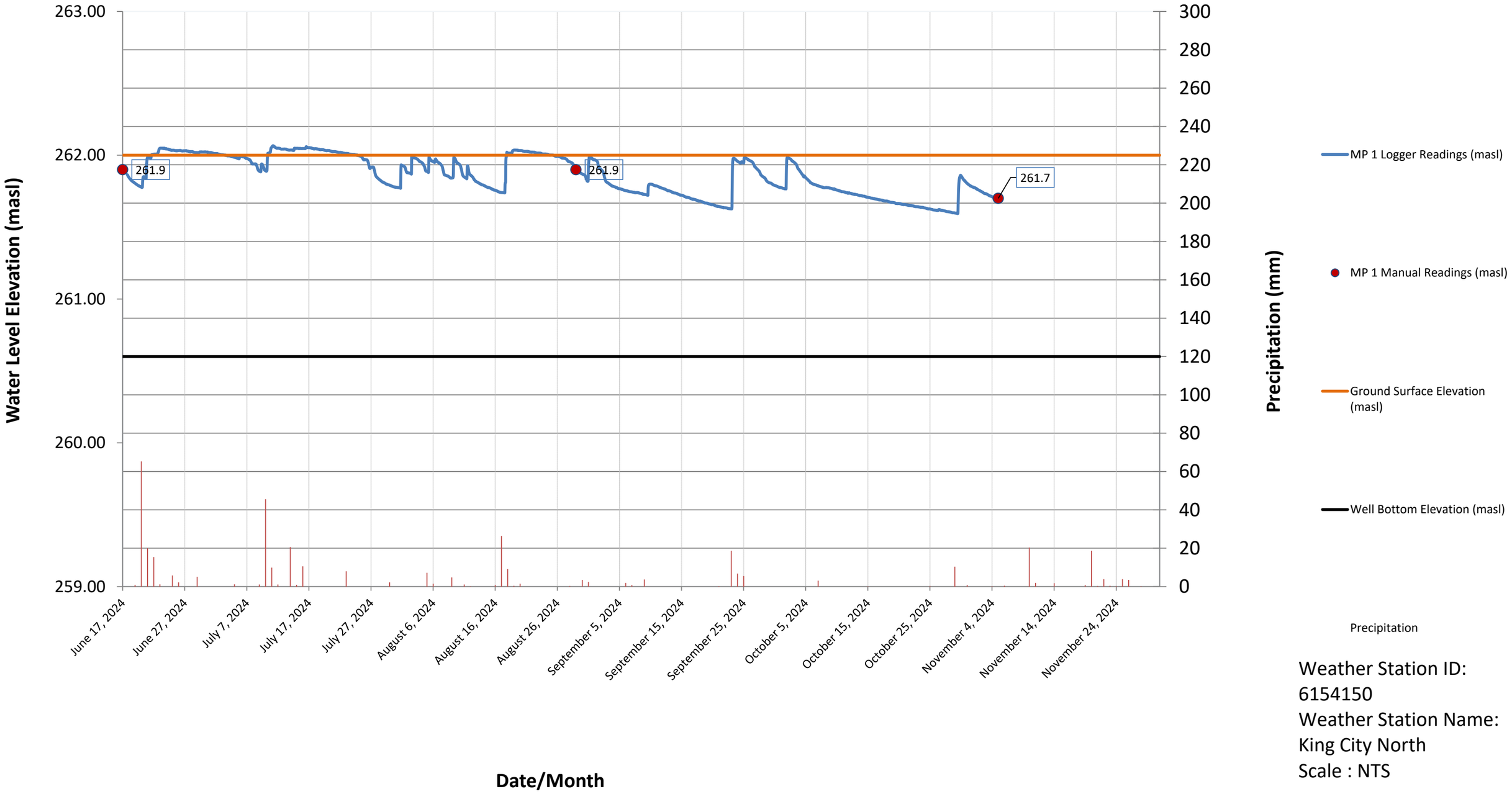
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : BH/MW 108



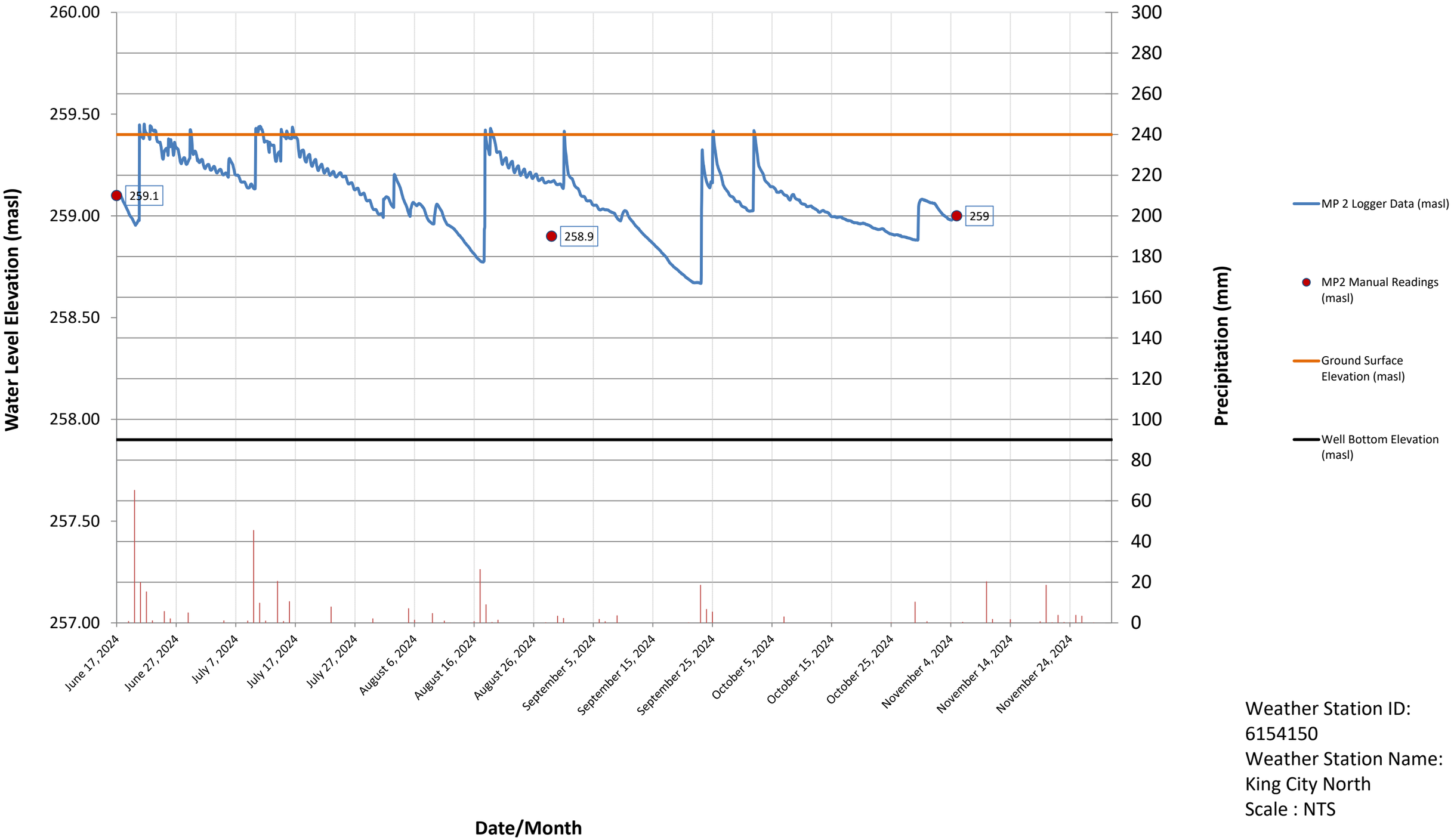
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 1



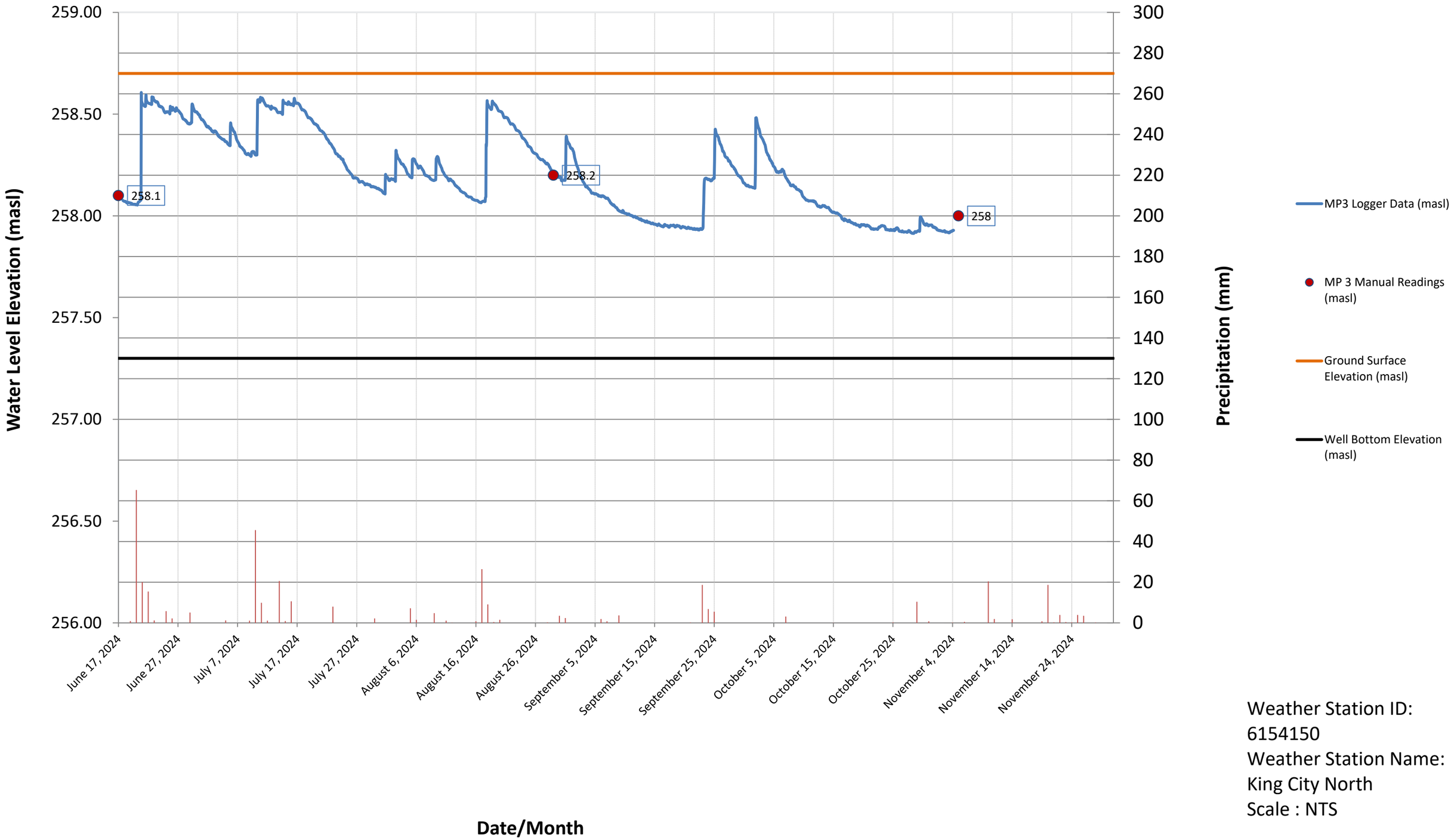
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP2



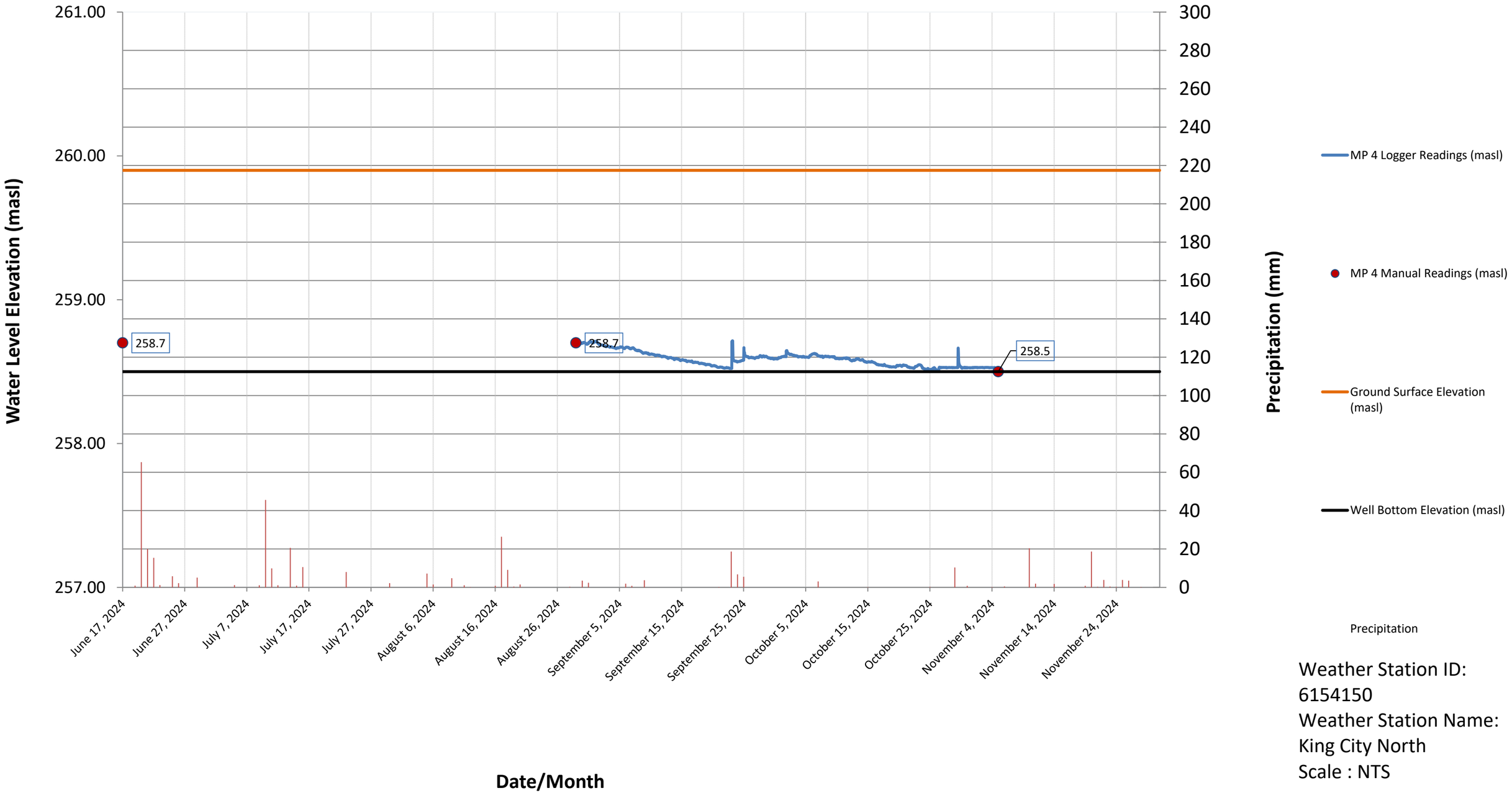
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 3



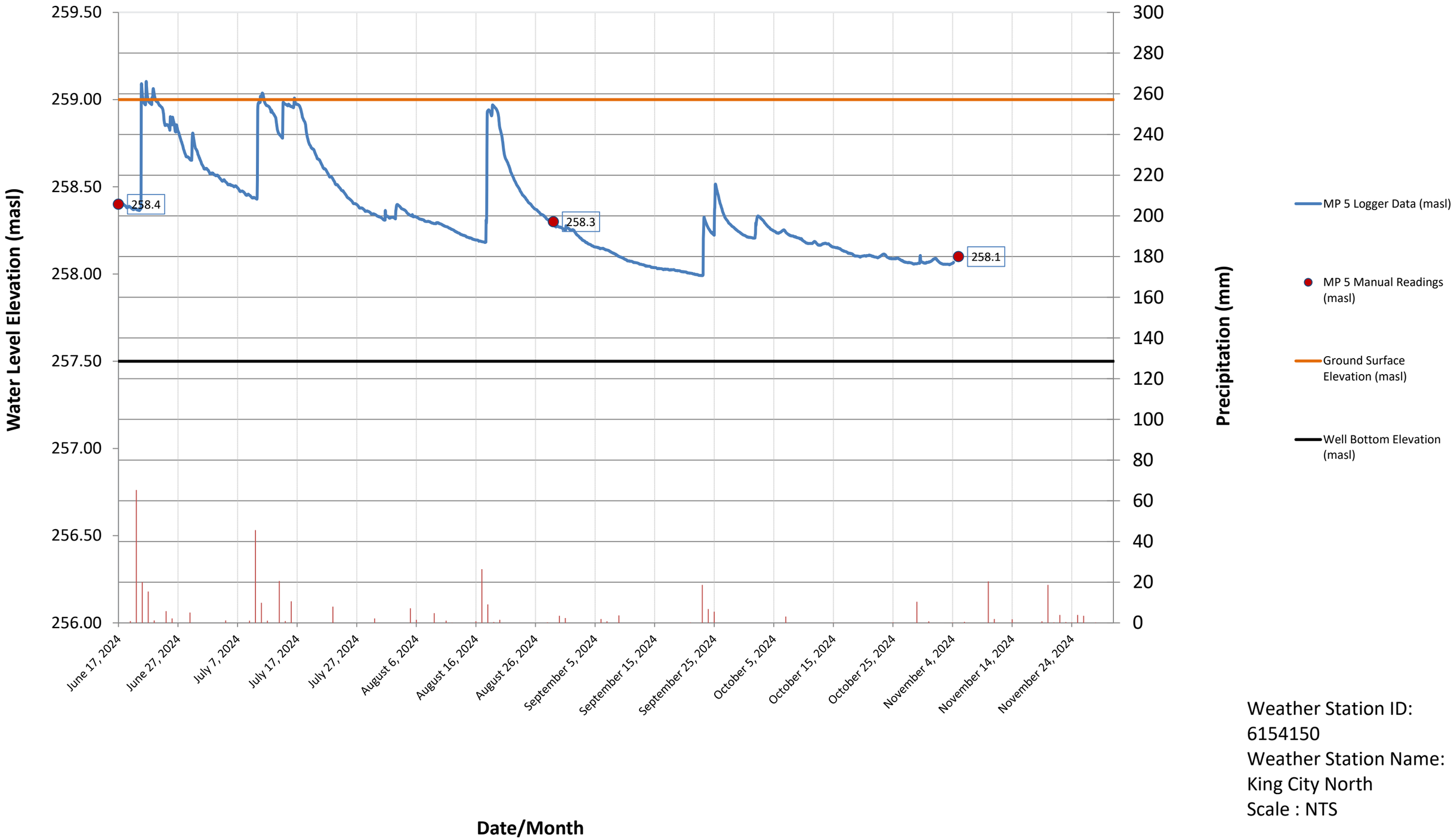
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 4



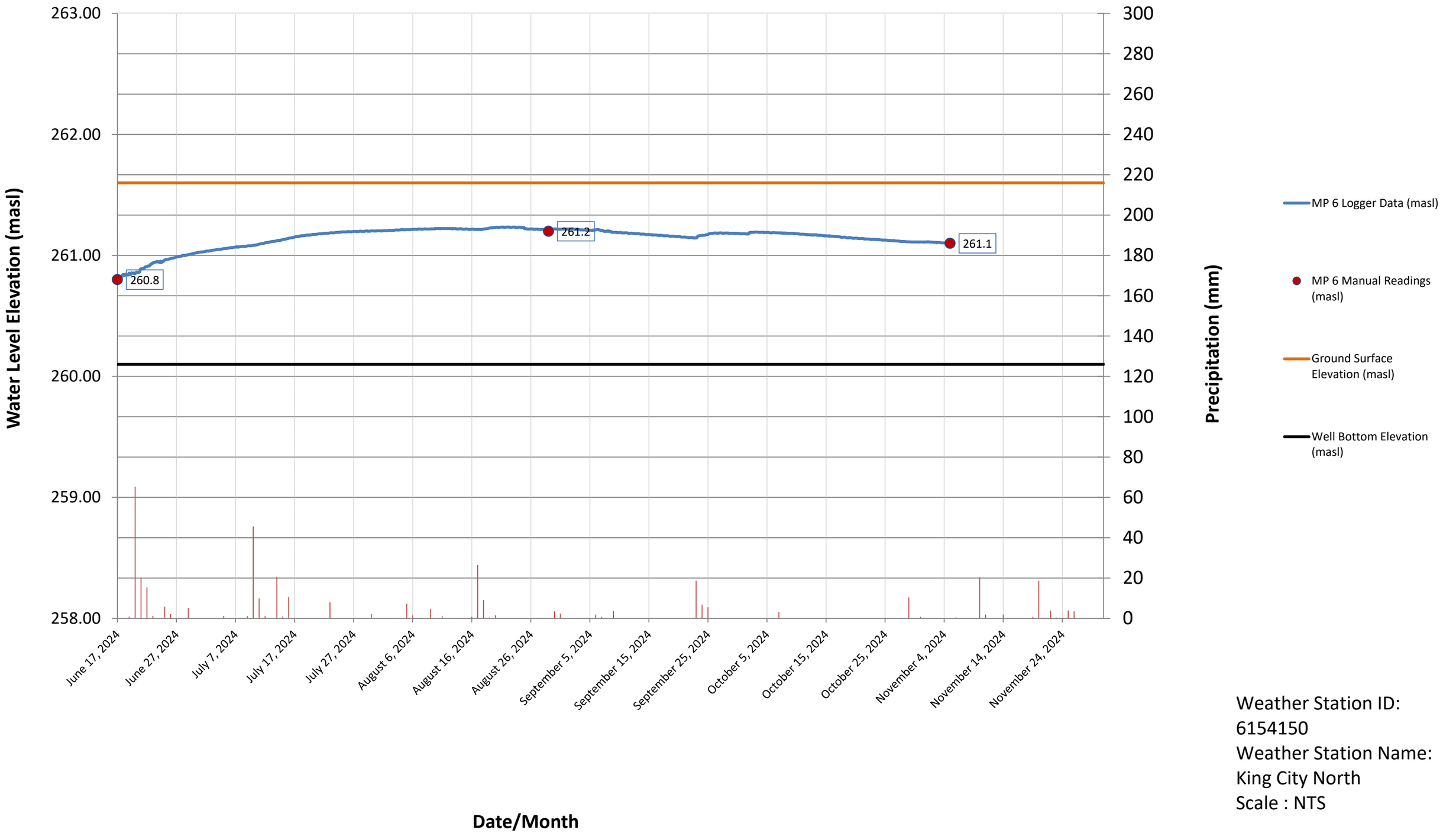
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 5



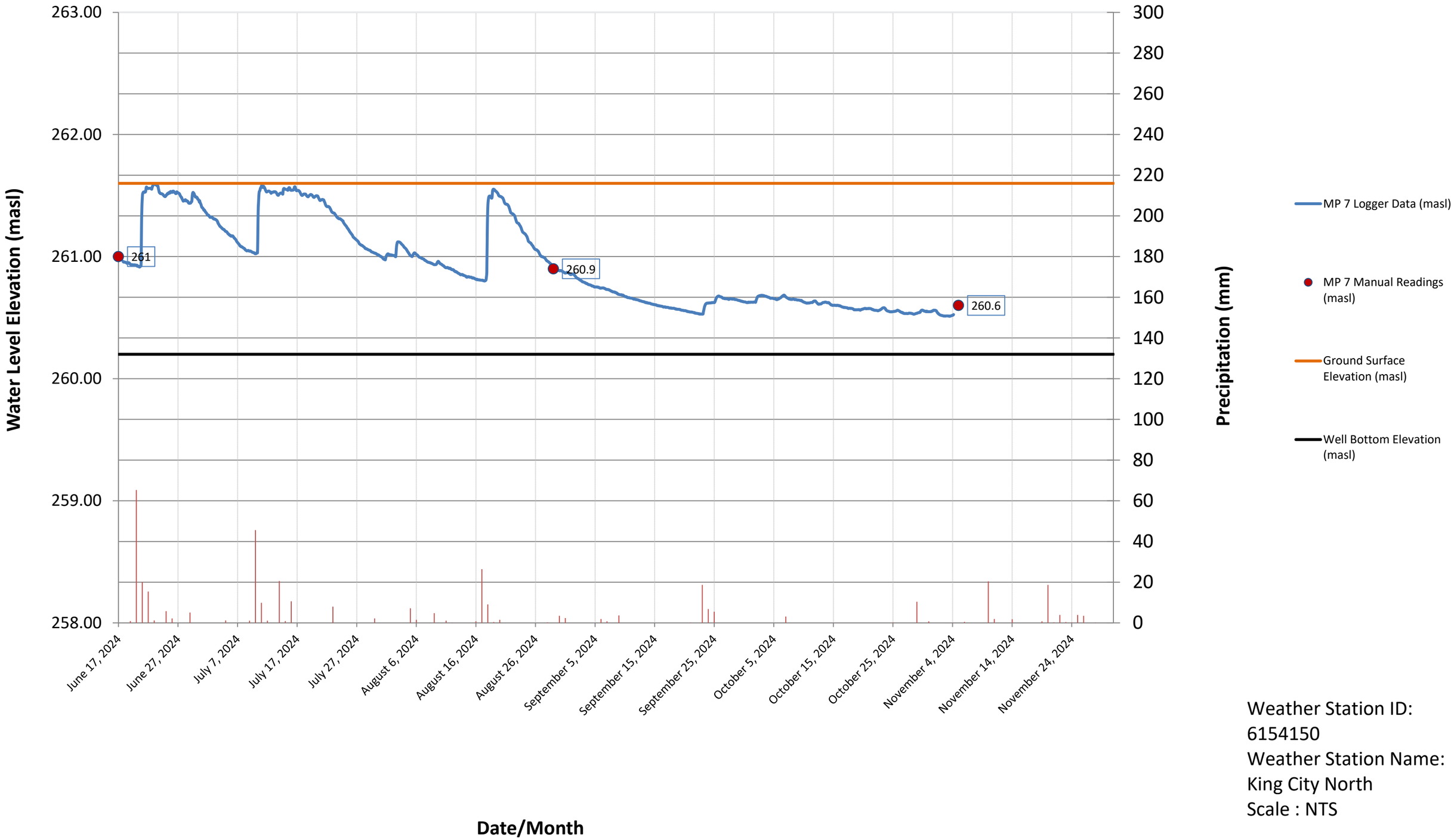
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 6



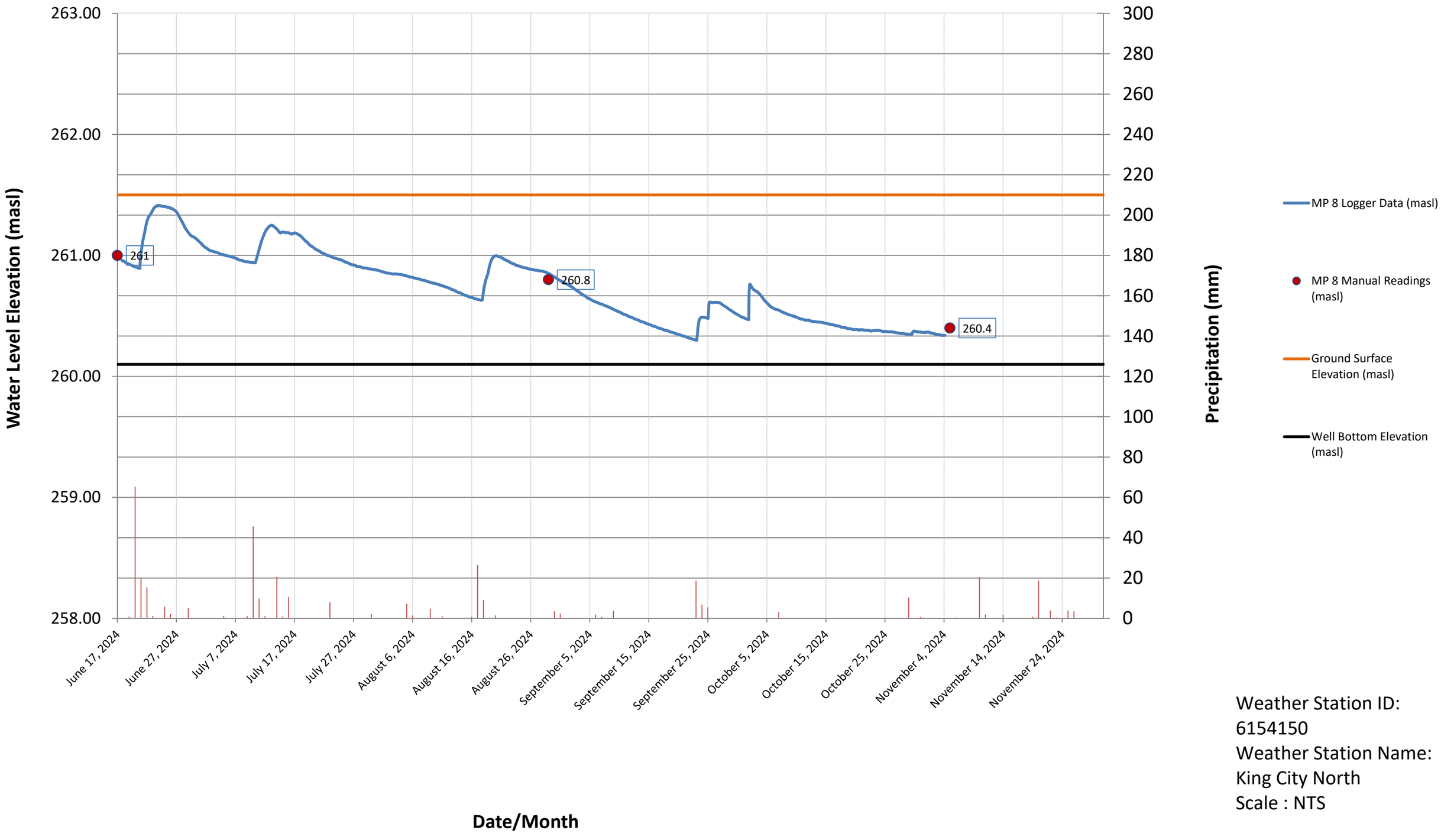
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 7



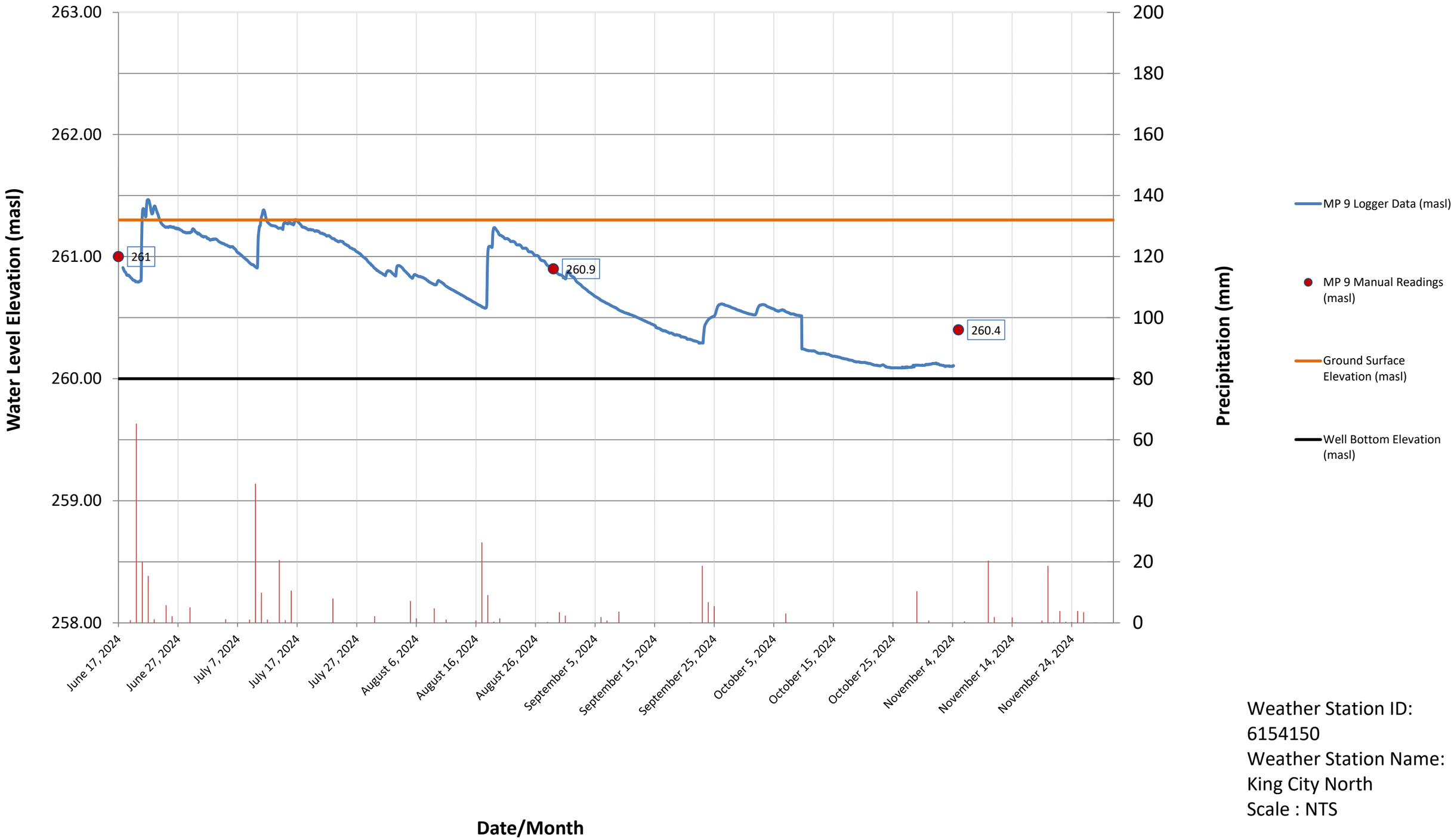
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 8



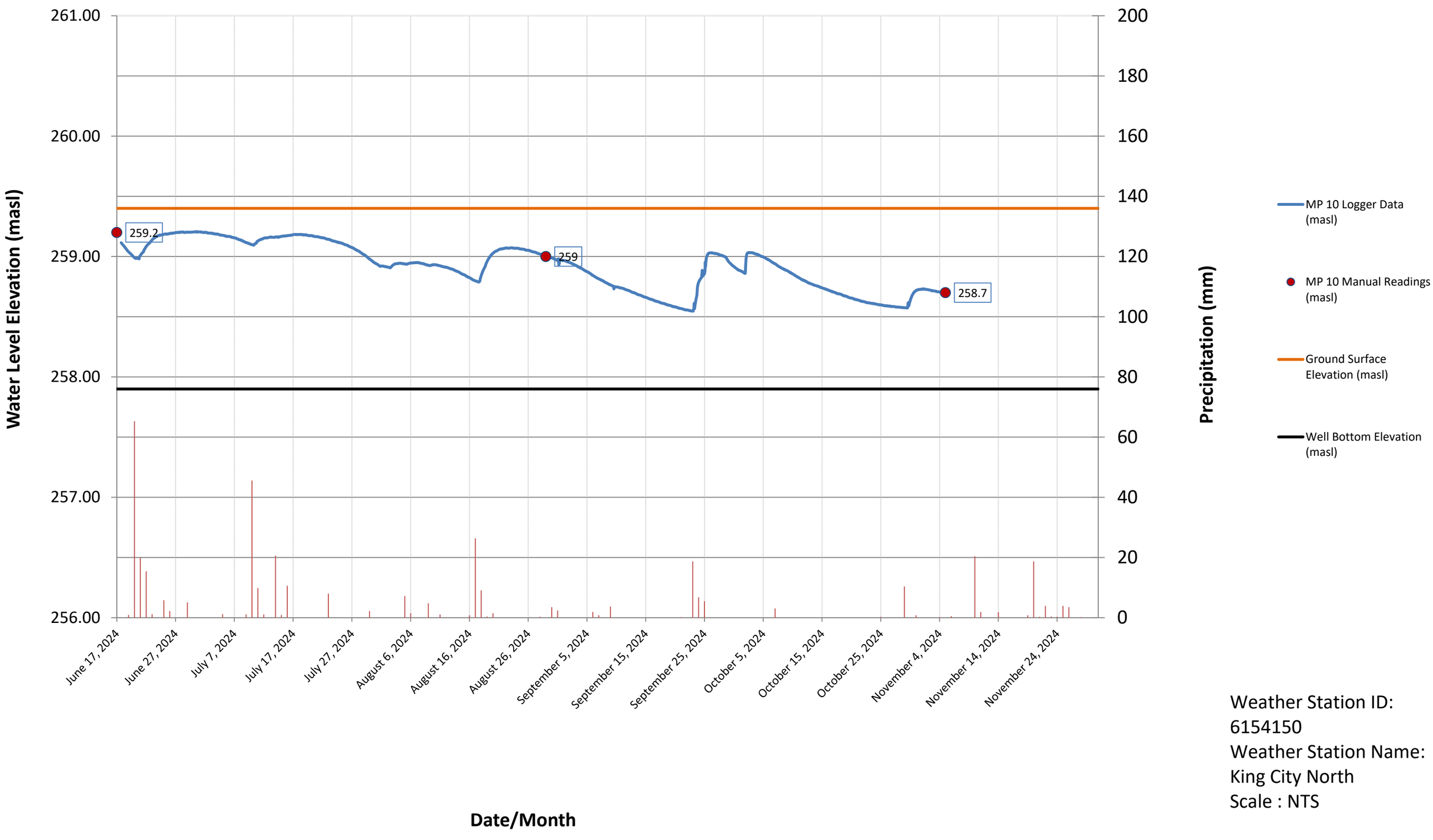
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 9



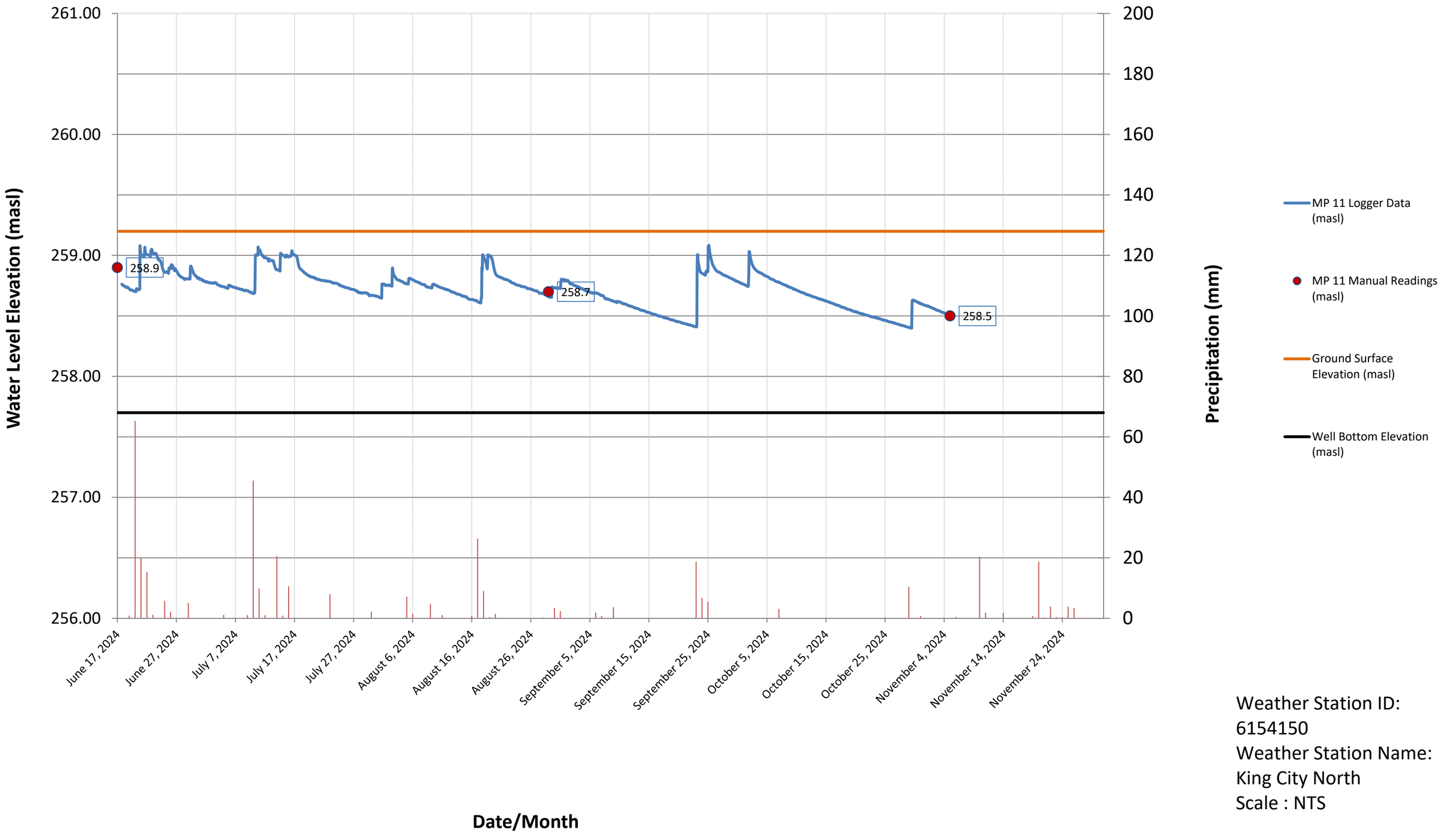
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 10



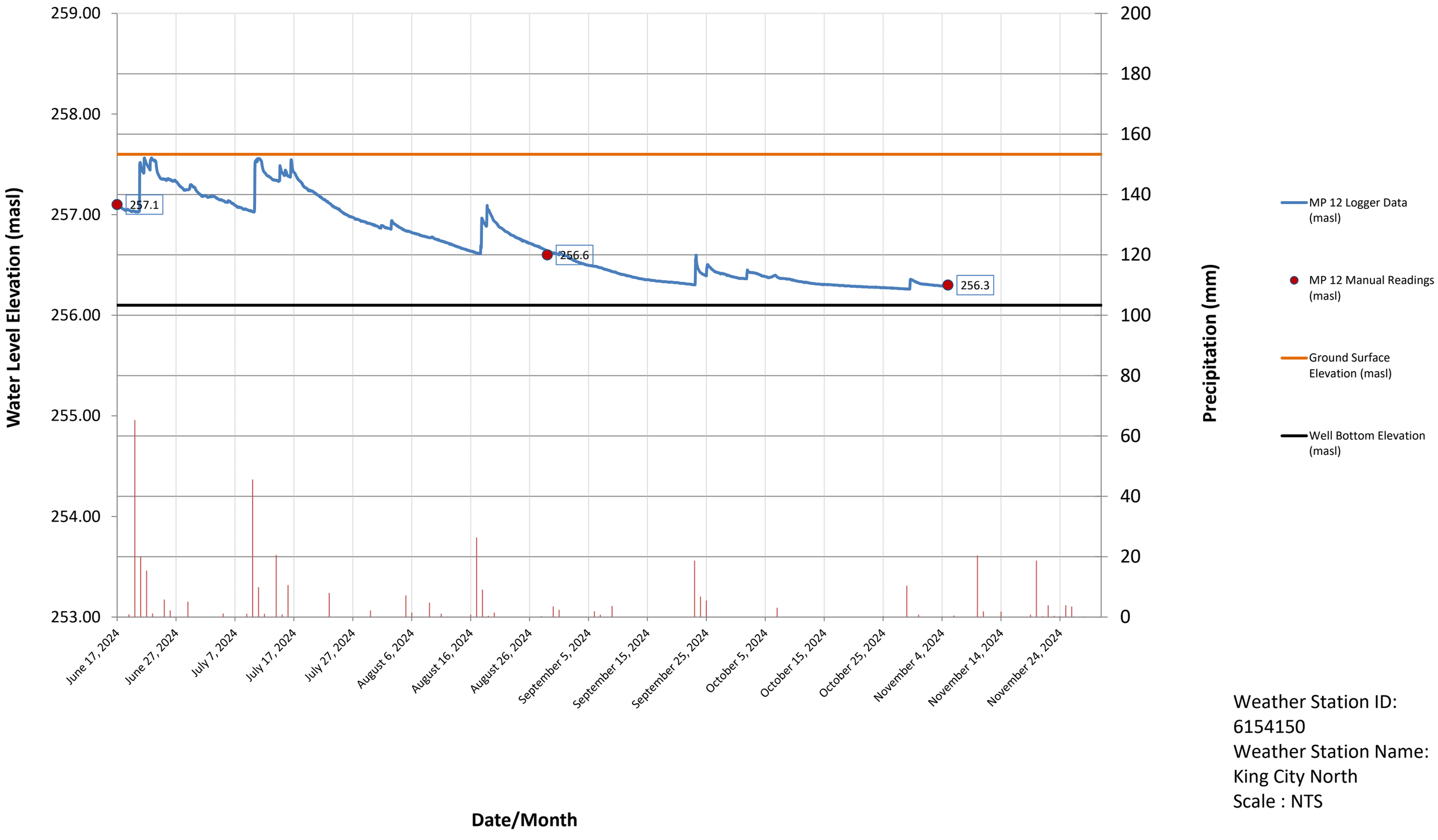
Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 11



Weather Station ID: 6154150
Weather Station Name: King City North
Scale : NTS

Hydrograph : MP 12



Weather Station ID: 6154150
Weather Station Name: King City North
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APPENDIX 'E'

Surface Water Flow Monitoring Summary

REFERENCE NO. 2309-W138

Creek	Monitoring Station ID	Section length (m)	Measurments	17-Jun-24	29-Aug-24	05-Nov-24
Creek 1	Flow Station 1 (Upstream of South Creek)	5.35	Total Discharge (m3/sec)	Dry	Dry	Dry
			Total Flow (L/sec)	Dry	Dry	Dry
	Flow Station 2 (Down Stream of South Creek)	1.50	Total Discharge (m3/sec)	Dry	Dry	Dry
			Total Flow (L/sec)	Dry	Dry	Dry
Creek 2	Flow Station 3 (Upstream of North Creek)	2.35	Total Discharge (m3/sec)	Dry	Dry	Dry
			Total Flow (L/sec)	Dry	Dry	Dry
	Flow Station 4 (Down Stream of North Creek)	3.35	Total Discharge (m3/sec)	Dry	Dry	Dry
			Total Flow (L/sec)	Dry	Dry	Dry

Soil Engineers Ltd.
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90 WEST BEAVER CREEK ROAD, SUITE 100, RICHMOND HILL, ONTARIO L4B 1E7 · TEL: (416) 754-8515 · FAX: (905) 881-8335

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TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

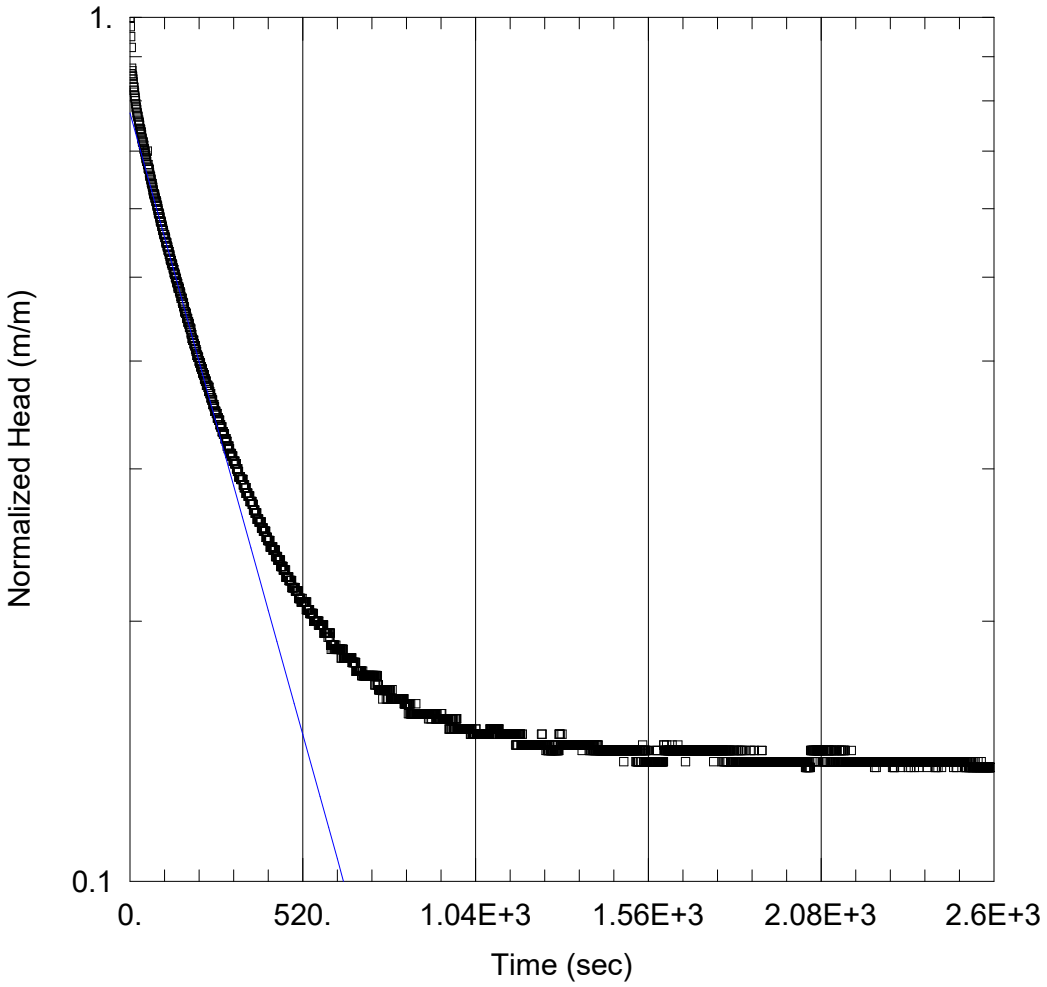
APPENDIX 'F'

In-Situ Hydraulic Conductivity Testing Details

REFERENCE NO. 2309-W138

Falling Head SWRT of BH/MW 2D

Prepared By:	Prepared For:
Soil Engineers Ltd.	United Holdings Inc.
Project:	**Location:**
2309-W138	Town of Caledon



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 2.002E-6 m/sec y0 = 0.3719 m

AQUIFER DATA

Saturated Thickness: 5.39 m Anisotropy Ratio (Kz/Kr): 1.

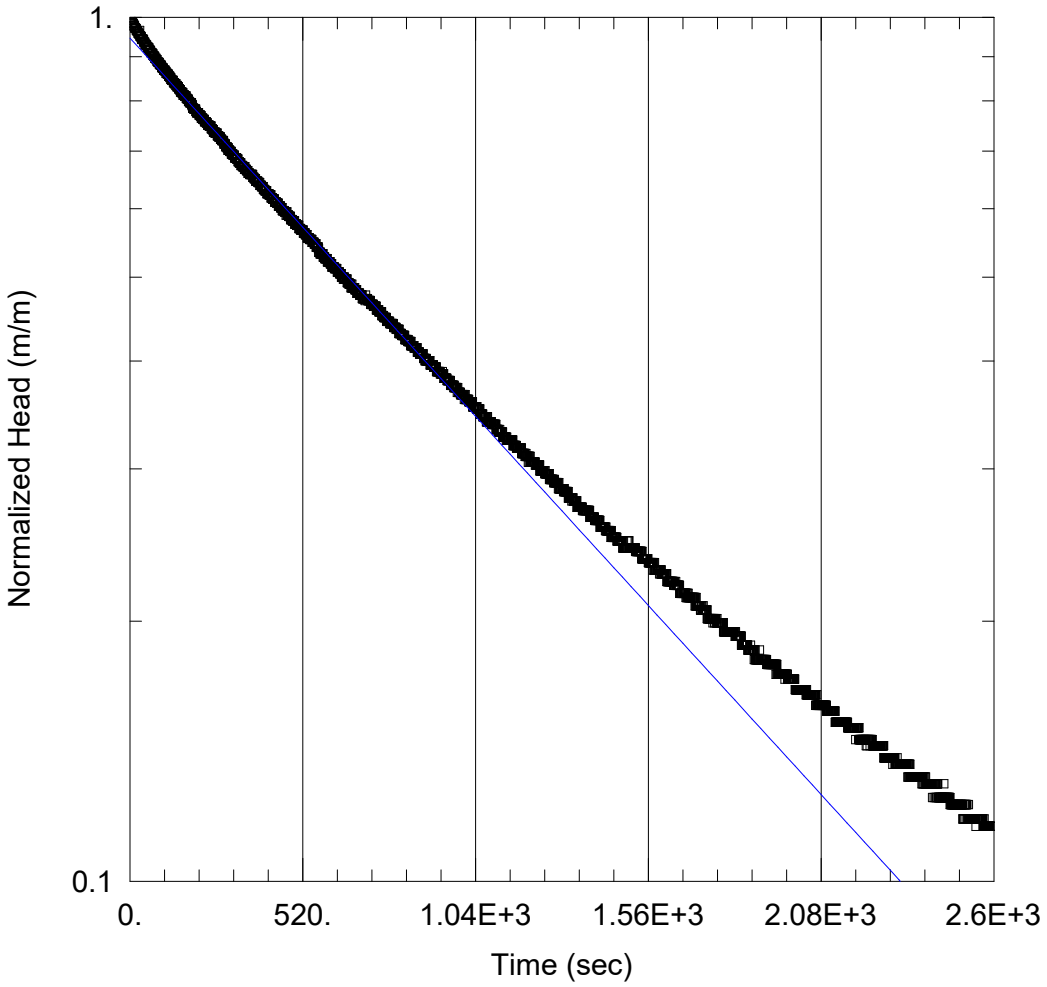
WELL DATA (BH/MW 2D)

Initial Displacement: 0.48 m
Static Water Column Height: 5.39 m
Total Well Penetration Depth: 5.39 m
Screen Length: 1.5 m
Casing Radius: 0.0254 m
Well Radius: 0.0762 m

Soil Engineers Ltd.

Falling Head SWRT of BH/MW 2S

Prepared By:	Prepared For:
Soil Engineers Ltd.	United Holdings Inc.
Project:	**Location:**
2309-W138	Town of Caledon



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 6.186E-7 m/sec y0 = 0.4086 m

AQUIFER DATA

Saturated Thickness: 2.95 m Anisotropy Ratio (Kz/Kr): 1.

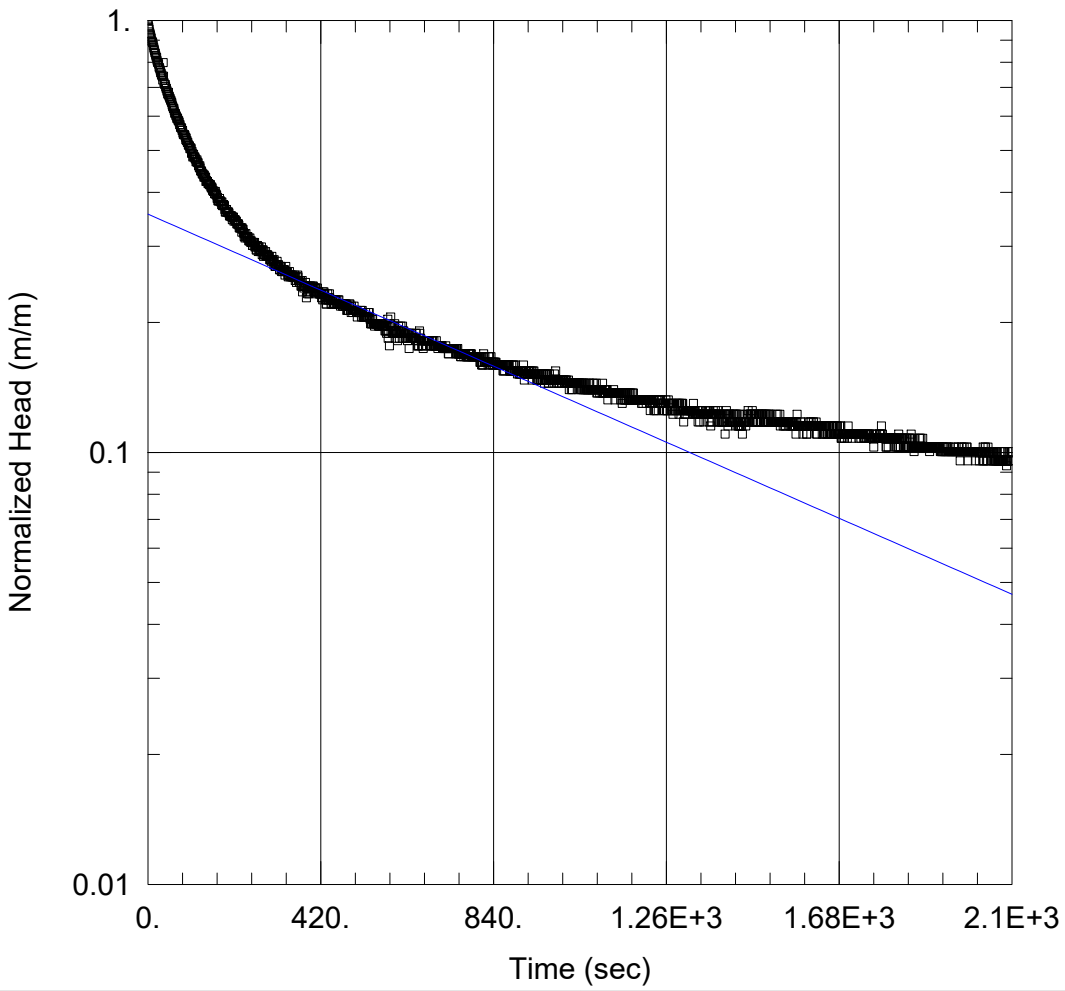
WELL DATA (BH/MW 2S)

Initial Displacement: 0.432 m
Static Water Column Height: 2.95 m
Total Well Penetration Depth: 2.95 m
Screen Length: 1.5 m
Casing Radius: 0.0254 m
Well Radius: 0.0508 m

Soil Engineers Ltd.

Falling Head SWRT of BH/MW 4

Prepared By:	Prepared For:
Soil Engineers Ltd.	United Holdings Inc.
Project:	**Location:**
2309-W138	Town of Caledon



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 3.128E-7 m/sec y0 = 0.1453 m

AQUIFER DATA

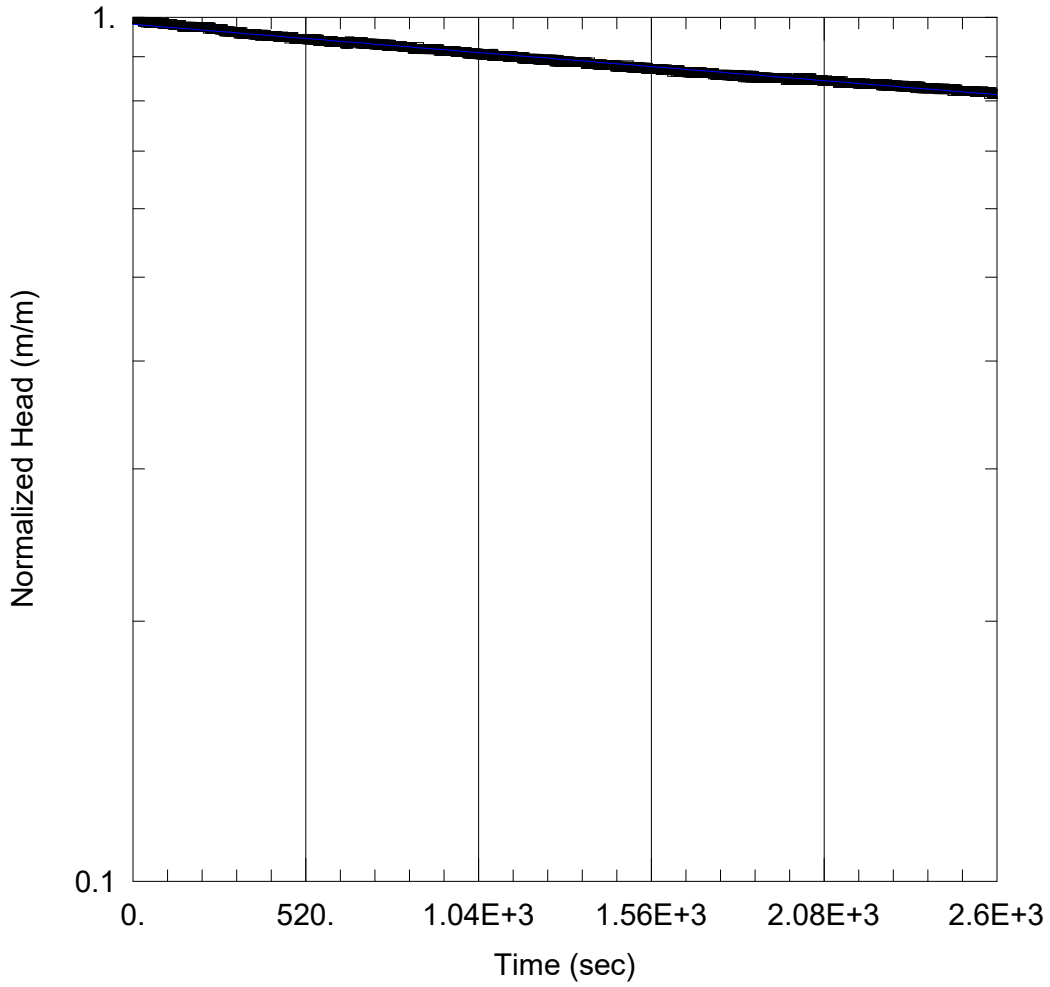
Saturated Thickness: 4.23 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH/MW 4)

Initial Displacement: 0.408 m
Static Water Column Height: 4.23 m
Total Well Penetration Depth: 4.23 m
Screen Length: 3. m
Casing Radius: 0.0254 m
Well Radius: 0.0762 m

Falling Head SWRT of BH/MW 5

Prepared By:	Prepared For:
Soil Engineers Ltd.	United Holdings Inc.
Project:	Location:
2309-W138	Town of Caledon



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 4.939E-8 m/sec y0 = 0.4767 m

AQUIFER DATA

Saturated Thickness: 4.33 m Anisotropy Ratio (Kz/Kr): 1.

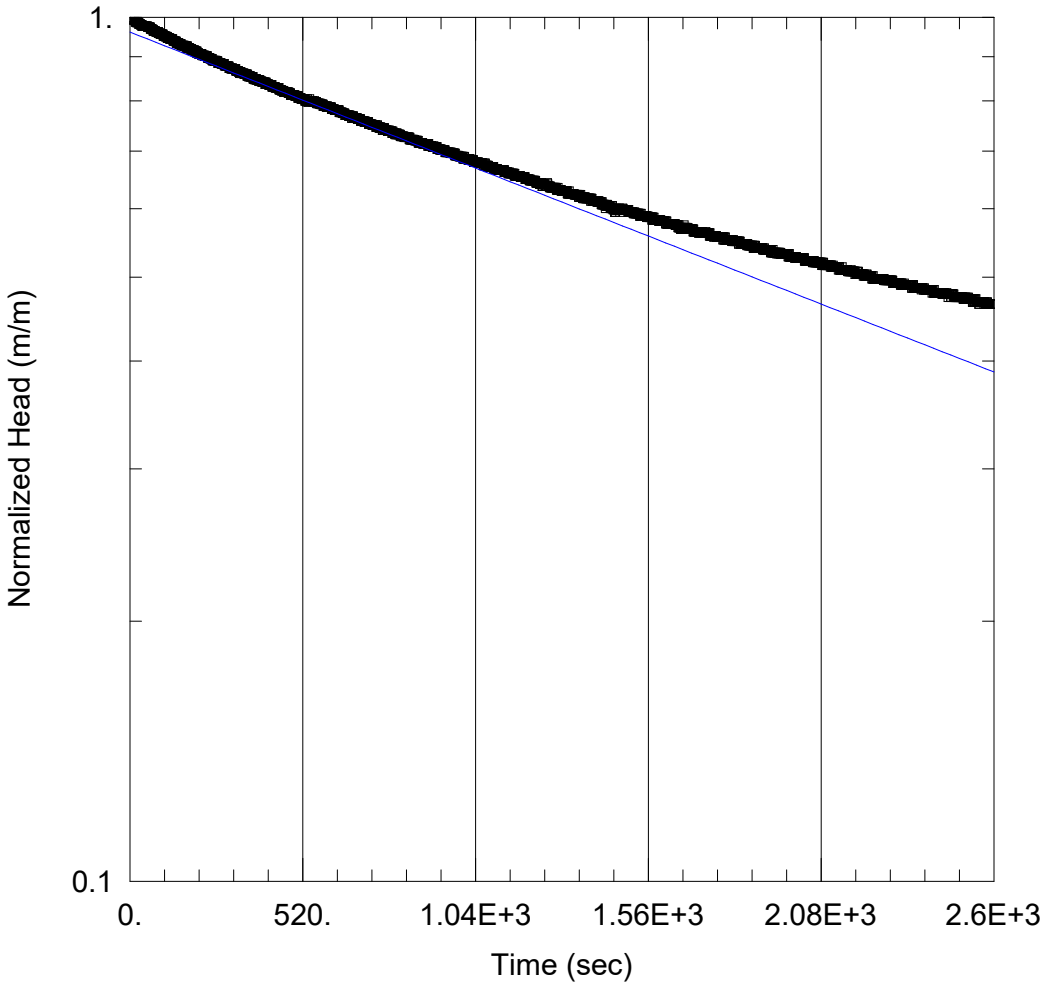
WELL DATA (BH/MW 5)

Initial Displacement: 0.486 m
Static Water Column Height: 4.33 m
Total Well Penetration Depth: 4.33 m
Screen Length: 1.5 m
Casing Radius: 0.0254 m
Well Radius: 0.0508 m

Soil Engineers Ltd.

Falling Head SWRT of BH/MW 7

Prepared By:	Prepared For:
Soil Engineers Ltd.	United Holdings Inc.
Project:	Location:
2309-W138	Town of Caledon



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 1.301E-7 m/sec y0 = 0.4766 m

AQUIFER DATA

Saturated Thickness: 5.18 m Anisotropy Ratio (Kz/Kr): 1.

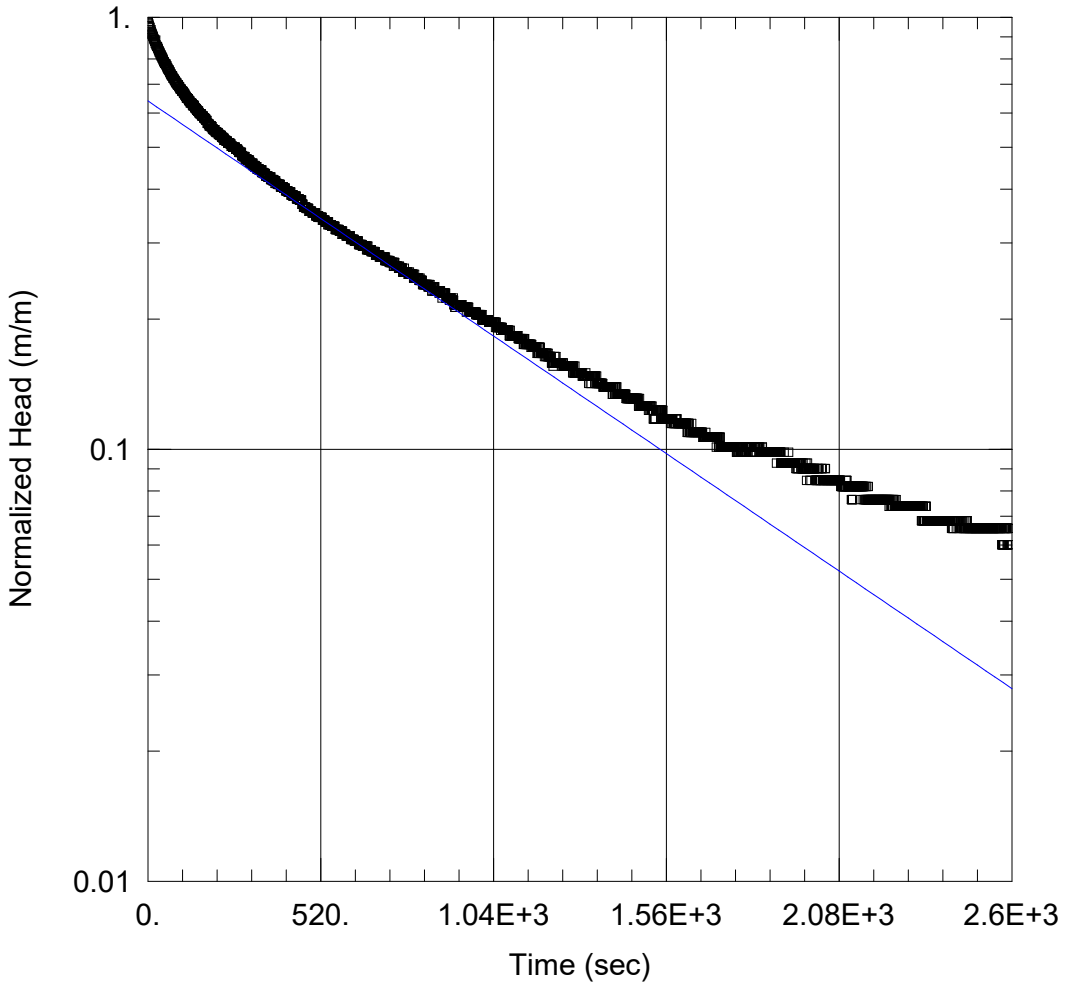
WELL DATA (BH/MW 7)

Initial Displacement: 0.496 m
Static Water Column Height: 5.18 m
Total Well Penetration Depth: 5.18 m
Screen Length: 3. m
Casing Radius: 0.0254 m
Well Radius: 0.0508 m

Soil Engineers Ltd.

Falling Head SWRT of BH/MW 9

Prepared By:	Prepared For:
Soil Engineers Ltd.	United Holdings Inc.
Project:	**Location:**
2309-W138	Town of Caledon



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 4.588E-7 m/sec y0 = 0.2342 m

AQUIFER DATA

Saturated Thickness: 5.79 m Anisotropy Ratio (Kz/Kr): 1.

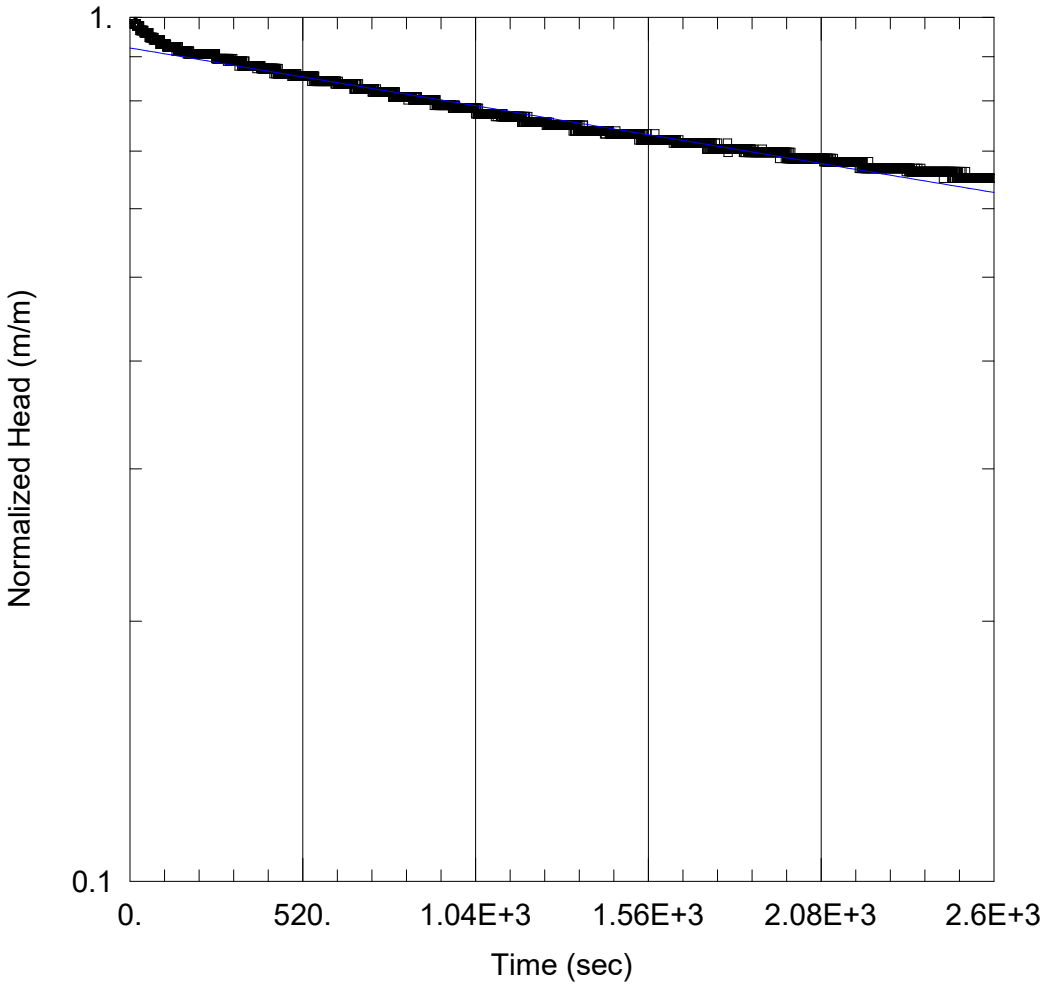
WELL DATA (BH/MW 9)

Initial Displacement: 0.366 m
Static Water Column Height: 5.79 m
Total Well Penetration Depth: 5.79 m
Screen Length: 3. m
Casing Radius: 0.0254 m
Well Radius: 0.0508 m

Soil Engineers Ltd.

Falling Head SWRT of BH/MW 12

Prepared By:	Prepared For:
Soil Engineers Ltd.	United Holdings Inc.
Project:	Location:
2309-W138	Town of Caledon



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 5.01E-8 m/sec y0 = 0.1584 m

AQUIFER DATA

Saturated Thickness: 2.98 m Anisotropy Ratio (Kz/Kr): 1.

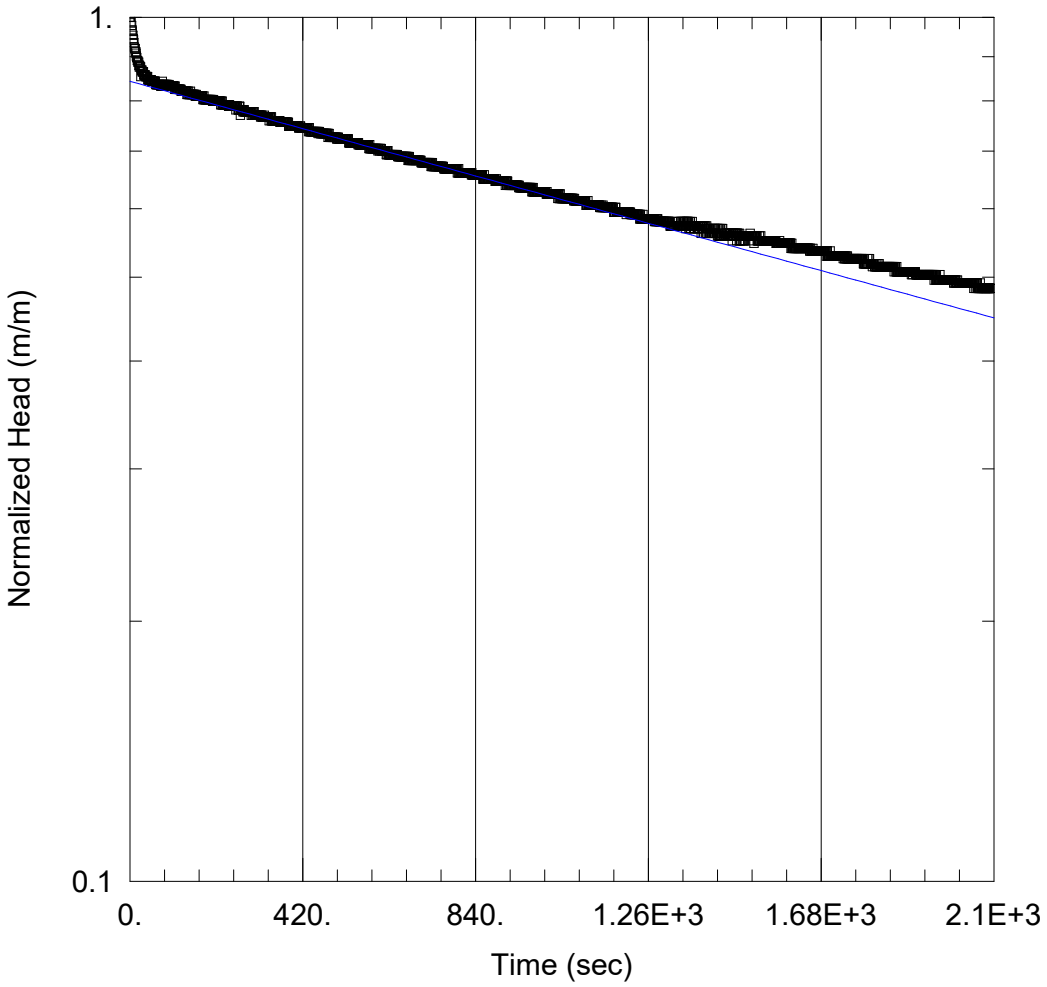
WELL DATA (BH/MW 12)

Initial Displacement: 0.172 m
Static Water Column Height: 2.98 m
Total Well Penetration Depth: 3. m
Screen Length: 3. m
Casing Radius: 0.0254 m
Well Radius: 0.0508 m

Soil Engineers Ltd.

Falling Head SWRT of BH/MW 13

Prepared By:	Prepared For:
Soil Engineers Ltd.	United Holdings Inc.
Project:	Location:
2309-W138	Town of Caledon



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 1.057E-7 m/sec y0 = 0.231 m

AQUIFER DATA

Saturated Thickness: 3.77 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH/MW 13)

Initial Displacement: 0.274 m
Static Water Column Height: 3.77 m
Total Well Penetration Depth: 3.77 m
Screen Length: 3. m
Casing Radius: 0.0254 m
Well Radius: 0.0508 m

Soil Engineers Ltd.

Soil Engineers Ltd.
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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'G'

Groundwater Quality Test Results

REFERENCE NO. 2309-W138

FINAL REPORT

CA40009-JAN24 R1

2309-W138, Mount Hope Rd & Columbia Way, C aledon

Prepared for

Soil Engineers Ltd.

FINAL REPORT

First Page

CLIENT DETAILS

Client	Soil Engineers Ltd.
Address	90 West Beaver Creek Rd Richmond, ON M1S 3A7. Canada
Contact	Gurkaranbir Singh
Telephone	519-731-6442
Facsimile	
Email	gurkaranbir.singh@soilengineersltd.com
Project	2309-W138, Mount Hope Rd & Columbia Way, C aledon
Order Number	
Samples	Ground Water (1)

LABORATORY DETAILS

Project Specialist	Maarit Wolfe, Hon.B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2000
Facsimile	705-652-6365
Email	Maarit.Wolfe@sgs.com
SGS Reference	CA40009-JAN24
Received	01/05/2024
Approved	01/12/2024
Report Number	CA40009-JAN24 R1
Date Reported	01/12/2024

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 6 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 038107

CNT spike low due to sample matrix

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

TABLE OF CONTENTS

Client: Soil Engineers Ltd.
Project: 2309-W138, Mount Hope Rd & Columbia Way, C aledon
Project Manager: Gurkaranbir Singh
Samplers: Gurkaranbir Singh

MATRIX: WATER

Sample Number	8
Sample Name	BH/MW-2D
Sample Matrix	Ground Water
Sample Date	04/01/2024

L1 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4 ↑
Total Suspended Solids	mg/L	2	350	15	2
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	0.9
Metals and Inorganics					
Fluoride	mg/L	0.06	10		0.25
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		21
Aluminum (total)	mg/L	0.001	50		0.253
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0018
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000019
Chromium (total)	mg/L	0.00008	5	0.08	0.00064
Copper (total)	mg/L	0.0002	3	0.05	0.0020
Cobalt (total)	mg/L	0.000004	5		0.000251
Lead (total)	mg/L	0.00009	3	0.12	0.00054
Manganese (total)	mg/L	0.00001	5	0.05	0.0334
Molybdenum (total)	mg/L	0.00004	5		0.00219
Nickel (total)	mg/L	0.0001	3	0.08	0.0016
Phosphorus (total)	mg/L	0.003	10	0.4	0.036
Selenium (total)	mg/L	0.00004	1	0.02	0.00004
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005
Tin (total)	mg/L	0.00006	5		0.00010

Client: Soil Engineers Ltd.
Project: 2309-W138, Mount Hope Rd & Columbia Way, C aledon
Project Manager: Gurkaranbir Singh
Samplers: Gurkaranbir Singh

MATRIX: WATER

Sample Number	8
Sample Name	BH/MW-2D
Sample Matrix	Ground Water
Sample Date	04/01/2024

L1 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Titanium (total)	mg/L	0.00007	5		0.00827
Zinc (total)	mg/L	0.002	3	0.04	0.014
Microbiology					
E. Coli	cfu/100mL	0		200	< 2↑
Nonylphenol and Ethoxylates					
Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease					
Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4

Client: Soil Engineers Ltd.
Project: 2309-W138, Mount Hope Rd & Columbia Way, C aledon
Project Manager: Gurkaranbir Singh
Samplers: Gurkaranbir Singh

MATRIX: WATER

Sample Number	8
Sample Name	BH/MW-2D
Sample Matrix	Ground Water
Sample Date	04/01/2024

L1 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
Other (ORP)					
pH	No unit	0.05	10	9	7.83
Mercury (total)	mg/L	0.00001	0.01	0.0004	< 0.00001
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenols					
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005

Client: Soil Engineers Ltd.
Project: 2309-W138, Mount Hope Rd & Columbia Way, C aledon
Project Manager: Gurkaranbir Singh
Samplers: Gurkaranbir Singh

MATRIX: WATER

Sample Number	8
Sample Name	BH/MW-2D
Sample Matrix	Ground Water
Sample Date	04/01/2024

L1 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-[ENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5015-JAN24	mg/L	2	<2	6	20	108	80	120	113	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-[ENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0010-JAN24	mg/L	2	< 2	5	30	106	70	130	NV	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0055-JAN24	mg/L	0.01	<0.01	ND	10	95	90	110	71	75	125

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 I Internal ref.: ME-CA-[ENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0095-JAN24	mg/L	0.06	<0.06	ND	10	100	90	110	102	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B I Internal ref.: ME-CA-[ENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0013-JAN24	mg/L	0.00001	< 0.00001	ND	20	88	80	120	82	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0052-JAN24	mg/L	0.00005	<0.00005	ND	20	100	90	110	86	70	130
Aluminum (total)	EMS0052-JAN24	mg/L	0.001	<0.001	8	20	99	90	110	97	70	130
Arsenic (total)	EMS0052-JAN24	mg/L	0.0002	<0.0002	13	20	104	90	110	107	70	130
Cadmium (total)	EMS0052-JAN24	mg/L	0.000003	<0.000003	19	20	99	90	110	107	70	130
Cobalt (total)	EMS0052-JAN24	mg/L	0.000004	<0.000004	9	20	101	90	110	104	70	130
Chromium (total)	EMS0052-JAN24	mg/L	0.00008	<0.00008	15	20	101	90	110	106	70	130
Copper (total)	EMS0052-JAN24	mg/L	0.0002	<0.0002	3	20	98	90	110	119	70	130
Manganese (total)	EMS0052-JAN24	mg/L	0.00001	<0.00001	5	20	101	90	110	97	70	130
Molybdenum (total)	EMS0052-JAN24	mg/L	0.00004	<0.00004	3	20	99	90	110	108	70	130
Nickel (total)	EMS0052-JAN24	mg/L	0.0001	<0.0001	17	20	101	90	110	105	70	130
Phosphorus (total)	EMS0052-JAN24	mg/L	0.003	<0.003	ND	20	97	90	110	NV	70	130
Selenium (total)	EMS0052-JAN24	mg/L	0.00004	<0.00004	ND	20	92	90	110	114	70	130
Titanium (total)	EMS0052-JAN24	mg/L	0.00007	<0.00005	7	20	98	90	110	NV	70	130
Zinc (total)	EMS0052-JAN24	mg/L	0.002	<0.002	4	20	101	90	110	97	70	130
Lead (total)	EMS0056-JAN24	mg/L	0.00009	<0.00009	19	20	108	90	110	120	70	130
Antimony (total)	EMS0056-JAN24	mg/L	0.0009	<0.0009	ND	20	99	90	110	108	70	130
Tin (total)	EMS0056-JAN24	mg/L	0.00006	<0.00006	ND	20	102	90	110	NV	70	130

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9095-JAN24	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0076-JAN24	mg/L	0.01	<0.01			81	55	120			
Nonylphenol Ethoxylates	GCM0076-JAN24	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0076-JAN24	mg/L	0.01	<0.01			84	55	120			
Nonylphenol	GCM0076-JAN24	mg/L	0.001	<0.001			76	55	120			

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM0090-JAN24	mg/L	2	<2	NSS	20	106	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM0090-JAN24	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0090-JAN24	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0104-JAN24	No unit	0.05	NA	0		100			NA		

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0072-JAN24	mg/L	0.002	<0.002	ND	10	99	80	120	93	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-[ENV]GC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0083-JAN24	mg/L	0.0001	<0.0001	NSS	30	123	60	140	NSS	60	140

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
Bis(2-ethylhexyl)phthalate	GCM0081-JAN24	mg/L	0.002	< 0.002	NSS	30	99	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0081-JAN24	mg/L	0.002	< 0.002	NSS	30	101	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
Total Suspended Solids	EWL0148-JAN24	mg/L	2	< 2	1	10	97	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
Total Kjeldahl Nitrogen	SKA0061-JAN24	as N mg/L	0.5	<0.5	7	10	103	90	110	106	75	125

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	117	60	130	119	50	140
1,2-Dichlorobenzene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	109	60	130	98	50	140
1,4-Dichlorobenzene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	114	60	130	101	50	140
Benzene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	110	60	130	102	50	140
Chloroform	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	109	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	109	60	130	101	50	140
Ethylbenzene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	109	60	130	100	50	140
m-p-xylene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	111	60	130	100	50	140
Methyl ethyl ketone	GCM0086-JAN24	mg/L	0.02	<0.02	ND	30	102	50	140	97	50	140
Methylene Chloride	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	106	60	130	100	50	140
o-xylene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	114	60	130	103	50	140
Styrene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	111	60	130	99	50	140
Tetrachloroethylene (perchloroethylene)	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	106	60	130	96	50	140
Toluene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	109	60	130	100	50	140
trans-1,3-Dichloropropene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	108	60	130	97	50	140
Trichloroethylene	GCM0086-JAN24	mg/L	0.0005	<0.0005	ND	30	104	60	130	86	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

No: 038107

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Page ____ of ____

Laboratory Information Section - Lab use only

Received By: ED
Received Date: 1/5/24 (mm/dd/yy)
Received Time: 13:30 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ICE
Temperature Upon Receipt (°C): 6.8 3
LAB LIMS #: CA-40009-Jan24

REPORT INFORMATION	INVOICE INFORMATION
Company: SOIL ENG LTD	☑ (same as Report Information)
Contact: GURKARANBIR SINGH	Company:
Address: 90 Westbrook Rd, Richmond Hill	Contact:
	Address:
Phone: 519-731-6442	Phone:
Fax:	
Email: gurkaranbir.singh@soilengineers.ca	Email:

Quotation #:
P.O. #: 2309-W138
Project #:
Site Location/ID: Mount Hope Rd & Columbia Way, Caledon

TURNAROUND TIME (TAT) REQUIRED

☑ Regular TAT (5-7days)

TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:

*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☐ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park Soil Texture:
☐ Table 2 ☐ Ind/Com ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ Medium/Fine
☐ Table ____ Appx. ____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA ____
☐ ODWS Not Reportable *See note

Sewer By-Law:
☑ Sanitary
☑ Storm
Municipality: Region of Peel

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	M&I: Field Filtered (Y/N)	M&I: Metals & Inorganics (Incl CrVI, CN, Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na-water))	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI)	M&I: ICP Metals only (Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn)	SVOC: PAHs only	SVOC: SVOCs (all Incl PAHs, ABNs, CPs)	PCB: PCBs (Aroclor ☐ Total ☐)	PHC: F1-F4 + BTEX	PHC: F1-F4 only (no BTEX)	VOC: VOCs (all incl BTEX)	VOC: BTEX only	Pest: Pesticides (Organochlorine or specify other)	Other (please specify): Sewer Use; Storm Water/ Specify pkg: Region of Peel	Other: Water Characterization Pkg (General ☐ Extended ☐)	SPLP: Specify tests (☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN)	TCLP: Specify tests (☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.)	COMMENTS:
1	BH/MW-2D	Jan 04, 2024	1:30pm	17	GW	N																
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Observations/Comments/Special Instructions

Sampled By (NAME): Gurkaranbir Singh Signature:
Relinquished by (NAME): Gurkaranbir Singh Signature:

Date: Jan 04, 24 (mm/dd/yy)
Date: Jan 04, 24 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.7
Date of Issue: 07 JUNE 2023

Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE
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BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	MUSKOKA	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'H'

Reviewed Plans

REFERENCE NO. 2309-W138

MOUNT HOPE WEST

Land Use Concept

MOUNT HOPE ROAD

COLUMBIA WAY

Secondary Plan Boundary

Frontage Measurement-**6,945m**

Other Lands Owned By Applicant (Greenbelt)

Existing Residential Lands

13.7m Laneway Semi-Detached-**180 Units**

15.2m Street Semi-Detached-**118 Units**

6m Street Towns-**274 Units**

11m Single detached-**34 Units**

Mid/High-rise Block 60UPH-250UPH

1.64ha * 60-250 = **99-410 Units**

Commercial Block-1.72ha

Park

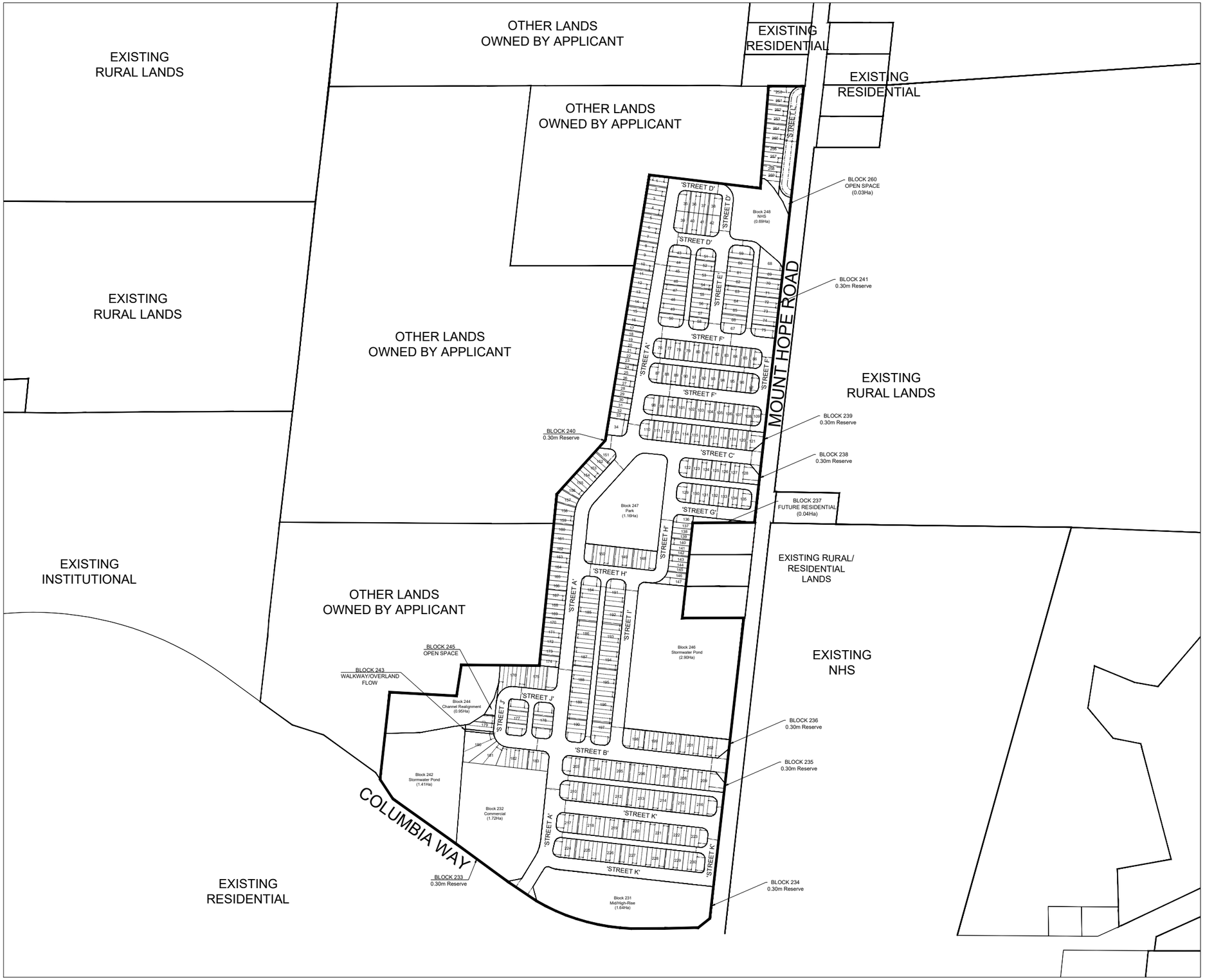
Open Space

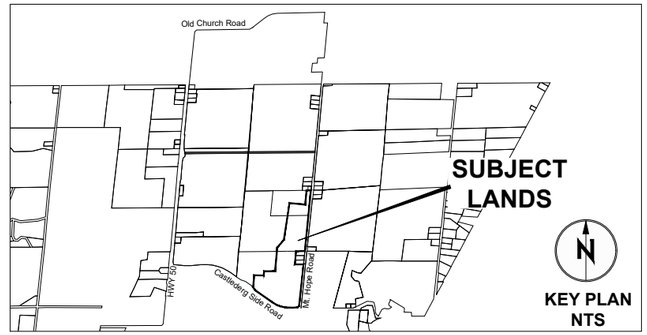
SWM

NHS

Channel Realignment

Date: January 23, 2025





OWNERS CERTIFICATE

I HEREBY AUTHORIZE SGL PLANNING & DESIGN INC. TO SUBMIT THIS PLAN FOR APPROVAL.

SIGNED _____ DATE: _____

United Holdings Inc.

SURVEYORS CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE CORRECTLY AND ACCURATELY SHOWN.

SIGNED _____ DATE: _____

R-PE SURVEYING LTD.

ADDITIONAL INFORMATION

(UNDER SECTION 51(17) OF THE PLANNING ACT) INFORMATION REQUIRED BY CLAUSES A,B,C,D,E,F,G,J & L ARE SHOWN ON THE DRAFT AND KEY PLANS.

H)MUNICIPAL AND PIPED WATER TO BE PROVIDED
I) SILTY CLAY, SILTY CLAY TILL, SANDY SILT, SANDY SILT TILL
K)SANITARY AND STORM SEWERS TO BE PROVIDED

LAND USE SCHEDULE

LAND USE	LOT / BLOCK #	AREA (ha)	AREA (ac)	UNITS
6.75m Street Semi-Detached	1-16, 35-42, 152-174, 180-181, 250-259	2.53	6.25	118
8m Single Detached	17-34, 67-68, 109, 136-147, 151	0.94	2.32	34
6.75m Laneway Semi-Detached	43-66, 69-108,110-135	3.83	9.46	180
6m Street Towns	148-179, 182-230	5.34	13.22	274
Mid/High-Rise Block (60-250 UPH)	231	1.64	4.05	99-410
Commercial Block	232	1.72	4.25	
1' Reserves	233-236, 238-241	0.0085	0.02	
Future Residential	237	0.04	0.10	
Stormwater Pond	242,246	4.60	11.37	
Walkway /Overland Flow	243	0.01	0.02	
Open Space	245, 260	0.06	0.15	
Channel Realignment	244	0.95	2.35	
Park	247	1.16	2.87	
NHS	248	0.69	1.71	
ROW		8.21	20.29	
TOTAL		**31.73**	**78.43**	705-1,016

Z:\Projects\MH.CL Mount Hope Caledon\Maps\CAD\2025 January\Draft Plan Jan 23.dwg

N

Scale: 1:5500
January 23, 2025