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A REPORT TO
RHEMM PROPERTIES LTD.

HYDROGEOLOGICAL ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT

372 GREY ROAD 21 WEST
TOWN OF BLUE MOUNTAIN

REFERENCE NO. 2201-W051B

July 10, 2026

DISTRIBUTION

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Reference No. 2201-W051B

ISSUES REGISTRY

Modification	Date	Description of Issued and/or Changes
1st Draft	July 03, 2026	Issued for Review
Final	July 10, 2026	The report was updated due to the revisions in the plans.

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1.0 EXECUTIVE SUMMARY

Soil Engineers Ltd. completed a hydrogeological study for a parcel of land, located at 372 Grey Road 21 West, in the Town of Blue Mountain (the Subject Site), in support of a proposed residential development. SEL has previously submitted the hydrogeological assessment report on July 23, 2025 titled: "*A Report to Rhemm Properties Ltd., Hydrogeological Study For Proposed Residential Development, 372 Grey Road 21 West, Town of Blue Mountain*" (SEL Ref. 2201-W051B). The current report is a revised copy of the previously issued report to address the comments by pertaining to reviewing agencies, as outlined in a Comment Matrix dated November 12, 2025.

The Subject Site is located within a partially developed area, where the surrounding land uses includes; a wooded areas to the east, south, and west and residential dwellings and the Georgian Trail to the north. At the time of investigation, the Subject Site was primarily covered with woods.

The Subject Site lies within the Physiographic Region of Southern Ontario, known as the Simcoe Lowlands, on the former beaches and sand plains physiographic feature. The Subject Site is located within the South Georgian Bay Shoreline Watershed.

Based on the filed investigation the bedrock was inferred at depth between 0.6 mbgs and 3.4 mbgs or at an elevation between 180.8 masl and 184.4 masl.

The K estimates for the saturated subsoils is 1.8 x 10^{-6} m/sec for the overburden soils at the screened depth intervals for the monitoring wells constructed beneath the site. The K estimates for the sand and gravel subsoil sample using Hazen's Equation for the sand and gravel subsoil sample retrieved from the depth of 2.3 m at BH/MW 12 location is 1.21 x 10^{-4} m/sec.

Based on the short-term dewatering assessment for the post graded site, groundwater seepage is not anticipated for excavation and construction of the basements for the proposed lots. However, the groundwater seepage is expected for the excavation and installation of the proposed underground services.

Maximum total estimated dewatering flow rates during the construction of the proposed underground services and the proposed residential development including a 2-year storm event and a safety factor of 2.0 could reach up to 79,200.0 L/day and 21,400.0 L/day (storm water only), respectively.

The total anticipated flow rates are more than 50, 000 L/day. As such, filing an EASR with MECP will be required. Additionally, applying for a discharge permit with the Town of Blue Mountain is required if the collected water during construction is proposed to be conveyed to the sewer system. The current report does not include any construction monitoring, mitigation and contingency plan that is required as a part of EASR application. The required document can be provided at a later stage upon request for EASR posting.

The zone of influence for any temporary construction dewatering array or wells could reach approximately up to 15.1 m away from the conceptual dewatering wells or array considered around the proposed underground services. The conceptual ZOI for dewatering due to underground services will not be limited to the property boundary along the western and southern limits of the Subject Site.

- The conceptual ZOI for dewatering due to underground services will not be limited to the property boundary along the western and southern limits of the Subject Site. However, there are no structures located within the conceptual ZOI at the time of preparation of the current report. As such, impacts related to ground settlement are not expected. Furthermore, if the dewatering process is conducted using sumps without installation of dewatering wells, the potential impacts will be negligible.

- Record review indicates that there are records for natural heritage features including wetlands, watercourses and wooded area within the Subject Site. The wetland feature identified as Provincial as per OWES as well as the wetland feature not evaluated as per OWES lie outside the conceptual ZOI for dewatering, and would not be impacted. It is understood that the wooded area encompasses the Subject Site will be cleared for the development purposes. As such, the wooded areas that lie within the conceptual ZOI for now would be eliminated and would not be impacted during the construction activities. The creek flowing from southeast towards the northwest direction near the northern limits of the Subject Site lies outside the conceptual ZOI, and would not be impacted during the short-term construction dewatering activities. Also, it is understood that another creek that enters the Subject Site from the western boundary, flowing towards the north boundary of the Subject Site, would be realigned considering the proposed development of residential houses around its course. As such, no significant impacts to this natural feature is anticipated.

- There are two records of domestic water supply wells identified as Well ID No. 78 and 79 on MECP Well Location Plan located within the Subject Site. However, Water Supply Well identified as Well ID No. 78 on MECP Well Location Plan lies within ZOI extending up to 15.1 m for the installation of underground services might put some impacts on this water supply well. The status of the above noted water supply wells should be assessed in advance of construction and dewatering. However, a private water supply well monitoring is recommended a couple of months in advance of the construction.

2.0 INTRODUCTION

2.1 Site Location and Project Description

In accordance with the authorization from Mr. John Rodgers of Rhemm Properties Ltd., Soil Engineers Ltd. (SEL) has conducted a hydrogeological study for a proposed residential development, located at 372 Grey Road 21 West in the Town of Blue Mountain. The location of the Subject Site is shown on **Drawing No. 1**.

SEL has previously submitted the hydrogeological assessment report on July 23, 2025 titled: "*A Report to Rhemm Properties Ltd., Hydrogeological Study For Proposed Residential Development, 372 Grey Road 21 West, Town of Blue Mountain*" (SEL Ref. 2201-W051B). The current report is a revised copy of the previously issued report to address the comments by pertaining to reviewing agencies, as outlined in a Comment Matrix dated November 12, 2025.

Based on the review of a Draft Plan prepared by Tatham Engineering with revision date July 03, 2026, the proposed development will consist of construction of residential dwellings, with accessible driveways and municipal services.

The Subject Site is located within a partially developed area, where the surrounding land uses includes; a wooded areas to the east, south, and west and residential dwellings and the Georgian Trail to the north. At the time of investigation, the Subject Site was primarily covered with woods.

This report summarizes the findings of the field study and the associated groundwater monitoring and hydraulic testing, and provides a description and characterization of the interpreted hydro-geo-stratigraphy for the Subject Site, and the local surrounding area. The current study provides recommendations, addressing any construction dewatering needs, prior to detailed design. Furthermore, the report provides a recommendation for any need to acquire an Environmental Activity and Sector Registry (EASR), or a Permit-To-Take Water (PTTW) as an approval to facilitate temporary groundwater takings for a construction dewatering program.

2.2 Project Objectives

The major objectives of this Hydrogeological Study Report are as follows:

- Establishing the local hydrogeological setting for the site and the local surrounding areas;
- Interpretation of the shallow groundwater flow and runoff patterns;
- Identify zones of higher groundwater yield as potential sources for any ongoing shallow groundwater seepage;

- Characterizing the hydraulic conductivity (K) for the groundwater-bearing sub soil strata;
- Preparing an interpreted hydrogeostratigraphic cross-section across the Subject Site;
- Estimating any anticipated temporary dewatering flows that may be required to lower the shallow water table to facilitate construction, or for any required long-term foundation drainage needs, following construction;
- Estimating the anticipated zone of influence associated with any temporary construction dewatering, if required;
- Evaluating potential impacts from any construction dewatering to any nearby groundwater receptors within the anticipated zone of influence associated with temporary construction dewatering, and to develop estimates for any dewatering flow rates that may be required to facilitate excavation and construction;
- Preparation of hydrographs, incorporating the shallow groundwater fluctuation levels and precipitation data from nearby weather station, to assist with any correlation of shallow groundwater levels and local precipitation.
- Providing comments regarding any need to file for an Environmental Activity and Sector Registry (EASR) approval, or to acquire a Permit-To-Take Water (PTTW) approval to facilitate a construction dewatering program.
- Commenting on the feasibility of the site to accommodate Low Impact Development Infrastructure at the completed development in support of future stormwater management planning and design.

2.3 Scope of Work

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

- Clearance of underground services, drilling of seven (7) boreholes and installation of five (5) monitoring wells, each within selected boreholes within the site's development footprint;
- Monitoring well development and groundwater level measurements within the three (3) installed monitoring wells to record the prevailing groundwater levels beneath the Subject Site;
- Installation of automated pressure transduce, data logger, for continuous groundwater level monitoring;

- Performance of Single Well Response Tests (SWRTs) at the monitoring wells to estimate the hydraulic conductivity (K) for the groundwater-bearing subsoil strata at the depths of the monitoring well screens;
- Reviewing and plotting of Ministry of Environment, Conservation and Parks (MECP) water well records within 500 m of the proposed residential development site;
- Describing the geological and hydrogeological setting for the Subject Site, and for the Subject Site and the local surrounding area;
- Review of the findings of the previous geotechnical soil investigation; review of any available engineering development plans and profiles for proposed underground services and for the proposed housing basement structures; assessing the dewatering needs, and estimation of any anticipated dewatering flows to lower the groundwater levels to facilitate construction and earth works, or for any anticipated long-term foundation drainage needs, following construction for the completed development;
- Review of groundwater receptors in the vicinity of the proposed development site, and providing recommendations for any monitoring, mitigations and discharge management to safeguard the nearby groundwater receptors from any potential adverse impacts associated with any temporary construction dewatering, and;
- Preparation of hydrographs to assist with any correlation of shallow groundwater levels and local received precipitation.
- Providing comments regarding any need to file for an Environmental Activity and Sector Registry (EASR) approval, or to acquire a Permit-To-Take Water (PTTW) to facilitate a temporary construction dewatering program.

3.0 METHODOLOGY

3.1 Borehole Advancement and Monitoring Well Installation

Drilling of boreholes and construction of monitoring wells were conducted for geotechnical and hydrogeological investigations by SEL on April 18, 2022. The program consisted of the drilling of seven (7) boreholes (BH) and installation of five (5) monitoring wells within selected geotechnical boreholes. The locations of the boreholes and monitoring wells are shown on **Drawing No. 2**.

Borehole drilling and monitoring well installations were completed by DBW Drilling, a licensed water well contractor, under the full-time supervision of a geotechnical technician from SEL, who also logged the subsoil strata, encountered during borehole advancement and collected representative subsoil samples for textural classification. The boreholes were drilled using continuous flight power augers. Detailed descriptions of the encountered subsurface soil, bedrock and groundwater conditions are presented on the Borehole and Monitoring Well Logs, on **Figures 1** to **8**, inclusive.

The monitoring wells were constructed, using 50-mm diameter PVC riser pipes and screens, which were installed in each of the selected geotechnical boreholes in accordance with Ontario Regulation (O. Reg.) 903. All of the monitoring wells were provided with monument steel protective casings above the ground surface.

The UTM coordinates and ground surface elevations at the monitoring wells' locations, as well as the monitoring well construction details, are presented in **Table 3-1**.

Table 3-1- Monitoring Well Installation Details

Well ID	Installation Date	UTM Coordinates		Ground Elevation (masl)	Soil Media in the Screen Interval (mbgs)	Screen Interval (mbgs)	Casing Dia. (mm)	Casing Type
		East (m)	North (m)					
BH/MW 5	April 18, 2022	555032.6	4929756.6	183.7	Sand and Gravel	0.8-1.4	50	Monument
BH/MW 7	April 18, 2022	555131.9	4929715.5	184.2	Sand and Gravel	1.0-1.6	50	Monument
BH/MW 9	April 18, 2022	555227.4	4929651.9	185.3	Sand and Gravel	0.9-1.5	50	Monument
BH/MW 10	April 18, 2022	555052.3	4929693.6	185.6	Sand and Gravel	0.6-1.2	50	Monument
BH/MW 12	April 18, 2022	555131.9	4929715.5	184.2	Sand and Gravel	1.9-3.4	50	Monument

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

3.2 Mapping of Ontario Water Well Records

SEL reviewed the MECP Water Well Records (WWRs) for registered wells located on the Subject Site, and within 500 m of the Subject Site boundaries (study area). The records indicate that one hundred and four (104) registered wells are located within the study area relative to the Subject Site boundaries. The WWRs reviewed for this study are discussed in Section **6.2**.

3.3 Groundwater Monitoring

The groundwater levels within the monitoring wells were manually measured on three (3) occasions on April 27, May 27 and on June 28, 2022 to record the stabilized groundwater levels beneath the Subject Site. Also, BH/MW 7 was instrumented with a data logger for continuous groundwater level monitoring over the above-mentioned monitoring period. Details are discussed in **Section 6.3**.

3.4 Monitoring Well Development and Single Well Response Tests

Only BH/MW 7, underwent well development in preparation for single well response testing (SWRT) to estimate the hydraulic conductivity (K) for the saturated subsoil strata, encountered at the depths of the monitoring well screens. Attempts were made to preform SWRT within the remaining monitoring wells. However, due to low water columns within the monitoring wells, attempts to complete the SWRT were unsuccessful. Monitoring well development involved the purging and removal of several casing volumes of groundwater from each monitoring well to remove remnants of clay, silt and other debris introduced into the monitoring wells during construction, and to induce the flow of formation groundwater through the monitoring well screens, thereby improving the transmissivity for the subsoil strata formation at the monitoring well screen depths.

An SWRT is used to estimate the hydraulic conductivity (K) for the groundwater-bearing subsoil strata at the depths of the monitoring well screens. The K estimates provide an indication of the yield capacity for the groundwater-bearing subsoil strata and can be used to estimate the flow of groundwater through the groundwater-bearing subsoil strata.

The SWRT involves the placement of a slug of known volume into the monitoring well, below the water table, to displace the groundwater level upward. The rate at which the groundwater level recovers to static conditions (falling head) is tracked using either a data logger/pressure transducer, and/or manually, using a water level tape. The rate at which the groundwater table recovers to static conditions is used to estimate the K values for the groundwater-bearing subsoil strata formation at the monitoring well screen depths. BH/MW 7 underwent SWRT on May 27, 2022, with the results being provided in **Section 6.5**.

3.5 Hydraulic Conductivity based on Grain Size Distribution Graphs

The Hazen equation estimation method was also used to estimate the hydraulic conductivity (K) for saturated subsoils at selected depths beneath the groundwater table beneath the Subject Site. The method provides alternative hydraulic conductivity (K) estimates which are derived from the grain size diameter, whereby 10% by weight of the soil particles are finer and 90% are coarser (Freeze and Cherry, 1979). The soils chosen for Hazen to estimate were selected primarily from above the well screen depths. Findings are presented in **Section 6.6**.

3.6 Review of Concurrent Reports

The following previous and concurrent reports were reviewed for preparation of this hydrogeological study:

"A Report to RHEMM Properties Ltd., A Geotechnical Investigation for Proposed Residential Development'', Reference No. 2201-S051B, May 2026.

4.0 REGIONAL AND LOCAL SITE SETTING

4.1 Regional Geology

Based on a review of a surface geological mapping for Southern Ontario, the Subject Site is underlain by Paleozoic Bedrock, being coarse textured glaciolacustrine littoral foreshore and foreshore-basin deposits. **Drawing No. 3**, reproduced from Ontario Geological Survey (OGS) mapping, illustrates the Quaternary surface soil geology for the Subject Site and surrounding areas.

The Subject Site lies within the Physiographic Region of Southern Ontario, known as the Simcoe Lowlands, on the beaches and sand plains physiographic feature. The Simcoe Lowlands covers an area of approximately 2,850 square kilometers, which lies at elevations, ranging between El. 177 metres above sea level (masl) and El. 259 masl. The area was flooded by a former glacial Lake Algonquin and is bordered by shore cliffs, beaches, and boulder terraces. As such, the area is floored by sand, silt, and clay (Chapman and Putnam, 1984). **Drawing No. 4**, as reproduced from Ontario Geological Survey (OGS) mapping, illustrates the physiography for the Subject Site and the local surrounding areas.

The underlying bedrock is comprised mainly of shale, limestone, dolostone, and siltstone of the Georgian Bay Formation, Blue Mountain Formation, Billings Formation, Collingwood Member and Eastview Member, which were deposited during the Upper Ordovician Epoch (Bedrock Geology of Ontario, 1993). Based on the filed investigation the bedrock was inferred at depths ranging between 0.6 metres below ground surface (mbgs) and 3.4 mbgs or at elevations, ranging between 180.8 masl and 184.4 masl.

4.2 Physical Topography

A review of the elevations recorded at borehole locations shows that the Subject Site exhibits an undulating topography where it generally declining towards west. The total elevation relief across the site is approximately 2.0 m. A review of the topographic map for the site and the local surrounding area indicates that the surrounding area shows decline in elevation relief towards the north. Suggesting that the surface runoff flows, resulting from precipitation will be towards north, draining into Georgian Bay. **Drawing No. 5** shows the mapped topographical contours for the Subject Site, and the local surrounding area.

4.3 Watershed Setting

The Subject Site is located within the South Georgian Bay Shoreline Watershed. The shoreline watershed drains an approximate area of 150 km^2. The Southwest Georgian Bay Watershed drains into Georgian Bay, via various local creeks and tributaries along with two major creeks, identified as Indian Brook, Black Ash Creek and Silver Creek. The eastern boundary of the sub-watershed is situated near the boundary of the Blue Mountain Sub-watershed; the aforementioned watershed is located within the shoreline watershed which drains into the Georgian Bay.

4.4 Local Surface Water and Natural Features

The review of the local records reveals that the Subject Site is located within Niagara Escarpment area classified as recreation area. The Subject Site is surrounded by wooded areas, where the majority of the site is covered with wooded natural areas as well. Two (2) watercourses appear to be traversing through the Subject Site, where one watercourse traverses through northwest corner of the Subject Site, and the other appears to be located along the northern boundary of the site, where both the watercourses appear to be flowing northly before merging together, within northern limits the site. The closest water body, Georgian Bay, is located, approximately 330 m north of the Subject Site. The wetland features, which have not been evaluated as being Provincial Significant can also be found scattered within the northern portion of the Subject Site. These wetland features, which have been evaluated as being Provincial Significant as per Ontario Wetland Evaluation System (OWES) appears to be emerging from within the northern portion of the Subject Site where they extending approximately 1300 m east and south of the Subject Site. The locations of the site and the noted natural features are shown on **Drawing No. 6**.

4.5 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 for 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.

Source Water Protection Information Atlas provided by MECP was reviewed on April 25, 2026. Record review indicates that the Subject Site is located within an area designated as HVA having a vulnerability score of 6.0, and also within an area, designated as SGRA.

5.0 SOIL LITHOLOGY AND SUBSURFACE INVESTIGATION

The subsoil investigation has revealed that beneath a veneer of topsoil and earth fill, the Subject Site is underlain by a sand stratum, bedding onto bedrock. Information regarding borehole logs is presented in **Figures 1** to **8**. The approximate locations of installed monitoring wells are shown on **Drawing No. 2**. Additionally, a cross-section Key plan and subsoil profile are presented on **Drawing No. 7-1** and **7-2**, respectively.

5.1 Topsoil (All BH/MWs)

A surficial layer of topsoil, having a thickness between 20 cm to 36 cm, was observed at all of the BH/MW locations. Thicker topsoil might be anticipated within places, beyond the borehole locations, especially within the low-lying areas.

5.2 Sand and Gravel (All BH/MWs)

Sand and gravel deposit was contacted within the upper stratigraphy at all the BH/MW locations beneath the topsoil veneer. Sand and Gravel deposit were encountered at depths of between 0.6 and 3.4 m below ground surface. Sand and gravel were noted as having trace to some silt with occasional cobbles and boulders, being brown in color, exhibiting a saturated condition, and a having very loose to very dense in consistency. The natural water contents for the sand and gravel samples range from 4% to 25%, indicating that the sand unit is in a dry to saturated condition.

The grain size analysis performed on the retrieved subsoil samples of sand and gravel at depths of 0.8 and 2.3 m below ground surface at BH/MWs 5 and 12 locations, respectively, suggests the estimated permeability of the sand sample ranges from 10^{-5} and 10^{-4} m/sec, respectively. The grain size analysis plots of two (2) subsoil sample of sand and gravel are shown on **Figure 9**.

5.3 Bedrock (All BH/MWs)

Rock fragments and refusal to auguring were encountered at all of the borehole locations, at depths of between 0.6 and 3.4 m (or El. 180.8 to 184.4 m). This may infer that limestone bedrock occurs at this level. However, this has not proven by rock coring, which is beyond the scope of this investigation.

6.0 GROUNDWATER STUDY

6.1 Review Summary of Previous Report

A review of the findings from the previous geotechnical soil investigation report (**SEL Reference No. 2201-S051B**) indicates that beneath a layer of topsoil veneer, the Subject Site is underlain by a sand and gravel deposits, overlying the bedrock at depths ranging between 0.6 and 3.4 mbgs. Upon completion of borehole drilling, the groundwater was encountered at depths ranging between 0.4 mbgs and 2.4 mbgs.

6.2 Review of Ontario Water Well Records

The recent MECP water well records for the Subject Site, and for properties within a 500 m radius of the site boundaries (Study Area) were reviewed. The locations of these well records, based on the UTM coordinates provided by the records, are shown on **Drawing No. 8**, and the reviewed MECP records are provided in **Appendix 'A'**. The records indicate that one hundred and four (104) wells are located within the 500 m study area relative to the Subject Site. A summary of data obtained from the records review is presented in **Table 6-1**. Record review indicates that there are two (2) records of water supply wells within the Subject Site. The status of these two (2) water supply wells should be confirmed prior to any construction activities being carried on the Subject Site.

Table 6-1- MECP Well Record Summary

Water Use (Final Status)	
Status	**Number of Records**
Water Supply	86
Observation Wells	14
Abandoned-Supply	2
Unknown	2
Total	**104**

6.3 Groundwater Monitoring

The groundwater levels within the monitoring wells were manually measured, on three (3) occasions, on April 27, May 27 and on June 28, 2022 to record the depths to the static groundwater table beneath the site. The groundwater levels and their corresponding elevations are summarized in **Table 6-2**.

Table 6-2- A Summary of Groundwater Level Measurements

Well ID		April 27, 2022	May 27, 2022	June 28, 2022	Average	Fluctuation (m)*
BH/MW 5	mbgs	0.47	1.10	1.16	0.91	0.69
	masl	183.22	182.59	182.53	182.78	
BH/MW 7	mbgs	0.44	0.71	0.84	0.66	0.40

Well ID		April 27, 2022	May 27, 2022	June 28, 2022	Average	Fluctuation (m)*
	masl	183.73	183.46	183.33	183.51	
BH/MW 9	mbgs	0.67	0.95	1.15	0.92	0.48
	masl	184.59	184.31	184.11	184.34	
BH/MW 10	mbgs	0.97	1.14	1.13	1.08	0.17
	masl	184.60	184.43	184.44	184.49	
BH/MW 12	mbgs	2.16	2.97	3.01	2.71	0.85
	masl	182.05	181.24	181.20	181.50	

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

As shown above, the groundwater levels decreased at all the BH/MW locations as recorded during the monitoring period. The greatest fluctuation was observed at BH/MW 12 where the groundwater levels decrease by 0.85 m over the monitoring period. The recorded groundwater levels beneath site range from the depths of between 0.44 m and 3.01 m below ground surface, or at elevations, ranging between 181.20 masl and 184.60 masl.

BH/MW 7 was instrumented with a pressure transducer data logger to record continues groundwater levels beneath the site, with the resultant hydrograph being presented on **Figure 1** (**Appendix 'C')**. The daily precipitation data was also obtained from Collingwood station (Climate 6111792) to show any correlation between shallow groundwater level fluctuations and local precipitation received at the site.

6.4 Shallow Groundwater Flow Pattern

The groundwater flow pattern beneath the site was interpreted from the highest groundwater levels, measured at all BH/MWs, suggesting that in generally, it flows away from the central portion of the Subject Site in northerly and southerly directions. The interpreted groundwater flow pattern beneath the Subject Site is illustrated on **Drawing No. 9**.

6.5 Single Well Response Test Analysis

The BH/MW 7 underwent single well response tests (SWRTs) to estimate the hydraulic conductivity (K) for saturated aquifer subsoils at the depths of the monitoring well screens. The results for the SWRTs are presented in **Appendix 'B'**, with a summary of the findings shown in **Table 6-3**.

Table 6-3- A Summary of SWRT Results

Well ID	Ground El. (masl)	Monitoring Well Depth (mbgs)	Borehole Depth (mbgs)	Screen Interval (mbgs)	Screened Soil Strata	Hydraulic Conductivity (K) (m/sec)
BH/MW 7	184.20	1.6	1.6	1.0-1.6	Sand and Gravel	1.8×10^{-6}

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

As shown above, the K estimates is 1.8 x 10^{-6} m/sec for the overburden sand and gravel subsoils. The results of the SWRT provide an indication of the seepage yield capacity for the shallow groundwater-bearing bedrock strata at the depths of the monitoring well screens. The above results suggest that the hydraulic conductivity for the groundwater-bearing subsoils strata at the depths of the well screens is moderate, with correspondingly moderate anticipated groundwater seepage rates in open excavations below the prevailing groundwater table.

6.6 Assessment Hydraulic Conductivity Based on Hazen Equation

The Hazen Equation method was adopted to estimate the hydraulic conductivity (K) for the selected subsoil samples.

The Hazen Equation method relies on the interrelationship between hydraulic conductivity (K) and effective grain size, d10, in the soil media. This empirical relation predicts a power-law relation with K, as follows:

$$K = Ad_{10}^2$$

where;

d_{10}- value of the soil's grain size gradation curve (mm) as determined by sieve analysis, whereby 10% by weight of the soil particles are finer and 90% by weight are coarser;

A- Coefficient; is equal to 1 when K in cm/sec and d_{10} in mm

The Hazen equation estimation method provides an indication of the yield capacity for the groundwater-bearing substrata at the depths where the subsoil samples obtained for grain size analyses were retrieved. The calculation results indicate that the K estimate for the sand and gravel, retrieved from the depth of 2.3 m at BH/MW 12 location is 1.21 x 10-4 m/sec. The results for the Hazen equation method, K estimates are provided in **Table 6-4** below. The K estimates, determined from the Hazen method suggests a high hydraulic conductivity for the groundwater bearing subsoil layers beneath the Subject Site.

Table 6-4- A Summary of K Value Estimation

Well ID	Sample ID	Sample Depth (mbgs)	Sample El. (masl)	Soil Strata	Soil Particle Diameter at 10% Passing (mm)	Hydraulic Conductivity (K) (m/sec)
BH/MW 12	BH.12/Sa.4	2.3	181.9	Sand & Gravel	0.11	1.21 x 10^{-04}

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

7.0 DISCHARGE WATER CONTROL

7.1 A Review of Proposed Development Plans

A Draft Plan prepared by Tatham Engineering with revision date July 03, 2026, was shared with SEL. The plan indicates that the proposed development will include the construction of residential lots. The residential units are assumed to have a 1-level basement. **Appendix E** presents the reviewed plans.

7.2 A Review of the Geotechnical Investigation Report

A review of the previously submitted Geotechnical Investigation report prepared by SEL Ltd. dated May 2026 indicates that:

- The vegetation and topsoil must be removed before construction. The topsoil may be re-used for landscaping in designated areas only.
- The proposed residential dwellings can be constructed on conventional spread and strip footing founded on the native soil or bedrock or engineered fill. To prevent the abrupt settlement and wall cracks on the structure, the footings of each individual house should either be founded on bedrock or on soil stratum.
- Based on the review of the engineering design by Tatham Engineering, all proposed basement floor slabs have been designed to provide the minimum required separation of 0.5 m or greater from the estimated seasonal high groundwater elevations.
- It is noted that all proposed basement floor slabs have been designed to be above the estimated bedrock elevations. Minimal rock removal for the installation of underground services may be required. Any excavation into the bedrock will require considerable effort by the use of pneumatic hammering or controlled blasting.
- Foundation exposed to weathering or in unheated area should be provided with at least 1.4 m of earth cover for protection against frost action, or must be properly insulated.

7.3 Construction Dewatering Requirements

The Draft Plan prepared by Tatham Engineering, dated April 2026 indicates that the proposed development will include the construction of residential development which will be provided with municipal services and paved roadways meeting urban standards. The residential lots are assumed to have a 1-level basement. The proposed subdivision will be serviced with sanitary and storm sewer services as well as water main. The shared plan indicates the storm sewer services were to be installed in shallower depths compared to the proposed sanitary sewer services. Considering above, the short-term dewatering assessment was completed for the sanitary sewer installation, as a deepest proposed infrastructure.

The following sections present short-term dewatering flow rates estimated for the excavation and construction of the proposed residential lots and installation of the underground services, and long-term foundation drainage flow rate, if applicable estimated for the proposed residential lots.

7.3.1 Methodology

Short-Term Dewatering Calculation: The pumping rate calculation for the construction of the proposed development was performed based on the assumption that each excavation acts as a trench considering the dimensions of the proposed excavation boxes. The calculation was based on the equations provided by Powers et al. (2007). For this analysis, steady-state flow into an open excavation is assumed.

Additionally, the equations of radial flow have the following assumptions:

- Ideal aquifer conditions (homogeneous, isotropic, uniform thickness and has infinite areal extent)
- Fully penetrating pumping well
- Only lateral flow to the pumping well

The following equations were used for open trenches and are based on unconfined aquifer conditions (Powers et. al., 2007):

$$Q = \frac{\pi K(H^2 - h^2)}{\ln(R_0 / r_s)} + 2\left[\frac{xK(H^2 - h^2)}{2L}\right]$$

where;

Q	=	Anticipated pumping Rate (m^3/day)
K	=	Hydraulic Conductivity (m/day)
H	=	Distance from the static water level to the bottom of the saturated aquifer (m)
h	=	Depth of water in the well while pumping (m)
R_o	=	Distance from a point of greatest drawdown to a point where there is zero drawdown (radius of influence) (m)
r_s	=	Distance to the wellpoints from the centre of the trench, assumed to be half of the trench width (m) for Trench base calculation
X	=	Trench Length (m)
L	=	Distance from a line source to the trench, R_o (m)/2

The calculated pumping rate was multiplied by a factor of safety of 2.0 to account for uncertainties and natural variability in the range of hydraulic conductivity.

Zone of Influence for Dewatering: The conceptual Zone of Influence (ZOI) for dewatering, also known as Radius of Influence (R_o), was calculated based on the anticipated maximum drawdown required and the highest hydraulic conductivity recorded at the Subject Site using Sichardt's relationship. The equation used is shown as:

$$R_0 = 3000 \times dH \times K^{0.5}$$

Where;

R_o: Zone of Influence for dewatering (m)
dH: the drawdown (m)
K: the hydraulic conductivity (m/s)

Anticipated Storm Event: The amount of runoff that could accumulate in the excavation box was also considered for any construction dewatering needs assessment. Additional dewatering may be required to maintain the dry condition of the excavation during and following significant precipitation events. Therefore, the dewatering flow rates at the Subject Site should also include removing stormwater from the excavation.

A review of intensity duration frequency curve (IDF curve) for the year 2010 for the coordinates 44° 30' 45" N, 80° 18' 14" W, the rainfall depth considering 2-year storm event over a 3-hour period per day is approximately 28.5 mm, and a 100-year storm event over a 12-hour period per day is 97.2 mm. The data was taken from the Ministry of Transportation's (MTO) website.

7.3.2 Construction Dewatering Flow Rate Calculation

The proposed development comprises of the construction of residential lots and installation of underground services.

The geotechnical investigation report suggests that the structures to be supported on conventional strip or spread footings founded on either engineered fill or native soils. Based on this recommendation, the dewatering flow calculations are performed assuming conventional footings for the residential lots.

The following short-term dewatering and long-term foundation drainage flow rates, are based on the groundwater tables measured in the installed monitoring wells at the Subject Site, the shallow groundwater flow pattern plan prepared by SEL (**Drawing No. 9**) and the highest estimated groundwater levels at each lot by Tatham Engineering.

Please note that the dewatering flow rates do not include any potential groundwater seepage that may be encountered during the grading program. The following sections present the estimated dewatering flow rates for the construction of the residential lots and the underground services separately, post grading.

7.3.3 Short-Term Dewatering - Proposed Underground Services

The following assumptions are considered for the dewatering assessment for the installation of the underground services:

- The BH/MW locations were utilized as the reference point for the dewatering assessment. Additionally, the actual measured groundwater elevations from the nearby monitoring wells and the shallow groundwater flow plan prepared by SEL were considered.
- Based on a reviewed plan, sanitary sewer is the deepest proposed infrastructure for the subdivision. Based on the reviewed plans, the highest top and lowest invert elevations were considered for excavation trench between two (2) adjacent manholes (MH).
- The length of the active trench for underground services was provided to SEL by Tatham Engineering, and the width of the trench for the underground service installation was considered to be 2 meters.
- The storm event of 2 years was also considered for the short-term construction dewatering flow rate estimates.
- The dewatering target for the proposed excavation was considered 1.0 m below the deepest excavation to facilitate excavation and construction in dry and stable subsoil conditions.

A summary of the dimensions considered for the proposed underground services for the current assessment is presented in **Table 7-1**.

Table 7-1- Dewatering Calculation for Underground Services

Reference BH/MW	Proposed Services	Dimensions (m)	Zone of Influence (m)	Proposed Lowest Invert Elevation (masl)	The Highest Shallow Groundwater Table (masl)	Estimated Groundwater Flow for Excavation (L/day)	Estimated Groundwater Flow for Excavation with S.F. 2.0	2-Year Storm Event (L/day)	Total Estimated Short-term Dewatering Flow Rate (L/day)
BH/MW 7	SAN MH 6 - SAN MH 5	41.7 x 2.0	13.0	181.49	183.73	27,100.0	54,200.0	2,400.0	56,600.0
BH/MW 7	SAN MH 5 - SAN MH 4	27.3 x 2.0	13.8	181.30	183.73	20,200.0	40,400.0	1,600.0	42,000.0
BH/MW 5	SAN MH 4 - SAN MH 3	29.1 x 2.0	13.7	181.10	183.50	21,900.0	43,800.0	1,700.0	45,500.0
BH/MW 5	SAN MH 3 - SAN MH 2	10.9 x 2.0	15.1	180.74	183.50	12,300.0	24,600.0	700.0	25,300.0
BH/MW 5	SAN MH 22 -SAN MH 2	9.2 x 2.0	15.1	180.74	183.50	11,200.0	22,400.0	600.0	23,000.0
BH/MW 9	SAN MH 9 - SAN MH 8	35.1 x 2.0	12.6	182.36	184.50	22,300.0	44,600.0	2,100.0	46,700.0
BH/MW 9	SAN MH 8 - SAN MH 7	43.2 x 2.0	13.6	182.11	184.50	28,200.0	56,400.0	2,500.0	58,900.0
BH/MW 7	SAN MH 7 - SAN MH 6	62.1 x 2.0	13.0	181.76	184.00	37,800.0	75,600.0	3,600.0	79,200.0

Reference BH/MW	Proposed Services	Dimensions (m)	Zone of Influence (m)	Proposed Lowest Invert Elevation (masl)	The Highest Shallow Groundwater Table (masl)	Estimated Groundwater Flow for Excavation (L/day)	Estimated Groundwater Flow for Excavation with S.F. 2.0	2-Year Storm Event (L/day)	Total Estimated Short-term Dewatering Flow Rate (L/day)
BH/MW 12	SAN MH 16 -SAN MH 17	35.9 x 2.0	7.6	183.12	184.00	17,100.0	34,200.0	2,100.0	36,300.0
BH/MW 12	SAN MH 17 -SAN MH 18	14.5 x 2.0	4.2	182.95	183.00	6,300.0	12,600.0	900.0	13,500.0
BH/MW 12	SAN MH 18 -SAN MH 19	27.6 x 2.0	5.6	182.60	183.00	12,000.0	24,000.0	1,600.0	25,600.0
BH/MW 12	SAN MH 19 -SAN MH 20	19.3 x 2.0	8.6	182.36	183.50	11,200.0	22,400.0	1,200.0	23,600.0
BH/MW 12	SAN MH 20 -SAN MH 7	11.5 x 2.0	9.6	182.11	183.50	8,600.0	17,200.0	700.0	17,900.0
BH/MW 10	SAN MH 15 -SAN MH 14	25.3 x 2.0	7.0	183.27	184.00	12,000.0	24,000.0	1,500.0	25,000.0
BH/MW 10	SAN MH 14 -SAN MH 13	13.2 x 2.0	8.1	182.99	184.00	7,800.0	15,600.0	800.0	16,400.0
BH/MW 10	SAN MH 13 -SAN MH 12	20.3 x 2.0	9.8	185.57	184.00	11,900.0	23,800.0	1,200.0	25,000.0
BH/MW 10	SAN MH 12 -SAN MH 11	29.8 x 2.0	12.2	181.98	184.00	18,800.0	37,600.0	1,700.0	39,300.0
BH/MW 10	SAN MH 11 -SAN MH 5	15.4 x 2.0	14.1	181.49	184.00	13,400.0	26,800.0	900.0	27,700.0

mbgs- metres below ground surface *masl- metres above sea level; S.F.: Safety Factor*

The groundwater seepage is expected during the installation of underground services with individual seepage rates between 2 adjacent manholes ranging from 6,300.0 L/day to 37,800.0 L/day. The groundwater seepage for the sections is estimated to range between 13,500.0 L/day, and 75,600.0 L/day with a safety factor of 2.0.

For construction of all proposed underground services, the total estimated dewatering flow rate including groundwater seepage with the safety factor of 2.0 and 2-year storm event ranges between 13,500.0 L/day and 79,200.0 L/day. The detailed calculations are presented in **Appendix E**. Furthermore, the anticipated storm water considering 100-year storm event could reach up to 12,100.0 L/day considering an open and active trench with dimensions of 2.0 m x 62.1 m.

7.3.4 Short-Term Dewatering- Residential Lots with 1-Level Basement

Based on a review of Draft Plan shared by Tatham Engineering dated April 2026, the following are the assumptions and proposed development details for the short-term construction dewatering:

- The proposed residential development will include residential lots (detached and semi-detached) as indicated in the Draft Plan.
- The interpreted highest estimated groundwater levels at individual lots were provided to SEL by Tatham Engineering which were utilized for the current assessment.
- The lot dimensions were assumed to be 10 m x 30 m for each residential unit and this was taken into consideration for the dewatering assessment.
- The storm event of 2 years -3 hr was also considered for the short-term construction dewatering.
- The dewatering target for the proposed excavation was considered 1.0 m below the deepest excavation to facilitate excavation and construction in dry and stable subsoil conditions.

Based on the review of the Draft Plan, it is understood the Subject Site will be raised to support the construction of the residential lots. Additionally, considering the above stated assumptions, and comparing the highest estimated groundwater levels at each lot, it is observed that all the residential lots will be constructed above the shallow groundwater table. As such, short-term construction dewatering from the groundwater source is not expected. However, the anticipated water during storm event should be controlled. A summary of the assumption and total estimated short-term dewatering flow rate for the construction of proposed single detached residential lots is presented in **Table 7-2**.

Table 7-2- Short-Term Construction Dewatering Flow Rate Estimates for Residential Lots

Lot No.	Proposed Basement Floor Elevation (masl)	Assumed Construction Dimensions (m)	Highest Groundwater Level estimated at each lot by Tatham Engineering (masl)	Groundwater Flow Per Residential Lot (L/day)	Anticipated Storm Flow(L/day) (2-year 3 Hr)	Total Estimated Short-Term Dewatering Flow (L/day)
1	184.44	15.0 x 22.0	183.94	NE*	9,500.0	8,600.0
2	184.24	15.0 x 22.0	183.74	NE	9,500.0	8,600.0
3	184.11	15.0 x 22.0	183.57	NE	9,500.0	8,600.0
4	184.90	10.0 x 32.0	184.40	NE	9,200.0	8,600.0
5	185.07	10.0 x 30.0	184.50	NE	8,600.0	8,600.0
6	185.30	10.0 x 30.0	184.30	NE	8,600.0	8,600.0
7	185.38	10.0 x 30.0	183.57	NE	8,600.0	8,600.0
8	185.44	10.0 x 30.0	182.40	NE	8,600.0	8,600.0
9	185.59	10.0 x 30.0	181.81	NE	8,600.0	8,600.0
10	186.06	10.0 x 25.0	181.04	NE	7,200.0	7,200.0
11	185.65	10.0 x 25.0	180.33	NE	7,200.0	7,200.0
12	185.85	10.0 x 25.0	180.07	NE	7,200.0	7,200.0
13	185.85	10.0 x 25.0	180.50	NE	7,200.0	7,200.0
14	185.65	10.0 x 25.0	180.76	NE	7,200.0	7,200.0
15	185.45	10.0 x 25.0	181.06	NE	7,200.0	7,200.0
16	185.45	10.0 x 25.0	181.47	NE	7,200.0	7,200.0

Lot No.	Proposed Basement Floor Elevation (masl)	Assumed Construction Dimensions (m)	Highest Groundwater Level estimated at each lot by Tatham Engineering (masl)	Groundwater Flow Per Residential Lot (L/day)	Anticipated Storm Flow(L/day) (2-year 3 Hr)	Total Estimated Short-Term Dewatering Flow (L/day)
17	185.35	10.0 x 25.0	181.88	NE	7,200.0	7,200.0
18	185.25	10.0 x 30.0	182.41	NE	8,600.0	8,600.0
19	185.19	10.0 x 30.0	183.13	NE	8,600.0	8,600.0
20	185.2	25.0 x 30.0	184.23	NE	21,400.0	21,400.0
21	185.27	10.0 x 30.0	183.90	NE	8,600.0	8,600.0
22	185.27	10.0 x 32.0	183.56	NE	9,200.0	9,200.0
23	184.35	12.0 x 24.0	183.85	NE	8,300.0	8,300.0
24	184.52	12.0 x 24.0	184.02	NE	8,300.0	8,300.0
25	184.72	10.0 x 18.0	184.22	NE	5,200.0	5,200.0
26	184.87	10.0 x 18.0	184.37	NE	5,200.0	5,200.0
27	185.00	10.0 x 18.0	184.50	NE	5,200.0	5,200.0
28	185.00	15.0 x 18.0	184.50	NE	7,700.0	7,700.0
29	185.00	17.0 x 25.0	184.50	NE	12,200.0	12,200.0
30	185.00	17.0 x 30.0	184.50	NE	14,600.0	14,600.0
31	185.00	17.0 x 30.0	184.50	NE	14,600.0	14,600.0
32	186.67	15.0 x 18.0	183.82	NE	7,700.0	7,700.0
33	184.33	10.0 x 18.0	183.70	NE	5,200.0	5,200.0
34	184.42	10.0 x 18.0	183.53	NE	5,200.0	5,200.0
35	184.42	10.0 x 18.0	183.42	NE	5,200.0	5,200.0
36	184.42	10.0 x 18.0	183.45	NE	5,200.0	5,200.0
37	184.36	10.0 x 18.0	183.56	NE	5,200.0	5,200.0
38	184.27	10.0 x 18.0	183.60	NE	5,200.0	5,200.0
39	184.21	10.0 x 18.0	183.56	NE	5,200.0	5,200.0
40	184.15	10.0 x 18.0	183.43	NE	5,200.0	5,200.0
41	184.09	10.0 x 18.0	183.28	NE	5,200.0	5,200.0
42	184.03	10.0 x 18.0	183.16	NE	5,200.0	5,200.0
43	183.97	10.0 x 18.0	183.03	NE	5,200.0	5,200.0
44	183.91	10.0 x 18.0	182.91	NE	5,200.0	5,200.0
45	183.85	10.0 x 18.0	182.77	NE	5,200.0	5,200.0
46	183.79	10.0 x 18.0	182.63	NE	5,200.0	5,200.0
47	183.73	10.0 x 18.0	182.47	NE	5,200.0	5,200.0
48	183.66	10.0 x 18.0	182.29	NE	5,200.0	5,200.0
49	183.64	10.0 x 18.0	182.16	NE	5,200.0	5,200.0
50	183.71	10.0 x 18.0	182.08	NE	5,200.0	5,200.0
51	183.74	10.0 x 18.0	182.10	NE	5,200.0	5,200.0
52	183.74	10.0 x 18.0	182.20	NE	5,200.0	5,200.0
53	183.68	10.0 x 18.0	182.34	NE	5,200.0	5,200.0

mbgs-metres below ground surface *masl-metres above sea level*
**NE: Not Expected*

Groundwater seepage is not expected for construction of the proposed residential lots. The anticipated dewatering flow rates during storm events for active excavation area for the proposed residential lots can vary between 5,200.0 L/day to 21,400.0 L/day considering a 2-year storm event with a duration of 3 hr. Furthermore, the anticipated storm water considering 100-year storm even could reach up to 72,900.0 L/day considering lot dimensions of 25.0 m x 30.0 m.

The proposed Under Side of the Footing (USF) elevations were also reviewed compared to the interpreted shallow groundwater table for each lot. A review of the proposed elevations indicates that the USF for each lot is proposed above interpreted shallow groundwater table.

7.4 Long-Term Foundation Drainage

It is understood that the proposed development will be constructed above the shallow groundwater table. As such, no long-term foundation drainage is expected.

7.5 Permit Requirements

- *Short -Term Construction Dewatering:* As per the recent amendment to O.Reg. 63/16 that came into effect on July 1, 2025, EASR registration with the MECP will be required for water takings, including groundwater seepage and precipitation, of more than 50,000 L/day. A review of the total estimated dewatering flow rates presented in **Tables 7-1** and **7-2** indicates that maximum total estimated dewatering flow rates during the construction of the proposed underground services and the proposed residential development could reach up to 79,200.0 L/day and 21,400.0 L/day (storm water only), respectively. Since the total anticipated flow rates are more than 50, 000 L/day, filing an EASR with MECP will be required. Additionally, applying for a discharge permit with the Town of Blue Mountain is required if the collected water during construction is proposed to be conveyed to the sewer system. The current report does not include any construction monitoring, mitigation and contingency plan that is required as a part of EASR application. The required document can be provided at a later stage upon request for EASR posting.
- *Long-Term Foundation Drainage:* As per the recent amendment to O.Reg. 387/04 that came into effect on July 1, 2025, PTTW registration will be required if long-term foundation drainage flow rates exceed 379,000.0 L/day. No long-term foundation drainage is expected for the proposed residential development. As such, filing PTTW with MECP or obtaining a discharge permit from the Town of Blue Mountain is not required.

7.6 Potential Dewatering Impacts and Mitigation Plan

7.6.1 Short-Term Discharge Water Quality

The dewatering system must be appropriately filtered in order to prevent the pumping of fines and loss of ground during the dewatering activities.

Also, the proposed development will be constructed above shallow groundwater table. As such, potential water that might be collected during storm event or any local perched water should be tested in advance of directing to region's sewer system or natural feature. Alternatively, the collected water can be hauled of site by hiring a licensed contractor. The final design for any dewatering effluent pre-treatment system is the responsibility of the contractors responsible for the construction or water treatment system design specialists, if required.

7.6.2 Ground Settlement

Excavation and construction of the footings of the proposed residential development will be completed above shallow groundwater table. As such, no ZOI for dewatering and ground settlement are anticipated for the construction of the proposed residential lots. But the conceptual ZOI for dewatering due to underground services will not be limited to the property boundary of the Subject Site. For the underground services to be installed near the western and southern limits of the Subject Site, the conceptual ZOI extends a few meters away from the western and southern boundary of the Subject Site. However, there are no structures that lie within the conceptual ZOI at the time of the current assessment. As such the impacts related to ground settlement are not expected. Furthermore, if groundwater seepage is controlled by conventional approaches such as sump and pump, ZOI for dewatering will be limited. The conceptual ZOI plan is shown on **Drawing No. 10**.

7.6.3 Surface Water, Wetlands and Areas of Natural Significance

Record review indicates that there are records for natural heritage features including wetlands, watercourses and wooded area within the Subject Site. As shown in **Drawing No. 10**, the wetland feature identified as Provincial as per OWES as well as the wetland feature not evaluated as per OWES lie outside the conceptual ZOI for dewatering and would not be impacted. It is understood that the wooded area encompasses the Subject Site will be cleared for the development purposes. As such, the wooded areas that lie within the conceptual ZOI for now would be eliminated and would not be impacted during the time of construction activities. The creek flowing from southeast towards the northwest direction near the northern limits of the Subject Site lies outside the conceptual ZOI, and would not be impacted during the short-term construction dewatering activities. Also, it is understood that another creek that enters the

Subject Site from the western boundary, flowing towards the north boundary of the Subject Site, would be realigned considering the proposed development of residential houses around its course. As such, no significant impacts to this natural feature is anticipated.

7.6.4 Water Supply Wells and Zone of Influence

A review of the MECP well records confirmed that there are eighty-six (86) records of water supply wells that are registered within 500 m of the Subject Site. There are two records of domestic water supply wells identified as Well ID No. 78 and 79 on MECP Well Location Plan located within the Subject Site. However, Water Supply Well identified as Well ID No. 78 on MECP Well Location Plan lies within the conceptual ZOI for the installation of underground services and may put some impacts on this water supply well. The status of the above noted water supply wells should be assessed in advance of construction and dewatering. However, a private water supply well monitoring is recommended a couple of months in advance of the construction.

8.0 CONCLUSIONS AND RECOMMENDATIONS

- The Subject Site lies within the Physiographic Region of Southern Ontario, known as the Simcoe Lowlands, on the former beaches and sand plains physiographic feature.
- Based on the filed investigation the bedrock was inferred at depth between 0.6 mbgs and 3.4 mbgs or at an elevation between 180.8 masl and 184.4 masl.
- The Subject Site is located within the South Georgian Bay Shoreline Watershed.
- The subsoil investigation has revealed that beneath the veneer of topsoil, the Subject Site is underlain by a native sand and gravel subsoil stratum bedding on the bedrock.
- The recorded groundwater levels beneath site range between from the depths of 0.44 m and 3.01 m below ground surface, or at elevations, ranging between 181.20 masl and 184.60 masl.
- The groundwater flow pattern beneath the site was interpreted from the highest groundwater levels, measured at all BH/MWs, suggesting that in generally, it flows in northwesterly, northerly and southerly directions.
- The K estimates for the saturated subsoils is 1.8 x 10^{-6} m/sec for the overburden soils at the screened depth intervals for the monitoring wells constructed beneath the site. The K estimates for the sand and gravel subsoil sample using Hazen's Equation for the sand and gravel subsoil sample retrieved from the depth of 2.3 m at BH/MW 12 location is 1.21 x 10^{-4} m/sec.
- Based on the short-term dewatering assessment for the post graded site, groundwater seepage is not anticipated for excavation and construction of the basements for the proposed lots. However, the groundwater seepage is expected for the excavation and installation of the proposed underground services. Maximum total estimated dewatering flow rates during the construction of the proposed underground services and the proposed residential development including a 2-year storm event and a safety factor of 2.0 could reach up to 79,200.0 L/day and 21,400.0 L/day (storm water only), respectively. Since the total anticipated flow rates are more than 50, 000 L/day, filing an EASR with MECP will be required. Additionally, applying for a discharge permit with the Town of Blue Mountain is required if the collected water during construction is proposed to be conveyed to the sewer system. The current report does not include any construction monitoring, mitigation and contingency plan that is required as a part of EASR application. The required document can be provided at a later stage upon request for EASR posting.
- Since the proposed lots will be constructed above shallow groundwater table, long-term foundation drainage is not expected. As such, applying for PTTW with the MECP is not required.

- The proposed residential lots will be constructed above shallow groundwater table. As such, ZOI for dewatering is not anticipated. However, the ZOI for any temporary construction dewatering array or wells could reach approximately up to 15.1 m away from the conceptual dewatering wells or array considered around the proposed underground services. Considering the conceptual ZOI for dewatering:
    - The conceptual ZOI for dewatering due to underground services will not be limited to the property boundary along the western and southern limits of the Subject Site. However, there are no structures located within the conceptual ZOI at the time of preparation of the current report. As such, impacts related to ground settlement are not expected. Furthermore, if the dewatering process is conducted using sumps without installation of dewatering wells, the potential impacts will be negligible.
    - Record review indicates that there are records for natural heritage features including wetlands, watercourses and wooded area within the Subject Site. The wetland feature identified as Provincial as per OWES as well as the wetland feature not evaluated as per OWES lie outside the conceptual ZOI for dewatering, and would not be impacted. It is understood that the wooded area encompasses the Subject Site will be cleared for the development purposes. As such, the wooded areas that lie within the conceptual ZOI for now would be eliminated and would not be impacted during the construction activities. The creek flowing from southeast towards the northwest direction near the northern limits of the Subject Site lies outside the conceptual ZOI, and would not be impacted during the short-term construction dewatering activities. Also, it is understood that another creek that enters the Subject Site from the western boundary, flowing towards the north boundary of the Subject Site, would be realigned considering the proposed development of residential houses around its course. As such, no significant impacts to this natural feature is anticipated.
    - There are two records of domestic water supply wells identified as Well ID No. 78 and 79 on MECP Well Location Plan located within the Subject Site. However, Water Supply Well identified as Well ID No. 78 on MECP Well Location Plan lies within ZOI extending up to 15.1 m for the installation of underground services might put some impacts on this water supply well. The status of the above noted water supply wells should be assessed in advance of construction and dewatering. However, a private water supply well monitoring is recommended a couple of months in advance of the construction.

9.0 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.

PROFESSIONAL GEOSCIENTIST
NA
NARJES ALIJANI
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July 10, 2026
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10.0 REFERENCES

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2. Geological Survey. Ontario Geological Survey (OGS), 2003. Surficial Geology of Southern Ontario. Miscellaneous Release – Data 128 – revised.
3. Geological Survey. Ontario Geological Survey (OGS), 2007. Bedrock Geology of Ontario. Miscellaneous Release – MRD 219.
4. Ministry of the Environment, Conservation and Parks, 2026, Source Protection Information Atlas Interactive Map.
5. Ministry of Natural Recourses 2026. Natural Heritage Interactive Map.

FIGURES 1 to 9

BOREHOLE AND MONITORING WELL LOGS
AND
GRAIN SIZE DISTRIBUTION GRAPH

REFERENCE NO. 2201-W051B

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	1 inch = 25.4 mm
1lb = 0.454 kg	1ksf = 47.88 kPa

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CONSULTING ENGINEERS
GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE

JOB NO.: 2201-W051B

LOG OF BOREHOLE: 5

FIGURE NO.: 1

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 372 Grey Road 21 West, Town of The Blue Mountains

DRILLING DATE: April 18, 2022

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Penetration Resistance (blows/30 cm)	Moisture Content (%)
183.7	Ground Surface						
0.0	**30 cm Topsoil**				0		
	Brown, loose to very dense **SAND AND GRAVEL** a trace to some silt occ. cobbles and boulders; weathered	1	DO	5			38
		2	DO	14	1		20
182.1 / 1.6		3	DO	50/3			
	END OF BOREHOLE due to auger refusal on probable bedrock Installed 50 mm Ø monitoring well to 1.4 m completed with 0.6 m screen. Sand backfill from 0.2 to 1.4 m. Bentonite seal from 0.0 m to 0.2 m. Provided with a monument steel casing				2–6		

Chart legend: ● 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

W.L. Elevation @ 183.22 masl on April 27, 2022
W.L. Elevation @ 182.59 masl on May 27, 2022
W.L. Elevation @ 182.53 masl on June 28, 2022

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JOB NO.: 2201-W051B

LOG OF BOREHOLE: 6

FIGURE NO.: 2

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 372 Grey Road 21 West, Town of The Blue Mountains

DRILLING DATE: April 18, 2022

El. (m) / Depth (m)	SOIL DESCRIPTION	Number	Type	N-Value	Depth Scale (m)	Dynamic Cone (blows/30 cm) / Shear Strength (kN/m²) / Penetration Resistance (blows/30 cm)	Atterberg Limits PL LL / Moisture Content (%)	WATER LEVEL
183.6	Ground Surface							
0.0	**20 cm Topsoil**				0		53	
	Brown, very dense **SAND AND GRAVEL** a trace to some silt occ. cobbles and boulders weathered	1	DO	15				
183.0 / 0.6	**END OF BOREHOLE due to auger refusal on probable bedrock**							

Depth scale: 0, 1, 2, 3, 4, 5, 6

Dynamic Cone / Penetration Resistance scale: 10, 30, 50, 70, 90

Shear Strength scale: 50, 100, 150, 200

Moisture Content scale: 10, 20, 30, 40

JOB NO.: 2201-W051B

LOG OF BOREHOLE: 7

FIGURE NO.: 3

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 372 Grey Road 21 West, Town of The Blue Mountains

DRILLING DATE: April 18, 2022

El. (m) / Depth (m)	SOIL DESCRIPTION	Sample Number	Type	N-Value	Depth Scale (m)	Moisture Content (%)
184.2	Ground Surface					
0.0	**25 cm Topsoil**				0	
	Brown, loose to very dense **SAND AND GRAVEL** a trace to some silt occc. cobbles and boulders — weathered	1	DO	8		14
		2	DO	50/23	1	16
182.6		3	DO	50/8		12
1.6	**END OF BOREHOLE due to auger refusal on probable bedrock** Installed 50 mm Ø monitoring well to 1.6 m completed with 0.6 m screen Sand backfill from 0.4 to 1.6 m Bentonite seal from 0.0 m to 0.4 m Provided with a monument steel casing				2	

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

W.L. Elevation @ 183.73 masl on April 27, 2022
W.L. Elevation @ 183.46 masl on May 27, 2022
W.L. Elevation @ 183.33 masl on June 28, 2022

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JOB NO.: 2201-W051B

LOG OF BOREHOLE: 8

FIGURE NO.: 4

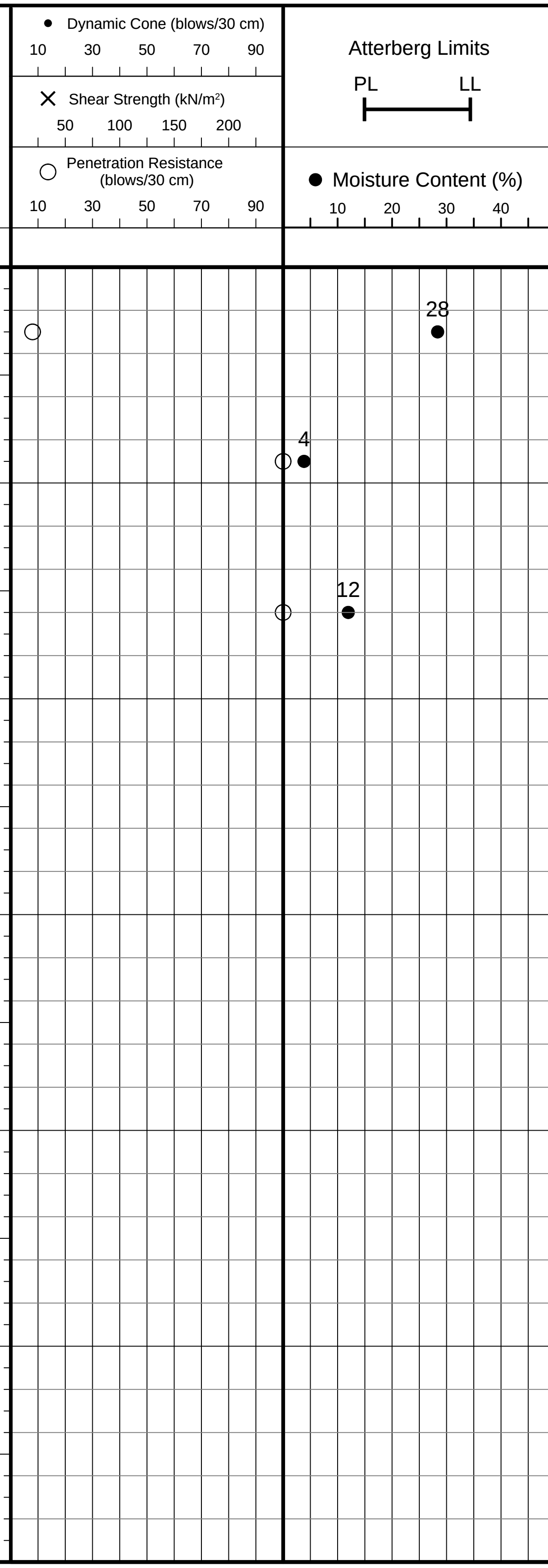
PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 372 Grey Road 21 West, Town of The Blue Mountains

DRILLING DATE: April 18, 2022

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	WATER LEVEL
184.8	Ground Surface					
0.0	**36 cm Topsoil**	1	DO	12	0	
	Brown, compact to very dense **SAND AND GRAVEL** a trace to some silt occ. cobbles and boulders — weathered	2	AS	50/15	1	
183.1 / 1.7		3	DO	50/15		
	END OF BOREHOLE due to auger refusal on probable bedrock				2, 3, 4, 5, 6	



JOB NO.: 2201-W051B

LOG OF BOREHOLE: 9

FIGURE NO.: 5

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 372 Grey Road 21 West, Town of The Blue Mountains

DRILLING DATE: April 18, 2022

El. (m) / Depth (m)	SOIL DESCRIPTION	Sample Number	Type	N-Value	Depth Scale (m)	Penetration Resistance (blows/30 cm)	Moisture Content (%)
185.3	Ground Surface						
0.0	**36 cm Topsoil**				0		
	Brown, loose to compact **SAND AND GRAVEL** a trace to some silt occ. cobbles and boulders (weathered)	1	DO	8			37
	(disturbed)	2	DO	7	1		19
		3	DO	16			19
183.2 / 2.1	**END OF BOREHOLE due to auger refusal on probable bedrock**				2		

Chart scales: 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; Depth Scale (m) 0 1 2 3 4 5 6; WATER LEVEL

Installed 50 mm Ø monitoring well to 1.5 m
completed with 0.6 m screen
Sand backfill from 0.3 to 1.5 m
Bentonite seal from 0.0 m to 0.3 m
Provided with a monument steel casing

W.L. Elevation @ 184.59 masl on April 27, 2022
W.L. Elevation @ 184.31 masl on May 27, 2022
W.L. Elevation @ 184.11 masl on June 28, 2022

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JOB NO.: 2201-W051B

LOG OF BOREHOLE: 10

FIGURE NO.: 6

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 372 Grey Road 21 West, Town of The Blue Mountains

DRILLING DATE: April 18, 2022

El. (m) / Depth (m)	SOIL DESCRIPTION	Sample Number	Sample Type	N-Value	Depth Scale (m)	Penetration Resistance (blows/30 cm)	Moisture Content (%)
185.6	Ground Surface						
0.0	**36 cm Topsoil**				0		
	Brown, compact to very dense **SAND AND GRAVEL** a trace to some silt occ. cobbles and boulders (weathered)	1	DO	11			44
		2	DO	50/20	1		25
184.4 / 1.2	**END OF BOREHOLE due to auger refusal on probable bedrock** Installed 50 mm Ø monitoring well to 1.2 m completed with 0.6 m screen Sand backfill from 0.0 to 1.2 m Provided with a monument steel casing						

Legend: ● 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

Depth Scale (m): 0 1 2 3 4 5 6

WATER LEVEL

W.L. Elevation @ 184.60 masl on April 27, 2022
W.L. Elevation @ 184.43 masl on May 27, 2022
W.L. Elevation @ 184.44 masl on June 28, 2022

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JOB NO.: 2201-W051B

LOG OF BOREHOLE: 11

FIGURE NO.: 7

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: N/A

PROJECT LOCATION: 372 Grey Road 21 West, Town of The Blue Mountains

DRILLING DATE: N/A

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
100.0	Ground Surface							
0.0	**BOREHOLE CANCELLED DUE TO INACCESSIBILITY**				0			
					1			
					2			
					3			
					4			
					5			
					6			

JOB NO.: 2201-W051B

LOG OF BOREHOLE: 12

FIGURE NO.: 8

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 372 Grey Road 21 West, Town of The Blue Mountains

DRILLING DATE: April 18, 2022

El. (m) / Depth (m)	SOIL DESCRIPTION	SAMPLES Number	Type	N-Value	Depth Scale (m)	Penetration Resistance (blows/30 cm)	Moisture Content (%)
184.2	Ground Surface						
0.0	**30 cm Topsoil**				0		
	Brown, compact to very dense **SAND AND GRAVEL** a trace to some silt occ. cobbles and boulders (weathered)	1	DO	11			37
		2	DO	14	1		7
		3	DO	28			8
	(disturbed)	4	DO	16	2		16
		5	DO	50/15	3		12
180.8 / 3.4	**END OF BOREHOLE due to auger refusal on probable bedrock**						

Installed 50 mm Ø monitoring well to 3.4 m
completed with 1.5 m screen
Sand backfill from 1.3 to 3.4 m
Bentonite seal from 0.0 m to 1.3 m
Provided with a monument steel casing

Legend: • 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

Depth scale: 0 1 2 3 4 5 6

W.L. Elevation @ 182.05 masl on April 27, 2022
W.L. Elevation @ 181.24 masl on May 27, 2022
W.L. Elevation @ 181.20 masl on June 28, 2022

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GRAIN SIZE DISTRIBUTION

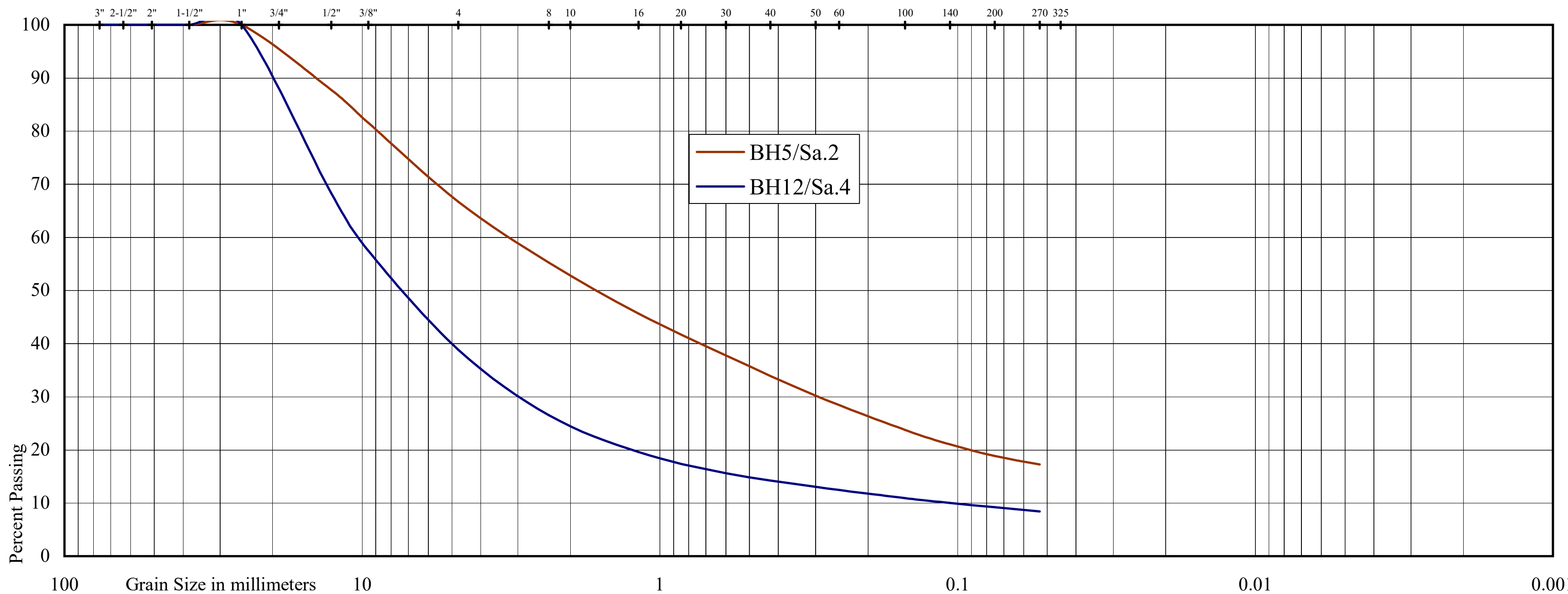
Reference No: 2201-W051B

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: 372 Grey Road 21 West, Town of The Blue Mountains

Borehole No:	5	12
Sample No:	2	4
Depth (m):	0.8	2.3
Elevation (m):	182.9	181.9

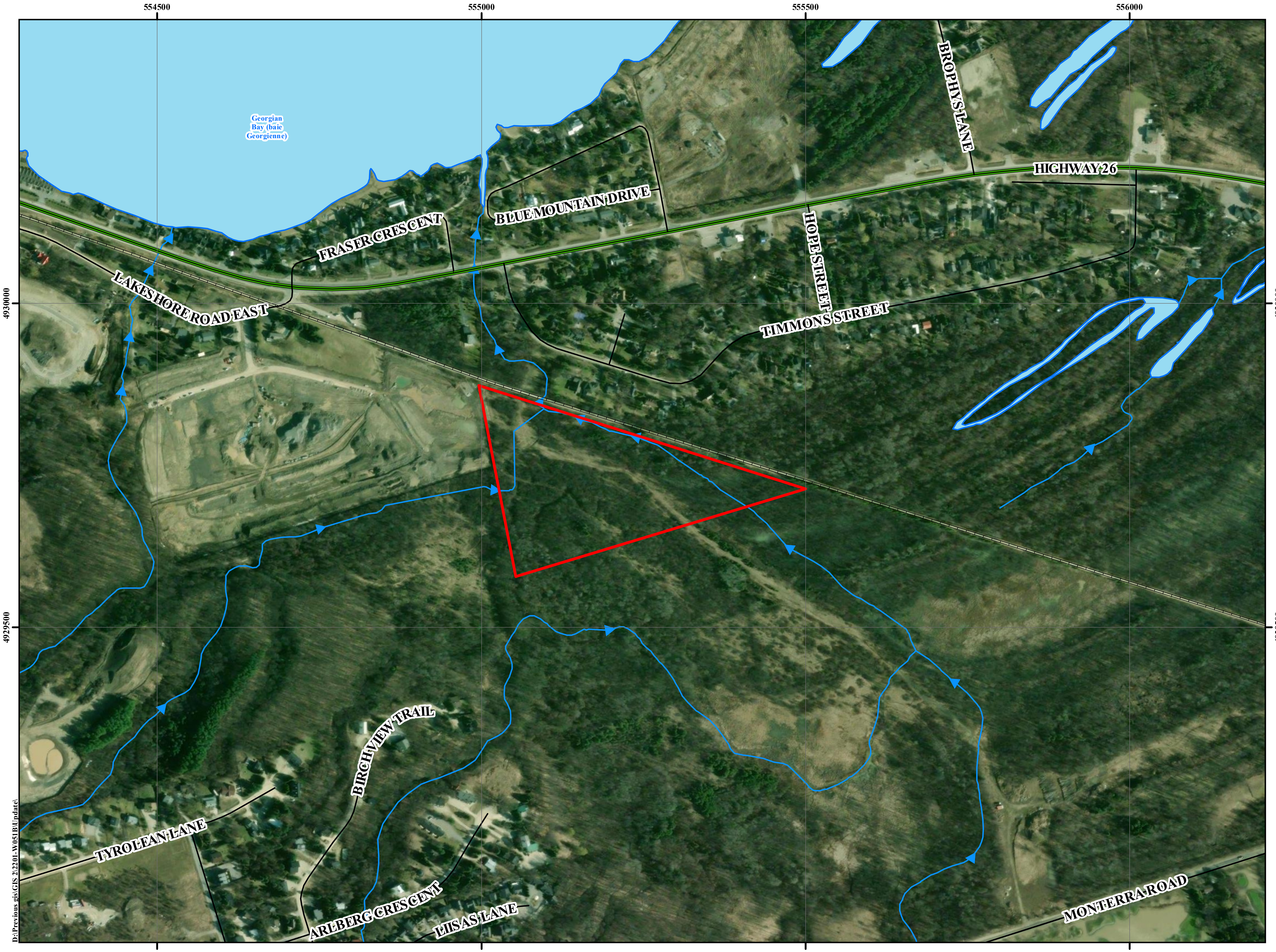
BH/Sa.:	5/2	12/4
Liquid Limit (%) =	-	-
Plastic Limit (%) =	-	-
Plasticity Index (%) =	-	-
Moisture Content (%) =	16	20
Estimated Permeability (cm./sec.) =	10^{-3}	10^{-2}

Classification of Sample [& Group Symbol]: SAND AND GRAVEL
a trace to some silt

Figure 9

DRAWING NO. 1 to 10

REFERENCE NO. 2201-W051B



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References: Ontario Ministry of Natural Resources and Forestry
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Key Map

Legend

- Approximate Boundary Of Subject Site
- Expressway/Freeway
- Local Road
- Railway
- Waterbody
- Watercourse

Soil Engineers Ltd.

Site Location Plan

Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 West
Town of The Blue Mountains

Reference No. 2201-W051B

Date: July 03, 2026

Scale:
0 30 60 120 180 240 300
Metres

Drawing No. 1

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References: Ontario Ministry of Natural Resources and Forestry
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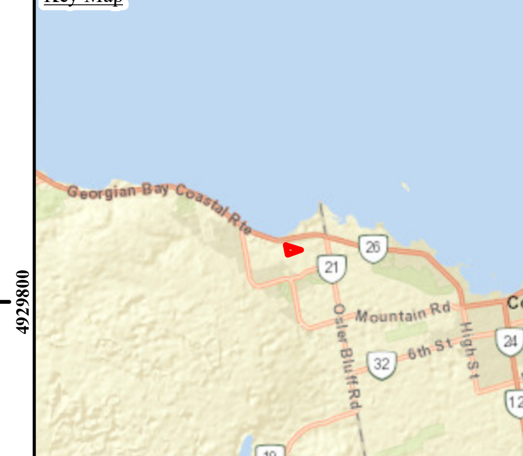
Key Map



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

Legend

- Approximate Boundary Of Subject Site
- Local Road
- Railway
- Watercourse
- Borehole (3)
- Borehole with Monitoring Well (5)

Soil Engineers Ltd.

Borehole and Monitoring Well Location Plan

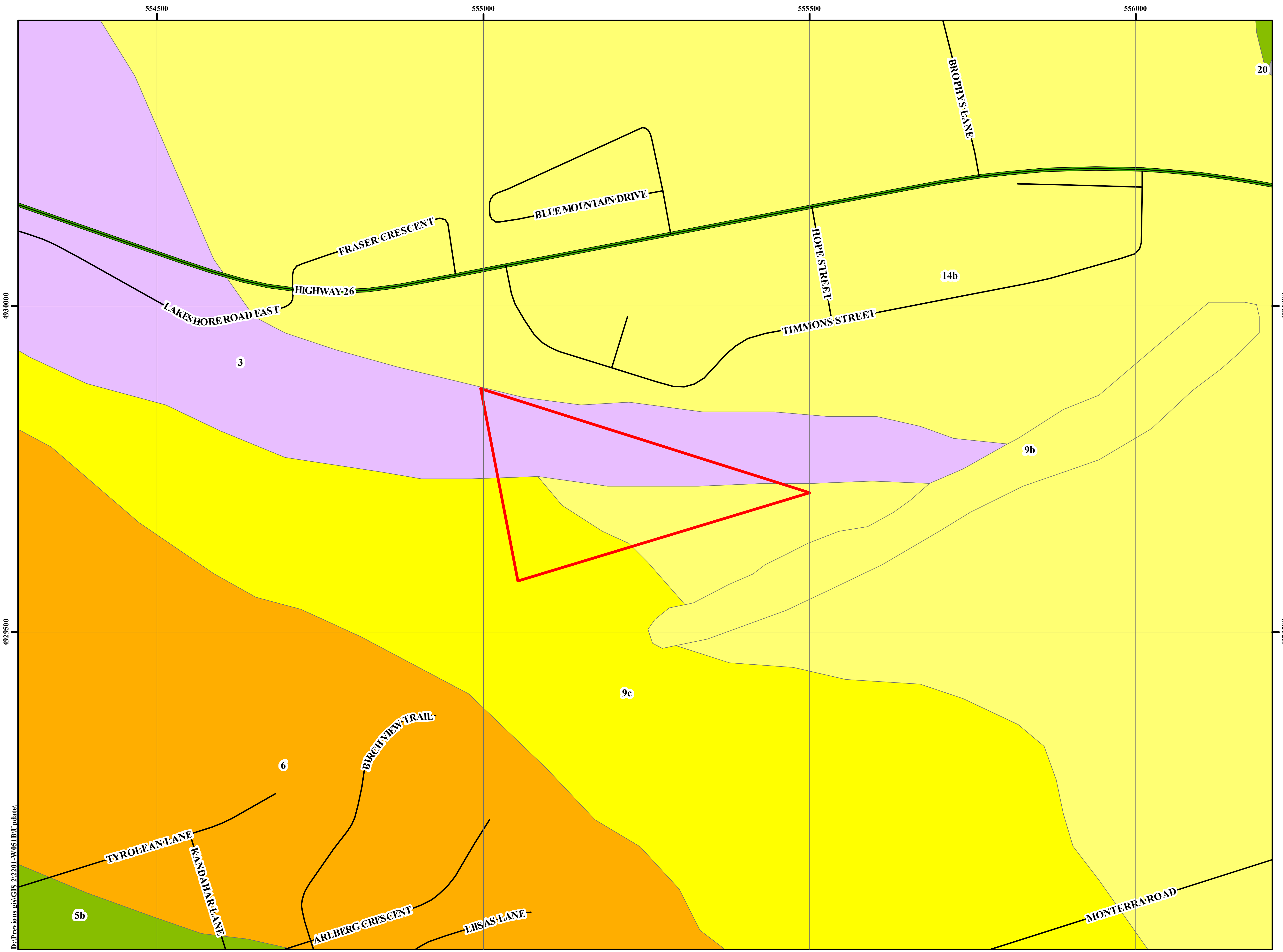
Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 West
Town of The Blue Mountains

Reference No. 2201-W051B

Date: July 03, 2026

Scale:
0 5 10 20 30 40 50
Metres

Drawing No. 2



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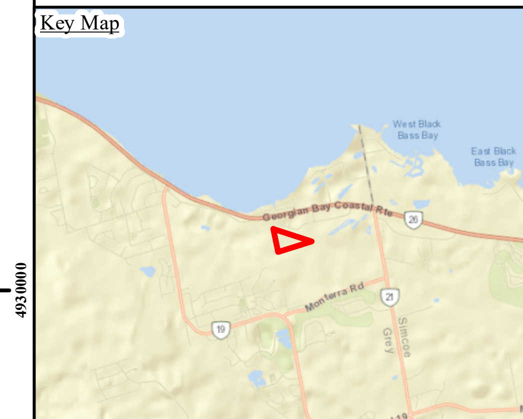
Key Map



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Legend

- Approximate Boundary of Subject Site
- Expressway/Freeway
- Local Road
- 14b: Glaciolacustrine or localized pond deposits: Consisting of sand: littoral/foreshore
- 20: Swamp deposits: Consisting of organic deposits
- 3: Whitby Formation: Consisting of Paleozoic Bedrock
- 5b: Sandy silt till: Consisting of diamicton
- 6: Ice-contact deposits: Consisting of sand, gravel: ice-contact
- 9b: Glaciolacustrine or localized pond deposits: Consisting of gravel: littoral/foreshore
- 9c: Glaciolacustrine or localized pond deposits: Consisting of sand: foreshore/basinal

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Surface Geology Map

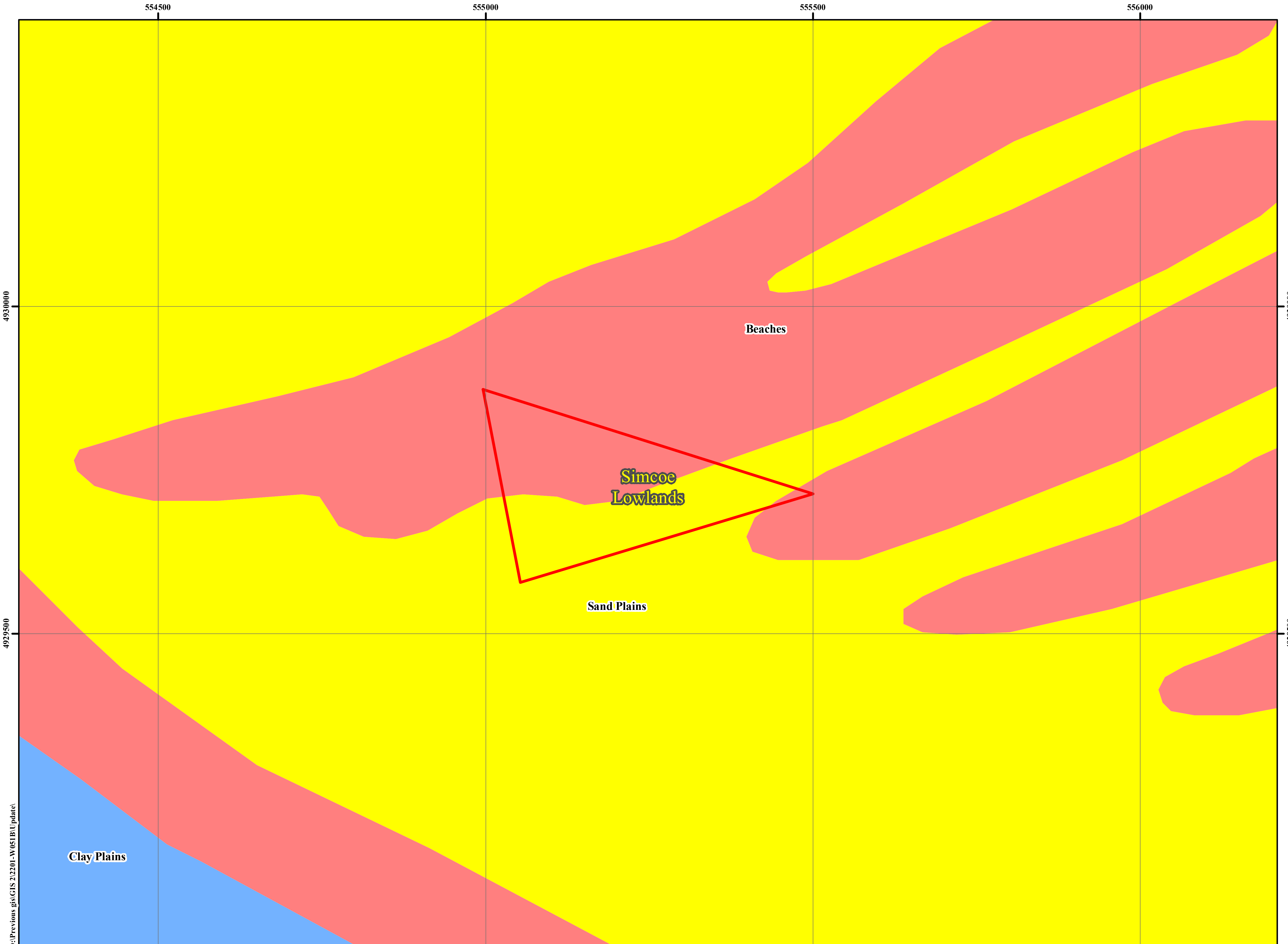
Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 West
Town of The Blue Mountains

Reference No. 2201-W051B

Date: July 03, 2026

Scale:
0 60 120 180 240 300
Metres

Drawing No. 3



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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

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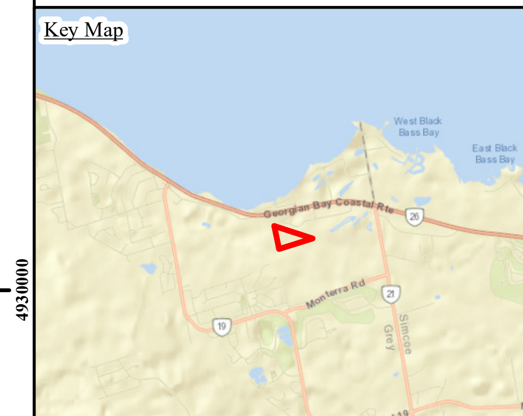
Key Map



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Legend

- Approximate Boundary of Subject Site
- Region Boundary
- Sand Plains
- Clay Plains
- Beaches

Soil Engineers Ltd.

Physiographic Map

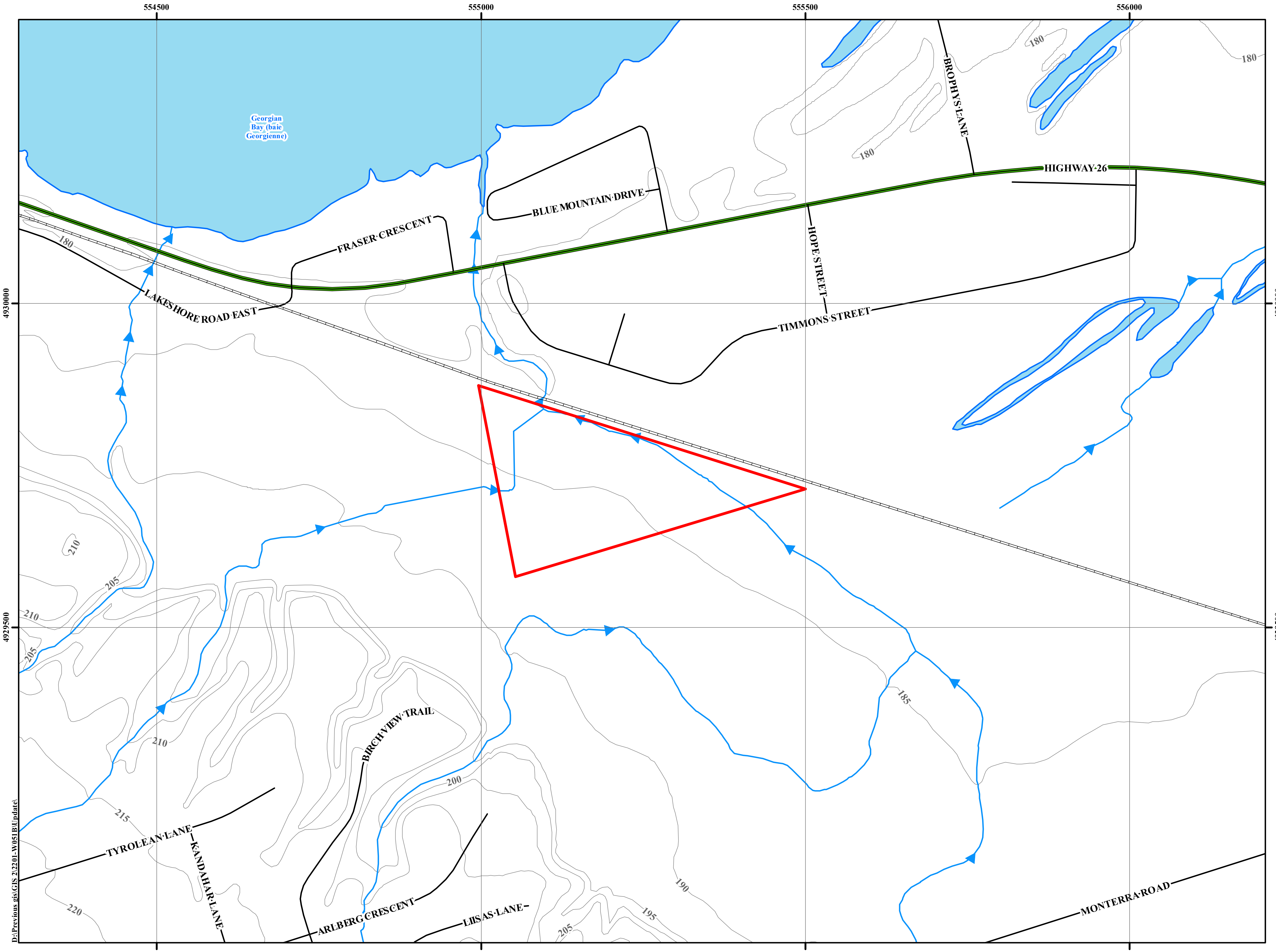
Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 West
Town of The Blue Mountains

Reference No. 2201-W051B

Date: July 03, 2026

Scale:
0 30 60 120 180 240 300
Metres

Drawing No. 4



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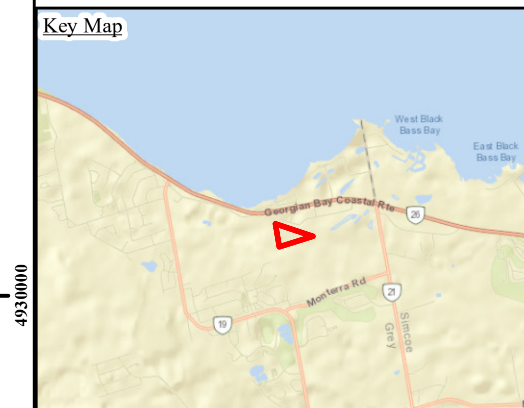
Key Map



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Legend

- Approximate Boundary of Subject Site
- Expressway/Freeway
- Local Road
- Railway
- Waterbody
- Watercourse
- Ontario - 5 m

Soil Engineers Ltd.

Topographic Map

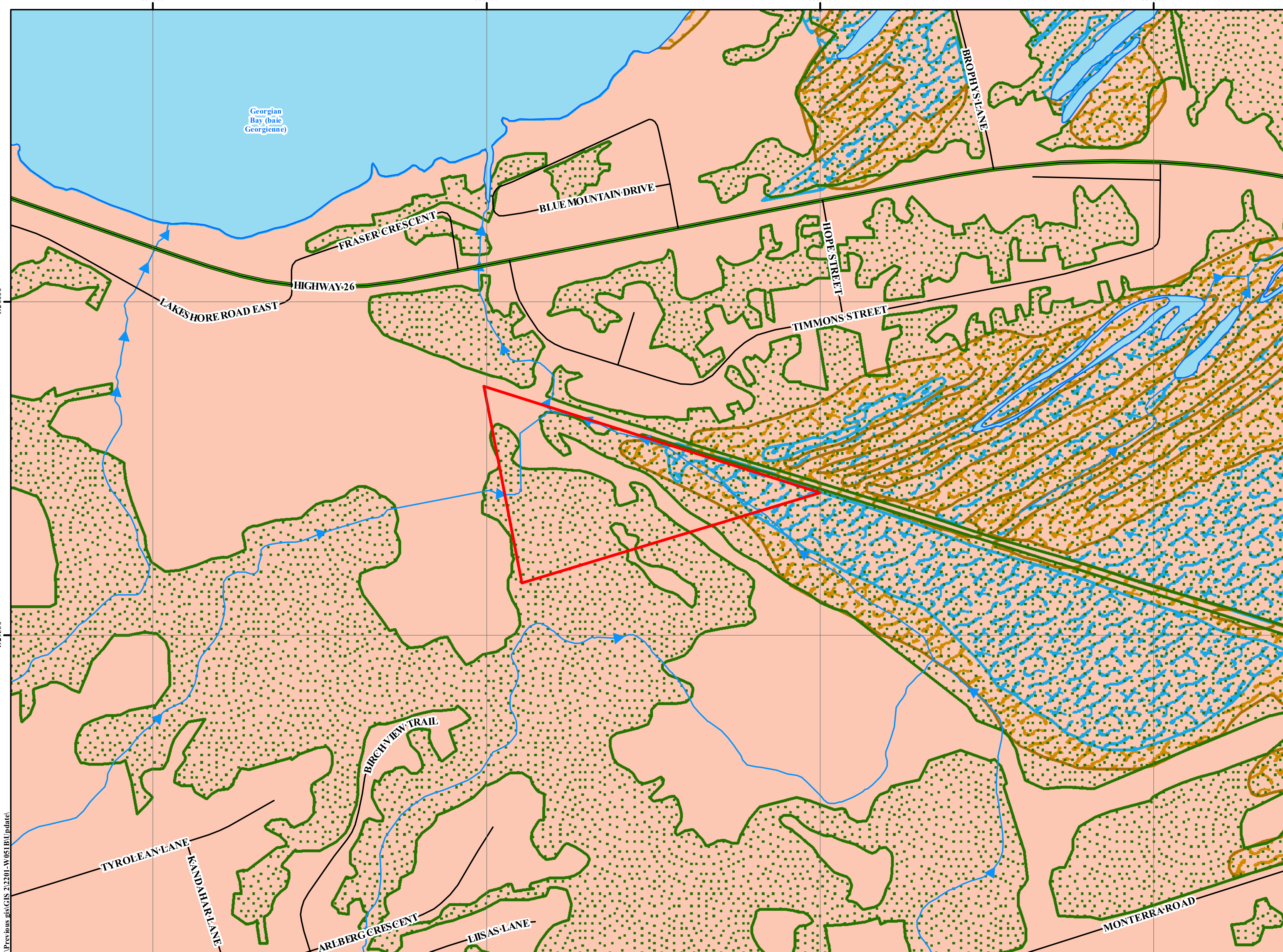
Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 West
Town of The Blue Mountains

Reference No. 2201-W051B

Date: July 03, 2026

Scale:
0 30 60 120 180 240 300
Metres

Drawing No. 5



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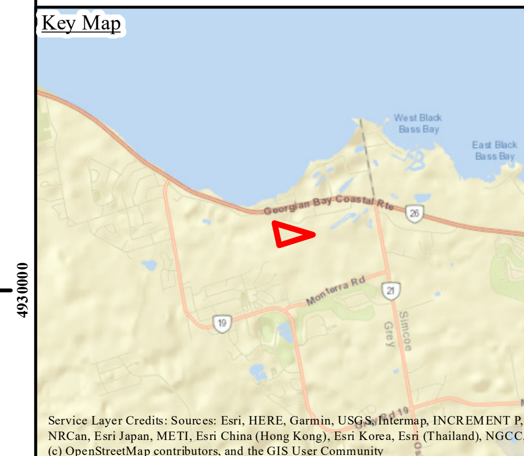
Key Map



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Legend

- Approximate Boundary of Subject Site
- Expressway/Freeway
- Local Road
- Watercourse
- Waterbody
- Wooded Area *Wooded Area*
- Wetland (classified as Provincial)
- Wetland (Not evaluated per OWES)
- Niagara Escarpment (Recreation Area)

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Natural Features and Protection Area Plan

Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 West
Town of The Blue Mountains

Reference No. 2201-W051B

Date: July 03, 2026

Scale:
0 60 120 180 240 300
Metres

Drawing No. 6

N

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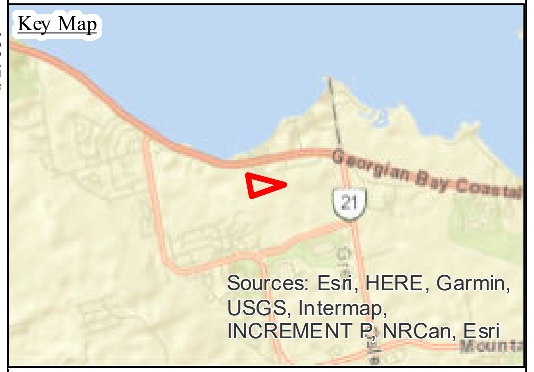
Key Map



Legend

Approximate Boundary of Subject Site

Borehole with Monitoring Well

Borehole

A A'

Cross-Section Direction

Major Road

Local Road

Soil Engineers Ltd.

Title: Cross-Section Key Plan

Project:

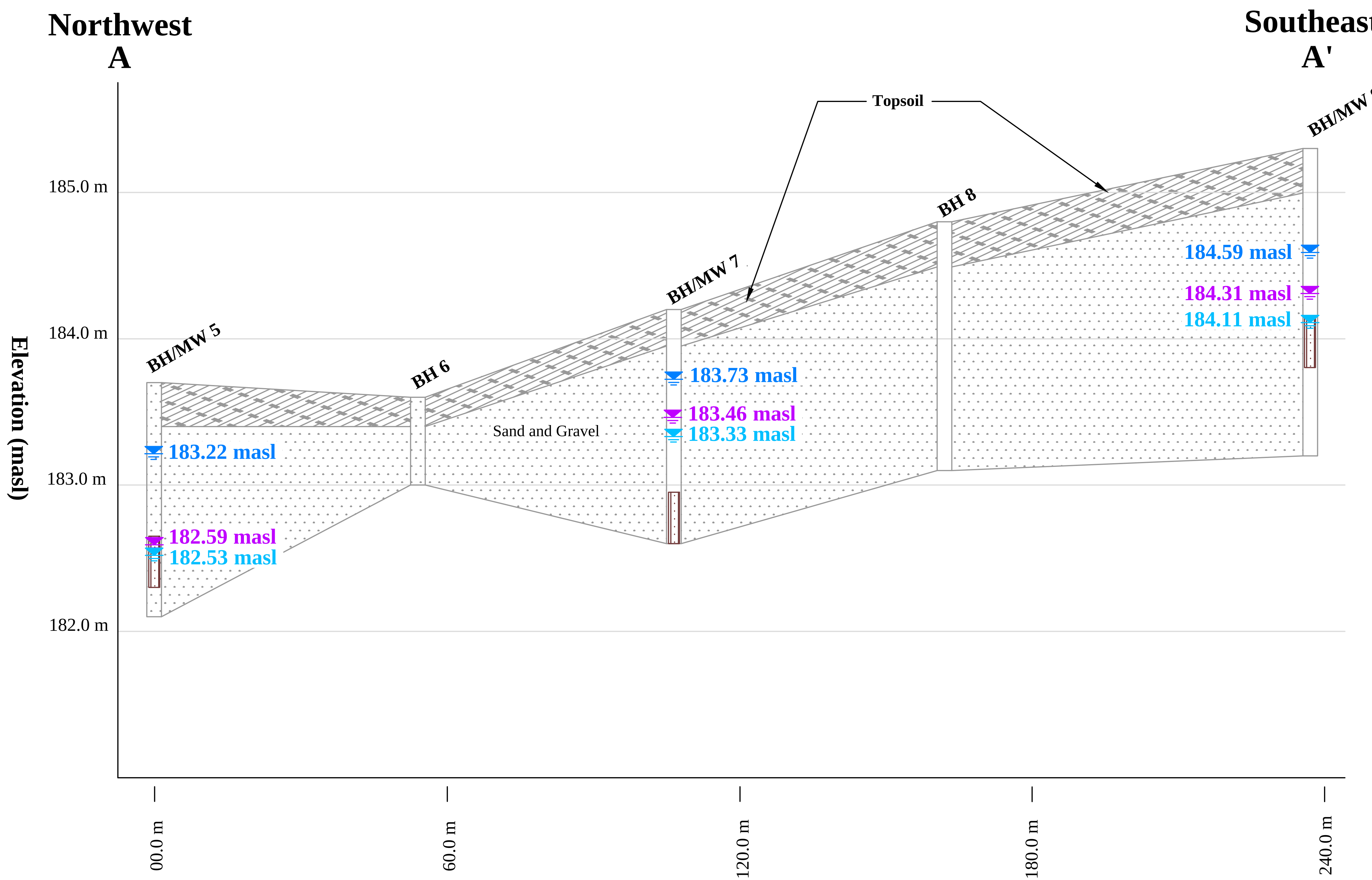
Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21
Town of The Blue Mountains

Reference No. 2201-W051B

Date: September 10, 2023

Scale:
0 5 10 20 30 40 50
Metres

Drawing No. 7-1



Section A-A'

Topsoil

Sand and Gravel

0.6 m Screen

Water Table on June 07, 2023

Water Table on July 11, 2023

Water Table on July 26, 2023

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CONSULTING SOIL, FOUNDATION & ENVIRONMENTAL ENGINEERS

Title: Subsurface Profiles

Project: Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 Town of The Blue Mountains

Reference No:	Date:	Scale: V	Scale: H	Drawing No.
2201-W051B	September, 2023	1:100	1:2500	7-2

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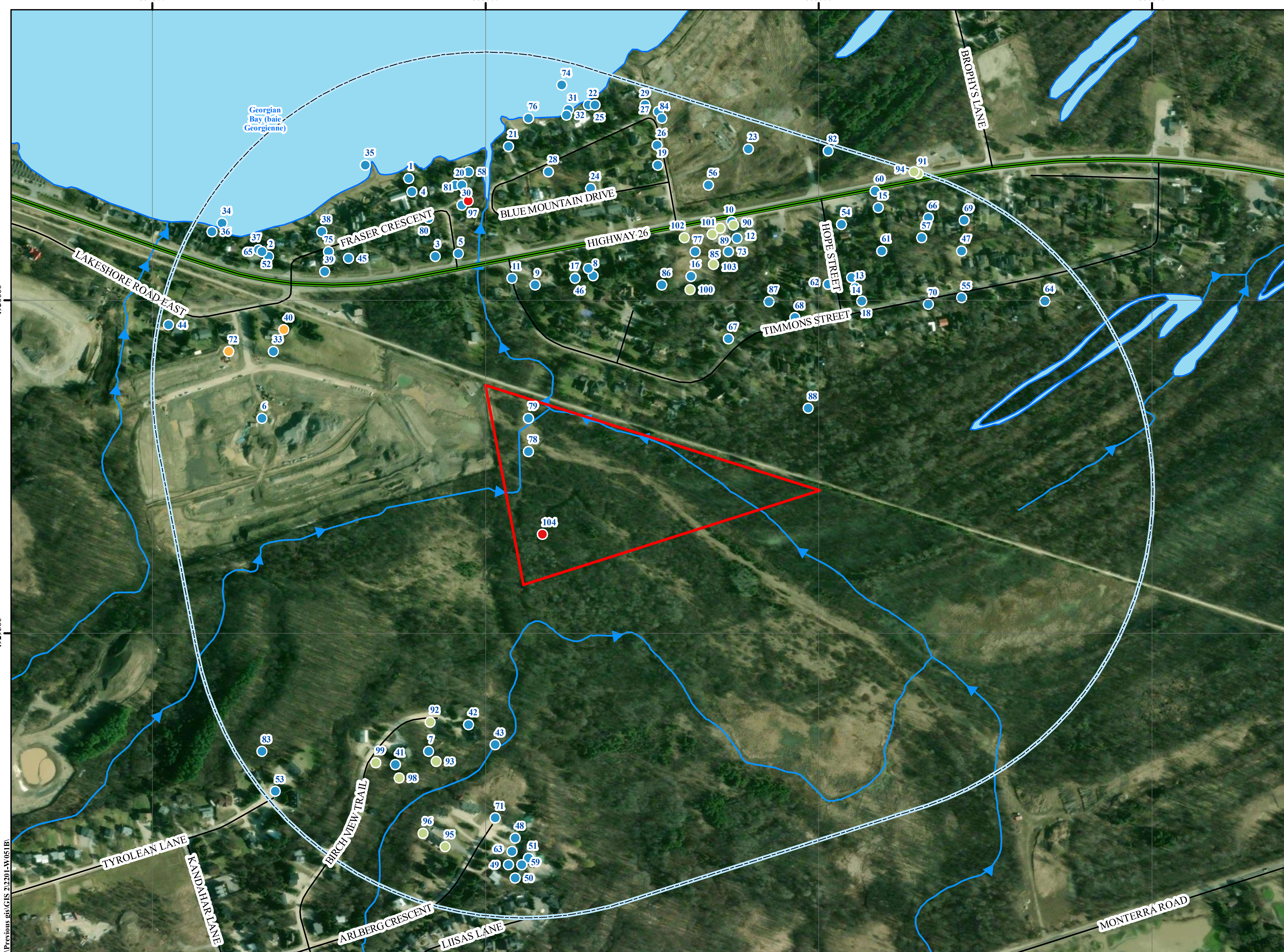

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N

References: ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus Ds, USDA, USGS, AeroGRIS, IGN, and the GIS User Community produced by Soil Engineers Ltd. Copyright (c) King's Printer for Ontario, 2026. Water Well Information System Ministry of the Environment, Conservation and Parks, 2026

Key Map

Legend

- 500 Metres From Subject Site Boundary
- Approximate Boundary of Subject Site
- Waterbody
- Watercourse
- Expressway/Freeway
- Local Road
- Unknown (2)
- Abandoned-Supply (2)
- Observation Wells (14)
- Water Supply (86)

Soil Engineers Ltd.

MECP Well Location Plan

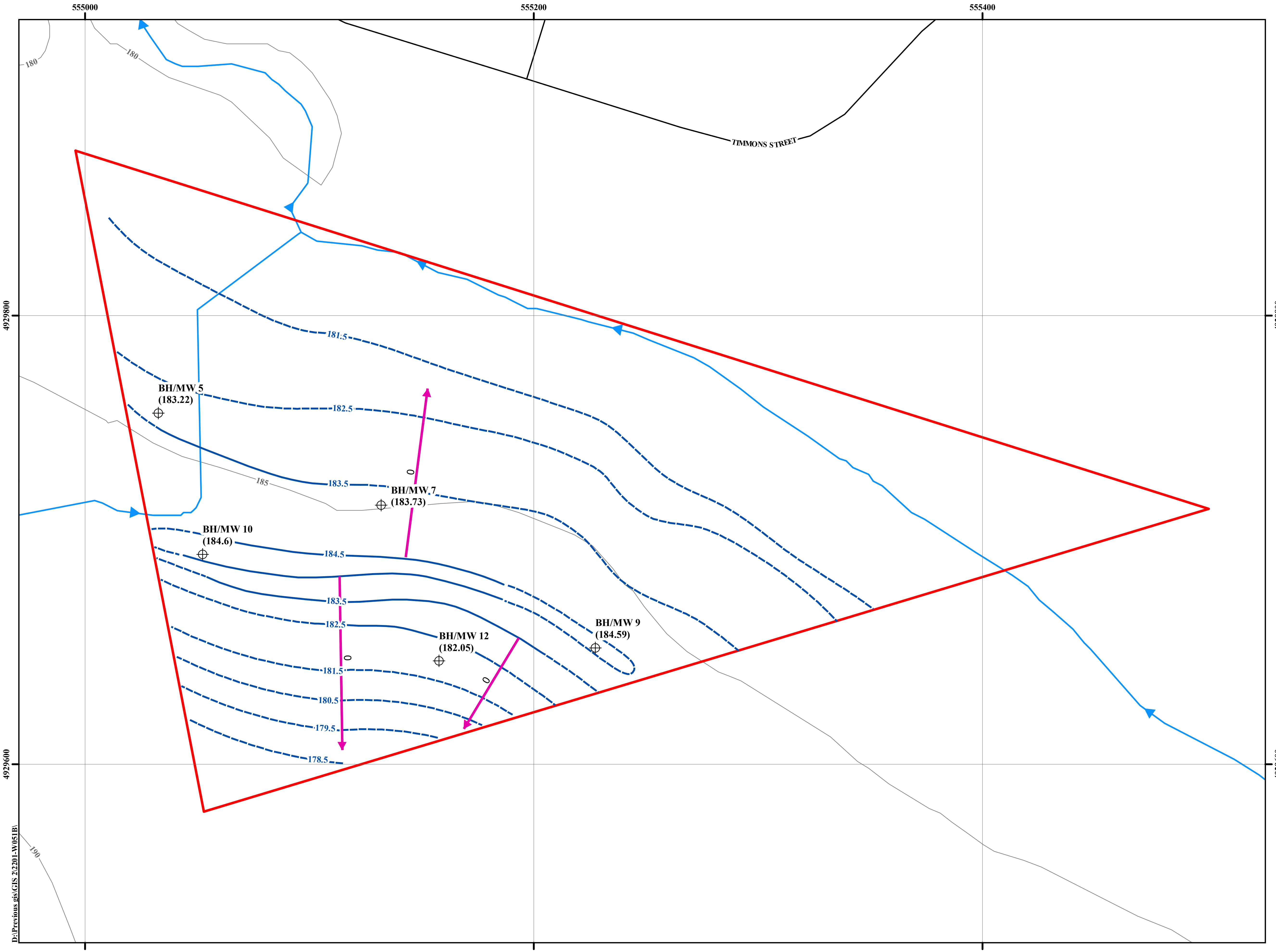
Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 West
Town of The Blue Mountains

Reference No. 2201-W051B

Date: April 28, 2026

Scale:
0 30 60 120 180 240 300
Metres

Drawing No.8



N

References: Ontario Ministry of Natural Resources and Forestry
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Legend

Approximate Boundary of Subject Site

Borehole with Monitoring Well

Local Road

Ontario - 5 m

Watercourse

Highest Interpreted Shallow Groundwater Elevation Contour

Highest Inferred Shallow Groundwater Elevation Contour

Interpreted Shallow Groundwater Flow Direction

(184.59) Highest Shallow Groundwater Level Measured on April 27, 2022

Soil Engineers Ltd.

Shallow Groundwater Flow Pattern Plan

Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 West
Town of The Blue Mountains

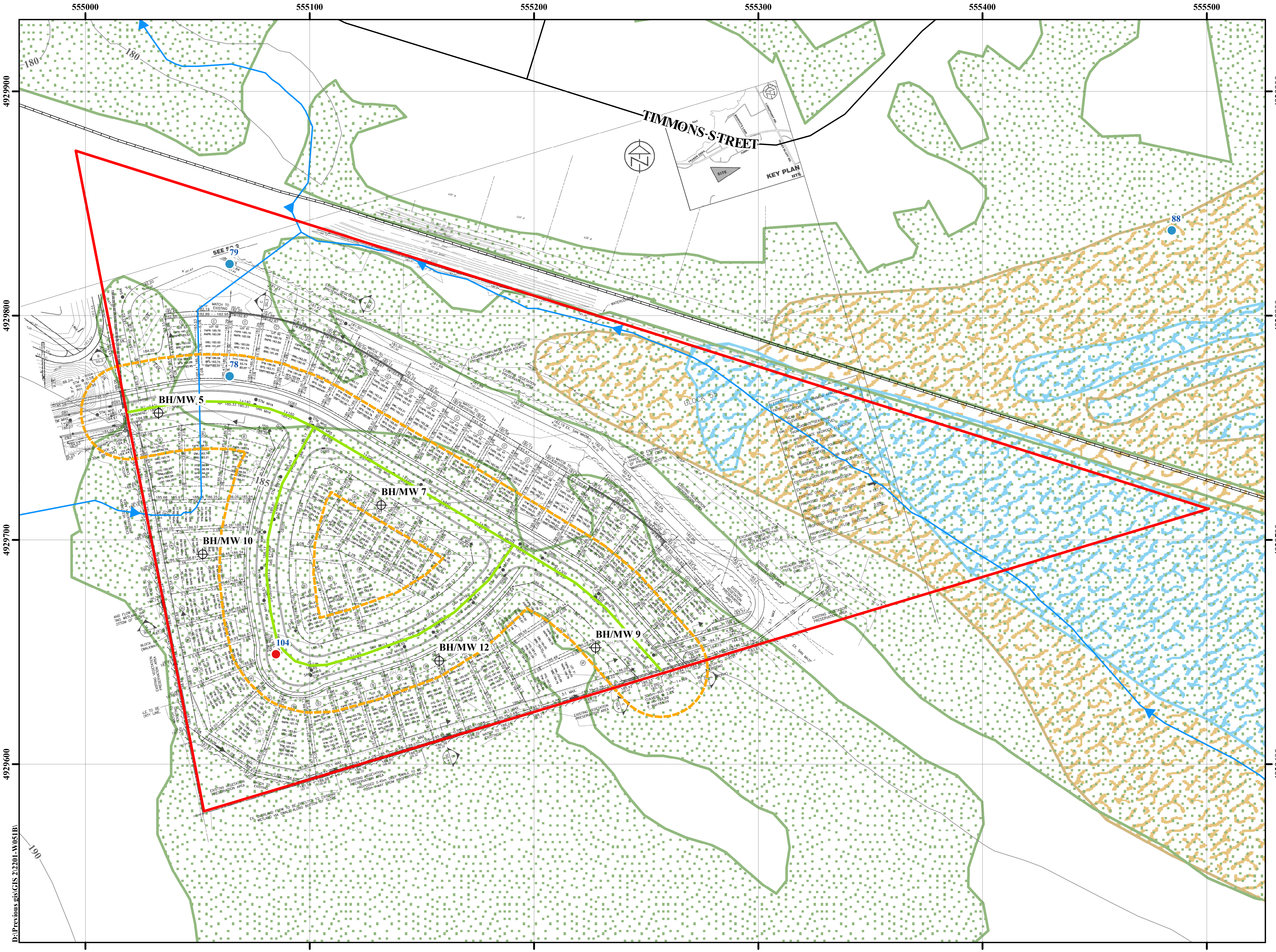
Reference No. 2201-W051B

Date: April 24, 2026

Scale:

0 5 10 20 30 40 50
Metres

Drawing No. 9



N

References: Ontario Ministry of Natural Resources and Forestry
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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

- Zone of Influence
- Underground Services Boundary
- Parcel
- Local Road
- Railway
- Watercourse
- Ontario - 5 m
- Wooded Area *Wooded Area*
- Wetland (classified as Provincial)
- Wetland (Not evaluated per OWES)
- Borehole with Monitoring Well
- Unknown
- Water Supply

Soil Engineers Ltd.

Zone of Influence For Dewatering Plan

Hydrogeological Assessment
Proposed Residential Development
372 Grey Road 21 West
Town of The Blue Mountains

Reference No. 2201-W051B

Date: July 03, 2026

Scale:
0 5 10 20 30 40 50
Metres

Drawing No. 10

Soil Engineers Ltd.
CONSULTING ENGINEERS
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APPENDIX 'A'

MECP WATER WELL RECORDS SUMMARY

REFERENCE NO. 2201-W051B

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	2500429	Cable Tool	8.5	Water Supply	Domestic	1.8	-	-	1959-08-12
2	2500431	Cable Tool	6.4	Water Supply	Irrigation	1.2	-	-	1959-12-10
3	2500433	Cable Tool	11.0	Water Supply	Domestic	1.2	-	-	1961-10-04
4	2500434	Cable Tool	7.3	Water Supply	Domestic	1.8	-	-	1964-08-28
5	2500435	Cable Tool	18.3	Water Supply	Domestic	0.6	-	-	1966-08-22
6	2506946	Rotary(Air)	24.7	Water Supply	Domestic	3.0	-	-	1979-10-01
7	2503697	Cable Tool	35.4	Water Supply	Domestic	12.2	-	-	1971-12-24
8	2500373	Cable Tool	8.2	Water Supply	Domestic	1.8	3.0	8.2	1963-06-20
9	2500366	Cable Tool	12.8	Water Supply	Domestic	2.4	-	-	1950-08-08
10	2500367	Cable Tool	12.2	Water Supply	Domestic	2.4	-	-	1953-09-29
11	2500368	Cable Tool	10.1	Water Supply	Domestic	2.4	-	-	1955-05-16
12	2500369	Cable Tool	10.4	Water Supply	Commercial	1.5	-	-	1956-06-08
13	2500371	Cable Tool	9.4	Water Supply	Domestic	4.3	-	-	1959-07-01
14	2500372	Cable Tool	12.5	Water Supply	Domestic	4.3	-	-	1959-09-14
15	2500374	Cable Tool	10.1	Water Supply	Domestic	3.7	-	-	1965-05-22
16	2500375	Cable Tool	13.1	Water Supply	Commercial	4.0	-	-	1967-08-24
17	2500376	Cable Tool	11.9	Water Supply	Domestic	1.5	-	-	1967-07-11
18	2500377	Cable Tool	11.6	Water Supply	Domestic	5.5	-	-	1967-10-31
19	2500378	Cable Tool	9.8	Water Supply	Domestic	2.4	-	-	1954-08-18
20	2500379	Cable Tool	7.6	Water Supply	Domestic	0.6	-	-	1954-09-07
21	2500380	Cable Tool	8.5	Water Supply	Domestic	1.2	-	-	1955-07-04
22	2500381	Cable Tool	8.5	Water Supply	Domestic	1.2	-	-	1955-07-09
23	2500388	Cable Tool	12.2	Water Supply	Domestic	2.4	-	-	1960-05-27
24	2500394	Cable Tool	12.2	Water Supply	Commercial	2.4	-	-	1962-10-24
25	2500395	Cable Tool	8.5	Water Supply	Domestic	2.7	-	-	1963-04-27
26	2500400	Cable Tool	7.3	Water Supply	Domestic	2.1	-	-	1966-08-13
27	2500401	Cable Tool	7.3	Water Supply	Domestic	2.1	-	-	1966-08-16
28	2500402	Cable Tool	9.4	Water Supply	Domestic	1.2	-	-	1966-09-13
29	2500403	Cable Tool	14.0	Water Supply	Domestic	0.6	-	-	1966-08-18
30	2500404	Cable Tool	9.8	Water Supply	Domestic	0.6	-	-	1967-04-08
31	2500405	Cable Tool	11.3	Water Supply	Domestic	0.9	-	-	1967-12-04
32	2500406	Cable Tool	11.3	Water Supply	Domestic	1.8	-	-	1967-12-10
33	2500414	Cable Tool	10.1	Water Supply	Domestic	4.6	-	-	1962-11-04
34	2500419	Cable Tool	5.2	Water Supply	Domestic	1.2	-	-	1952-02-04
35	2500420	Cable Tool	8.2	Water Supply	Domestic	6.7	-	-	1954-10-11
36	2500423	Cable Tool	9.1	Water Supply	Commercial	1.5	-	-	1956-06-01
37	2500424	Cable Tool	7.6	Water Supply	Domestic	2.4	-	-	1956-06-04
38	2500426	Cable Tool	6.1	Water Supply	Domestic	1.8	-	-	1959-05-13
39	2500427	Cable Tool	11.0	Water Supply	Domestic	0.6	-	-	1959-05-22

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				
40	2500413	Cable Tool	45.7	Abandoned-Supply	-	-	-	-	1962-10-15
41	2502645	Boring	16.8	Water Supply	Domestic	13.7	-	-	1968-12-02
42	2502646	Boring	10.7	Water Supply	Domestic	7.6	-	-	1968-12-04
43	2502647	Boring	19.8	Water Supply	Domestic	16.8	-	-	1968-12-06
44	2502675	Cable Tool	18.3	Water Supply	Domestic	1.2	-	-	1968-10-03
45	2502678	Cable Tool	4.9	Water Supply	Domestic	1.2	-	-	1968-05-03
46	2502679	Cable Tool	8.8	Water Supply	Domestic	1.5	-	-	1968-06-22
47	2503058	Cable Tool	9.4	Water Supply	Domestic	3.7	-	-	1969-08-23
48	2503071	Boring	9.8	Water Supply	Domestic	6.1	-	-	1969-10-20
49	2503072	Boring	10.1	Water Supply	Livestock	5.2	-	-	1969-10-21
50	2503074	Boring	10.1	Water Supply	Domestic	5.2	-	-	1969-10-23
51	2503075	Boring	10.1	Water Supply	Domestic	5.2	-	-	1969-10-29
52	2503083	Not Known	7.6	Water Supply	Domestic	3.0	-	-	1969-10-16
53	2503111	Boring	9.4	Water Supply	Domestic	4.6	-	-	1969-11-01
54	2503279	Cable Tool	9.8	Water Supply	Domestic	4.3	-	-	1970-08-25
55	2503299	Cable Tool	15.2	Water Supply	Domestic	4.3	-	-	1970-10-02
56	2503300	Cable Tool	10.1	Water Supply	Domestic	2.7	-	-	1970-10-07
57	2503301	Cable Tool	13.4	Water Supply	Domestic	3.7	-	-	1970-10-08
58	2503359	Cable Tool	11.0	Water Supply	Domestic	1.8	-	-	1970-11-11
59	2503373	Boring	12.2	Water Supply	Domestic	7.6	-	-	1970-12-19
60	2503081	Not Known	10.7	Water Supply	Domestic	2.7	-	-	1969-11-04
61	2503566	Cable Tool	14.0	Water Supply	Domestic	3.7	-	-	1971-10-17
62	2503694	Cable Tool	12.8	Water Supply	Domestic	4.0	-	-	1971-12-11
63	2503780	Cable Tool	29.9	Water Supply	Domestic	14.6	-	-	1971-09-09
64	2503787	Cable Tool	14.0	Water Supply	Domestic	2.4	-	-	1971-10-20
65	2504023	Cable Tool	7.0	Water Supply	Domestic	1.8	-	-	1972-10-17
66	2504024	Cable Tool	13.1	Water Supply	Domestic	2.7	-	-	1972-10-03
67	2504195	Rotary(Convemt.) (Reverse)	20.1	Water Supply	Domestic	2.4	-	-	1973-06-21
68	2504308	Rotary(Convemt.) (Reverse)	13.1	Water Supply	Domestic	4.3	-	-	1973-09-08
69	2505395	Cable Tool	8.8	Water Supply	Domestic	3.0	-	-	1975-11-06
70	2505749	Cable Tool	15.2	Water Supply	Domestic	4.3	-	-	1976-07-26
71	2505796	Rotary(Air)	62.8	Water Supply	Domestic	-	-	-	1976-09-04
72	2505882	Cable Tool	17.1	Abandoned-Supply	-	-	-	-	1976-09-15
73	2506122	Rotary(Air)	24.1	Water Supply	Domestic	-	-	-	1977-07-05
74	2506127	Rotary(Air)	13.1	Water Supply	Domestic	0.9	-	-	1977-07-13
75	2506205	Cable Tool	11.3	Water Supply	Domestic	1.2	-	-	1977-08-24
76	2506229	Rotary(Air)	11.0	Water Supply	Domestic	1.5	-	-	1977-09-02
77	2507058	Cable Tool	11.6	Water Supply	Domestic	3.4	-	-	1979-09-29

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				
78	2507059	Cable Tool	16.8	Water Supply	Domestic	4.0	-	-	1980-01-03
79	2507060	Cable Tool	16.8	Water Supply	Domestic	3.7	-	-	1980-01-16
80	2507316	Rotary(Air)	12.5	Water Supply	Domestic	3.0	-	-	1980-11-18
81	2507379	Rotary(Air)	12.5	Water Supply	Domestic	2.7	-	-	1980-11-07
82	2507551	Cable Tool	12.8	Water Supply	Domestic	3.0	-	-	1981-09-17
83	2507554	Rotary(Air)	24.4	Water Supply	Domestic	13.7	-	-	1981-09-24
84	2507592	Rotary(Air)	13.1	Water Supply	Domestic	1.8	-	-	1981-12-17
85	2508384	Cable Tool	11.6	Water Supply	Domestic	4.3	-	-	1985-06-13
86	2508432	Cable Tool	12.5	Water Supply	Domestic	2.4	-	-	1985-04-25
87	2508700	Cable Tool	14.6	Water Supply	Domestic	4.0	-	-	1986-12-11
88	2509519	Cable Tool	45.1	Water Supply	Domestic	13.4	-	-	1988-09-15
89	2516794	Rotary(Convemt.) (Reverse)	3.0	Observation Wells	-	-	0.9	3.0	2006-04-24
90	7128380	Rotary(Convemt.) (Reverse)	3.5	Observation Wells	Other	-	1.0	3.5	2007-12-14
91	7357139	Boring	4.6	Observation Wells	Monitoring	-	1.5	4.6	2020-02-21
92	7368600	H.S.A.	6.1	Observation Wells	Monitoring	4.6	4.6	6.1	2020-09-08
93	7368602	H.S.A.	13.7	Observation Wells	Monitoring	10.7	10.7	13.7	2020-09-08
94	7369443	Rotary(Convemt.) (Reverse)	6.9	Observation Wells	Monitoring and Test Hole	-	5.3	6.9	2020-08-19
95	7380144	H.S.A.	6.1	Observation Wells	Monitoring	-	4.6	6.1	2020-12-21
96	7380145	H.S.A.	13.7	Observation Wells	Monitoring	-	12.2	13.7	2020-12-21
97	7392604	-	-	-	-	-	-	-	2021-03-23
98	7400686	Rotary(Convemt.) (Reverse)	13.7	Observation Wells	Monitoring	7.6	10.7	13.7	2021-09-27
99	7400687	Rotary(Convemt.) (Reverse)	7.6	Observation Wells	Monitoring	7.6	6.1	7.6	2021-09-27
100	7406493	Direct Push	4.6	Observation Wells	Monitoring	-	1.5	4.6	2021-12-16
101	7406494	Direct Push	4.6	Observation Wells	Monitoring	-	1.5	4.6	2021-12-16
102	7406513	Direct Push	4.6	Observation Wells	Monitoring	-	1.5	4.6	2021-12-16
103	7406514	Direct Push	4.6	Observation Wells	Monitoring	-	1.5	4.6	2021-12-16
104	7420993	-	-	-	-	-	-	-	2022-04-18

Notes:
*MECP WWID: Ministry of the Environment, Conservation and Parks Water Well Records Identification
**Metres below ground surface

APPENDIX ‘B’

SINGLE WELL RESPONSE TEST RESULTS

REFERENCE NO. 2201-W051B

Falling Head Test (Slug Test)

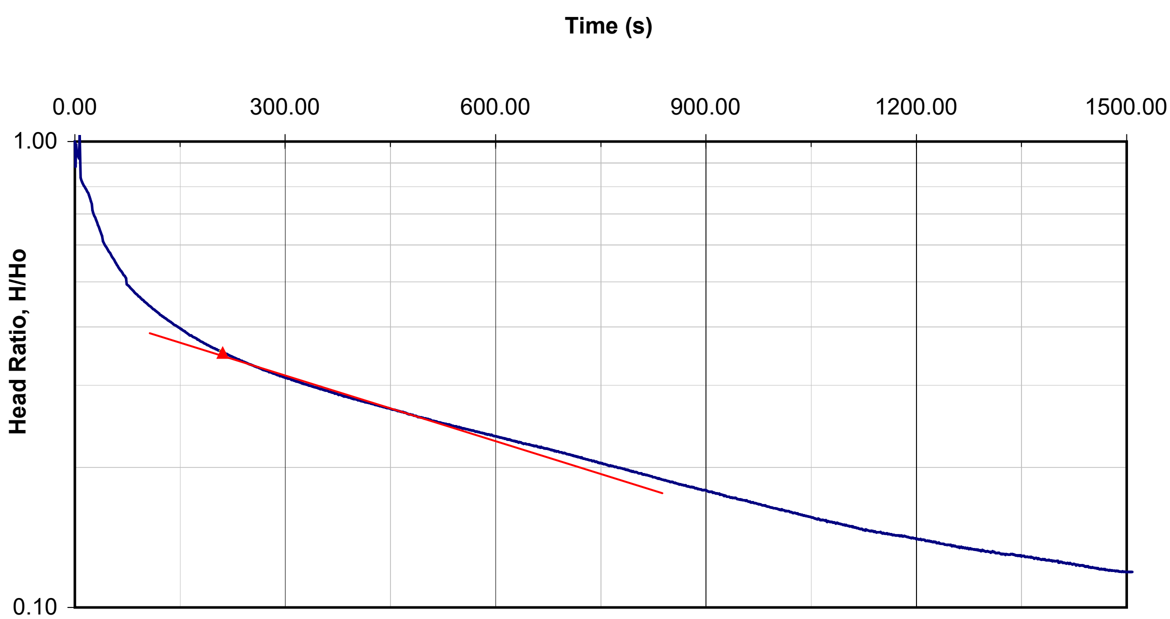
Test Date:		27-May-22	
Piezometer/Well No.:		BH/MW 7	
Ground level:		184.17	m
Screen top level:		183.17	m
Screen bottom level:		182.57	m
Test El. (at midpoint of screen):		182.87	m
Test depth (at midpoint of screen):		1.3	m
Screen length	L=	0.6	m
Diameter of undisturbed portion c	2R=	0.22	m
Standpipe diameter	2r=	0.05	m
Initial unbalanced head	Ho=	-0.6415	m
Initial water depth		0.71	m
Aquifer material:		**SAND & GRAVEL**	

Shape factor F= 2 x 3.14 x L / ln(L/R) = 2.222236 m

Permeability K= 3.14 x r2 / F x (t2 - t1) x ln (H1/H2) (Bouwer and Rice Method)

ln (H1/H2) / (t2 - t1) = 0.00199671

K= **1.8E-04** cm/s
1.8E-06 m/s

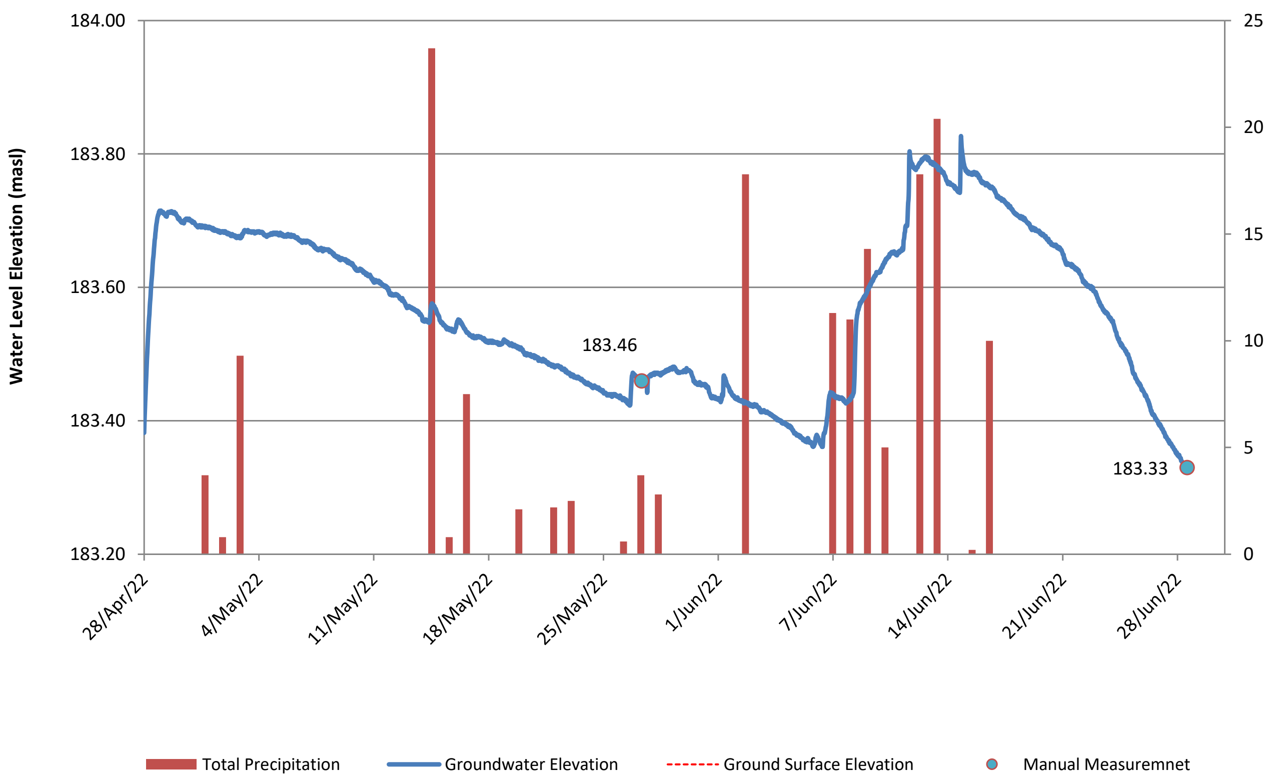


APPENDIX ‘C’

HYDROGRAPH

REFERENCE NO. 2201-W051B

Hydrograph : BH/MW 7



Soil Engineers Ltd

Water Level Hydrograph BH/MW 7

Project:

Proposed Residential Development

Date: September 2023

Ref. No.: 2201-W051B

Scale: NTS

Figure No. 1

APPENDIX 'D'

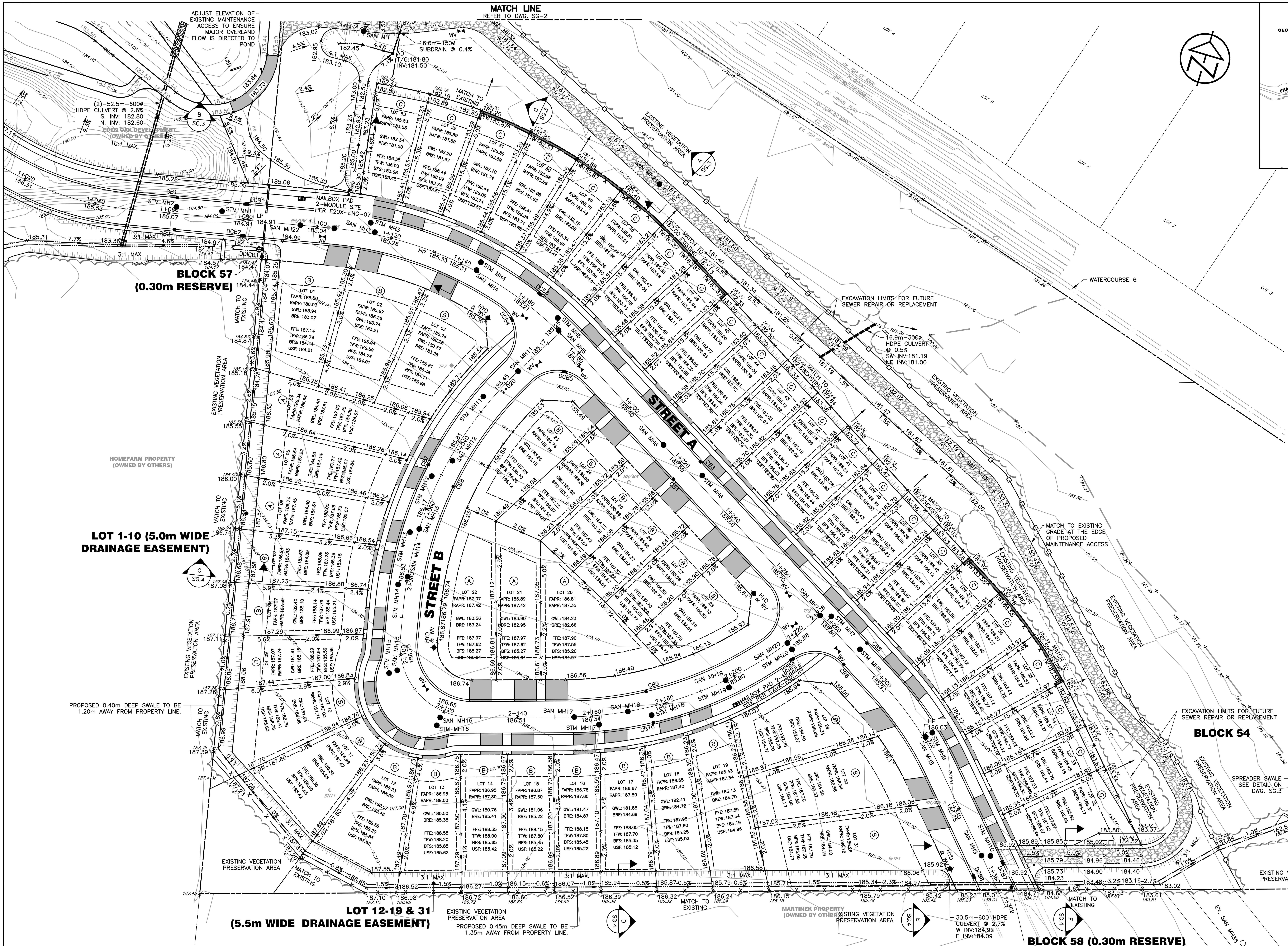
Short-Term Dewatering Rate Estimates and Reviewed Plans

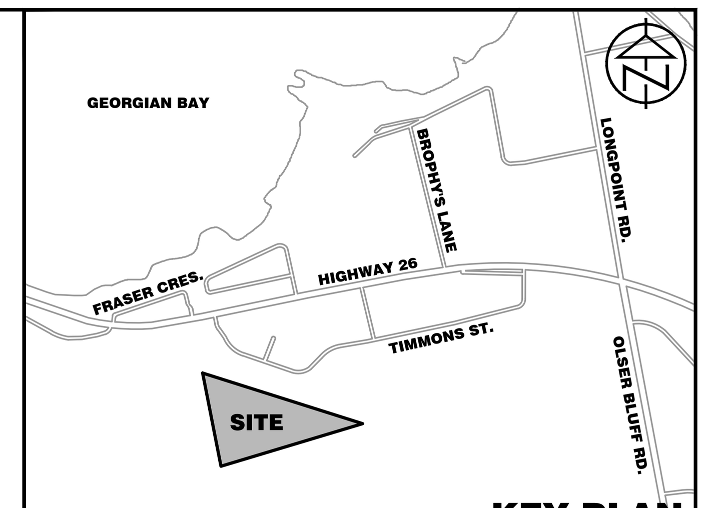
REFERENCE NO. 2201-W051B

DEWATERING CALCULATION FOR UNDERGROUND SERVICES INSTALLATION

Parameter	Units	SAN MH 6 - SAN MH 5	SAN MH 5- SAN MH 4	SAN MH 4 - SAN MH 3	SAN MH 3 - SAN MH 2	SAN MH 22 - SAN MH 2	SAN MH 9 - SAN MH 8	SAN MH 8 - SAN MH 7	SAN MH 7 - SAN MH 6	SAN MH 16 - SAN MH 17	SAN MH 17 - SAN MH 18	SAN MH 18 - SAN MH 19	SAN MH 19 - SAN MH 20	SAN MH 20 - SAN MH 7	SAN MH 15 - SAN MH 14	SAN MH 14 - SAN MH 13	SAN MH 13 - SAN MH 12	SAN MH 12 - SAN MH 11	SAN MH 11 - SAN MH 5
Total Anticipated Short Term Dewatering Flow including Storm Event and Safety Factor	**L/Day**	**56,600.0**	**42,000.0**	**45,500.0**	**25,300.0**	**23,000.0**	**46,700.0**	**58,900.0**	**79,200.0**	**36,300.0**	**13,500.0**	**25,600.0**	**23,600.0**	**17,900.0**	**25,500.0**	**16,400.0**	**25,000.0**	**39,300.0**	**27,700.0**
Anticipated Storm Flow (2Year-3Hr event)	**L/Day**	**2,400.0**	**1,600.0**	**1,700.0**	**700.0**	**600.0**	**2,100.0**	**2,500.0**	**3,600.0**	**2,100.0**	**900.0**	**1,600.0**	**1,200.0**	**700.0**	**1,500.0**	**800.0**	**1,200.0**	**1,700.0**	**900.0**
Storm Event (2Year-3Hr event)	**m**	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285	0.0285
Proposed Grade Elevation	**masl**	185.3	185.2	185.3	185.0	185.0	185.9	185.8	185.5	186.5	186.1	185.9	185.9	185.8	186.5	186.2	185.8	185.5	185.3
Highest Interpreted Groundwater Elevation	**masl**	183.7	183.7	183.5	183.5	183.5	184.5	184.5	184.0	184.0	183.0	183.0	183.5	183.5	184.0	184.0	184.0	184.0	184.0
Proposed Invert Elevation for the Excavation	**masl**	181.5	181.3	181.1	180.7	180.7	182.4	182.1	181.8	183.1	183.0	182.6	182.4	182.1	183.3	183.0	182.6	182.0	181.5
Width	**m**	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Length	**m**	41.7	27.3	29.1	10.9	9.2	35.1	43.2	62.1	35.9	14.5	27.6	19.3	11.5	25.3	13.2	20.3	29.8	15.4
Area	**m2**	83.4	54.6	58.2	21.8	18.4	70.2	86.4	124.2	71.8	29.0	55.2	38.6	23.0	50.6	26.4	40.6	59.6	30.8
Perimeter	**m**	87.4	58.6	62.2	25.8	22.4	74.2	90.4	128.2	75.8	33.0	59.2	42.6	27.0	54.6	30.4	44.6	63.6	34.8
Q s.f. 2	**L/day**	**54,200.0**	**40,400.0**	**43,800.0**	**24,600.0**	**22,400.0**	**44,600.0**	**56,400.0**	**75,600.0**	**34,200.0**	**12,600.0**	**24,000.0**	**22,400.0**	**17,200.0**	**24,000.0**	**15,600.0**	**23,800.0**	**37,600.0**	**26,800.0**
Q	**L/day**	**27,100.0**	**20,200.0**	**21,900.0**	**12,300.0**	**11,200.0**	**22,300.0**	**28,200.0**	**37,800.0**	**17,100.0**	**6,300.0**	**12,000.0**	**11,200.0**	**8,600.0**	**12,000.0**	**7,800.0**	**11,900.0**	**18,800.0**	**13,400.0**
Q	**m^3/day**	27.1	20.2	21.8	12.2	11.2	22.2	28.1	37.8	17.1	6.2	11.9	11.2	8.5	11.9	7.7	11.8	18.8	13.4
K	**m/day**	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555	0.1555
H	**m**	5.1	5.4	5.5	5.9	5.9	4.9	5.2	5.1	3.6	2.6	3.1	3.9	4.2	3.4	3.6	4.1	4.8	5.4
h	**m**	1.9	2.0	2.1	2.1	2.1	1.8	1.8	1.9	1.7	1.6	1.7	1.8	1.8	1.6	1.6	1.6	1.7	1.9
R_0	**m**	13.0	13.8	13.7	15.1	15.1	12.6	13.6	13.0	7.6	4.2	5.6	8.6	9.6	7.0	8.1	9.8	12.2	14.1
Trench width (b)	**m**	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
r_s	**m**	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
x (a)	**m**	41.7	27.3	29.1	10.9	9.2	35.1	43.2	62.1	35.9	14.5	27.6	19.3	11.5	25.3	13.2	20.3	29.8	15.4
L	**m**	6.5	6.9	6.8	7.6	7.6	6.3	6.8	6.5	3.8	2.1	2.8	4.3	4.8	3.5	4.0	4.9	6.1	7.1
	a/b	20.9	13.7	14.6	5.5	4.6	17.6	21.6	31.1	18.0	7.3	13.8	9.7	5.8	12.7	6.6	10.2	14.9	7.7

Parameter	Units																		
R_0	**m**	13.0	13.8	13.7	15.1	15.1	12.6	13.6	13.0	7.6	4.2	5.6	8.6	9.6	7.0	8.1	9.8	12.2	14.1
H	**m**	5.1	5.4	5.5	5.9	5.9	4.9	5.2	5.1	3.6	2.6	3.1	3.9	4.2	3.4	3.6	4.1	4.8	5.4
K	**m/s**	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06	1.80E-06
D	**m**	3.24	3.43	3.40	3.76	3.76	3.14	3.39	3.24	1.88	1.05	1.40	2.14	2.39	1.73	2.01	2.43	3.02	3.51





KEY PLAN
NTS

LEGEND

FAPR: FRONT OF LOT MINIMUM APRON GRADE ELEVATION

RAPR: REAR OF LOT MINIMUM APRON GRADE ELEVATION

GWL: APPROXIMATE SEASONAL HIGH GROUNDWATER LEVEL

BRE: APPROXIMATE BEDROCK ELEVATION

FFE: FINISH FLOOR ELEVATION

TFW: MINIMUM TOP OF FOUNDATION WALL ELEVATION

APR: BASEMENT FLOOR SLAB ELEVATION

USF: UNDER SIDE OF FOOTING ELEVATION

EXISTING OVERLAND FLOW DIRECTION

EXISTING SLOPE/FLOW DIRECTION 2.5%

EXISTING GRADE +186.50

PROPOSED OVERLAND FLOW DIRECTION

PROPOSED GRADE + 187.80

PROPOSED GRADE(BY OTHERS) +183.50

PROPOSED SLOPE/FLOW DIRECTION 2.0%

PROPOSED SLOPE/FLOW DIRECTION (BY OTHERS) 2.0%

SPLIT LOT DRAINAGE (A)

REAR TO FRONT LOT DRAINAGE (B)

SPLIT LOT DRAINAGE WITH WALKOUT HOUSE (C)

PROPOSED TOPSOIL DEPTHS

MUNICIPAL BOULEVARDS	0.1m
WEST/SOUTH PERIMETER SWALES	0.1m
LOTS:FRONT/REAR YARDS*	0.7m
*REAR YARDS OF LOTS 11 TO 19, 31,32 TO 46	0.9m

BENCHMARKS

TBM1 – ELEVATION 179.70
TOP OF GRATE OF SAN. MH39 LOCATED ON TIMMONS STREET AND APPROXIMATELY 120m NORTH OF SAN. MH38 .

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TOP OF GRATE OF SAN. MH38 APPROXIMATELY 79m FROM NORTH EAST CORNER OF PROPERTY LINE.

NOTES

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TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN FROM SURVEY PREPARED BY TATHAM ENGINEERING DATED NOV 3, 2021.

No.	REVISION DESCRIPTION	DATE
1.	RESUBMISSION IN SUPPORT OF DRAFT PLAN APPROVAL	JULY 3, 2026

ENGINEER STAMP

PRELIMINARY

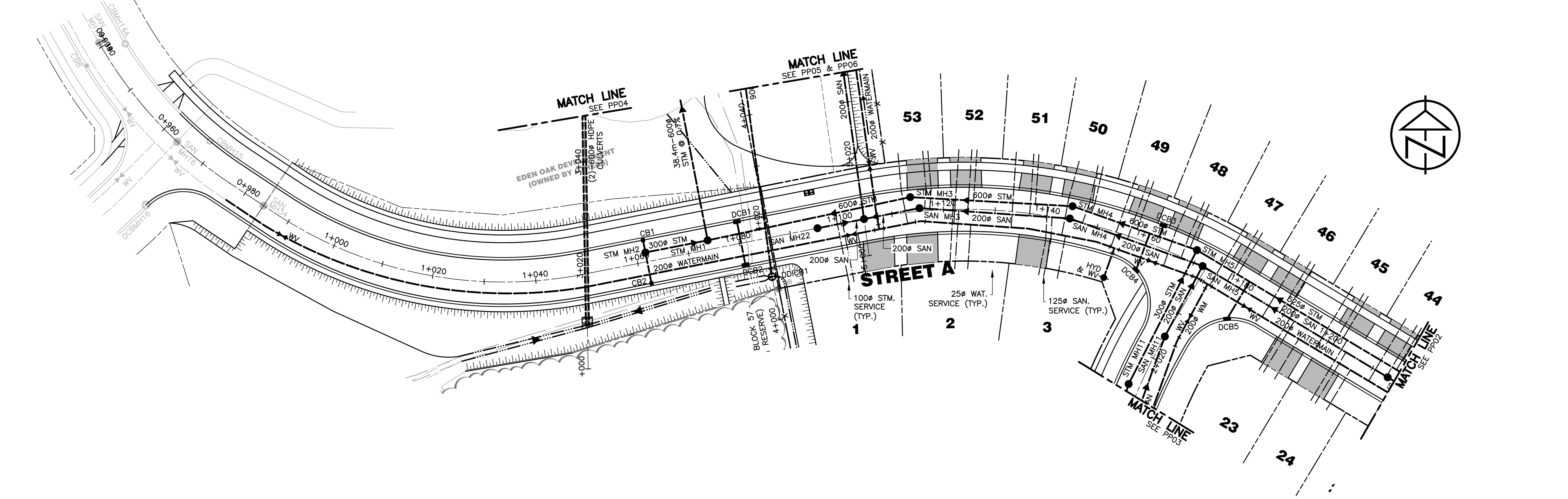
372 GREY ROAD 21 - WEST
TOWN OF THE BLUE MOUNTAINS

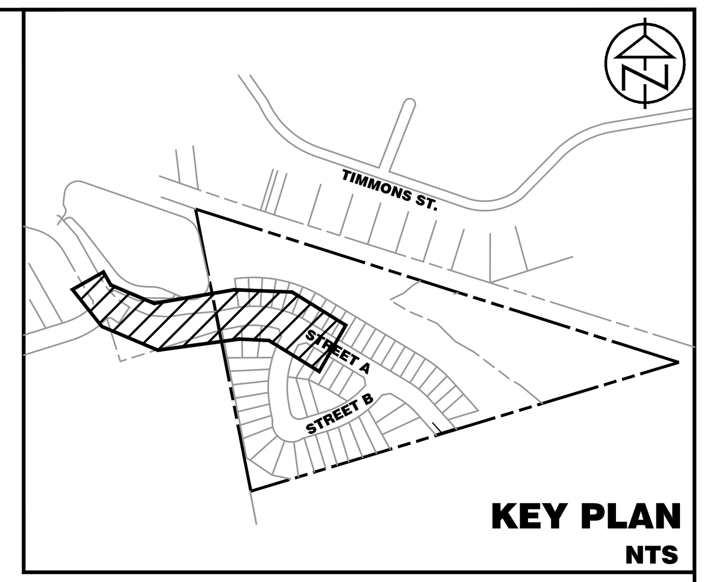
TATHAM ENGINEERING

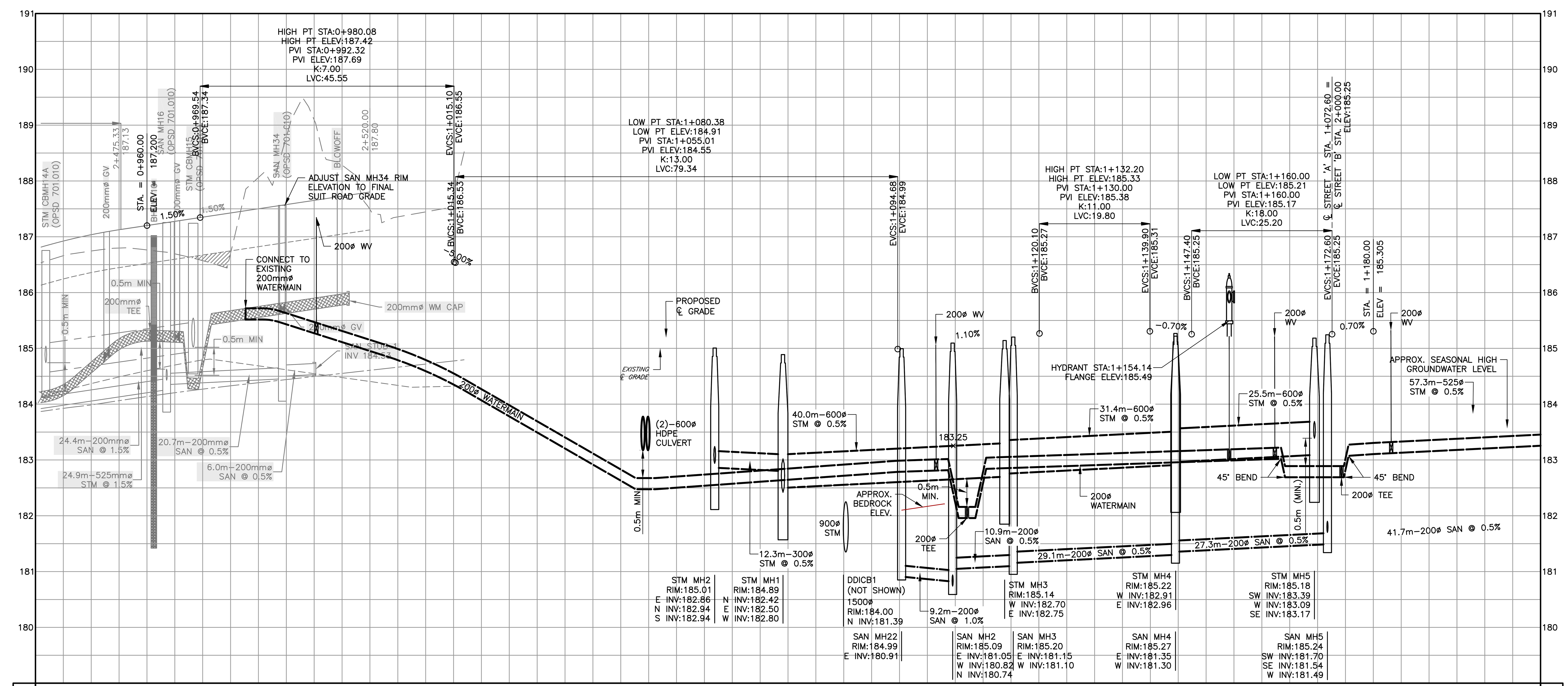
GRADING PLAN
SHEET 1 OF 2

DESIGN: AP/LG	FILE: 121088	DWG:	SG.1
DRAWN: AP/LG	DATE: APR 2026		
CHECK: JRA/RS	SCALE: 1:500		

Drawing Name: 121088–SG01.dwg, Plotted: Jul 03, 2026







CHAINAGE	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200
PROPOSED C/L ELEV	187.20	187.42	187.14	186.31	185.53	185.07	184.91	185.04	185.26	185.31	185.21	185.30	185.40
EXISTING C/L ELEV		187.77	187.22	189.02	185.94	184.61	184.00	183.46	182.90	182.71	182.83	182.85	182.96

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TOP OF GRATE OF SAN. MH38 APPROXIMATELY 79m FROM NORTH EAST CORNER OF PROPERTY LINE.

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No.	REVISION DESCRIPTION	DATE
1.	RESUBMISSION IN SUPPORT OF DRAFT PLAN APPROVAL	JULY 3, 2026

ENGINEER STAMP

PRELIMINARY

372 GREY ROAD 21 - WEST
TOWN OF THE BLUE MOUNTAINS

PLAN & PROFILE
STREET A
STA. 0+960 TO STA. 1+200

TATHAM ENGINEERING

DESIGN: AP/LG	FILE: 121088	DWG:
DRAWN: AP/LG	DATE: APR 2026	PP.1
CHECK: JRA/RS	SCALE: H: 1:500 V: 1:50	

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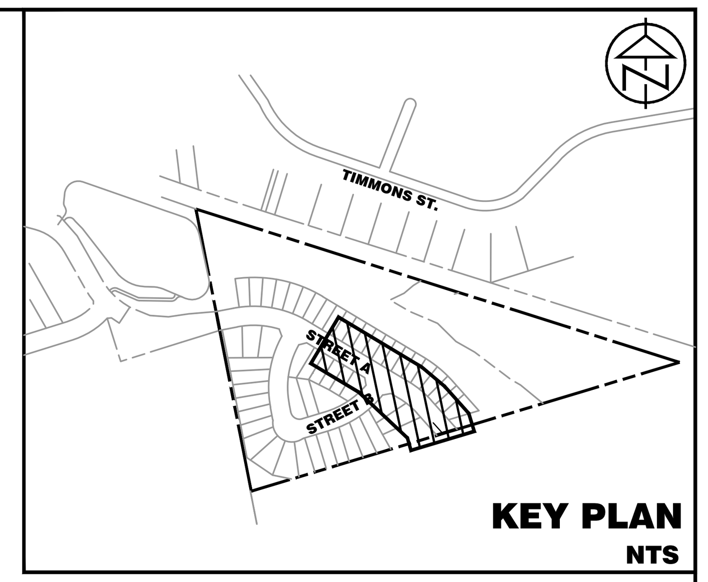

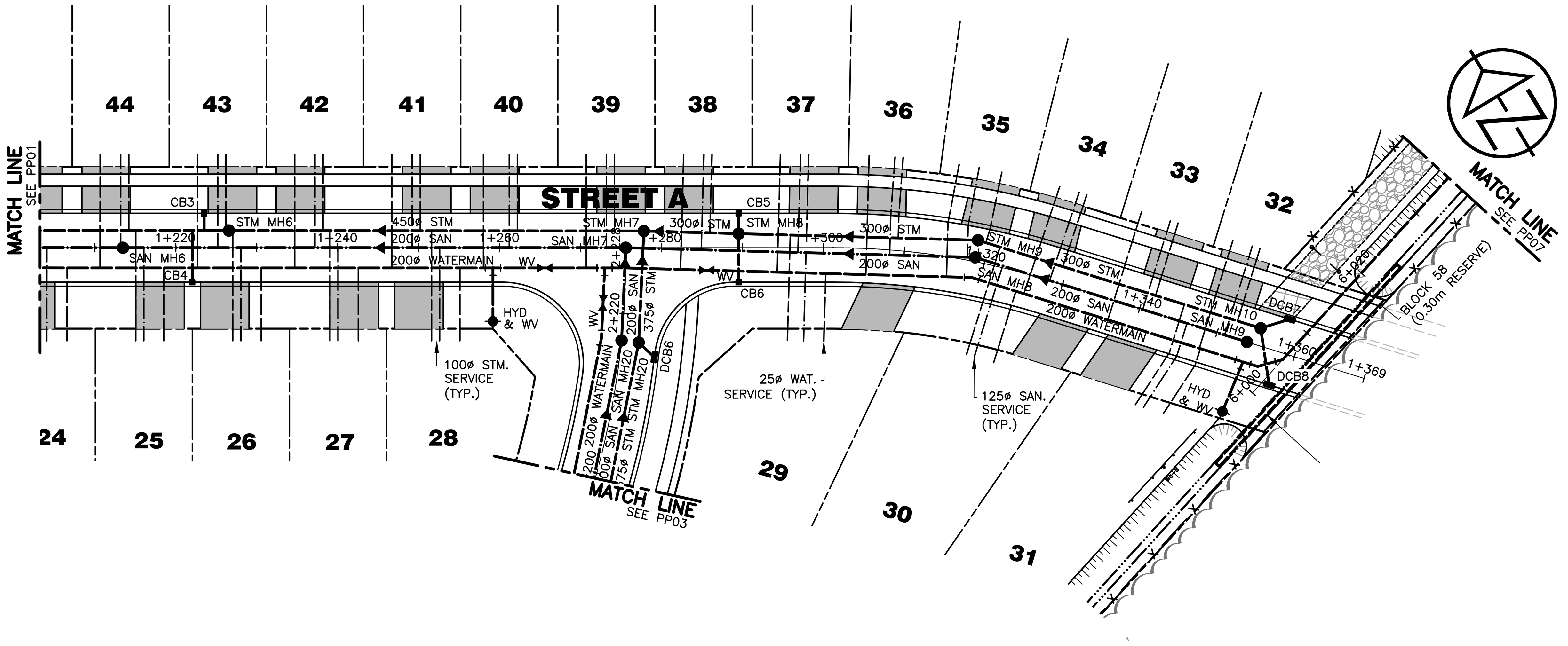

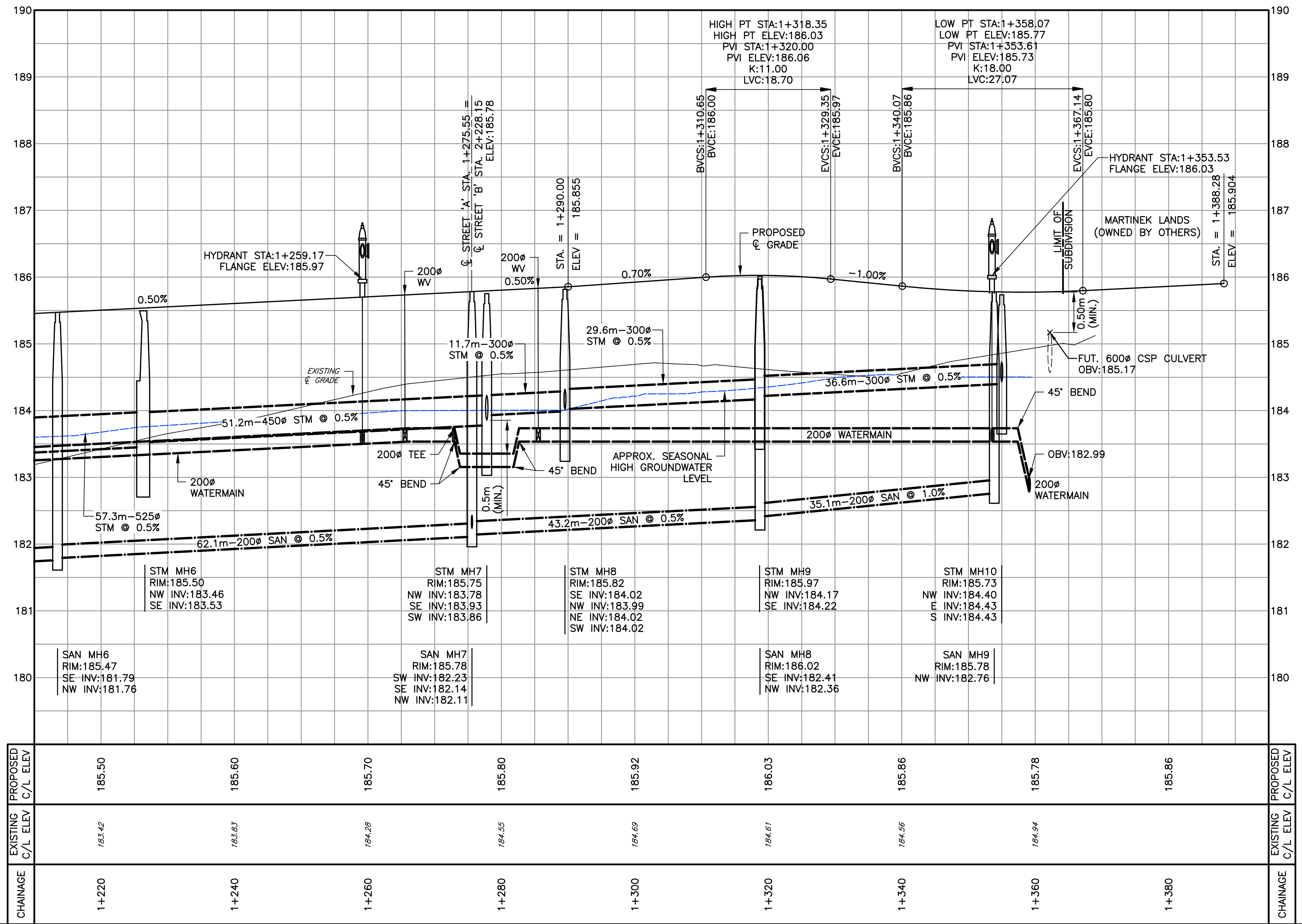

DISCLAIMER AND COPYRIGHT	BENCHMARKS	NOTES
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ENGINEER STAMP

PRELIMINARY

372 GREY ROAD 21 - WEST
TOWN OF THE BLUE MOUNTAINS

PLAN & PROFILE
STREET A
STA. 1+200 TO STA. 1+369

TATHAM ENGINEERING

DESIGN: AP/LG	FILE: 121088	DWG:
DRAWN: AP/LG	DATE: APR 2026	PP.2
CHECK: JRA/RS	SCALE: H: 1:500 V: 1:50	

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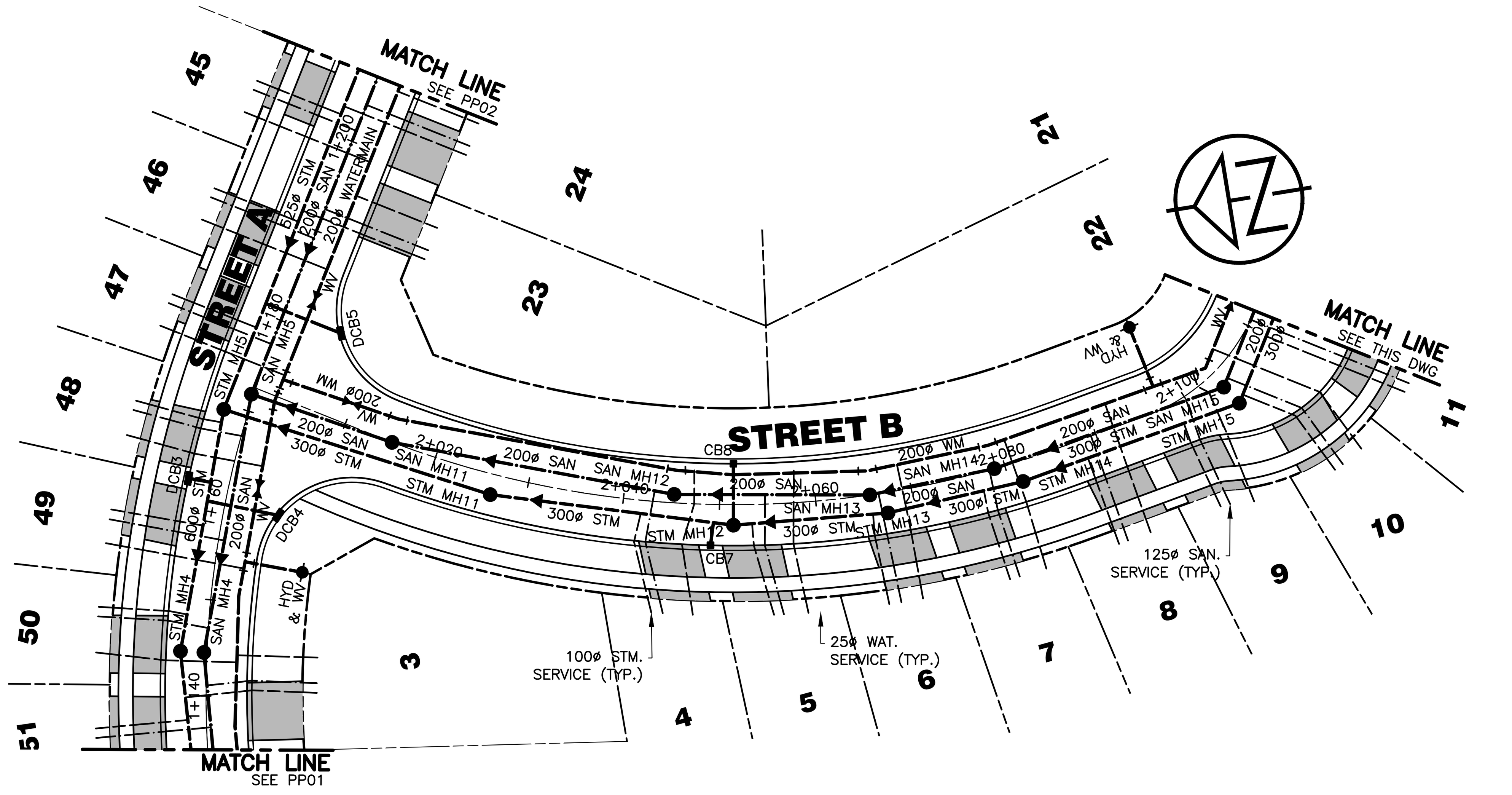

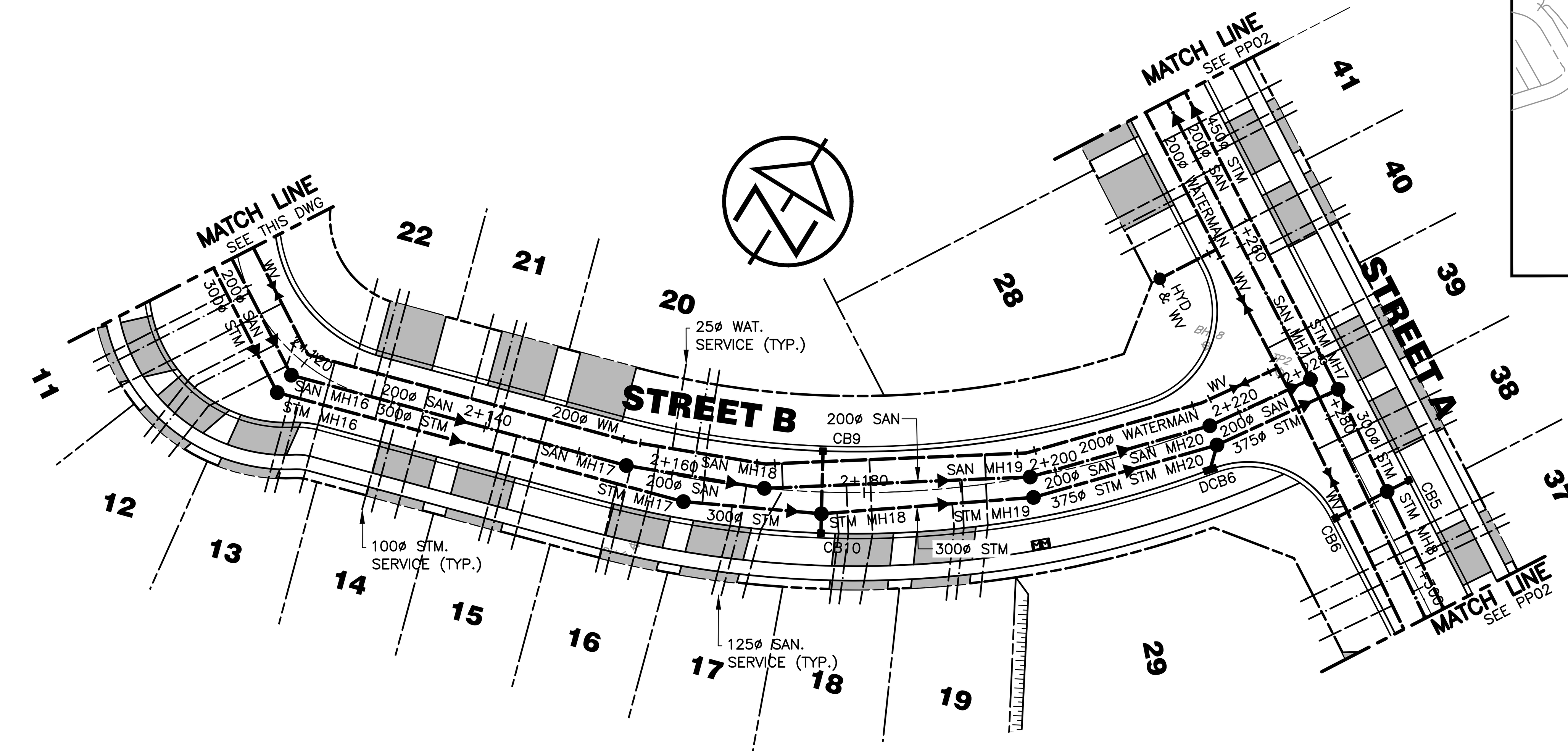

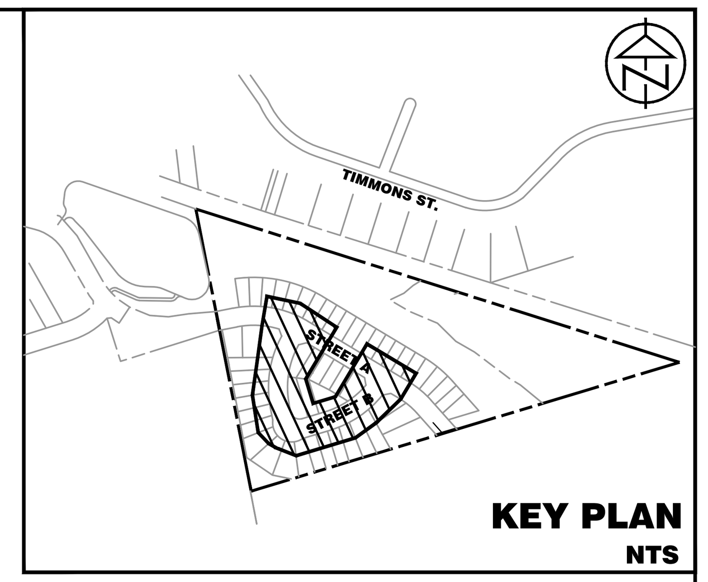

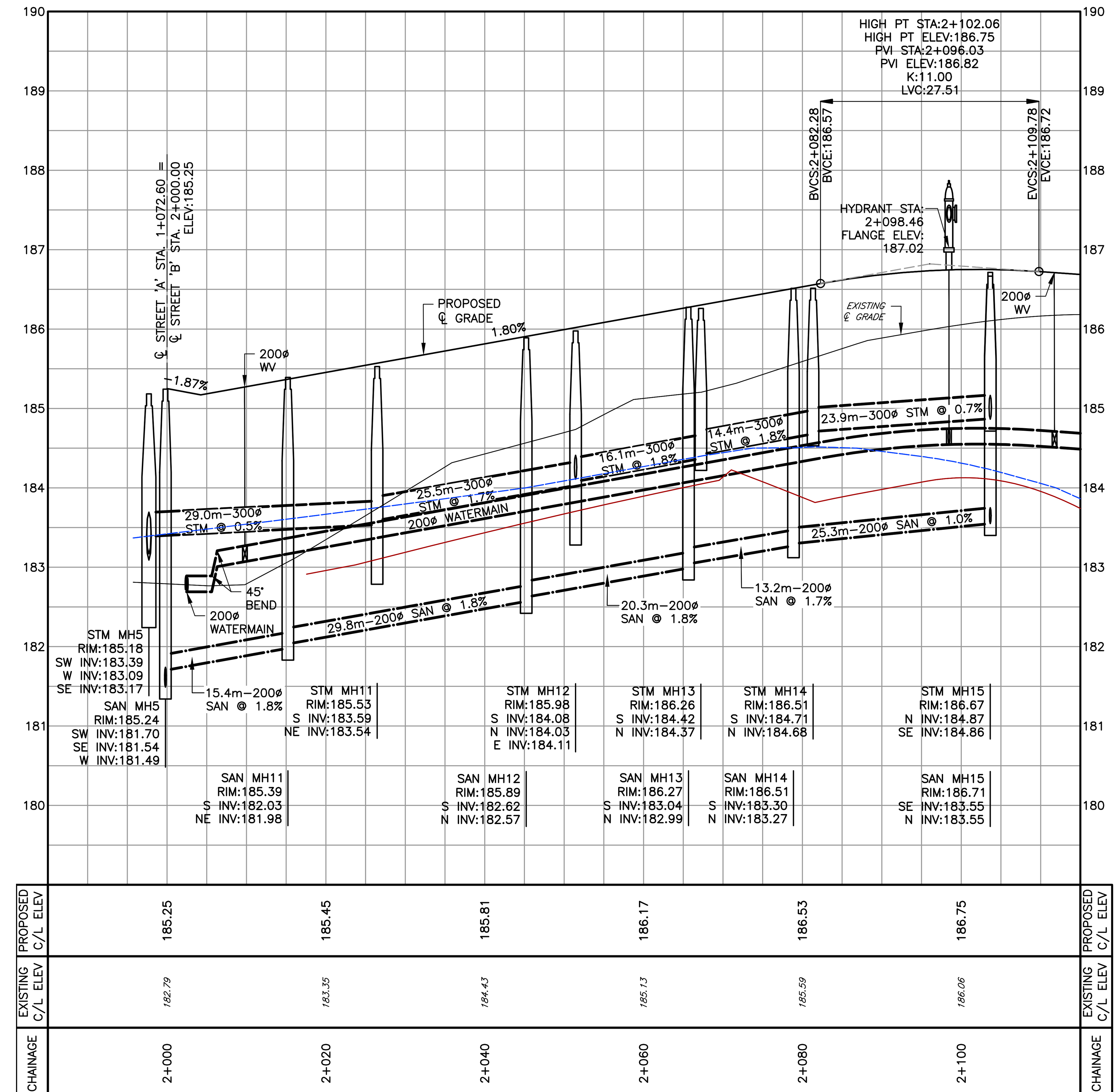

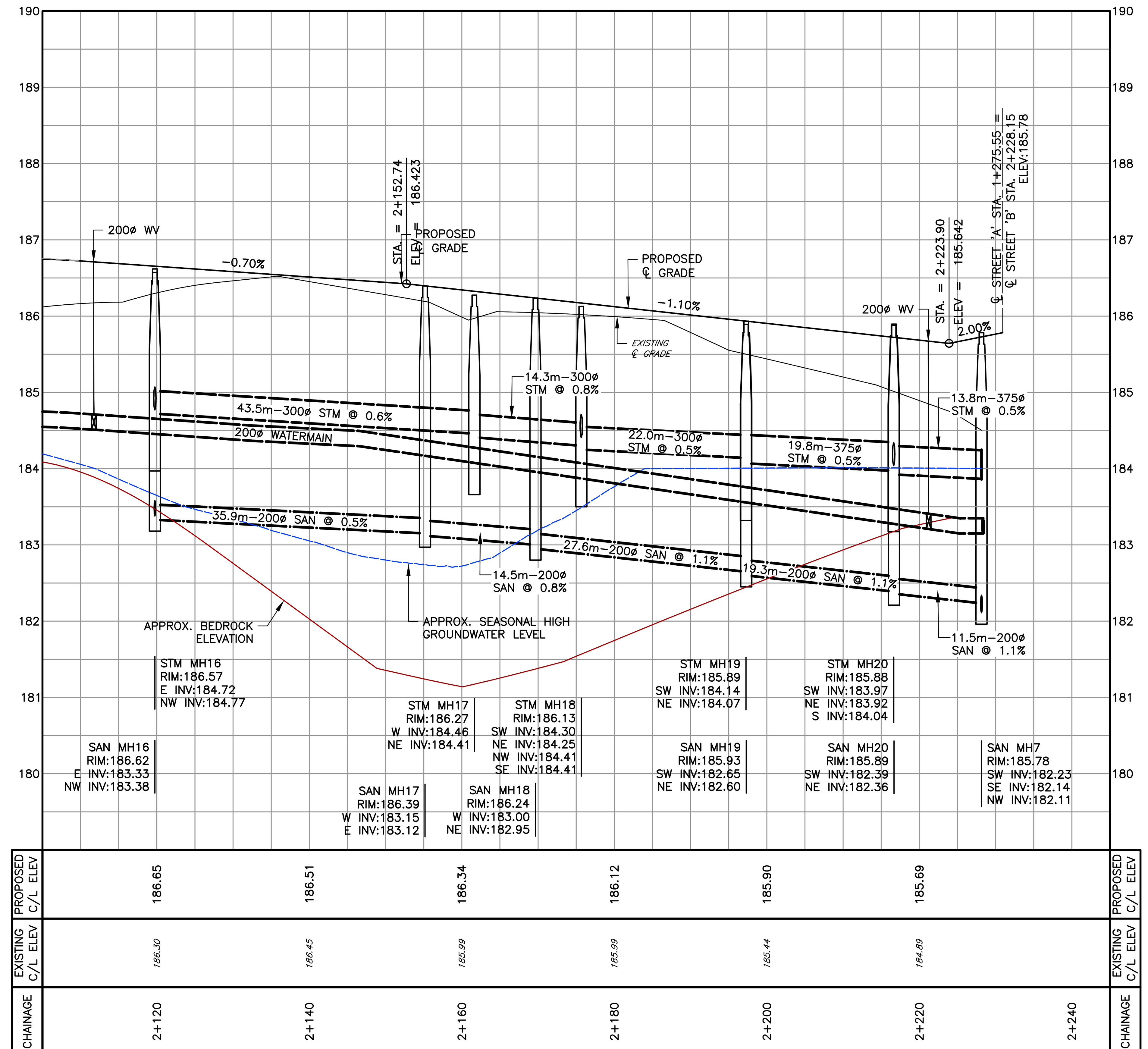

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ENGINEER STAMP

PRELIMINARY

372 GREY ROAD 21 - WEST
TOWN OF THE BLUE MOUNTAINS

TATHAM ENGINEERING

PLAN & PROFILE
STREET B
STA. 2+000 TO STA. 2+228

DESIGN: AP/LG	FILE: 121088	DWG:	PP.3
DRAWN: AP/LG	DATE: APR 2026		
CHECK: JRA/RS	SCALE: H: 1:500 V: 1:50		

Drawing Name: 121088-PP01.dwg, Plotted: Jul 03, 2026