420 and 468 South Service Road East, Oakville, Ontario

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Hydrogeological Investigation

Client:
420 South Service Limited Partnership
156 Duncan Mill Road, Suite 12, Toronto, ON M3B 3N2

Attention: Mr. Amir Hazar, P.Eng., M.Eng.

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EXP Services Inc.
1595 Clark Boulevard
Brampton, ON, L6T 4V1
t: 905.793.9800
f: 905.793.0641

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1 Introduction

1.1 Project Description

EXP Services Inc. (EXP) was retained by 420 South Service Limited Partnership. to prepare a Hydrogeological Investigation Report associated with the proposed development located at 420 and 468 South Service Road East, Oakville, Ontario (hereinafter referred to as the 'Site').

The Site is located on the south side of South Service Road East, approximately 260 metres (m) west of Chartwell Road in Oakville, Ontario. The Site measures approximately 11.4 hectares (28.26 acres) in area and is currently vacant, aside from a portion of the former General Electric building located along the northern portion of the Site which was designated as historically significant, and the foundations of the former buildings are still in place. In addition, there are five areas on-Site where stockpiles were observed, and a berm was located in the southeast portion of the Site.

It is our understanding that the client has recently purchased the site. The proposed development plan is expected to consist of three blocks (1, 2, and 4), each containing a 4-storey podium structure with four or six high-rise tower and a three (3) or four (4) levels of underground parking garage. The blocks would be separated by arterial and collector roads and would include internal driveways and public spaces. The Site location plan is shown on Figure 1.

EXP conducted a Preliminary Geotechnical Investigation and Phase 1 Environmental Site Assessment (ESA) in conjunction with this investigation. The pertinent information gathered from the noted investigations is utilized for this report.

1.2 Project Objectives

The main objectives of the Hydrogeological Investigation are as follows:

- Establish the local hydrogeological settings within the Site;
- Assess construction flow rates and potential impacts;
- Assess groundwater quality; and
- Prepare a Hydrogeological Investigation Report.

1.3 Scope of Work

To achieve the investigation objectives, EXP has completed the following scope of work:

- Reviewed available geological and hydrogeological information for the Site;
- Review private water supply wells on Site within 500 m of the Site (MECP database searches);
- Developed and conducted Single Well Response Tests (SWRT) on twelve (12) monitoring wells to evaluate hydraulic conductivities of the saturated stratigraphic units at the Site;
- Collected one (1) groundwater sample for laboratory testing of the Regional Municipality of Halton/City of Oakville Sanitary and Storm Sewer Use By-Law;
- Evaluated the information collected during the field investigation program, including borehole geological information, Water Well Records (WWR), SWRT results, groundwater level measurements and groundwater water quality;

- Prepared site plans, cross sections, geological mapping and groundwater contour mapping for the Site;
- Estimate construction dewatering flow rates;
- Assess potential impacts and recommend mitigation measures, and
- Prepare a Hydrogeological Investigation Report

The Hydrogeological Investigation was prepared in accordance with the Ontario Water Resources Act, Ontario Regulation 387/04, Halton Sanitary & Combined Sewer bylaw (2-03) and The Town of Oakville Storm Sewer bylaw (2009-031). The scope of work outlined above was made to assess dewatering and did not include a review of Environmental Site Assessments (ESA).

1.4 Review of Previous Reports

The following reports were reviewed as part of this Hydrogeological Investigation:

- EXP Services Inc. (September 2024), Preliminary Geotechnical Investigation, 420 and 468 South Service Road East, Oakville, ON, prepared for Rose Acquisition Corporation.
- EXP Services Inc. (February 2024), Phase 1 Environmental Site Assessment, 420 and 468 South Service Road East, Oakville, ON, prepared for Rose Acquisition Corporation.
- EXP Services Inc. (October 2023), Soil and Groundwater Sampling and Chemical Testing Program, 420 and 468 South Service Road East, Oakville, ON, prepared for Rose Acquisition Corporation.

Any past and/or future geotechnical, hydrogeological, environmental and risk assessments, and updated development/architectural plans should be provided to update this hydrogeological report prior to submission of permits and approvals by the municipalities and agencies.

2 Hydrogeological Setting

2.1 Regional Setting

2.1.1 Regional Physiography

The Site is within a physiographic region known as the Iroquois Plain. The physiographic landform is named Shale Plains. The South Slope lies to the north of the Iroquois Plain (Chapman & Putnam, 2007).

The Iroquois Plain was created along the shores of former Lake Iroquois, an ancient glacial lake. The noted Plain primarily consists of shallow water sandy deposits.

The topography of the Iroquois Plain is relatively flat with a gradual slope to the south and southwest, toward Sixteen Mile Creek and Lake Ontario.

2.1.2 Regional Geology and Hydrogeology

The surficial geology can be described as a mixture of coarse-textured Glaciolacustrine deposits and Paleozoic Bedrock (Ministry of Northern Development and Mines, 2012). The surficial geology of the Site and surrounding areas is shown on Figure 2.

Based on the available regional geology maps, the subsurface stratigraphy of the Site from top to bottom is summarized in Table 2-1 (TRCA, 2008 and Oak Ridge Moraine Groundwater Program, 2023). The overburden thickness is approximately 2.1 m.

Table 2-1: Summary of Subsurface Stratigraphy

Stratigraphic Unit	General Description	Top Elevation of Stratigraphic Unit
Surficial geology	This lithologic unit is fine textured glaciolacustrine deposits typically consists of silt and clay, minor sand and gravel, interbedded silt and clay and gritty, pebbly flow till and rain out deposits	106.3
Newmarket Till (Aquitard)	This lithologic unit mainly consist of a massive and dense silty sand unit.	105.9
Georgian Bay Formation	Bedrock primarily consists of interbedded shale, limestone, dolostone and siltstone. It belongs to the Upper Ordovician, (Ministry of Northern Development and Mines, 2012).	104.2

Regional groundwater across the area flows southwesterly towards Sixteen Mile Creek and Lake Ontario (Oak Ridge Moraine Groundwater Program, 2023). Local deviation from the regional groundwater flow pattern may occur in response to changes in topography and/or soils, as well as the presence of surface water features and/or existing subsurface infrastructure.

2.1.3 Existing Water Well Survey

Water Well Records (WWRs) were compiled from the database maintained by the Ministry of the Environment, Conservation and Parks (MECP) and reviewed to determine the number of water wells documented within a 500-m radius of the Site boundaries. The locations of the MECP WWRs within 500 m of the Site are shown on Figure 3. A summary of the WWR is included in Appendix A.

The MECP WWR database indicates that one hundred seventy-eight (178) records within a 500 m radius from the Site centroid where fifteen (15) well record is identified onsite (Figure 3 and Appendix A). Well distances are calculated relative to the Site centroid, therefore some distances in Appendix A exceed 500 m.

The database indicates that the offsite wells are at an approximate distance of two hundred (200) m or greater from the Site centroid. All offsite wells were reportedly identified as monitoring and observation wells, test holes, water supply wells, abandoned and/or listed with unknown use.

The Well Identification Number (Well ID No.) of the only offsite water supply well is 2802363 where it is reportedly located 581 m from the Site centroid. Two onsite water supply wells, 2802420 and 2802421, are reported located 147 and 159 m from the Site centroid respectively.

The reported water levels ranged from depths of 1.3 m to 16.8 meters below ground surface (mbgs).

Based on the year of installation of the water supply wells (between 1949 and 1954) and since the area is municipally serviced, it is unlikely that the noted water supply wells are still active.

2.2 Site Setting

2.2.1 Site Topography

The Site is in an urban land use setting. The topography is considered relatively flat with a regional gradual south-southeasterly slope towards Sixteen Mile Creek and Lake Ontario.

As indicated on the borehole logs included in Appendix B, the surface elevation of the Site ranges between approximately 101.13 to 105.76 meters above sea level (masl).

2.2.2 Local Surface Water Features

The Site is within the West Lake Ontario Shoreline. No Surface water features exist onsite. .The nearest surface water features include Morrison Creek and Sixteen Miles Creek, located about 300 meters northeast and 1,150 meters southwest of the Site boundary respectively. Lake Ontario is approximately 2.3 km from the Site boundary to the southeast

2.2.3 Local Geology and Hydrogeology

A summary of subsurface soil stratigraphy is provided in the following paragraphs. The soil descriptions are based on the geotechnical investigation report (EXP, March 2023). They are summarized for the hydrogeological interpretations. As such, the information provided in this section shall not be used for construction design purposes.

Details of the subsurface conditions encountered during the drilling program are summarized on the borehole logs in Appendix B. The logs include textural descriptions of the subsoil and groundwater conditions and indicate the soil boundaries inferred from non-continuous sampling and observations during drilling. These boundaries reflect approximate transition zones for the purpose of geotechnical design and should not be interpreted as exact planes of geological change. The "Notes on Sample Description" preceding the borehole logs form an integral part of and should be read in conjunction with this report.

Soil Stratigraphy

The previous investigations generally encountered an upper layer of variable fill material overlying native clayey silt till, with shallow bedrock; this was consistent with the findings of the EXP investigation, which are further detailed in the subsections below.

Asphalt, Concrete, Granular Fill

The boreholes were each advanced through surficial asphalt, concrete, and/or granular fill. Asphalt was encountered at Boreholes MW-312, MW-315, MW-317, MW-320, and MW-324 and ranged in thickness from 25 to 100 mm. Concrete was encountered at Boreholes MW-319 and MW-325 with thicknesses of 75 and 140 mm, respectively. Granular fill was encountered at all boreholes (except MW-319, MW-325, and MW-326) at the ground surface or below the asphalt or concrete and ranged in thickness from 50 to 350 mm.

Fill/Reworked Native Soil

A layer of fill or reworked native soil was encountered below the pavement structure at all boreholes except MW-314 and MW-315 and extended to depths ranging from 0.8 to 3.1 m below grade. The fill was variable and consisted of silty clay, silty sand, sand, or sand and gravel, and traces of deleterious materials (rootlets/organics or asphalt); the colours comprised brown, grey, dark grey, or black; the moisture condition ranged from damp to wet.

Sand

A native sand stratum was encountered at Borehole MW-315 below the pavement structure, extending to a depth of approximately 2.0 m. The sand contained traces of silt and occasional silt seams; was brown in colour; and in a very moist state. Based on SPT N values ranging from 12 to 21 blows per 305 mm of penetration, the stratum is classified as compact.

Silty Clay Till

Silty clay till was encountered at all boreholes below the pavement structure or fill and extended to the bedrock surface or borehole termination at depths ranging from 2.3 to 3.8 m. The stratum contained traces of sand, gravel, and shale fragments; was brown to grey in colour; and in a damp to moist state. SPT N values ranged from 17 to greater than 100 blows per 305 mm penetration. Based on undrained shear strengths ranging from 75 kPa to greater than 225 kPa as determined by pocket penetrometer measurements, the silty clay till is classified as stiff to hard in consistency.

Bedrock

All boreholes (except MW-326) were augered into the weathered shale bedrock. The bedrock surface was encountered at depths ranging from 2.3 to 4.0 m as detailed in the table below. The bedrock contact elevations should not be interpreted as the exact planes of the bedrock surface since the auger will frequently penetrate some distance into the weathered rock before noticeable resistance is encountered. Further, the distinction between highly weathered shale and the overlying stratum, particularly if the latter contains abundant shale fragments, is not always clear and consequently, some of the soil resting on the surface of the bedrock might be very weak and highly weathered shale.

Based on the Ontario Geological Survey (OGS) Map 2544, Bedrock Geology of Ontario, Southern Sheet, the bedrock in the site vicinity consists of grey shale of the Georgian Bay Formation. In general, the upper portion of the Georgian Bay Shale bedrock is usually highly weathered to weathered in the upper layers, generally to depths of about 500 mm to 1.5 m and occasionally the highly weathered/fractured zones can extend to more than 3 m depth. The degree of weathering and presence of silty clay till layers were inferred by auger resistance and limited split spoon samples. Hard limestone lenses are also common within the shale and have been encountered by EXP at various sites in Oakville.

The borehole and monitoring well locations are shown on Figure 4. Geological cross-sections were generated based on the available borehole logs completed as part of the previous and current investigations and shown on Figure 5A (Cross section A-

A') and on Figure 5B (Cross section B-B'). The cross section shows a simplified representation of soil conditions and soil deposits may be interconnected differently than represented. Borehole logs used to generate both cross-sections are provided in Appendix B.

3 Results

3.1 Monitoring Well Details

The monitoring well network was installed as part of the Geotechnical and Environmental Investigations at the Site. It consists of the following:

- Ten (10) deep bedrock monitoring well (MW308D, MW320D, MW332D, MW333, MW334, MW335, MW336, MW337, MW338, and MW339) were installed.

The diameter of all monitoring wells is 50 mm. All wells were installed with a monument protective casing, except MW320D, MW334, NW335 and MW336, which were installed with flush mount protective casing. Borehole logs and monitoring well installation details are provided in Appendix B. The monitoring well locations are shown on Figure 4.

3.2 Water Level Monitoring

As part of the Hydrogeological Investigation, static water levels in the monitoring wells installed outside of the existing building were recorded in three (3) monitoring events, including August 26, 27 and 29 of 2024. A summary of all static water level data in overburden, shallow and deep bedrock monitoring wells as it relates to the elevation survey is given in Table 3-1, 3-2 and 3-3 below.

The groundwater elevation recorded in the overburden wells ranged from 100.0 masl (1.13 mbgs at MW308S on August 29, 2024) to 103.55 masl (1.31 mbgs at MW301 on August 27, 2024). The groundwater elevation recorded for the shallow bedrock wells ranged from 98.81 masl (2.32 mbgs at MW308I on August 24 and 29, 2024) to 102.90 masl (2.81 mbgs at MW119A on August 27, 2024). The groundwater elevation recorded for the deep bedrock wells ranged from 94.70 masl (6.43 mbgs at MW308D on August 29, 2024) to 101.73 masl (4.03 mbgs at MW333 on August 26, 2024).

Table 3-1: Summary of Measured Overburden Groundwater Elevations

Monitoring Well ID	Ground Surface Elevation (masl)	Approximate Full Well Depth (mbgs)	Minimum GW Elevation (masl)	Maximum GW Elevation (masl)	Depth	26-Aug-24	27-Aug-24	29-Aug-24
MW301	104.86	2.83	103.52	103.55	mbgs	-	1.31	1.34
					masl	-	103.55	103.52
MW307	101.57	2.52	100.86	100.92	mbgs	-	0.65	0.71
					masl	-	100.92	100.86
MW310	101.82	2.71	100.44	100.47	mbgs	-	1.35	1.38
					masl	-	100.47	100.44
MW308S	101.13	2.35	100.00	100.01	mbgs	-	1.12	1.13
					masl	-	100.01	100.00
MW332S	105.70	4.04	102.59	102.74	mbgs	2.96	2.96	3.11
					masl	102.74	102.74	102.59

Table 3-1: Summary of Measured Shallow Bedrock Groundwater Elevations

Monitoring Well ID	Ground Surface Elevation (masl)	Approximate Full Well Depth (mbgs)	Minimum GW Elevation (masl)	Maximum GW Elevation (masl)	Depth	26-Aug-24	27-Aug-24	29-Aug-24
MW302	104.99	6.90	102.71	102.77	mbgs	-	2.22	2.28
					masl	-	102.77	102.71
MW304	104.27	7.08	101.66	101.66	mbgs	-	2.61	2.61
					masl	-	101.66	101.66
MW309	101.82	7.10	99.92	99.96	mbgs	-	1.86	1.90
					masl	-	99.96	99.92
MW119A	105.71	7.07	102.85	102.90	mbgs	-	2.81	2.86
					masl	-	102.90	102.85
MW308I	101.13	6.59	98.81	98.81	mbgs	-	2.32	2.32
					masl	-	98.81	98.81

Table 3-3: Summary of Measured Deep Bedrock Groundwater Elevations

Monitoring Well ID	Ground Surface Elevation (masl)	Approximate Full Well Depth (mbgs)	Minimum GW Elevation (masl)	Maximum GW Elevation (masl)	Depth	26-Aug-24	27-Aug-24	29-Aug-24
MW308D	101.13	12.92	94.70	95.09	mbgs	-	6.04	6.43
					masl	-	95.09	94.70
MW320D	102.79	12.87	96.06	96.14	mbgs	6.65	6.73	6.67
					masl	96.14	96.06	96.12
MW332D	105.70	13.22	99.73	99.80	mbgs	5.9	5.94	5.97
					masl	99.80	99.76	99.73
MW333	105.76	13.11	101.60	101.73	mbgs	4.03	4.16	4.07
					masl	101.73	101.60	101.69
MW334	104.21	13.11	96.79	96.81	mbgs	7.42	7.40	7.41
					masl	96.79	96.81	96.80
MW335	104.21	12.17	98.64	98.68	mbgs	5.57	5.53	5.55
					masl	98.64	98.68	98.66
MW336	102.24	12.87	95.53	95.58	mbgs	6.66	6.70	6.71
					masl	95.58	95.54	95.53
MW337	103.98	14.24	96.67	97.01	mbgs	6.97	7.23	7.31
					masl	97.01	96.75	96.67
MW338	103.87	14.29	96.42	96.80	mbgs	7.18	7.52	7.56
					masl	96.80	96.46	96.42
MW339	105.72	14.00	99.09	99.47	mbgs	6.63	6.27	6.25
					masl	99.09	99.45	99.47

Three (3) maps were created for the Site to show groundwater contours of the overburden, shallow and deep bedrock water-bearing zones (Figures 6A, 6B and 6C). Accordingly, the groundwater flow directions in the shallow overburden, shallow and deep bedrock are interpreted to be south and southwest of the Site, towards Morrison Creek.

For the design of foundations without perimeter and foundation drainage systems, shallower wells need to be considered to evaluate the shallow groundwater table. The hydrogeologist needs to be consulted during the design process.

Groundwater levels are expected to show seasonal fluctuations and vary in response to prevailing climate conditions. This may also affect the direction and rate of flow. It is recommended to conduct seasonal groundwater level measurements to provide more information on seasonal groundwater level fluctuations.

3.3 Hydraulic Conductivity Testing

3.3.1 Single Well Response Tests

Ten (10) Single Well Response Tests (SWRT's) were completed on monitoring wells MW308D, MW320D, MW332D, MW333, MW334, MW335, MW336, MW337, MW338, and MW339 on August 27, 2024. The tests were completed to estimate the saturated hydraulic conductivity (K) of the soils at the well screen depths utilizing data loggers, preprogramed to take measurement on (time in sec/ half sec/minutes) intervals.

The static water level within each monitoring well was measured prior to the start of testing. In advance of performing SWRTs, each monitoring well underwent development to remove fines introduced into the screens following construction. The development process involved purging of the monitoring wells to induce the flow of fresh formation water through the screen. Each monitoring well was permitted to fully recover prior to performing SWRTs.

Hydraulic conductivity values were calculated from the SWRT and constant rate test data as per Hvorslev's solution included in the Aqtesolv Pro. V.4.5 software package. The semi-log plots for normalized drawdown versus time are included in Appendix C.

A summary of the hydraulic conductivities (K-values) estimated from the SWRTs are provided in Table 3-2.

Table 3-2: Summary of Hydraulic Conductivity Testing

Monitoring Well	Approximate Well Depth (mbgs)	Screen Interval (mbgs)		Soil Formation Screened	Estimated Hydraulic Conductivity (m/s)
		from	to		
MW308D	12.92	9.92	12.92	Bedrock	7.9E-08
MW320D	12.87	9.87	12.87	Bedrock	4.2E-07
MW332D	13.22	10.22	13.22	Bedrock	7.3E-07
MW333	13.11	10.11	13.11	Bedrock	8.0E-06
MW334	13.11	10.11	13.11	Bedrock	7.1E-06
MW335	12.17	9.17	12.17	Bedrock	2.3E-06
MW336	12.87	9.87	12.87	Bedrock	1.6E-06
MW337	13.07	10.07	13.07	Bedrock	2.3E-06
MW338	13.15	10.15	13.15	Bedrock	3.3E-07
MW339	13.06	10.06	13.06	Bedrock	9.5E-08
				Highest Estimated K Value	8.0E-06
				Arithmetic Mean of Estimated K Values for Bedrock	2.3E-06
				Geometric Mean of Estimated K Values for Bedrock	9.0E-07

SWRTs provide K-estimates of the geological formation surrounding the well screens and may not be representative of bulk formation hydraulic conductivity. As shown in Table 3-2, the highest K-value of the tested water-bearing zone is 8.0E-06 m/s, and the arithmetic and geometric mean of the K-values are 2.3E-06 m/s and 9.0E-07 m/s respectively.

3.3.2 Pumping Test

EXP conducted a short constant-rate pumping test at MW332D on August 29, 2024 where drawdown at the pumping well was monitored, followed by a recovery period until the well reach static conditions. The purpose of the pumping test was to determine the hydraulic properties of the bedrock. The locations of the pumping well and the monitoring wells are presented in Figure 4.

The static water level in MW332D prior to the commencement of pumping phase was at a depth of 13.22 mbgs, corresponding to a static water column head of 5.92 m above the screened interval. MW332D equipped with an electronic datalogger programmed at 1 second intervals; additionally, water levels were also taken manually. The data was subjected to barometric compensation to resolve background atmospheric pressure fluctuations before use in hydrographs and curve-fitting pump test analyses.

MW332D was pumped at a rate of 0.26 L/min until maximum available drawdown was reached at 3,614 seconds (approximately 60 mins). To prevent the water level in the well from being lowered to the pump intake, the pump was shut off and recovery period was initiated at 3,614 seconds. The well recovered to 0.14 m below its initial water level (>90% recovery) and stabilized after approximately 60 mins into the recovery period.

The pump test data was analyzed using Aqtesolv Pro. V.4.5 software package. The semi-log plots showing drawdown versus time, as well as the results of detailed data analysis are included in Appendix D.

The maximum drawdown during the test was 1.33 m at MW332D. The Transmissivity of the bedrock, based on the confined Cooper-Jacob analytical solution, was 9.53E-07 m^2/s. The K-value of the bedrock (1.3E-07 m/s) is calculated based on Transmissivity and a uniform saturated aquifer thickness of 7.3 m, which is comparable to the SWRT results.

3.4 Groundwater Quality

To assess the suitability for discharging pumped groundwater into the sewers owned by the town of Oakville during dewatering activities, one (1) groundwater sample was collected from monitoring well MW332D on August 30, 2024 using a peristaltic pump. Prior to collecting the noted water sample, approximately three (3) standing well volumes of groundwater were purged from the referred well. The samples were collected unfiltered and placed into pre-cleaned laboratory-supplied vials and/or bottles provided with analytical test group specific preservatives, as required. Dedicated nitrile gloves were used during sample handling. The groundwater samples were submitted for analysis to Bureau Veritas Laboratory, a CALA certified independent laboratory in Mississauga, Ontario. Analytical results are provided in Appendix E.

Table 3-3 summarizes exceedance(s) of the Town of Oakville Storm (Table 1) and the Halton Sanitary and Combined (Table 2) Sewer Use By-Law parameters.

When comparing the chemistry of the collected groundwater samples to the Town of Oakville Storm Sewer Discharge Criteria (Table 1), there were no parameter exceedances to be reported

When comparing the chemistry of the collected groundwater samples to the Halton Sanitary and Combined Sewer Discharge Criteria (Table 2), the following parameters reported an exceedance: Total Manganese (Mn).

Reporting detection limits (RDLs) were below the Sewer Use By-Law parameter criteria of Tables 1 and 2.

Based on the environmental sampling, exceedances of O.Reg.153/04 were found in the overburden for PHCs and BTEX, VOCs, PAHs and metals and treatment should be planned to treat these parameters.

Based on Phase Two O. Reg. 153 groundwater check, there were no parameter exceedances against the Town of Oakville Storm Sewer Drainage Discharge Criteria (Table 1).

Based on Phase Two O. Reg. 153 groundwater check, there were no parameter exceedances against the Halton Sanitary and Combined Sewer Discharge Criteria (Table 2).

Table 3-3: Summary of Analytical Results

Parameter	Units	The Town of Oakville Stormer Sewer Discharge Limit (Table1)	Halton Sanitary and Combined Sewer Discharge Limit (Table 2)	Concentration MW332D August 30, 2024
Total Manganese (Mn)	µg/L	5,000	50	**180**

Bold – Exceeds Halton Sanitary and Combined Sewer Discharge Limit (Table 2).
Bold & underlined – Exceeds The Town of Oakville Storm Sewer Discharge Limit (Table 1).

For the short-term dewatering system (construction phase), it is anticipated that TSS levels and some other parameters (for example, Total Metals) in the pumped groundwater may become elevated and exceed both, Sanitary and Storm Sewer Use By-Law limits. To control the concentration of TSS and associated metals, it is recommended that a suitable treatment method be implemented (filtration or decantation facilities and/ or any other applicable treatment system) during construction dewatering activities to discharge to the applicable sewer system. The specifications of the treatment system will need to be adjusted to the reported water quality results by the treatment contractor/process engineer.

For the long-term dewatering discharge to the sanitary sewer system (post-development phase) and based on the water quality test results, the water is suitable to be discharged without a treatment system.

For the long-term dewatering discharge to the storm sewer system (post-development phase) and based on the water quality results, it is recommended to implement a suitable pre-treatment, as required.

The water quality results presented in this report may not be representative of the long-term condition of groundwater quality onsite. As such, regular water quality monitoring is recommended for the post-construction phase, as required by the City.

An agreement to discharge into the sewers owned by the The Town of Oakville will be required prior to releasing dewatering effluent.

The Environmental Site Assessment Report(s) shall be reviewed for more information on the groundwater quality conditions at the Site.

4 Dewatering Assessment

The dimensions of the three (3) proposed development blocks (1, 2, and 4, see Appendix G) to support the dewatering assessment are summarized in Table 4-1 below.

Table 4-1 Building Dimensions for Dewatering Assessment

Input Parameter	Block 1	Block 2	Block 4	Units	Notes
Number of Subgrade Levels	3 Levels	3 Levels	4 Levels	-	Based on architectural drawings (Graziani and Corazza Architect, 2024) Cross Section (Drawing No. A501)
Ground Elevations	105.76	104.99	103.98	masl	Based on the ground elevations of the nearest boreholes /Monitoring wells
Groundwater Elevation	103.74	103.77	102.5	masl	Highest shallow groundwater elevation measured at the nearest monitoring wells plus 1 m
Top of Slab Elevation	95	95	92	masl	Based on architectural drawings (Graziani and Corazza Architect, 2024) Cross Section (Drawing No. A501)
Lowest Footing Elevation	93.5	93.5	90.5	masl	Assumed to be approximately 1.5 m below the top of slab elevation
Short-Term Dewatering Elevation Target	92.5	92.5	89.5	masl	Assumed to be one (1) meter below the lowest foundation elevation.
Long-Term Dewatering Elevation Target	94.5	94.5	91.5	masl	Assumed to be 0.5 m below the lowest top slab elevation
Excavation Area (Length x Width)	16,964 (135.6 x 125.3)	15,166 (138.5 x 109.5)	10,227 (114.8 x 89.1)	m^2 (m x m)	Approximate area (length x width) of Site for the proposed development

4.1 Dewatering Flow Rate Estimate and Zone of Influence

The Dupuit-Forcheimer equation for radial flow to both sides of an excavation through an unconfined aquifer resting on a horizontal impervious surface was used to obtain a flow rate estimate. Dewatering flow rate is expressed as follows:

$$Q_w = \frac{\pi K(H^2 - h^2)}{Ln\left[\frac{R_o}{r_e}\right]}$$

$$r_e = \frac{a+b}{\pi} \qquad R_o = R_{cj} + r_e$$

Where:

Qw = Rate of pumping (m^3/s)
X = Length of excavation (m)
K = Hydraulic conductivity (m/s)
H = Hydraulic head beyond the influence of pumping (static groundwater elevation) (m)
h = Hydraulic head above the base of aquifer in an excavation (m)
R_0 = Radius of influence (m)
R_{cj} = Cooper-Jacob's radius of influence (m)
r_e = Equivalent perimeter (m)
a = Length of the excavation area (m)
b = Width of the excavation area (m)

It is expected that the initial dewatering rate will be higher to remove groundwater from within the overburden formation. The dewatering rates are expected to decrease once the target water level is achieved in the excavation footprint as groundwater will have been removed, primarily from storage, resulting in lower seepage rates into the excavation.

4.2 Cooper-Jacob's Radius of Influence

The radius of influence (Rcj) for the construction dewatering was calculated based on Cooper-Jacob's equation. This equation is used to predict the distance at which the drawdown resulting from pumping is negligible.

The estimated radius of influence due to pumping is based on Cooper-Jacob's formula as follows:

$$\mathrm{R}_{cj} = \sqrt{2.25KDt/s}$$

Where:

Ro = Estimated radius of influence (m)
D = Aquifer thickness (original saturated thickness) (m)
K = Hydraulic conductivity (m/s)
S = Storage coefficient
t = Duration of pumping (s)

4.3 Stormwater

Additional pumping capacity may be required to maintain dry conditions within the excavation during and following significant precipitation events. Therefore, the dewatering rates at the Site should also include removing stormwater from the excavation.

A 25 mm precipitation event was utilized for estimating the stormwater volume. The calculation of the stormwater volume is included in Appendix F.

The estimate of the stormwater volume only accounts for direct precipitation into the excavation. The dimensions of the excavation are considered in the dewatering calculations. Runoff which originated outside of the excavation's footprint is excluded and it should be directed away from the excavation.

During precipitation events greater than 25 mm (ex: 100-year storm), measures should be taken by the contractor to retain stormwater onsite in a safe manner to not exceed the allowable water taking and discharge limits, as necessary. A two (2) and a one hundred (100) year storm event over a 24-hour period are 56.5 and 122.6 mm (refer to Appendix F).

4.4 Results of Dewatering Rate Estimates

4.4.1 Construction Dewatering Rate Estimate

For this assessment, it was assumed that the proposed construction plans include an excavation with shoring extending to the Site boundaries. EXP should be retained to review the assumptions outlined in this section, should the assumed shoring design change.

Short-term (construction) dewatering calculations are presented in Appendix F.

Pits (elevator, sump pits) are assumed to have the same excavation depth and dewatering target as the main excavation; deeper pits may require localized dewatering and revised dewatering estimates.

Based on the assumptions provided in this report, the results of the dewatering rate estimate can be summarized as follows:

Table 4-2 Summary of Construction Dewatering Rate

Parameters	Unit	Block 1	Block 2	Block 4
Dewatering Flow Rate without Safety Factor	m^3/day	82	80	76
Dewatering Flow Rate with Safety Factor of 2		165	161	152
Area	m^2	16,964	15,166	10,227
Precipitation (25 mm)	m^3	425	379	256
Dewatering Flow Rate with Safety Factor of 2 including 25 mm rain event.	m^3/day	590	540	407

The peak dewatering flow rates does not account for flow from utility beddings and variations in hydrogeological properties beyond those encountered during this investigation.

Local dewatering may be required for pits (elevator pits, sump pits), if these extend deeper than the dewatering target. Local dewatering is not considered to be part of this assessment. Dewatering estimates should be reviewed once the pit dimensions are available.

Local dewatering may be required for pits (elevator pits, sump pits, raft) and for localized areas with permeable, soft, or wet soil conditions. Local dewatering is not considered to be part of this assessment, but contractor should be ready to install additional system to manage such conditions. Dewatering estimates should be reviewed once the pit dimensions are available.

All grading around the perimeter of the excavation should be graded away from the shoring the systems and ramp/site access to redirect runoff away from excavation.

The dewatering assumptions are based on using shoring system without open cuts and sloped excavations.

If groundwater cutoff systems (ex: caisson walls, sheet piles) are installed, these should be designed for maximal hydrostatic pressure for shallow and deep water levels, without dewatering on the outer side of the groundwater cutoff. Soldier pile and lagging and caisson wall systems should be designed to account for shallow groundwater conditions and take into consideration that dewatering systems may not provide fully dewatered soil conditions.

If groundwater cutoff systems are used for decreasing long-term dewatering rates, these should be designed as permanent structures to cutoff groundwater inflow in the long-term. All perforations should be sealed permanently (ex: tiebacks, breaches, and cold joints) with no leakages and inspected. Fillers should extend into low permeability deposits (ex: sound bedrock or till) to cutoff groundwater from water bearing zones. Inspections should be conducted to confirm the depth of low permeability deposits along shoring system and that fillers are keyed into low permeability soil deposits.

All grading around the perimeter of the construction Site should be graded away from the shoring the system.

The contractor is responsible for the design of the dewatering systems (depth of wells, screen length, number of wells, spacing sand pack around screens, prevent soil loss etc.) to ensure that dry conditions are always maintained within the excavation at all costs.

Dewatering should be monitored using dedicated monitoring wells within and around the perimeter of the excavation, and these wells should be monitored using manual measurements and with electronic data loggers; records should be maintained on site to track dewatering progress. Discharge rates should be monitored using calibrated flow meters and records of dewatering progress, and daily precipitation as per MECP requirements should be maintained.

4.4.2 Post-Construction Dewatering Rate Estimate

It is our understanding that the development plan includes a permanent foundation sub-drain system that will ultimately discharge to the municipal sewer system if conventional footings are installed.

The long-term dewatering was based on the same equations as construction dewatering shown in Section 4.1.

The calculation for the estimated flow to the future sub-drain system (with no cutoff walls) is provided in Appendix F. The dewatering target for the foundation drainage system is taken at 0.5 m below the lowest slab elevation.

The foundation drain analysis provides a flow rate estimate. Once the foundation drain is built, actual flow rate measurements of the sump discharge will be required to confirm the estimated flow rate.

Based on the assumptions provided in this report, the estimated sub-drain discharge volumes are summarized in Appendix F. Seasonal and daily fluctuations are expected. These estimates may be affected by hydrogeological conditions beyond those

encountered at this time, fluctuations in groundwater regimes, surrounding Site alterations, and existing and future infrastructures.

For the design of foundations without perimeter and/or foundation drainage system, shallower wells need to be considered to evaluate the shallow groundwater table. The hydrogeologist needs to be consulted during the design process.

Table 4-3: Summary of Long-Term Dewatering Rate

Parameters	Unit	Block 1	Block 2	Block 4
Dewatering Flow Rate without Safety Factor	m^3/day	59	58	57
Dewatering Flow Rate with Safety Factor of 1.5		89	87	86

Intermittent cycling of sump pumps and seasonal fluctuation in groundwater regimes should be considered for pump specifications. A safety factor was applied to the flow rate to account for water level fluctuations due to seasonal changes.

These estimates assume that pits (elevator and/or sump pits) are made as watertight structures (without drainage), if their depths extend below the dewatering target, as previously stated.

The sub-drain rate estimate is based on the assumptions outlined in this report. Any variations in hydrogeological conditions beyond those encountered as part of this investigation may significantly influence the sub-drain discharge volumes.

4.5 MECP Water Taking Permits

4.5.1 Short-Term Discharge Rate (Construction Phase)

In accordance with the Ontario Water Resources Act, if the water taking for the construction dewatering is more than 50 m^3/day but less than 400 m^3/day , then an online registration in the Environmental Activity and Sector Registry (EASR) with the MECP will be required. If groundwater dewatering rates onsite exceed 400 m^3/day, a Category 3 Permit to Take Water (PTTW) will be required from the MECP.

As of July 1, 2021, an amendment of O. Reg. 63/16 has come into effect and replaced the former subsection 7 (5) such that the EASR water taking limit of 400 m^3/day would apply to groundwater takings of each dewatered work area only, excluding stormwater.

The dewatering estimates for all development blocks (i.e., 1, 2 and 4) including a safety factor of 2 are greater than 50 m^3/day and less than 400 m^3/day as shown in Table 4-2. The MECP construction dewatering rate excludes the precipitation amount and is the rate used for the permit application. Based on the MECP construction dewatering an EASR will be required to facilitate the construction dewatering program for each development block.

A Discharge Plan (dewatering sketch, sewer discharge agreement) must be developed and applied for any discharges from the Site. Monitoring of both water quantity and water quality must be carried out for the entire duration of the construction dewatering phase. During this phase, the Discharge Plan and the daily water taking records must be available onsite.

The PTTW/EASR, Discharge Plan, hydrogeological investigation report, and geotechnical assessment of settlements must also be available at the construction Site during the entire construction dewatering. EXP should be notified immediately about any changes to the construction dewatering schedule or design, since the EASR will need to be updated to reflect these modifications. Altogether, the hydrogeological report, EASR, Discharge Plan and geotechnical assessment constitute the Water Taking Plan which needs to be available onsite during the construction dewatering.

4.5.2 Long-Term Discharge Rate (Post Construction Phase)

In accordance with the Ontario Water Resources Act, if the water taking for the construction dewatering is more than 50 m^3/day, then an application for a Category 3 Permit to Take Water (PTTW) will be required from the MECP.

Based on the dewatering estimates for all development blocks (i.e., 1, 2, and 4) shown in Table 4-3 with a safety factor of 1.5 greater than 50 m^3/day, a Category 3 Permit to Take Water (PTTW) will be required to facilitate the post-development phase of each development block.

The safety factor for construction (short-term) dewatering is selected larger than for long-term to account for anticipated greater groundwater volumes during initial dewatering. The applied analytical formula is adequate for long-term (steady state) conditions as it omits specific yield and time dependency. When the formula is used for short-term conditions a larger safety factor is recommended to cover a larger initial dewatering rate, which is required to remove stored groundwater. Moreover, a large initial construction dewatering rate is favorable, as it supports reducing the time to reach the dewatering target elevation.

5 Environmental Impact

5.1 Surface Water Features

The Site is within the West Lake Ontario Shoreline. No surface water features exist onsite. .The nearest surface water features include Morrison Creek and Sixteen Miles Creek, located about 300 meters northeast and 1,150 meters southwest of the Site boundary respectively. Lake Ontario is approximately 2.3 km from the Site boundary to the southeast

Due to the limited extent of zone of influence and the wide distance to the nearest surface water feature, no detrimental impacts on surface water features are expected during construction activities.

5.2 Groundwater Sources

Well Records from the MECP Water Well Record (WWR) Database were reviewed to determine the presence and number of water supply wells within a 500 m radius of the Site boundaries. Given that the dewatering zone of influence is limited, no dewatering related impact is expected on the water wells in the area.

5.3 Geotechnical Considerations

As per the MECP technical requirement for PTTW and EASRs, the geotechnical assessment of the stability of the soils due to water taking (ex: settlement, soil loss, subsidence, etc.) is required. The water taking should not have unacceptable interference on soils and underground structures (foundations, utilities, etc.).

A letter related to geotechnical issues as it pertains to the Site is required to be completed under a separate cover.

5.4 Groundwater Quality

It is our understanding that the potential effluent from the dewatering system during the construction will be released to the municipal sewer system. As such, the quality of groundwater discharge is required to conform the The Town of Oakville Sewer Use By-Law.

Dewatering (short and long-term) may induce migration of contaminants within the zone of influence and beyond due to changing hydraulic gradients, hydrogeological conditions beyond Site boundaries and preferential pathways in utility beddings etc. The water quality sampling conducted as part of this assessment was performed under static conditions. As a result, monitoring may be required during dewatering activities (short and long-term) to monitor potential migration, and this should be performed more frequently during early dewatering stages.

For the Short-term (construction) discharge to the Sanitary/Storm sewer system (post-development phase) and based on the water quality results, it is recommended to implement a suitable pre-treatment, as required.

For the long-term (post construction) dewatering discharge to the storm sewer system (post-development phase) and based on the water quality results, it is recommended to implement a suitable pre-treatment, as required.

The water quality results presented in this report may not be representative of the long-term condition of groundwater quality onsite. As such, regular water quality monitoring is recommended for the post-construction phase as required by the City.

An agreement to discharge into the sewers owned by The Town of Oakville will be required prior to releasing dewatering effluent.

The Environmental Site Assessment Report(s) shall be reviewed for more information on the groundwater quality conditions at the Site.

5.5 Well Decommissioning

In conformance with Regulation 903 of the Ontario Water Resources Act, the installation and eventual decommissioning of any dewatering system wells or monitoring wells must be completed by a licensed well contractor. This will be required for all wells that are no longer in use.

6 Conclusions and Recommendations

Based on the findings of the Hydrogeological Investigation, the following conclusions and recommendations are provided:

- When comparing the chemistry of the collected groundwater samples to the Town of Oakville Storm Sewer Discharge Criteria (Table 1), there were no parameter exceedances to be reported.
- When comparing the chemistry of the collected groundwater samples to the Halton Sanitary and Combined Sewer Discharge Criteria (Table 2), the following parameters reported an exceedance: Total Manganese (Mn).
- Based on the assumptions outlined in this report, the estimated peak dewatering rate for proposed construction activities in development block 1, 2, and 4 are approximately 590 m^3/day, 540 m^3/day and 407 m^3/day respectively. These are the rates which will be required to be discharged to the municipal sewer system.
- The estimated MECP short-term (construction) dewatering rate for proposed construction activities in development block 1, 2 and 4 are approximately 165 m^3/day, 161 m^3/day and 152 m^3/day respectively . As these dewatering flow rate estimates are between 50 m^3/day and 400 m^3/day, an EASR will be required to facilitate the construction dewatering program for each development block.
- The estimated long-term (post-construction) dewatering rate for development blocks 1, 2 and 4 are estimated to be approximately 89 m^3/day , 87 m^3/day and 86 m^3/day respectively. A category 3 PTTW will be required to facilitate the post construction development phase for each Block as their long-term dewatering rates are above 50 m^3/day.
- The construction and post-construction dewatering rate estimates are based on the assumptions outlined in this report. Any variations in hydrogeological conditions beyond those encountered as part of this preliminary investigation may significantly influence the discharge volumes.
- For the short-term dewatering system (construction phase), it is anticipated that TSS levels and some other parameters (for example, Total Metals) in the pumped groundwater may become elevated and exceed both, Sanitary and Storm Sewer Use By-Law limits. To control the concentration of TSS and associated metals, it is recommended that a suitable treatment method be implemented (filtration or decantation facilities and/ or any other applicable treatment system) during construction dewatering activities to discharge to the applicable sewer system. The specifications of the treatment system will need to be adjusted to the reported water quality results by the treatment contractor/process engineer.
- For the long-term dewatering discharge to the sanitary sewer system (post-development phase) and based on the water quality test results, the water is suitable to discharge without a treatment system.
- For the long-term dewatering discharge to the storm sewer system (post-development phase) and based on the water quality results, it is recommended to implement a suitable pre-treatment as required.
- As per the MECP technical requirement for PTTW and EASRs, the geotechnical assessment of the stability of the soils due to water taking (ex: settlement, soil loss, subsidence etc.) is required. The water taking should not have unacceptable interference on soils and underground structures (foundations, utilities etc.). A letter related to geotechnical issues as it pertains to the Site is required to be completed under a separate cover.
- An agreement to discharge into the sewers owned by The Town of Oakville will be required prior to releasing dewatering effluent.
- The EASR registration allows construction dewatering discharge of up to 400 m^3/day. A Discharge Plan (dewatering sketch, sewer discharge agreement) must be developed and applied for any discharges from the Site. The Discharge Plan and monitoring for both water quantity and water quality must be carried at the Site during the entire construction dewatering phase. The daily water taking records must be maintained onsite for the entire construction dewatering phase. The EASR, Discharge Plan, hydrogeological investigation report, and geotechnical assessment of settlements must always also be available at the construction Site for the entire construction dewatering. EXP should be notified immediately about any changes to the construction dewatering schedule or design, since EASR will need to be updated to reflect these

modifications. The hydrogeological report, EASR, Discharge Plan and geotechnical assessment constitutes the Water Taking Plan which needs to be available onsite for the duration of construction dewatering.

- In conformance with Regulation 903 of the Ontario Water Resources Act, the installation and eventual decommissioning of any dewatering system wells or monitoring wells must be completed by a licensed well contractor. This will be required for all wells that are no longer in use.

The conclusions and recommendations provided above should be reviewed in conjunction with the entirety of the report. They assume that the present design concept described throughout the report will proceed to construction. This report is solely intended for the construction and long-term dewatering assessments. Any changes to the design concept may result in a modification to the recommendations provided in this report.

7 Limitations

This report is based on a limited investigation designed to provide information to support an assessment of the current hydrogeological conditions within the study area. The conclusions and recommendations presented within this report reflect Site conditions existing at the time of the assessment. EXP must be contacted immediately, if any unforeseen Site conditions are experienced during construction activities. This will allow EXP to review the new findings and provide appropriate recommendations to allow the construction to proceed in a timely and cost-effective manner.

Our undertaking at EXP, therefore, is to perform our work within limits prescribed by our clients, with the usual thoroughness and competence of the geoscience/engineering profession. No other warranty or representation, either expressed or implied, is included or intended in this report.

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We trust that this information is satisfactory for your purposes. Should you have any questions or comments, please do not hesitate to contact this office.

Sincerely,

EXP Services Inc.

Hammond Lo, M.Eng., P.Eng.
Senior Hydrogeologist
Environmental Services

Francois Chartier, M.Sc., P.Geo.
Discipline Manager, Hydrogeology
Environmental Services

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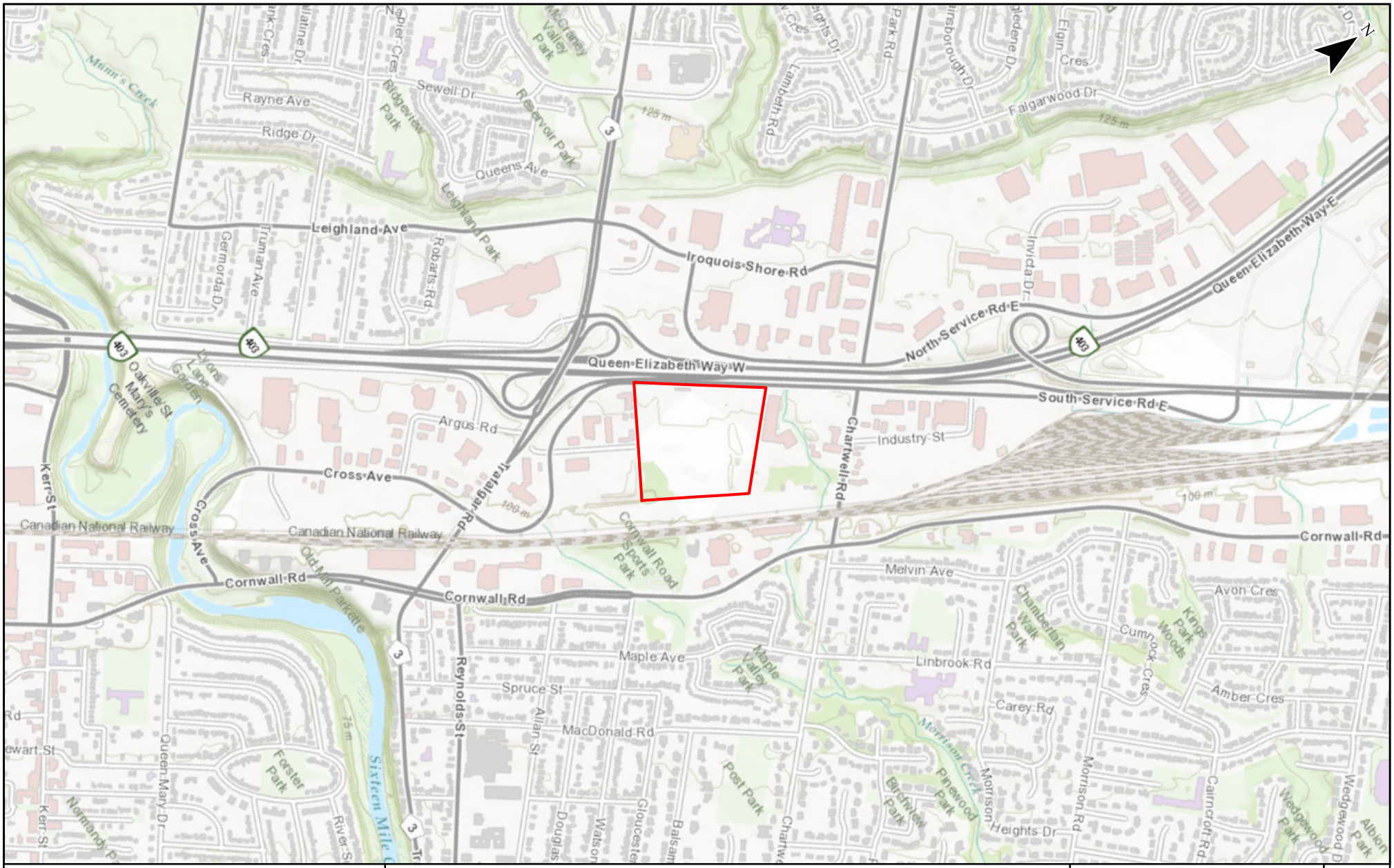
Figures



SCALE:

0 150 300 450 600 750 m

LEGEND:

APPROXIMATE SITE BOUNDARY

SITE LOCATION PLAN

FIGURE: 1

HYDROGEOLOGICAL INVESTIGATION
420 & 468 SOUTH SERVICE ROAD
OAKVILLE, ONTARIO

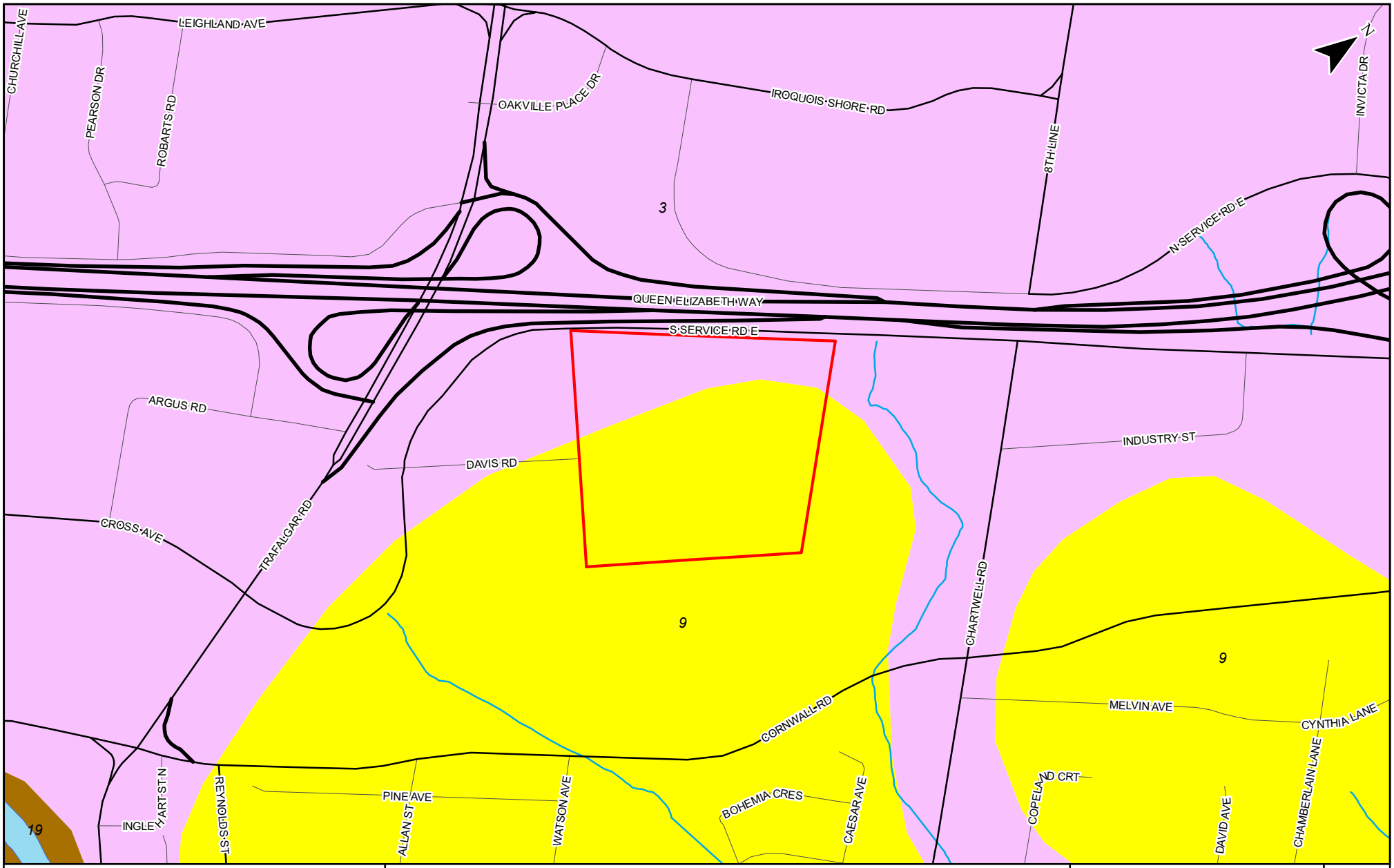
exp.

DRAWN BY: AC

CHECKED BY: HL

PROJECT NUMBER: GTR-23006348-D0

DATE: AUGUST 2024



SCALE:

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SOURCE:

BASED ON ONTARIO GEOLOGICAL SURVEY DATA PUBLISHED IN 2010

exp.

DRAWN BY:	CHECKED BY:
AC	HL

LEGEND:

- APPROXIMATE SITE BOUNDARY
- 19: MODERN ALLUVIAL DEPOSITS
- 9: COARSE-TEXTURED GLACIOLACUSTRINE DEPOSITS
- 3: PALEOZOIC BEDROCK

SURFICIAL GEOLOGY

FIGURE: 2

HYDROGEOLOGICAL INVESTIGATION
420 & 468 SOUTH SERVICE ROAD
OAKVILLE, ONTARIO

PROJECT NUMBER: GTR-23006348-D0

DATE: AUGUST 2024

SCALE:
0 100 200 300 400 500 m

SOURCE:
BASED ON GOOGLE EARTH IMAGERY DATED 2023,
AVAILABLE WELL RECORD INFORMATION AS OF JUNE 2023

exp.

DRAWN BY:	CHECKED BY:
AC	HL

LEGEND:

- MONITORING WELL / TEST HOLE
- WATER SUPPLY WELL
- ABANDONED WELL
- UNCLASSIFIED / UNFINISHED WELL
- APPROXIMATE SITE BOUNDARY
- 500 m ZONE

MECP WATER WELL RECORDS MAP

FIGURE: 3

HYDROGEOLOGICAL INVESTIGATION
420 & 468 SOUTH SERVICE ROAD
OAKVILLE, ONTARIO

PROJECT NUMBER: GTR-23006348-D0 | DATE: AUGUST 2024

EXP Services Inc.

t: +1.905.793.9800 | f: +1.905.793.0641
1595 Clark Boulevard
Brampton, ON L6T 4V1
Canada
www.exp.com

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0 20 40 60 80 100 m

LEGEND:

- APPROXIMATE SITE BOUNDARY
- CROSS SECTION AXIS
- BOREHOLE / MONITORING WELL (EXP, 2024)

TITLE AND LOCATION:

BOREHOLE / MONITORING WELL LOCATION PLAN

HYDROGEOLOGICAL INVESTIGATION
420 & 468 SOUTH SERVICE ROAD
OAKVILLE, ONTARIO

PROJECT NO.:	DWN:
GTR-23006348-D0	JA
SCALE: AS NOTED	CHKD: HL
DATE: SEPTEMBER 2024	FIG. NO.: 4

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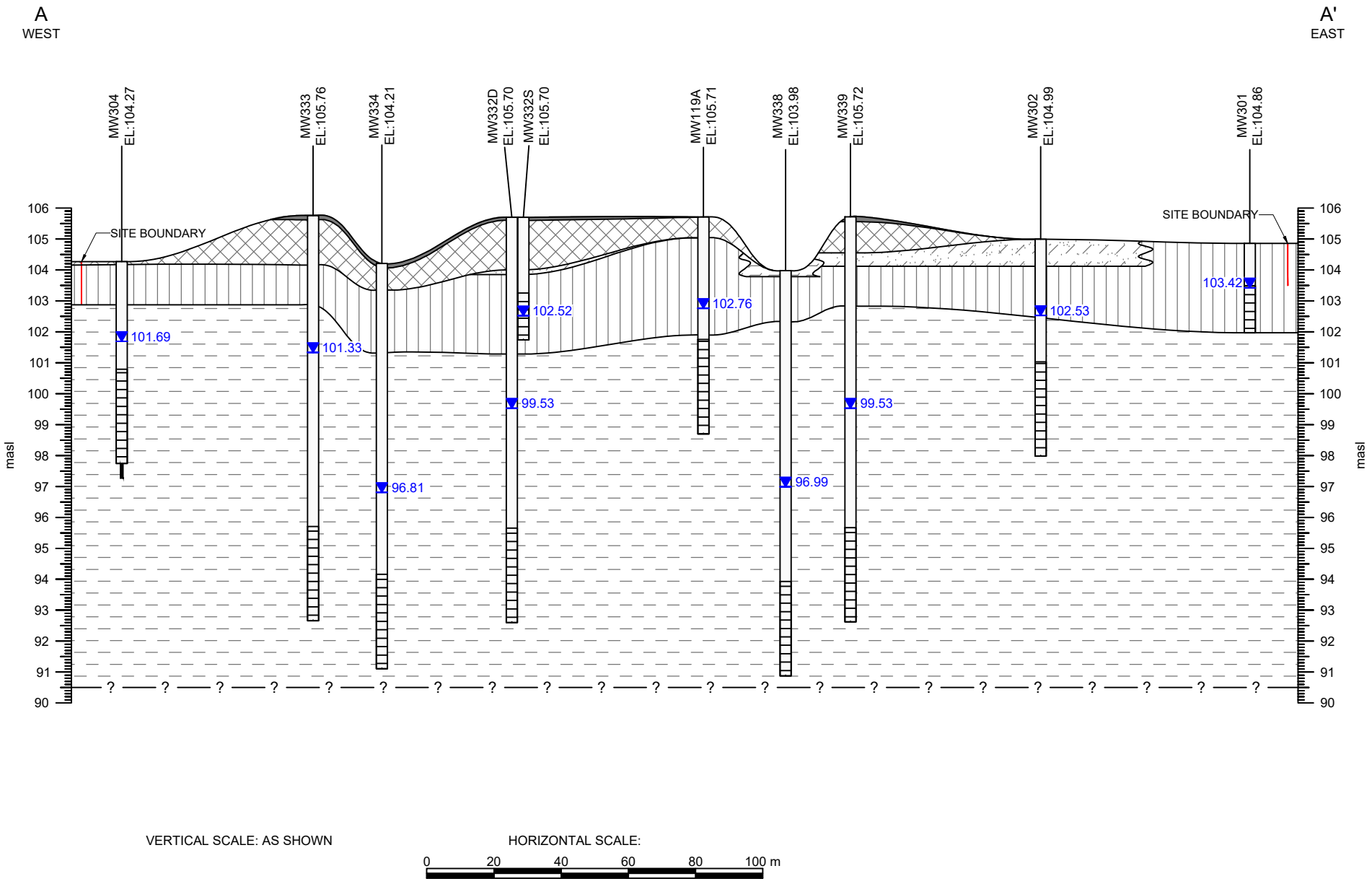

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LEGEND:

- ASPHALT
- TOPSOIL
- FILL
- SILTY SAND
- SILTY CLAY
- SHALE BEDROCK
- GROUNDWATER ELEVATION (masl) AS MEASURED ON SEPTEMBER 10, 2024

TITLE AND LOCATION:

CROSS SECTION A-A'
HYDROGEOLOGICAL INVESTIGATION
420 & 468 SOUTH SERVICE ROAD
OAKVILLE, ONTARIO

PROJECT NO.: GTR-23006348-D0	DWN.: MS
SCALE: AS NOTED	CK: HL
DATE: SEPTEMBER 2024	FIG. NO.: 5A

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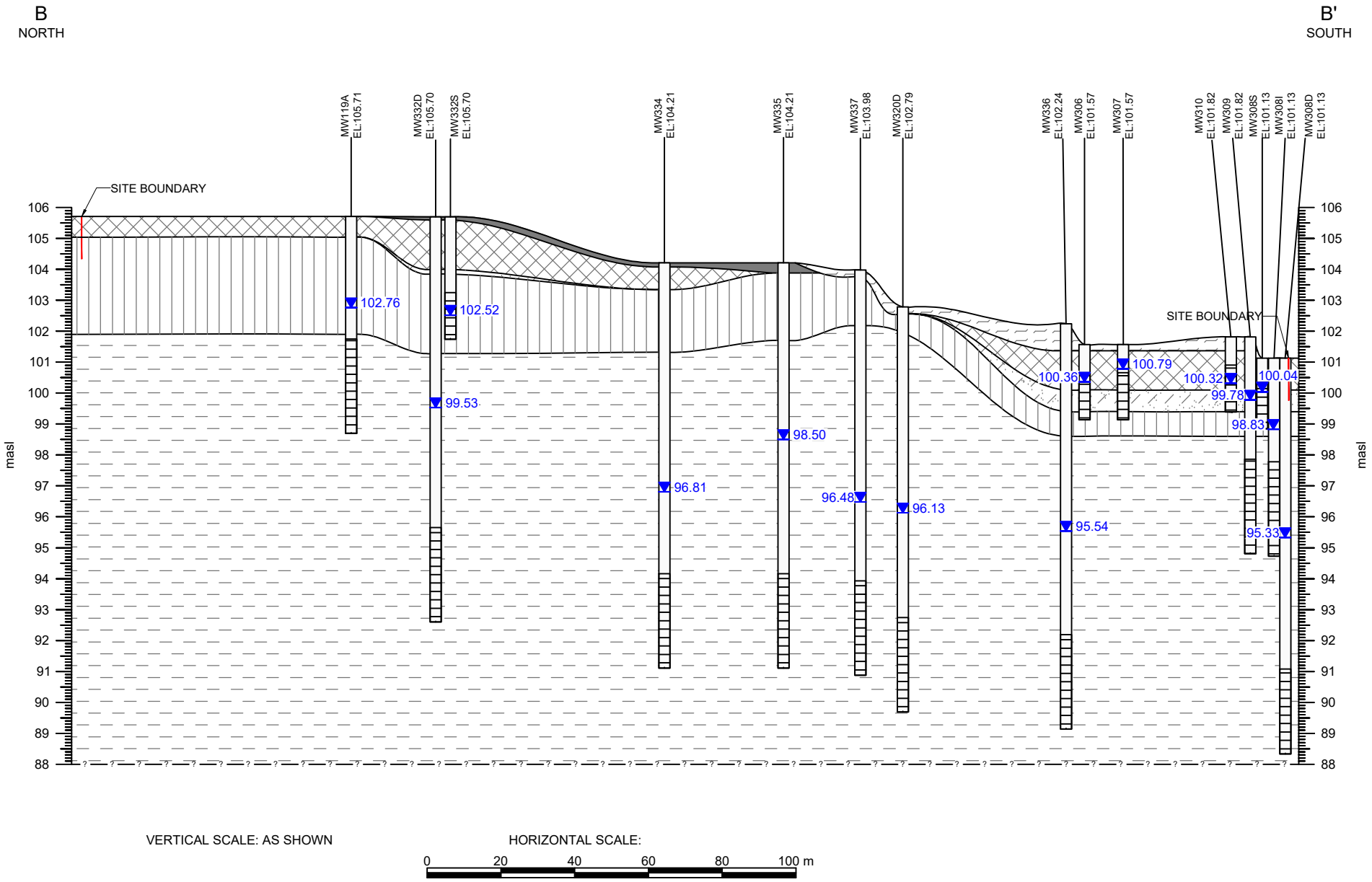

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t: +1.905.793.9800 | f: +1.905.793.0641
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LEGEND:

- ASPHALT
- TOPSOIL
- FILL
- SILTY SAND
- SILTY CLAY
- SHALE BEDROCK
- GROUNDWATER ELEVATION (masl) AS MEASURED ON SEPTEMBER 10, 2024

TITLE AND LOCATION:

CROSS SECTION B-B'
HYDROGEOLOGICAL INVESTIGATION
420 & 468 SOUTH SERVICE ROAD
OAKVILLE, ONTARIO

PROJECT NO.: GTR-23006348-D0	DWN.: MS
SCALE: AS NOTED	CK: HL
DATE: SEPTEMBER 2024	FIG. NO.: 5B

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EXP Services Inc.

t: +1.905.793.9800 | f: +1.905.793.0641
1595 Clark Boulevard
Brampton, ON L6T 4V1
Canada
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N

0 20 40 60 80 100 m

LEGEND:

- APPROXIMATE SITE BOUNDARY
- BOREHOLE / MONITORING WELL (EXP, 2024)
- GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION
- [XX.XX] GROUNDWATER ELEVATION (m ASL) AS MEASURED ON AUGUST 29, 2024

TITLE AND LOCATION:

OVERBURDEN GROUNDWATER CONTOUR PLAN

HYDROGEOLOGICAL INVESTIGATION
420 & 468 SOUTH SERVICE ROAD
OAKVILLE, ONTARIO

PROJECT NO.:	DWN:
GTR-23006348-D0	JA
SCALE:	CHKD:
AS NOTED	HL
DATE:	FIG. NO.:
SEPTEMBER 2024	6A

EXP Services Inc.

t: +1.905.793.9800 | f: +1.905.793.0641
1595 Clark Boulevard
Brampton, ON L6T 4V1
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LEGEND:
- APPROXIMATE SITE BOUNDARY
- BOREHOLE / MONITORING WELL (EXP, 2024)
- GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION
- [XX.XX] GROUNDWATER ELEVATION (m ASL) AS MEASURED ON AUGUST 29, 2024

TITLE AND LOCATION:

SHALLOW BEDROCK GROUNDWATER CONTOUR PLAN

HYDROGEOLOGICAL INVESTIGATION
420 & 468 SOUTH SERVICE ROAD
OAKVILLE, ONTARIO

PROJECT NO.:	DWN:
GTR-23006348-D0	JA
SCALE: AS NOTED	CHKD: HL
DATE: SEPTEMBER 2024	FIG. NO.: 6B

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0 20 40 60 80 100 m

LEGEND:

- APPROXIMATE SITE BOUNDARY
- BOREHOLE / MONITORING WELL (EXP, 2024)
- GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION
- [XX.XX] GROUNDWATER ELEVATION (m ASL) AS MEASURED ON AUGUST 29, 2024

TITLE AND LOCATION:

DEEP BEDROCK GROUNDWATER CONTOUR PLAN

HYDROGEOLOGICAL INVESTIGATION
420 & 468 SOUTH SERVICE ROAD
OAKVILLE, ONTARIO

PROJECT NO.:	DWN:
GTR-23006348-D0	JA
SCALE: AS NOTED	CHKD: HL
DATE: SEPTEMBER 2024	FIG. NO.: 6C

E:\BRM\GTR-23006348-E1\6) Execution\65 Drawings\GIS\ HG\HG Investigation.aprx

Appendix A – MECP WWR Summary Table

On-Site

BORE_HOLE_ID	WELL_ID	DATE	EAST83	NORTH83	ELEVATION (m ASL)	LOCATION ACCURACY	STREET	CITY	DISTANCE FROM SITE CENTROID (m)	CONSTRUCTION METHOD	WELL DEPTH (m bgs)	WATER FOUND (m bgs)	CASING DIAMETER (cm)	1st USE	2nd USE	FINAL STATUS
10148970	2802420	10/1/1951	606961	4813210	103.8	unknown UTM			147	Boring	2.4	2.4	91.4	Public		Water Supply
10148971	2802421	7/16/1954	606906	4813245	104.6	unknown UTM			159	Cable Tool	7.6	3.7	15.2	Commerical		Water Supply
1004677311	7214121	12/6/2013	606963	4812932	101.1	on Water Well Record			178							
1004730819	7219101	10/28/2013	606791	4813179	105.3	on Water Well Record			126							
1005384474	7241965	2/3/2015	606962	4812933	101.1	on Water Well Record	420 SOUTH SERVICE RD E	OAKVILLE	176	DIRECT PUSH	20.1		3.8	Monitoring and Test Hole		Observation Wells
1005384477	7241966	2/6/2015	606928	4813273	104.4	on Water Well Record	420 SOUTH SERVICE RD E	OAKVILLE	191	DIRECT PUSH	20.1		3.8	Monitoring and Test Hole		Observation Wells
1005384480	7241967	2/10/2015	606929	4813275	104.4	on Water Well Record	420 SOUTH SERVICE RD EAST	OAKVILLE	193	DIRECT PUSH	20.1		3.8	Monitoring and Test Hole		Observation Wells
1009397482	7441959	1/5/2023	606880	4813081	103.7	on Water Well Record			7							
1009397485	7441960	1/5/2023	606877	4813078	103.7	on Water Well Record			11							
1009397511	7441977	1/9/2023	606883	4813092	103.7	on Water Well Record			6							
1009397514	7441978	1/9/2023	606881	4813089	103.7	on Water Well Record			2							
1009397517	7441979	1/6/2023	606878	4813086	103.7	on Water Well Record			2							
1009397520	7441980	1/6/2023	606875	4813083	103.7	on Water Well Record			7							
1009397523	7441981	1/6/2023	606886	4813087	103.7	on Water Well Record			7							
1009397526	7441982	1/5/2023	606884	4813084	103.7	on Water Well Record			7							

Off-Site

BORE_HOLE_ID	WELL_ID	DATE	EAST83	NORTH83	ELEVATION (m ASL)	LOCATION ACCURACY	STREET	CITY	DISTANCE FROM SITE CENTROID (m)	CONSTRUCTION METHOD	WELL DEPTH (m bgs)	WATER FOUND (m bgs)	CASING DIAMETER (cm)	1st USE	2nd USE	FINAL STATUS
23047693	7047693	6/6/2007	607139	4813268	102.0	on Water Well Record	562 CHARTWELL ROAD	OAKVILLE	316							Abandoned-Other
10148913	2802363	2/14/1948	606903	4813669	107.4	unknown UTM			581	Cable Tool	24.4	16.8	15.2	Domestic		Water Supply
11319360	2810405	9/20/2004	607090	4813540	103.5	on Water Well Record	1012 SOUTH SERVICE RD	OAKVILLE	499	Boring	3.0	2.4	5.0			Observation Wells
11319187	2810232	4/19/2005	606272	4813241	111.7	on Water Well Record	350 IROQUOIS SHORE RD	OAKVILLE	626	Rotary (Convent.)	6.0	1.5	4.5			Observation Wells
11319196	2810241	5/13/2005	606950	4812555	97.5	on Water Well Record	271-351 CORNWALL ROAD	OAKVILLE	538	Boring		4.0				Abandoned-Other
11552365	2810455	12/13/2005	606767	4812735	101.6	on Water Well Record	354 DAVIS RD	OAKVILLE	371	Boring	5.8	5.5	5.1			Observation Wells
11552506	2810596	6/12/2006	607297	4813234	99.8	on Water Well Record	461 CORNWALL RD	OAKVILLE	443	Other Method			5.1			Observation Wells
11552366	2810456	12/16/2005	606767	4812735	101.6	on Water Well Record	354 DAVIS RD	OAKVILLE	371	Boring		2.0		Not Used		Abandoned-Other
1000044211	7100453	9/26/2007	606700	4812477	99.1	Not Applicable i.e. no UTM	547 TRAFALGAR RD	Oakville	637	Auger	4.7			Monitoring		Observation Wells
1002634243	7100453	9/26/2007	606700	4812477	101.1	Not Applicable i.e. no UTM	547 TRAFALGAR RD	Oakville	637	Auger				Monitoring		Observation Wells
1001912450	7101141	9/27/2007	606738	4812531	99.7	on Water Well Record	547 TRAFALGAR RD		575	Auger		3.9		Monitoring		Test Hole
1001912459	7101141	9/27/2007	606738	4812509	98.5	on Water Well Record	547 TRAFALGAR RD		596	Auger		3.9		Monitoring		Test Hole
1001580243	7104345	3/17/2008	606828	4812886	104.4	on Water Well Record	354 DAVIS RD	OAKVILLE	209	Boring	5.2		5.0	Not Used		Observation Wells
1002782848	7115801	7/14/2008	606837	4813683	109.0	on Water Well Record	504 IROQUOIS SHORE ROAD	Oakville	596	S.S.A.				Test Hole		Test Hole
1002782830	7115801	7/14/2008	606837	4813683	109.2	on Water Well Record	504 IROQUOIS SHORE ROAD	Oakville	596	S.S.A.				Test Hole		Test Hole
1002782839	7115801	7/14/2008	606837	4813683	109.5	on Water Well Record	504 IROQUOIS SHORE ROAD	Oakville	596	S.S.A.				Test Hole		Test Hole
1001905244	7115801	7/14/2008	606837	4813683	109.0	on Water Well Record	504 IROQUOIS SHORE ROAD	Oakville	596	S.S.A.	5.5			Test Hole		Test Hole
1003340124	7152039	9/3/2010	606669	4812559	101.4	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH	4.0			Monitoring and Test Hole		Test Hole
1003603938	7152039	9/3/2010	606669	4812559	101.1	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003604011	7152039	9/8/2010	606669	4812559	100.4	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003604020	7152039	9/8/2010	606669	4812559	101.3	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003603965	7152039	9/7/2010	606669	4812559	99.7	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003604029	7152039	9/8/2010	606669	4812559	101.3	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003603929	7152039	9/3/2010	606669	4812559	101.4	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003604001	7152039	9/7/2010	606669	4812559	101.1	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003603947	7152039	9/3/2010	606669	4812559	100.5	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003603956	7152039	9/7/2010	606669	4812559	100.5	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003603920	7152039	9/3/2010	606669	4812559	101.4	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003603983	7152039	9/7/2010	606669	4812559	101.1	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003603992	7152039	9/7/2010	606669	4812559	101.1	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003603974	7152039	9/7/2010	606669	4812559	99.7	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003604038	7152039	9/9/2010	606669	4812559	101.3	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003604047	7152039	9/9/2010	606669	4812559	101.4	on Water Well Record	547 TRAFALGAR RD	OAKVILLE	569	DIRECT PUSH				Monitoring and Test Hole		Test Hole
1003352596	7153280	9/22/2010	607179	4813054	99.0	on Water Well Record	461 CORNWALL RD.	OAKVILLE	302	Rotary (Convent.)	4.6		5.1	Test Hole		Test Hole
1003424505	7155359	10/21/2010	606664	4813456	108.0	on Water Well Record	400 IROQUOIS SHORE ROAD	Oakville	426	Boring	6.1		4.6	Monitoring		Observation Wells
1003617680	7173256	11/17/2011	606715	4812758	102.2	on Water Well Record	3 DAVIS AVE.	Oakville	369	Air Percussion	5.5		4.0	Monitoring and Test Hole		Test Hole
1003617682	7173257	11/17/2011	606805	4812668	101.3	on Water Well Record	DAVIS AVE.	Oakville	427	Air Percussion	4.6		4.0	Monitoring and Test Hole		Test Hole
1003617684	7173258	11/17/2011	606837	4812731	101.3	on Water Well Record	DAVIS AVE.	Oakville	360	Air Percussion	4.3		4.0	Monitoring and Test Hole		Test Hole
1003617686	7173259	11/17/2011	606789	4812796	101.9	on Water Well Record	DAVIS AVE.	Oakville	306	Air Percussion	4.3		4.0	Monitoring and Test Hole		Test Hole
1003617688	7173260	11/17/2011	606787	4812860	102.4	on Water Well Record	DAVIS AVE.	Oakville	246	Air Percussion	4.3		4.0	Monitoring and Test Hole		Test Hole
1003842234	7181975	5/4/2012	607091	4813335	101.8	on Water Well Record	574 CHARTWELL RD	Oakville	325	Boring	2.4	1.7	5.1	Test Hole		Test Hole
1003842272	7181976	5/4/2012	607073	4813360	101.8	on Water Well Record	574 CHARTWELL RD	Oakville	334	Boring	1.7	1.5	5.1	Test Hole		
1003842316	7181977	5/4/2012	607107	4813363	101.8	on Water Well Record	574 CHARTWELL RD	Oakville	357	Boring	2.3	1.7	5.1	Test Hole		Test Hole
1004156747	7187270	5/4/2012	606788	4812871	102.7	on Water Well Record	354 DAVIS RD	Oakville	236			1.5				Abandoned-Other
1004156833	7187271	5/7/2012	606788	4812871	102.7	on Water Well Record	354 DAVIS RD	Oakville	236			1.5				Abandoned-Other
1004156954	7187272	5/7/2012	606775	4812874	102.7	on Water Well Record	354 DAVIS RD	Oakville	238			1.4				Abandoned-Other
1004157023	7187273	5/7/2012	606787	4812871	102.4	on Water Well Record	354 DAVIS RD	Oakville	236			1.5				Abandoned-Other
1004157026	7187274	5/7/2012	606780	4812821	102.5	on Water Well Record	354 DAVIS DR	Oakville	285			1.3				Abandoned-Other
1004157029	7187275	5/7/2012	606747	4812794	102.3	on Water Well Record	354 DAVIS RD	Oakville	323			1.5				Abandoned-Other
1004157032	7187276	5/2/2012	606852	4812803	101.8	on Water Well Record	354 DAVIS RD	Oakville	287			1.5				Abandoned-Other
1004157035	7187277	5/7/2012	606826	4812699	101.4	on Water Well Record	354 DAVIS RD	Oakville	393			1.5				Abandoned-Other
1004157038	7187278	5/7/2012	606851	4812746	99.4	on Water Well Record	354 DAVIS RD	Oakville	343			1.5				Abandoned-Other
1004448573	7205225	6/21/2013	606743	4812804	102.3	on Water Well Record	354 DAVIS DRIVE	Oakville	315	Air Percussion	4.9		4.0	Monitoring and Test Hole		Test Hole
1004448576	7205226	6/21/2013	606724	4812715	101.8	on Water Well Record	364 DAVIS DRIVE	Oakville	404	Air Percussion	4.9		4.0	Monitoring and Test Hole		Test Hole
1004448579	7205227	6/20/2013	606790	4812694	101.3	on Water Well Record	354 DAVIS DRIVE	Oakville	404	Air Percussion	4.6		4.0	Monitoring and Test Hole		Test Hole
1004448582	7205228	6/20/2013	606801	4812644	100.3	on Water Well Record	354 DAVIS DRIVE	Oakville	451	Air Percussion	4.6		4.0	Monitoring and Test Hole		Test Hole
1004448585	7205229	6/20/2013	606754	4812698	101.7	on Water Well Record	354 DAVIS DRIVE	Oakville	410	Air Percussion	4.6		4.0	Monitoring and Test Hole		Test Hole
1004448588	7205230	6/20/2013	606864	4812851	105.4	from gis	354 DAVIS DRIVE	Oakville	238	Other Method	4.6		4.0	Monitoring and Test Hole		Test Hole
1004448591	7205231	6/20/2013	606909	4812857	105.9	from gis	354 DAVIS DRIVE	Oakville	233	Air Percussion	4.6		4.0	Monitoring and Test Hole		Test Hole
1004563895	7207704	7/15/2013	606796	4812655	100.3	on Water Well Record	354 DAVIS RD	Oakville	441	Air Percussion	6.1		4.0	Monitoring and Test Hole		Monitoring and Test Hole
1004717148	7217180	12/23/2013	606738	4812946	103.8	on Water Well Record			200							
1004734717	7219691	12/23/2013	606521	4813210	109.4	on Water Well Record			378							
1004765093	7220420	3/26/2014	607046	4813432	104.4	on Water Well Record	514 SOUTH SERVICE RD	Oakville	382	Direct Push	5.8		5.2	Monitoring and Test Hole		Test Hole
1004766135	7220459	3/26/2014	606925	4813401	105.7	on Water Well Record	514 SOUTH SERVICE RD	Oakville	316	Direct Push	2.7		4.0	Monitoring and Test Hole		Test Hole
1004766138	7220460	3/26/2014	607081	4813475	103.3	on Water Well Record	514 SOUTH SERVICE RD	Oakville	436	Direct Push	6.1		5.2	Monitoring and Test Hole		Test Hole
1004766141	7220461	3/26/2014	607046	4813475	105.0	on Water Well Record	514 SOUTH SERVICE RD	Oakville	421	Direct Push	5.8		5.2	Monitoring and Test Hole		Test Hole
1004899779	7222805	4/24/2014	606982	4813448	105.1	on Water Well Record	514 SOUTH SERVICE ROAD	ONTARIO	374	Direct Push	6.2		5.1	Monitoring and Test Hole		Test Hole
1004899794	7222806	4/21/2014	607034	4813379	103.8	on Water Well Record	74 SOUTH SERVICE RD.	OAKVILLE	330	Air Percussion	2.6		4.0	Test Hole		Observation Wells
1004899803	7222807	4/21/2014	607072	4813387	103.9	on Water Well Record	514 SOUTH SERVICE RD	OAKVILLE	356	Air Percussion	2.3		4.0	Monitoring and Test Hole		Test Hole
1004899819	7222808	4/21/2014	607033	4813401	104.5	on Water Well Record	514 SOUTH SERVICE RD	OAKVILLE	349	Air Percussion	2.7		4.0	Monitoring and Test Hole		Observation Wells
1004899825	7222809	4/22/2014	606989	4813481	105.3	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	408	Air Percussion	6.1		4.0	Monitoring and Test Hole		Observation Wells
1004899831	7222810	4/22/2014	606953	4813431	105.3	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	351	Air Percussion	2.1		4.0	Monitoring and Test Hole		Test Hole
1004899638	7222751	5/13/2014	607064	4813400	104.2	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	363	Direct Push	2.7		5.1	Monitoring and Test Hole		Monitoring and Test Hole
1004899658	7222752	5/13/2014	607043	4813381	103.8	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	336	Direct Push	9.1		5.1	Monitoring and Test Hole		Monitoring and Test Hole
1004894127	7229935	9/11/2008	607192	4813416	101.3	on Water Well Record	573 CHARTWELL RD.	OAKVILLE	453	Rotary (Convent.)			5.1	Test Hole		
1005168446	7229800	9/26/2014	606891	4813812	108.8	on Water Well Record	1055 NORTH SERVICE ROAD	Oakville	724	Boring	4.6	3.6	5.0	Test Hole		Test Hole
1005164568	7229613	8/1/2014	606971	4813665	105.9	on Water Well Record			584							
1005210235	7231286	10/30/2014	606660	4813315	108.1	on Water Well Record	400 IROQUOIS SHORE RD	Oakville	315	Boring	6.1		5.0	Monitoring		
1005210307	7231292	10/27/2014	606541	4813184	108.7	on Water Well Record			351							
1005235400	7232287	10/2/2014	607409	4812769	94.8	on Water Well Record	MAPLE AVE	Oakville	619	Auger	5.0		1.9			Other Status
1005347843	7241197	4/23/2015	606745	4813367	107.3	on Water Well Record	455 NORTH SERVICE RD	Oakville	309							Abandoned-Other
1005355845	7241328	4/23/2015	606690	4813405	107.4	on Water Well Record			369							
1005383342	7241910	2/13/2015	606859	4812857	105.4	on Water Well Record	420 SOUTH SERVICE RD. E	OAKVILLE	232	DIRECT PUSH	20.1			Monitoring and Test Hole		Observation Wells
1005383359	7241911	2/17/2015	606857	4812855	105.4	on Water Well Record	420 SOUTH SERVICE RD. E	OAKVILLE	234	DIRECT PUSH	20.1			Monitoring and Test Hole		Observation Wells
1005384483	7241968	2/11/2015	606727	4812851	102.4	on Water Well Record	420 SOUTH SERVICE RD. EAST	OAKVILLE	282	DIRECT PUSH	20.1			Monitoring and Test Hole		Observation Wells
1005667259	7247761	2/9/2015	606622	4812783	103.2	on Water Well Record			399							
1005872102	7256486	11/26/2015	607067	4813381	103.9	on Water Well Record	514 SOUTH SERVICE RD	OAKVILLE	348	Direct Push	5.5		7.6	Monitoring and Test Hole		Monitoring and Test Hole
1005872123	7256493	11/26/2015	606972	4813465	105.6	on Water Well Record	514 SOUTH SERVICE RD	Oakville	388	Direct Push	6.4		7.6	Monitoring and Test Hole		Monitoring and Test Hole
1005872126	7256494	11/26/2015	606965	4813454	105.5	on Water Well Record	514 SOUTH SERVICE RD	Oakville	376	Direct Push			7.6	Monitoring and Test Hole		Monitoring and Test Hole
1005872129	7256495	11/26/2015	606958	4813447	105.5	on Water Well Record	514 SOUTH SERVICE RD	OAKVILLE	367	Direct Push	6.1		7.6	Monitoring and Test Hole		Monitoring and Test Hole
1005872132	7256496	11/26/2015	606952	4813437	105.5	on Water Well Record	514 SOUTH SERVICE RD	OAKVILLE	356	Direct Push	4.6		7.6	Monitoring and Test Hole		Monitoring and Test Hole
1005872153	7256503	11/26/2015	607026	4813387	104.5	on Water Well Record	514 SOUTH SERVICE RD	Oakville	333	Direct Push	5.5		7.6	Monitoring and Test Hole		Monitoring and Test Hole
1005872177	7256511	11/26/2015	607048	4813381	103.8	on Water Well Record	514 SOUTH SERVICE RD	Oakville	338	Direct Push	5.5		7.6	Monitoring and Test Hole		Monitoring and Test Hole
1005872180	7256512	11/26/2015	607060	4813396	103.8	on Water Well Record	514 SOUTH SERVICE RD	Oakville	357	Direct Push	5.5		7.6	Monitoring and Test Hole		Monitoring and Test Hole
1005872183	7256513	11/26/2015	607057	4813396	103.8	on Water Well Record	514 SOUTH SERVICE RD	OAKVILLE	356	Direct Push	5.5		7.6	Monitoring and Test Hole		Monitoring and Test Hole
1005913488	7259855	9/9/2015	606637	4812694	102.2	on Water Well Record			463							
1006016582	7263647	4/23/2016	606602	4812542	100.9	on Water Well Record	562 TAFALGAR RD	Oakville	612	Air Percussion	6.1		5.1	Monitoring and Test Hole		Monitoring and Test Hole
1006016610	7263648	4/23/2016	606608	4812509	100.8	on Water Well Record	562 TAFALGAR RD	Oakville	640	Air Percussion	6.1		5.1	Monitoring and Test Hole		Monitoring and Test Hole
1006016613	7263649	4/23/2016	606630	4812513	99.9	on Water Well Record	562 TAFAKGAR RD	Oakville	627	Air Percussion	6.1		5.1	Monitoring and Test Hole		Monitoring and Test Hole
1006016616	7263650	4/23/2016	606625	4812534	100.9	on Water Well Record	562 TAFALGAR RD	Oakville	610	Air Percussion	6.1		5.1	Monitoring and Test Hole		Monitoring and Test Hole
1006240551	7271243	5/6/2016	606666	4813332	107.8	on Water Well Record	400 IROQUOIS SHORE ROAD	Oakville	323	Boring			4.6	Monitoring		Abandoned-Other
1006675270	7291165	6/22/2017	606293	4813255	111.6	on Water Well Record	350 IROQUOIS SHORE ROAD	Oakville	609	Direct Push			5.1	Test Hole	Monitoring	Monitoring and Test Hole
1006675428	7291166	6/22/2017	606290	4813272	111.3	on Water Well Record	350 IRQUOIS SHORE ROAD	Oakville	617	Direct Push			5.1	Test Hole	Monitoring	Abandoned-Other
1006675431	7291167	6/22/2017	606269	4813284	111.6	on Water Well Record	350 IROQUOIS SHORE ROAD	Oakville	640	Direct Push			5.1	Test Hole	Monitoring	Abandoned-Other
1006675434	7291168	6/22/2017	606293	4813255	111.6	on Water Well Record	350 IROQUOIS SHORE ROAD	Oakville	609	Direct Push			7.6	Test Hole	Monitoring	Abandoned-Other
1006713567	7293231	7/10/2017	606924	4813742	108.0	on Water Well Record	1011 NORTH SERVICE ROAD	Oakville	655	Direct Push	4.0		5.1	Test Hole	Monitoring	Monitoring and Test Hole
1006711726	7293274	7/10/2017	606940	4813780	107.6	on Water Well Record	1011 NORTH SERVICE ROAD	Oakville	694	Direct Push	4.0		5.1	Test Hole	Monitoring	Monitoring and Test Hole
1006711729	7293275	7/7/2017	606891	4813761	108.3	on Water Well Record	1011 NORTH SERVICE ROAD	Oakville	673	Direct Push	4.0		5.1	Test Hole	Monitoring	Monitoring and Test Hole
1006711732	7293276	7/7/2017	606999	4813734	106.5	on Water Well Record	1011 NORTH SERVICE ROAD	Oakville	657	Direct Push	4.0		5.1	Test Hole	Monitoring	Monitoring and Test Hole
1006711735	7293277	7/7/2017	606954	4813699	107.1	on Water Well Record	1011 NORTH SERVICE ROAD	Oakville	615	Direct Push	4.0		5.1	Test Hole	Monitoring	Monitoring and Test Hole
1006758946	7296612	9/18/2017	607211	4813429	101.8	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	476	DIRECT PUSH			7.6	Test Hole	Monitoring	Abandoned Monitoring and Test Hole
1006758949	7296613	9/18/2017	607013	4813434	105.2	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	371	DIRECT PUSH			7.6	Test Hole	Monitoring	Abandoned Monitoring and Test Hole
1006758964	7296614	9/18/2017	607017	4813490	105.2	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	425	DIRECT PUSH			7.6	Test Hole	Monitoring	Abandoned Monitoring and Test Hole
1006758967	7296615	9/18/2017	607010	4813445	105.2	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	380	DIRECT PUSH			7.6	Test Hole	Monitoring	Abandoned Monitoring and Test Hole
1006758970	7296616	9/18/2017	606949	4813434	105.5	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	353	DIRECT PUSH			7.6	Test Hole	Monitoring	Abandoned Monitoring and Test Hole
1006758973	7296617	9/18/2017	606956	4813446	105.5	on Water Well Record	514 SOUTH SERVICE RD.	OAKVILLE	366	DIRECT PUSH			7.6	Test Hole	Monitoring	Abandoned Monitoring and Test Hole
1006851898	7300535	10/5/2017	606934	4813731	107.8	on Water Well Record	1011 NORTH SERVICE RD EAST	OAKVILLE	645	Rotary (Convent.)	4.0		5.1	Test Hole	Monitoring	Observation Wells
1006851910	7300536	10/5/2017	606918	4813728	108.2	on Water Well Record	1011 NORTH SERVICE RD EAST	OAKVILLE	641	Rotary (Convent.)	4.0		5.1	Test Hole	Monitoring	Test Hole
1006858145	7300869	10/4/2017	606923	4813745	108.0	on Water Well Record	1011 NORTH SERVICE RD E	OAKVILLE	658	Direct Push	7.6		3.5	Test Hole	Monitoring	Observation Wells
1006858148	7300870	10/3/2017	606934	4813733	108.0	on Water Well Record	1011 NORTH SERVICE RD E	OAKVILLE	647	Direct Push	4.1		3.5	Test Hole	Monitoring	Observation Wells
1006969880	7303461	4/19/2017	606270	4813315	112.0	from gis		OAKVILLE	650	Boring	4.6	1.9	5.2	Test Hole	Monitoring	Monitoring and Test Hole
1007086153	7312098	4/2/2018	607462	4813424	100.5	on Water Well Record	CORNWALL RD & CHARTWELL RD	OAKVILLE	673	Boring	7.9		5.1	Monitoring		Observation Wells
1007290754	7318608	6/14/2018	606920	4812578	99.0	on Water Well Record			512							
1007296951	7320279	7/25/2018	606204	4813173	111.8	on Water Well Record	LEIGHLAND AVE & TRAFALGAR RD	OAKVILLE	680	Boring	4.6	3.8	5.2	Test Hole	Monitoring	Test Hole
1007296954	7320280	7/26/2018	606248	4813220	110.9	on Water Well Record	LEIGHLAND AVE & TRFALAGAR RD	OAKVILLE	644	Boring	5.2	3.5	5.2	Test Hole	Monitoring	Test Hole
1007317894	7323153	9/5/2018	607461	4813424	100.5	on Water Well Record	CORNWALL RD & CHARTWELL RD	Oakville	672							Abandoned-Other
1007554166	7338226	7/17/2019	606816	4813636	108.3	on Water Well Record	1030 8TH LINE	OAKVILLE	551	Boring	5.1	3.9	5.1	Monitoring		Observation Wells
1007554181	7338231	7/17/2019	606884	4813621	107.8	on Water Well Record	1030 8TH LINE	OAKVILLE	533	Boring	5.1	3.9	5.1	Monitoring		Observation Wells
1007554190	7338234	7/17/2019	606860	4813603	108.4	on Water Well Record	1030 8TH LINE	OAKVILLE	515	Boring	5.1	3.9	5.1	Monitoring		Observation Wells
1007554256	7338256	7/17/2019	606854	4813654	107.9	on Water Well Record	1030 8TH LINE	OAKVILLE	566	Boring	5.1	3.9	5.1	Monitoring		Observation Wells
1007555472	7338296	7/12/2019	606383	4813202	110.8	on Water Well Record	360 Oakville Place Drive	Oakville	509			4.5	5.0			Abandoned-Other

1007630310	7341266	4/23/2019	606943	4813753	108.0	on Water Well Record	1011 North Service Road	Oakville	668	Direct Push	2.7		3.2	Monitoring and Test Hole		Monitoring and Test Hole
1007630313	7341267	4/23/2019	606949	4813749	108.0	on Water Well Record	1011 North Service Road	Oakville	664	Direct Push	2.7		3.2	Monitoring and Test Hole		Monitoring and Test Hole
1007630316	7341268	4/23/2019	606940	4813744	108.0	on Water Well Record	1011 North Service Road	Oakville	658	Direct Push	2.7		3.2	Monitoring and Test Hole		Monitoring and Test Hole
1007733070	7348604	11/6/2019	606939	4813781	107.6	on Water Well Record	1011 North Servia Road E	Oakville	695							Abandoned-Other
1008180755	7354057	9/20/2019	606932	4813732	108.2	on Water Well Record	1011 NORTH SERVICE RD	Oakville	646					Monitoring		Abandoned-Other
1008180758	7354058	9/20/2019	606936	4813735	108.0	on Water Well Record	1011 NORTH SERVICE RD	Oakville	649					Monitoring		Abandoned-Other
1008180902	7354083	9/20/2019	606924	4813745	108.0	on Water Well Record	1011 north service rd	Oakville	658				5.1	Monitoring		Abandoned-Other
1008173838	7354231	9/20/2019	606941	4813738	108.0	on Water Well Record	1011 north service rd	Oakville	653				5.1	Test Hole	Monitoring	Abandoned-Other
1008173841	7354232	9/20/2019	606934	4813736	108.0	on Water Well Record	1011 north service rd	Oakville	650				5.1	Test Hole	Monitoring	Abandoned-Other
1008173844	7354233	9/20/2019	606916	4813729	108.2	on Water Well Record	1011 north service rd	Oakville	642				5.1	Test Hole	Monitoring	Abandoned-Other
1008173856	7354234	9/10/2019	606923	4813748	108.0	on Water Well Record	1011 north service rd	Oakville	661				5.1	Test Hole	Monitoring	Abandoned-Other
1008173868	7354235	9/20/2019	606936	4813734	108.0	on Water Well Record	1011 north service rd	Oakville	648				5.1	Test Hole	Monitoring	Abandoned-Other
1008436270	7365057	6/30/2020	607005	4813697	105.4	on Water Well Record	1011 North Service Rd E	Oakville	622				5.1	Monitoring		Abandoned-Other
1008436273	7365058	6/30/2020	606993	4813688	105.4	on Water Well Record	1011 North Service Rd E	Oakville	610				5.1	Monitoring		Abandoned-Other
1008436276	7365059	6/30/2020	606978	4813686	106.2	on Water Well Record	1011 North service rd e	Oakville	606				5.1	Monitoring		Abandoned-Other
1008519639	7374253	10/29/2020	606648	4812455	99.5	on Water Well Record			674							
1008530191	7375905	12/15/2020	606285	4813283	111.3	on Water Well Record	350 Iroquois SHore Rd	Oakville	625					Test Hole		Abandoned-Other
1008558437	7376602	8/13/2020	606612	4812555	101.5	on Water Well Record			596							
1008637216	7381731	2/2/2021	606622	4812795	103.0	on Water Well Record	320 Davis Dr	Oakville	390	Auger	4.6	4.0	5.1	Monitoring		Observation Wells
1008637219	7381732	2/2/2021	606692	4812688	102.2	on Water Well Record	1151 BRONTE ROAD	Oakville	442	Auger	6.1	4.3	5.1	Monitoring		Observation Wells
1008650066	7385983	3/26/2021	607161	4813529	102.4	on Water Well Record	1021 INDUSTRY STREET		523	Rotary (Convent.)	4.6		5.1	Monitoring and Test Hole		Observation Wells
1008650069	7385984	3/26/2021	607139	4813551	102.4	on Water Well Record	1021 INDUSTRY STREET		531	Rotary (Convent.)	4.6		5.1	Monitoring and Test Hole		Observation Wells
1008719261	7393298	7/9/2021	606614	4812490	100.2	on Water Well Record	233 Cross Avenue	Oakville	654				5.0			Abandoned-Other
1008719264	7393299	6/25/2021	606652	4812460	99.7	on Water Well Record	233 Cross Avenue	Oakville	668				5.0			Abandoned-Other
1008802047	7399052	2/7/2021	606674	4813529	107.7	on Water Well Record			486							
1009120086	7423376	6/21/2022	607190	4813512	101.4	on Water Well Record			526							
1009120089	7423377	6/21/2022	607199	4813505	101.8	on Water Well Record			526							
1009120092	7423378	6/21/2022	607171	4813482	101.6	on Water Well Record			490							
1009120095	7423379	6/22/2022	607155	4813456	101.9	on Water Well Record			460							
1009120098	7423380	6/22/2022	607176	4813469	102.0	on Water Well Record			483							
1009120101	7423381	6/22/2022	607167	4813465	102.0	on Water Well Record			474							
1009399984	7442643	4/29/2022	606873	4813599	107.4	on Water Well Record			511							

	COUNT
Monitoring Well / Test Hole	106
Dewatering Well	0
Water Supply Well	3
Abandoned Well	40
Unclassified / Unfinished Well	29
TOTAL	178

Appendix B – Borehole Logs

Log of Borehole MW312

Project No. GTR-23006348-C0 Drawing No. 1

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813148.99 m N, 606892.68 m E

Date Drilled: August 14, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH
			103.99	0
		ASPHALT: (~75 mm thick)	~103.9	
		GRANULAR: (~180 mm thick)	~103.7	
		FILL: silty clay, trace sand, brown, moist (possible reworked native)		
			~102.9	1
		SILTY CLAY TILL: trace sand, brown to grey, moist, hard some shale inclusions below 1.5 m		2
			~101.7	
		SHALE BEDROCK: highly weathered, some silty clay till layers, grey		
			~101.1	3
		Borehole terminated at 2.9 m depth below existing grade.		4
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		5
				6
				7
				8
				9
				10
				11
				12

N Value: 20, 40, 60

Combustible Vapour Reading (ppm): 25, 50, 75

SAMPLES	% RECOV	SAMPLE ID	ANALYSIS	N Value	Combustible Vapour Reading (ppm)
	63	SS1		0 (H) 3 (I)	
	71	SS2	VOC	0 (H) 4 (I)	
	25	SS3		0 (H) 3 (I)	
	8	SS4		0 (H) 0 (I)	

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	dry	open

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Brampton, Ontario
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Facsimile: 905-793-0641

Log of Borehole MW313

Project No. GTR-23006348-C0 Drawing No. 2

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813192.62 m N, 606893.30 m E

Date Drilled: August 14, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			105.37	0						
		GRANULAR: (~180 mm thick)	~105.2							
		FILL: silty clay, trace sand, brown, moist trace asphalt below 0.8 m				0 (H) 2 (I)		83	SS1	
				1		0 (H) 4 (I)		75	SS2	
				2		0 (H) 5 (I)		92	SS3	
		SILTY CLAY TILL: trace sand and gravel, brown to grey, moist, hard	~102.9			0 (H) 5 (I)		83	SS4	VOC
		SHALE BEDROCK: highly weathered, some silty clay till layers, grey	~102.3	3		0 (H) 0 (I)		21	SS5	
		Borehole terminated at 3.7 m depth below existing grade.	~101.7	4						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		5 6 7 8 9 10 11 12						

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	dry	open

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Log of Borehole MW314

Project No. GTR-23006348-C0 Drawing No. 3

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813065.34 m N, 606718.90 m E

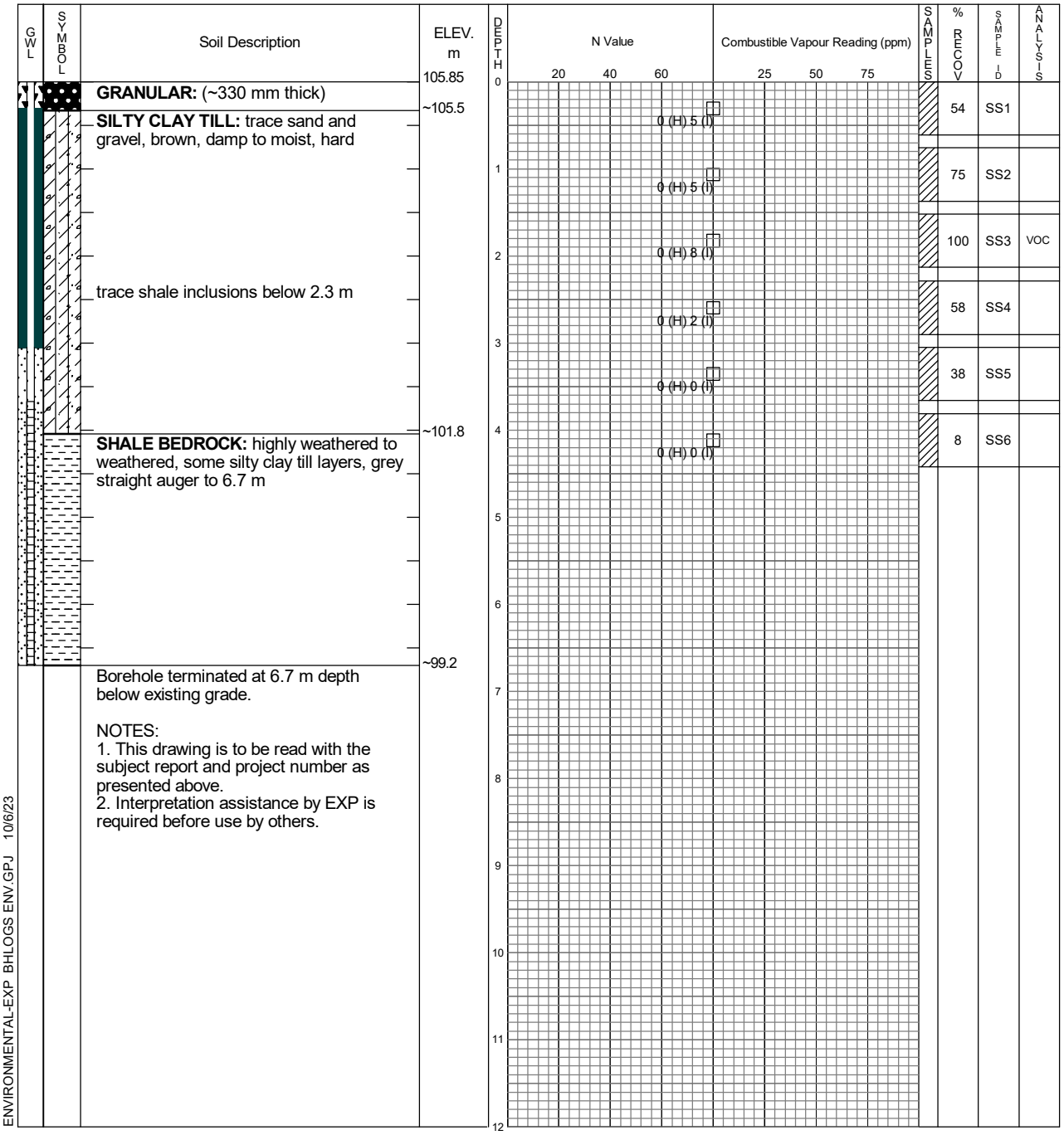
Date Drilled: August 11, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



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Time	Water Level (m)	Depth to Cave (m)
on completion	3.5	open
September 13, 2023	2.36	7.06

Log of Borehole MW315

Project No. GTR-23006348-C0 Drawing No. 4

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813097.48 m N, 606790.96 m E

Date Drilled: August 11, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			105.72	0	20 40 60	25 50 75				
		ASPHALT: (~50 mm thick)	~105.7							
		GRANULAR: (~50 mm thick)	~105.6							
		SAND: trace silt, brown, very moist, compact, occasional silt seams trace gravel below 0.8 m		1		0 (H) 3 (I)		75	SS1	
						0 (H) 4 (I)		83	SS2	
			~103.7	2		0 (H) 5 (I)		58	SS3	
		SILTY CLAY TILL: trace sand and gravel, brown, damp, hard, trace shale fragments grey below 3.1 m				0 (H) 5 (I)		83	SS4	
			~102.1	3		0 (H) 7 (I)		100	SS5	VOC
		SHALE BEDROCK: highly weathered to weathered, some silty clay till layers, grey straight auger to 7.0 m		4				2	SS6	
			~98.7	5						
		Borehole terminated at 7.0 m depth below existing grade.		6						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	3.1	open
September 12, 2023	2.98	6.37
September 13, 2023	2.97	

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Facsimile: 905-793-0641

Log of Borehole MW316

Project No. GTR-23006348-C0 Drawing No. 5

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813053.75 m N, 606794.12 m E

Date Drilled: August 11, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			105.71							
		GRANULAR: (~100 mm thick)	~105.6	0						
		FILL: silty sand, trace gravel, brown, moist (possible reworked native)						83	SS1	
				1				83	SS2	
								71	SS3	
		FILL: silty clay, trace sand, brown, very moist (possible reworked native)	~103.7	2				79	SS4	
		SILTY CLAY TILL: trace sand, brown, moist, hard, trace shale fragments	~102.7	3				67	SS5	VOC
		SHALE BEDROCK: highly weathered to weathered, some silty clay till layers, grey	~101.9	4				17	SS6	
		straight auger to 7.0 m		5						
				6						
				7						
		Borehole terminated at 7.0 m depth below existing grade.	~98.7	8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	3.7	open
September 12, 2023	3.33	6.53
September 13, 2023	3.48	

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Facsimile: 905-793-0641

Log of Borehole MW317

Project No. GTR-23006348-C0 Drawing No. 6

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813022.85 m N, 606757.35 m E

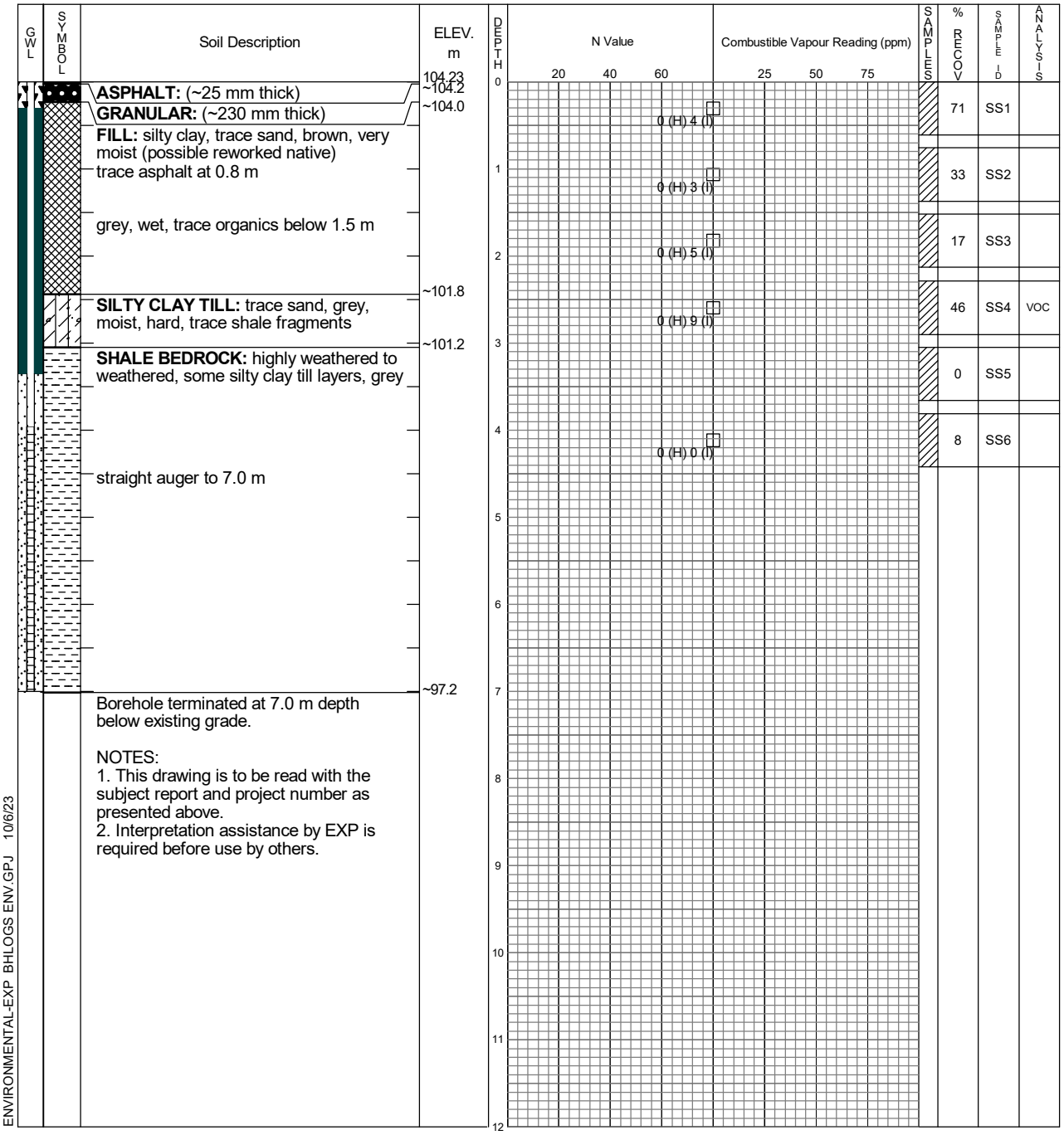
Date Drilled: August 11, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	2.7	open
September 12, 2023	2.23	5.83
September 13, 2023	2.64	

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Facsimile: 905-793-0641

Log of Borehole MW319

Project No. GTR-23006348-C0 Drawing No. 7

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813083.78 m N, 606855.94 m E

Date Drilled: August 11, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH
			104.19	0
		CONCRETE: (~75 mm thick)	~104.1	
		FILL: sand, trace silt, trace gravel, brown, moist	~103.4	1
		FILL: silty clay, trace sand and gravel, brown, very moist, trace black staining	~102.4	2
		SILTY CLAY TILL: trace sand and gravel, grey, moist, stiff, occasional sand seams hard below 2.3 m	~101.5	3
		SHALE BEDROCK: highly weathered to weathered, some silty clay till layers, grey straight auger to 5.5 m	~98.7	4 5 6 7 8 9 10 11 12
		Borehole terminated at 5.5 m depth below existing grade. NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		

N Value: 20 40 60

Combustible Vapour Reading (ppm): 25 50 75

SAMPLES	% RECOV	SAMPLE ID	ANALYSIS	N Value / Combustible Vapour Reading (ppm)
	79	SS1		0 (H) 5 (I)
	75	SS2		0 (H) 5 (I)
	67	SS3	VOC	0 (H) 5 (I)
	71	SS4		0 (H) 5 (I)
	0	SS5		0 (H) 0 (I)

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	2.7	open

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole MW320

Project No. GTR-23006348-C0 Drawing No. 8

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4812964.14 m N, 606862.91 m E

Date Drilled: August 14, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			102.76							
		ASPHALT: (~100 mm thick)	~102.7	0						
		GRANULAR: (~350 mm thick)	~102.3							
		FILL: silty clay, trace sand and gravel, dark grey to black, moist, trace rootlets	~101.5	1				67	SS1	
		SILTY CLAY TILL: trace sand, brown to grey, moist, very stiff, trace shale fragments trace gravel, hard below 1.5 m	~100.3	2				92	SS2	
		SHALE BEDROCK: highly weathered to weathered, some silty clay till layers, grey		3				83	SS3	
		straight auger to 7.6 m		4				42	SS4	VOC
				5				17	SS5	
				6						
				7						
			~95.1	8						
		Borehole terminated at 7.6 m depth below existing grade.		9						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		10						
				11						
				12						

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	3.7	open

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole MW322

Project No. GTR-23006348-C0 Drawing No. 9

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4812923.80 m N, 606944.57 m E

Date Drilled: September 13, 2023

Drill Type: CME-55 Track Mount. Solid

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH
			101.02	0
		FILL: silty clay, trace gravel, trace rootlets, brown, moist	~100.9	
		FILL: silty clay, trace to some sand, trace gravel, brown, moist	~100.2	1
		SILTY CLAY TILL: trace sand, brown, moist, hard, trace shale fragments	~99.3	
		SHALE BEDROCK: weathered to highly weathered, some silty clay till layers, grey	~98.9	2
		Borehole terminated at 2.1 m depth below existing grade.		3
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		4
				5
				6
				7
				8
				9
				10
				11
				12

N Value: 20, 40, 60

Combustible Vapour Reading (ppm): 25, 50, 75

SAMPLES	% RECOV	SAMPLE ID	ANALYSIS	N Value	Combustible Vapour Reading (ppm)
	38	SS1		0 (H) 0 (I)	
	33	SS2	VOC	0 (H) 0 (I)	
	79	SS3		0 (H) 0 (I)	

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	dry	open

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole MW323

Project No. GTR-23006348-C0 Drawing No. 10

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813058.23 m N, 607034.98 m E

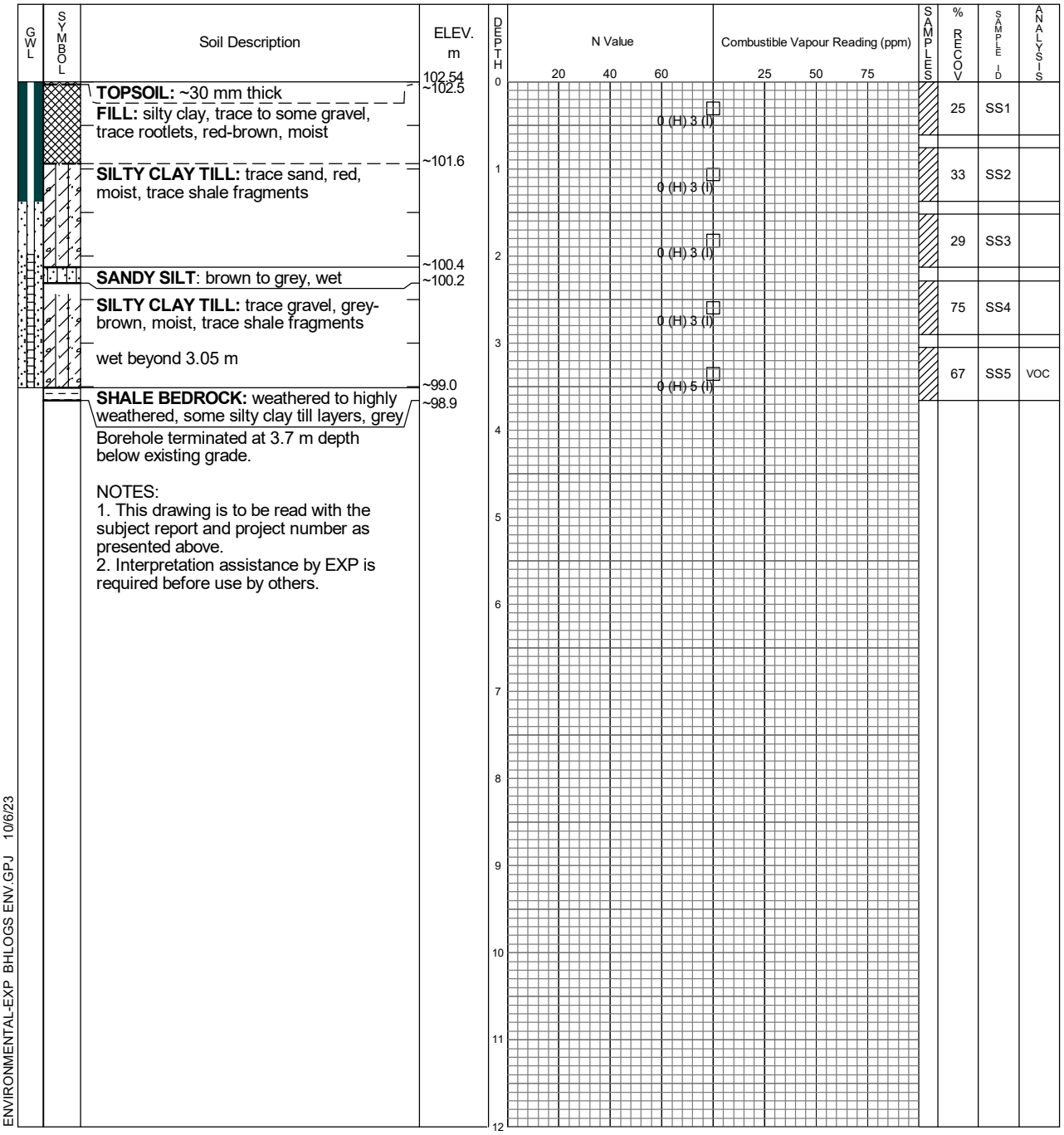
Date Drilled: September 13, 2023

Drill Type: CME-55 Track Mount. Solid

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	dry	open

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole MW324

Project No. GTR-23006348-C0 Drawing No. 11

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4812995.37 m N, 606797.96 m E

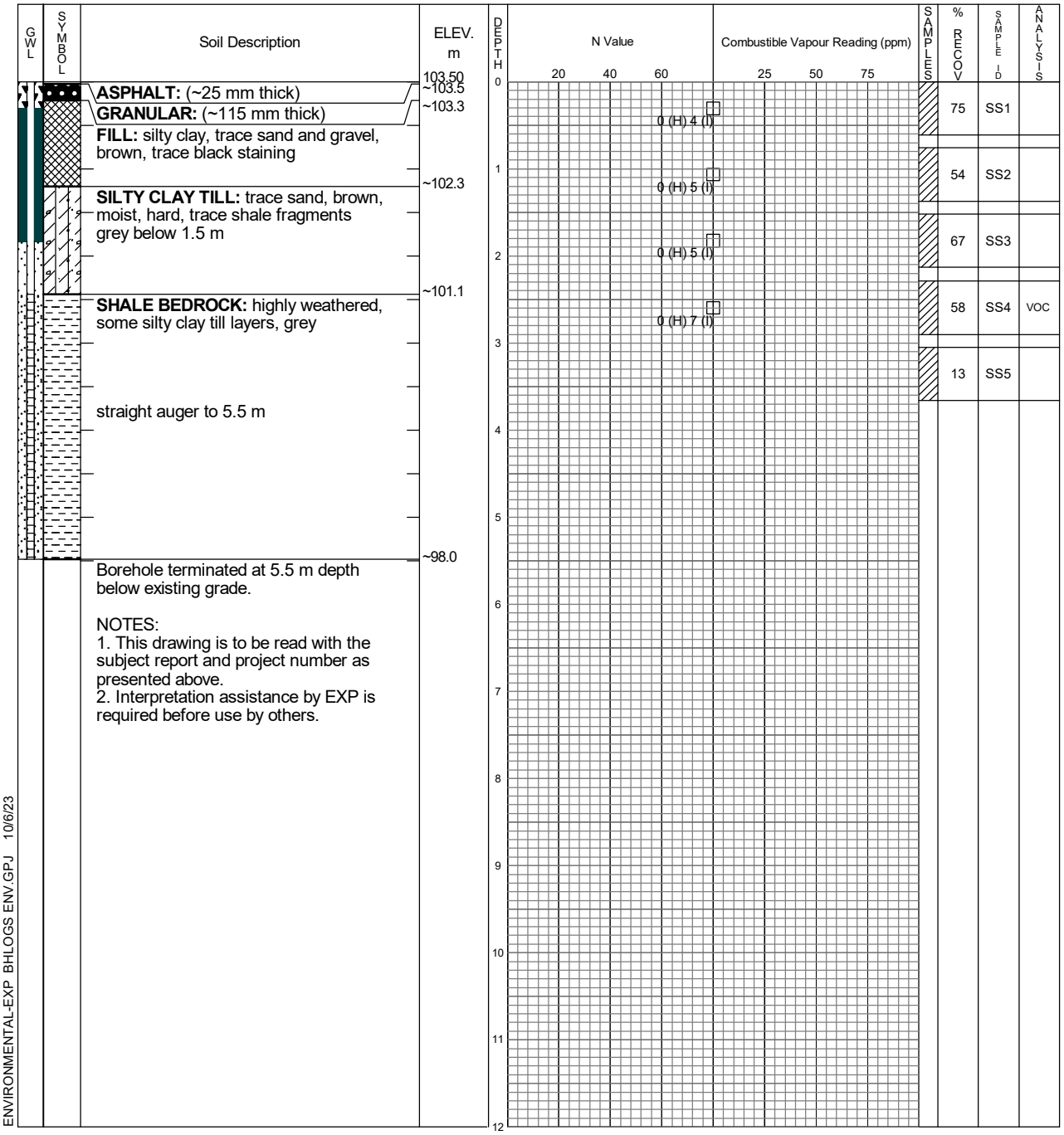
Date Drilled: August 11, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	2.1	open
September 12, 2023	1.86	4.50
September 13, 2023	0.80	

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole MW325

Project No. GTR-23006348-C0 Drawing No. 12

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813018.43 m N, 606859.66 m E

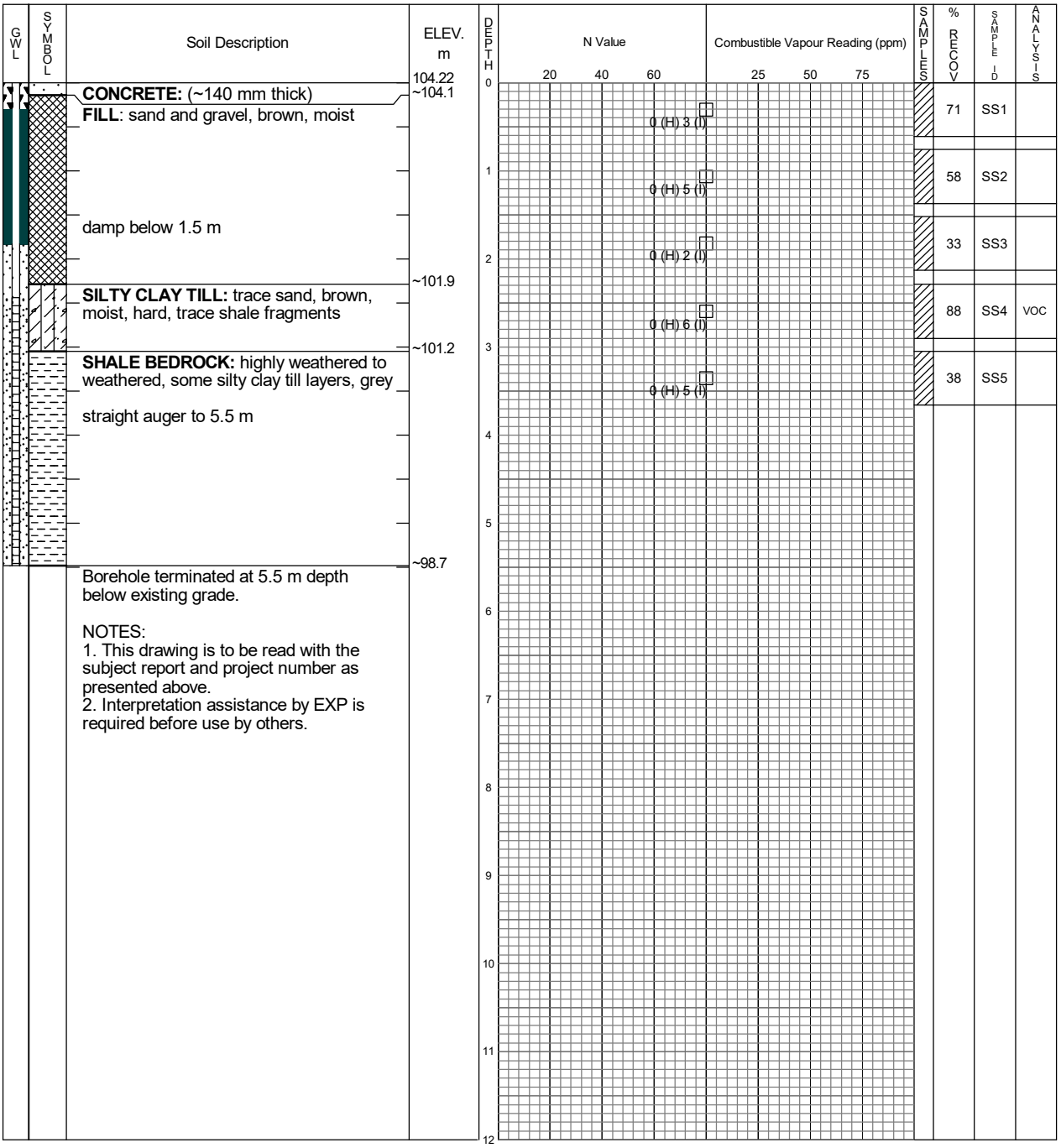
Date Drilled: August 14, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	2.7	open

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole MW326

Project No. GTR-23006348-C0 Drawing No. 13

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813166.71 m N, 606968.87 m E

Date Drilled: August 14, 2023

Drill Type: CME-75 Track Mount. Solid Stem

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			105.34							
		GRANULAR: (~75 mm thick)	~105.3	0						
		FILL: silty clay, trace sand and gravel, brown to reddish brown, damp to moist						50	SS1	
				1				63	SS2	
		trace organics below 1.5 m		2				33	SS3	
								29	SS4	VOC
		SILTY CLAY TILL: trace sand, brown, moist, hard, trace shale fragments	~102.3	3				71	SS5	
			~101.7							
		Borehole terminated at 3.7 m depth below existing grade.		4						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	dry	open

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole MW327

Project No. GTR-23006348-C0 Drawing No. 14

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813004.46 m N, 606972.84 m E

Date Drilled: September 13, 2023

Drill Type: CME-55 Track Mount. Solid

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			102.20		20 40 60	25 50 75				
		ASPHALT: (~75 mm thick)	~102.1	0						
		FILL: gravelly sand	~102.0							
		FILL: silty clay, trace gravel, brown, moist			0 (H) 0 (I)			38	SS1	
				1	0 (H) 0 (I)			17	SS2	
		SILTY CLAY TILL: trace sand, brown, moist, hard, trace shale fragments	~100.7	2	0 (H) 0 (I)			79	SS3	
					0 (H) 0 (I)			67	SS4	VOC
		SHALE BEDROCK: weathered to highly weathered, some silty clay till layers, grey	~99.2	3	0 (H) 0 (I)			42	SS5	
		straight auger to 5.2 m		4						
		Borehole terminated at 5.2 m depth below existing grade.	~97.0	5						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	dry	open

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole MW328

Project No. GTR-23006348-C0 Drawing No. 15

Project: Soil and Groundwater Sampling and Chemical Testing Program Sheet No. 1 of 1

Location: 420 & 468 South Service Road East, Oakville, ON

17T 4813083.00 m N, 607029.78 m E

Date Drilled: September 13, 2023

Drill Type: CME-55 Track Mount. Solid

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			103.67		20 40 60	25 50 75				
		TOPSOIL: (~30 mm thick)	~103.6	0						
		FILL: silty clay fill, red-brown to brown, trace organics, trace gravel, moist	~102.9		0 (H) 0 (I)			38	SS1	
		SILTY CLAY TILL: trace sand, brown, moist, hard, trace shale fragments	~102.9	1	0 (H) 0 (I)			42	SS2	
		SANDY SILT: trace gravel	~102.8							
		SILTY CLAY TILL: trace sand, trace gravel, grey-brown, moist,trace shale fragments		2	0 (H) 0 (I)			67	SS3	
					0 (H) 0 (I)			79	SS4	
			~100.4	3						
		SHALE BEDROCK: weathered to highly weathered, some silty clay till layers, grey	~100.0		0 (H) 0 (I)			58	SS5	VOC
		Borehole terminated at 3.7 m depth below existing grade.		4						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BHLOGS ENV.GPJ 10/6/23

Time	Water Level (m)	Depth to Cave (m)
on completion	dry	open

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH/MW-119A

Project No. GTR-23006349-E1 | Drawing No. 7

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 12, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		FILL: sand and gravel fill	105.71	0		0 (H) 0 (I)		33	SS1	
				1		0 (H) 0 (I)		33	SS2	
		SILTY CLAY: some sand grey, moist below 1.82 m bgs	~104.0	2		1 (H) 0 (I)		40	SS3	
				2		1 (H) 0 (I)		40	SS4	
				3		1 (H) 0 (I)		33	SS5	
		WEATHERED SHALE: Weathered shale/rock fragments, black staining/free product, hydrocarbon odour, wet	~101.9	4		36 (H) 100 (I)		33	SS6	PHC/BTEX
			~101.1	5						
		Direct auger to 7.01 m depth below grade.		6						
				7						
		Borehole terminated at 7.01 m depth below grade.	~98.7	8						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 12, 2024	2.465	
August 13, 2024	2.550	

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH/MW-133A

Project No. GTR-23006349-E1 Drawing No. 9

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 12, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		SILTY CLAY:reddish brown, trace organics/rootlets	106.15	0				100	SS1	OCPs
		SILTY CLAY:reddish brown, trace gravel	~105.4	1				100	SS2	
		Direct auger to 7.01 m depth below grade.	~104.6	2						
				3						
				4						
				5						
				6						
			~99.1	7						
		Borehole terminated at 7.01 m depth below grade.		8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 12, 2024	3.050	
August 13, 2024	3.635	

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH/MW-207A

Project No. GTR-23006349-E1 Drawing No. 13

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 5.33 m depth below grade.	104.86	0						
				1						
				2						
				3						
				4						
			~99.5	5						
		Borehole terminated at 5.33 m depth below grade.		6						
				7						
				8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 9, 2024	1.400	
August 13, 2024	1.740	

Log of Borehole BH/MW-301

Project No. GTR-23006349-E1 Drawing No. 17

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 8, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		SILTY CLAY: brown, trace rootlets and gravel, moist	104.86	0				100	SS1	OCPs
		Direct auger to 2.89 m depth below grade	~104.1	1						
				2						
				3						
		Borehole terminated at 2.89 m depth below grade.	~102.0	4						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 9, 2024	0.940	
August 12, 2024	1.210	

Log of Borehole BH/MW-302

Project No. GTR-23006349-E1 Drawing No. 18

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 7.01 m depth below grade.	104.99	0						
				1						
				2						
				3						
				4						
				5						
				6						
			~98.0	7						
		Borehole terminated at 7.01 m depth below grade.		8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 9, 2024	1.530	
August 13, 2024	2.175	

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH/MW-304

Project No. GTR-23006349-E1 | Drawing No. 19

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 7.01 m depth below grade.	104.27	0						
				1						
				2						
				3						
				4						
				5						
				6						
			~97.3	7						
		Borehole terminated at 7.01 m depth below grade.		8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 9, 2024	2.470	
August 12, 2024	2.530	

exp Services Inc.
Brampton, Ontario
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Facsimile: 905-793-0641

Log of Borehole BH/MW-305

Project No. GTR-23006349-E1 Drawing No. 20

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH
		Direct auger to 7.01 m depth below grade.	103.06	0
				1
				2
				3
				4
				5
				6
			~96.1	7
		Borehole terminated at 7.01 m depth below grade. NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		8
				9
				10
				11
				12

N Value: 20, 40, 60

Combustible Vapour Reading (ppm): 25, 50, 75

SAMPLES | % RECOV | SAMPLE ID | ANALYSIS

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 9, 2024	2.400	
August 12, 2024	2.480	

Log of Borehole BH/MW-306

Project No. GTR-23006349-E1 Drawing No. 21

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 2.44 m depth below grade.	101.57	0						
				1						
				2						
			~99.1	3						
		Borehole terminated at 2.44 m depth below grade.		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	0.875	
August 12, 2024	1.020	

Log of Borehole BH/MW-307

Project No. GTR-23006349-E1 Drawing No. 22

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 2.44 m depth below grade.	101.57	0						
				1						
				2						
			~99.1	3						
		Borehole terminated at 2.44 m depth below grade.		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	0.530	
August 12, 2024	0.600	

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH/MW-308D

Project No. GTR-23006349-E1 Drawing No. 23

Project: Phase Two ESA Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 30, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 12.8 m depth below grade.	101.13	0						
				1						
				2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Continued Next Page

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	5.855	
August 12, 2024	7.225	

exp Services Inc.
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Facsimile: 905-793-0641

Log of Borehole BH/MW-308D

Project No. GTR-23006349-E1 Drawing No. 23

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value 20 40 60	Combustible Vapour Reading (ppm) 25 50 75	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			89.13	12						
			~88.3	13						
		Borehole terminated at 12.8 m depth below grade.		14						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout. 3. Interpretation assistance by EXP is required before use by others.		15						
				16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	5.855	
August 12, 2024	7.225	

Log of Borehole BH/MW-308I

Project No. GTR-23006349-E1 Drawing No. 25

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 30, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 6.4 m depth below grade.	101.13	0						
				1						
				2						
				3						
				4						
				5						
				6						
			~94.7	7						
		Borehole terminated at 6.4 m depth below grade.		8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	1.610	
August 12, 2024	2.050	

Log of Borehole BH/MW-308S

Project No. GTR-23006349-E1 Drawing No. 24

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 30, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 2.28 m depth below grade.	101.13	0						
				1						
				2						
			~98.9							
		Borehole terminated at 2.28 m depth below grade.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

exp Services Inc.
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Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	0.880	
August 12, 2024	0.920	

Log of Borehole BH/MW-309

Project No. GTR-23006349-E1 Drawing No. 26

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 7.01 m depth below grade.	101.82	0						
				1						
				2						
				3						
				4						
				5						
				6						
			~94.8	7						
		Borehole terminated at 7.01 m depth below grade.		8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	1.650	
August 12, 2024	1.810	

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH/MW-310

Project No. GTR-23006349-E1 Drawing No. 27

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 2.44 m depth below grade.	101.82	0						
				1						
				2						
			~99.4							
		Borehole terminated at 2.44 m depth below grade.		3						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	1.160	
August 8, 2024	1.240	

exp Services Inc.
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Facsimile: 905-793-0641

Log of Borehole BH/MW-311

Project No. GTR-23006349-E1 Drawing No. 28

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 2.44 m depth below grade.	101.59	0						
				1						
				2						
			~99.2							
		Borehole terminated at 2.44 m depth below grade.		3						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	1.910	
August 12, 2024	2.090	

exp Services Inc.
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Facsimile: 905-793-0641

Log of Borehole BH/MW-320D

Project No. GTR-23006349-E1 Drawing No. 29

Project: Phase Two ESA Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 30, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 12.8 m depth below grade.	102.79	0						
				1						
				2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Continued Next Page

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	6.530	
August 13, 2024	6.675	

exp Services Inc.
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Facsimile: 905-793-0641

Log of Borehole BH/MW-320D

Project No. GTR-23006349-E1 Drawing No. 29

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			90.79	12	20 40 60	25 50 75				
		~90.0		13						
		Borehole terminated at 12.8 m depth below grade.		14						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout. 3. Interpretation assistance by EXP is required before use by others.		15						
				16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	6.530	
August 13, 2024	6.675	

Log of Borehole BH/MW-329

Project No. GTR-23006349-E1 Drawing No. 30

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 30, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 6.4 m depth below grade.	101.08	0						
				1						
				2						
				3						
				4						
				5						
				6						
			~94.7							
		Borehole terminated at 6.4 m depth below grade.		7						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

exp Services Inc.
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Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 9, 2024	1.650	
August 12, 2024	1.890	

Log of Borehole BH/MW-332D

Project No. GTR-23006349-E1 | Drawing No. 34

Project: Phase Two ESA | Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 18, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			105.70							
		CONCRETE: (~100 mm thick)	~105.6	0				67	SS1	
		FILL: sand, brown								
				1				75	SS2	
			~104.0					100	SS3A	4 (H) 50 (I)
		GRAVEL:	~104.0	2				82	SS3B	9 (H) 210 (I)
		SILTY SAND: black/dark grey	~103.9							
		SILTY CLAY: dark grey, some sand grey below 2.33 m bgs						71	SS4	4 (H) 0 (I)
		some gravel, moist to wet below 3.05 m bgs		3				83	SS5	
		SILTY CLAY: silty clay with weathered shale, pockets of gravel, grey, wet to moist		4				46	SS6	
			~101.3							
		Shale bedrock (refer to rock coring log)		5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Continued Next Page

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	5.860	
August 12, 2024	5.900	

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Log of Borehole BH/MW-332D

Project No. GTR-23006349-E1 Drawing No. 34

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			93.70	12	20 40 60	25 50 75				
				13						
				14						
				15						
				16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						
			~92.6							
		Borehole terminated at 13.1 m depth below grade.								

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout.
3. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	5.860	
August 12, 2024	5.900	

Log of Borehole BH/MW-332S

Project No. GTR-23006349-E1 | Drawing No. 33

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 3.96 m depth below grade.	105.70	0						
				1						
				2						
				3						
			~101.7	4						
		Borehole terminated at 3.96 m depth below grade.		5						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 12, 2024	2.880	
August 13, 2024	2.930	

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Log of Borehole BH/MW-333

Project No. GTR-23006349-E1 | Drawing No. 35

Project: Phase Two ESA | Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 18, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			105.76	0						
		CONCRETE: (~140 mm thick)	~105.6							
		FILL: sand, brown						67	SS1	
				1				92	SS2	
			~104.2							
		SILTY CLAY: intermittant rock/weathered shale, grey, moist to wet		2				71	SS3	
								58	SS4	
			~102.9	3						
		WEATHERED SHALE: highly weathered shale with pockets of grey clay, moist to wet						100	SS5	
				4				42	SS6	
								83	SS7	
			~100.6	5						
		Shale bedrock (refer to rock coring log)		6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	3.920	
August 13, 2024	4.285	

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Log of Borehole BH/MW-333

Project No. GTR-23006349-E1 Drawing No. 35

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			93.76	12	20 40 60	25 50 75				
			~92.7	13						
		Borehole terminated at 13.1 m depth below grade.		14						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout. 3. Interpretation assistance by EXP is required before use by others.		15						
				16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	3.920	
August 13, 2024	4.285	

Log of Borehole BH/MW-334

Project No. GTR-23006349-E1 | Drawing No. 36

Project: Phase Two ESA | Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 16, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			104.21							
		CONCRETE: (~130 mm thick)	~104.1	0				63	SS1	
		FILL: sand, brown								
			~103.4	1				54	SS2	
		SILTY CLAY: grey, trace gravel								
				2				42	SS3	
		intermittant weathered shale below 2.33 m bgs						33	SS4	
			~101.3	3				100	SS5	
		WEATHERED SHALE: highly weathered shale	~101.1							
		Shale bedrock (refer to rock coring log)		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	7.840	
August 13, 2024	7.420	

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Log of Borehole BH/MW-334

Project No. GTR-23006349-E1 Drawing No. 36

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			92.21	12	20 40 60	25 50 75				
				13						
				14						
				15						
				16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						
			~91.1							
		Borehole terminated at 13.1 m depth below grade.								
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout. 3. Interpretation assistance by EXP is required before use by others.								

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	7.840	
August 13, 2024	7.420	

Log of Borehole BH/MW-335

Project No. GTR-23006349-E1 | Drawing No. 37

Project: Phase Two ESA | Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 17, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		CONCRETE: (~330 mm thick)	104.21	0				42	SS1	
		FILL: sand, brown, wet	~103.9	1				54	SS2	
				2				46	SS3	
		WEATHERED SHALE:	~101.7					42	SS4	
		Shale bedrock (refer to rock coring log)	~101.7	3				0	SS5	
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	5.600	
August 12, 2024	5.400	

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Log of Borehole BH/MW-335

Project No. GTR-23006349-E1 Drawing No. 37

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			92.21	12	20 40 60	25 50 75				
			~91.1	13						
		Borehole terminated at 13.1 m depth below grade. NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout. 3. Interpretation assistance by EXP is required before use by others.		14						
				15						
				16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	5.600	
August 12, 2024	5.400	

Log of Borehole BH/MW-336

Project No. GTR-23006349-E1 Drawing No. 38

Project: Phase Two ESA Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 30, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Direct auger to 12.8 m depth below grade.	102.24	0						
				1						
				2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	6.564	
August 12, 2024	6.620	

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Log of Borehole BH/MW-336

Project No. GTR-23006349-E1 Drawing No. 38

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			90.24	12	20 40 60	25 50 75				
			~89.4	13						
		Borehole terminated at 12.8 m depth below grade.		14						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout. 3. Interpretation assistance by EXP is required before use by others.		15						
				16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 8, 2024	6.564	
August 12, 2024	6.620	

Log of Borehole BH/MW-337

Project No. GTR-23006349-E1 | Drawing No. 39

Project: Phase Two ESA | Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 23, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH
			103.98	0
		TOPSOIL: (~230 mm thick)	~103.8	
		SILTY CLAY: reddish brown, moist	~103.4	
		SILTY CLAY: reddish brown, some black staining, slight hydrocarbon odour		1
		grey below 1.52 m bgs	~102.2	
		WEATHERED SHALE:	~102.1	2
		Shale bedrock (refer to rock coring log)		3
				4
				5
				6
				7
				8
				9
				10
				11
				12

N Value: 20, 40, 60

Combustible Vapour Reading (ppm): 25, 50, 75

7 (H) 90 (I)

1 (H) 55 (I)

SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
	79	SS1	
	50	SS2	PHC/BTEX
	100	SS3	PHC/BTEX

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Continued Next Page

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	7.180	
August 13, 2024	7.465	

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Log of Borehole BH/MW-337

Project No. GTR-23006349-E1 Drawing No. 39

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			91.98	12	20 40 60	25 50 75				
				13						
				14						
				15						
				16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						
			~90.9							
		Borehole terminated at 13.1 m depth below grade.								

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout.
3. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	7.180	
August 13, 2024	7.465	

Log of Borehole BH/MW-338

Project No. GTR-23006349-E1 | Drawing No. 40

Project: Phase Two ESA | Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 22, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			103.98	0						
		TOPSOIL: (~200 mm thick)	~103.8							
		SILTY SAND: reddish brown, some mottling, moist						96	SS1	
				1				79	SS2	
			~102.3							
		SILTY CLAY: grey, trace gravel/cobble		2				71	SS3	
			~101.7							
		WEATHERED SHALE: grey, pockets of clay, trace rock, very wet						100	SS4	
			~100.8	3				100	SS5	
		Shale bedrock (refer to rock coring log)								
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Continued Next Page

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	6.260	
August 13, 2024	7.190	

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Log of Borehole BH/MW-338

Project No. GTR-23006349-E1 Drawing No. 40

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			91.98	12	20 40 60	25 50 75				
				13						
			~90.9	14						
		Borehole terminated at 13.1 m depth below grade.		15						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout. 3. Interpretation assistance by EXP is required before use by others.		16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	6.260	
August 13, 2024	7.190	

Log of Borehole BH/MW-339

Project No. GTR-23006349-E1 | Drawing No. 41

Project: Phase Two ESA | Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: July 22, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			105.72	0						
		CONCRETE: (~160 mm thick)	~105.6							
		FILL: sand, brown, moist						71	SS1	
			~104.6	1				75	SS2	
		SILTY SAND: dark grey, moist to wet	~104.1							
		SILTY CLAY: grey, intermittant weathered shale		2				54	SS3	
								96	SS4	
			~102.8	3						
		WEATHERED SHALE: highly weathered shale, trace silty clay, wet						95	SS5	
			~102.2							
		Shale bedrock (refer to rock coring log)		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Continued Next Page

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	6.430	
August 13, 2024	6.59	

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Log of Borehole BH/MW-339

Project No. GTR-23006349-E1 Drawing No. 41

Project: Phase Two ESA Sheet No. 2 of 2

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			93.72	12	20 40 60	25 50 75				
				13						
				14						
				15						
				16						
				17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						
			~92.6							
		Borehole terminated at 13.1 m depth below grade.								

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. This borehole was drilled telescopically from the first 7.62 metres and then sealed off with grout.
3. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
July 30, 2024	6.430	
August 13, 2024	6.59	

Log of Borehole BH/MW-340

Project No. GTR-23006349-E1 | Drawing No. 42

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 12, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			105.98							
		ASPHALT: (~50 mm thick)	~105.9	0				72	SS1	
		FILL: sand and gravel fill	~105.5							
		SILTY CLAY:reddish brown, trace gravel	~105.1	1				72	SS2	OCPs
		SHALE: red shale	~105.1							
		Direct auger to 7.01 m depth below grade.		2						
				3						
				4						
				5						
				6						
				7						
		Borehole terminated at 7.01 m depth below grade.	~99.0	8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open
August 12, 2024	3.240	
August 13, 2024	3.370	

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Facsimile: 905-793-0641

Log of Borehole BH-104A

Project No. GTR-23006349-E1 | Drawing No. 1

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		CONCRETE: (~100 mm thick)		0						
		FILL: sand, trace gravel, brown, moist						92	SS1A	pH
		moist to wet						92	SS1B	pH
								92	SS1C	pH
				1				100	SS2A	pH
								100	SS2B	pH
								100	SS2C	pH
		Borehole terminated at 1.37 m depth below grade.		2						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-108A

Project No. GTR-23006349-E1 Drawing No. 2

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 2, 2024

Drill Type: Geoprobe 7822

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
				0						
		SILTY CLAY: silty clay, trace gravel		1				67	SS1	MeHg
		SILTY CLAY: grey							SS2	
		Borehole terminated at 1.98 m depth below grade.		2						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-114E

Project No. GTR-23006349-E1 | Drawing No. 4

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 2, 2024

Drill Type: Geoprobe 7822

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
				0						
		FILL: sand and gravel fill						85	SS1	MeHg
		SILTY CLAY: dark grey, trace organics and gravel		1				67	SS2	
		light grey below 1.42 m bgs								
		Borehole terminated at 1.52 m depth below grade.		2						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-114N

Project No. GTR-23006349-E1 Drawing No. 3

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 2, 2024

Drill Type: Geoprobe 7822

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
				0						
		FILL: sand and gravel fill						93	SS1	MeHg
		SILTY CLAY: grey, trace oragnics, moist		1				71	SS2	
		Borehole terminated at 1.52 m depth below grade.		2						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-114S

Project No. GTR-23006349-E1 Drawing No. 5

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 2, 2024

Drill Type: Geoprobe 7822

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
				0						
		FILL: sand and gravel fill						51	SS1	MeHg
		SILTY CLAY: grey, trace gravel		1				100	SS2	
		dark grey below 1.34 m bgs								
		Borehole terminated at 1.52 m depth below grade.		2						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-117A

Project No. GTR-23006349-E1 Drawing No. 6

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 12, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		ASPHALT: (~150 mm thick)		0				96	SS1A	pH
		FILL: sand and gravel fill, trace brick						96	SS1B	pH
								96	SS1C	pH
		Borehole terminated at 0.61 m depth below grade.		1						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-120A

Project No. GTR-23006349-E1 | Drawing No. 8

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		CONCRETE: (~130 mm thick)		0					SS1A	pH
		FILL: sand, brown, moist							SS1B	pH
		Borehole terminated at 0.46 m depth below grade.							SS1C	pH
									SS1D	
				1						
				2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-142A

Project No. GTR-23006349-E1 | Drawing No. 10

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 2, 2024

Drill Type: Geoprobe 7822

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		FILL: sand and gravel fill		0				36	SS1	MeHg
		SILTY CLAY: grey trace gravel below 1.52 m bgs		1				22	SS2	MeHg
				2				88	SS3	
		Borehole terminated at 1.98 m depth below grade.		3						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-203A

Project No. GTR-23006349-E1 | Drawing No. 11

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		CONCRETE: (~190 mm thick)		0						
		FILL: brown sand, moist							SS1A	pH
		SILTY SAND: some clay and gravel, moist		1					SS1B	pH
									SS1C	pH
		Borehole terminated at 1.52 m depth below grade.		2						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-204A

Project No. GTR-23006349-E1 Drawing No. 12

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		CONCRETE: (~180 mm thick)		0						
		FILL: brown sand, moist						63	SS1A	~~pH*~~
								63	SS1B	~~pH*~~
								63	SS1C	
		Borehole terminated at 0.61 m depth below grade.		1						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

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Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

Log of Borehole BH-212A

Project No. GTR-23006349-E1 | Drawing No. 14

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		CONCRETE: (~110 mm thick)		0					SS1A	pH
		FILL: brown sand, trace gravel, moist							SS1B	pH
		Borehole terminated at 0.46 m depth below grade.							SS1C	pH
									SS1D	
				1						
				2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-214A

Project No. GTR-23006349-E1 | Drawing No. 15

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		CONCRETE: (~150 mm thick)		0						
		FILL: brown sand, moist						99	SS1A	pH
								99	SS1B	pH
								99	SS1C	pH
								99	SS1D	
		Borehole terminated at 0.61 m depth below grade.		1						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-222A

Project No. GTR-23006349-E1 | Drawing No. 16

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 9, 2024

Drill Type: Geoprobe 3230DT

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		CONCRETE: (~300 mm thick)		0						
		FILL: brown sand, trace gravel moist						100	SS1A	pH
		coarse sand w/ trace gravel below 0.56 m bgs						100	SS1B	pH
		Borehole terminated at 0.61 m depth below grade.		1				100	SS1C	
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-330

Project No. GTR-23006349-E1 Drawing No. 31

Project: Phase Two ESA Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 2, 2024

Drill Type: Geoprobe 7822

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		FILL: sand and gravel fill		0						
		SILTY CLAY: brown, trace gravel						93	SS1	MeHg
		red below 1.12 m bgs		1				71	SS2	MeHg
		Borehole terminated at 1.22 m depth below grade.		2						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

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Log of Borehole BH-331

Project No. GTR-23006349-E1 | Drawing No. 32

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 2, 2024

Drill Type: Geoprobe 7822

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		FILL: sand and gravel fill		0						
		SILTY SAND: some clay, trace gravel, brown						74	SS1	MeHg
				1				72	SS2	MeHg
		Borehole terminated at 1.22 m depth below grade.								
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH-403

Project No. GTR-23006349-E1 | Drawing No. 43

Project: Phase Two ESA | Sheet No. 1 of 2

Location: 420 & 468 South Service Road, Oakville, ON

Date Drilled: August 1, 2024

Drill Type: Geoprobe 7822

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		FILL: silty clay fill, some sand, trace gravel and rootlets, brown, moist		0				71	SS1	
				1				75	SS2	OCPs
		SILTY CLAY: trace gravel, grey, moist to wet		2				54	SS3	
		WEATHERED SHALE: highly weathered shale, wet						96	SS4	
				3				95	SS5	
		Shale bedrock (refer to rock coring log)		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

Continued Next Page

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH-403

Project No. GTR-23006349-E1 Drawing No. 43

Project: Phase Two ESA Sheet No. 2 of 2

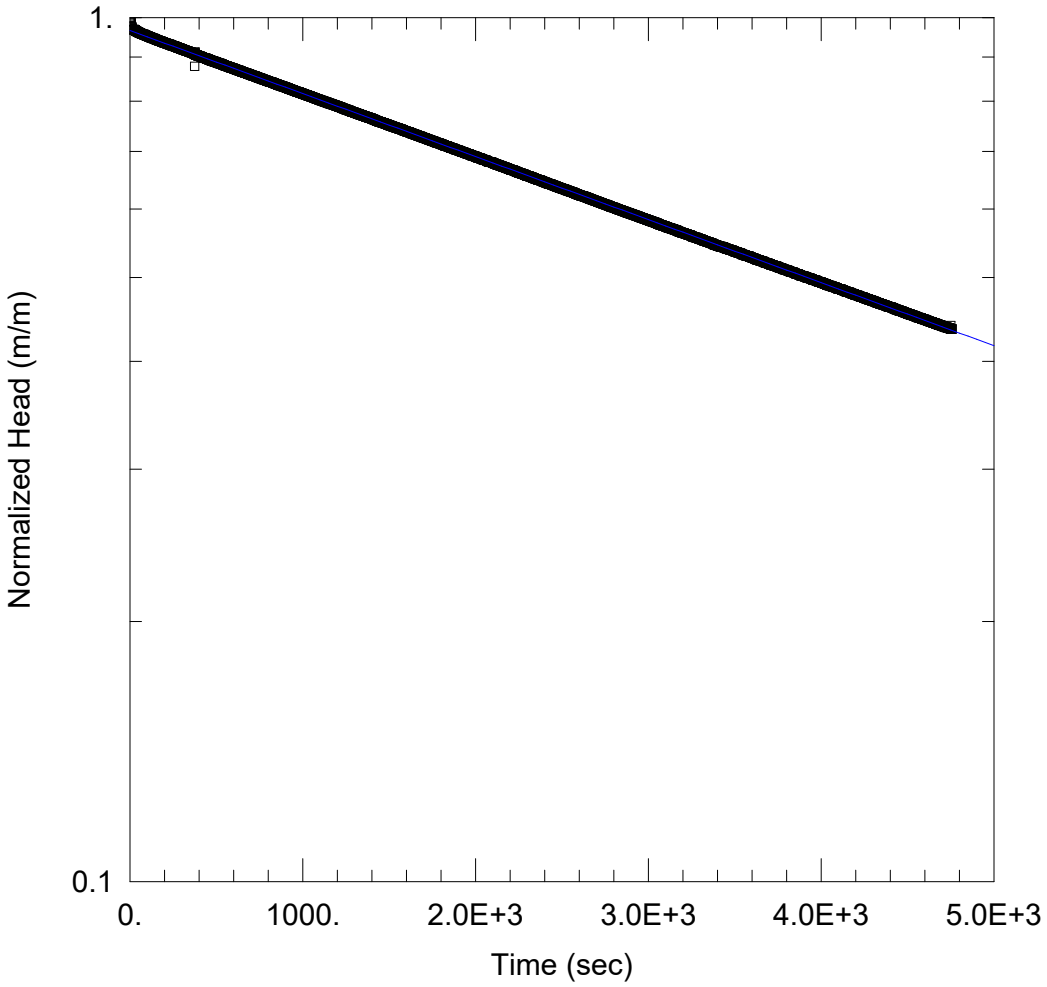
GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value 20 40 60	Combustible Vapour Reading (ppm) 25 50 75	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
				12						
				13						
				14						
				15						
		Borehole terminated at 15.34 m depth below grade.		16						
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others.		17						
				18						
				19						
				20						
				21						
				22						
				23						
				24						
				25						
				26						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES PART 2_CH.GPJ 9/16/24

exp Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)
on completion	no free water	open

Appendix C – SWRT Procedures and Results



FALLING HEAD SWRT - MW308

Data Set: E:\...\MW308.aqt
Date: 09/03/24 Time: 11:23:39

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW308
Test Date: August 29, 2024

AQUIFER DATA

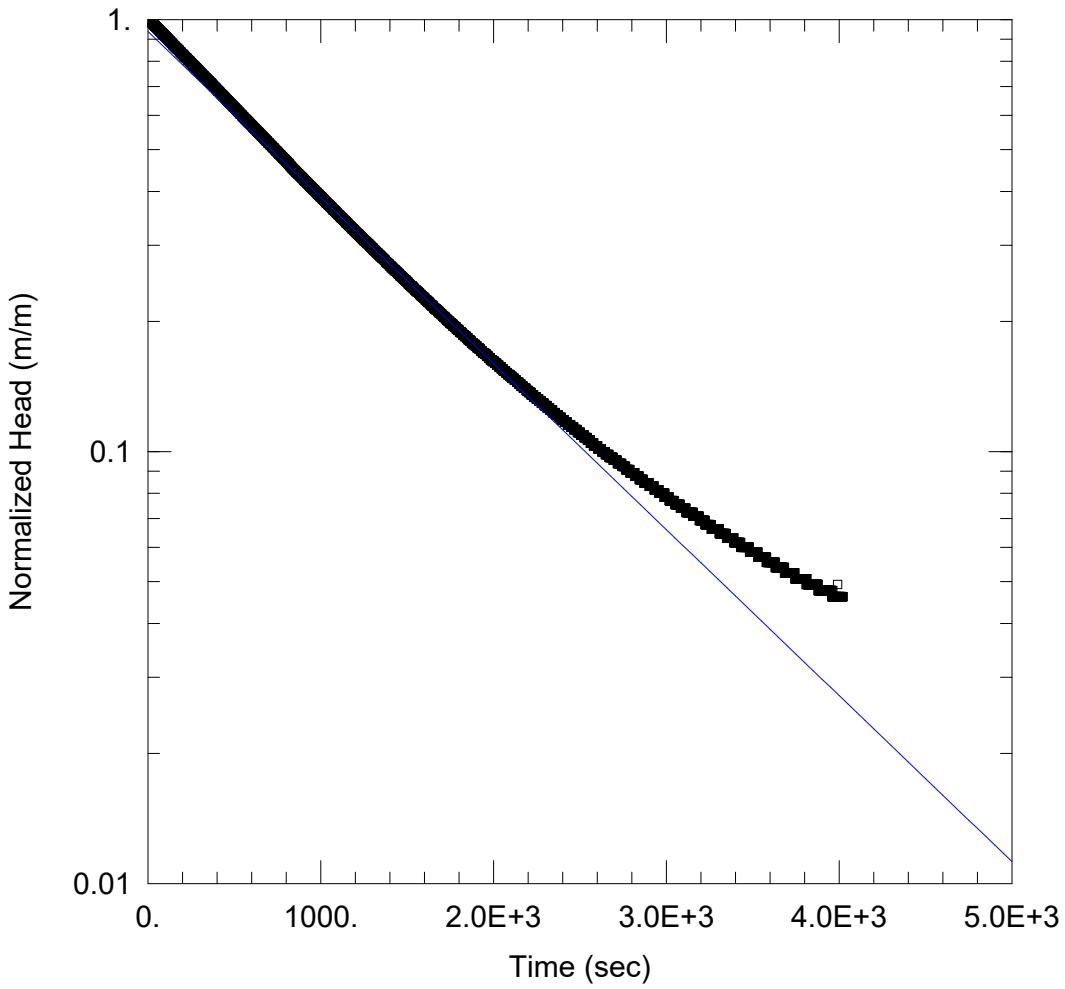
Saturated Thickness: 6.49 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW308)

Initial Displacement: 1.957 m
Total Well Penetration Depth: 6.49 m
Casing Radius: 0.0254 m
Static Water Column Height: 6.49 m
Screen Length: 3. m
Well Radius: 0.0762 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 7.886E-8 m/sec
y0 = 1.89 m



FALLING HEAD SWRT - MW320D

Data Set: E:\...\MW320D.aqt
Date: 09/03/24 Time: 11:24:04

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW320D
Test Date: August 29, 2024

AQUIFER DATA

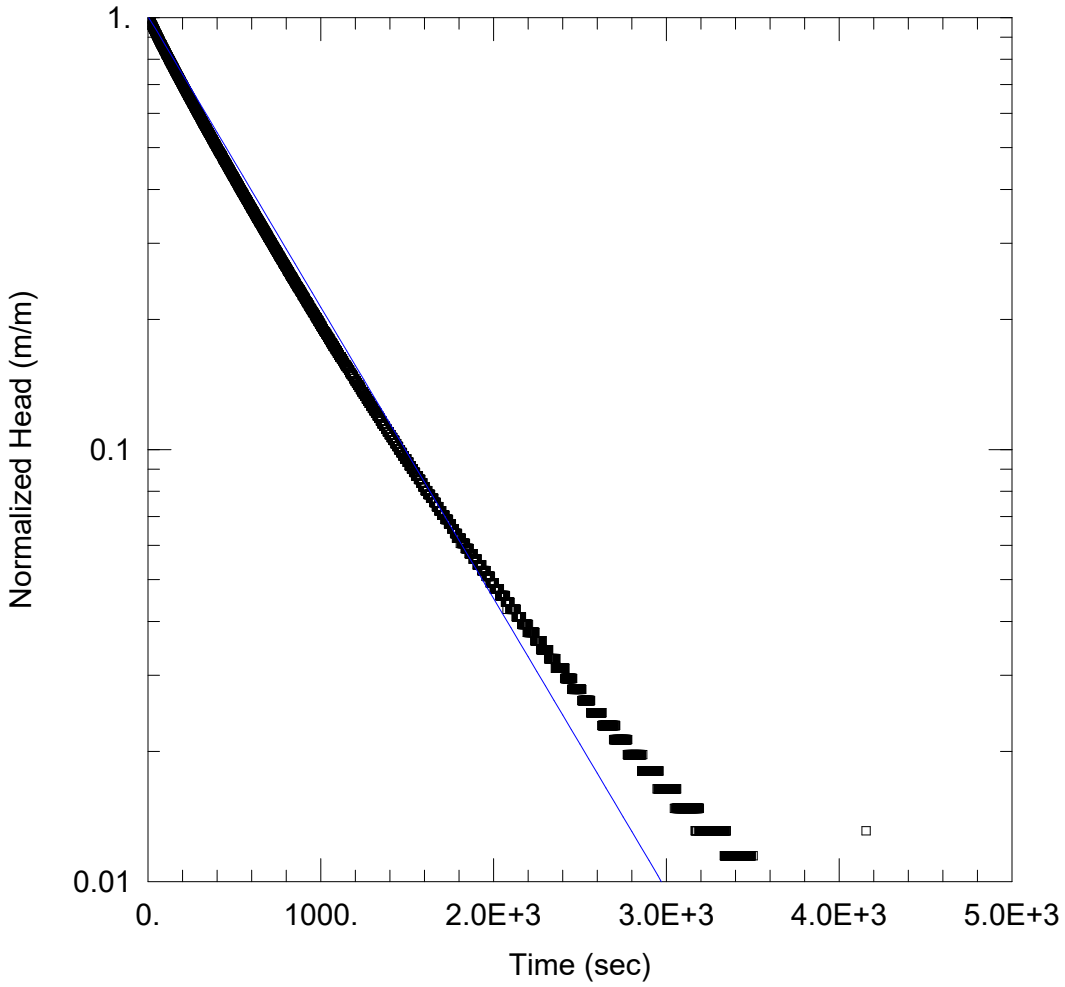
Saturated Thickness: 6.2 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW320D)

Initial Displacement: 1.95 m
Total Well Penetration Depth: 6.2 m
Casing Radius: 0.0254 m
Static Water Column Height: 6.2 m
Screen Length: 3. m
Well Radius: 0.0762 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 4.154E-7 m/sec
y0 = 1.828 m



FALLING HEAD SWRT - MW332D

Data Set: E:\...\MW332D.aqt
Date: 09/03/24 Time: 11:24:36

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW332D
Test Date: August 29, 2024

AQUIFER DATA

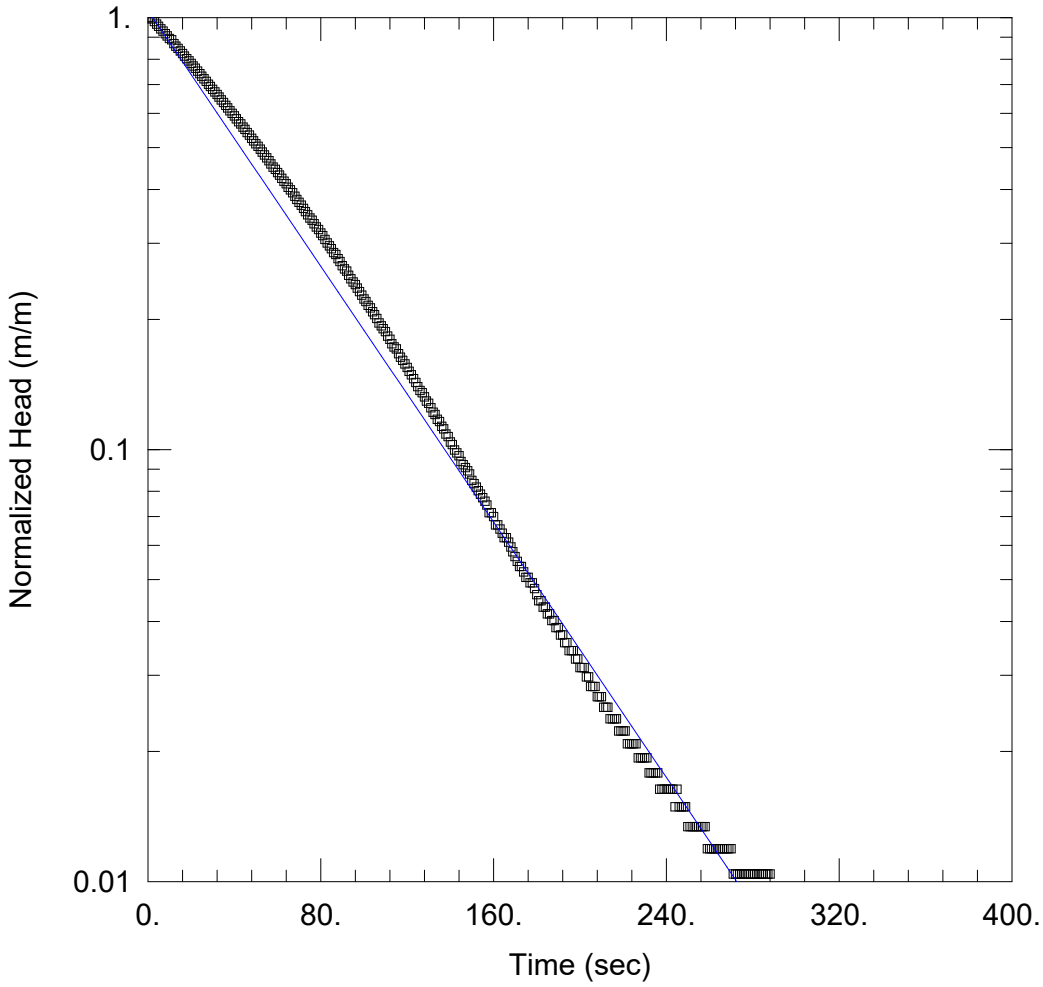
Saturated Thickness: 7.25 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW332D)

Initial Displacement: 1.83 m
Total Well Penetration Depth: 7.25 m
Casing Radius: 0.0254 m
Static Water Column Height: 7.25 m
Screen Length: 3. m
Well Radius: 0.0762 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 7.288E-7 m/sec
y0 = 1.844 m



FALLING HEAD SWRT - MW333

Data Set: E:\...\MW333.aqt
Date: 09/03/24 Time: 11:25:31

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW333
Test Date: August 29, 2024

AQUIFER DATA

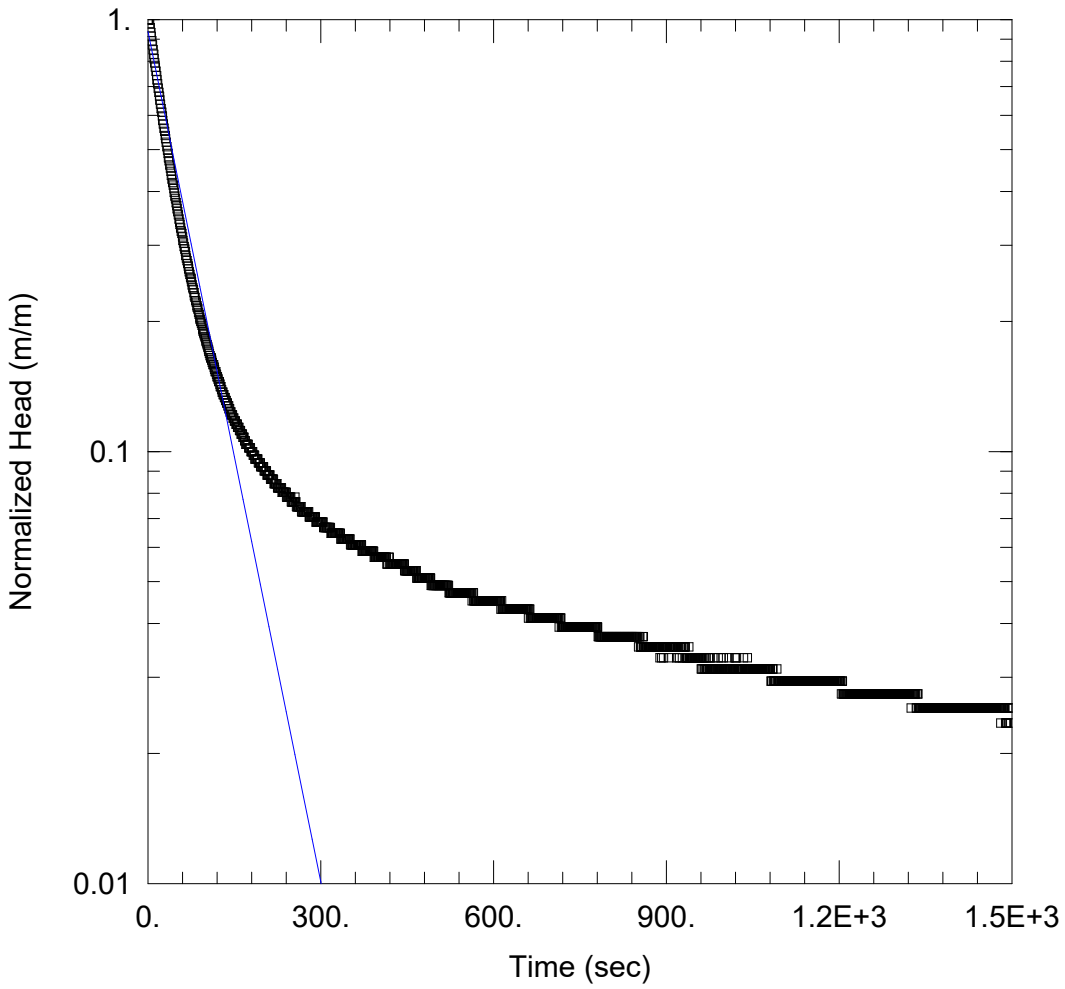
Saturated Thickness: 9.04 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW333)

Initial Displacement: 2.016 m Static Water Column Height: 9.04 m
Total Well Penetration Depth: 9.04 m Screen Length: 3. m
Casing Radius: 0.0254 m Well Radius: 0.0762 m

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev
K = 7.995E-6 m/sec y0 = 2.09 m



FALLING HEAD SWRT - MW334

Data Set: E:\...\MW334.aqt
Date: 09/03/24 Time: 11:25:43

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW334
Test Date: August 29, 2024

AQUIFER DATA

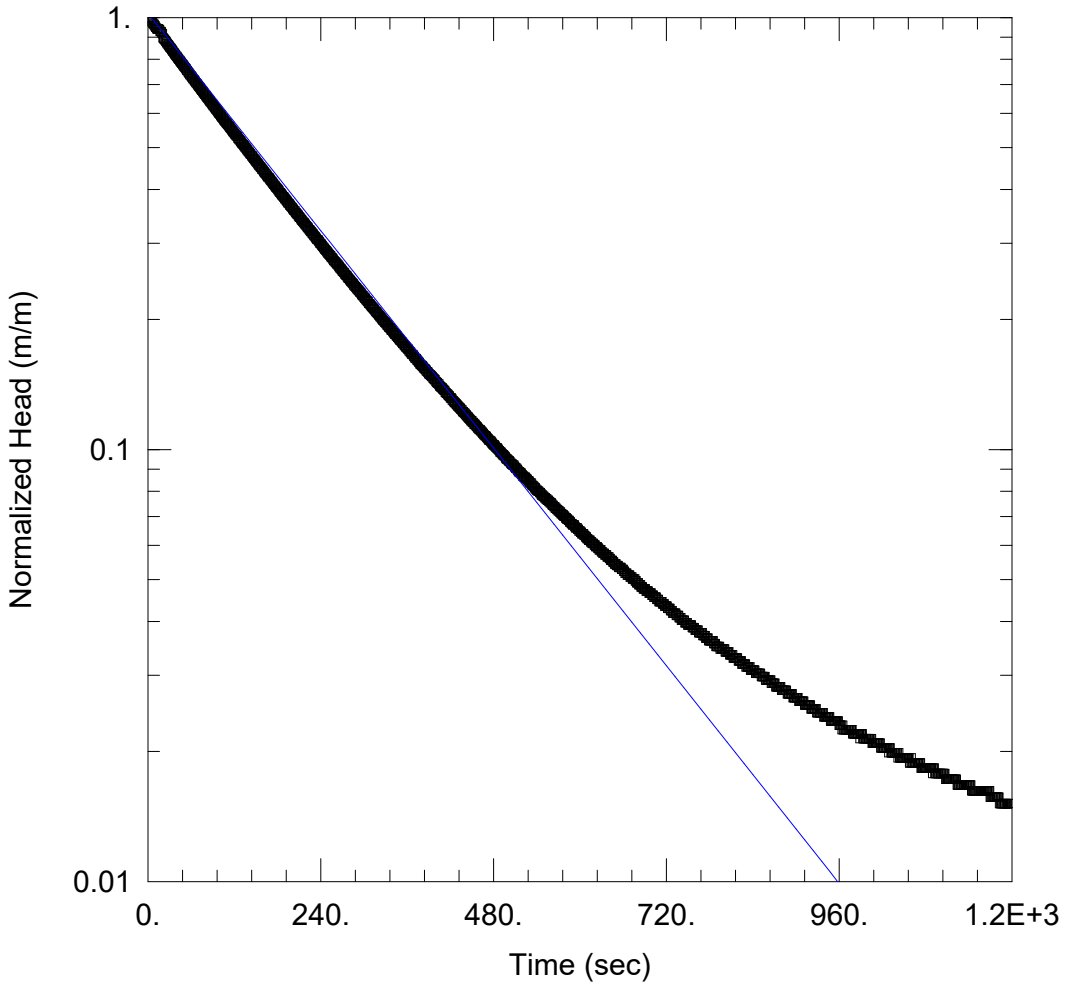
Saturated Thickness: 5.7 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW334)

Initial Displacement: 1.53 m Static Water Column Height: 5.7 m
Total Well Penetration Depth: 5.7 m Screen Length: 3. m
Casing Radius: 0.0254 m Well Radius: 0.0762 m

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev
K = 7.093E-6 m/sec y0 = 1.435 m



FALLING HEAD SWRT - MW335

Data Set: E:\...\MW335.aqt
Date: 09/03/24 Time: 11:21:30

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW335
Test Date: August 29, 2024

AQUIFER DATA

Saturated Thickness: 6.62 m Anisotropy Ratio (Kz/Kr): 1.

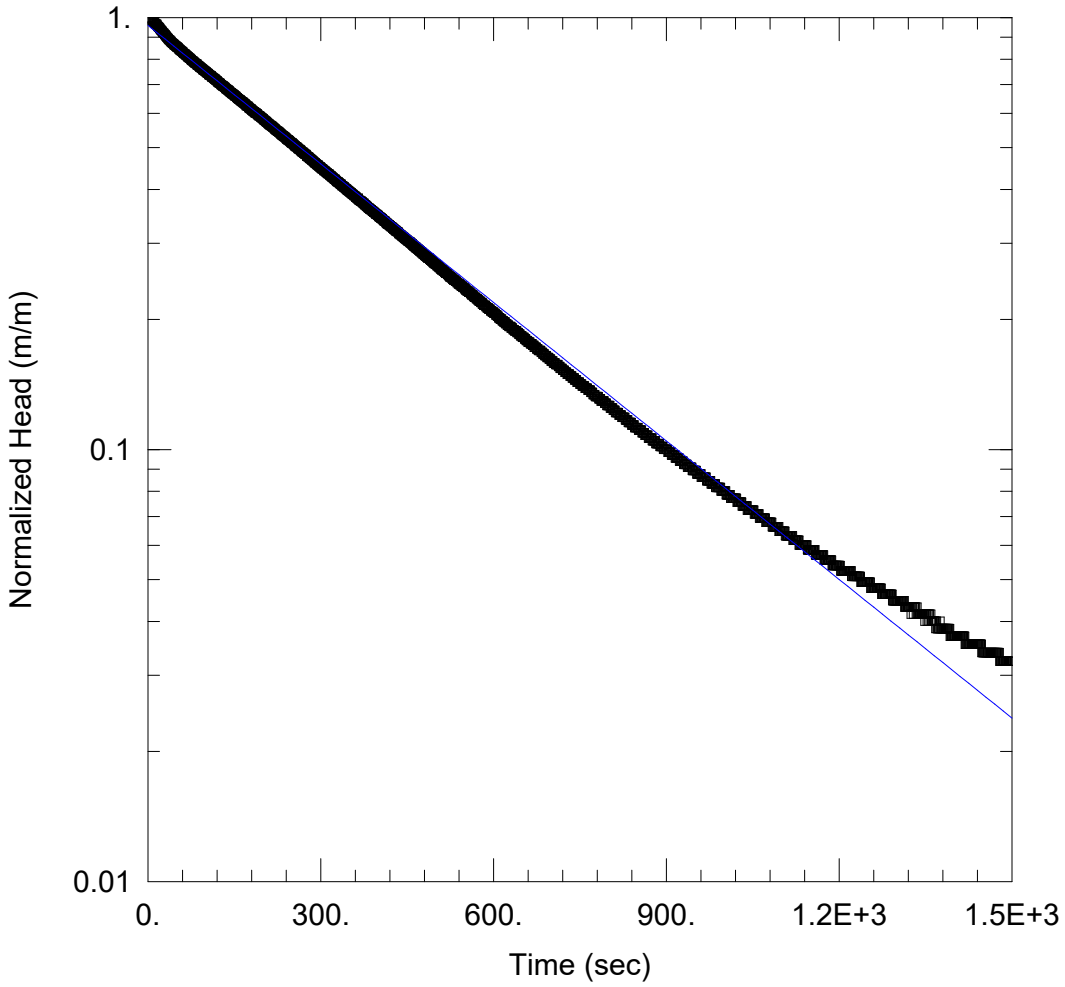
WELL DATA (MW335)

Initial Displacement: 1.913 m Static Water Column Height: 6.62 m
Total Well Penetration Depth: 6.62 m Screen Length: 3. m
Casing Radius: 0.0254 m Well Radius: 0.0762 m

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev

K = 2.268E-6 m/sec y0 = 1.958 m



FALLING HEAD SWRT - MW336

Data Set: E:\...\MW336.aqt
Date: 09/03/24 Time: 11:23:51

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW336
Test Date: August 29, 2024

AQUIFER DATA

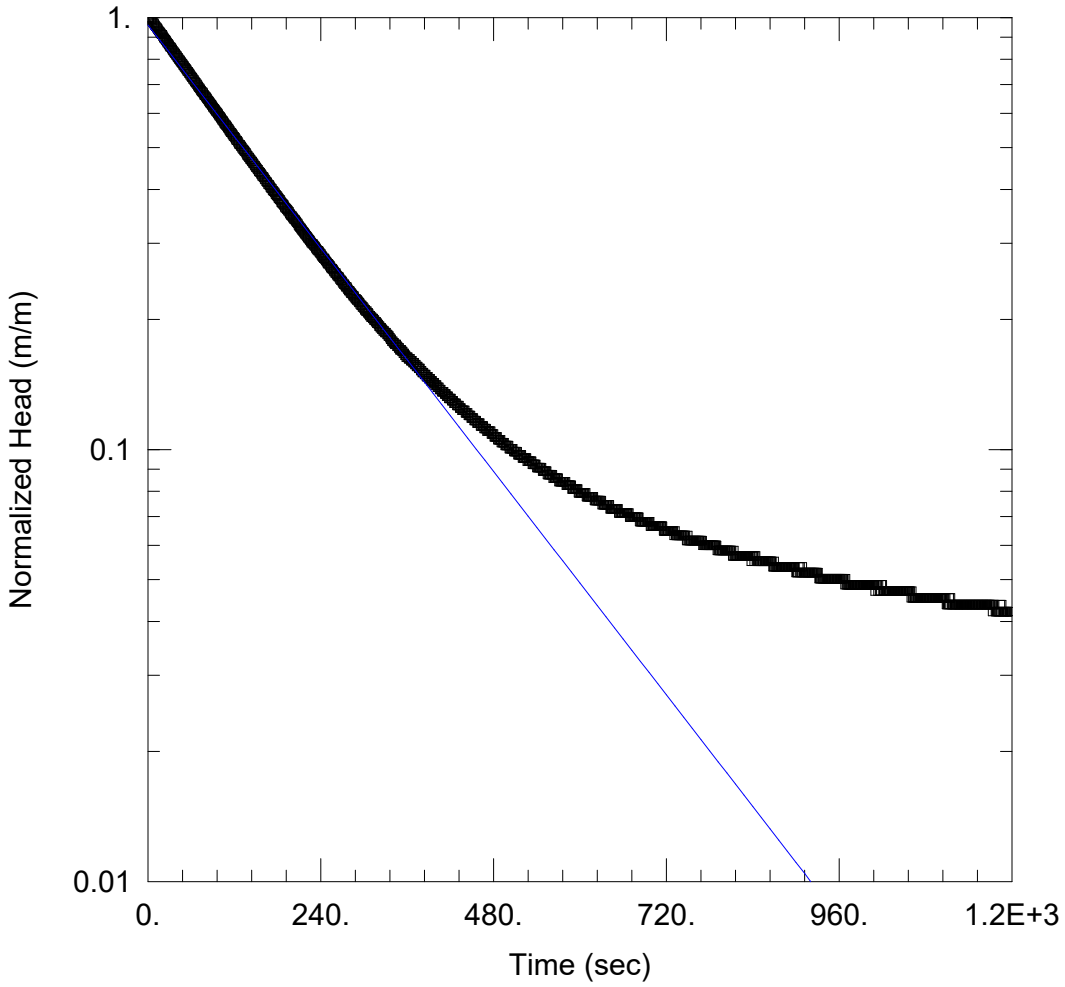
Saturated Thickness: 6.16 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW336)

Initial Displacement: 1.947 m
Total Well Penetration Depth: 6.16 m
Casing Radius: 0.0254 m
Static Water Column Height: 6.16 m
Screen Length: 3. m
Well Radius: 0.0762 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 1.156E-6 m/sec
y0 = 1.867 m



FALLING HEAD SWRT - MW337

Data Set: E:\...\MW337.aqt
Date: 09/03/24 Time: 11:24:19

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW337
Test Date: August 29, 2024

AQUIFER DATA

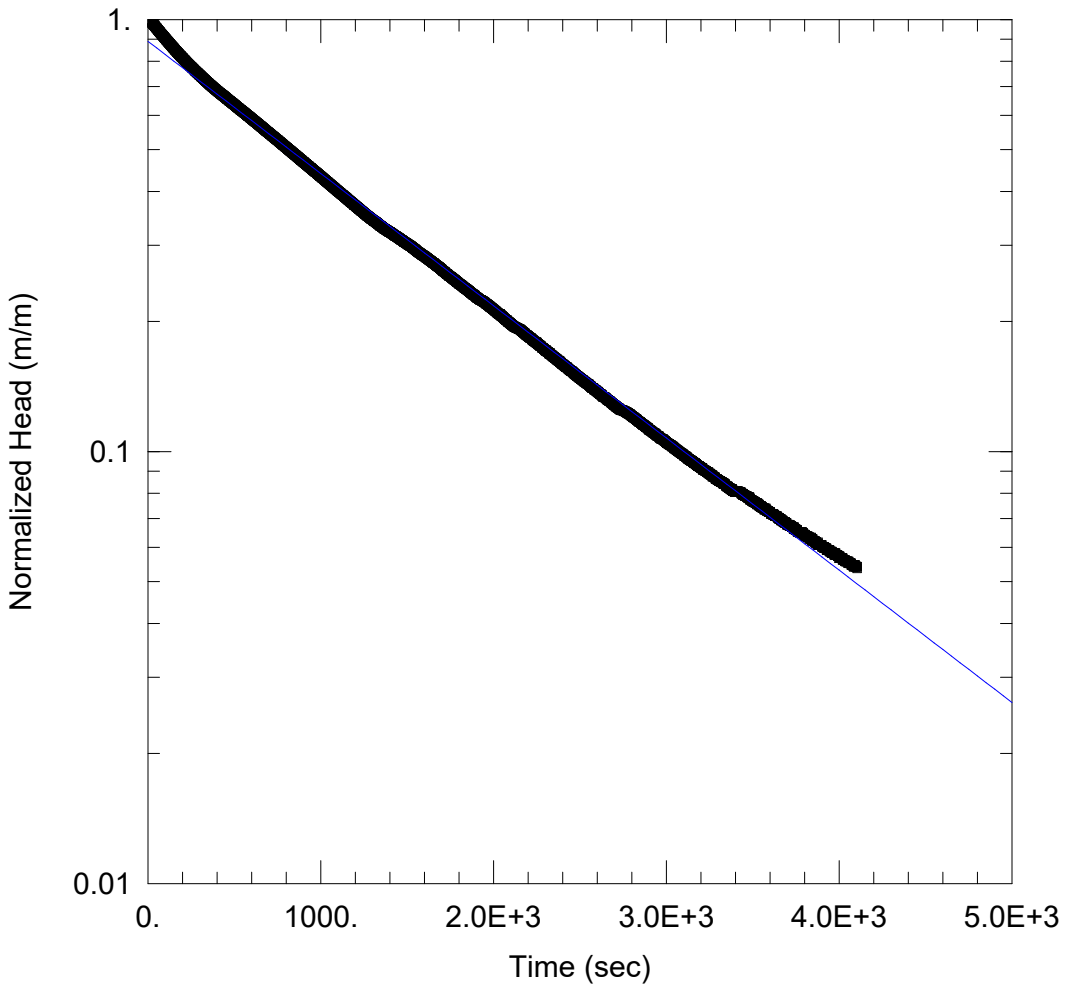
Saturated Thickness: 5.76 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW337)

Initial Displacement: 1.851 m
Total Well Penetration Depth: 5.76 m
Casing Radius: 0.0254 m
Static Water Column Height: 5.76 m
Screen Length: 3. m
Well Radius: 0.0762 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 2.328E-6 m/sec
y0 = 1.779 m



FALLING HEAD SWRT - MW338

Data Set: E:\...\MW338.aqt
Date: 09/03/24 Time: 11:24:53

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW338
Test Date: August 29, 2024

AQUIFER DATA

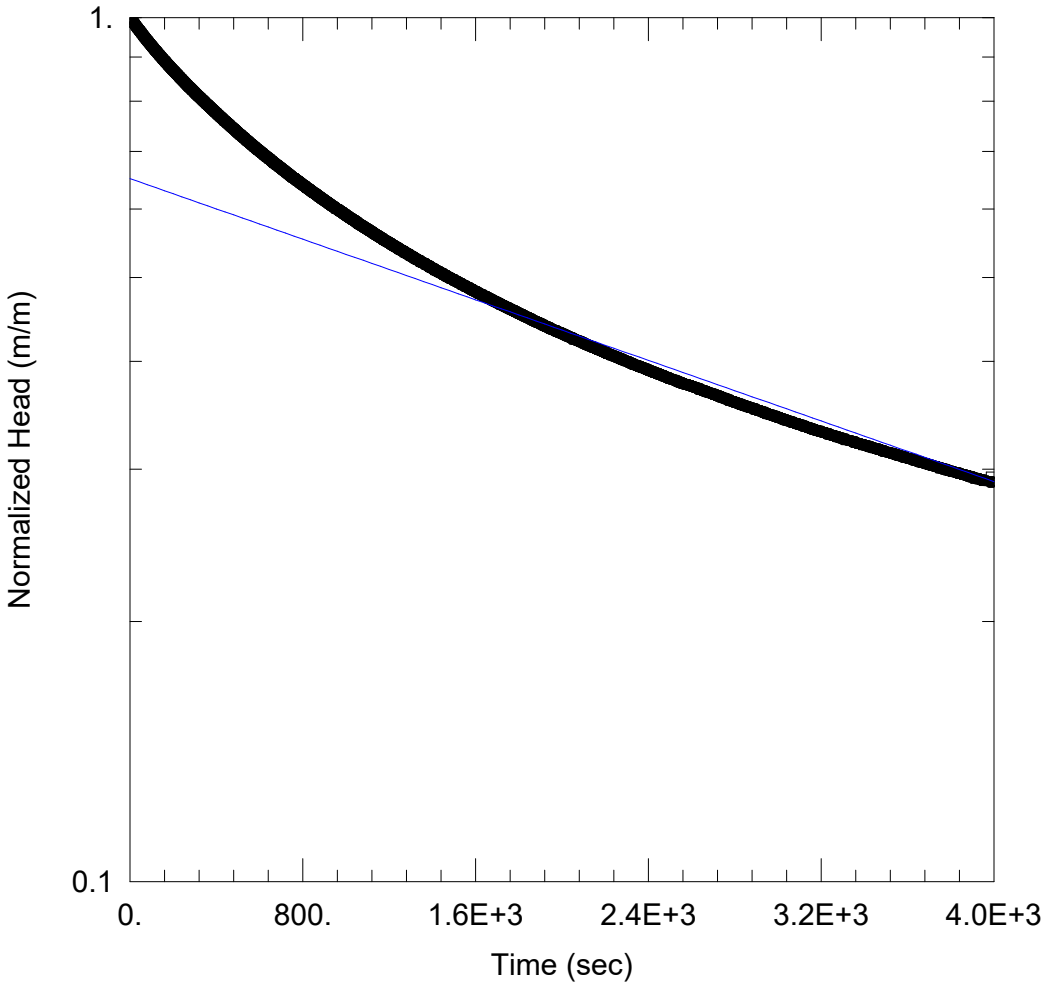
Saturated Thickness: 5.59 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW338)

Initial Displacement: 1.977 m
Total Well Penetration Depth: 5.59 m
Casing Radius: 0.0254 m
Static Water Column Height: 5.59 m
Screen Length: 3. m
Well Radius: 0.0762 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 3.309E-7 m/sec
y0 = 1.76 m



FALLING HEAD SWRT - MW339

Data Set: E:\...\MW339.aqt
Date: 09/03/24 Time: 11:25:56

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW339
Test Date: August 29, 2024

AQUIFER DATA

Saturated Thickness: 6.81 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW339)

Initial Displacement: 1.99 m Static Water Column Height: 6.81 m
Total Well Penetration Depth: 6.81 m Screen Length: 3. m
Casing Radius: 0.0254 m Well Radius: 0.0762 m

SOLUTION

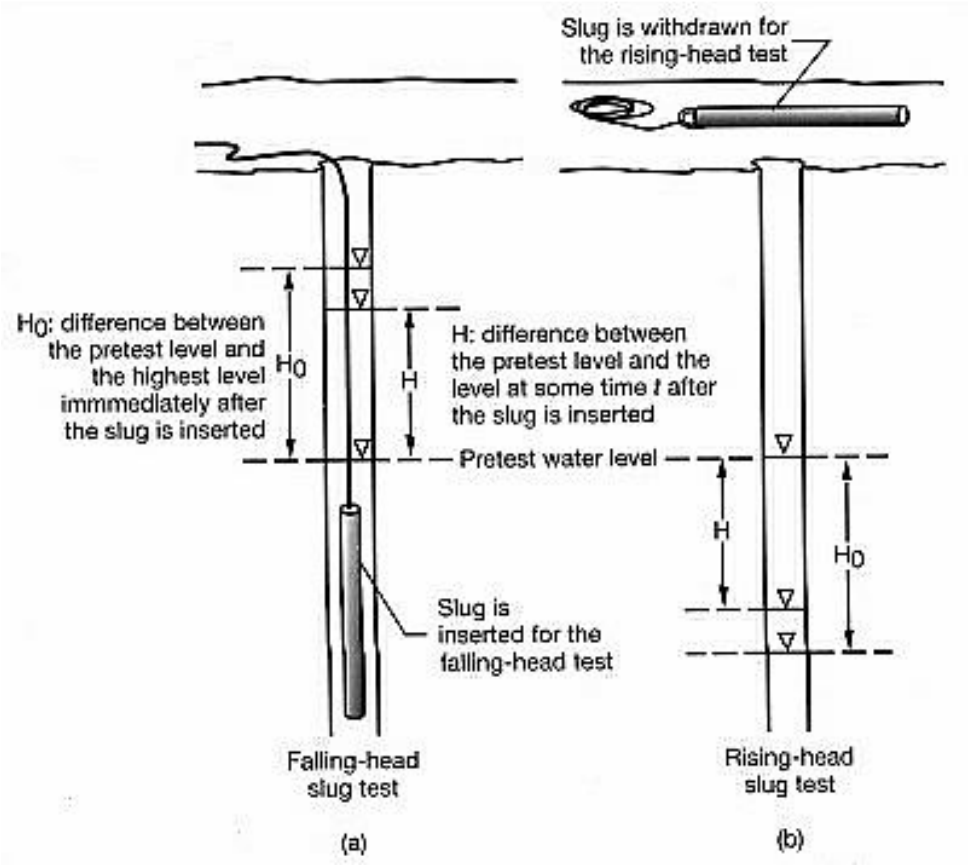
Aquifer Model: Confined Solution Method: Hvorslev
K = 9.478E-8 m/sec y0 = 1.295 m

Single Well Response Test Procedure

A Single Well Response Test (SWRT), also known as a bail test or a slug test, is conducted in order to determine the saturated hydraulic conductivity (K) of an aquifer. The method of the SWRT is to characterize the change of groundwater level in a well or borehole over time.

In order to ensure consistency and repeatability, all **exp** employees are to follow the procedure outlined in this document when conducting SWRTs.

The figure below depicts a schematic of a slug and bail test and the respective water level changes.



Initials ___

Slug Test Procedure

Equipment Required

- Copy of a signed health and safety plan
- Copy of the work program
- PPE as required by Site-Specific HASP
- Copy of the monitoring well location plan/site plan
- Waterproof pen and bound field note book
- SWRT field data Entry form
- Disposable gloves
- Duct tape
- Deionized water
- Alconox (phosphate free detergent)
- Spray bottles
- Electronic water level meter and spare batteries
- Solid PVC or stainless steel slug of known volume or clean water
- String (nylon)
- Water pressure transducer (data logger) and baro-logger
- Watch or stop watch with second hand
- Plastic sheeting

Testing Procedure

1. Remove cap from well and collect static water level
2. Remove waterra tubing/bailer and place in garbage bag. Record static water level measurement again.
3. Lower the slug into the well and record the dynamic water level.
4. Record the drawdown (for the slug test) at set five (5) second intervals for the first five (5) minutes, then reduce to every one (1) minute.
5. Continue recording the drawdown until 95% recovery is reached. To calculate this value: Find the difference between the dynamic water level and the static water level, then multiply by 95% (.95). Add the resulting value to the dynamic water level.

   (Static Water Level – Dynamic Water Level).95 + Static Water Level = 95% Recovery Value
6. Once complete, replace the waterra tubing/bailer and re-secure the well cap.

Note: If the well is deep, more than one slug may be inserted by attaching the slugs to a series.

Slugs must be washed with methanol, then lab grade soap, and then rinsed with de-ionized water after each use.

Based on the recorded observations, the hydraulic conductivity (in m/s) of the aquifer will be determined. In order to determine the hydraulic conductivity; the well diameter, radius of the borehole and length of the screen will also be required.

Bail Test Procedure

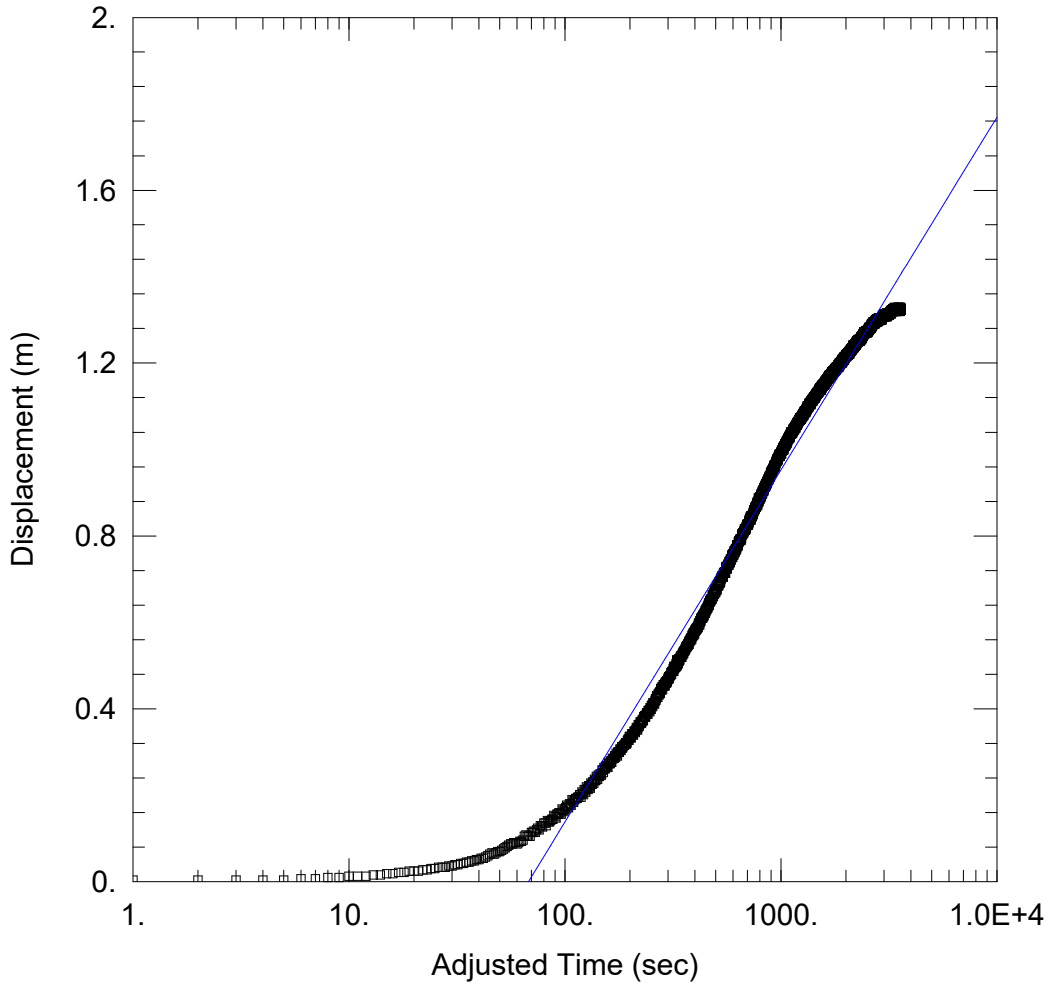
Equipment Required

- 20 L (5 gal) Graduated pail
- Stop watch or watch with seconds
- Garbage bags
- Water level meter
- Field sheets/log book
- Latex Gloves
- Bailer and Rope

Procedure

1. Remove cap from well and collect static water level.
2. If using a **bailer**:
    a. Affix the rope to the bailer.
    b. Remove the waterra tubing and place in garbage bag
    c. Record static water level measurement again.
    d. Record how much water was removed by either counting the number of full bailers or emptying removed water into a container.
    e. Quickly lower the bailer into the well and remove.
    f. Continue this process until the water level will reduce no further.
    g. Record the dynamic water level.
3. If using **waterra** to bail the water:
    a. Pump the water into graduated bucket until the water level will reduce no further.
    b. Record how much water has been removed.
    c. Record the dynamic water level.
4. Record the recovery at set five (5) second intervals for the first (5) minutes, then reduce to every one (1) minute.
5. Continue recording the drawdown/recovery until 95% recovery is reached.
6. Once complete, replace any waterra tubing that may have been removed from the well and re-secure the well cap.

Appendix D – Pumping Test Results



PUMP TEST - MW332D

Data Set: E:\...\PT_ConCJ_MW332D.aqt
Date: 09/20/24 Time: 21:33:03

PROJECT INFORMATION

Company: EXP Services Inc.
Client: 420 South Service Limited
Project: HAM-23006348-F0
Location: 420 South Service Rd E,
Test Well: MW332D
Test Date: August 30, 2024

AQUIFER DATA

Saturated Thickness: 7.3 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (m)	Y (m)
MW332D	0	0

Observation Wells

Well Name	X (m)	Y (m)
MW332D	0	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 9.529E-7 m^2/sec S = 0.02499

Appendix E – Laboratory's Certificates of Analysis

Your Project #: GTR-23006348-E1 (TASK 201)
Site Location: SOUTH SERVICE ROAD, OAKVILLE
Your C.O.C. #: 1007185-98-01

Attention: Jennifer Hayman

exp Services Inc
Stoney Creek Branch
1266 South Service Rd
Suite C1-1
Stoney Creek, ON
CANADA L8E 5R9

Report Date: 2024/09/30
Report #: R8341293
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4Q4099
Received: 2024/08/23, 18:00

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
1,3-Dichloropropene Sum	1	N/A	2024/08/29		EPA 8260C m
Polychlorinated Biphenyl in Water	3	2024/08/27	2024/08/28	CAM SOP-00309	EPA 8082A m
Polychlorinated Biphenyl in Water	1	2024/08/29	2024/08/29	CAM SOP-00309	EPA 8082A m
Volatile Organic Compounds in Water	1	N/A	2024/08/28	CAM SOP-00228	EPA 8260D

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: GTR-23006348-E1 (TASK 201)
Site Location: SOUTH SERVICE ROAD, OAKVILLE
Your C.O.C. #: 1007185-98-01

Attention: Jennifer Hayman

exp Services Inc
Stoney Creek Branch
1266 South Service Rd
Suite C1-1
Stoney Creek, ON
CANADA L8E 5R9

Report Date: 2024/09/30
Report #: R8341293
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4Q4099
Received: 2024/08/23, 18:00

Encryption Key

Patricia Legette
Project Manager
30 Sep 2024 11:05:54

Please direct all questions regarding this Certificate of Analysis to:
Patricia Legette, Project Manager
Email: Patricia.Legette@bureauveritas.com
Phone# (905)817-5799

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C4Q4099
Report Date: 2024/09/30

exp Services Inc
Client Project #: GTR-23006348-E1 (TASK 201)
Site Location: SOUTH SERVICE ROAD, OAKVILLE
Sampler Initials: DB

O.REG 153 PCBS (WATER)

Bureau Veritas ID			AAXN60	AAXN61	AAXN62		AAXN63		
Sampling Date			2024/08/23 15:00	2024/08/23 14:30	2024/08/23 15:35		2024/08/23 16:00		
COC Number			1007185-98-01	1007185-98-01	1007185-98-01		1007185-98-01		
	UNITS	**Criteria**	**MW151**	**MW305**	**MW317**	**QC Batch**	**MW123**	**RDL**	**QC Batch**
PCBs									
Aroclor 1242	ug/L	-	<0.05	<0.05	<0.05	9601130	<0.05	0.05	9606687
Aroclor 1248	ug/L	-	<0.05	<0.05	<0.05	9601130	<0.05	0.05	9606687
Aroclor 1254	ug/L	-	<0.05	<0.05	<0.05	9601130	<0.05	0.05	9606687
Aroclor 1260	ug/L	-	<0.05	<0.05	<0.05	9601130	<0.05	0.05	9606687
Total PCB	ug/L	0.4	<0.05	<0.05	<0.05	9601130	<0.05	0.05	9606687
Surrogate Recovery (%)									
Decachlorobiphenyl	%	-	92	82	75	9601130	107		9606687

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The Town of Oakville Storm Sewer Discharge By Law 2009-031

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID				AAXN59		
Sampling Date				2024/08/23 13:45		
COC Number				1007185-98-01		
	UNITS	**Criteria**	**Criteria-2**	**MW133A**	**RDL**	**QC Batch**
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/L	-	-	<0.50	0.50	9599463
Volatile Organics						
Acetone (2-Propanone)	ug/L	-	-	<10	10	9601462
Benzene	ug/L	10	2	<0.20	0.20	9601462
Bromodichloromethane	ug/L	-	-	<0.50	0.50	9601462
Bromoform	ug/L	-	-	<1.0	1.0	9601462
Bromomethane	ug/L	-	-	<0.50	0.50	9601462
Carbon Tetrachloride	ug/L	-	-	<0.19	0.19	9601462
Chlorobenzene	ug/L	-	-	<0.20	0.20	9601462
Chloroform	ug/L	40	2	<0.20	0.20	9601462
Dibromochloromethane	ug/L	-	-	<0.50	0.50	9601462
1,2-Dichlorobenzene	ug/L	-	5.6	<0.40	0.40	9601462
1,3-Dichlorobenzene	ug/L	-	-	<0.40	0.40	9601462
1,4-Dichlorobenzene	ug/L	80	6.8	<0.40	0.40	9601462
Dichlorodifluoromethane (FREON 12)	ug/L	-	-	<1.0	1.0	9601462
1,1-Dichloroethane	ug/L	-	-	<0.20	0.20	9601462
1,2-Dichloroethane	ug/L	-	-	<0.49	0.49	9601462
1,1-Dichloroethylene	ug/L	-	-	<0.20	0.20	9601462
cis-1,2-Dichloroethylene	ug/L	-	5.6	<0.50	0.50	9601462
trans-1,2-Dichloroethylene	ug/L	-	-	<0.50	0.50	9601462
1,2-Dichloropropane	ug/L	-	-	<0.20	0.20	9601462
cis-1,3-Dichloropropene	ug/L	-	-	<0.30	0.30	9601462
trans-1,3-Dichloropropene	ug/L	-	5.6	<0.40	0.40	9601462
Ethylbenzene	ug/L	160	2	<0.20	0.20	9601462
Ethylene Dibromide	ug/L	-	-	<0.19	0.19	9601462
Hexane	ug/L	-	-	<1.0	1.0	9601462
Methylene Chloride(Dichloromethane)	ug/L	2000	5.2	<2.0	2.0	9601462
Methyl Ethyl Ketone (2-Butanone)	ug/L	-	-	<10	10	9601462
Methyl Isobutyl Ketone	ug/L	-	-	<5.0	5.0	9601462

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Sanitary & Combined Sewer Bylaw (2-03)
Criteria-2: The Town of Oakville Storm Sewer Discharge By Law 2009-031

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O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID				AAXN59		
Sampling Date				2024/08/23 13:45		
COC Number				1007185-98-01		
	UNITS	**Criteria**	**Criteria-2**	**MW133A**	**RDL**	**QC Batch**
Methyl t-butyl ether (MTBE)	ug/L	-	-	<0.50	0.50	9601462
Styrene	ug/L	-	-	<0.40	0.40	9601462
1,1,1,2-Tetrachloroethane	ug/L	-	-	<0.50	0.50	9601462
1,1,2,2-Tetrachloroethane	ug/L	-	17	<0.40	0.40	9601462
Tetrachloroethylene	ug/L	1000	4.4	<0.20	0.20	9601462
Toluene	ug/L	16	2	<0.20	0.20	9601462
1,1,1-Trichloroethane	ug/L	-	-	<0.20	0.20	9601462
1,1,2-Trichloroethane	ug/L	-	-	<0.40	0.40	9601462
Trichloroethylene	ug/L	400	7.6	<0.20	0.20	9601462
Trichlorofluoromethane (FREON 11)	ug/L	-	-	<0.50	0.50	9601462
Vinyl Chloride	ug/L	-	-	<0.20	0.20	9601462
p+m-Xylene	ug/L	-	-	<0.20	0.20	9601462
o-Xylene	ug/L	-	-	<0.20	0.20	9601462
Total Xylenes	ug/L	-	4.4	<0.20	0.20	9601462
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	-	-	105		9601462
D4-1,2-Dichloroethane	%	-	-	106		9601462
D8-Toluene	%	-	-	95		9601462

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Halton Sanitary & Combined Sewer Bylaw (2-03)
Criteria-2: The Town of Oakville Storm Sewer Discharge By Law 2009-031

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C4Q4099
Report Date: 2024/09/30

exp Services Inc
Client Project #: GTR-23006348-E1 (TASK 201)
Site Location: SOUTH SERVICE ROAD, OAKVILLE
Sampler Initials: DB

TEST SUMMARY

Bureau Veritas ID: AAXN59 **Collected:** 2024/08/23
Sample ID: MW133A **Shipped:**
Matrix: Water **Received:** 2024/08/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9599463	N/A	2024/08/29	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	9601462	N/A	2024/08/28	Noel Ramos

Bureau Veritas ID: AAXN60 **Collected:** 2024/08/23
Sample ID: MW151 **Shipped:**
Matrix: Water **Received:** 2024/08/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Polychlorinated Biphenyl in Water	GC/ECD	9601130	2024/08/27	2024/08/28	Debashis Saha

Bureau Veritas ID: AAXN61 **Collected:** 2024/08/23
Sample ID: MW305 **Shipped:**
Matrix: Water **Received:** 2024/08/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Polychlorinated Biphenyl in Water	GC/ECD	9601130	2024/08/27	2024/08/28	Debashis Saha

Bureau Veritas ID: AAXN62 **Collected:** 2024/08/23
Sample ID: MW317 **Shipped:**
Matrix: Water **Received:** 2024/08/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Polychlorinated Biphenyl in Water	GC/ECD	9601130	2024/08/27	2024/08/28	Debashis Saha

Bureau Veritas ID: AAXN63 **Collected:** 2024/08/23
Sample ID: MW123 **Shipped:**
Matrix: Water **Received:** 2024/08/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Polychlorinated Biphenyl in Water	GC/ECD	9606687	2024/08/29	2024/08/29	Debashis Saha

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	14.3°C

Revised Report (2024/09/30): Halton Sanitary and Combined Bylaw and Oakville Storm sewer Bylaw criteria policies have been included in this CofA as per Hammond Lo's request.

Results relate only to the items tested.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9601130	Decachlorobiphenyl	2024/08/28	88	60 - 130	80	60 - 130	90	%		
9601462	4-Bromofluorobenzene	2024/08/28	104	70 - 130	102	70 - 130	104	%		
9601462	D4-1,2-Dichloroethane	2024/08/28	104	70 - 130	101	70 - 130	101	%		
9601462	D8-Toluene	2024/08/28	96	70 - 130	98	70 - 130	97	%		
9606687	Decachlorobiphenyl	2024/08/29	92	60 - 130	76	60 - 130	89	%		
9601130	Aroclor 1242	2024/08/28					<0.05	ug/L		
9601130	Aroclor 1248	2024/08/28					<0.05	ug/L		
9601130	Aroclor 1254	2024/08/28					<0.05	ug/L		
9601130	Aroclor 1260	2024/08/28	98	60 - 130	89	60 - 130	<0.05	ug/L		
9601130	Total PCB	2024/08/28	98	60 - 130	89	60 - 130	<0.05	ug/L	NC	40
9601462	1,1,1,2-Tetrachloroethane	2024/08/28	120	70 - 130	107	70 - 130	<0.50	ug/L	NC	30
9601462	1,1,1-Trichloroethane	2024/08/28	112	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
9601462	1,1,2,2-Tetrachloroethane	2024/08/28	106	70 - 130	90	70 - 130	<0.40	ug/L	NC	30
9601462	1,1,2-Trichloroethane	2024/08/28	113	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
9601462	1,1-Dichloroethane	2024/08/28	109	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
9601462	1,1-Dichloroethylene	2024/08/28	113	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
9601462	1,2-Dichlorobenzene	2024/08/28	115	70 - 130	103	70 - 130	<0.40	ug/L	NC	30
9601462	1,2-Dichloroethane	2024/08/28	123	70 - 130	106	70 - 130	<0.49	ug/L	NC	30
9601462	1,2-Dichloropropane	2024/08/28	115	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
9601462	1,3-Dichlorobenzene	2024/08/28	118	70 - 130	107	70 - 130	<0.40	ug/L	NC	30
9601462	1,4-Dichlorobenzene	2024/08/28	123	70 - 130	112	70 - 130	<0.40	ug/L	NC	30
9601462	Acetone (2-Propanone)	2024/08/28	120	60 - 140	98	60 - 140	<10	ug/L	NC	30
9601462	Benzene	2024/08/28	115	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
9601462	Bromodichloromethane	2024/08/28	112	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
9601462	Bromoform	2024/08/28	108	70 - 130	98	70 - 130	<1.0	ug/L	NC	30
9601462	Bromomethane	2024/08/28	97	60 - 140	88	60 - 140	<0.50	ug/L	NC	30
9601462	Carbon Tetrachloride	2024/08/28	122	70 - 130	111	70 - 130	<0.19	ug/L	NC	30
9601462	Chlorobenzene	2024/08/28	106	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
9601462	Chloroform	2024/08/28	115	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
9601462	cis-1,2-Dichloroethylene	2024/08/28	121	70 - 130	107	70 - 130	<0.50	ug/L	NC	30
9601462	cis-1,3-Dichloropropene	2024/08/28	111	70 - 130	102	70 - 130	<0.30	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9601462	Dibromochloromethane	2024/08/28	116	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
9601462	Dichlorodifluoromethane (FREON 12)	2024/08/28	93	60 - 140	83	60 - 140	<1.0	ug/L	NC	30
9601462	Ethylbenzene	2024/08/28	108	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
9601462	Ethylene Dibromide	2024/08/28	117	70 - 130	101	70 - 130	<0.19	ug/L	NC	30
9601462	Hexane	2024/08/28	122	70 - 130	110	70 - 130	<1.0	ug/L	NC	30
9601462	Methyl Ethyl Ketone (2-Butanone)	2024/08/28	119	60 - 140	97	60 - 140	<10	ug/L	NC	30
9601462	Methyl Isobutyl Ketone	2024/08/28	126	70 - 130	106	70 - 130	<5.0	ug/L	NC	30
9601462	Methyl t-butyl ether (MTBE)	2024/08/28	113	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
9601462	Methylene Chloride(Dichloromethane)	2024/08/28	116	70 - 130	100	70 - 130	<2.0	ug/L	NC	30
9601462	o-Xylene	2024/08/28	114	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
9601462	p+m-Xylene	2024/08/28	109	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
9601462	Styrene	2024/08/28	110	70 - 130	100	70 - 130	<0.40	ug/L	NC	30
9601462	Tetrachloroethylene	2024/08/28	110	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
9601462	Toluene	2024/08/28	110	70 - 130	99	70 - 130	<0.20	ug/L	0.48	30
9601462	Total Xylenes	2024/08/28					<0.20	ug/L	NC	30
9601462	trans-1,2-Dichloroethylene	2024/08/28	124	70 - 130	111	70 - 130	<0.50	ug/L	NC	30
9601462	trans-1,3-Dichloropropene	2024/08/28	118	70 - 130	111	70 - 130	<0.40	ug/L	NC	30
9601462	Trichloroethylene	2024/08/28	119	70 - 130	107	70 - 130	<0.20	ug/L	NC	30
9601462	Trichlorofluoromethane (FREON 11)	2024/08/28	111	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
9601462	Vinyl Chloride	2024/08/28	107	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
9606687	Aroclor 1242	2024/08/29					<0.05	ug/L	NC	30
9606687	Aroclor 1248	2024/08/29					<0.05	ug/L	NC	30
9606687	Aroclor 1254	2024/08/29					<0.05	ug/L	NC	30
9606687	Aroclor 1260	2024/08/29	99	60 - 130	84	60 - 130	<0.05	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9606687	Total PCB	2024/08/29	99	60 - 130	84	60 - 130	<0.05	ug/L	NC	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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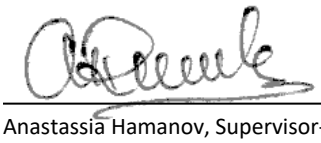
Bureau Veritas Job #: C4Q4099
Report Date: 2024/09/30

exp Services Inc
Client Project #: GTR-23006348-E1 (TASK 201)
Site Location: SOUTH SERVICE ROAD, OAKVILLE
Sampler Initials: DB

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Supervisor-Afternoon Shift

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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C4Q4099
2024/08/23 18:00

Bureau Veritas
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvna.com

NONT-2024-08-5431

Page of

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:			
Company Name:	#17492 exp Services Inc	Company Name:	Exp services inc.	Quotation #:	~~C41513~~ Stream 3		Bottle Order #:
Attention:	Accounts Payable	Attention:	Jennifer Hayman	P.O. #:			1007185
Address:	1266 South Service Rd Suite C1-1	Address:	1266 S. service Rd	Project:	GTR-23006348-E1 Task 20	COC #:	Project Manager:
	Stoney Creek ON L8E 5R9		Stoney creek	Project Name:	South Service Road	C#1007185-98-01	Patricia Legette
Tel:	(905) 573-4000 Fax:	Tel:	Fax:	Site #:	Oakville		
Email:	AP@exp.com; Karen.Burke@exp.com	Email:	jennifer.hayman@exp.com	Sampled By:	Donielle Baptiste		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☑ Res/Park ☐ Medium/Fine ☑ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☑ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558. ☐ Storm Sewer Bylaw ☐ MISA Municipality ___ ☐ PWQO ☐ Reg 406 Table ___ ☐ Other ___

Special Instructions:

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	PCBs	VOCs								# of Bottles	Comments
1	MW133A		August 23, 2024	1:45pm	GW			X								3	
2	MW151		↓	3:00	↓		X									2	
3	MW305			2:30			X									2	
4	MW317			3:35			X									2	
5	MW123			4:00			X									2	
6																	
7																	
8																	
9																	
10																	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Donielle Baptiste [signature]	2024/08/23	5:40pm	SA SUGAR SALVAN	2024/08/23	18:00	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	16 / 14 / 13	Present		✓
		Intact		✓

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

oH
ICE

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C4Q4099
Report Date: 2024/09/30

exp Services Inc
Client Project #: GTR-23006348-E1 (TASK 201)
Site Location: SOUTH SERVICE ROAD, OAKVILLE
Sampler Initials: DB

Exceedance Summary Table – Halton Sanitary Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Exceedance Summary Table – Oakville Storm Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your P.O. #: ENV-BRM
Your Project #: HAM-23006348-F0
Site Location: 420 SOUTH SERVICE RD, OAKVILLE, ON
Your C.O.C. #: C#1009944-01-01

Attention: Hammond Lo

exp Services Inc
1595 Clark Blvd
Brampton, ON
CANADA L6T 4V1

Report Date: 2024/09/09
Report #: R8312319
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4R1466
Received: 2024/08/30, 13:45

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Sewer Use By-Law Semivolatile Organics	1	2024/09/03	2024/09/03	CAM SOP 00301	EPA 8270 m
Biochemical Oxygen Demand (BOD)	1	2024/08/31	2024/09/05	CAM SOP-00427	SM 24 5210B m
Carbonaceous BOD	1	2024/08/31	2024/09/05	CAM SOP-00427	SM 24 5210B m
Chromium (VI) in Water	1	N/A	2024/09/03	CAM SOP-00436	EPA 7199 m
Total Cyanide	1	2024/09/04	2024/09/04	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2024/08/31	2024/09/03	CAM SOP-00449	SM 24 4500-F C m
Mercury in Water by CVAA	1	2024/09/04	2024/09/05	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	1	2024/09/06	2024/09/06	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2024/08/30	CAM SOP-00552	SM9222B, MECP E3371
Total Nonylphenol in Liquids by HPLC	1	2024/09/04	2024/09/04	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2024/09/04	2024/09/04	CAM SOP-00313	In-house Method
Animal and Vegetable Oil and Grease	1	N/A	2024/09/04	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2024/09/04	2024/09/04	CAM SOP-00326	EPA1664B m,SM5520B m
OC Pesticides (Selected) & PCB (1)	1	2024/09/06	2024/09/07	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides Summed Parameters	1	N/A	2024/08/31	CAM SOP-00307	EPA 8081B/ 8082A
PAH Compounds in Water by GC/MS (SIM)	1	2024/09/04	2024/09/05	CAM SOP-00318	EPA 8270E
Phenols (4AAP)	1	N/A	2024/09/06	CAM SOP-00444	OMOE E3179 m
pH	1	2024/08/31	2024/08/31	CAM SOP-00413	SM 24th-4500H+ B
Sulphate by Automated Turbidimetry	1	N/A	2024/09/04	CAM SOP-00464	SM 24 4500-SO42- E m
Total Kjeldahl Nitrogen in Water	1	2024/09/03	2024/09/04	CAM SOP-00938	OMOE E3516 m
Total PAHs (2)	1	N/A	2024/09/04	CAM SOP - 00301	
Mineral/Synthetic O & G (TPH Heavy Oil) (3)	1	2024/09/04	2024/09/04	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2024/09/05	2024/09/06	CAM SOP-00428	SM 24 2540D m
Volatile Organic Compounds in Water	1	N/A	2024/09/03	CAM SOP-00228	EPA 8260D

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in

Your P.O. #: ENV-BRM
Your Project #: HAM-23006348-F0
Site Location: 420 SOUTH SERVICE RD, OAKVILLE, ON
Your C.O.C. #: C#1009944-01-01

Attention: Hammond Lo

exp Services Inc
1595 Clark Blvd
Brampton, ON
CANADA L6T 4V1

Report Date: 2024/09/09
Report #: R8312319
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4R1466
Received: 2024/08/30, 13:45

writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane
(2) Total PAHs include only those PAHs specified in the sewer use by-by-law.
(3) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Patricia Legette
Project Manager
09 Sep 2024 17:44:17

Please direct all questions regarding this Certificate of Analysis to:
Patricia Legette, Project Manager
Email: Patricia.Legette@bureauveritas.com
Phone# (905)817-5799

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C4R1466
Report Date: 2024/09/09

exp Services Inc
Client Project #: HAM-23006348-F0
Site Location: 420 SOUTH SERVICE RD, OAKVILLE, ON
Your P.O. #: ENV-BRM
Sampler Initials: EC

HALTON SANITARY & COMBINED BYLAW (2-03)

Bureau Veritas ID				ABNA08			ABNA08		
Sampling Date				2024/08/30 11:20			2024/08/30 11:20		
COC Number				C#1009944-01-01			C#1009944-01-01		
	UNITS	Criteria	Criteria-2	MW332D	RDL	QC Batch	MW332D Lab-Dup	RDL	QC Batch
Calculated Parameters									
Total Animal/Vegetable Oil and Grease	mg/L	-	150	<0.50	0.50	9610491			
Inorganics									
Total Carbonaceous BOD	mg/L	-	300	<2	2	9611924			
Fluoride (F-)	mg/L	-	10	0.36	0.10	9612418			
Total Kjeldahl Nitrogen (TKN)	mg/L	-	100	6.2	0.50	9613859			
pH	pH	6.5:8.5	6.0:10.0	7.23		9611997			
Phenols-4AAP	mg/L	0.008	1	<0.0010	0.0010	9621766			
Total Suspended Solids	mg/L	15	350	15	10	9616728	13	10	9616728
Dissolved Sulphate (SO4)	mg/L	-	1500	1300	5.0	9612435			
Total Cyanide (CN)	mg/L	0.02	2	<0.0050	0.0050	9615722			
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	-	-	<0.50	0.50	9616246			
Total Oil & Grease Mineral/Synthetic	mg/L	-	-	<0.50	0.50	9616250			
Metals									
Mercury (Hg)	mg/L	0.0004	0.05	<0.00010	0.00010	9616704	<0.00010	0.00010	9616704
Polyaromatic Hydrocarbons									
Naphthalene	ug/L	-	140	<0.050	0.050	9616387			
Volatile Organics									
Benzene	ug/L	2	10	<0.20	0.20	9612060			
Chloroform	ug/L	2	40	<0.20	0.20	9612060			
1,2-Dichlorobenzene	ug/L	5.6	-	<0.40	0.40	9612060			
1,4-Dichlorobenzene	ug/L	6.8	80	<0.40	0.40	9612060			
cis-1,2-Dichloroethylene	ug/L	5.6	-	<0.50	0.50	9612060			
trans-1,3-Dichloropropene	ug/L	5.6	-	<0.40	0.40	9612060			
Ethylbenzene	ug/L	2	160	<0.20	0.20	9612060			
Methylene Chloride(Dichloromethane)	ug/L	5.2	2000	<2.0	2.0	9612060			
1,1,2,2-Tetrachloroethane	ug/L	17	-	<0.40	0.40	9612060			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: The Town of Oakville Storm Sewer Discharge By Law 2009-031
Criteria-2: Halton Sanitary & Combined Sewer Bylaw (2-03)

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Bureau Veritas Job #: C4R1466
Report Date: 2024/09/09

exp Services Inc
Client Project #: HAM-23006348-F0
Site Location: 420 SOUTH SERVICE RD, OAKVILLE, ON
Your P.O. #: ENV-BRM
Sampler Initials: EC

HALTON SANITARY & COMBINED BYLAW (2-03)

Bureau Veritas ID				ABNA08			ABNA08		
Sampling Date				2024/08/30 11:20			2024/08/30 11:20		
COC Number				C#1009944-01-01			C#1009944-01-01		
	UNITS	Criteria	Criteria-2	MW332D	RDL	QC Batch	MW332D Lab-Dup	RDL	QC Batch
Tetrachloroethylene	ug/L	4.4	1000	<0.20	0.20	9612060			
Toluene	ug/L	2	16	<0.20	0.20	9612060			
Trichloroethylene	ug/L	7.6	400	<0.20	0.20	9612060			
Total Xylenes	ug/L	4.4	-	<0.20	0.20	9612060			
Surrogate Recovery (%)									
D10-Anthracene	%	-	-	108		9616387			
D14-Terphenyl (FS)	%	-	-	108		9616387			
D8-Acenaphthylene	%	-	-	95		9616387			
4-Bromofluorobenzene	%	-	-	102		9612060			
D4-1,2-Dichloroethane	%	-	-	111		9612060			
D8-Toluene	%	-	-	94		9612060			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: The Town of Oakville Storm Sewer Discharge By Law 2009-031
Criteria-2: Halton Sanitary & Combined Sewer Bylaw (2-03)

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OAKVILLE STORM SEWER BYLAW (2009-031)

Bureau Veritas ID				ABNA08		
Sampling Date				2024/08/30 11:20		
COC Number				C#1009944-01-01		
	UNITS	Criteria	Criteria-2	MW332D	RDL	QC Batch
Inorganics						
Total BOD	mg/L	15	-	<2	2	9611926
Miscellaneous Parameters						
Nonylphenol Ethoxylate (Total)	mg/L	0.01	-	<0.005	0.005	9615363
Nonylphenol (Total)	mg/L	0.001	-	<0.001	0.001	9615356
Metals						
Chromium (VI)	ug/L	40	-	<0.50	0.50	9613310
Total Aluminum (Al)	ug/L	-	50000	190	4.9	9621193
Total Antimony (Sb)	ug/L	-	5000	<0.50	0.50	9621193
Total Arsenic (As)	ug/L	20	1000	<1.0	1.0	9621193
Total Beryllium (Be)	ug/L	-	5000	<0.40	0.40	9621193
Total Cadmium (Cd)	ug/L	8	1000	<0.090	0.090	9621193
Total Chromium (Cr)	ug/L	80	3000	<5.0	5.0	9621193
Total Cobalt (Co)	ug/L	-	5000	<0.50	0.50	9621193
Total Copper (Cu)	ug/L	40	3000	<0.90	0.90	9621193
Total Iron (Fe)	ug/L	-	50000	1700	100	9621193
Total Lead (Pb)	ug/L	120	3000	<0.50	0.50	9621193
Total Manganese (Mn)	ug/L	50	5000	**180**	2.0	9621193
Total Molybdenum (Mo)	ug/L	-	5000	<0.50	0.50	9621193
Total Nickel (Ni)	ug/L	80	3000	<1.0	1.0	9621193
Total Phosphorus (P)	ug/L	400	10000	<100	100	9621193
Total Selenium (Se)	ug/L	20	5000	<2.0	2.0	9621193
Total Silver (Ag)	ug/L	120	5000	<0.090	0.090	9621193
Total Tin (Sn)	ug/L	-	5000	<1.0	1.0	9621193
Total Titanium (Ti)	ug/L	-	5000	<5.0	5.0	9621193
Total Zinc (Zn)	ug/L	40	3000	<5.0	5.0	9621193
Semivolatile Organics						
Di-N-butyl phthalate	ug/L	15	-	<2	2	9613113
Bis(2-ethylhexyl)phthalate	ug/L	8.8	-	<2	2	9613113

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The Town of Oakville Storm Sewer Discharge By Law 2009-031
Criteria-2: Halton Sanitary & Combined Sewer Bylaw (2-03)

OAKVILLE STORM SEWER BYLAW (2009-031)

Bureau Veritas ID				ABNA08		
Sampling Date				2024/08/30 11:20		
COC Number				C#1009944-01-01		
	UNITS	Criteria	Criteria-2	MW332D	RDL	QC Batch
3,3'-Dichlorobenzidine	ug/L	0.8	-	<0.8	0.8	9613113
Pentachlorophenol	ug/L	2	-	<1	1	9613113
Phenanthrene	ug/L	-	-	<0.2	0.2	9613113
Anthracene	ug/L	-	-	<0.2	0.2	9613113
Fluoranthene	ug/L	-	-	<0.2	0.2	9613113
Pyrene	ug/L	-	-	<0.2	0.2	9613113
Benzo(a)anthracene	ug/L	-	-	<0.2	0.2	9613113
Chrysene	ug/L	-	-	<0.2	0.2	9613113
Benzo(b/j)fluoranthene	ug/L	-	-	<0.2	0.2	9613113
Benzo(k)fluoranthene	ug/L	-	-	<0.2	0.2	9613113
Benzo(a)pyrene	ug/L	-	-	<0.2	0.2	9613113
Indeno(1,2,3-cd)pyrene	ug/L	-	-	<0.2	0.2	9613113
Dibenzo(a,h)anthracene	ug/L	-	-	<0.2	0.2	9613113
Benzo(g,h,i)perylene	ug/L	-	-	<0.2	0.2	9613113
Dibenzo(a,i)pyrene	ug/L	-	-	<0.2	0.2	9613113
Benzo(e)pyrene	ug/L	-	-	<0.2	0.2	9613113
Perylene	ug/L	-	-	<0.2	0.2	9613113
Dibenzo(a,j) acridine	ug/L	-	-	<0.4	0.4	9613113
7H-Dibenzo(c,g) Carbazole	ug/L	-	-	<0.4	0.4	9613113
1,6-Dinitropyrene	ug/L	-	-	<0.4	0.4	9613113
1,3-Dinitropyrene	ug/L	-	-	<0.4	0.4	9613113
1,8-Dinitropyrene	ug/L	-	-	<0.4	0.4	9613113
Calculated Parameters						
Total PAHs (18 PAHs)	ug/L	2	-	<1	1	9610649
Aldrin + Dieldrin	ug/L	0.08	-	<0.005	0.005	9609468
Chlordane (Total)	ug/L	40	-	<0.005	0.005	9609468
DDT+ Metabolites	ug/L	-	-	<0.005	0.005	9609468
o,p-DDT + p,p-DDT	ug/L	-	-	<0.005	0.005	9609468
Total PCB	ug/L	0.4	-	<0.05	0.05	9609468

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The Town of Oakville Storm Sewer Discharge By Law 2009-031
Criteria-2: Halton Sanitary & Combined Sewer Bylaw (2-03)

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exp Services Inc
Client Project #: HAM-23006348-F0
Site Location: 420 SOUTH SERVICE RD, OAKVILLE, ON
Your P.O. #: ENV-BRM
Sampler Initials: EC

OAKVILLE STORM SEWER BYLAW (2009-031)

Bureau Veritas ID				ABNA08		
Sampling Date				2024/08/30 11:20		
COC Number				C#1009944-01-01		
	UNITS	Criteria	Criteria-2	MW332D	RDL	QC Batch
Pesticides & Herbicides						
Aldrin	ug/L	-	-	<0.005	0.005	9621002
Dieldrin	ug/L	-	-	<0.005	0.005	9621002
a-Chlordane	ug/L	-	-	<0.005	0.005	9621002
g-Chlordane	ug/L	-	-	<0.005	0.005	9621002
o,p-DDT	ug/L	0.04	-	<0.005	0.005	9621002
p,p-DDT	ug/L	0.04	-	<0.005	0.005	9621002
Lindane	ug/L	40	-	<0.003	0.003	9621002
Hexachlorobenzene	ug/L	0.04	-	<0.005	0.005	9621002
Mirex	ug/L	40	-	<0.005	0.005	9621002
Microbiological						
Escherichia coli	CFU/100mL	200	-	<10	10	9611784
Surrogate Recovery (%)						
2,4,6-Tribromophenol	%	-	-	78		9613113
2-Fluorobiphenyl	%	-	-	76		9613113
D14-Terphenyl (FS)	%	-	-	103		9613113
D5-Nitrobenzene	%	-	-	90		9613113
D8-Acenaphthylene	%	-	-	83		9613113
2,4,5,6-Tetrachloro-m-xylene	%	-	-	77		9621002
Decachlorobiphenyl	%	-	-	104		9621002

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: The Town of Oakville Storm Sewer Discharge By Law 2009-031
Criteria-2: Halton Sanitary & Combined Sewer Bylaw (2-03)

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Bureau Veritas Job #: C4R1466
Report Date: 2024/09/09

exp Services Inc
Client Project #: HAM-23006348-F0
Site Location: 420 SOUTH SERVICE RD, OAKVILLE, ON
Your P.O. #: ENV-BRM
Sampler Initials: EC

TEST SUMMARY

Bureau Veritas ID: ABNA08
Sample ID: MW332D
Matrix: Water

Collected: 2024/08/30
Shipped:
Received: 2024/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sewer Use By-Law Semivolatile Organics	GC/MS	9613113	2024/09/03	2024/09/03	Adriana Zurita
Biochemical Oxygen Demand (BOD)	DO	9611926	2024/08/31	2024/09/05	Amrutha Anilkumar
Carbonaceous BOD	DO	9611924	2024/08/31	2024/09/05	Amrutha Anilkumar
Chromium (VI) in Water	IC	9613310	N/A	2024/09/03	Surleen Kaur Romana
Total Cyanide	SKAL/CN	9615722	2024/09/04	2024/09/04	Prgya Panchal
Fluoride	ISE	9612418	2024/08/31	2024/09/03	Surinder Rai
Mercury in Water by CVAA	CV/AA	9616704	2024/09/04	2024/09/05	Aswathy Neduveli Suresh
Total Metals Analysis by ICPMS	ICP/MS	9621193	2024/09/06	2024/09/06	Indira HarryPaul
E.coli, (CFU/100mL)	PL	9611784	N/A	2024/08/30	Paramjit Paramjit
Total Nonylphenol in Liquids by HPLC	LC/FLU	9615356	2024/09/04	2024/09/04	Dennis Boodram
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	9615363	2024/09/04	2024/09/04	Dennis Boodram
Animal and Vegetable Oil and Grease	BAL	9610491	N/A	2024/09/04	Automated Statchk
Total Oil and Grease	BAL	9616246	2024/09/04	2024/09/04	Kishan Patel
OC Pesticides (Selected) & PCB	GC/ECD	9621002	2024/09/06	2024/09/07	Mahmudul Khan
OC Pesticides Summed Parameters	CALC	9609468	N/A	2024/08/31	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9616387	2024/09/04	2024/09/05	Jonghan Yoon
Phenols (4AAP)	TECH/PHEN	9621766	N/A	2024/09/06	Chandra Nandlal
pH	AT	9611997	2024/08/31	2024/08/31	Kien Tran
Sulphate by Automated Turbidimetry	SKAL	9612435	N/A	2024/09/04	Massarat Jan
Total Kjeldahl Nitrogen in Water	SKAL	9613859	2024/09/03	2024/09/04	Rajni Tyagi
Total PAHs	CALC	9610649	N/A	2024/09/04	Automated Statchk
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	9616250	2024/09/04	2024/09/04	Kishan Patel
Total Suspended Solids	BAL	9616728	2024/09/05	2024/09/06	Razieh Tabesh
Volatile Organic Compounds in Water	GC/MS	9612060	N/A	2024/09/03	Manpreet Sarao

Bureau Veritas ID: ABNA08 Dup
Sample ID: MW332D
Matrix: Water

Collected: 2024/08/30
Shipped:
Received: 2024/08/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury in Water by CVAA	CV/AA	9616704	2024/09/04	2024/09/05	Aswathy Neduveli Suresh
Total Suspended Solids	BAL	9616728	2024/09/05	2024/09/06	Razieh Tabesh

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Bureau Veritas Job #: C4R1466
Report Date: 2024/09/09

exp Services Inc
Client Project #: HAM-23006348-F0
Site Location: 420 SOUTH SERVICE RD, OAKVILLE, ON
Your P.O. #: ENV-BRM
Sampler Initials: EC

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	19.3°C

Revised Report (2024/09/09): Oakville Storm criteria policy has been included in this CofA.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9612060	4-Bromofluorobenzene	2024/09/03	102	70 - 130	103	70 - 130	104	%				
9612060	D4-1,2-Dichloroethane	2024/09/03	109	70 - 130	105	70 - 130	108	%				
9612060	D8-Toluene	2024/09/03	101	70 - 130	102	70 - 130	94	%				
9613113	2,4,6-Tribromophenol	2024/09/03	93	10 - 130	97	10 - 130	76	%				
9613113	2-Fluorobiphenyl	2024/09/03	69	30 - 130	68	30 - 130	79	%				
9613113	D14-Terphenyl (FS)	2024/09/03	101	30 - 130	100	30 - 130	102	%				
9613113	D5-Nitrobenzene	2024/09/03	92	30 - 130	97	30 - 130	90	%				
9613113	D8-Acenaphthylene	2024/09/03	80	30 - 130	84	30 - 130	82	%				
9616387	D10-Anthracene	2024/09/04	111	50 - 130	108	50 - 130	121	%				
9616387	D14-Terphenyl (FS)	2024/09/04	111	50 - 130	110	50 - 130	120	%				
9616387	D8-Acenaphthylene	2024/09/04	103	50 - 130	96	50 - 130	101	%				
9621002	2,4,5,6-Tetrachloro-m-xylene	2024/09/07	68	50 - 130	71	50 - 130	76	%				
9621002	Decachlorobiphenyl	2024/09/07	88	50 - 130	95	50 - 130	105	%				
9611924	Total Carbonaceous BOD	2024/09/05					<2	mg/L	7.2	30	102	80 - 120
9611926	Total BOD	2024/09/05					<2	mg/L	NC	30	98	80 - 120
9611997	pH	2024/08/31			102	98 - 103			0.054	N/A		
9612060	1,1,2,2-Tetrachloroethane	2024/09/03	106	70 - 130	102	70 - 130	<0.40	ug/L	NC	30		
9612060	1,2-Dichlorobenzene	2024/09/03	102	70 - 130	103	70 - 130	<0.40	ug/L	NC	30		
9612060	1,4-Dichlorobenzene	2024/09/03	103	70 - 130	104	70 - 130	<0.40	ug/L	NC	30		
9612060	Benzene	2024/09/03	107	70 - 130	108	70 - 130	<0.20	ug/L	NC	30		
9612060	Chloroform	2024/09/03	109	70 - 130	109	70 - 130	<0.20	ug/L	NC	30		
9612060	cis-1,2-Dichloroethylene	2024/09/03	114	70 - 130	113	70 - 130	<0.50	ug/L	NC	30		
9612060	Ethylbenzene	2024/09/03	96	70 - 130	100	70 - 130	<0.20	ug/L	NC	30		
9612060	Methylene Chloride(Dichloromethane)	2024/09/03	107	70 - 130	105	70 - 130	<2.0	ug/L	NC	30		
9612060	Tetrachloroethylene	2024/09/03	101	70 - 130	103	70 - 130	<0.20	ug/L	NC	30		
9612060	Toluene	2024/09/03	102	70 - 130	104	70 - 130	<0.20	ug/L	NC	30		
9612060	Total Xylenes	2024/09/03					<0.20	ug/L	NC	30		
9612060	trans-1,3-Dichloropropene	2024/09/03	113	70 - 130	108	70 - 130	<0.40	ug/L	NC	30		
9612060	Trichloroethylene	2024/09/03	108	70 - 130	110	70 - 130	<0.20	ug/L	NC	30		
9612418	Fluoride (F-)	2024/09/03	92	80 - 120	98	80 - 120	<0.10	mg/L	19	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9612435	Dissolved Sulphate (SO4)	2024/09/04	103	75 - 125	96	80 - 120	<1.0	mg/L	3.5	20		
9613113	1,3-Dinitropyrene	2024/09/03	95	30 - 130	98	30 - 130	<0.4	ug/L	NC	40		
9613113	1,6-Dinitropyrene	2024/09/03	89	30 - 130	91	30 - 130	<0.4	ug/L	NC	40		
9613113	1,8-Dinitropyrene	2024/09/03	88	30 - 130	88	30 - 130	<0.4	ug/L	NC	40		
9613113	3,3'-Dichlorobenzidine	2024/09/03	100	30 - 130	103	30 - 130	<0.8	ug/L				
9613113	7H-Dibenzo(c,g) Carbazole	2024/09/03	95	30 - 130	97	30 - 130	<0.4	ug/L	NC	40		
9613113	Anthracene	2024/09/03	91	30 - 130	94	30 - 130	<0.2	ug/L	NC	40		
9613113	Benzo(a)anthracene	2024/09/03	97	30 - 130	98	30 - 130	<0.2	ug/L	NC	40		
9613113	Benzo(a)pyrene	2024/09/03	105	30 - 130	105	30 - 130	<0.2	ug/L	NC	40		
9613113	Benzo(b/j)fluoranthene	2024/09/03	95	30 - 130	94	30 - 130	<0.2	ug/L	NC	40		
9613113	Benzo(e)pyrene	2024/09/03	98	30 - 130	97	30 - 130	<0.2	ug/L	NC	40		
9613113	Benzo(g,h,i)perylene	2024/09/03	92	30 - 130	93	30 - 130	<0.2	ug/L	NC	40		
9613113	Benzo(k)fluoranthene	2024/09/03	93	30 - 130	92	30 - 130	<0.2	ug/L	NC	40		
9613113	Bis(2-ethylhexyl)phthalate	2024/09/03	100	30 - 130	101	30 - 130	<2	ug/L	NC	40		
9613113	Chrysene	2024/09/03	103	30 - 130	101	30 - 130	<0.2	ug/L	NC	40		
9613113	Dibenzo(a,h)anthracene	2024/09/03	91	30 - 130	92	30 - 130	<0.2	ug/L	NC	40		
9613113	Dibenzo(a,i)pyrene	2024/09/03	39	30 - 130	40	30 - 130	<0.2	ug/L	NC	40		
9613113	Dibenzo(a,j) acridine	2024/09/03	99	30 - 130	100	30 - 130	<0.4	ug/L	NC	40		
9613113	Di-N-butyl phthalate	2024/09/03	103	30 - 130	104	30 - 130	<2	ug/L	NC	40		
9613113	Fluoranthene	2024/09/03	99	30 - 130	99	30 - 130	<0.2	ug/L	NC	40		
9613113	Indeno(1,2,3-cd)pyrene	2024/09/03	92	30 - 130	94	30 - 130	<0.2	ug/L	NC	40		
9613113	Pentachlorophenol	2024/09/03	62	30 - 130	58	30 - 130	<1	ug/L				
9613113	Perylene	2024/09/03	95	30 - 130	96	30 - 130	<0.2	ug/L	NC	40		
9613113	Phenanthrene	2024/09/03	86	30 - 130	90	30 - 130	<0.2	ug/L	NC	40		
9613113	Pyrene	2024/09/03	99	30 - 130	99	30 - 130	<0.2	ug/L	NC	40		
9613310	Chromium (VI)	2024/09/03	99	80 - 120	98	80 - 120	<0.50	ug/L	NC	20		
9613859	Total Kjeldahl Nitrogen (TKN)	2024/09/04	117	80 - 120	102	80 - 120	<0.10	mg/L	8.0	20	106	80 - 120
9615356	Nonylphenol (Total)	2024/09/04	87	50 - 130	102	50 - 130	<0.001	mg/L	NC	40		
9615363	Nonylphenol Ethoxylate (Total)	2024/09/04	79	50 - 130	96	50 - 130	<0.005	mg/L	NC	40		
9615722	Total Cyanide (CN)	2024/09/04	94	80 - 120	101	80 - 120	<0.0050	mg/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9616246	Total Oil & Grease	2024/09/04			98	80 - 110	<0.50	mg/L	0.51	25		
9616250	Total Oil & Grease Mineral/Synthetic	2024/09/04			96	65 - 130	<0.50	mg/L	1.0	25		
9616387	Naphthalene	2024/09/04	100	50 - 130	98	50 - 130	<0.050	ug/L	NC	30		
9616704	Mercury (Hg)	2024/09/05	105	75 - 125	104	80 - 120	<0.00010	mg/L	NC	20		
9616728	Total Suspended Solids	2024/09/06			97	80 - 120	<10	mg/L	14	20		
9621002	a-Chlordane	2024/09/07	86	50 - 130	98	50 - 130	<0.005	ug/L	NC	30		
9621002	Aldrin	2024/09/07	81	50 - 130	93	50 - 130	<0.005	ug/L	NC	30		
9621002	Dieldrin	2024/09/07	92	50 - 130	105	50 - 130	<0.005	ug/L	NC	30		
9621002	g-Chlordane	2024/09/07	86	50 - 130	98	50 - 130	<0.005	ug/L	NC	30		
9621002	Hexachlorobenzene	2024/09/07	76	50 - 130	86	50 - 130	<0.005	ug/L	NC	30		
9621002	Lindane	2024/09/07	86	50 - 130	99	50 - 130	<0.003	ug/L	NC	30		
9621002	Mirex	2024/09/07	73	30 - 130	79	30 - 130	<0.005	ug/L	2.0	40		
9621002	o,p-DDT	2024/09/07	99	50 - 130	112	50 - 130	<0.005	ug/L	NC	30		
9621002	p,p-DDT	2024/09/07	93	50 - 130	107	50 - 130	<0.005	ug/L	NC	30		
9621193	Total Aluminum (Al)	2024/09/06	101	80 - 120	100	80 - 120	<4.9	ug/L	11	20		
9621193	Total Antimony (Sb)	2024/09/06	102	80 - 120	102	80 - 120	<0.50	ug/L	4.3	20		
9621193	Total Arsenic (As)	2024/09/06	98	80 - 120	99	80 - 120	<1.0	ug/L	2.3	20		
9621193	Total Beryllium (Be)	2024/09/06	101	80 - 120	98	80 - 120	<0.40	ug/L	NC	20		
9621193	Total Cadmium (Cd)	2024/09/06	98	80 - 120	98	80 - 120	<0.090	ug/L	NC	20		
9621193	Total Chromium (Cr)	2024/09/06	102	80 - 120	103	80 - 120	<5.0	ug/L	NC	20		
9621193	Total Cobalt (Co)	2024/09/06	101	80 - 120	100	80 - 120	<0.50	ug/L	1.7	20		
9621193	Total Copper (Cu)	2024/09/06	105	80 - 120	106	80 - 120	<0.90	ug/L	2.7	20		
9621193	Total Iron (Fe)	2024/09/06	101	80 - 120	101	80 - 120	<100	ug/L	6.6	20		
9621193	Total Lead (Pb)	2024/09/06	96	80 - 120	95	80 - 120	<0.50	ug/L	4.0	20		
9621193	Total Manganese (Mn)	2024/09/06	97	80 - 120	98	80 - 120	<2.0	ug/L	2.8	20		
9621193	Total Molybdenum (Mo)	2024/09/06	104	80 - 120	103	80 - 120	<0.50	ug/L	2.8	20		
9621193	Total Nickel (Ni)	2024/09/06	96	80 - 120	97	80 - 120	<1.0	ug/L	4.7	20		
9621193	Total Phosphorus (P)	2024/09/06	102	80 - 120	101	80 - 120	<100	ug/L	NC	20		
9621193	Total Selenium (Se)	2024/09/06	101	80 - 120	100	80 - 120	<2.0	ug/L	NC	20		
9621193	Total Silver (Ag)	2024/09/06	97	80 - 120	97	80 - 120	<0.090	ug/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9621193	Total Tin (Sn)	2024/09/06	100	80 - 120	100	80 - 120	<1.0	ug/L	NC	20		
9621193	Total Titanium (Ti)	2024/09/06	99	80 - 120	100	80 - 120	<5.0	ug/L	8.0	20		
9621193	Total Zinc (Zn)	2024/09/06	98	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
9621766	Phenols-4AAP	2024/09/09	104	80 - 120	98	80 - 120	<0.0010	mg/L	1.6	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Bureau Veritas Job #: C4R1466
Report Date: 2024/09/09

exp Services Inc
Client Project #: HAM-23006348-F0
Site Location: 420 SOUTH SERVICE RD, OAKVILLE, ON
Your P.O. #: ENV-BRM
Sampler Initials: EC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Louise Harding, Scientific Specialist

Paramjit Paramjit, Analyst I

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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C4R1466
2024/08/30 13:45

Bureau Veritas
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MICRO

CHAIN

NONT-2024-08-6813

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#30554 exp Services Inc	Company Name:	EXP Services Inc	Quotation #:	C41494 Streum2
Attention:	Accounts Payable	Attention:	Hammond Lo	P.O. #:	ENV-BRM
Address:	1595 Clark Blvd Brampton ON L6T 4V1	Address:	Edwin.Cussell @exp.com Jennifer.Hayman @exp.com	Project:	HAM-23006348-F0
Tel:	(905) 793-9800 Fax: (905) 793-0641	Tel:	Fax:	Project Name:	Oakville
Email:	AP@exp.com; Karen.Burke@exp.com	Email:	hammond.lo@exp.com	Site #:	420 South Service Rd, ON
				Sampled By:	EE

Order #: 1009944

COC #: C#1009944-01-01

Project Manager: Patricia Legette

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☒ Sanitary Sewer Bylaw
- ☐ Reg 558. ☒ Storm Sewer Bylaw
- ☐ MISA Municipality Halton
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? Yes

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): Halton Sanitary & Combined Bylaw (2-03)	Oakville Storm Sewer Bylaw (2009-031)	# of Bottles	Comments
1		MW 332D	24/8/30	11:20	GW	NO	X	X	21	Please Include
2										COC in final
3										report
4										
5										
6										
7										
8										
9										
10										

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Edwin Cussell	24/8/30	13:41		24/08/30	1245	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	19/19/20	Present		
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Exceedance Summary Table – Oakville Storm Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
MW332D	ABNA08-09	Total Manganese (Mn)	50	180	2.0	ug/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Exceedance Summary Table – Halton Sanitary Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Appendix F – Construction and Post-Construction Flow Rate Calculations

APPENDIX G: Long-Term Flow Rate

420 & 468 Service Road East, Oakville
GTR-24006331-A0

Table G-1: Flow from Under-Slab Drain System

Parameters	Unit	Block 1	Block 2	Block 4
Geological Formation	-	Glacial Deposit	Glacial Deposit	Glacial Deposit
Ground Elevation	mASL	105.76	104.99	103.98
Lowest Top Slab Elevation	mASL	95.00	95.00	92.00
Highest Groundwater Elevation	mASL	103.74	103.77	102.50
Lowest Footing Elevation	mASL	**93.50**	**93.50**	**90.50**
Base of the Water-Bearing Zone	mASL	78.00	78.00	78.00
Height of Static Water Table Above the Base of the Water-Bearing Zone	m	25.74	25.77	24.50
Dewatering Target Elevation	mASL	94.50	94.50	91.50
Height of Target Water Level Above the Base of Water-Bearing Zone	m	16.50	16.50	13.50
Hydraulic Conductivity (Geometric K)	m/s	9.0E-07	9.0E-07	9.0E-07
Length of Excavation	m	135.6	138.5	114.8
Width of Excavation	m	125.3	109.5	89.1
Equivalent Radius (equivalent perimeter)	m	83.03	78.94	64.90
Method to Calculate Radius of Influence	-	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**
Time (days)	s	730	730	730
Time (seconds)	s	63072000	63072000	63072000
Specific Yield		0.03	0.03	0.03
Cooper-Jacob's Radius of Influence from Sides of Excavation	m	331.09	331.28	323.01
Radius of Influence	m	414.12	410.22	387.91
Dewatering Flow Rate (unconfined radial flow component)	m^3/day	59.35	58.10	57.13
Factor of Safety	-	1.50	1.50	1.50
Dewatering Flow Rate **Without Safety Factor**	m^3/day	59	58	57
Dewatering Flow Rate **With Safety Factor**	m^3/day	89	87	86

Notes:
mASL - meters above sea level

Analytical Solution for Estimating Radial Flow from an Unconfined Aquifer to a Fully-Penetrating Excavation

$$Q_w = \frac{\pi K(H^2 - h^2)}{Ln\,[\frac{R_o}{r_e}]}$$

(Based on the Dupuit-Forcheimer Equation)

$$r_e = \frac{a+b}{\pi} \qquad R_o = R_{cj} + r_e \qquad R_{cj} = \sqrt{2.25KDt/S}$$

Where:

Q_w = Flow rate per unit length of excavation (m^3/s)

K = Hydraulic conductivity (m/s)

H = Height of static water table above base of water-bearing zone (m)

h_w = Height of target water level above the base of water-bearing zone (m)

Rcj=Cooper Jacob Radius of Influence (m)

R_o=Radius of influence (m)

re=Equivalent perimeter (m)

APPENDIX F: Short-Term Flow Rate

420 & 468 Service Road East, Oakville
GTR-24006331-A0

Table F-1: Flow from Under-Slab Drain System

Parameters	Symbols	Unit	Block 1	Block 2	Block 4
Geological Formation	-	-	Glacial Deposit	Glacial Deposit	Glacial Deposit
Nearest Borehole/Monitoring Wells			MW332S	MW302	MW337
Ground Elevation	-	mASL	105.76	104.99	103.98
Lowest Top Slab Elevation	-	mASL	95.00	95.00	92.00
Highest Groundwater Elevation	-	mASL	103.74	103.77	102.50
Lowest Footing Elevation	-	mASL	**93.50**	**93.50**	**90.50**
Base of the Water-Bearing Zone	-	mASL	78.00	78.00	78.00
Height of Static Water Table Above the Base of the Water-Bearing Zone	**H**	m	25.74	25.77	24.50
Dewatering Target Elevation	-	mASL	92.50	92.50	89.50
Height of Target Water Level Above the Base of Water-Bearing Zone	$\mathbf{h_w}$	m	14.50	14.50	11.50
Dupuit Check (> 45%)		-	56%	56%	47%
Hydraulic Conductivity (Geometric K)	**K**	m/s	9.0E-07	9.0E-07	9.0E-07
Length of Excavation	-	m	135.6	138.5	114.8
Width of Excavation	-	m	125.3	109.5	89.1
Equivalent Radius (equivalent perimeter)	$\mathbf{r_e}$	m	83.03	78.94	64.90
Method to Calculate Radius of Influence	-	-	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**
Time (days)	**t**	s	365	365	365
Time (seconds)	**t**	s	31536000	31536000	31536000
Specific Yield	**Sy**		0.03	0.03	0.03
Cooper-Jacob's Radius of Influence from Sides of Excavation	**Rcj**	m	234.11	234.25	228.40
Radius of Influence	**Ro**	m	317.14	313.19	293.31
Dewatering Flow Rate (unconfined radial flow component)	**Q**	m^3/day	82.47	80.47	75.82
Factor of Safety	**fs**	-	2.00	2.00	2.00
Dewatering Flow Rate (multiplied by factor of safety)	**Q.fs**	m^3/day	165	161	152
Precipitation Event	-	25	25	25	25
Volume from Precipitation	-	m^3/day	425	379	256
Dewatering Flow Rate **Without Safety Factor** (including stormwater collection)	-	m^3/day	507	460	331
Dewatering Flow Rate **With Safety Factor** (including stormwater collection)	-	m^3/day	590	540	407

Notes:
mASL - meters above sea level

Analytical Solution for Estimating Radial Flow from an Unconfined Aquifer to a Fully-Penetrating Excavation

$$Q_w = \frac{\pi K(H^2 - h^2)}{Ln\,[\frac{R_o}{r_e}]}$$

(Based on the Dupuit-Forcheimer Equation)

$$r_e = \frac{a+b}{\pi} \qquad R_o = R_{cj} + r_e \qquad \mathrm{R}_{cj} = \sqrt{2.25KDt/S}$$

Where:

Q_w = Flow rate per unit length of excavation (m^3/s)

K = Hydraulic conductivity (m/s)

H = Height of static water table above base of water-bearing zone (m)

h_w = Height of target water level above the base of water-bearing zone (m)

Rcj=Cooper Jacob Radius of Influence (m)

R_o=Radius of influence (m)

re=Equivalent perimeter (m)

Appendix G – Architectural Drawings

PROJECT STATISTICS BLOCK 1

*GCA	UNITS	PARKING (0.7sp./u.)	FSI
217,082 M2	2,832 units	PROVIDED : 1,829 sp. REQUIRED : 1,982 sp.	GROSS: = 217,082 M2 ±42,673 m2 (GROSS SITE AREA) 5.0 X FSI NET: = 217,082 M2 ±32,915 m2 (GROSS SITE LESS ROAD) 6.9 X FSI NET NET: = 217,082 M2 ±24,949 m2 (GROSS SITE LESS ROAD LESS PARK) 8.7 X FSI

PROJECT STATISTICS BLOCK 2

*GCA	UNITS	PARKING (0.7sp./u.)	FSI
205,706 M2	2,658 units	PROVIDED : 1,740 sp. REQUIRED : 1,861 sp.	GROSS: = 205,706 M2 ±36,314 m2 (GROSS SITE AREA) 5.6 X FSI NET: = 205,706 M2 ±26,556 m2 (GROSS SITE LESS ROAD) 7.7 X FSI NET NET: = 205,706 M2 ±22,094 m2 (GROSS SITE LESS ROAD LESS PARK) 9.3 X FSI

PROJECT STATISTICS BLOCK 4

*GCA	UNITS	PARKING (0.7sp./u.)	FSI
129,998 M2	1,587 units	PROVIDED : 964 sp. REQUIRED : 1,111 sp.	GROSS: = 129,998 M2 ±31,501 m2 (GROSS SITE AREA) 4.1 X FSI NET: = 129,998 M2 ±21,743 m2 (GROSS SITE LESS ROAD) 5.9 X FSI NET NET: = 129,998 M2 ±13,255 m2 (GROSS SITE LESS ROAD LESS PARK) 9.8 X FSI

TOTAL GCA	TOTAL UNITS	TOTAL PARKING (0.7sp./u.)	TOTAL FSI
552,786 M2	7,077 units	PROVIDED : 4,533 sp. (0.64 sp/unit) REQUIRED : 4,954 sp.	GROSS: = 552,786 M2 ±110488 m2 (GROSS SITE AREA) 5.0 X FSI NET: = 552,786 M2 ±81214 m2 (GROSS SITE LESS ROAD) 6.8 X FSI NET NET: = 552,786 M2 ±60298 m2 (GROSS SITE LESS ROAD LESS PARK) 9.1 X FSI

*GCA DOES NOT INCLUDE ABOVE AND BELOW GRADE PARKING.

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

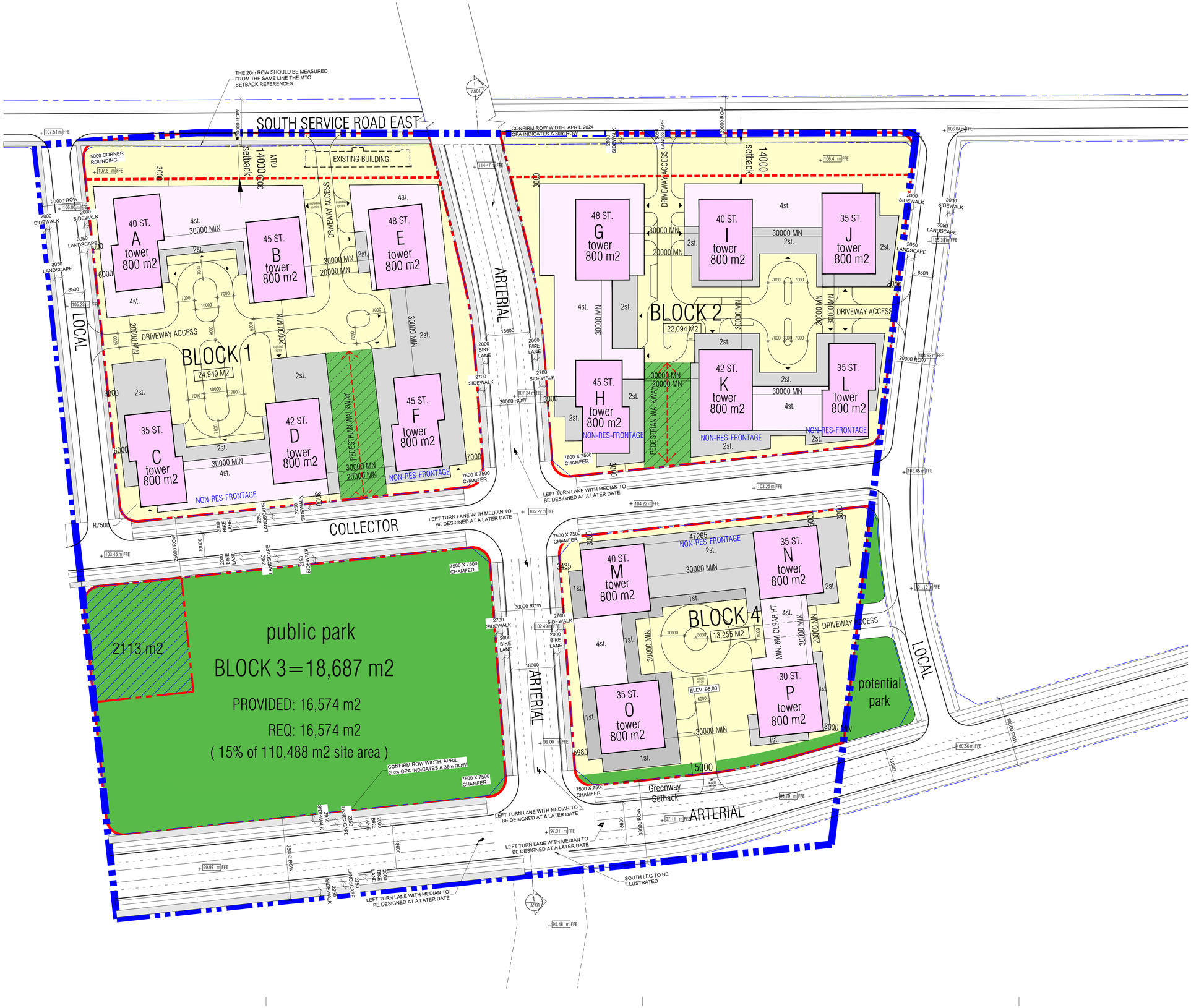
OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

STATS

A101

TITLEBLOCK SIZE: 610 x 900



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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
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JOB #	2127.23

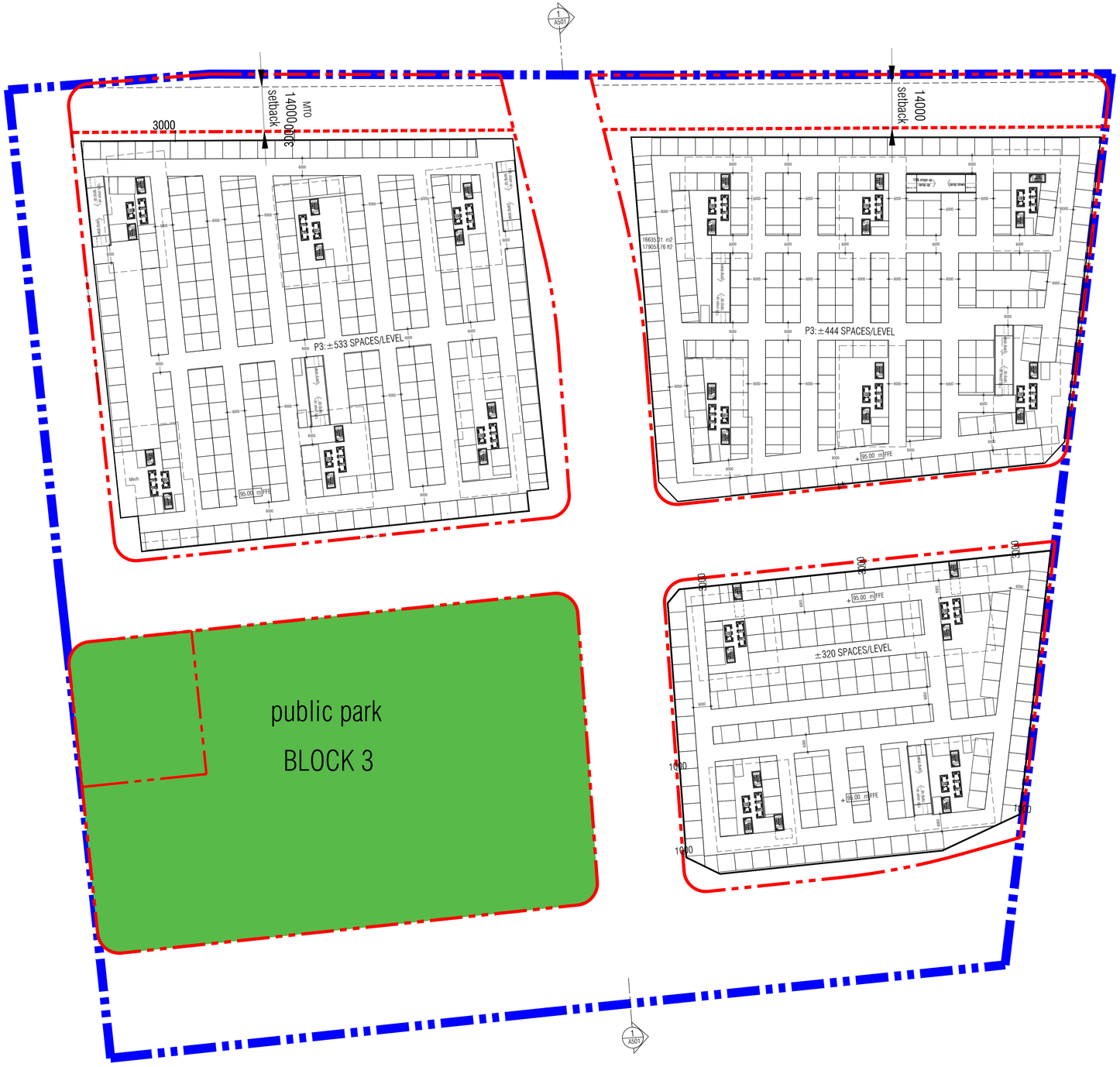
SITE PLAN

1:750

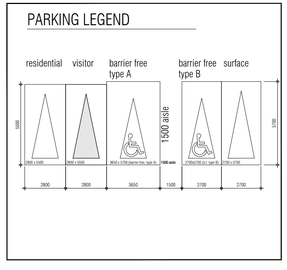
A102

TITLEBLOCK SIZE: 610 x 900

1.	SEP.12.2025 ISSUED TO CITY FOR PAC MEETING	J. CHI.



PARKING LEGEND



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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
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P4-P3 UNDERGROUND PLAN

1:750 A201

TITLEBLOCK SIZE: 610 x 900

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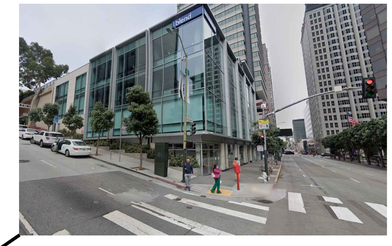

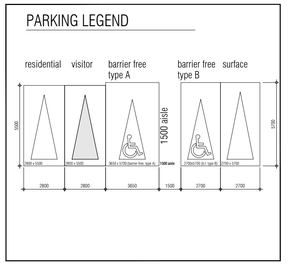

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
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P2 UNDERGROUND PLAN

1:750

A202

TITLEBLOCK SIZE: 610 x 900

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
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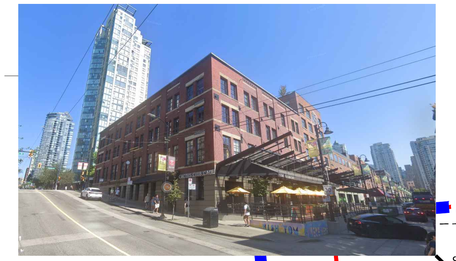
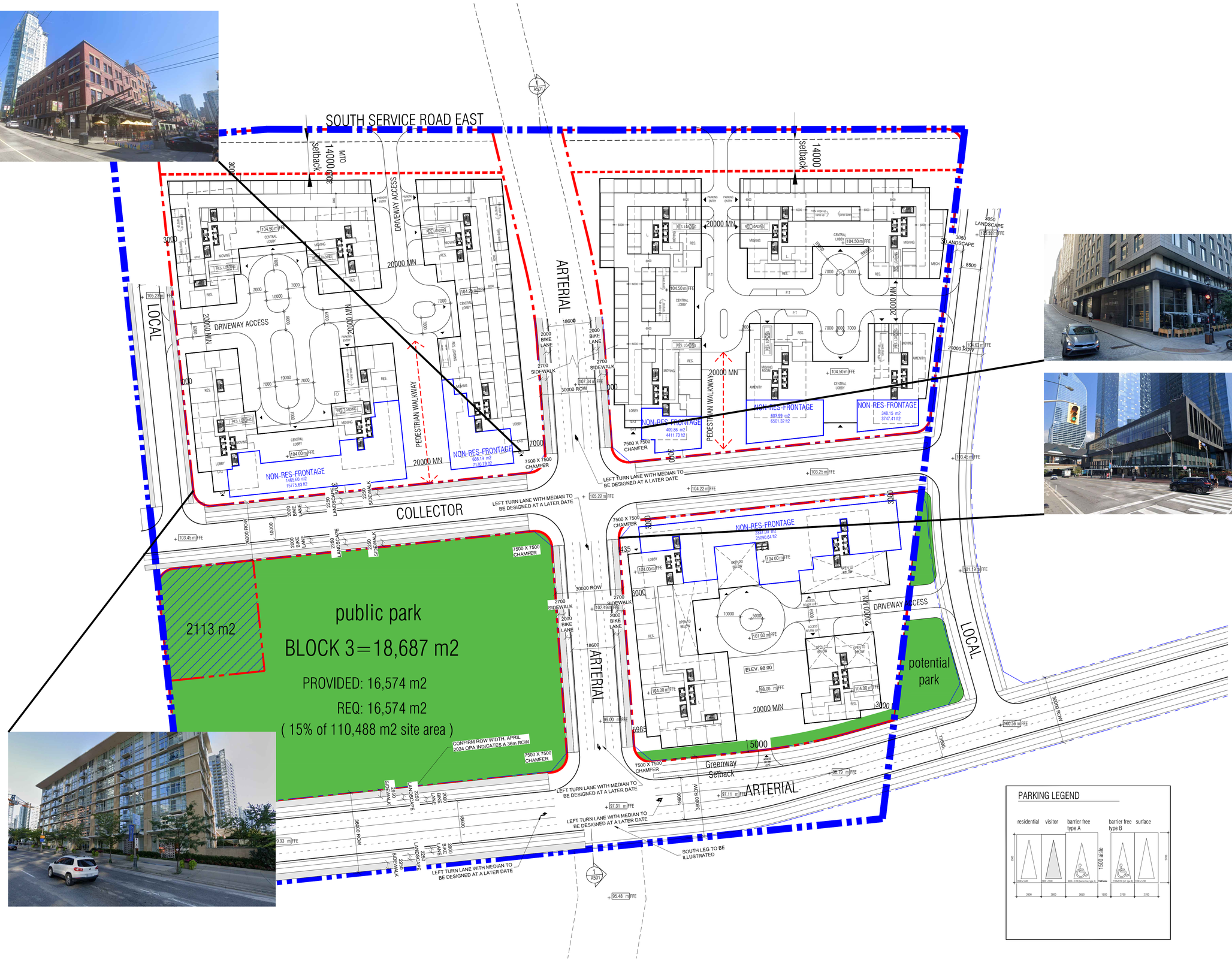
P1 UNDERGROUND PLAN

1:750

A203

TITLEBLOCK SIZE: 610 x 900





PARKING LEGEND

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

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ASSISTANT DESIGNER:	B. DADGOSTAR
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JOB #	2127.23

GROUND FLOOR PLAN

1:750

A301

TITLEBLOCK SIZE: 610 x 900

1.	SEP.12.2025	ISSUED TO CITY FOR PAC MEETING	J. CHI.

PARKING LEGEND

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
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2ND FLOOR PLAN

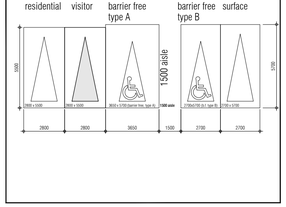
1:750

A302

TITLEBLOCK SIZE: 610 x 900

1.	SEP.12.2025	ISSUED TO CITY FOR PAC MEETING	J. CHI.

PARKING LEGEND



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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

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3RD-4TH FLOOR PLAN

1:750

A303

TITLEBLOCK SIZE: 610 x 900

1.	SEP.12.2025	ISSUED TO CITY FOR PAC MEETING	J. CHI.

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
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DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
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5TH-6TH FLOOR PLAN

1:750

A304

TITLEBLOCK SIZE: 610 x 900

1. SEP.12.2025 ISSUED TO CITY FOR PAC MEETING J. CHI.

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

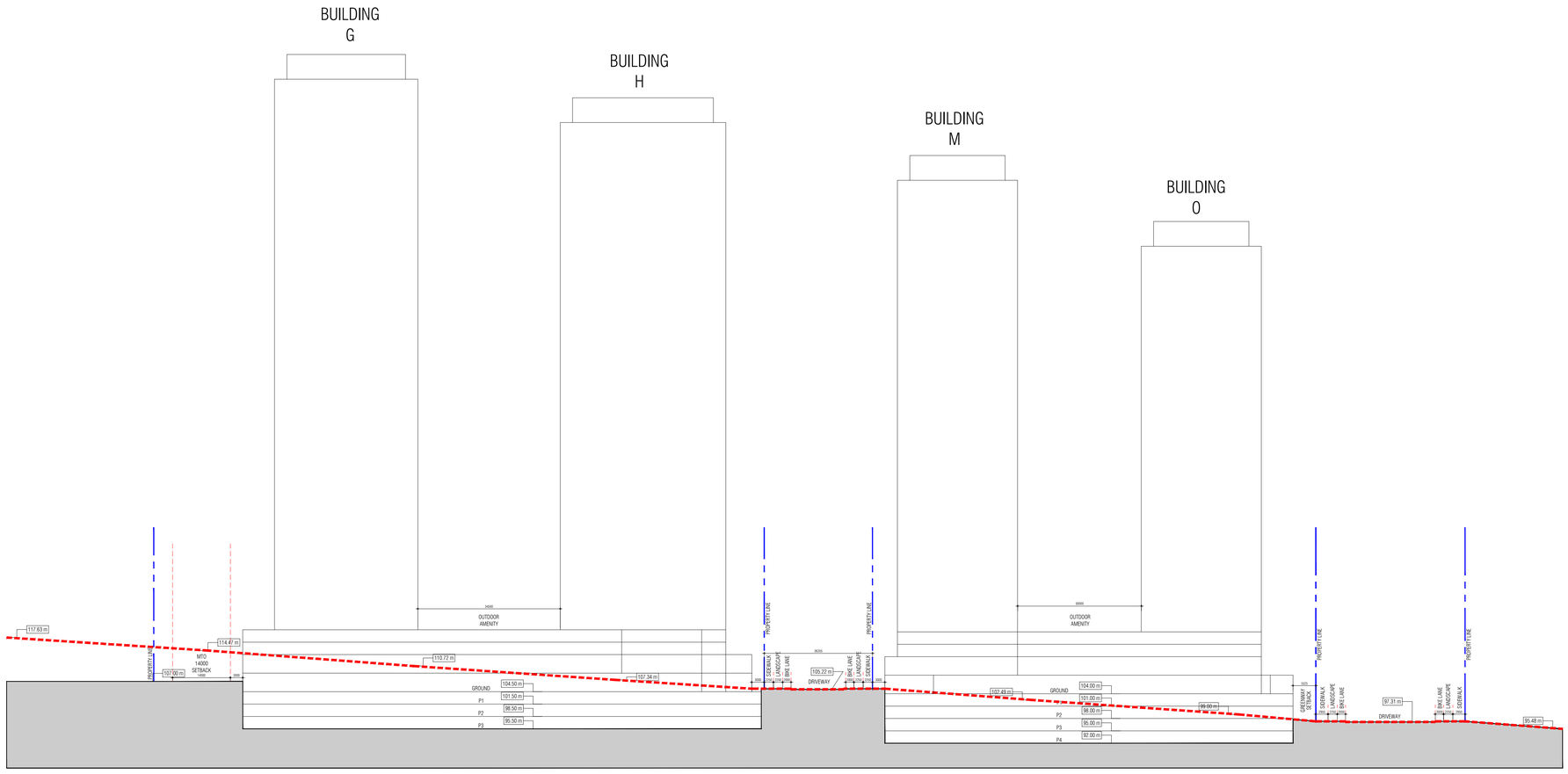
TYPICAL TOWER FLOOR PLAN

1:750

A305

TITLEBLOCK SIZE: 610 x 900

1.	SEP.12.2025	ISSUED TO CITY FOR PAC MEETING	J. CHI.



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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
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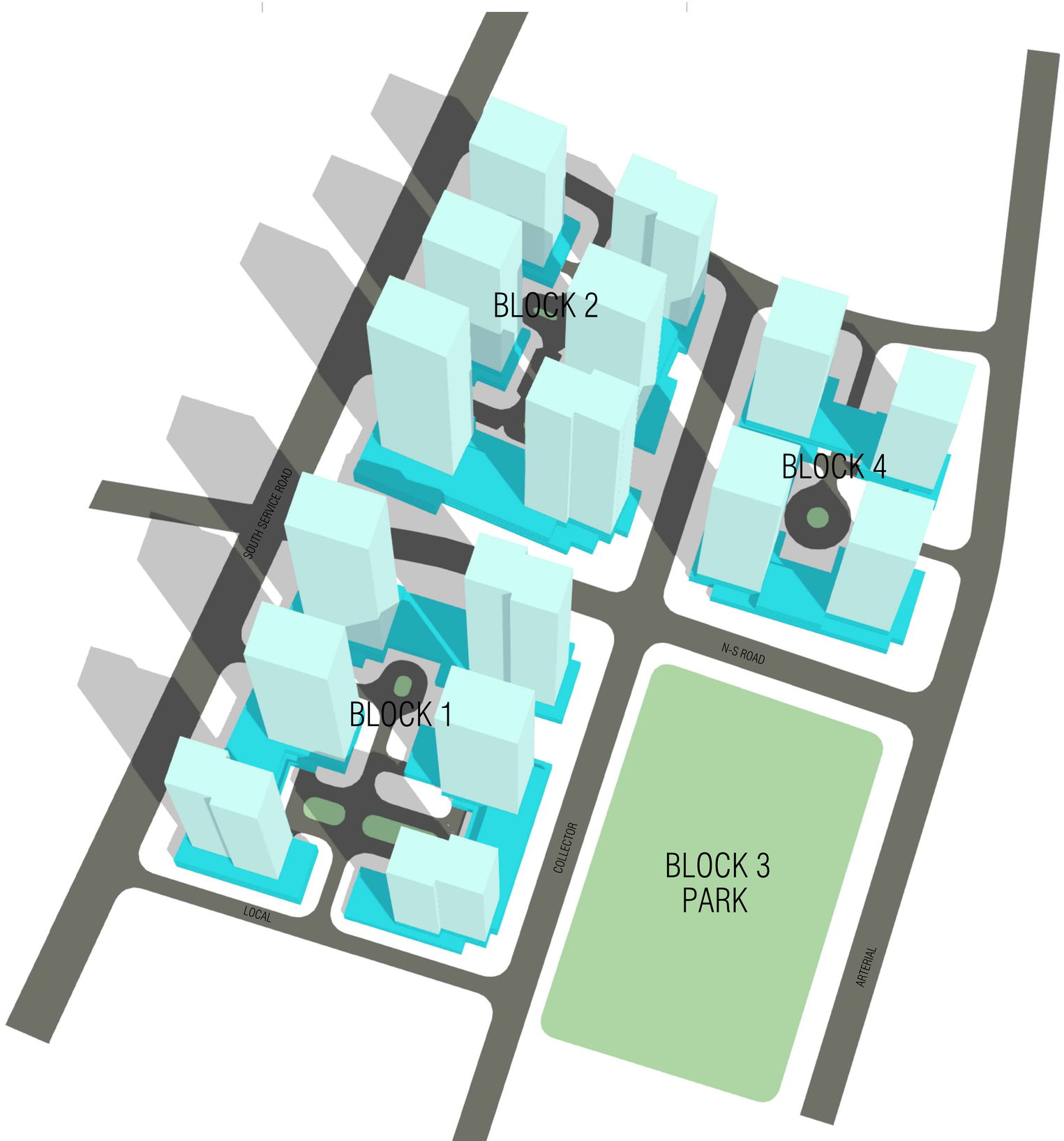
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

SECTION

1:600

A501

TITLEBLOCK SIZE: 610 x 900



1.	SEP.12.2025	ISSUED TO CITY FOR PAC MEETING	J. CHI.

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

MASSING VIEW
AERIAL VIEW LOOKING NORTH

N.T.S

A601

TITLEBLOCK SIZE: 610 x 900

1.	SEP.12.2025	ISSUED TO CITY FOR PAC MEETING	J. CHI.

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

MASSING VIEW
AERIAL VIEW LOOKING WEST

N.T.S

A602

TITLEBLOCK SIZE: 610 x 900

1. SEP.12.2025 ISSUED TO CITY FOR PAC MEETING J. CHI.

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

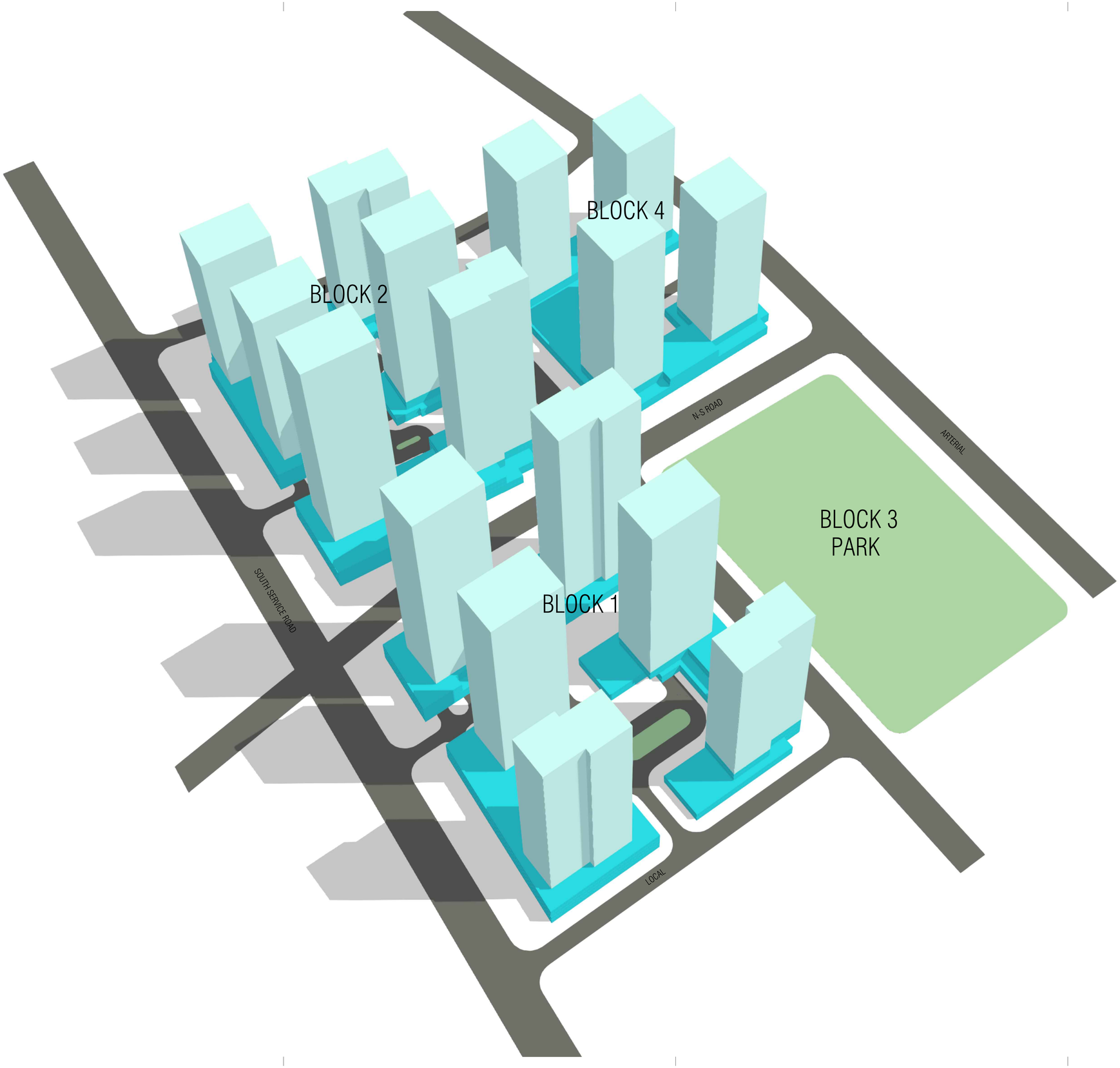
THE ROSE CORPORATION
OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

MASSING VIEW
AERIAL VIEW LOOKING SOUTH

N.T.S **A603**

TITLEBLOCK SIZE: 610 x 900



1.	SEP.12.2025	ISSUED TO CITY FOR PAC MEETING	J. CHI.

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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

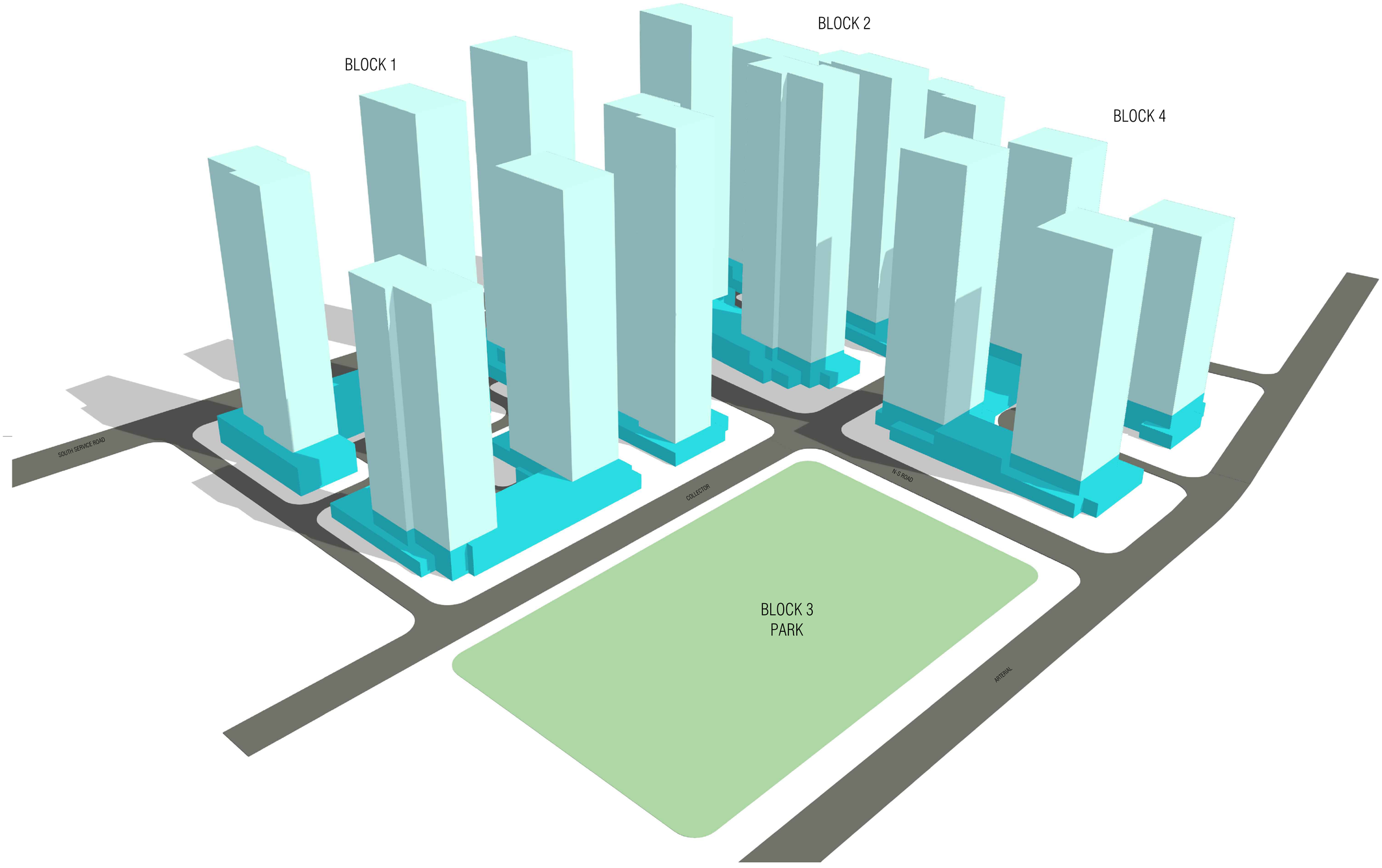
MASSING VIEW
AERIAL VIEW LOOKING EAST

N.T.S

A604

TITLEBLOCK SIZE: 610 x 900

1. SEP.12.2025 ISSUED TO CITY FOR PAC MEETING J. CHI.



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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

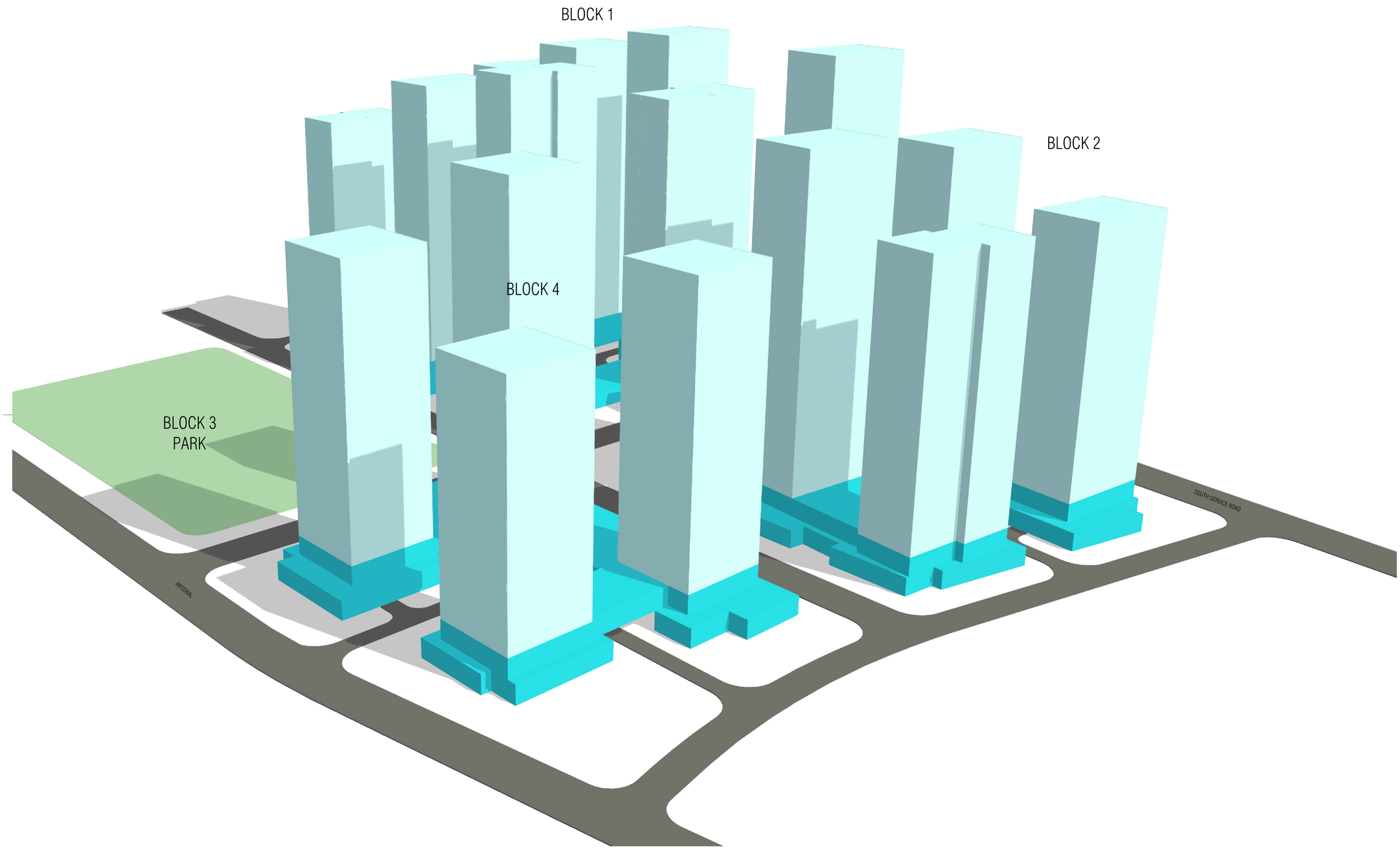
PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

MASSING VIEW
VIEW LOOKING NORTH

N.T.S

A605

TITLEBLOCK SIZE: 610 x 900



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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

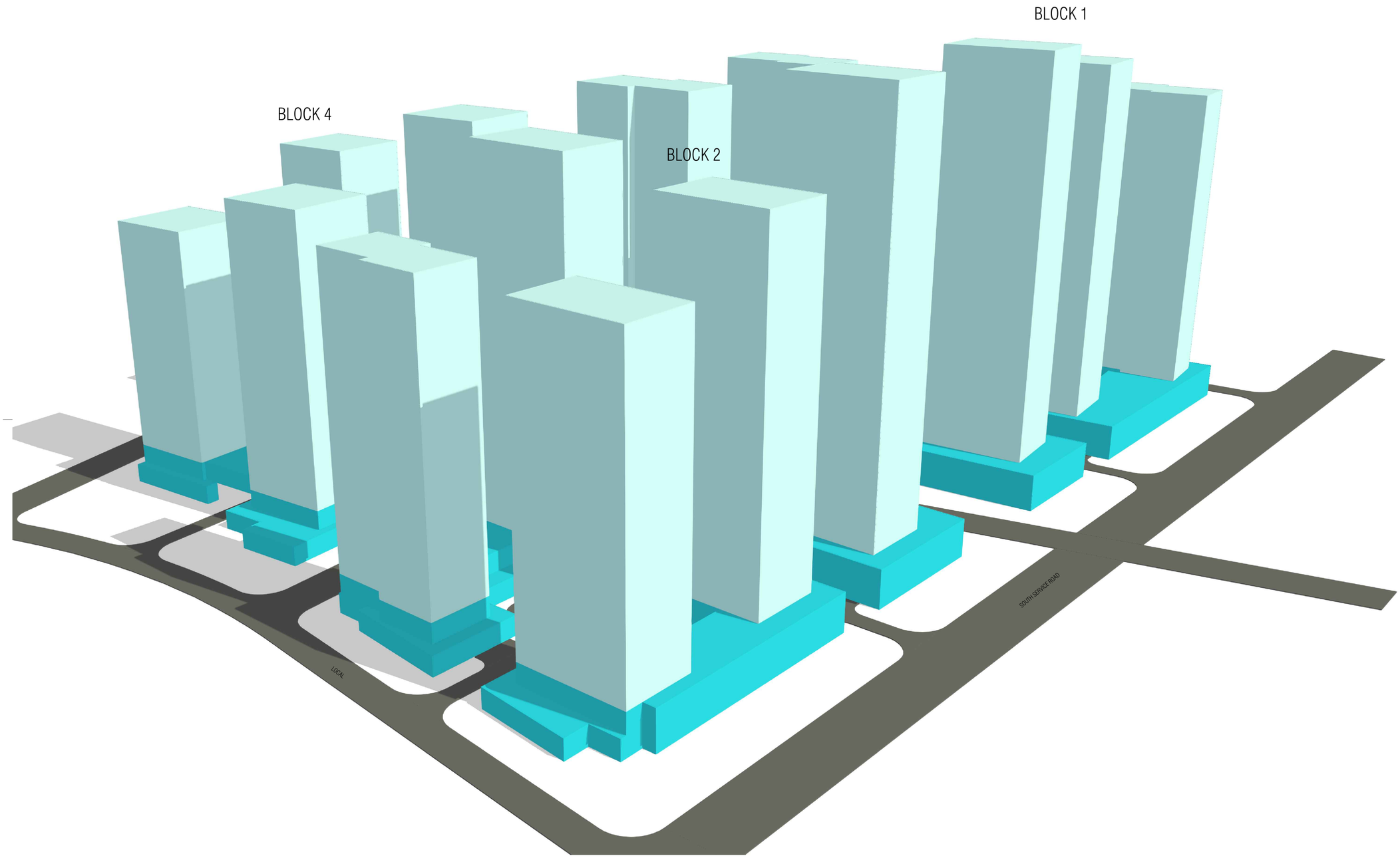
MASSING VIEW
VIEW LOOKING WEST

N.T.S

A606

TITLEBLOCK SIZE: 610 x 900

1.	SEP.12.2025	ISSUED TO CITY FOR PAC MEETING J. CHI.



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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

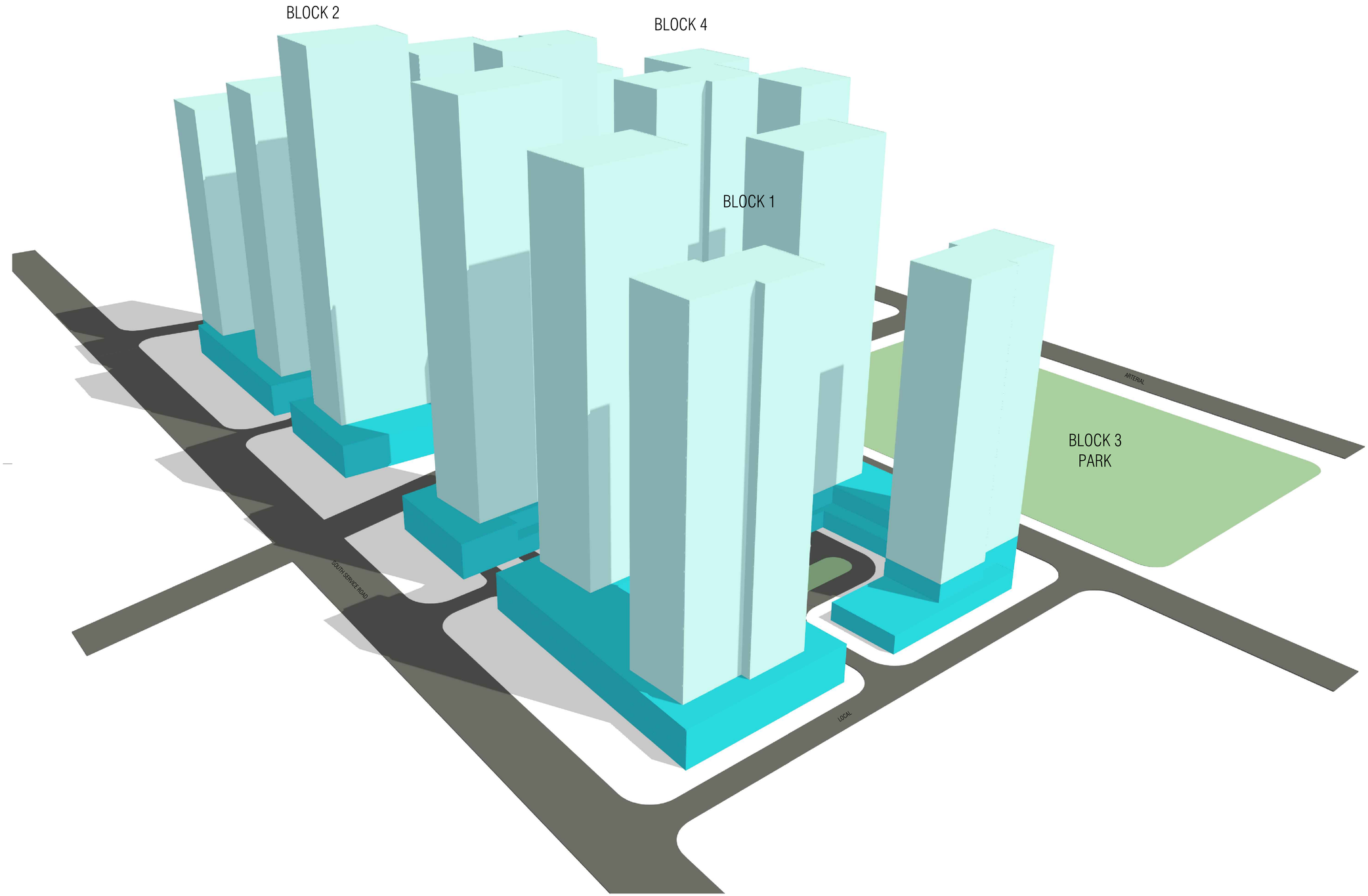
PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEHROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

MASSING VIEW
VIEW LOOKING SOUTH

N.T.S

A607

TITLEBLOCK SIZE: 610 x 900



1.	SEP.12.2025	ISSUED TO CITY FOR PAC MEETING	J. CHI.

ISSUED FOR REVISIONS

GRAZIANI + CORAZZA ARCHITECTS
8400 JANE STREET, BUILDING D-SUITE 300 CONCORD, ONTARIO L4K 4L8
T. 905.795.2601 F. 905.795.2844 WWW.GC-ARCHITECTS.COM

PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION

OAKVILLE ONTARIO

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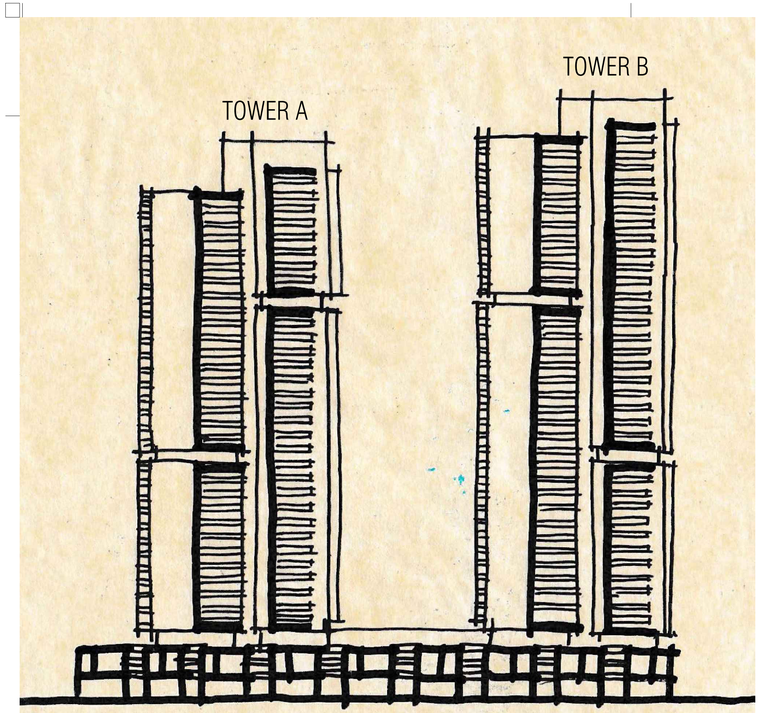
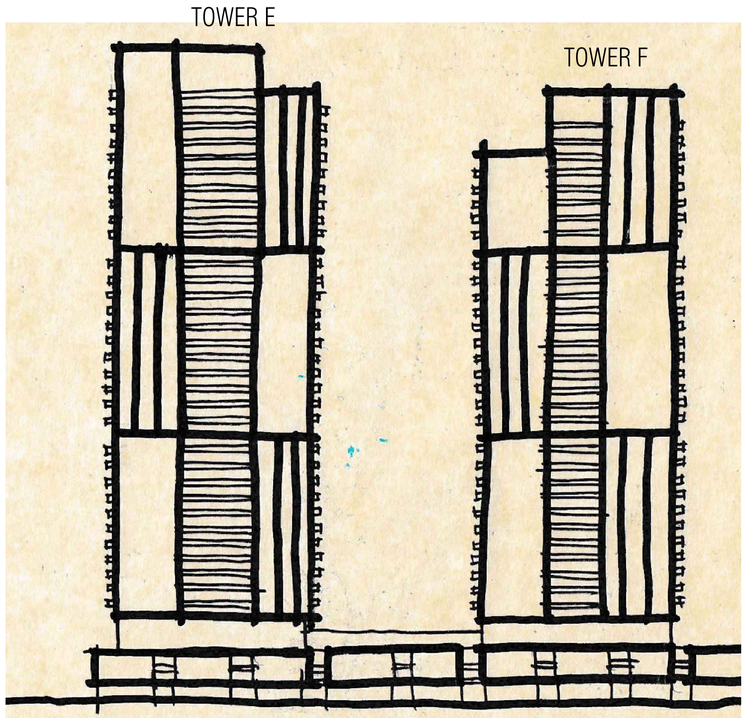
MASSING VIEW
VIEW LOOKING EAST

N.T.S

A608

TITLEBLOCK SIZE: 610 x 900





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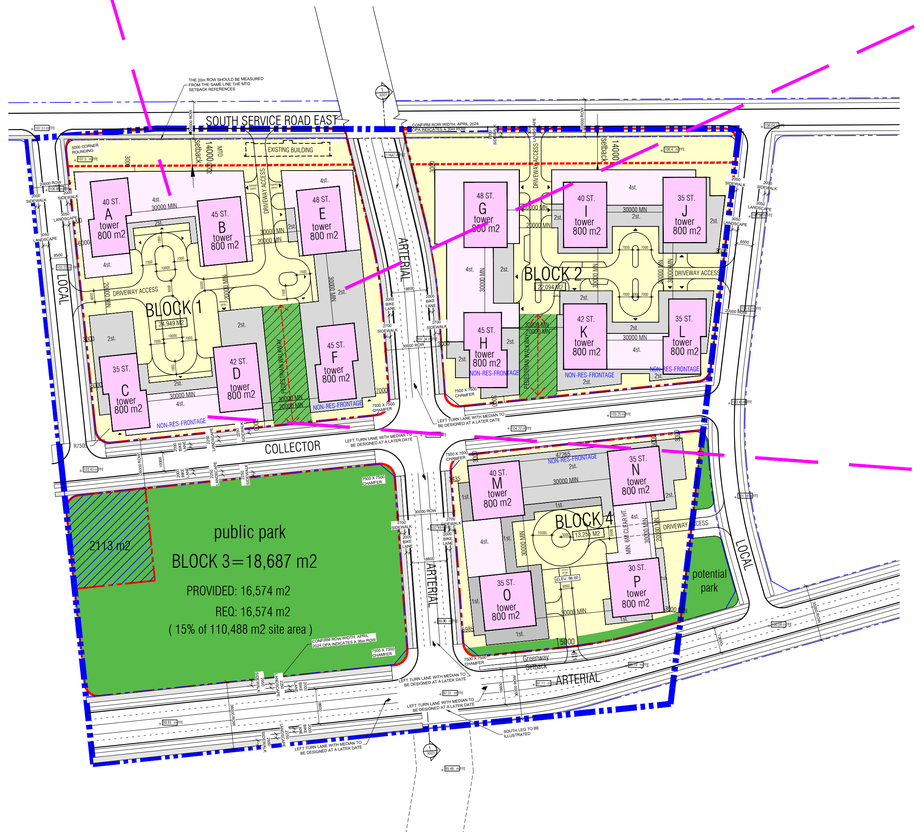

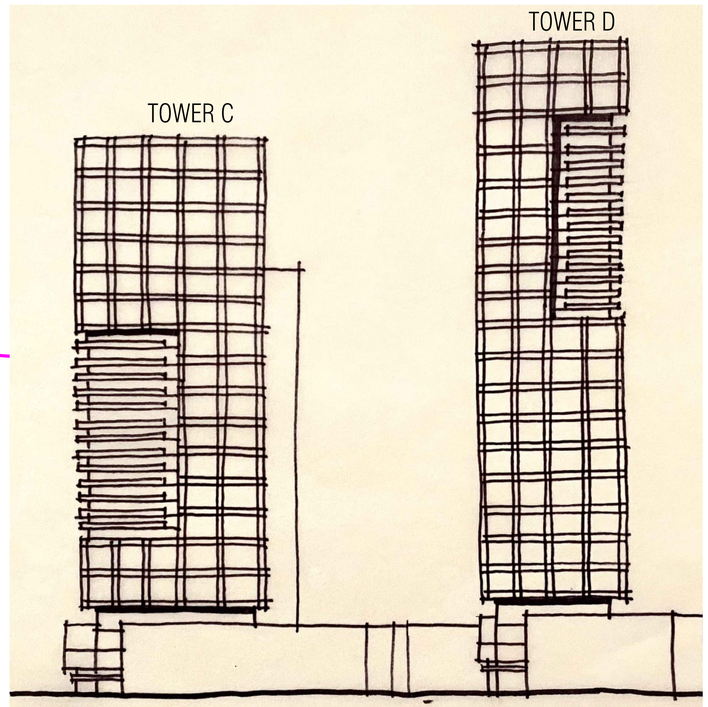

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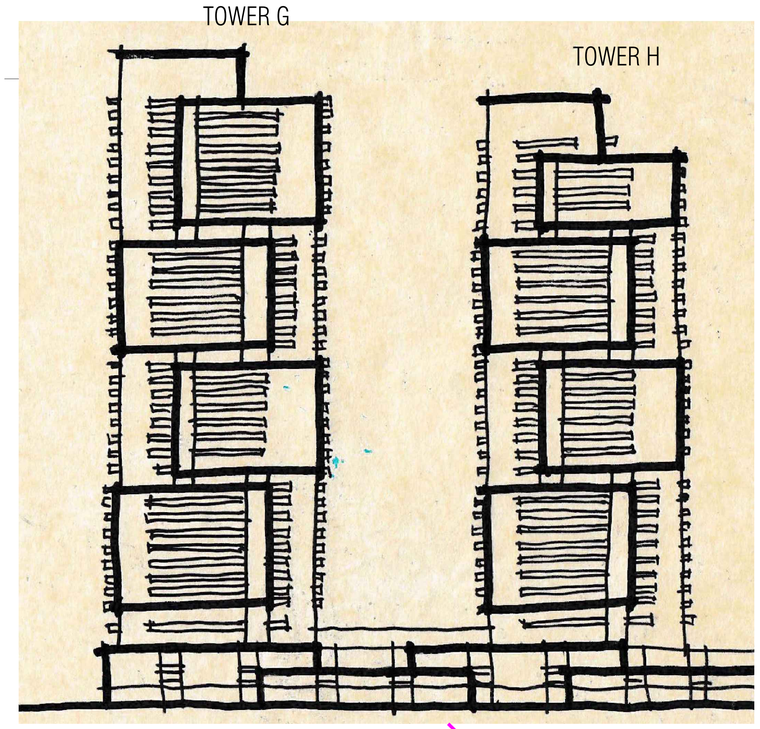
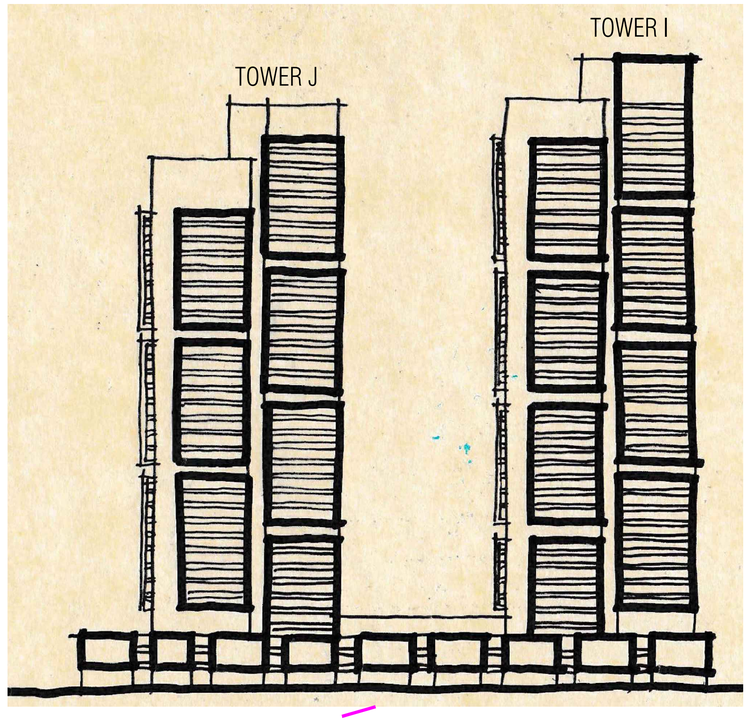
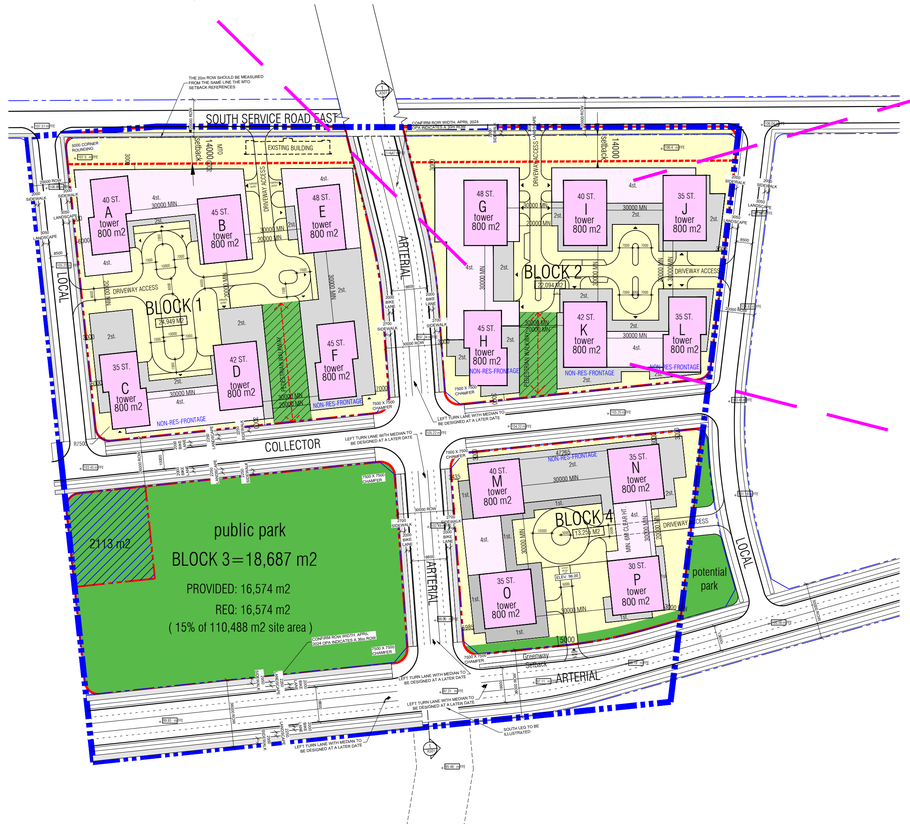
SKETCH IMAGES
BLOCK 1

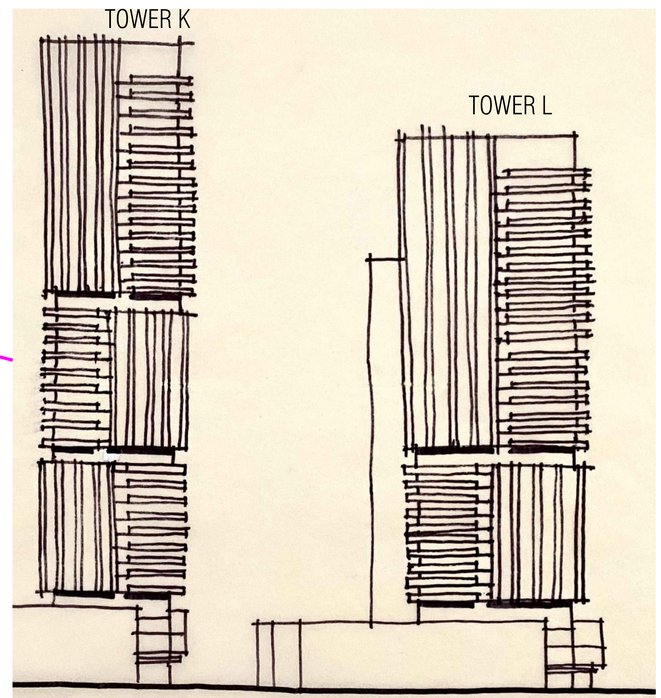
N.T.S A609

TITLEBLOCK SIZE: 610 x 900









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8400 JANE STREET, BUILDING D-SUITE 300 CONCORD, ONTARIO L4K 4L8
T.905.795.2601 F.905.795.2644 WWW.GC-ARCHITECTS.COM

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THE ROSE CORPORATION

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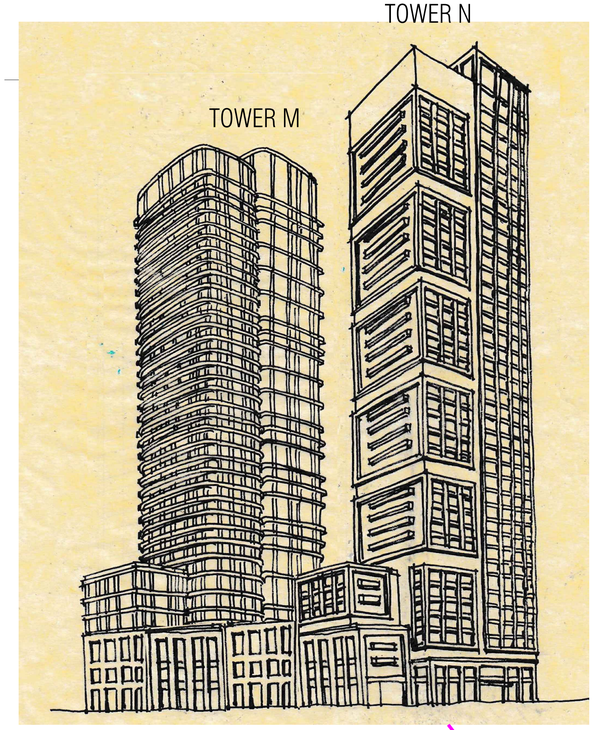
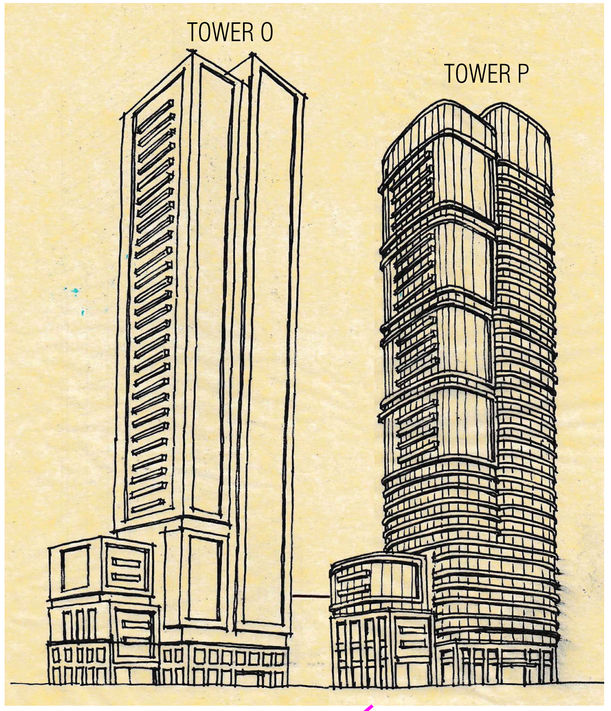
SKETCH IMAGES
BLOCK 2

N.T.S A610

TITLEBLOCK SIZE: 610 x 900





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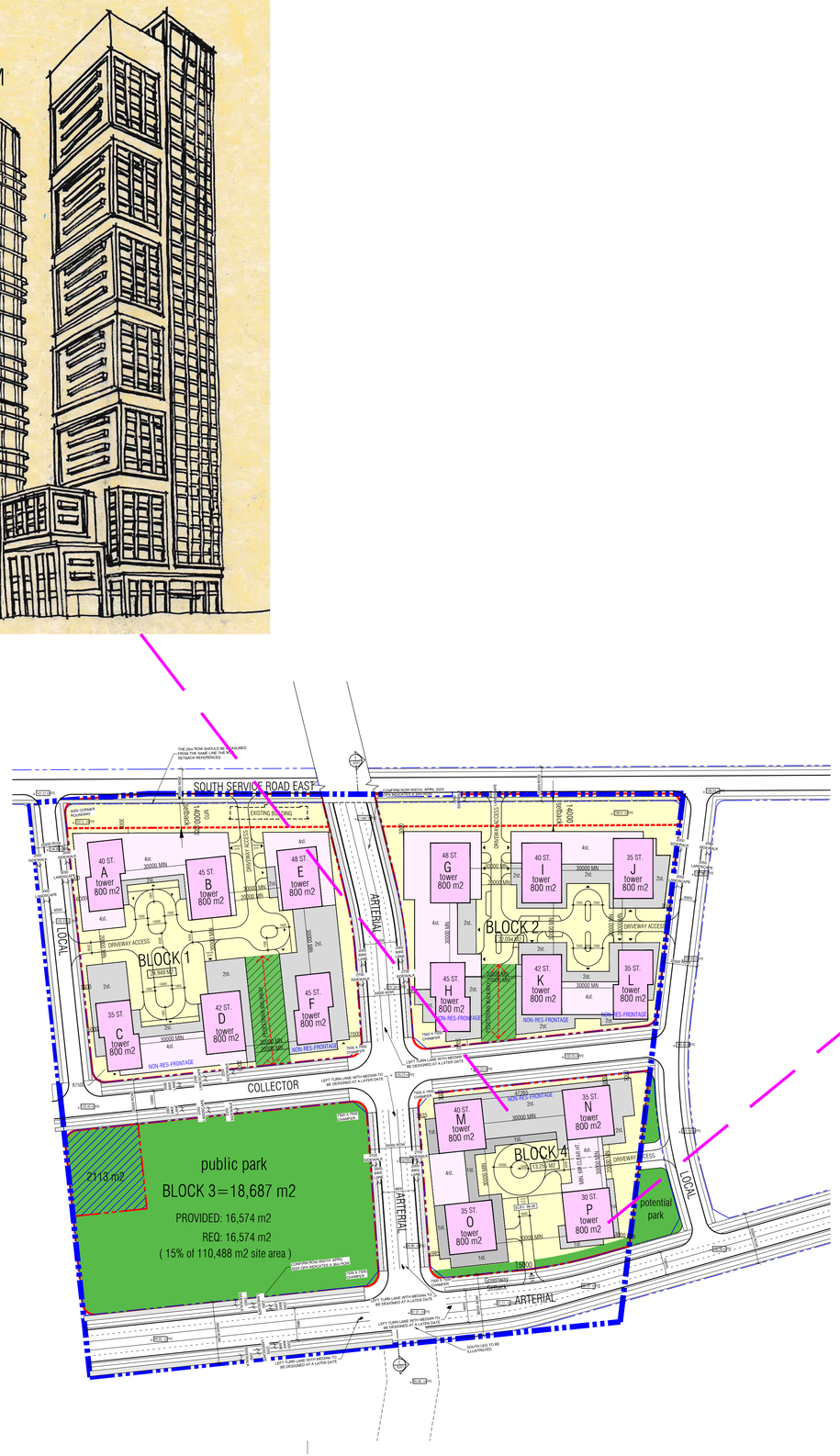

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SKETCH IMAGES
BLOCK 4

N.T.S A611

TITLEBLOCK SIZE: 610 x 900