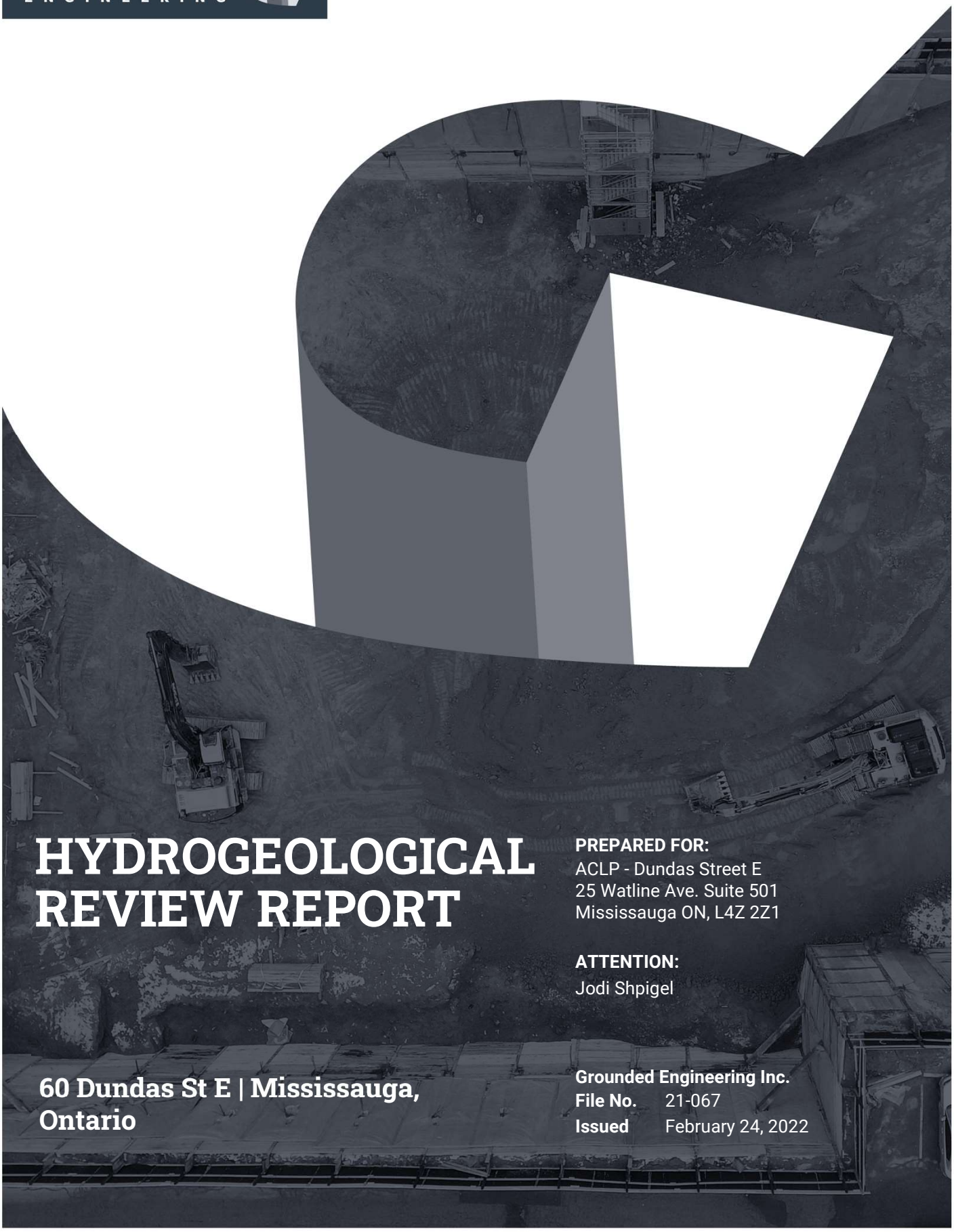

HYDROGEOLOGICAL REVIEW REPORT

PREPARED FOR:
ACLP - Dundas Street E
25 Watline Ave. Suite 501
Mississauga ON, L4Z 2Z1

ATTENTION:
Jodi Shpigel

60 Dundas St E | Mississauga, Ontario

Grounded Engineering Inc.
File No. 21-067
Issued February 24, 2022

Executive Summary

Grounded Engineering Inc. (Grounded) was retained by ACLP - Dundas Street E to conduct a Hydrogeological Review for the proposed redevelopment of 60 Dundas St E in Mississauga, Ontario. The conclusions of the investigation are summarized as follows:

Development Information

Current Development

Development Phase	Above Grade Levels	Below Grade Levels			
		Level #	Lowest Finished Floor		Approximate Base of Footings (masl)
			Depth (m)	Elevation (masl)	
60 Dundas St E	1	0	0	111.0 (approx.)	Unknown

Proposed Development

Development Phase	Above Grade Levels	Below Grade Levels			
		Level #	Lowest Finished Floor		Approximate Base of Footings (masl)
			Depth (m)	Elevation (masl)	
60 Dundas St E – Tower A	40	P5	17	94.0 (approx.)	93.0 (approx.)
60 Dundas St E – Tower B	35				
60 Dundas St E – Tower C	32				

Site Conditions

Site Stratigraphy

Stratum/Formation	Aquifer or Aquitard	Depth Range (mbgs)	Elevation Range (masl)	Hydraulic Conductivity (m/s)
Earth Fill	Aquifer	0.1 – 4.0	110.8 – 106.0	1.0×10^{-5}**
Clayey Silt Glacial Till	Aquitard	1.7 – 6.3	108.9 – 103.9	4.1×10^{-8}*
Weathered Bedrock	Aquifer	6.1 – 6.3***	104.6 – 103.5***	1.0×10^{-7}**
Sound Bedrock	Aquitard	Below 6.3***	Below 103.5***	1.0×10^{-8}**

*Indicates conductivity was calculated by geometric mean of Slug Test

** Indicates conductivity was estimated using typical published values from Freeze and Cherry (1979) and knowledge of adjacent site conditions

***Inferred based on drilling observations. To be confirmed through additional rock coring at a later date

Maximum Groundwater Elevation

Monitoring Well ID	Depth Below Grade (m)	Elevation (masl)
101	3.2	107.7
102	3.8	106.2
103	4.0	105.4

Groundwater Quality				
Sample ID	**Sample Date**	**Sample Expiry Date**	**City of Mississauga Storm Sewer Limits**	**Region of Peel Sanitary Sewer Limits**
SW-UF-BH101	10 May 2021	10 Feb 2022	Exceeds	Meets

Groundwater Control

Stored Groundwater (pre-excavation/dewatering)					
Volume of Excavation (m^3)	**Volume of Excavation Below Water Table (m^3)**	**Volume of Stored Groundwater**		**Volume of Available Groundwater**	
		(m^3)	**(L)**	**(m^3)**	**(L)**
180,264	148,109	13,300	13,300,000	8,700	8,700,000

Short Term (Construction) Groundwater Quantity – Safety Factor of 1.5 Used					
Groundwater Seepage		**Design Rainfall Event (25mm)**		**Total Daily Water Takings**	
L/day	**L/min**	**L/day**	**L/min**	**L/day**	**L/min**
10,000	6.9	244,000	169.4	254,000	176.4

Long Term (Permanent) Groundwater Quantity – Safety Factor of 1.5 Used					
Groundwater Seepage		**Infiltration Design Rainfall Event (25mm)**		**Total Daily Water Takings**	
L/day	**L/min**	**L/day**	**L/min**	**L/day**	**L/min**
10,000	6.9	21,000	14.6	31,000	21.5

Regulatory Requirements	
Environmental Activity and Sector Registry (EASR) Posting	Required
Short Term Permit to Take Water (PTTW)	Not Required
Long Term Permit to Take Water (PTTW)	Not Required
Short Term Discharge Agreement City of Mississauga/Region of Peel	Required
Long Term Discharge Agreement City of Mississauga/Region of Peel	Required

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FIGURES

APPENDICES

1 Introduction

ACLP - Dundas Street E has retained Grounded Engineering Inc. ("Grounded") to provide hydrogeological engineering design advice for their proposed development at 60 Dundas St E, in Mississauga, Ontario.

Property Information	
Location of Property	60 Dundas St E, Mississauga, Ontario, L5A 1W4
Ownership of Property	Gold Star Plaza Ltd.
Property Dimensions (m)	110 x 114 (irregular shape)
Property Area (m^2)	10,724

Existing Development	
Number of Building Structures	1
Number of Above Grade Levels	1
Number of Underground Levels	0
Sub-Grade Depth of Development (m)	0
Sub-Grade Area (m^2)	0
Land Use Classification	Commercial

Proposed Development	
Number of Building Structures	3
Number of Above Grade Levels	Building A = 40 Building B = 35 Building C = 32
Number of Underground Levels	5
Sub-Grade Depth of Development (m)	17
Sub-Grade Area (m^2)	9,685
Land Use Classification	Residential

Qualified Person and Hydrogeological Review Information	
Qualified Person	Matthew Bielaski, P.Eng., QP_{ESA-RA}
Consulting Firm	Grounded Engineering Inc.
Date of Hydrogeological Review	February 24, 2022
Scope of Work	▪ Review of MECP Water Well Records for the area ▪ Review of geological information for the area ▪ Review of topographic information for the area ▪ Advancement of 3 boreholes to a depth of 5.1 to 7.4 m, which were instrumented with monitoring wells ▪ Completion of slug tests in all available monitoring wells ▪ Ground water elevation monitoring once after drilling and once at least three months after to capture seasonal fluctuations ▪ Ground water sampling and analysis to the City of Mississauga and Region of Peel Sewer Use Limits ▪ Assessment of groundwater controls and potential impacts ▪ Report preparation in accordance with Ontario Water Resources Act, Ontario Regulation 387/04

General Hydrogeological Characterization	
Property Topography	The site has an approximate ground surface elevation of 111.0 masl.
Local Physiographic Features	The site is composed of earth fill and clayey silt till.
Regional Physiographic Features	The West St Lawrence Lowland consists of a limestone plain (elevation 200–250 masl) that is separated by a broad, shale lowland from a broader dolomite and limestone plateau west of Lake Ontario. This plateau is bounded by the Niagara Escarpment. From the escarpment the plateau slopes gently southwest to lakes Huron and Erie (elevation 173 masl). Glaciation has mantled this region with several layers of glacial till (i.e., an unsorted mixture of clay, sand, etc.), the youngest forming extensive, undulating till plains, often enclosing rolling drumlin fields.
Watershed	The site is located within the Credit River Watershed. Locally, groundwater is anticipated to flow southeast towards Lake Ontario.
Surface Drainage	Surface water is expected to flow towards municipal catch basins located on the site.

2 Study Area Map

A map has been enclosed which shows the following information:

- All monitoring wells identified on site
- All monitoring wells identified off site within the study area
- All boreholes identified on site
- All buildings identified on site and within the study area
- The property boundaries of the site
- Any watercourses and drainage features within the study area.

3 Geology and Physical Hydrogeology

The site stratigraphy, including soil materials, composition and texture are presented in detail on the borehole logs in Appendix A. A summary of stratigraphic units that were encountered at the site are as follows:

Site Stratigraphy

Stratum/Formation	Aquifer or Aquitard	Depth Range (mbgs)	Elevation Range (masl)	Hydraulic Conductivity (m/s)
Earth Fill	Aquifer	0.1 – 4.0	110.8 – 106.0	1.0×10^{-5}
Clayey Silt Glacial Till	Aquitard	1.7 – 6.3	108.9 – 103.9	4.1×10^{-8}

Bedrock

Stratum	Depth Range (mbgs)	Elevation Range (masl)	Hydraulic Conductivity (m/s)
Weathered	6.1 – 6.3*	104.6 – 103.5*	1.0×10^{-7}
Sound	Below 6.3*	Below 103.5*	1.0×10^{-8}

* Inferred based on drilling observations. To be confirmed through additional rock coring at a later date

Surface Water

Surface Water Body	Distance from site (m)	Hydraulically Connected to Property (yes/no)
Cooksville Creek	Adjacent to east boundary of site	No – the creek has been channelized hydraulically cut off from the site by a concrete retaining wall

4 Monitoring Well Information

Well ID	Well Diameter (mm)	Ground Surface (masl)	Top of Screen (masl)	Bottom of Screen (masl)	Screened Geological Unit
101	50	110.9	106.3	104.8	Clayey Silt Glacial Till
102	50	110.0	105.4	103.9	Clayey Silt Glacial Till
103	50	109.4	106.0	104.5	Clayey Silt Glacial Till

5 Groundwater Elevations

Well ID	Groundwater Elevation (masl)			
	May 4, 2021	May 6, 2021	May 10, 2021	May 21, 2021
101	106.2	107.4	107.6	107.7
102	105.3	106.0	106.2	106.2
103	104.8	105.3	105.3	105.4

The groundwater table fluctuates from about 3.2 to 4.7 metres below grade, in the clayey silt till at Elev. 104.8 to 107.7 m with the groundwater sloping downwards from the west to the east towards Cooksville Creek. For design purposes, the groundwater table is assumed to be at Elev. 107.7 m. This deposit has a very low permeability and will yield only minor seepage in the long term. There is also water within discrete fractures in the bedrock.

Groundwater levels fluctuate with time depending on the amount of precipitation and surface runoff and may be influenced by known or unknown dewatering activities at nearby sites.

6 Aquifer Testing

6.1 Single Well Response Test (Slug Test)

The hydraulic conductivities from the monitoring wells were determined based on slug tests (single-well response tests). These tests involve rapid removal of water or addition of a “slug” which displaces a known volume of water from a single well, and then monitoring the water level in the well until it recovers. The results of the slug tests were analyzed using the Bouwer and Rice method (1976).

The hydraulic properties of the strata applicable to the site are as follows:

Well ID	Well Screen Elevation (masl)	Screened Geological Unit	Hydraulic Conductivity (m/s)
101	106.3 - 104.8	Clayey Silt Till	6.8×10^{-8}
102	105.4 - 103.9	Clayey Silt Till	1.7×10^{-8}
103	106.0 - 104.5	Clayey Silt Till	6.2×10^{-8}

A design hydraulic conductivity value of 4.1×10^{-8} m/s was used for the clayey silt till unit as a product of the geometric mean of the three hydraulic conductivity measurements achieved from the well response tests conducted.

6.2 Soil Grain Size Distribution

The hydraulic conductivities of various soil types can also be estimated from grain size analyses. An assessment of the grain sizes was conducted using the excel-based tool, HydrogeoSieve XL (*HydrogeoSieve XL ver.2.2, J.F. Devlin, University of Kansas, 2015*). HydrogeoSieve XL compares the results of the grain size analyses against fifteen (15) different analytical methods.

Given our experience in the area as well as published literature, some of the geometric means provided for the soil were biased low by one or more methods. In these instances, the values determined by these methods were excluded from the mean. The table below illustrates the hydraulic conductivity values estimated from the mean of the analytical methods where the soil met the applicable analysis criteria.

Sample ID	Soil Description	Applicable Analysis Methods	Hydraulic Conductivity (m/s)
BH103-SS4	Clayey Silt Till	Alyamani and Sen, Barr, Sauerbrei	4.2×10^{-9}

The results of the analyses are presented in Appendix D.

6.3 Literature

According to Freeze and Cherry (1979), the typical hydraulic conductivity of the strata investigated at the site are:

Stratum/Formation	Hydraulic Conductivity (m/s)
Earth Fill	1×10^{-3} to 1×10^{-7}
Clayey Silt Glacial Till	1×10^{-7} to 1×10^{-10}
Weathered Shale Bedrock	1×10^{-6} to 1×10^{-12}
Sound Shale Bedrock	1×10^{-7} to 1×10^{-12}

7 Water Quality

One (1) unfiltered groundwater sample was collected and analyzed by a Canadian laboratory accredited and licensed by Standards Council of Canada and or Canadian Association for Laboratory Accreditation.

The sample was collected directly from monitoring well BH101 on May 10, 2021. The sample was analyzed for the following parameters:

- City of Mississauga Storm Sewer By-Law 259-05 – Limits for Storm Sewers Discharge
- Region of Peel By-Law 53-2010 Table 1 – Limits for Sanitary Sewer Discharge

The groundwater sample exceeded the Limits for Storm Sewer Discharge for the following parameters:

- Total Suspended Solids (Limit 15 mg/L, Result 38.2 mg/L)
- Total Kjeldahl Nitrogen (Limit 1 mg/L, Result 1.83 mg/L)
- E. Coli (Limit 200 CFU/100mL, Result 270 CFU/100mL)
- Phosphorus (Limit 0.4 mg/L, Result <0.50 mg/L)

The groundwater sample met the Limits for Sanitary and Combined Sewer Discharge for all parameters analyzed.

A true copy of the analysis report, Certificate of Analysis and a chain of custody record for the sample are enclosed.

8 Proposed Construction Method

The proposed shoring methodology at the site is currently undetermined. For the purposes of this report, numerical analyses were conducted employing conventional soldier piling and lagging in order to determine a “worst-case scenario” with respect to dewatering volumes and groundwater seepage at the site.

For design purposes, the stabilized groundwater table is at about Elev. 107.7± m. The water table is present in the clayey silt till soil units. The lowest (P5) FFE is at about Elev. 94 m. Therefore,

- Bulk excavation will extend down to the elevation of the prevailing groundwater table;
- Foundation excavations will extend below the prevailing groundwater table; and
- Foundation excavations will penetrate sound bedrock yielding minor seepage.

The groundwater table is in the clayey silt till deposits and bedrock. Dewatering will take some time to accomplish prior to the start of excavation. Stored water within the excavation will need to be considered prior to excavation/dewatering. The clayey silt till deposit has a very low permeability and will yield minor seepage. Positive dewatering of soils may not be feasible at this site due to permeability of the soils present. Dewatering may be achieved through conventional sump pump arrangements. Dewatering of the bedrock is not required, seepage can be allowed to

drain into the excavation and pumped accordingly. Failure to dewater prior to excavation may result in unrecoverable disturbance of the subgrade, which will render advice provided for undisturbed subgrade conditions inapplicable.

It is recommended that a professional dewatering contractor be consulted to review the subsurface conditions and to design a site-specific dewatering system. It is the dewatering contractor's responsibility to assess the factual data and to provide recommendations on dewatering system requirements.

The proposed structures will consist of drained foundations.

The City of Mississauga and/or the Region of Peel will require Discharge Agreements in the short and long terms, if any water is to be discharged to the storm or sanitary sewers. It should be noted that securing a permit to take water on a permanent basis may not be supported by regulatory agencies.

9 Private Water Drainage System (PWDS)

If the proposed development consists of drained foundations, then a private water drainage system will be required. The total sub floor drain area will be approximately 9,685 m^2 based on the drawings which have been provided.

If the development is designed with a private water drainage system, the drainage system is a critical structural element since it keeps water pressure from acting on the basement walls and floor slab. As such, the sump that ensures the performance of this system must have a duplexed pump arrangement for 100% pumping redundancy and these pumps must be on emergency power. The size of the sump should be adequate to accommodate the estimated groundwater seepage. It is anticipated that the groundwater seepage can be controlled with typical, widely available, commercial/residential sump pumps.

If the proposed development is designed as a leak tight structure, then a private water drainage system will not be required. However, the structure must then be designed to resist hydrostatic pressure and uplift forces.

10 Groundwater Extraction and Discharge

Numerical analyses were conducted for both short term and long term dewatering scenarios. The modeling was conducted using computer software, which deploys the finite element modelling method. The Finite Element Model (FEM) for groundwater seepage indicates the short term (construction) and long term (permanent) dewatering requirements as provided below. The finite element model results are presented in Appendix E.

The groundwater seepage estimates, which have been provided, represent the steady state groundwater seepage. There will be an initial drawdown of the groundwater before a steady state

condition is reached. The rate of the initial drawdown, and therefore discharge, is dependent on the dewatering contractor and how the groundwater is being dealt with at the site. An estimated initial volume of stored groundwater which will require removal before steady state is reached has been provided below.

Please note that if excavation is exposed to the elements, storm water will have to be managed. The short term control of groundwater should consider stormwater management from rainfall events. A dewatering system should be designed to consider the removal of rainfall from excavation. A design storm of 25 mm has been used in the quantity estimates.

As required by Ontario Regulation 63/16, a plan for discharge must consider the conveyance of storm water from a 100-year storm. The additional volume that will be generated in the occurrence of a 100-year storm event is approximately 916,000 L.

Stored Groundwater (pre-excavation/dewatering)					
Volume of Excavation (m^3)	**Volume of Excavation Below Water Table (m^3)**	**Volume of Stored Groundwater**		**Volume of Available Groundwater**	
		(m^3)	**(L)**	**(m^3)**	**(L)**
180,264	148,109	13,300	13,300,000	8,700	8,700,000

Short Term (Construction) Groundwater Quantity – Safety Factor of 2.0 Used					
Groundwater Seepage		**Design Rainfall Event (25mm)**		**Total Daily Water Takings**	
L/day	**L/min**	**L/day**	**L/min**	**L/day**	**L/min**
10,000	6.9	244,000	169.4	254,000	176.4

Long Term (Permanent) Groundwater Quantity – Safety Factor of 2.0 Used					
Groundwater Seepage		**Infiltration Design Rainfall Event (25mm)**		**Total Daily Water Takings**	
L/day	**L/min**	**L/day**	**L/min**	**L/day**	**L/min**
10,000	6.9	21,000	14.6	31,000	21.5

Regulatory Requirements	
Environmental Activity and Sector Registry (EASR) Posting	Required
Short Term Permit to Take Water (PTTW)	Not Required

Regulatory Requirements	
Long Term Permit to Take Water (PTTW)	Not Required
Short Term Discharge Agreement City of Mississauga/Region of Peel	Required
Long Term Discharge Agreement City of Mississauga/Region of Peel	Required

Please note:

- The proposed pump schedule for short term construction dewatering has not been completed. As such, the actual peak short term discharge rate is not available at the time of writing this report. The pump schedule must be specified by either the dewatering contractor retained or the mechanical consultant.
- The proposed pump schedule for long term permanent drainage has not been completed. As such the actual peak long term discharge rate is not available at the time writing of this report. The pump schedule must be specified by the mechanical consultant.
- A leak-tight structure (structure that has not included a private water drainage system) has not been considered as part of the proposed development at this time.
- On-site containment (infiltration gallery/dry well etc.) has not been considered as part of the proposed development at this time. If this option is considered, additional work will have to be conducted (i.e. infiltration testing).

11 Evaluation of Impact

11.1 Zone of Influence (ZOI)

The Zone of Influence (ZOI) with respect to groundwater was calculated based on the estimated groundwater taking rate and the hydraulic conductivity of the unit which water will be taken at the Property.

The ZOI was calculated using the Sichardt equation below.

Equation: $R_0 = 3000*dH*K^{0.5}$

Where:

dH is the dewatering thickness (m)

K is the hydraulic conductivity (m/s)

Calculation:

Geological Unit	dH (m)	K (m/s)	ZOI (m)
Fill	1.7	1.0×10^{-5}	16
Clayey Silt Glacial Till	2.1	4.1×10^{-8}	1

The ZOI with respect to groundwater seepage at the site is 17 m.

11.2 Land Stability

The impacts to land stability of the proposed short term and long term dewatering at the site on adjacent structures are summarized as follows:

- The proposed dewatering at the subject site locally lowers the groundwater table within the ZOI by a maximum of 3.8 m. This drawdown would create at increase in effective stress of approximately 38 kPa in the native soils.
- Based on the change in effective stress and the compressibility of the soil subjected to that change, the proposed dewatering activities will induce a theoretical maximum 8 mm of additional settlement in the adjacent soils.
- The maximum induced settlement occurs directly adjacent to the proposed excavation and decreases in a nonlinear fashion with distance away from the excavation.
- For the structures within the public realm adjacent to the site, the theoretical dewatering-induced settlement is calculated to be 3 mm or less (depending on the depth of the structure).

On this basis, the impact of the proposed dewatering on the existing adjacent structures is considered by Grounded to be within acceptable limits.

11.3 City’s Sewage Works

Negative impacts to City's sewage works may occur in terms of the quantity or quality of the groundwater discharged. This report provided the estimated quantity of the water discharge. However, this report does not speak to the sewer capacities. The sewer capacity analysis is provided under a separate cover by the civil consultant.

The quality of the proposed groundwater discharge is provided in Section 7. As noted in that section, the groundwater sample exceeded the Limits for Storm Sewer Discharge and met the Limits for Sanitary and Combined Sewer Discharge.

As such additional treatment will be required before the water can be discharged to the Storm Sewer and additional treatment will not be required before the water can be discharged to the Sanitary and Combined Sewer, to avoid impacts to the City’s sewage works caused by groundwater quality.

11.4 Natural Environment

Cooksville Creek is located adjacent to east boundary of site but is hydraulically cut off from the site by a concrete retaining wall that appears to be bearing on bedrock. Therefore, the creek will likely not be affected by the proposed construction and long term dewatering. There are no other natural waterbodies within the ZOI that will be affected by the proposed construction dewatering or permanent drainage. Any groundwater which will be taken from the site will be discharged (if required) into the City's sewer systems and not into any natural water body. As such, there will be no impact to the natural environment caused by the water takings at the site.

11.5 Local Drinking Water Wells

The site is located within the municipal boundaries of the City of Mississauga. The site and surrounding area are provided with municipal piped water and sewer supply. There is no use of the groundwater for water supply in this area of Mississauga. As such, there will be no impact to drinking water wells.

11.6 Contamination Source

The site and immediately surrounding area currently consist mostly of residential and commercial areas. These land uses are anticipated to be a source of potential contamination and are expected to provide an Area of Potential Environmental Concern for the site. As such, the pumping of groundwater at the site is anticipated to facilitate the movement of potential contaminants onto the site. Evaluation of the environmental condition of the site has been completed under a separate cover.

12 Proposed Mitigation Measures and Monitoring Plan

The extent of the negative impact identified in previous sections will be limited to the ZOI caused by the groundwater taking at the site.

As a result of dewatering and draining the soil, changes in groundwater level have the potential to cause settlement based on the change in the effective stresses within the ZOI.

If adjacent buildings or municipal infrastructure are within the ZOI and will undergo settlement that may be considered unacceptable as identified the Land Stability Section, consideration should be given to implement a monitoring and mitigation program during dewatering activities.

Both the temporary construction dewatering system and the permanent building drainage system must be properly installed and screened to ensure sediments and fines will not be removed, which is typically a primary cause of dewatering related settlement.

13 Limitations

Natural occurrences, the passage of time, local construction, and other human activity all have the potential to directly or indirectly alter the subsurface conditions at or near the project site. Contractual obligations related to groundwater or stormwater control must be considered with attention and care as they relate this potential site alteration.

The hydrogeological engineering advice provided in this report is based on the factual observations made from the site investigations as reported. It is intended for use by the owner and their retained design team. If there are changes to the features of the development or to the scope, the interpreted subsurface information, geotechnical engineering design parameters, advice, and discussion on construction considerations may not be relevant or complete for the project. Grounded should be retained to review the implications of such changes with respect to the contents of this report.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Grounded accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report, including consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

13.1 Report Use

The authorized users of this report are ACLP - Dundas Street E and their design team, for whom this report has been prepared. Grounded Engineering Inc. maintains the copyright and ownership of this document. Reproduction of this report in any format or medium requires explicit prior authorization from Grounded Engineering Inc. The City of Mississauga may also make use of and rely upon this report, subject to the limitations as stated.

14 Closure

If there are any questions regarding the discussion and advice provided, please do not hesitate to contact our office. We trust that this report meets your requirements at present.

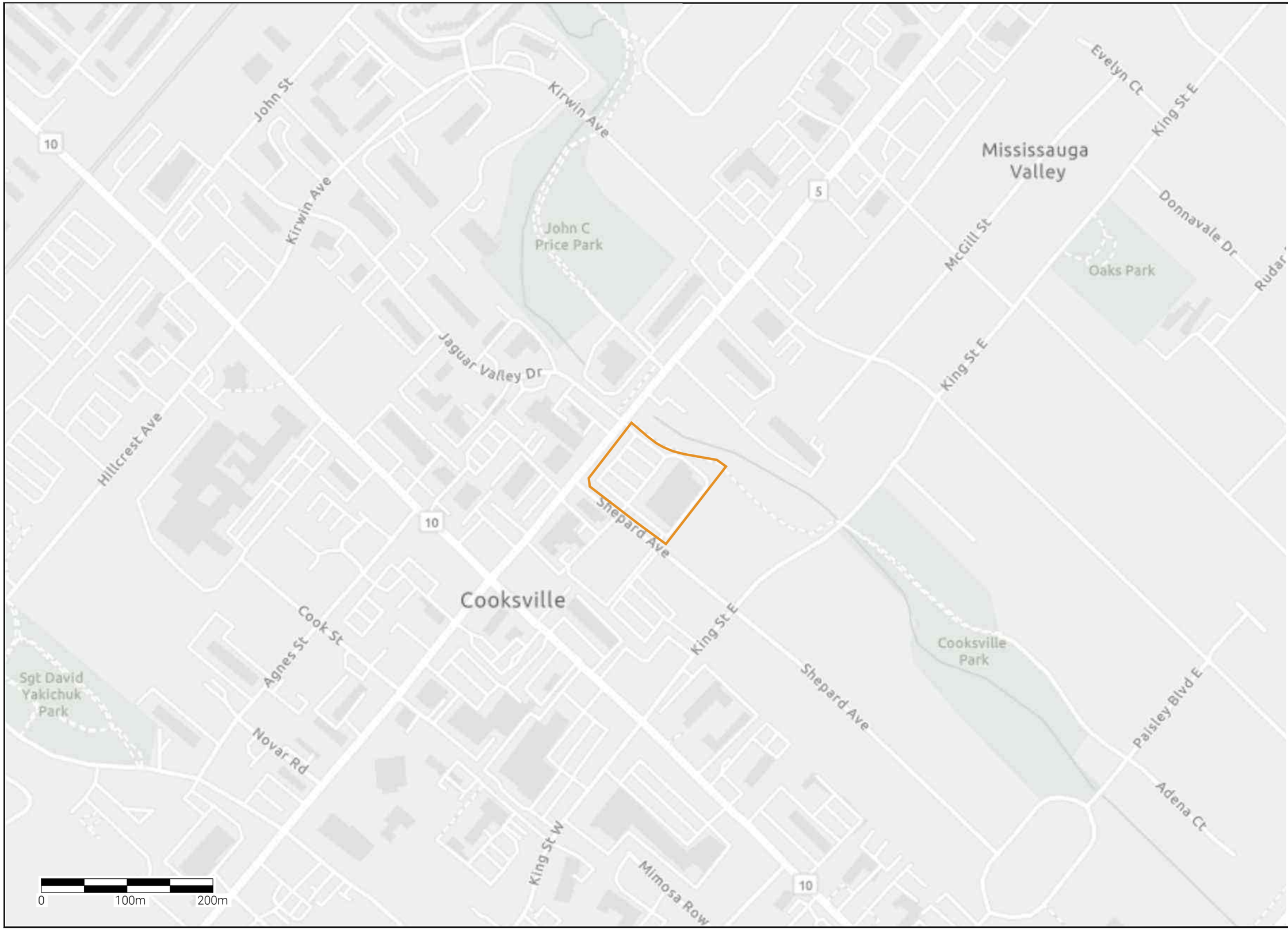
For and on behalf of our team,

GROUNDED ENGINEERING

Nico Piers, BASc, EIT

Matthew Bielaski, P.Eng., $QP_{RA\text{-}ESA}$
Principal

FIGURES



GROUNDED
ENGINEERING
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www.groundedeng.ca

LEGEND

APROXIMATE PROPERTY BOUNDARY

Note

Reference

ArcGIS Map 2021

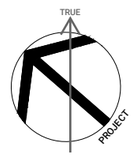
Project

60 DUNDAS STREET EAST, MISSISSAUGA, ON

Figure Title

SITE LOCATION PLAN

North



Date

FEBRUARY 2022

Scale

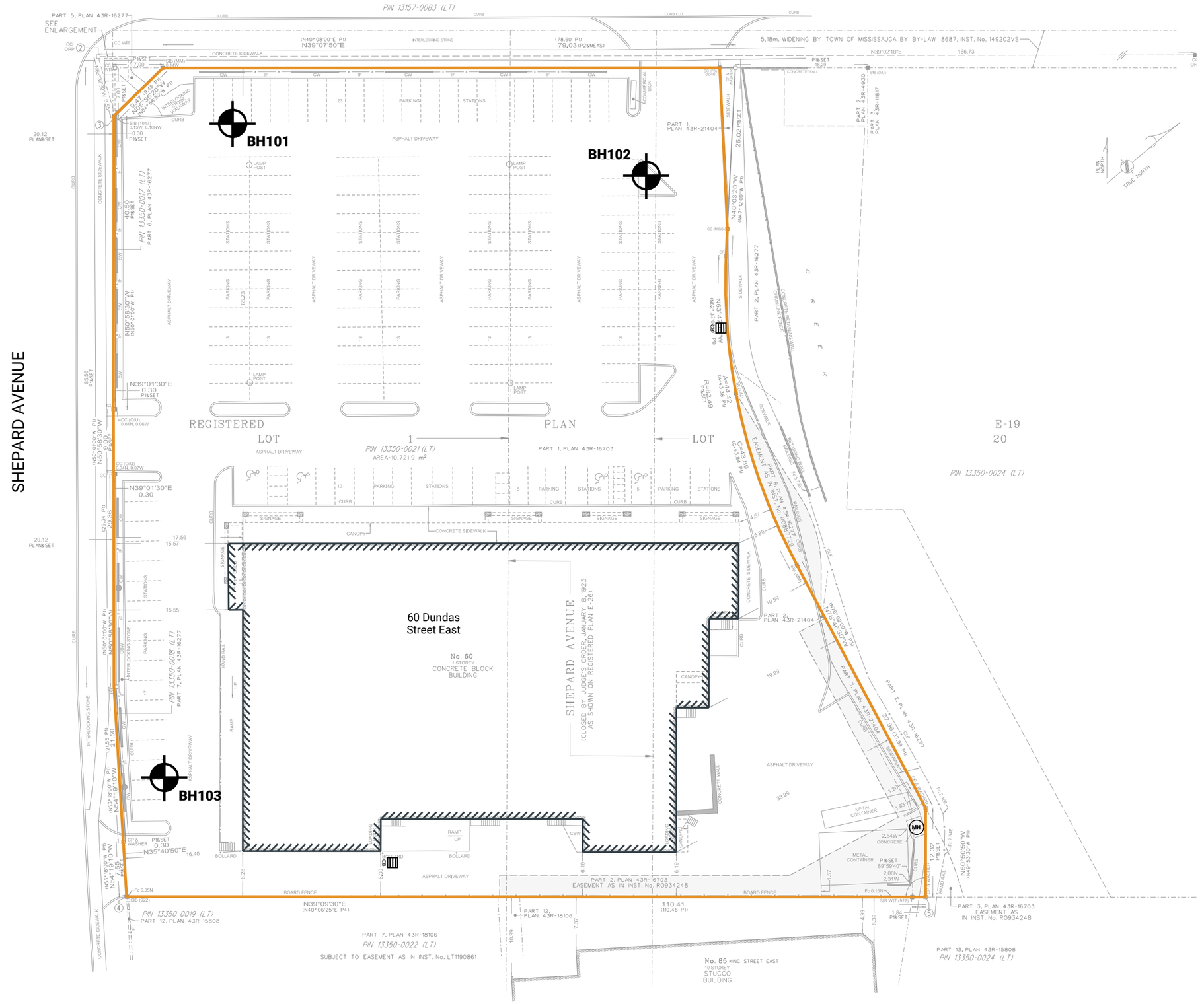
AS INDICATED

Job No

21-067

Figure No

FIGURE 1



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LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- EXISTING BUILDING STRUCTURE
- MONITORING WELL BY GROUNDED
- CATCHBASIN
- MAINTENANCE HOLE

Note

Reference

Survey Drawing no. 20-21-14108-00.
Prepared by Aksan Piller Corporation Ltd.
Dated April 5, 2021.

Project

60 DUNDAS STREET EAST, MISSISSAUGA, ON

Figure Title

BOREHOLE AND MONITORING WELL LOCATION PLAN

North

PROJECT TRUE

Date

FEBRUARY 2022

Scale

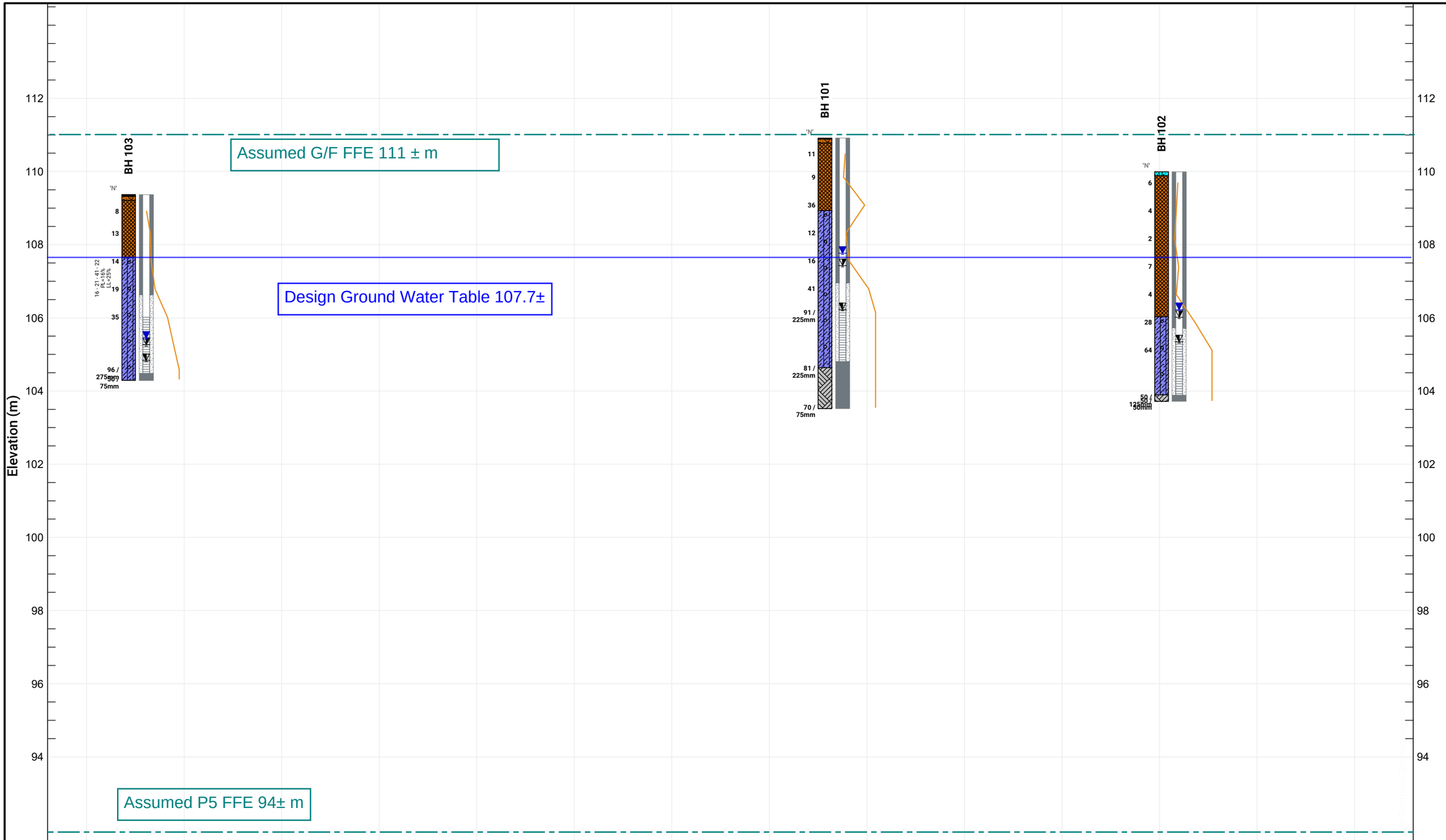
AS INDICATED

Job No

21-067

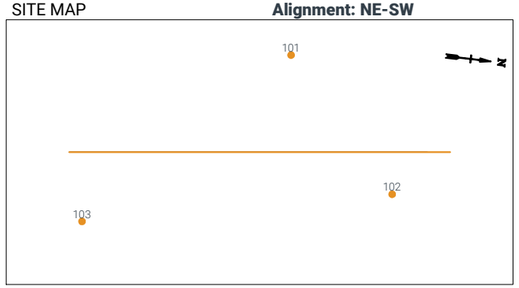
Figure No

FIGURE 2



SITE MAP

Alignment: NE-SW



LITHOLOGY GRAPHIC LEGEND

- Asphalt
- Bedrock (inferred)
- Aggregate
- Topsoil
- Fill
- Clayey Silt Till

GROUNDED ENGINEERING
1 BANIGAN DRIVE, TORONTO, ONT., M4H 1G3
www.groundedeng.ca

LEGEND

- FILL
- GRAVELS (gravel to gravelly sand)
- SILT TO SAND (not till)
- COHESIONLESS TILLS
- COHESIVE SOILS (clayey silt to clay, incl. tills)
- DISTURBED/REWORKED SOILS

- water level, unstabilized
- water level, stabilized

Project

60 DUNDAS STREET EAST MISSISSAUGA, ON

Figure Title

SUBSURFACE CROSS-SECTION

NE-SW

Date

FEBRUARY 2022

Scale

AS INDICATED

Job No

21-067

Figure No

FIGURE 3

APPENDIX A

BOREHOLE LOG TERMINOLOGY

GROUNDED ENGINEERING

SAMPLING/TESTING METHODS

SS: split spoon sample

AS: auger sample

GS: grab sample

FV: shear vane

DP: direct push

PMT: pressuremeter test

ST: shelby tube

CORE: soil coring

RUN: rock coring

SYMBOLS & ABBREVIATIONS

MC: moisture content

LL: liquid limit

PL: plastic limit

NP: non-plastic

γ: soil unit weight (bulk)

G_s: specific gravity

S_u: undrained shear strength

▽ unstabilized water level

▼ 1st water level measurement

▼ 2nd water level measurement most recent

▼ water level measurement

ENVIRONMENTAL SAMPLES

M&I: metals and inorganic parameters

PAH: polycyclic aromatic hydrocarbon

PCB: polychlorinated biphenyl

VOC: volatile organic compound

PHC: petroleum hydrocarbon

BTEX: benzene, toluene, ethylbenzene and xylene

PPM: parts per million

FIELD MOISTURE (based on tactile inspection)

DRY: no observable pore water

MOIST: inferred pore water, not observable (i.e. grey, cool, etc.)

WET: visible pore water

COHESIONLESS

Relative Density	N-Value
Very Loose	<4
Loose	4 - 10
Compact	10 - 30
Dense	30 - 50
Very Dense	>50

COHESIVE

Consistency	N-Value	Su (kPa)
Very Soft	<2	<12
Soft	2 - 4	12 - 25
Firm	4 - 8	25 - 50
Stiff	8 - 15	50 - 100
Very Stiff	15 - 30	100 - 200
Hard	>30	>200

COMPOSITION

Term	% by weight
trace silt	<10
some silt	10 - 20
silt***y***	20 - 35
sand ***and*** silt	>35

ASTM STANDARDS

ASTM D1586 Standard Penetration Test (SPT)
Driving a 51 mm O.D. split-barrel sampler ("split spoon") into soil with a 63.5 kg weight free falling 760 mm. The blows required to drive the split spoon 300 mm ("bpf") after an initial penetration of 150 mm is referred to as the N-Value.

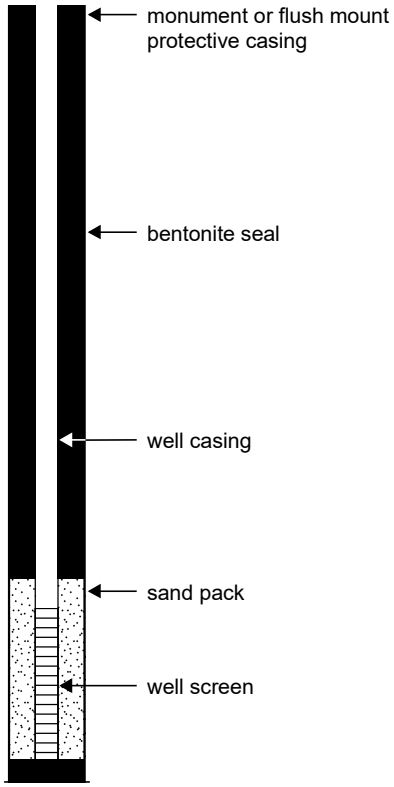
ASTM D3441 Cone Penetration Test (CPT)
Pushing an internal still rod with a outer hollow rod ("sleeve") tipped with a cone with an apex angle of 60° and a cross-sectional area of 1000 mm^2 into soil. The resistance is measured in the sleeve and at the tip to determine the skin friction and the tip resistance.

ASTM D2573 Field Vane Test (FVT)
Pushing a four blade vane into soil and rotating it from the surface to determine the torque required to shear a cylindrical surface with the vane. The torque is converted to the shear strength of the soil using a limit equilibrium analysis.

ASTM D1587 Shelby Tubes (ST)
Pushing a thin-walled metal tube into the in-situ soil at the bottom of a borehole, removing the tube and sealing the ends to prevent soil movement or changes in moisture content for the purposes of extracting a relatively undisturbed sample.

ASTM D4719 Pressuremeter Test (PMT)
Place an inflatable cylindrical probe into a pre-drilled hole and expanding it while measuring the change in volume and pressure in the probe. It is inflated under either equal pressure increments or equal volume increments. This provides the stress-strain response of the soil.

WELL LEGEND



GROUNDED ENGINEERING

Date Started : May 3, 2021
Position : E: 611836, N: 4826307 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 101

File No. : 21-067 **Project** : 60 Dundas Street East, Mississauga, ON **Client** : Almega Asset Management

drill method : *Truck-mounted rig*

solid stem augers OD=150 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
110.9	**GROUND SURFACE**				
	25mm **ASPHALT**				
	100mm **AGGREGATE**				
	FILL, sand, some silt, trace organics, organic odour, loose to compact, dark brown, moist		1	SS	11
			2	SS	9
	...at 1.5 m, dense, some gravel		3A	SS	36
108.9 / 2.0	...at 2.0 m, trace rock fragments, inferred cobbles		3B	SS	
	CLAYEY SILT, sandy, some gravel, stiff to very stiff, grey, moist (GLACIAL TILL)		4	SS	12
			5	SS	16
	...at 3.8 m, hard, trace rock fragments, inferred cobbles		6	SS	41
			7	SS	91 / 225mm
104.6 / 6.3	**INFERRED BEDROCK**, shale and limestone fragments, grey		8A	SS	81 / 225mm
			8B	SS	
103.5 / 7.4			9	SS	70 / 75mm

depth scale (m) 0 1 2 3 4 5 6 7

well details

elevation (m) 110 109 108 107 106 105 104

undrained shear strength (kPa)
○ unconfined + field vane
● pocket penetrometer ■ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

SS1: PAHs
SS2: H-Ms, Metals, ORPs
SS3B: PCBs
SS4: BTEX, PHCs
SS7: BTEX, VOCs

END OF BOREHOLE

Dry and open upon completion of drilling.

50 mm dia. monitoring well installed.
No. 10 screen

GROUNDWATER LEVELS

Date	Water Depth (m)	Elevation (m)
May 4, 2021	4.7	106.2
May 6, 2021	3.5	107.4
May 10, 2021	3.3	107.6

file: 21-067.gpj

Tech : OM | **PM** : DK / JH | **Rev** : MD

GROUNDED ENGINEERING

Date Started : May 3, 2021
Position : E: 611879, N: 4826347 (UTM 17T)
Elev. Datum : Geodetic

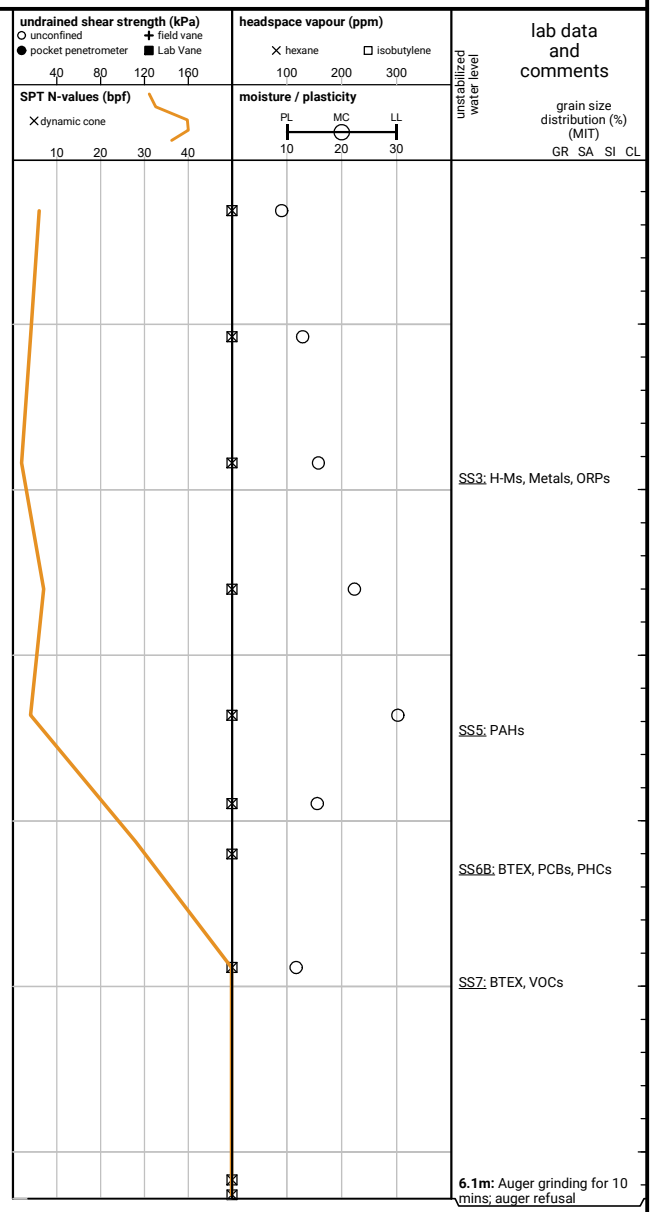
BOREHOLE LOG 102

File No. : 21-067 **Project** : 60 Dundas Street East, Mississauga, ON **Client** : Almega Asset Management

drill method : *Truck-mounted rig*

solid stem augers OD=150 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
110.0	**GROUND SURFACE**				
	100mm **TOPSOIL**				
	FILL, sand, some silt, trace clay, trace gravel, trace rootlets, trace organics, organic odour, loose to very loose, dark brown, moist		1	SS	6
	...at 0.8 m, trace cinders		2	SS	4
			3	SS	2
	...at 2.3 m, silty		4	SS	7
	...at 3.0 m, dark grey and black		5	SS	4
106.0	...at 3.8 m, compact		6A	SS	
4.0	**CLAYEY SILT**, sandy, some gravel, very stiff hard, grey, moist (GLACIAL TILL)		6B	SS	28
			7	SS	64
103.9					
103.7	**INFERRED BEDROCK**, shale and limestone fragments, grey		8	SS	50 / 125mm
6.3			9	SS	50 / 50mm



END OF BOREHOLE
Auger refusal on inferred bedrock

Dry and open upon completion of drilling.

50 mm dia. monitoring well installed.
No. 10 screen

GROUNDWATER LEVELS

Date	Water Depth (m)	Elevation (m)
May 4, 2021	4.7	105.3
May 6, 2021	4.0	106.0
May 10, 2021	3.8	106.2

file: 21-067.gpj

Tech : OM | **PM** : DK / JH | **Rev** : MD

GROUNDED ENGINEERING

Date Started : May 3, 2021
Position : E: 611901, N: 4826243 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 103

File No. : 21-067 **Project** : 60 Dundas Street East, Mississauga, ON **Client** : Almega Asset Management

drill method : *Truck-mounted rig*

solid stem augers OD=150 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
109.4	**GROUND SURFACE**				
109.2 / 0.2	50mm **ASPHALT** 100mm **AGGREGATE**				
	FILL, sand, some silt, trace clay, trace organics, organic odour, loose to compact, dark brown, moist		1	SS	8
	...at 0.8 m, brown		2	SS	13
	...at 1.5 m, clayey seams		3A	SS	
107.7 / 1.7	**CLAYEY SILT**, sandy, some gravel, very stiff to hard, grey, moist (GLACIAL TILL)		3B	SS	14
			4	SS	19
			5	SS	35
	...at 4.6 m, shale and limestone fragments		6	SS	96 / 275mm
104.3 / 5.1			7	SS	50 / 75mm

depth scale (m): 0, 1, 2, 3, 4, 5
elevation (m): 109, 108, 107, 106, 105

well details

undrained shear strength (kPa)
○ unconfined + field vane
● pocket penetrometer ■ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

SS1: H-Ms, Metals, ORPs
SS2: PAHs
SS3B: BTEX, PHCs
16 21 41 22
SS5: BTEX, VOCs
4.9m: Auger grinding for 10 mins; Auger refusal; shale powder on tip of auger and spoon

END OF BOREHOLE
Auger refusal on inferred bedrock

Dry and open upon completion of drilling.

50 mm dia. monitoring well installed.
No. 10 screen

GROUNDWATER LEVELS

Date	Water Depth (m)	Elevation (m)
May 4, 2021	4.6	104.8
May 6, 2021	4.1	105.3
May 10, 2021	4.1	105.3

file: 21-067.gpj

Tech : OM | **PM** : DK / JH | **Rev** : MD

APPENDIX B

GROUNDED ENGINEERING

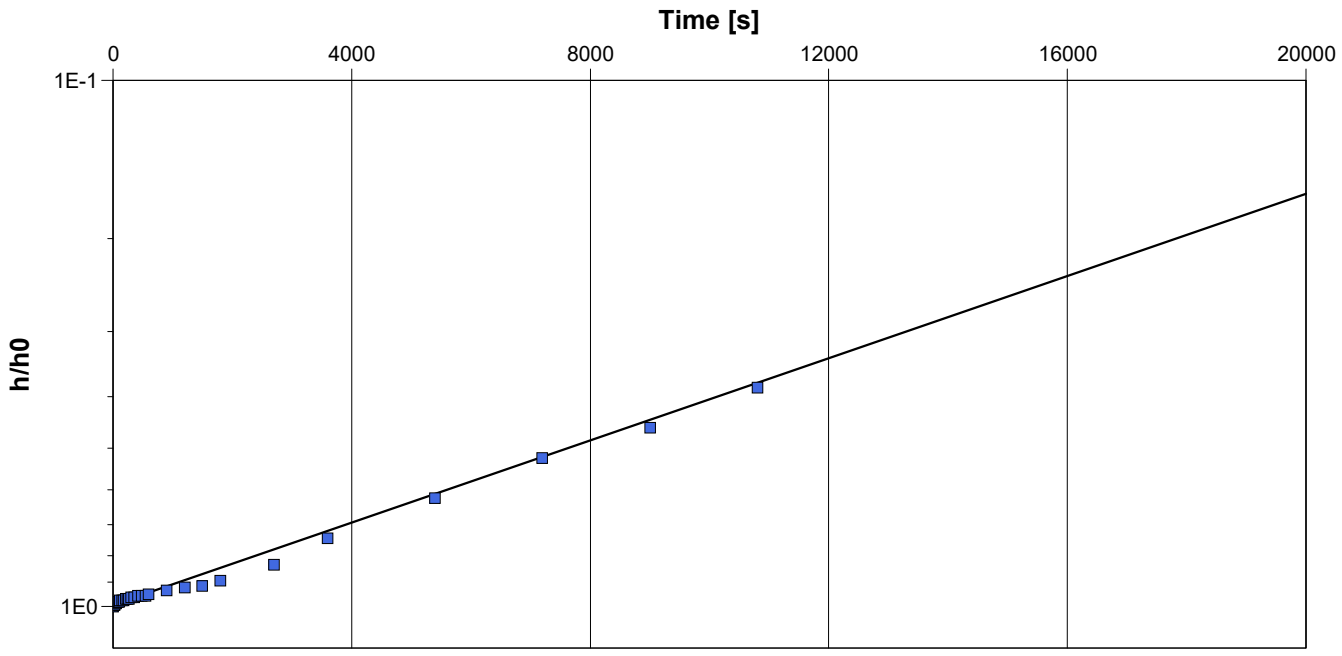
Slug Test Analysis Report

Project: 60 Dundas St E, Mississauga

Number: 21-067

Client:

Location:	Slug Test: BH101	Test Well: BH101
Test Conducted by: OM		Test Date: 2021-05-10
Analysis Performed by: DK	RHT-BH101	Analysis Date: 2021-05-13
Aquifer Thickness: 6.30 m		

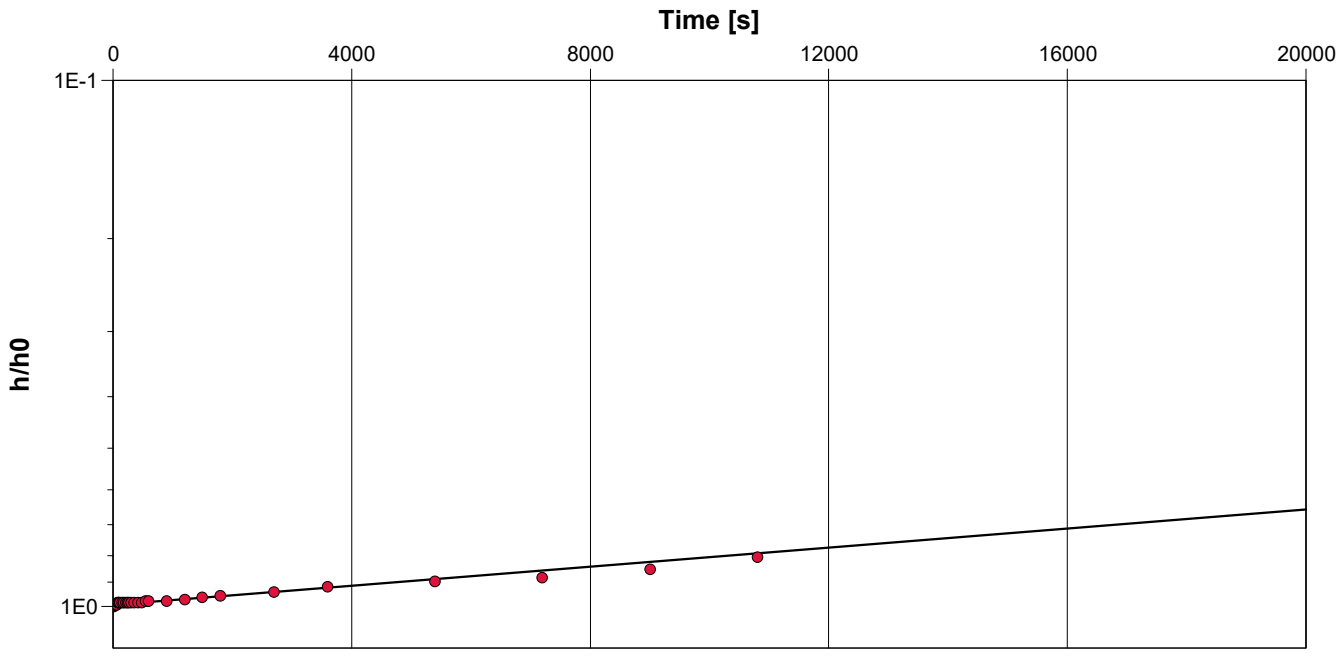


Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH101	6.78×10^{-8}	

GROUNDED ENGINEERING	**Slug Test Analysis Report**
	Project: 60 Dundas St E, Mississauga
	Number: 21-067
	Client:

Location:	Slug Test: BH102	Test Well: BH102
Test Conducted by: OM		Test Date: 2021-05-10
Analysis Performed by: DK	RHT-BH102	Analysis Date: 2021-05-13
Aquifer Thickness: 6.30 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH102	1.65×10^{-8}	

GROUNDED ENGINEERING

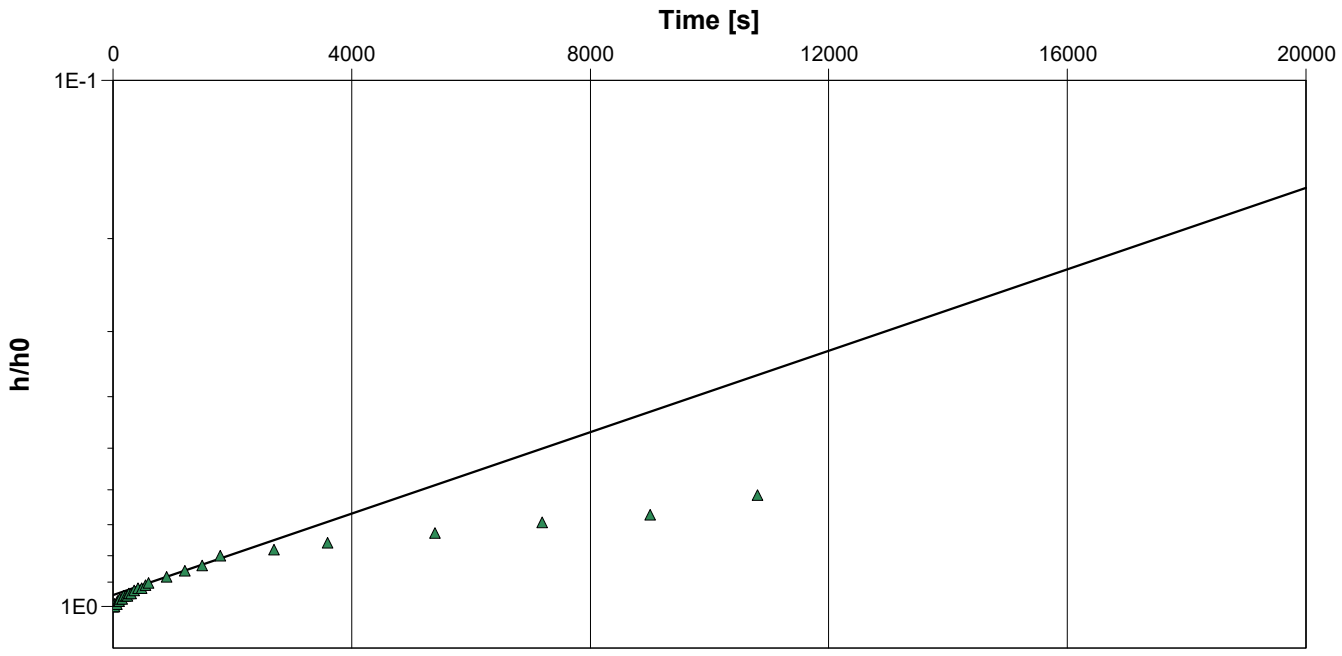
Slug Test Analysis Report

Project: 60 Dundas St E, Mississauga

Number: 21-067

Client:

Location:	Slug Test: BH103	Test Well: BH103
Test Conducted by: OM		Test Date: 2021-05-11
Analysis Performed by: DK	RHT-BH103	Analysis Date: 2021-05-13
Aquifer Thickness: 6.30 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH103	6.23×10^{-8}	

APPENDIX C

Peto MacCallum Ltd.
CONSULTING ENGINEERS

ATTERBERG LIMITS - LIQUID AND PLASTIC

LABORATORY NO.:	2102782 B	PROJECT NO.:	21TM720	DATE:	May 18, 2021
BOREHOLE NO.:	103	SAMPLE NO.:	SS4	TESTED BY:	L. Gowry
SAMPLE DEPTH:	7.5-9 ft	DESCRIPTION:		CHECKED BY:	J. Noor

LIQUID LIMIT					
TRIAL	1	2	3	4	5
NUMBER OF BLOWS	30	20	15		
TARE NUMBER	H1	P4	N4		
WT. TARE & WET SOIL	43.42	42.92	39.09		
WT. TARE & DRY SOIL	38.79	38.21	35.09		
WT. OF WATER	4.63	4.71	4.00		
WT. OF TARE	19.96	19.98	20.14		
WT. OF DRY SAMPLE	18.83	18.23	14.95		
MOISTURE CONTENT	24.6	25.8	26.8		

ATTERBERG LIMITS	
LIQUID LIMIT	25
PLASTIC LIMIT	16
PLASTICITY INDEX	9

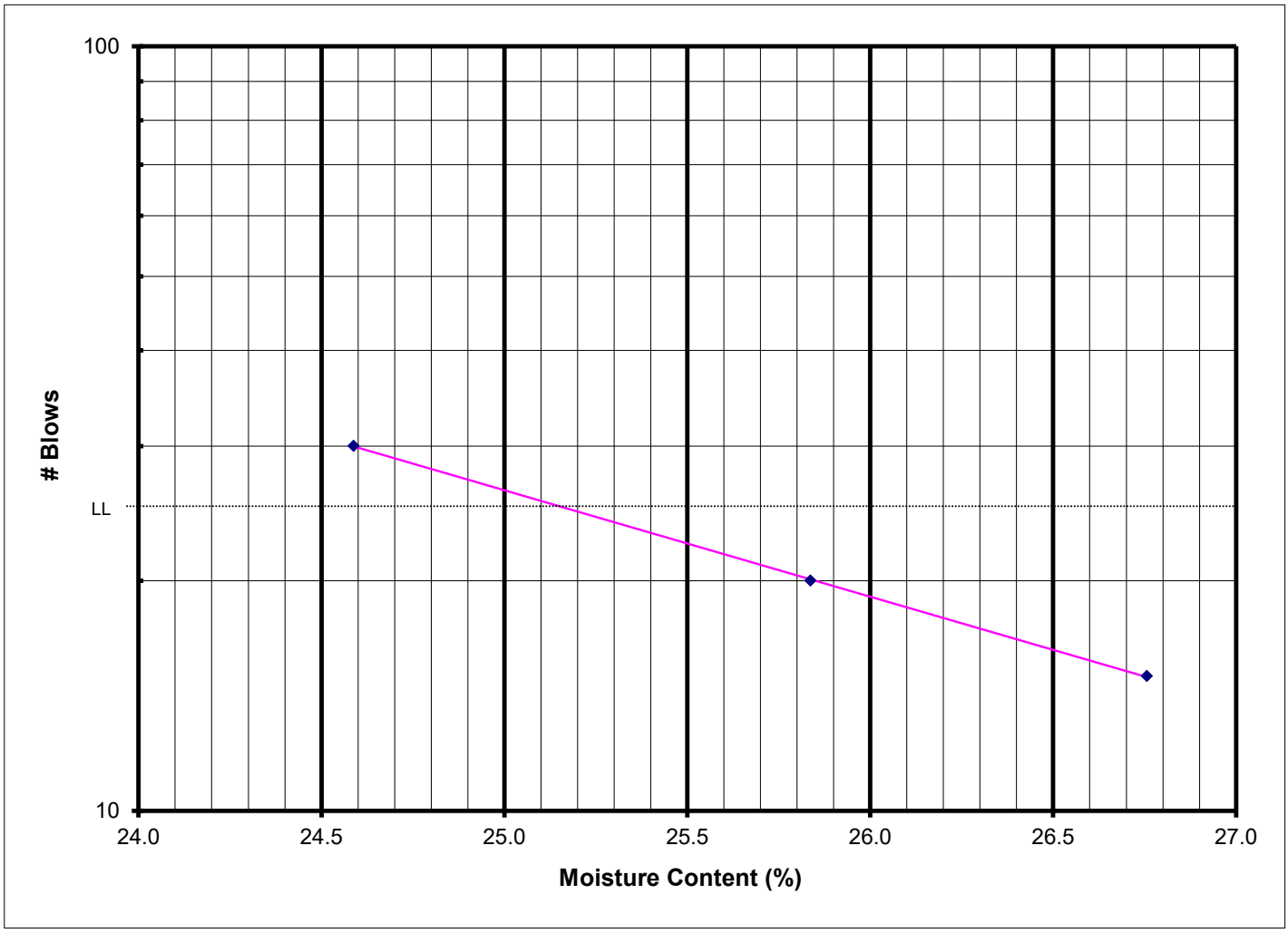
PLASTIC LIMIT		
TRIAL	1	2
TARE NUMBER	P10	x23
WT. TARE & WET SOIL	27.75	27.57
WT. TARE & DRY SOIL	26.65	26.53
WT. OF WATER	1.10	1.04
WT. OF TARE	19.83	20.03
WT. OF DRY SAMPLE	6.82	6.50
MOISTURE CONTENT	16.1	16.0

LIQUID LIMIT BEST-LINE CALCULATION & ASSESSMENT						
LOG OF BLOWS	MOISTURE CONTENTS		ERROR EVALUATION			
			BLOW COUNT	MOISTURE CONTENT	DIFFERENCE	WITHIN 1%?
1.4771213	24.6					
1.30103	25.8		30	24.6	0.0	TRUE
1.1760913	26.8		20	25.8	0.0	TRUE
			15	26.7	0.0	TRUE
SLOPE	INTERCEPT					
-7.19268	35.20747		ERROR ASSESSMENT			PASSES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

ATTERBERG LIMITS - LIQUID AND PLASTIC

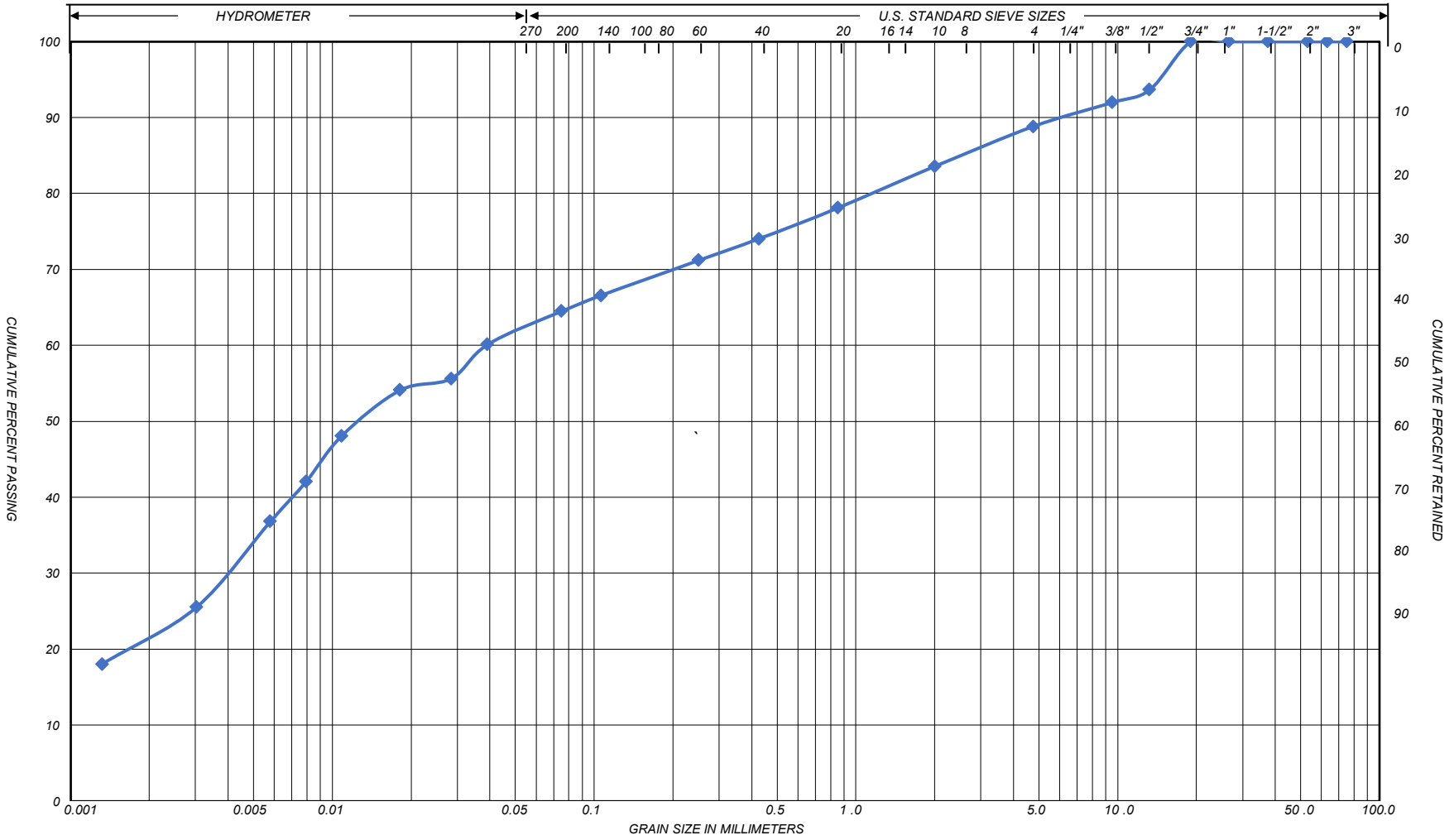
LABORATORY NO.:	2102782 B	PROJECT NO.:	21TM720	DATE:	May 18, 2021
BOREHOLE NO.:	103	SAMPLE NO.:	SS4	TESTED BY:	L. Gowry
SAMPLE DEPTH:	7.5-9 ft	DESCRIPTION:		CHECKED BY:	J. Noor



Peto MacCallum Ltd.
CONSULTING ENGINEERS

PML REF. 21TM720
REPORT NO.
ENCLOSURE

PARTICLE SIZE DISTRIBUTION CHART



SILT & CLAY			FINE	MEDIUM	COARSE	GRAVEL	COBBLES	UNIFIED
			SAND					
CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	GRAVEL	COBBLES	M.I.T.
	SILT			SAND					
CLAY	SILT		VERY FINE	FINE	MEDIUM	COARSE	GRAVEL		U.S. BUREAU
			SAND						

REMARKS Bore Hole 103, Sample No.SS4, Depth 7.5-9, Lab No.2102782-B,

APPENDIX D

K from Grain Size Analysis Report

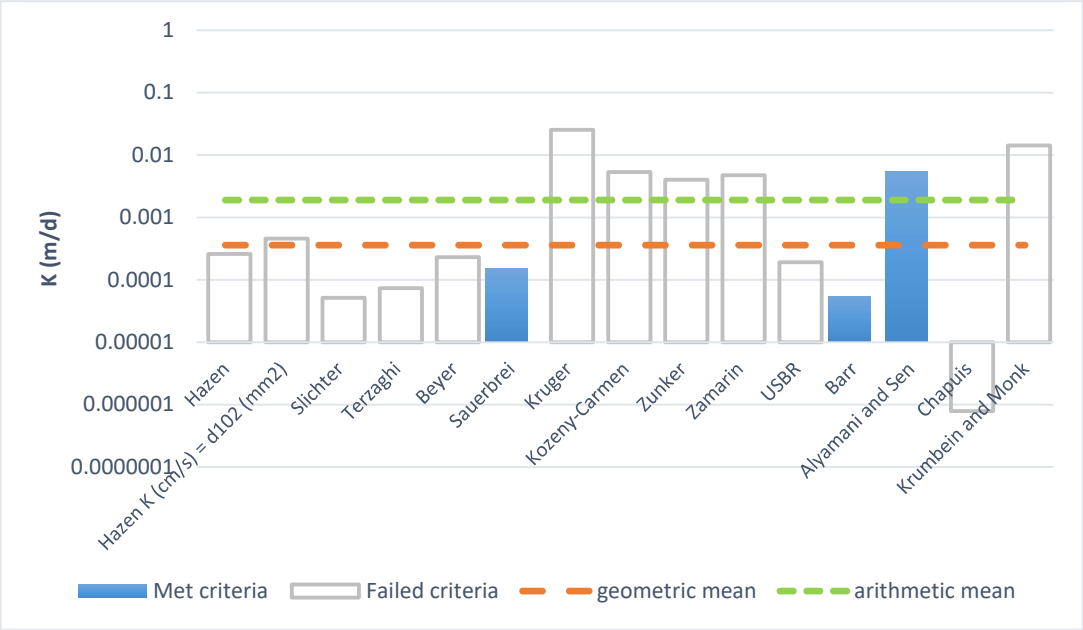
Date: 20-May-21

Sample Name: BH103 SS4

Mass Sample (g): 100

T (oC) 20

Poorly sorted clay with fines



Estimation of Hydraulic Conductivity	cm/s	m/s	m/d	de
Hazen	3.0E-07	3.0E-09	0.00	
Hazen K (cm/s) = d_{10} (mm)	5.3E-07	5.3E-09	0.00	
Slichter	5.9E-08	5.9E-10	0.00	
Terzaghi	8.4E-08	8.4E-10	0.00	
Beyer	2.7E-07	2.7E-09	0.00	
Sauerbrei	1.8E-07	1.8E-09	0.00	
Kruger	3.0E-05	3.0E-07	0.03	
Kozeny-Carmen	6.1E-06	6.1E-08	0.01	
Zunker	4.7E-06	4.7E-08	0.00	
Zamarin	5.5E-06	5.5E-08	0.00	
USBR	2.2E-07	2.2E-09	0.00	
Barr	6.4E-08	6.4E-10	0.00	
Alyamani and Sen	6.4E-06	6.4E-08	0.01	
Chapuis	9.1E-10	9.1E-12	0.00	
Krumbein and Monk	1.6E-05	1.6E-07	0.01	
geometric mean	4.2E-07	4.2E-09	0.00	
arithmetic mean	2.2E-06	2.2E-08	0.00	

APPENDIX E

Grounded Engineering Inc
ATTN: DEEPAK KANRAJ
12 Banigan Drive
Toronto On M4H1E9

Date Received: 10-MAY-21
Report Date: 19-MAY-21 09:46 (MT)
Version: FINAL

Client Phone: 647-264-7928

Certificate of Analysis

Lab Work Order #: L2585834

Project P.O. #: NOT SUBMITTED
Job Reference: 21-067
C of C Numbers:
Legal Site Desc:

Jennifer Barkshire-Paterson
Account Manager

Summary of Guideline Exceedances

Guideline ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit
Ontario Sewer Use Bylaws - Peel Sanitary Sewer (53-2010)						
(No parameter exceedances)						
Ontario Sewer Use Bylaws - Mississauga Storm Sewer (259-05)						
L2585834-1	SEW- UF- BH 101	Physical Tests	Total Suspended Solids	38.2	15	mg/L
		Anions and Nutrients	Total Kjeldahl Nitrogen	1.83	1	mg/L
		Bacteriological Tests	E. Coli	270	200	CFU/100mL
		Total Metals	Phosphorus (P)-Total	<0.50	0.4	mg/L

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Physical Tests - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2585834-1 Sample Date: 10-MAY-21 Sample ID: SEW- UF- BH 101
pH	pH units	5.5-10	6-9	8.15
Total Suspended Solids	mg/L	350	15	38.2

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Anions and Nutrients - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2585834-1 Sample Date: 10-MAY-21 Sample ID: SEW- UF- BH 101
Fluoride (F)	mg/L	10	-	0.73 DLDS
Total Kjeldahl Nitrogen	mg/L	100	1	1.83
Phosphorus, Total	mg/L	10	0.4	0.0173
Sulfate (SO4)	mg/L	1500	-	191 DLDS

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Cyanides - WATER

			Lab ID	L2585834-1
			Sample Date	10-MAY-21
			Sample ID	SEW- UF- BH 101
		Guide Limits		
Analyte	Unit	#1	#2	
Cyanide, Total	mg/L	2	0.02	0.0030

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

ANALYTICAL REPORT

Inorganic Parameters - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2585834-1 Sample Date: 10-MAY-21 Sample ID: SEW- UF- BH 101
Chlorine, Total	mg/L	-	1	<0.050 PEHR

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Bacteriological Tests - WATER

			Lab ID	L2585834-1
			Sample Date	10-MAY-21
			Sample ID	SEW- UF- BH 101
		Guide Limits		
Analyte	Unit	#1	#2	
E. Coli	CFU/100mL	-	200	270 DLM

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Total Metals - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2585834-1 Sample Date: 10-MAY-21 Sample ID: SEW- UF- BH 101
Aluminum (Al)-Total	mg/L	50	1.0	0.564 DLHC
Antimony (Sb)-Total	mg/L	5	-	0.0016 DLHC
Arsenic (As)-Total	mg/L	1	0.02	0.0021 DLHC
Barium (Ba)-Total	mg/L	-	-	0.0670 DLHC
Beryllium (Be)-Total	mg/L	-	-	<0.0010 DLHC
Bismuth (Bi)-Total	mg/L	-	-	<0.00050 DLHC
Boron (B)-Total	mg/L	-	-	1.57 DLHC
Cadmium (Cd)-Total	mg/L	0.7	0.008	<0.000050 DLHC
Calcium (Ca)-Total	mg/L	-	-	40.7 DLHC
Chromium (Cr)-Total	mg/L	5	0.08	<0.0050 DLHC
Cobalt (Co)-Total	mg/L	5	-	<0.0010 DLHC
Copper (Cu)-Total	mg/L	3	0.04	<0.0050 DLHC
Iron (Fe)-Total	mg/L	-	-	0.68 DLHC
Lead (Pb)-Total	mg/L	3	0.120	<0.00050 DLHC
Lithium (Li)-Total	mg/L	-	-	0.104 DLHC
Magnesium (Mg)-Total	mg/L	-	-	9.69 DLHC
Manganese (Mn)-Total	mg/L	5	0.05	0.0352 DLHC
Mercury (Hg)-Total	mg/L	0.01	0.0004	<0.0000050
Molybdenum (Mo)-Total	mg/L	5	-	0.0118 DLHC
Nickel (Ni)-Total	mg/L	3	0.08	<0.0050 DLHC
Phosphorus (P)-Total	mg/L	10	0.4	<0.50 DLHC
Potassium (K)-Total	mg/L	-	-	28.1 DLHC
Selenium (Se)-Total	mg/L	1	0.02	<0.00050 DLHC
Silicon (Si)-Total	mg/L	-	-	4.0 DLHC
Silver (Ag)-Total	mg/L	5	0.12	<0.00050 DLHC
Sodium (Na)-Total	mg/L	-	-	252 DLHC
Strontium (Sr)-Total	mg/L	-	-	1.77 DLHC
Sulfur (S)-Total	mg/L	-	-	61.0 DLHC
Thallium (Tl)-Total	mg/L	-	-	<0.00010 DLHC
Tin (Sn)-Total	mg/L	5	-	0.0040 DLHC

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Total Metals - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2585834-1 Sample Date: 10-MAY-21 Sample ID: SEW- UF- BH 101
Titanium (Ti)-Total	mg/L	5	-	<0.0060 DLUI
Tungsten (W)-Total	mg/L	-	-	<0.0010 DLHC
Uranium (U)-Total	mg/L	-	-	0.00287 DLHC
Vanadium (V)-Total	mg/L	-	-	<0.0050 DLHC
Zinc (Zn)-Total	mg/L	3	0.04	<0.030 DLHC
Zirconium (Zr)-Total	mg/L	-	-	<0.0020 DLHC

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

ANALYTICAL REPORT

Speciated Metals - WATER

		Lab ID	L2585834-1
		Sample Date	10-MAY-21
		Sample ID	SEW- UF- BH 101
Analyte	Unit	Guide Limits #1	#2
Chromium, Hexavalent	mg/L	-	0.04

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Aggregate Organics - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2585834-1 Sample Date: 10-MAY-21 Sample ID: SEW- UF- BH 101
BOD	mg/L	300	15	<3.0 BODL
BOD Carbonaceous	mg/L	300	-	<3.0 BODL
Oil and Grease, Total	mg/L	-	-	5.8
Animal/Veg Oil & Grease	mg/L	150	-	5.8
Mineral Oil and Grease	mg/L	15	-	<2.5
Phenols (4AAP)	mg/L	1	0.008	0.0024

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

Volatile Organic Compounds - WATER

				Lab ID	L2585834-1
				Sample Date	10-MAY-21
				Sample ID	SEW- UF- BH 101
		Guide Limits			
Analyte	Unit	#1	#2		
Acetone	ug/L	-	-	<20	
Benzene	ug/L	10	2	<0.50	
Bromodichloromethane	ug/L	-	-	<1.0	
Bromoform	ug/L	-	-	<1.0	
Bromomethane	ug/L	-	-	<0.50	
Carbon Disulfide	ug/L	-	-	<1.0	
Carbon tetrachloride	ug/L	-	-	<0.20	
Chlorobenzene	ug/L	-	-	<0.50	
Dibromochloromethane	ug/L	-	-	<1.0	
Chloroethane	ug/L	-	-	<1.0	
Chloroform	ug/L	40	-	<1.0	
Chloromethane	ug/L	-	-	<1.0	
1,2-Dibromoethane	ug/L	-	-	<0.20	
1,2-Dichlorobenzene	ug/L	50	-	<0.50	
1,3-Dichlorobenzene	ug/L	-	-	<0.50	
1,4-Dichlorobenzene	ug/L	80	-	<0.50	
Dichlorodifluoromethane	ug/L	-	-	<1.0	
1,1-Dichloroethane	ug/L	-	-	<0.50	
1,2-Dichloroethane	ug/L	-	-	<0.50	
1,1-Dichloroethylene	ug/L	-	-	<0.50	
cis-1,2-Dichloroethylene	ug/L	4000	-	<0.50	
trans-1,2-Dichloroethylene	ug/L	-	-	<0.50	
Dichloromethane	ug/L	2000	-	<2.0	
1,2-Dichloropropane	ug/L	-	-	<0.50	
cis-1,3-Dichloropropene	ug/L	-	-	<0.30	
trans-1,3-Dichloropropene	ug/L	140	-	<0.30	
Ethylbenzene	ug/L	160	2	<0.50	
n-Hexane	ug/L	-	-	<0.50	
2-Hexanone	ug/L	-	-	<20	
Methyl Ethyl Ketone	ug/L	8000	-	<20	

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Volatile Organic Compounds - WATER

			Lab ID	L2585834-1
			Sample Date	10-MAY-21
			Sample ID	SEW- UF- BH 101
		Guide Limits		
Analyte	Unit	#1	#2	
Methyl Isobutyl Ketone	ug/L	-	-	<20
MTBE	ug/L	-	-	<0.50
Styrene	ug/L	200	-	<0.50
1,1,1,2-Tetrachloroethane	ug/L	-	-	<0.50
1,1,2,2-Tetrachloroethane	ug/L	1400	-	<0.50
Tetrachloroethylene	ug/L	1000	-	<0.50
Toluene	ug/L	270	2	<0.40
				<0.50
1,1,1-Trichloroethane	ug/L	-	-	<0.50
1,1,2-Trichloroethane	ug/L	-	-	<0.50
Trichloroethylene	ug/L	400	-	<0.50
Trichlorofluoromethane	ug/L	-	-	<1.0
Vinyl chloride	ug/L	-	-	<0.50
o-Xylene	ug/L	-	-	<0.50
				<0.30
m+p-Xylenes	ug/L	-	-	<1.0
				<0.40
Xylenes (Total)	ug/L	1400	4.4	<0.50
Surrogate: 4-Bromofluorobenzene	%	-	-	100.9
Surrogate: 1,4-Difluorobenzene	%	-	-	99.7

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Polycyclic Aromatic Hydrocarbons - WATER

			Lab ID	L2585834-1
			Sample Date	10-MAY-21
			Sample ID	SEW- UF- BH 101
		Guide Limits		
Analyte	Unit	#1	#2	
Acenaphthene	ug/L	-	-	<0.020
Acenaphthylene	ug/L	-	-	<0.020
Anthracene	ug/L	-	-	<0.020
Benzo(a)anthracene	ug/L	-	-	<0.020
Benzo(a)pyrene	ug/L	-	-	<0.0050
Benzo(b&j)fluoranthene	ug/L	-	-	<0.020
Benzo(g,h,i)perylene	ug/L	-	-	<0.020
Benzo(k)fluoranthene	ug/L	-	-	<0.020
Chrysene	ug/L	-	-	<0.020
Dibenz(a,h)anthracene	ug/L	-	-	<0.020
Fluoranthene	ug/L	-	-	<0.020
Fluorene	ug/L	-	-	<0.020
Indeno(1,2,3-cd)pyrene	ug/L	-	-	<0.020
Naphthalene	ug/L	-	-	<0.020
Phenanthrene	ug/L	-	-	<0.020
Pyrene	ug/L	-	-	<0.020
Surrogate: Naphthalene d8	%	-	-	95.4
Surrogate: Phenanthrene d10	%	-	-	101.8
Total PAHs	ug/L	-	2	<0.078

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Phthalate Esters - WATER

			Lab ID	L2585834-1
			Sample Date	10-MAY-21
			Sample ID	SEW- UF- BH 101
		Guide Limits		
Analyte	Unit	#1	#2	
Bis(2-ethylhexyl)phthalate	ug/L	12	-	<2.0
Surrogate: 2-fluorobiphenyl	%	-	-	82.8
Surrogate: p-Terphenyl d14	%	-	-	84.9

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

ANALYTICAL REPORT

Semi-Volatile Organics - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2585834-1 Sample Date: 10-MAY-21 Sample ID: SEW- UF- BH 101
Di-n-butylphthalate	ug/L	80	-	<1.0
Surrogate: 2-Fluorobiphenyl	%	-	-	82.8
Surrogate: p-Terphenyl d14	%	-	-	84.9

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Polychlorinated Biphenyls - WATER

			Lab ID	L2585834-1
			Sample Date	10-MAY-21
			Sample ID	SEW- UF- BH 101
		Guide Limits		
Analyte	Unit	#1	#2	
Aroclor 1242	ug/L	-	-	<0.020
Aroclor 1248	ug/L	-	-	<0.020
Aroclor 1254	ug/L	-	-	<0.020
Aroclor 1260	ug/L	-	-	<0.020
Surrogate: Decachlorobiphenyl	%	-	-	87.5
Total PCBs	ug/L	1	-	<0.040
Surrogate: Tetrachloro-m-xylene	%	-	-	95.8

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

ANALYTICAL REPORT

Organic Parameters - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2585834-1 Sample Date: 10-MAY-21 Sample ID: SEW- UF- BH 101
Bisphenol A	ug/L	-	-	<0.20
Nonylphenol	ug/L	20	-	<1.0
Nonylphenol Diethoxylates	ug/L	-	-	<0.10
Total Nonylphenol Ethoxylates	ug/L	200	-	<10
Nonylphenol Monoethoxylates	ug/L	-	-	<10 DLM
Octylphenol	ug/L	-	-	<1.0
Octylphenol Diethoxylates	ug/L	-	-	<0.50 DLM
Total Octylphenol Ethoxylates	ug/L	-	-	<10
Octylphenol Monoethoxylates	ug/L	-	-	<10 DLM

Guide Limit #1: Peel Sanitary Sewer (53-2010)
Guide Limit #2: Mississauga Storm Sewer (259-05)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Reference Information

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
PEHR	Parameter Exceeded Recommended Holding Time On Receipt: Proceed With Analysis As Requested.
DLUI	Detection Limit Raised: Unknown Interference generated an apparent false positive test result.
BODL	Limit of Reporting for BOD was increased to account for the largest volume of sample tested.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
625-BIS-2-PHTH-WT	Water	Bis(2-ethylhexyl)phthalate	SW846 8270
Aqueous samples are extracted and extracts are analyzed on GC/MSD.			
625-DNB-PHTH-WT	Water	Di-n-Butyl Phthalate	SW846 8270
Aqueous samples are extracted and extracts are analyzed on GC/MSD.			
BOD-C-WT	Water	BOD Carbonaceous	APHA 5210 B (CBOD)
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
BOD-WT	Water	BOD	APHA 5210 B
This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.			
BTX-HS-WT	Water	BTEX by Headspace	SW846 8260 (HEADSPACE)
BTX is determined by analyzing by headspace-GC/MS.			
CL2-TOTAL-WT	Water	Total Residual Chlorine	APHA 4500-CL G
Chlorine (residual), as free or total, is analyzed using the DPD colourimetric method. The recommended hold time for these tests is 15 minutes; field testing is recommended for best results. Chlorine can be rapidly consumed by organic matter, if present, and dissipates rapidly into headspace.			
CN-TOT-WT	Water	Cyanide, Total	ISO 14403-2
Total cyanide is determined by the combination of UV digestion and distillation. Cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.			
When using this method, high levels of thiocyanate in samples can cause false positives at ~1-2% of the thiocyanate concentration. For samples with detectable cyanide analyzed by this method, ALS recommends analysis for thiocyanate to check for this potential interference			
CR-CR6-IC-WT	Water	Chromium +6	EPA 7199
This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Method 7199, published by the United States Environmental Protection Agency (EPA). The procedure involves analysis for chromium (VI) by ion chromatography using diphenylcarbazide in a sulphuric acid solution. Chromium (III) is calculated as the difference between the total chromium and the chromium (VI) results.			

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
		Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).	
EC-SCREEN-WT	Water	Conductivity Screen (Internal Use Only)	APHA 2510
		Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.	
EC-WW-MF-WT	Water	E. Coli	SM 9222D
		A 100 mL volume of sample is filtered through a membrane, the membrane is placed on mFC-BCIG agar and incubated at 44.5 –0 .2 °C for 24 – 2 h. Method ID: WT-TM-1200	
F-IC-N-WT	Water	Fluoride in Water by IC	EPA 300.1 (mod)
		Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	
HG-T-CVAA-WT	Water	Total Mercury in Water by CVAAS	EPA 1631E (mod)
		Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.	
MET-T-CCMS-WT	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)
		Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.	
		Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.	
		Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).	
NP,NPE-LCMS-WT	Water	Nonylphenols and Ethoxylates by LC/MS-MS	J. Chrom A849 (1999) p.467-482
		Water samples are filtered and analyzed on LCMS/MS by direct injection.	
OGG-SPEC-CALC-WT	Water	Speciated Oil and Grease A/V Calc	CALCULATION
		Sample is extracted with hexane, sample speciation into mineral and animal/vegetable fractions is achieved via silica gel separation and is then determined gravimetrically.	
OGG-SPEC-WT	Water	Speciated Oil and Grease-Gravimetric	APHA 5520 B
		The procedure involves an extraction of the entire water sample with hexane. Sample speciation into mineral and animal/vegetable fractions is achieved via silica gel separation and is then determined gravimetrically.	
P-T-COL-WT	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS
		This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is deteremined colourimetrically after persulphate digestion of the sample.	
PAH-SUM-CALC-WT	Water	TOTAL PAH's	CALCULATION
		Total PAH represents the sum of all PAH analytes reported for a given sample. Note that regulatory agencies and criteria differ in their definitions of Total PAH in terms of the individual PAH analytes to be included.	
PAH-WT	Water	Polyaromatic Hydrocarbons (PAHs)	SW846 8270

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
		Aqueous samples, fortified with surrogates, are extracted using liquid/liquid extraction technique. The sample extracts are concentrated and then analyzed using GC/MS. Results for benzo(b) fluoranthene may include contributions from benzo(j)fluoranthene, if also present in the sample.	
PCB-WT	Water	Polychlorinated Biphenyls	EPA 8082
		PCBs are extracted from an aqueous sample at neutral pH with aliquots of dichloromethane using a modified separatory funnel technique. The extracts are analyzed by GC/MSD.	
PH-WT	Water	pH	APHA 4500 H-Electrode
		Water samples are analyzed directly by a calibrated pH meter.	
		Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011). Holdtime for samples under this regulation is 28 days	
PHENOLS-4AAP-WT	Water	Phenol (4AAP)	EPA 9066
		An automated method is used to distill the sample. The distillate is then buffered to pH 9.4 which reacts with 4AAP and potassium ferricyanide to form a red complex which is measured colorimetrically.	
SO4-IC-N-WT	Water	Sulfate in Water by IC	EPA 300.1 (mod)
		Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	
SOLIDS-TSS-WT	Water	Suspended solids	APHA 2540 D-Gravimetric
		A well-mixed sample is filtered through a weighed standard glass fibre filter and the residue retained is dried in an oven at 104–1°C for a minimum of four hours or until a constant weight is achieved.	
TKN-F-WT	Water	TKN in Water by Fluorescence	J. ENVIRON. MONIT., 2005,7,37-42,RSC
		Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection	
VOC-ROU-HS-WT	Water	Volatile Organic Compounds	SW846 8260
		Aqueous samples are analyzed by headspace-GC/MS.	
XYLENES-SUM-CALC-WT	Water	Sum of Xylene Isomer Concentrations	CALCULATION
		Total xylenes represents the sum of o-xylene and m&p-xylene.	

**ALS test methods may incorporate modifications from specified reference methods to improve performance.

Chain of Custody Numbers:

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Reference Information

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guideline limits are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Quality Control Report

Workorder: L2585834 Report Date: 19-MAY-21

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
625-BIS-2-PHTH-WT	**Water**							
Batch R5457563								
WG3533089-2 LCS								
Bis(2-ethylhexyl)phthalate			121.1		%		50-140	14-MAY-21
WG3533089-1 MB								
Bis(2-ethylhexyl)phthalate			<2.0		ug/L		2	14-MAY-21
Surrogate: 2-fluorobiphenyl			66.4		%		40-130	14-MAY-21
Surrogate: p-Terphenyl d14			111.6		%		40-130	14-MAY-21
625-DNB-PHTH-WT	**Water**							
Batch R5457563								
WG3533089-2 LCS								
Di-n-butylphthalate			113.3		%		50-150	14-MAY-21
WG3533089-1 MB								
Di-n-butylphthalate			<1.0		ug/L		1	14-MAY-21
Surrogate: 2-Fluorobiphenyl			66.4		%		40-130	14-MAY-21
Surrogate: p-Terphenyl d14			111.6		%		40-130	14-MAY-21
BOD-C-WT	**Water**							
Batch R5458772								
WG3532885-2 DUP		**L2585458-1**						
BOD Carbonaceous		7.8	8.0		mg/L	1.5	30	11-MAY-21
WG3532885-3 LCS								
BOD Carbonaceous			103.5		%		85-115	11-MAY-21
WG3532885-1 MB								
BOD Carbonaceous			<2.0		mg/L		2	11-MAY-21
BOD-WT	**Water**							
Batch R5458785								
WG3532884-6 DUP		**L2585851-1**						
BOD		<3.0	<3.0	RPD-NA	mg/L	N/A	30	11-MAY-21
WG3532884-7 LCS								
BOD			102.5		%		85-115	11-MAY-21
WG3532884-5 MB								
BOD			<2.0		mg/L		2	11-MAY-21
BTX-HS-WT	**Water**							
Batch R5459623								
WG3536576-4 DUP		**WG3536576-3**						
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
m+p-Xylenes		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21

Quality Control Report

Workorder: L2585834 Report Date: 19-MAY-21

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-HS-WT	**Water**							
Batch R5459623								
WG3536576-4 DUP		**WG3536576-3**						
o-Xylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
WG3536576-1 LCS								
Benzene			101.6		%		70-130	19-MAY-21
Ethylbenzene			105.5		%		70-130	19-MAY-21
m+p-Xylenes			107.7		%		70-130	19-MAY-21
o-Xylene			115.3		%		70-130	19-MAY-21
Toluene			103.6		%		70-130	19-MAY-21
WG3536576-2 MB								
Benzene			<0.50		ug/L		0.5	19-MAY-21
Ethylbenzene			<0.50		ug/L		0.5	19-MAY-21
m+p-Xylenes			<1.0		ug/L		1	19-MAY-21
o-Xylene			<0.50		ug/L		0.5	19-MAY-21
Toluene			<0.50		ug/L		0.5	19-MAY-21
Surrogate: 1,4-Difluorobenzene			100.5		%		50-150	19-MAY-21
Surrogate: 4-Bromofluorobenzene			100.9		%		50-150	19-MAY-21
WG3536576-5 MS		**WG3536576-3**						
Benzene			101.4		%		50-150	19-MAY-21
Ethylbenzene			105.0		%		50-150	19-MAY-21
m+p-Xylenes			107.2		%		50-150	19-MAY-21
o-Xylene			115.0		%		50-150	19-MAY-21
Toluene			103.2		%		50-150	19-MAY-21
CL2-TOTAL-WT	**Water**							
Batch R5455873								
WG3532773-3 DUP		**L2585549-1**						
Chlorine, Total		0.350	0.360		mg/L	2.8	15	11-MAY-21
WG3532773-2 LCS								
Chlorine, Total			98.2		%		75-125	11-MAY-21
WG3532773-1 MB								
Chlorine, Total			<0.050		mg/L		0.05	11-MAY-21
WG3532773-4 MS		**L2585549-1**						
Chlorine, Total			N/A	MS-B	%		-	11-MAY-21
CN-TOT-WT	**Water**							

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-TOT-WT	**Water**							
Batch R5455737								
WG3532538-3 DUP		**WG3532538-5**						
Cyanide, Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	11-MAY-21
WG3532538-2 LCS								
Cyanide, Total			96.1		%		80-120	11-MAY-21
WG3532538-1 MB								
Cyanide, Total			<0.0020		mg/L		0.002	11-MAY-21
WG3532538-4 MS		**WG3532538-5**						
Cyanide, Total			88.6		%		70-130	11-MAY-21
CR-CR6-IC-WT	**Water**							
Batch R5456236								
WG3532698-4 DUP		**WG3532698-3**						
Chromium, Hexavalent		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	11-MAY-21
WG3532698-2 LCS								
Chromium, Hexavalent			102.1		%		80-120	11-MAY-21
WG3532698-1 MB								
Chromium, Hexavalent			<0.00050		mg/L		0.0005	11-MAY-21
WG3532698-5 MS		**WG3532698-3**						
Chromium, Hexavalent			101.4		%		70-130	11-MAY-21
EC-WW-MF-WT	**Water**							
Batch R5456430								
WG3532402-3 DUP		**L2585779-2**						
E. Coli		2	<2	RPD-NA	CFU/100mL	N/A	65	11-MAY-21
WG3532402-1 MB								
E. Coli			0		CFU/100mL		1	11-MAY-21
F-IC-N-WT	**Water**							
Batch R5457120								
WG3533744-10 DUP		**L2585390-5**						
Fluoride (F)		0.112	0.111		mg/L	1.2	20	12-MAY-21
WG3533744-7 LCS								
Fluoride (F)			102.2		%		90-110	12-MAY-21
WG3533744-6 MB								
Fluoride (F)			<0.020		mg/L		0.02	12-MAY-21
WG3533744-9 MS		**L2585390-5**						
Fluoride (F)			99.2		%		75-125	12-MAY-21
HG-T-CVAA-WT	**Water**							

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-T-CVAA-WT	**Water**							
Batch R5456856								
WG3533406-4 DUP		**WG3533406-3**						
Mercury (Hg)-Total		<0.0000050	<0.000005(	RPD-NA	mg/L	N/A	20	13-MAY-21
WG3533406-2 LCS								
Mercury (Hg)-Total			104.0		%		80-120	13-MAY-21
WG3533406-1 MB								
Mercury (Hg)-Total			<0.000005(		mg/L		0.000005	13-MAY-21
WG3533406-6 MS		**WG3533406-5**						
Mercury (Hg)-Total			104.3		%		70-130	13-MAY-21
MET-T-CCMS-WT	**Water**							
Batch R5455629								
WG3532214-4 DUP		**WG3532214-3**						
Aluminum (Al)-Total		0.355	0.331		mg/L	6.9	20	11-MAY-21
Antimony (Sb)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-MAY-21
Arsenic (As)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-MAY-21
Barium (Ba)-Total		0.0350	0.0342		mg/L	2.2	20	11-MAY-21
Beryllium (Be)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-MAY-21
Bismuth (Bi)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	11-MAY-21
Boron (B)-Total		<0.10	<0.10	RPD-NA	mg/L	N/A	20	11-MAY-21
Cadmium (Cd)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	11-MAY-21
Calcium (Ca)-Total		64.4	62.7		mg/L	2.8	20	11-MAY-21
Chromium (Cr)-Total		0.0051	0.0052		mg/L	1.9	20	11-MAY-21
Cobalt (Co)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-MAY-21
Copper (Cu)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	11-MAY-21
Iron (Fe)-Total		0.42	0.40		mg/L	4.3	20	11-MAY-21
Lead (Pb)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	11-MAY-21
Lithium (Li)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	11-MAY-21
Magnesium (Mg)-Total		9.60	9.34		mg/L	2.7	20	11-MAY-21
Manganese (Mn)-Total		0.0435	0.0449		mg/L	3.0	20	11-MAY-21
Molybdenum (Mo)-Total		0.00861	0.00827		mg/L	4.0	20	11-MAY-21
Nickel (Ni)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	11-MAY-21
Phosphorus (P)-Total		<0.50	<0.50	RPD-NA	mg/L	N/A	20	11-MAY-21
Potassium (K)-Total		19.0	18.7		mg/L	1.3	20	11-MAY-21
Selenium (Se)-Total		0.00070	0.00065		mg/L	6.8	20	11-MAY-21
Silicon (Si)-Total		2.9	2.8		mg/L	3.0	20	11-MAY-21
Silver (Ag)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	11-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R5455629								
WG3532214-4 DUP		**WG3532214-3**						
Sodium (Na)-Total		78.2	76.5		mg/L	2.1	20	11-MAY-21
Strontium (Sr)-Total		0.411	0.406		mg/L	1.2	20	11-MAY-21
Sulfur (S)-Total		31.2	30.0		mg/L	4.1	20	11-MAY-21
Thallium (Tl)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	11-MAY-21
Tin (Sn)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-MAY-21
Titanium (Ti)-Total		0.0118	0.0116		mg/L	2.0	20	11-MAY-21
Tungsten (W)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	11-MAY-21
Uranium (U)-Total		0.00038	0.00039		mg/L	3.7	20	11-MAY-21
Vanadium (V)-Total		0.0054	0.0051		mg/L	6.1	20	11-MAY-21
Zinc (Zn)-Total		<0.030	<0.030	RPD-NA	mg/L	N/A	20	11-MAY-21
Zirconium (Zr)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	20	11-MAY-21
WG3532214-2 LCS								
Aluminum (Al)-Total			99.9		%		80-120	11-MAY-21
Antimony (Sb)-Total			104.3		%		80-120	11-MAY-21
Arsenic (As)-Total			101.9		%		80-120	11-MAY-21
Barium (Ba)-Total			103.3		%		80-120	11-MAY-21
Beryllium (Be)-Total			97.4		%		80-120	11-MAY-21
Bismuth (Bi)-Total			103.6		%		80-120	11-MAY-21
Boron (B)-Total			94.6		%		80-120	11-MAY-21
Cadmium (Cd)-Total			103.7		%		80-120	11-MAY-21
Calcium (Ca)-Total			98.9		%		80-120	11-MAY-21
Chromium (Cr)-Total			99.9		%		80-120	11-MAY-21
Cobalt (Co)-Total			101.6		%		80-120	11-MAY-21
Copper (Cu)-Total			100.8		%		80-120	11-MAY-21
Iron (Fe)-Total			102.5		%		80-120	11-MAY-21
Lead (Pb)-Total			104.7		%		80-120	11-MAY-21
Lithium (Li)-Total			95.9		%		80-120	11-MAY-21
Magnesium (Mg)-Total			103.6		%		80-120	11-MAY-21
Manganese (Mn)-Total			100.1		%		80-120	11-MAY-21
Molybdenum (Mo)-Total			100.5		%		80-120	11-MAY-21
Nickel (Ni)-Total			100.9		%		80-120	11-MAY-21
Phosphorus (P)-Total			100.8		%		70-130	11-MAY-21
Potassium (K)-Total			101.8		%		80-120	11-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R5455629								
WG3532214-2 LCS								
Selenium (Se)-Total			99.1		%		80-120	11-MAY-21
Silicon (Si)-Total			103.3		%		60-140	11-MAY-21
Silver (Ag)-Total			104.5		%		80-120	11-MAY-21
Sodium (Na)-Total			100.9		%		80-120	11-MAY-21
Strontium (Sr)-Total			102.1		%		80-120	11-MAY-21
Sulfur (S)-Total			98.9		%		80-120	11-MAY-21
Thallium (Tl)-Total			104.8		%		80-120	11-MAY-21
Tin (Sn)-Total			103.9		%		80-120	11-MAY-21
Titanium (Ti)-Total			97.4		%		80-120	11-MAY-21
Tungsten (W)-Total			102.6		%		80-120	11-MAY-21
Uranium (U)-Total			110.6		%		80-120	11-MAY-21
Vanadium (V)-Total			101.9		%		80-120	11-MAY-21
Zinc (Zn)-Total			101.5		%		80-120	11-MAY-21
Zirconium (Zr)-Total			101.6		%		80-120	11-MAY-21
WG3532214-1 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	11-MAY-21
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	11-MAY-21
Arsenic (As)-Total			<0.00010		mg/L		0.0001	11-MAY-21
Barium (Ba)-Total			<0.00010		mg/L		0.0001	11-MAY-21
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	11-MAY-21
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	11-MAY-21
Boron (B)-Total			<0.010		mg/L		0.01	11-MAY-21
Cadmium (Cd)-Total			<0.000005(		mg/L		0.000005	11-MAY-21
Calcium (Ca)-Total			<0.050		mg/L		0.05	11-MAY-21
Chromium (Cr)-Total			<0.00050		mg/L		0.0005	11-MAY-21
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	11-MAY-21
Copper (Cu)-Total			<0.00050		mg/L		0.0005	11-MAY-21
Iron (Fe)-Total			<0.010		mg/L		0.01	11-MAY-21
Lead (Pb)-Total			<0.000050		mg/L		0.00005	11-MAY-21
Lithium (Li)-Total			<0.0010		mg/L		0.001	11-MAY-21
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	11-MAY-21
Manganese (Mn)-Total			<0.00050		mg/L		0.0005	11-MAY-21
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	11-MAY-21
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	11-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R5455629								
WG3532214-1 MB								
Phosphorus (P)-Total			<0.050		mg/L		0.05	11-MAY-21
Potassium (K)-Total			<0.050		mg/L		0.05	11-MAY-21
Selenium (Se)-Total			<0.000050		mg/L		0.00005	11-MAY-21
Silicon (Si)-Total			<0.10		mg/L		0.1	11-MAY-21
Silver (Ag)-Total			<0.000050		mg/L		0.00005	11-MAY-21
Sodium (Na)-Total			<0.050		mg/L		0.05	11-MAY-21
Strontium (Sr)-Total			<0.0010		mg/L		0.001	11-MAY-21
Sulfur (S)-Total			<0.50		mg/L		0.5	11-MAY-21
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	11-MAY-21
Tin (Sn)-Total			<0.00010		mg/L		0.0001	11-MAY-21
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	11-MAY-21
Tungsten (W)-Total			<0.00010		mg/L		0.0001	11-MAY-21
Uranium (U)-Total			<0.000010		mg/L		0.00001	11-MAY-21
Vanadium (V)-Total			<0.00050		mg/L		0.0005	11-MAY-21
Zinc (Zn)-Total			<0.0030		mg/L		0.003	11-MAY-21
Zirconium (Zr)-Total			<0.00020		mg/L		0.0002	11-MAY-21
WG3532214-5 MS		**WG3532214-3**						
Aluminum (Al)-Total			N/A	MS-B	%		-	11-MAY-21
Antimony (Sb)-Total			105.7		%		70-130	11-MAY-21
Arsenic (As)-Total			101.8		%		70-130	11-MAY-21
Barium (Ba)-Total			N/A	MS-B	%		-	11-MAY-21
Beryllium (Be)-Total			95.6		%		70-130	11-MAY-21
Bismuth (Bi)-Total			103.4		%		70-130	11-MAY-21
Boron (B)-Total			74.4		%		70-130	11-MAY-21
Cadmium (Cd)-Total			100.9		%		70-130	11-MAY-21
Calcium (Ca)-Total			N/A	MS-B	%		-	11-MAY-21
Chromium (Cr)-Total			95.9		%		70-130	11-MAY-21
Cobalt (Co)-Total			101.4		%		70-130	11-MAY-21
Copper (Cu)-Total			96.5		%		70-130	11-MAY-21
Iron (Fe)-Total			N/A	MS-B	%		-	11-MAY-21
Lead (Pb)-Total			103.6		%		70-130	11-MAY-21
Lithium (Li)-Total			79.9		%		70-130	11-MAY-21
Magnesium (Mg)-Total			N/A	MS-B	%		-	11-MAY-21
Manganese (Mn)-Total			N/A	MS-B	%		-	11-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R5455629								
WG3532214-5 MS		**WG3532214-3**						
Molybdenum (Mo)-Total			94.9		%		70-130	11-MAY-21
Nickel (Ni)-Total			99.2		%		70-130	11-MAY-21
Phosphorus (P)-Total			108.3		%		70-130	11-MAY-21
Potassium (K)-Total			N/A	MS-B	%		-	11-MAY-21
Selenium (Se)-Total			97.5		%		70-130	11-MAY-21
Silicon (Si)-Total			N/A	MS-B	%		-	11-MAY-21
Silver (Ag)-Total			104.2		%		70-130	11-MAY-21
Sodium (Na)-Total			N/A	MS-B	%		-	11-MAY-21
Strontium (Sr)-Total			N/A	MS-B	%		-	11-MAY-21
Sulfur (S)-Total			N/A	MS-B	%		-	11-MAY-21
Thallium (Tl)-Total			103.2		%		70-130	11-MAY-21
Tin (Sn)-Total			101.0		%		70-130	11-MAY-21
Titanium (Ti)-Total			95.4		%		70-130	11-MAY-21
Tungsten (W)-Total			101.1		%		70-130	11-MAY-21
Uranium (U)-Total			N/A	MS-B	%		-	11-MAY-21
Vanadium (V)-Total			98.0		%		70-130	11-MAY-21
Zinc (Zn)-Total			97.6		%		70-130	11-MAY-21
Zirconium (Zr)-Total			91.8		%		70-130	11-MAY-21
NP,NPE-LCMS-WT	**Water**							
Batch R5457482								
WG3533128-3 DUP		**L2585322-1**						
Nonylphenol		<1.0	<1.0	RPD-NA	ug/L	N/A	30	12-MAY-21
Nonylphenol Monoethoxylates		<2.0	<2.0	RPD-NA	ug/L	N/A	30	12-MAY-21
Nonylphenol Diethoxylates		0.18	0.21		ug/L	15	30	12-MAY-21
Octylphenol		<1.0	<1.0	RPD-NA	ug/L	N/A	30	12-MAY-21
Octylphenol Monoethoxylates		<10	<10	RPD-NA	ug/L	N/A	30	12-MAY-21
Octylphenol Diethoxylates		8.7	8.7		ug/L	0.4	30	12-MAY-21
Bisphenol A		0.71	0.78		ug/L	8.9	30	12-MAY-21
WG3533128-2 LCS								
Nonylphenol			86.7		%		75-125	12-MAY-21
Nonylphenol Monoethoxylates			96.8		%		75-125	12-MAY-21
Nonylphenol Diethoxylates			97.1		%		75-125	12-MAY-21
Octylphenol			93.2		%		75-125	12-MAY-21
Octylphenol Monoethoxylates			111.8		%		75-125	12-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NP,NPE-LCMS-WT	**Water**							
Batch R5457482								
WG3533128-2 LCS								
Octylphenol Diethoxylates			105.1		%		75-125	12-MAY-21
Bisphenol A			123.0		%		75-125	12-MAY-21
WG3533128-1 MB								
Nonylphenol			<1.0		ug/L		1	12-MAY-21
Nonylphenol Monoethoxylates			<2.0		ug/L		2	12-MAY-21
Nonylphenol Diethoxylates			<0.10		ug/L		0.1	12-MAY-21
Octylphenol			<1.0		ug/L		1	12-MAY-21
Octylphenol Monoethoxylates			<2.0		ug/L		2	12-MAY-21
Octylphenol Diethoxylates			<0.10		ug/L		0.1	12-MAY-21
Bisphenol A			<0.20		ug/L		0.2	12-MAY-21
WG3533128-4 MS		**L2585322-1**						
Nonylphenol			116.8		%		50-150	12-MAY-21
Nonylphenol Monoethoxylates			128.0		%		50-150	12-MAY-21
Nonylphenol Diethoxylates			101.3		%		50-150	12-MAY-21
Octylphenol			113.7		%		50-150	12-MAY-21
Octylphenol Monoethoxylates			105.4		%		50-150	12-MAY-21
Octylphenol Diethoxylates			N/A	MS-B	%		-	12-MAY-21
Bisphenol A			98.5		%		50-150	12-MAY-21
OGG-SPEC-WT	**Water**							
Batch R5457613								
WG3534233-2 LCS								
Oil and Grease, Total			96.9		%		70-130	13-MAY-21
Mineral Oil and Grease			93.3		%		70-130	13-MAY-21
WG3534233-1 MB								
Oil and Grease, Total			<5.0		mg/L		5	13-MAY-21
Mineral Oil and Grease			<2.5		mg/L		2.5	13-MAY-21
P-T-COL-WT	**Water**							
Batch R5458652								
WG3535029-3 DUP		**WG3535029-5**						
Phosphorus, Total		0.229	0.230		mg/L	0.4	20	17-MAY-21
WG3535029-2 LCS								
Phosphorus, Total			102.0		%		80-120	17-MAY-21
WG3535029-1 MB								
Phosphorus, Total			<0.0030		mg/L		0.003	17-MAY-21
WG3535029-4 MS		**WG3535029-5**						

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
P-T-COL-WT	**Water**							
Batch R5458652								
WG3535029-4 MS		**WG3535029-5**						
Phosphorus, Total			N/A	MS-B	%		-	17-MAY-21
PAH-WT	**Water**							
Batch R5456395								
WG3533111-2 LCS								
Acenaphthene			98.3		%		50-140	12-MAY-21
Acenaphthylene			93.9		%		50-140	12-MAY-21
Anthracene			96.4		%		50-140	12-MAY-21
Benzo(a)anthracene			97.9		%		50-140	12-MAY-21
Benzo(a)pyrene			98.2		%		60-130	12-MAY-21
Benzo(b&j)fluoranthene			105.4		%		60-130	12-MAY-21
Benzo(g,h,i)perylene			116.2		%		50-140	12-MAY-21
Benzo(k)fluoranthene			102.3		%		50-140	12-MAY-21
Chrysene			93.8		%		50-140	12-MAY-21
Dibenz(a,h)anthracene			101.8		%		50-140	12-MAY-21
Fluoranthene			100.2		%		50-140	12-MAY-21
Fluorene			96.8		%		50-140	12-MAY-21
Indeno(1,2,3-cd)pyrene			118.9		%		50-140	12-MAY-21
Naphthalene			88.3		%		50-130	12-MAY-21
Phenanthrene			103.4		%		50-140	12-MAY-21
Pyrene			99.9		%		50-140	12-MAY-21
WG3533111-1 MB								
Acenaphthene			<0.020		ug/L		0.02	12-MAY-21
Acenaphthylene			<0.020		ug/L		0.02	12-MAY-21
Anthracene			<0.020		ug/L		0.02	12-MAY-21
Benzo(a)anthracene			<0.020		ug/L		0.02	12-MAY-21
Benzo(a)pyrene			<0.0050		ug/L		0.005	12-MAY-21
Benzo(b&j)fluoranthene			<0.020		ug/L		0.02	12-MAY-21
Benzo(g,h,i)perylene			<0.020		ug/L		0.02	12-MAY-21
Benzo(k)fluoranthene			<0.020		ug/L		0.02	12-MAY-21
Chrysene			<0.020		ug/L		0.02	12-MAY-21
Dibenz(a,h)anthracene			<0.020		ug/L		0.02	12-MAY-21
Fluoranthene			<0.020		ug/L		0.02	12-MAY-21
Fluorene			<0.020		ug/L		0.02	12-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-WT	**Water**							
Batch R5456395								
WG3533111-1 MB								
Indeno(1,2,3-cd)pyrene			<0.020		ug/L		0.02	12-MAY-21
Naphthalene			<0.020		ug/L		0.02	12-MAY-21
Phenanthrene			<0.020		ug/L		0.02	12-MAY-21
Pyrene			<0.020		ug/L		0.02	12-MAY-21
Surrogate: Naphthalene d8			88.7		%		60-140	12-MAY-21
Surrogate: Phenanthrene d10			96.3		%		60-140	12-MAY-21
PCB-WT	**Water**							
Batch R5456890								
WG3532307-2 LCS								
Aroclor 1242			95.4		%		65-130	13-MAY-21
Aroclor 1248			82.1		%		65-130	13-MAY-21
Aroclor 1254			94.0		%		65-130	13-MAY-21
Aroclor 1260			99.8		%		65-130	13-MAY-21
WG3532307-1 MB								
Aroclor 1242			<0.020		ug/L		0.02	13-MAY-21
Aroclor 1248			<0.020		ug/L		0.02	13-MAY-21
Aroclor 1254			<0.020		ug/L		0.02	13-MAY-21
Aroclor 1260			<0.020		ug/L		0.02	13-MAY-21
Surrogate: Decachlorobiphenyl			105.3		%		50-150	13-MAY-21
Surrogate: Tetrachloro-m-xylene			83.3		%		50-150	13-MAY-21
PH-WT	**Water**							
Batch R5457078								
WG3533512-4 DUP		**WG3533512-3**						
pH		8.09	7.98	J	pH units	0.11	0.2	12-MAY-21
WG3533512-2 LCS								
pH			7.01		pH units		6.9-7.1	12-MAY-21
PHENOLS-4AAP-WT	**Water**							
Batch R5459152								
WG3535134-3 DUP		**L2585912-9**						
Phenols (4AAP)		<0.0010	0.0015	RPD-NA	mg/L	N/A	20	17-MAY-21
WG3535134-2 LCS								
Phenols (4AAP)			97.8		%		85-115	17-MAY-21
WG3535134-1 MB								
Phenols (4AAP)			<0.0010		mg/L		0.001	17-MAY-21
WG3535134-4 MS		**L2585912-9**						

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHENOLS-4AAP-WT	**Water**							
Batch R5459152								
WG3535134-4 MS		**L2585912-9**						
Phenols (4AAP)			106.8		%		75-125	17-MAY-21
SO4-IC-N-WT	**Water**							
Batch R5457120								
WG3533744-10 DUP		**L2585390-5**						
Sulfate (SO4)		10.6	10.6		mg/L	0.0	20	12-MAY-21
WG3533744-7 LCS								
Sulfate (SO4)			102.5		%		90-110	12-MAY-21
WG3533744-6 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	12-MAY-21
WG3533744-9 MS		**L2585390-5**						
Sulfate (SO4)			105.8		%		75-125	12-MAY-21
SOLIDS-TSS-WT	**Water**							
Batch R5456790								
WG3533256-3 DUP		**L2585878-1**						
Total Suspended Solids		223	198		mg/L	12	20	13-MAY-21
WG3533256-2 LCS								
Total Suspended Solids			103.0		%		85-115	13-MAY-21
WG3533256-1 MB								
Total Suspended Solids			<3.0		mg/L		3	13-MAY-21
TKN-F-WT	**Water**							
Batch R5458555								
WG3535044-3 DUP		**WG3535044-5**						
Total Kjeldahl Nitrogen		1.65	1.61		mg/L	2.5	20	17-MAY-21
WG3535044-2 LCS								
Total Kjeldahl Nitrogen			99.5		%		75-125	17-MAY-21
WG3535044-1 MB								
Total Kjeldahl Nitrogen			<0.050		mg/L		0.05	17-MAY-21
WG3535044-4 MS		**WG3535044-5**						
Total Kjeldahl Nitrogen			98.4		%		70-130	17-MAY-21
VOC-ROU-HS-WT	**Water**							
Batch R5459623								
WG3536576-4 DUP		**WG3536576-3**						
1,1,1,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
1,1,2,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
1,1,1-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-ROU-HS-WT	**Water**							
Batch R5459623								
WG3536576-4 DUP		**WG3536576-3**						
1,1,2-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
1,2-Dibromoethane		<0.20	<0.20	RPD-NA	ug/L	N/A	30	19-MAY-21
1,1-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
1,1-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
1,2-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
1,2-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
1,2-Dichloropropane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
1,3-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
1,4-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
2-Hexanone		<20	<20	RPD-NA	ug/L	N/A	30	19-MAY-21
Acetone		<20	<20	RPD-NA	ug/L	N/A	30	19-MAY-21
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
Bromodichloromethane		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21
Bromoform		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21
Bromomethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
Carbon Disulfide		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21
Carbon tetrachloride		<0.20	<0.20	RPD-NA	ug/L	N/A	30	19-MAY-21
Chlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
Chloroethane		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21
Chloroform		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21
Chloromethane		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21
cis-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
cis-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	19-MAY-21
Dibromochloromethane		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21
Dichlorodifluoromethane		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21
Dichloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	19-MAY-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	19-MAY-21
Methyl Ethyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	19-MAY-21
Methyl Isobutyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	19-MAY-21
n-Hexane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
MTBE		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
o-Xylene		<0.30	<0.30		ug/L			19-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-ROU-HS-WT	**Water**							
Batch R5459623								
WG3536576-4 DUP		**WG3536576-3**						
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	19-MAY-21
Styrene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
Tetrachloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
Toluene		<0.40	<0.40	RPD-NA	ug/L	N/A	30	19-MAY-21
trans-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
trans-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	19-MAY-21
Trichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
Trichlorofluoromethane		<1.0	<1.0	RPD-NA	ug/L	N/A	30	19-MAY-21
Vinyl chloride		<0.50	<0.50	RPD-NA	ug/L	N/A	30	19-MAY-21
WG3536576-1 LCS								
1,1,1,2-Tetrachloroethane			102.8		%		70-130	19-MAY-21
1,1,2,2-Tetrachloroethane			104.9		%		70-130	19-MAY-21
1,1,1-Trichloroethane			102.6		%		70-130	19-MAY-21
1,1,2-Trichloroethane			100.9		%		70-130	19-MAY-21
1,2-Dibromoethane			99.9		%		70-130	19-MAY-21
1,1-Dichloroethane			103.4		%		70-130	19-MAY-21
1,1-Dichloroethylene			105.2		%		70-130	19-MAY-21
1,2-Dichlorobenzene			107.6		%		70-130	19-MAY-21
1,2-Dichloroethane			103.4		%		70-130	19-MAY-21
1,2-Dichloropropane			104.4		%		70-130	19-MAY-21
1,3-Dichlorobenzene			107.4		%		70-130	19-MAY-21
1,4-Dichlorobenzene			107.4		%		70-130	19-MAY-21
2-Hexanone			104.8		%		60-140	19-MAY-21
Acetone			118.9		%		60-140	19-MAY-21
Benzene			101.6		%		70-130	19-MAY-21
Bromodichloromethane			109.1		%		70-130	19-MAY-21
Bromoform			107.2		%		70-130	19-MAY-21
Bromomethane			99.8		%		60-140	19-MAY-21
Carbon Disulfide			100.4		%		70-130	19-MAY-21
Carbon tetrachloride			105.1		%		70-130	19-MAY-21
Chlorobenzene			104.6		%		70-130	19-MAY-21
Chloroethane			118.5		%		70-130	19-MAY-21
Chloroform			105.7		%		70-130	19-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-ROU-HS-WT	**Water**							
Batch R5459623								
WG3536576-1 LCS								
Chloromethane			106.9		%		60-140	19-MAY-21
cis-1,2-Dichloroethylene			105.4		%		70-130	19-MAY-21
cis-1,3-Dichloropropene			99.1		%		70-130	19-MAY-21
Dibromochloromethane			98.4		%		70-130	19-MAY-21
Dichlorodifluoromethane			98.2		%		50-140	19-MAY-21
Dichloromethane			112.2		%		70-130	19-MAY-21
Ethylbenzene			105.5		%		70-130	19-MAY-21
m+p-Xylenes			107.7		%		70-130	19-MAY-21
Methyl Ethyl Ketone			112.5		%		60-140	19-MAY-21
Methyl Isobutyl Ketone			107.2		%		50-150	19-MAY-21
n-Hexane			104.5		%		70-130	19-MAY-21
MTBE			104.1		%		70-130	19-MAY-21
o-Xylene			115.3		%		70-130	19-MAY-21
Styrene			109.6		%		70-130	19-MAY-21
Tetrachloroethylene			99.8		%		70-130	19-MAY-21
Toluene			103.6		%		70-130	19-MAY-21
trans-1,2-Dichloroethylene			110.3		%		70-130	19-MAY-21
trans-1,3-Dichloropropene			98.7		%		70-130	19-MAY-21
Trichloroethylene			103.0		%		70-130	19-MAY-21
Trichlorofluoromethane			104.6		%		60-140	19-MAY-21
Vinyl chloride			110.5		%		60-140	19-MAY-21
WG3536576-2 MB								
1,1,1,2-Tetrachloroethane			<0.50		ug/L		0.5	19-MAY-21
1,1,2,2-Tetrachloroethane			<0.50		ug/L		0.5	19-MAY-21
1,1,1-Trichloroethane			<0.50		ug/L		0.5	19-MAY-21
1,1,2-Trichloroethane			<0.50		ug/L		0.5	19-MAY-21
1,2-Dibromoethane			<0.20		ug/L		0.2	19-MAY-21
1,1-Dichloroethane			<0.50		ug/L		0.5	19-MAY-21
1,1-Dichloroethylene			<0.50		ug/L		0.5	19-MAY-21
1,2-Dichlorobenzene			<0.50		ug/L		0.5	19-MAY-21
1,2-Dichloroethane			<0.50		ug/L		0.5	19-MAY-21
1,2-Dichloropropane			<0.50		ug/L		0.5	19-MAY-21
1,3-Dichlorobenzene			<0.50		ug/L		0.5	19-MAY-21
1,4-Dichlorobenzene			<0.50		ug/L		0.5	19-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-ROU-HS-WT	**Water**							
Batch R5459623								
WG3536576-2 MB								
2-Hexanone			<20		ug/L		20	19-MAY-21
Acetone			<20		ug/L		20	19-MAY-21
Benzene			<0.50		ug/L		0.5	19-MAY-21
Bromodichloromethane			<1.0		ug/L		1	19-MAY-21
Bromoform			<1.0		ug/L		1	19-MAY-21
Bromomethane			<0.50		ug/L		0.5	19-MAY-21
Carbon Disulfide			<1.0		ug/L		1	19-MAY-21
Carbon tetrachloride			<0.20		ug/L		0.2	19-MAY-21
Chlorobenzene			<0.50		ug/L		0.5	19-MAY-21
Chloroethane			<1.0		ug/L		1	19-MAY-21
Chloroform			<1.0		ug/L		1	19-MAY-21
Chloromethane			<1.0		ug/L		1	19-MAY-21
cis-1,2-Dichloroethylene			<0.50		ug/L		0.5	19-MAY-21
cis-1,3-Dichloropropene			<0.30		ug/L		0.3	19-MAY-21
Dibromochloromethane			<1.0		ug/L		1	19-MAY-21
Dichlorodifluoromethane			<1.0		ug/L		1	19-MAY-21
Dichloromethane			<2.0		ug/L		2	19-MAY-21
Ethylbenzene			<0.50		ug/L		0.5	19-MAY-21
m+p-Xylenes			<0.40		ug/L		0.4	19-MAY-21
Methyl Ethyl Ketone			<20		ug/L		20	19-MAY-21
Methyl Isobutyl Ketone			<20		ug/L		20	19-MAY-21
n-Hexane			<0.50		ug/L		0.5	19-MAY-21
MTBE			<0.50		ug/L		0.5	19-MAY-21
o-Xylene			<0.30		ug/L		0.3	19-MAY-21
Styrene			<0.50		ug/L		0.5	19-MAY-21
Tetrachloroethylene			<0.50		ug/L		0.5	19-MAY-21
Toluene			<0.40		ug/L		0.4	19-MAY-21
trans-1,2-Dichloroethylene			<0.50		ug/L		0.5	19-MAY-21
trans-1,3-Dichloropropene			<0.30		ug/L		0.3	19-MAY-21
Trichloroethylene			<0.50		ug/L		0.5	19-MAY-21
Trichlorofluoromethane			<1.0		ug/L		1	19-MAY-21
Vinyl chloride			<0.50		ug/L		0.5	19-MAY-21
Surrogate: 1,4-Difluorobenzene			100.5		%		70-130	19-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-ROU-HS-WT	**Water**							
Batch R5459623								
WG3536576-2 MB								
Surrogate: 4-Bromofluorobenzene			100.9		%		70-130	19-MAY-21
WG3536576-5 MS		**WG3536576-3**						
1,1,1,2-Tetrachloroethane			103.7		%		50-150	19-MAY-21
1,1,2,2-Tetrachloroethane			107.4		%		50-150	19-MAY-21
1,1,1-Trichloroethane			101.9		%		50-150	19-MAY-21
1,1,2-Trichloroethane			102.8		%		50-150	19-MAY-21
1,2-Dibromoethane			102.7		%		50-150	19-MAY-21
1,1-Dichloroethane			103.1		%		50-150	19-MAY-21
1,1-Dichloroethylene			102.7		%		50-150	19-MAY-21
1,2-Dichlorobenzene			108.2		%		50-150	19-MAY-21
1,2-Dichloroethane			105.5		%		50-150	19-MAY-21
1,2-Dichloropropane			106.8		%		50-150	19-MAY-21
1,3-Dichlorobenzene			107.2		%		50-150	19-MAY-21
1,4-Dichlorobenzene			107.6		%		50-150	19-MAY-21
2-Hexanone			107.6		%		50-150	19-MAY-21
Acetone			121.7		%		50-150	19-MAY-21
Benzene			101.4		%		50-150	19-MAY-21
Bromodichloromethane			111.1		%		50-150	19-MAY-21
Bromoform			109.2		%		50-150	19-MAY-21
Bromomethane			97.0		%		50-150	19-MAY-21
Carbon Disulfide			96.3		%		50-150	19-MAY-21
Carbon tetrachloride			103.7		%		50-150	19-MAY-21
Chlorobenzene			104.9		%		50-150	19-MAY-21
Chloroethane			114.3		%		50-150	19-MAY-21
Chloroform			106.4		%		50-150	19-MAY-21
Chloromethane			99.0		%		50-150	19-MAY-21
cis-1,2-Dichloroethylene			105.9		%		50-150	19-MAY-21
cis-1,3-Dichloropropene			103.1		%		50-150	19-MAY-21
Dibromochloromethane			99.7		%		50-150	19-MAY-21
Dichlorodifluoromethane			85.0		%		50-150	19-MAY-21
Dichloromethane			112.7		%		50-150	19-MAY-21
Ethylbenzene			105.0		%		50-150	19-MAY-21
m+p-Xylenes			107.2		%		50-150	19-MAY-21
Methyl Ethyl Ketone			114.0		%		50-150	19-MAY-21

Quality Control Report

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-ROU-HS-WT	**Water**							
Batch R5459623								
WG3536576-5 MS		**WG3536576-3**						
Methyl Isobutyl Ketone			110.2		%		50-150	19-MAY-21
n-Hexane			101.1		%		50-150	19-MAY-21
MTBE			104.1		%		50-150	19-MAY-21
o-Xylene			115.0		%		50-150	19-MAY-21
Styrene			110.2		%		50-150	19-MAY-21
Tetrachloroethylene			97.6		%		50-150	19-MAY-21
Toluene			103.2		%		50-150	19-MAY-21
trans-1,2-Dichloroethylene			109.1		%		50-150	19-MAY-21
trans-1,3-Dichloropropene			103.1		%		50-150	19-MAY-21
Trichloroethylene			102.6		%		50-150	19-MAY-21
Trichlorofluoromethane			100.4		%		50-150	19-MAY-21
Vinyl chloride			103.2		%		50-150	19-MAY-21

Quality Control Report

Workorder: L2585834 Report Date: 19-MAY-21

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L2585834 Report Date: 19-MAY-21

Client: Grounded Engineering Inc
12 Banigan Drive
Toronto On M4H1E9
Contact: DEEPAK KANRAJ

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Inorganic Parameters							
Total Residual Chlorine							
	1	10-MAY-21 10:00	11-MAY-21 15:00	0.25	29	hours	EHTR-FM

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2585834 were received on 10-MAY-21 13:10.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

L2585834-COFC

www.alsglo

# of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 888177

8

Report To	Contact and company name below will appear on the final report
Company:	Grounded engineering
Contact:	Deepak Kanraj
Phone:	
Company address below will appear on the final report	
Street:	12 Banigan DR
City/Province:	Toronto ON
Postal Code:	M4H 1E9
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☑ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: dkanraj@groundedeng.ca

Email 2

Email 3

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax

Email 2

Turnaround Time (TAT) Requested

- ☑ Routine [R] if received by 3pm M-F - no surcharges apply
- ☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
- ☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
- ☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
- ☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
- ☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please contact your AM to confirm availability.

Project Information

ALS Account # / Quote #:

Job #: 21-067

PO / AFE:

LSD:

ALS Lab Work Order # (ALS use only): L2585834

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact:	Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	~~Peel storm~~	Mississauga storm and Peel sanitary combined	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	SEW-4F-BH101	10 May	10:00	GW			X			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☑ NO

Are samples for human consumption/ use? ☐ YES ☑ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☑ ICE ☐ ICE PACKS ☐ FROZEN ☑ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C: 1.4 | 3.1 | 4.9

FINAL COOLER TEMPERATURES °C: 1.4

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: M Sx	Date: 10 May 2021	Time: 1:10	Received by: MA	Date: 10-MAY-21	Time: 13:10	Received by: SJ	Date: 5/10/21	Time: 17:30

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

APPENDIX F

Excavation Dimensions: 112 m x 90 m
Section Cut: E-W

P5 Level Finished Floor: Elev. 94± m
P5 Base of Excavation/Drainage Layer: Elev. 93.5± m

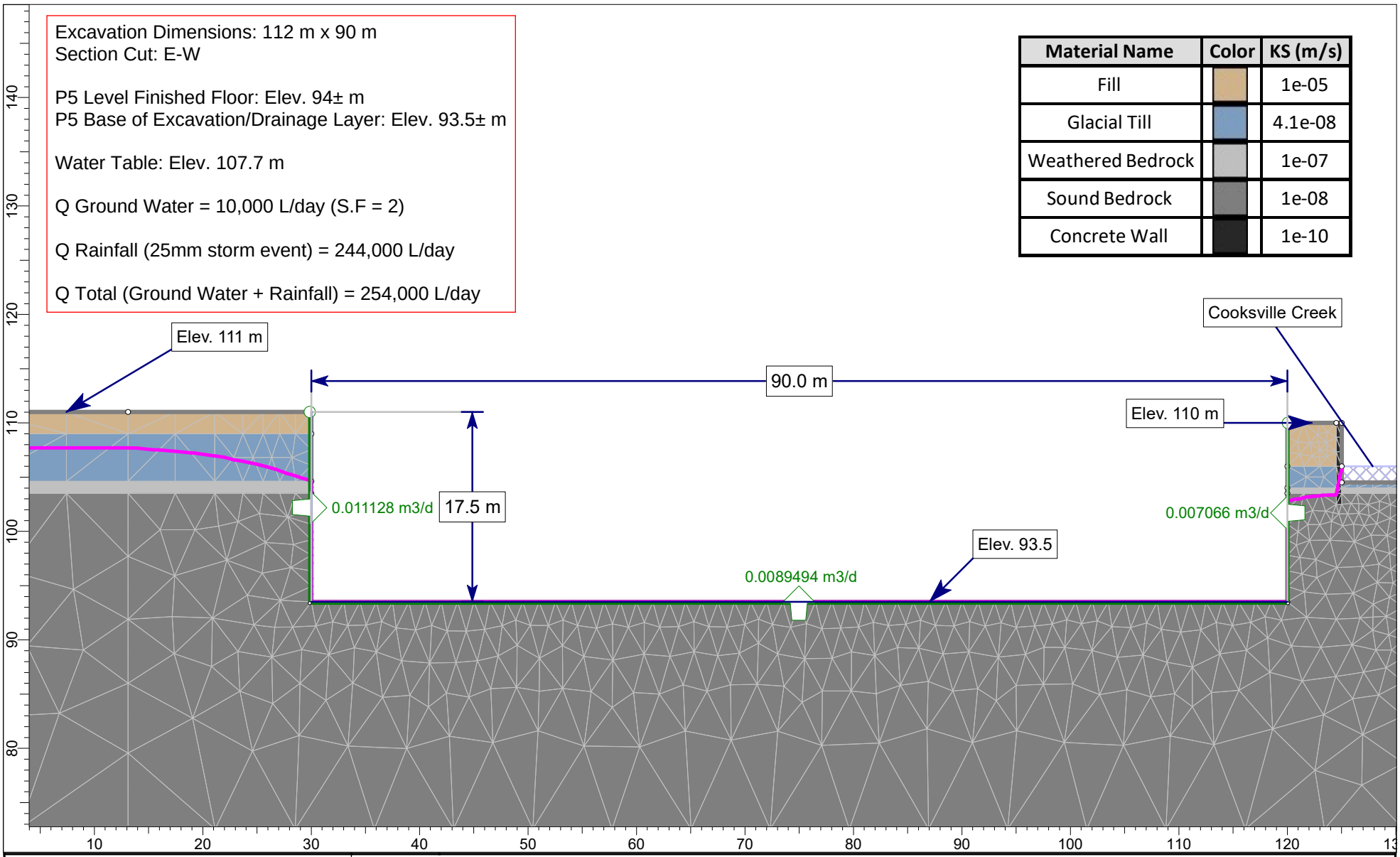
Water Table: Elev. 107.7 m

Q Ground Water = 10,000 L/day (S.F = 2)

Q Rainfall (25mm storm event) = 244,000 L/day

Q Total (Ground Water + Rainfall) = 254,000 L/day

Material Name	Color	KS (m/s)
Fill		1e-05
Glacial Till		4.1e-08
Weathered Bedrock		1e-07
Sound Bedrock		1e-08
Concrete Wall		1e-10



File	21-067 60 Dundas St E		
Analysis	Seepage model: Preliminary		
Ref.			
RS2 File	21-067 60 Dundas St E Seepage model.slmd	Scale 1:495	Eng NP

GROUNDED ENGINEERING

SLIDEINTERPRET 9.018

APPENDIX G

SHORT TERM - PERMEABLE SHORING

Excavation Dimensions [m]	
N-S	112
E-W	87
Area (m2)	9744
Perimeter (m)	398

Rainfall Data		
Year	2	100
Hour	3	12
Depth (mm)	25	94
Depth (m)	0.025	0.094

Section		Flow [m3/day]	Length [m]	Volume [L/day]
Base		0.009	112	1,008
Sides		0.01	398	3,980
Total				4,988
Factor of Safety	2.0			9,976

Storm Events	
2 Year [L/day]	100 Year [L/day]
243,600	916,000

Summary	L/day	L/min
Groundwater	10,000	6.9
Rainfall	244,000	169.4
Total	254,000	176.4

LONG TERM - DRAINED FOUNDATIONS

Excavation Dimensions [m]	
N-S	112
E-W	90
Area (m2)	10080
Perimeter (m)	404

Rainfall Data		
Year	2	100
Hour	3	12
Depth (mm)	25	94
Depth (m)	0.025	0.094

Section		Flow [m3/day]	Length [m]	Volume [L/day]
Base		0.009	112	1,008
Sides		0.01	398	3,980
Total				4,988
Factor of Safety	2.0			9,976

Infiltration [L/day]
20319

Summary	L/day	L/min
Groundwater	10,000	6.9
Infiltration	21,000	14.6
Total	31,000	21.5