PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

789 and 795 Brant Street, Burlington, Ontario

Client

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Project Number

BIGC-ENV-461B

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Executive Summary

B.I.G. Consulting Inc. (BIG) was retained by Mr. Kyle Camarro on behalf of Camarro Developments Inc. (Client), to complete a Phase Two Environmental Site Assessment (ESA) at the property located at 789 and 795 Brant Street, in Burlington, Ontario (the Site).

This Phase Two ESA was conducted in accordance with the Phase Two ESA standard defined by Ontario Regulation 153/04 (O.Reg.153/04), as amended.

The objective of the Phase Two ESA was to assess the areas of potential environmental concern (APECs) identified in the Phase One ESA completed by BIG in July 2021; and, to obtain soil and groundwater data to characterize the Site to support the filing of a Record of Site Condition (RSC) on the Ontario Ministry of the Environment, Conservation and Parks (MECP) Brownfields Environmental Site Registry (BESR).

The findings of the Phase Two ESA conducted at the Site are summarized as follows:

1. The general stratigraphy at the Site, as revealed in the borehole logs, consists of asphalt or topsoil underlain by fill materials comprised of silty clay/clayey silt or silty sand followed by native materials comprised of silty clay/clayey silt till. Interspersed between the layer of native silty clay/silty clay till, a layer of sandy silt/silty sand was encountered. Shale bedrock was encountered at the Site.
2. Grain size analysis was performed on five (5) soil samples submitted from the surficial and overburden materials. All samples were found to be medium/fine textured. As a result, medium/fine textured standards were applied as part of this Phase Two ESA.
3. The groundwater depths across the entire Site ranged between approximately 1.94 m and 2.60 m below ground surface (bgs) on June 28, 2021.
4. The soil analytical results indicated that all parameters were detected at concentrations below the applicable MECP (2011) Table 2 Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional land use and medium/fine textured soils.
5. The soil analytical results indicated that EC and SAR were detected at concentrations above the applicable MECP (2011a) Table 2 Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional land use and medium/fine textured soils. However, under the newly amended O.Reg.153/04 (O.Reg.407/19) Section 49.1 (1), if a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under the conditions of snow or ice or both (i.e., application of de-icing salts), its related parameters are not deemed to be in exceedance of the MECP Table 2 SCS. As de-icing salts are used at the Site for vehicular and pedestrian safety, EC and SAR are not considered contaminants of concern.
6. The groundwater analytical results indicated that all parameters were detected at concentrations below the applicable MECP (2011) Table 2 Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional land use and medium/fine textured soils.
7. The groundwater analytical results indicated that sodium was detected at concentrations above the applicable MECP (2011a) Table 2 Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional land use and medium/fine textured soils. However, under the newly amended O.Reg.153/04 (O.Reg.407/19) Section 49.1 (1), if a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under the conditions of snow or ice or both (i.e., application of de-icing salts), its related parameters are not deemed to be in exceedance of the MECP Table 2 SCS. As de-icing salts are used at the Site for vehicular and pedestrian safety, sodium is not considered a contaminant of concern.

Conclusions and Recommendations

No COCs were identified in soil or groundwater at the Site.

A Record of Site Condition (RSC) can be filed for the Site.

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1 Introduction

B.I.G. Consulting Inc. (BIG) was retained by Mr. Kyle Camarro on behalf of Camarro Developments Inc. (the Client) to conduct a Phase Two Environmental Site Assessment (ESA) on the property located at 789 and 795 Brant Street, Burlington, Ontario (the Site).

The objective of the investigation was to support the filing of a Record of Site Condition (RSC) in accordance with Ontario Regulation 153/04 (O.Reg.153/04), as amended. It is BIG's understanding that the Client is planning on redeveloping the Site for residential purposes in the future, which would require a land use change and a Record of Site Condition (RSC). Contact information for the Client is provided in Section 1.2.

The objective of the Phase Two ESA was to assess the areas of potential environmental concern (APECs) identified in the Phase One ESA completed by BIG in July 2021 and, to obtain soil and groundwater data to characterize the Site to support the preparation of the filing of an RSC on the Ontario Ministry of the Environment, Conservation and Parks (MECP) Brownfields Environmental Site Registry (BESR).

1.1 Site Description

The Site is located to the south of Prospect Street and east of Brant Street, in Burlington, Ontario, as shown on Figure 1. For simplicity of this report, Brant Street is considered running north to south. The Site is irregular in shape and measures approximately 2,250 m² in size. The Site is currently occupied by one (1) irregularly shaped two-storey slab-on-grade commercial building at 795 Brant Street, and one (1) irregularly shaped two-storey commercial building with one (1) level of basement and a parking garage at 789 Brant Street (the Site buildings). The Site buildings have a total footprint of approximately 420 m² and occupy approximately 19 % of the Site. The areas surrounding the Site buildings are covered with asphalt and landscaping. A Site layout plan is shown on Figure 2.

The Site is bound to the west by Brant Street followed by commercial properties, to the south by a commercial property, to the east by residential properties, and to the north by Prospect Street followed by commercial and residential properties. The surrounding properties are shown on Figure 3.

1.2 Legal Description and Property Ownership

Refer to the table below for the Site identification information.

Site Details	
Municipal Addresses	789 and 795 Brant Street, Burlington, Ontario
Current Owner	Camarro Developments Inc.
Owner Address	25 Main Street West, Unit 1702, Hamilton, Ontario L8P 1H1
Owner Contact Person	Mr. Kyle Camarro
Legal Description	**789 Brant Street:** Part of Lot 1, Plan 125, as in 662884 Except Part 1, 20R-9944; Together with 744916; Burlington **795 Brant Street:** Part of Lot 85, RCP Plan 99, as in 835346; Burlington
Property Identification Numbers (PINs)	**789 Brant Street:** 07076-0272 (LT) **795 Brant Street:** 07076-0017 (LT)
Property Size	2,250 m^2 (0.225 hectares)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone: 17 Easting: 596525.15 Northing: 4798603.12 (1m, NAD83, QGIS)

1.3 Current and Proposed Future Uses

At the time of the Phase Two ESA investigation, the Site was zoned for commercial land use. The Site is currently occupied by one (1) irregularly shaped two-storey slab-on-grade commercial building at 795 Brant Street, and one (1) irregularly shaped two-storey commercial building with one (1) level of basement and a parking garage at 789 Brant Street.

The future use of the Phase Two Property is residential land use. Section 168.3.1 of the *Environmental Protection Act* does not prohibit the proposed future use of the Property. Current surrounding land uses are included on Figure 3.

1.4 Applicable Site Condition Standards

Analytical results obtained for Site soil and groundwater samples were assessed against Site Condition Standards (SCS) as established under subsection 169.4(1) of the Environmental Protection Act, and presented in the MECP document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act',* ("SGWS" Standards), (MECP, 2011a). Tabulated background SCS (Table 1) applicable to environmentally sensitive sites and effects based generic SCS (Tables 2 to 9) applicable to non-environmentally sensitive sites are provided in the SGWS Standards. The effects based SCS (Tables 2 to 9) are protective of human health and the environment for different groundwater conditions (potable and non-potable), land use scenarios (residential, parkland, institutional, commercial, industrial, community and agricultural/other), soil texture (coarse or medium/fine) and restoration depth (full or stratified).

Tables 1 to 9 of SGW Standards are summarized as follows:

a) Table 1 - applicable to sites where background concentrations must be met (full depth), such as sensitive sites where site-specific criteria have not been derived;
b) Table 2 - applicable to sites with potable groundwater and full depth restoration;
c) Table 3 - applicable to sites with non-potable groundwater and full depth restoration;
d) Table 4 - applicable to sites with potable groundwater and stratified restoration;
e) Table 5 - applicable to sites with non-potable groundwater and stratified restoration;
f) Table 6 - applicable to sites with potable groundwater and shallow soils;
g) Table 7 - applicable to sites with non-potable groundwater and shallow soils;
h) Table 8 - applicable to sites with potable groundwater and that are within 30 m of a water body; and,
i) Table 9 - applicable to sites with non-potable groundwater and that are within 30 m of a water body.

Application of the generic or background SCS to a specific site is based on a consideration of site conditions related to soil pH (i.e., surface and subsurface soil), thickness and extent of overburden material, (i.e., shallow soil conditions), and proximity to an area of environmental sensitivity or of natural significance. For some chemical constituents, consideration is also given to soil textural classification with SCS having been derived for both coarse and medium/fine textured soil conditions.

For assessment purposes, BIG selected the MECP Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential Property Use and medium/fine textured soil. The selection of this category was based on the following factors:

a) More than two-thirds of the Site has an overburden thickness greater than 2 m.
b) The Site is not located within 30 m of a surface water body or an area of natural significance.
c) The soil at the Site has a pH value between 5 and 9 for surficial soils; and, between 5 and 11 for subsurface soils.

d) The property is not within an area of natural significance; does not include, nor is it adjacent to an area of natural significance, nor is it part of such an area; and it does not include land that is within 30 m of an area of natural significance, nor is it part of such an area.

e) The Site is considered as potable for the following reasons: the Site is fully serviced by the City of Burlington water distribution system, the property is not located within an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater and the property, the property or one of the properties in the Phase One study area does not have a well-used or intended for use as a source of water for human consumption or agriculture, and all properties located, in whole or in part, within 250 metres of the boundaries of the property, are supplied by a municipal drinking water system, as defined in the Safe Drinking Water Act, 2002. However, the Site is within a highly vulnerable aquifer as defined by Ministry of Environment.

f) The future land use of the Site is residential.

g) The predominant soil type on the Site was considered to be medium/fine textured as per the grain size analysis (refer to Appendix G).

h) There was no intention to carry out a stratified restoration at the Site.

2 Background Information

2.1 Physical Setting

The following physiographic, geological, and soil maps were reviewed as part of this Phase Two ESA:

a) Atlas of Canada – Toporama Topographic Map, 2012 (Toporama).
b) Ontario Base Map (OBM).
c) Ontario Ministry of Energy, Northern Development and Mines (MENDM) website, Bedrock Geology of Ontario, 2011 – MRD 126; and Paleozoic Geology of Southern Ontario, 2007 – MRD 219 (KML format).
d) Ontario MENDM website, Surficial Geology of Southern Ontario, 2010. (KML format).
e) Ontario MENDM website, Physiography of Southern Ontario 2007.

The following information was obtained from these maps:

a) The Site is at an elevation of approximately 92 metres above sea level (m asl), generally at the same elevation as properties to the north, east, and west of the Site. The surrounding properties to the south are generally at lower elevation than the Site. The Site is relatively flat.
b) No water bodies are located on the Site. The closest surface water is Rambo Creek, located approximately 220 m south of the Site. Lake Ontario is situated approximately 1.6 km southeast of the Site. The inferred groundwater flow direction is towards the south/southeast.
c) The bedrock in the general area consists of shale, limestone, dolostone and siltstone and is part of the Queenston Formation.
d) The surficial geology of the Site is described as coarse-textured glaciolacustrine deposits, consisting of sand, gravel, minor silt, and clay.
e) The physiography of the Site is within Iroquois Plain and characterized as sand plains.

2.2 Past Environmental Investigations

Previous environmental investigations have been conducted at the Site, including a Phase One Environmental Site Assessment (ESA).

The following environmental investigations were reviewed in support of this Phase Two ESA report:

1. BIG (2021) Draft - Phase One Environmental Site Assessment, 789 and 795 Brant Street, Burlington, Ontario. B.I.G Consulting Inc. July 12, 2021.

A brief summary of the investigations is included below:

BIG (2021) Draft Phase One Environmental Site Assessment	
Program	Identify existing or former potential sources of environmental concern.
Areas of Potential Environmental Concern Identified	• Usage of de-icing salts at the Site. • Former auto service located approximately 20 m north. • Former underground storage tank (UST) located approximately 20 m north. • Former auto service located approximately 50 m northwest. • Former dry cleaner located approximately 50 m northwest.

3 Scope of the Investigation

3.1 Overview of Site Investigation

The objective of the Phase Two ESA was to assess the APECs identified in BIG's Phase One ESA; and, to obtain soil and groundwater data to characterize the Site to support the filing of an RSC on the MECP's BESR.

3.1.1 Scope of Work

The scope of work for the Phase Two ESA was as follows:

a) Request public utility locating companies (e.g., cable, telephone, gas, hydro, water, sewer and storm water) to mark any underground utilities present at the Site;
b) Advance a total of five (5) boreholes (BH1 to BH5) up to a maximum depth of 24.8 m bgs;
c) Instrument eight (5) boreholes as monitoring wells (MW1 to MW5);
d) Collect representative soil samples for laboratory chemical analysis of polycyclic aromatic hydrocarbon (PAHs), and metals and inorganics.
e) Develop the newly installed groundwater monitoring wells;
f) Collect groundwater levels from the newly installed monitoring wells;
g) Collect groundwater samples from the newly installed monitoring wells for laboratory chemical analysis of petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene, xylene (BTEX), volatile organic compounds (VOCs), PAHs, metals and inorganics;
h) Complete an elevation survey of all newly installed monitoring wells to determine the groundwater flow direction in the overburden aquifer beneath the Site;
i) Analyze the data and prepare a report of the findings.

3.2 Media Investigated

The focus of the Phase Two ESA was on the environmental conditions of the surficial topsoil, overburden materials, and groundwater beneath the Site. As there was no surface water body on the Site, no sediment sampling was required.

A copy of the Site Sampling and Analysis Plan (SSAP) prepared for the Site is provided in Appendix A.

3.3 Phase One Conceptual Site Model

This section presents the Phase One Conceptual Site Model (P1CSM) providing a narrative, graphical and tabulated description integrating information related to the Site geologic and hydrogeologic conditions, areas of potential environmental concern/potential contaminating activities, and the presence and distribution of potential contaminants of concern. These components are discussed in the following sections.

The Site is located to the south of Prospect Street and east of Brant Street, in Burlington, Ontario, as shown on Figure 1. For simplicity of this report, Brant Street is considered running north to south. The Site is irregular in shape and measures approximately 2,250 m² in size. The Site is currently occupied by one (1) irregularly shaped two-storey slab-on-grade commercial building at 795 Brant Street, and one (1) irregularly shaped two-storey commercial building with one (1) level of basement and a parking garage at 789 Brant Street (the Site buildings). The Site buildings have a total footprint of approximately 420 m² and occupy approximately 19 % of the Site. The areas surrounding the Site buildings are covered with asphalt and landscaping.

The legal description of the Site as obtained from the chain of title is "Part of Lot 85, RCP Plan 99, as in 835346; Burlington and Part of Lot 1, Plan 125, as in 662884 Except Part 1, 20R-9944; Together with 744916; Burlington".

The Property Identification Number (PIN) for 795 Brant Street is 07076-0017 (LT). The PIN for 789 Brant Street is 07076-0272 (LT). A legal survey plan is included in Appendix E.

The approximate Universal Transverse Mercator (UTM) coordinates for the Site centroid was NAD83 17-4798603.12 m N, 596525.15 m E. The UTM coordinates are based on measurements obtained from QGIS. The accuracy of the centroid is estimated to range from 1 m.

Potentially Contaminating Activities

The Phase One ESA conducted by BIG in 2021 inferred that the groundwater flow direction was towards the south/southeast, however the Phase Two ESA determined that the groundwater flow direction at the Site was towards the west. As such the PCA table has been revised accordingly with off-Site PCAs to the east considered to be upgradient to the Site:

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
1.	789 and 795 Brant Street	De-icing salts usage (PCA"Other" – Usage of De-icing Salts)	On-Site	Yes	On-Site
2.	809 Brant Street	Former auto service (PCA#10 – Commercial Autobody Shops)	Off-Site (20 m north)	No	Inferred trans-gradient
3.		Former USTs (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)			
4.	814 Brant Street	Former auto service centre (PCA#10 – Commercial Autobody Shops)	Off-Site (50 m northwest)	No	Inferred trans-gradient
5.		Former dry cleaner (PCA#37 –Operation of Dry Cleaning Equipment (where chemicals are used))			
6.	No municipal address	Transformer (PCA#55 – Transformer Manufacturing, Processing and Use)	Northwest adjacent	No	PCB is immobile
7.	796 Brant Street	Former auto service (PCA#10 – Commercial Autobody Shops)	Off-Site (30 m west)	No	Located downgradient
8.		Former UST and gas station (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)			
9.	1448 Graham's Lane	Former USTs (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)	Off-Site (85 m west)	No	Located downgradient

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
10.	1451 and 1453 Graham's Lane	Former UST (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)	Off-Site (85 m west)	No	Located downgradient
11.		Former machine shop (#33 – Metal Treatment, Coating, Plating and Finishing)			
12.		Former machine shop (PCA#34 – Metal Fabrication)			
13.	760 Brant Street	Former dry cleaner (PCA#37 – Operation of Dry Cleaning Equipment (where chemicals are used))	Off-Site (100 m south)	No	Inferred trans-gradient
14.		Former vehicle units and motors manufacturing (PCA#57 – Vehicles and Associated Parts Manufacturing)			
15.	1440 Graham's Lane	Former chemical production (PCA#8 – Chemical Manufacturing, Recycling and Bulk Storage)	Off-Site (125 m west)	No	Located downgradient
16.		Former electronic parts and computer manufacturer (PCA#19 – Electronic and Computer Equipment Manufacturing)			
17.		Former commercial printing (PCA#31 – Ink Manufacturing, Processing, and Bulk Storage)			
18.		Former machinery manufacturer (PCA#33 – Metal Treatment, Coating, Plating and Finishing)			
19.		Former machinery manufacturer (PCA#34 - Metal Fabrication)			
20.	834 Brant Street	Former service centre (PCA#10 – Commercial Autobody Shops)	Off-Site (130 m northwest)	No	Inferred trans-gradient
21.		Former service centre (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)			
22.	1431 Graham's Lane	Hydro Station (PCA#55 – Transformer Manufacturing, Processing and Use)	Off-Site (135 m northwest)	No	Inferred trans-gradient
23.	2038 Ghent Avenue	Former UST (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)	Off-Site (140 m southeast)	No	Inferred trans-gradient

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
24.	1439 Graham's Lane	Automotive shop (PCA#10 – Commercial Autobody Shops)	Off-Site (140 m northwest)	No	Inferred trans-gradient
25.		Former machine shop and tool and die shop (PCA#33 – Metal Treatment, Coating, Plating and Finishing)			
26.		Former machine shop and tool and die shop (PCA#34 – Metal Fabrication)			
27.	850 Brant Street	Autobody shop (PCA#10 – Commercial Autobody Shops)	Off-site (150 m northwest)	No	Inferred trans-gradient
28.	1425 Graham's Lane	Auto collision and repair shop (PCA#10 – Commercial Autobody Shops)	Off-Site (180 m west)	No	Located downgradient
29.	1416 Graham's Lane	Former printing facility (PCA#31 – Ink Manufacturing, Processing and Bulk Storage)	Off-Site (225 m west)	No	Located downgradient
30.		Heating equipment and commercial refrigeration equipment manufacturing (PCA#33 – Metal Treatment, Coating, Plating and Finishing)			
31.		Heating equipment and commercial refrigeration equipment manufacturing (PCA#34 – Metal Fabrication)			
32.		Former milk cap covers and seals manufacturer (PCA#43 – Plastics (including Fibreglass) Manufacturing and Processing)			

(1) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a Phase One study area.

The identification of the PCAs both on-Site and off-Site within the Phase One study area are shown on Figure 3. Based on the rationale provided, it is the opinion of the Qualified Person (QP) that one (1) PCA is considered an APEC at the Site. Further discussion is provided below.

Areas of Potential Environmental Concern

Based on the evaluation of PCAs located on- and off-Site, one (1) APEC was identified, as presented below:

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	PCA Details	Location of PCA (On-Site or Off-Site)	Contaminants of Concern	Media Potentially Impacted (Groundwater, soil and/or Sediment)
APEC 1: De-icing salts usage	Exterior of Site buildings	"Other" – Usage of De-icing Salts	De-icing salts have been applied to exterior of the Site for vehicular and pedestrian safety	On-Site	Electrical conductivity, SAR, sodium, chloride	Soil and Groundwater

(1) Areas of potential environmental concern means the area on, in or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental site assessment including through,
   a. Identification of past or present uses on, in or under the phase one property and,
   b. Identification of potentially contaminating activities.

(2) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area.
SAR = sodium adsorption ratio.

The physiography of the Site is within Iroquois Plain and characterized as sand plains. The surficial geology of the Site is described as coarse-textured glaciolacustrine deposits, consisting of sand, gravel, minor silt, and clay. The bedrock in the general area consists of shale, limestone, dolostone and siltstone and is part of the Queenston Formation.

Based on the review of the OBM and Toporama map, the Site is at an elevation of approximately 92 metres above sea level (m asl), generally at the same elevation as properties to the north, east, and west of the Site. The surrounding properties to the south are generally at lower elevation than the Site. The Site is relatively flat.

No water bodies are located on the Site. The closest surface water is Rambo Creek, located approximately 220 m south of the Site. Lake Ontario is situated approximately 1.6 km southeast of the Site. The inferred groundwater flow direction is towards the south/southeast.

Based on the review of available resources from the City of Burlington and the Ministry of Natural Resources and Forestry (MNRF), no areas of natural significance were identified at the Site or within the Phase One study area.

The Site utilities and services were identified at the Site based on the relevant utility infrastructure observed during the Site reconnaissance and are summarized in the table below. It is noted that the precise underground location of the utilities cannot be determined without professional locate services.

Utility	Source	Location	Site Entry
Sanitary Sewer	Municipality – City of Burlington	North and west	A manhole was observed on Prospect Street. A manhole was observed on the grass area west of the Site building at 789 Brant Street. Sanitary sewer lines are anticipated to enter the Site from the northern and western Site boundaries.

Utility	Source	Location	Site Entry
Storm Sewer	Municipality – City of Burlington	North and west	Catch basins were observed along Prospect Street and Brant Street. Storm sewer lines are anticipated to enter the Site from the northern and western Site boundaries.
Natural Gas	Enbridge Gas	North and west	Given that the Site is located in a mixed residential and commercial area, the natural gas lines are anticipated to run along Prospect Street and Brant Street.
Electricity	Burlington Hydro	Northwest and west	A transformer is located to the northwest of the Site at 795 Brant Street. Overhead hydro lines were observed along Prospect Street; hydro lines along Brant Street are most likely buried underground. Hydro is anticipated to enter 795 Brant Street from the northwest corner and enter 789 Brant Street from the western boundary.

3.4 Deviations from Sampling and Analysis Plan

The field investigative and sampling program was carried out following the requirements of the SSAP, shown in Appendix A. No deviations from the SSAP were reported which affected the sampling and data quality objectives for the Site.

3.5 Impediments

The entire Site was accessible at the time of the investigation, and no physical impediments were encountered during the field investigation.

4 Investigation Method

4.1 General

The Site investigative activities consisted of the drilling of five (5) boreholes to facilitate the collection of soil samples for geologic characterization and chemical analysis; and the installation of monitoring wells for hydrogeologic property characterization and the collection of groundwater samples for chemical analysis.

Boreholes were advanced in the surficial fill and overburden soils by a licensed drilling company under the full-time supervision of BIG staff. The drilling equipment used to advance the boreholes is described below. No petroleum-based greases or solvents were used during drilling activities. Monitoring wells were installed in the boreholes by a MECP licensed well contractor in accordance with Ontario Regulation 903/90, as amended (O.Reg.903) using manufactured well components (i.e., riser pipes and screens) and materials (i.e., sand pack and grout) from documented sources.

4.2 Borehole Drilling

Prior to the commencement of drilling activities, the locations of underground utilities including cable, telephone, natural gas, electrical lines, as well as water, sewer, storm water and sanitary lateral conduits were marked out by public locating companies. In addition, a private utility locating service was also retained to clear the individual borehole locations.

The fieldwork for the soil investigative portion of the Phase Two ESA was carried out between June 10 and June 19, 2021.

The boreholes were advanced by Canadian Soil Drilling under full-time supervision of BIG staff using a truck-mount power probe to a maximum depth of 24.8 m bgs to sufficiently assess the APECs identified in the Phase One ESA. Rock coring was completed at all borehole locations to a maximum depth of 24.8 m bgs. The approximate locations of the boreholes and monitoring wells are shown on Figure 4.

BIG continuously monitored the drilling activities to record the physical characteristics of the soil, depth of soil sample collection, and total depth of boreholes. Field observations are summarized on the borehole logs provided in Appendix C. Representative soil samples were recovered at regular intervals using a stainless-steel split spoon sampler in all boreholes.

4.3 Soil Sampling

Soil samples for geologic characterization and chemical analysis were collected on a discrete basis in the overburden materials using 5 cm diameter, 60 cm long, split spoon samplers advanced into the subsurface using a truck mounted power probe. The soil cores were extruded from the samplers upon retrieval by drilling personnel. Geologic details of the recovered cores were logged by BIG field staff and samples were collected from selected cores for chemical analysis. Field observations are summarized on the borehole logs prepared from the field logs and provided in Appendix C.

Measures were taken in the field and during transport to preserve sample integrity prior to chemical analysis. Recommended volumes of soil samples selected for chemical analysis were collected from the recovered cores into pre-cleaned, laboratory-supplied glass sample jars/vials identified for the specified analytical test group. All soil samples were placed in clean coolers containing ice prior to and during transportation to the subcontract laboratory, AGAT Laboratories (AGAT) of Mississauga, Ontario. The samples were transported/submitted within the acceptable holding times to AGAT following Chain of Custody protocols for chemical analysis.

Decontamination and other protocols were followed during sample collection and handling to minimize

the potential for sample cross-contamination. New disposable nitrile gloves were used for the handling and sampling of each retrieved soil core. Drill cuttings were placed in labeled, sealed drums upon completion of sampling. Five (5) of the boreholes that were advanced were instrumented with monitoring wells (MW1 to MW5).

Soil samples submitted for specific chemical analysis were selected on the basis of visual inspection of the recovered cores, sample location, and depth interval.

Geologic details of the soil cores recovered from the boreholes advanced at the Site are provided in boreholes logs presented in Appendix C.

Two (2) duplicate soil samples were collected for QA/QC purposes as summarized below.

Borehole	Duplicate Sample I.D.	Analytical Test Group
BH1-SS3	DUP01030	Metals, As, Sb, Se, B-HWS, Cr(VI), Hg CN-, EC-SAR
BH5-SS2	DUP05020	PAHs

4.4 Field Screening Measurements

A portion of each soil core was placed in a sealed "Ziploc®" plastic bag and allowed to reach ambient temperature prior to field screening using a MiniRae 3000 Photo Ionization Detection (PID) instrument, calibrated with isobutulene gas. The measurements were made by inserting the instrument's probe into the plastic bag while manipulating the sample to ensure volatilization of the soil gases. These readings provide a real-time indication of the relative concentration of combustible vapours encountered in the subsurface during drilling and are used to aid in the assessment of the vertical and horizontal extent of contamination and the selection of soil samples for analysis.

The field screening measurements, in parts per million (ppm) isobutylene equivalents, are presented on the borehole logs in Appendix C.

Each sample was additionally examined for visual, textural, and olfactory classification at the time of sampling.

4.5 Groundwater: Monitoring Well Installation

Five (5) boreholes were instrumented with groundwater monitoring wells at the Site (MW1 to MW5). The monitoring wells were installed in general accordance with the Ontario Water Resources Act - R.R.O. 1990, Regulation 903/90 - amended to O.Reg.128/03 and were installed by a licensed well contractor.

All monitoring wells consisted of a 3 m length, 50 mm diameter PVC screen, and an appropriate length of PVC riser pipe. All pipe connections were factory machined threaded flush couplings. The annular space around the wells was backfilled with sand to an average height of 0.3 m above the top of the screen. A bentonite seal was added from the top of the sand pack to approximately 0.3 m below ground surface.

When the monitoring wells are no longer required, they must be decommissioned in accordance with the procedure outlined in the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - amended to O. Reg. 128/03. Monitoring well completion details are summarized in Table 3.

Measures taken to minimize the potential for cross contamination or the introduction of contaminants during well construction included:

a) The use of well pipe components (e.g., riser pipe and well screens) with factory machine threaded flush coupling joints;
b) Construction of wells without the use of glues or adhesives;
c) Removing the protective plastic wraps from well components at the time of borehole insertion to

prevent contact with the ground and other surfaces;

d) Cleaning of augers between sampling locations; and,
e) The use of hollow stem augers to prevent loose and potentially contaminated material in overlying layers from sloughing into the boreholes and coming into contact with groundwater.

4.6 Monitoring Well Development

Upon completion of monitoring well installation, the new monitoring wells were developed to remove fine sediment particles from the sand pack and enhance hydraulic communication with the surrounding formation waters. The monitoring wells were developed on June 28, 2021 using dedicated Waterra® tubing and a monsoon pump to disturb the water column and recover groundwater containing dislodged sediment particles.

4.7 Groundwater Monitoring

Groundwater monitoring activities, which consisted of measuring the depths to groundwater in each monitoring well, were conducted on newly installed monitoring wells so that groundwater flow and direction below the Site could be assessed and groundwater samples could be collected. These groundwater monitoring activities were conducted on June 28, 2021. Water levels were measured with respect to the top of casing by means of an electronic water level meter. The water level measurements were recorded on water level log sheets or in a bound field notebook. The water level meter probe was decontaminated between monitoring well locations.

4.8 Monitoring Well Purging

Monitoring wells were purged prior to groundwater sample collection. Approximately three (3) wetted well volumes of water, or until dry, were purged from each well to remove standing water and draw in fresh formation water. Water levels and wetted well volumes were determined by means of an electronic water level meter.

Well purging was monitored by taking field measurements of turbidity, redox, pH, specific conductance and temperature and water level for every standing well (i.e., wetted casing) volume removed. Well purging continued until the purged water had chemically stabilized as indicated by field parameter measurements, and the water was of sufficient clarity as indicated by turbidity measurements. The groundwater was considered to be chemically stable when the pH measurements of three (3) successive purge well volumes agreed to within ± 1 pH units, the specific conductance within ± 10%, and turbidity ± 10% of the average value of the three readings with the temperature within ± 3%. Field parameters including pH, conductivity and temperature were monitored during monitoring well purging using a Hanna HI 9829 multiparameter water quality meter. All development water was collected and stored on-Site in labeled, sealed containers.

Equipment used during groundwater monitoring were thoroughly cleaned and decontaminated between wells. Well purging details were documented on a log sheet or in a bound hard cover notebook.

4.9 Field Measurements of Water Quality Parameters

Field parameters including pH, conductivity, and temperature were monitored during well development using a Hanna HI 9829 multiparameter water quality meter.

4.10 Groundwater Sampling

Upon completion of purging, the newly installed monitoring wells MW1 to MW5 were purged and sampled on June 28, 2021. Recommended groundwater sample volumes were collected into laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. The samples were

placed in an insulated cooler pre-chilled with ice immediately upon collection. The groundwater samples were transported to AGAT under Chain of Custody protocols, within 24 hours of sample collection or approved holding times.

4.11 Sediment Sampling

As no water body was present at the Site, sediment sampling was not part of the Phase Two ESA.

4.12 Analytical Testing

Analytical testing was performed by AGAT, which is an accredited laboratory under the Standards Council of Canada/Canadian Association of Environmental Analytical Laboratories (Accredited Laboratory No. A3200) in accordance with ISO/IEC 17025:2017 - "General Requirements for the Competence of Testing and Calibration Laboratories".

4.12.1 Soil Sampling

Representative soil samples from each borehole were selected for laboratory analysis based on field screening results, sample location, and depth interval. The requested laboratory analysis was based on the identified contaminants of concern. The representative soil samples selected for laboratory analysis, the rationale for each sample and the requested analyses are summarized below.

Table 2: Summary of Soil Samples Submitted for Chemical Analyses

Soil Sample ID	Rationale	Requested Analyses	Consultant
BH1-SS3	APEC 1 and Site characterization	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR	BIG
BH2-SS2	APEC 1 and Site characterization	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR	BIG
BH3-SS2	APEC 1 and Site characterization	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR	BIG
BH4-SS1	APEC 1 characterization	EC and SAR	BIG
BH5-SS2	APEC 1 and Site characterization	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR	BIG

4.12.2 Groundwater Sampling

Representative groundwater samples were submitted for specific chemical analysis based on the identified contaminants of concern. The representative groundwater samples selected for lab analysis, the rationale for each sample, and the required analyses are summarized below.

Table 3: Summary of Groundwater Samples Submitted for Chemical Analyses

Monitoring Well ID	Rationale	Requested Analyses	Consultant
MW1	Site characterization	PHCs, BTEX, VOCs	BIG
MW2	APEC 1 and Site characterization	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG
MW3	Site characterization	PHCs, BTEX, VOCs	BIG
MW4	APEC 1 and Site characterization	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG
MW5	Site characterization	PHCs, BTEX, VOCs	BIG

4.13 Elevation Survey

An elevation survey was conducted to obtain vertical control of the newly installed borehole and monitoring well locations. The ground surface elevations of each newly installed monitoring well location was surveyed relative to the geodetic benchmark. The geodetic benchmark is located on a culvert over Rambo Creek on Prospect Street, 45 m southwest of Person Street and 560 m northeast of Brant Street. The plaque is located on the north side of Prospect Street and on the west Side of Rambo Creek, set on the southwest face of a concrete column, 0.38 m above grade and had an elevation of 93.477 m asl. The geodetic benchmark station number is BM1045. A summary of groundwater levels and elevations is provided below.

Table 4: Summary of Groundwater Levels and Elevations

Monitoring Well ID	Ground Surface Elevation	Groundwater Level (m bgs)	Groundwater Elevation (m asl)	Groundwater Monitoring Date
BH/MW1	92.24	2.09	90.15	June 28, 2021
BH/MW2	92.34	2.14	90.20	June 28, 2021
BH/MW3	92.55	2.60	89.95	June 28, 2021
BH/MW4	92.12	1.94	90.18	June 28, 2021
BH/MW5	92.17	2.03	90.14	June 28, 2021

The elevation survey was completed using BIG's own Sokkia B40. The survey equipment was calibrated by BIG personnel prior to use.

4.14 Quality Assurance and Quality Control Measures

Quality Assurance/Quality Control (QA/QC) measures, as set out in the Sampling and Analysis Plan, were implemented during sample collection, storage, and transport to provide accurate data representative of conditions in the surficial fill and upper overburden soils and the water table aquifer. The QA/QC measures included decontamination procedures to minimize the potential for sample cross contamination, the execution of standard operating procedures to collect representative and unbiased samples, the collection of quality control samples to evaluate sample precision and accuracy, and the implementation of measures to preserve sample integrity.

Decontamination protocols were followed during sample collection and handling to minimize the potential for cross-contamination. During the collection of soil samples, split-spoon samplers were scraped and decontaminated between sampling intervals by washing with a potable water/phosphate-free detergent solution followed by a rinse with potable water. New disposable nitrile gloves were used for the handling and collection of samples from each soil core and for sample collection from each borehole.

Soil samples selected for chemical analyses were collected from the retrieved soil cores and placed directly into pre-cleaned, laboratory-supplied glass jars or vials. Sample volumes were consistent with analytical test group requirements as specified by the receiving laboratory.

Groundwater samples were collected into pre-cleaned laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. Recommended analytical test group specific sample volumes were collected as specified by the contractual laboratory. Sample vials for analysis of PHC F1, PHC F2, BTEX, and VOCs were inspected for the presence of gas bubbles and the presence of head space, where volatiles may partition into.

Measures were followed to preserve sample integrity between collection and receipt by the contractual laboratory. All samples, both soil and groundwater, immediately upon collection were placed in insulated coolers pre-chilled with ice for storage and transport to the contractual laboratory. Samples were received by the contractual laboratory within specific analytical test group holding time requirements.

Documentation procedures were followed to confirm sample identification and tracked sample movement. Each sample was assigned a unique identification ID number, which was recorded along with the date, time of sampling, and requested analyses on labels affixed to the sampling containers, and in a bound field notebook. Chain of Custody protocols were followed to track sample handling and movement until receipt by the contractual laboratory.

Field QA/QC samples were collected during the soil and groundwater sampling. Duplicate samples were collected to evaluate sampling precision and trip blanks were included to evaluate the potential for sample cross-contamination during handling and transport.

Two (2) duplicate soil samples were collected for QA/QC purposes as summarized below.

Borehole	Duplicate Sample I.D.	Analytical Test Group
BH1-SS3	DUP01030	Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR
BH5-SS2	DUP05020	PAHs

One (1) duplicate groundwater sample was collected for QA/QC purposes as summarized below.

Monitoring Well	Duplicate Sample I.D.	Analytical Test Group
MW2	DUP20	PHCs, BTEX, VOCs

There were no significant deviations from the SSAP.

5 Review and Evaluation

5.1 Geology

The soil investigation conducted at the Site consisted of the advancement of five (5) boreholes into the surficial topsoil and the underlying native materials up to a maximum depth of 24.8 m bgs. Borehole logs describing geologic details of the soil cores recovered during the Site drilling activities are presented in Appendix C. Boundaries of soil indicated on the log sheets are intended to reflect transition zones for the purpose of environmental assessment and should not be interpreted as exact planes of geological change.

The general stratigraphy at the Site, as revealed in the borehole logs, consists of asphalt or topsoil underlain by reworked native comprised of silty clay/clayey silt or silty sand followed by native materials comprised of silty clay/clayey silt till. Interspersed between the layer of native silty clay/silty clay till, a layer of sandy silt/silty sand was encountered. Shale bedrock was encountered at the Site.

A brief description of the soil stratigraphy at the Site, in order of depth, is summarized in the following sections. The interpreted Site geology is shown on the enclosed cross sections (Figures 7 and 8).

5.1.1 Surficial Material

A 120 mm layer of topsoil was encountered at BH1. An asphalt layer was encountered at BH2 to BH4. The asphalt ranged in thickness from 50 mm to 80 mm and was underlain by granular material ranging in thickness from 120 mm to 150 mm.

5.1.2 Reworked native

Reworked native comprised of silty clay/clayey silt or silty sand was encountered at all boreholes. The reworked native material ranged in thickness from 0.1 to 2.3 m bgs.

5.1.3 Native Material

Silty clay/Clayey silt till

A layer of silty clay/clayey silt till was observed in all boreholes at the Site beneath the reworked native. The silty clay/clayey silt till layer ranged in thickness from 1.5 to 6.1 m bgs.

Silty sand/Sandy silt till

A layer of silty sand/sandy silt till was observed interspersed between the clayey silt/silty clay layer at BH/MW3 to BH/MW5, and below the clayey silt/silty clay layer at BH/MW2. The layer ranged in thickness from 2.3 to 4.6 m bgs.

5.1.4 Bedrock

Bedrock was encountered at the Site at all borehole locations. The bedrock was comprised of highly weathered shale and extended to depths varying between 19.8 to 24.8 m bgs, which was the maximum depth investigated at the Site.

Refer to the geological cross sections in Figures 7 and 8 for an overview of the Site stratigraphy.

5.2 Groundwater Elevations and Flow Direction

The monitoring well network advanced at the Site consists of five (5) monitoring wells advanced by BIG screened within the bedrock. The 3 m long screens were installed within the shale bedrock to intercept the overburden groundwater aquifer.

Based on the topography and the distance of the Site to the Rambo Creek and Lake Ontario, the inferred groundwater flow direction was considered to be to the south/southeast in the Phase One ESA. The

groundwater data collected from across the Site on June 28, 2021 indicated that the groundwater flow direction is to the west.

5.2.1 Groundwater: Hydraulic Gradients

The horizontal hydraulic gradient, between each monitoring well pair, is calculated using the following equation:

$$i = Ah/As$$

Where,

i = horizontal hydraulic gradient;

Ah (m) = groundwater elevation difference; and,

As (m) = separation distance.

The horizontal hydraulic gradient in groundwater, based on groundwater measurements collected on June 28, 2021 was 0.001 m/m between BH/MW2 and BH/MW1.

It is noted that vertical hydraulic gradients were not evaluated for this Site as a second water bearing unit was not identified at the depths investigated at the Site.

5.2.2 Groundwater: Hydraulic Conductivity

Hydraulic conductivity testing was completed in the hydrogeological investigation conducted by BIG. Single Well Response Test (SWRT) analysis was conducted at selected monitoring wells (BH/MW1 to BH/MW5). The hydraulic conductivity values for each of the tested wells were calculated from the SWRT data using Aqtesolv Software and the Hvorlsev solution for unconfined conditions. The hydraulic conductivity (K) ranged from $5.15x10^{-8}$ to $3.87x10^{-5}$ m/s, with a geometric mean of $2.03x10^{-6}$ m/s.

5.3 Soil Texture

The native materials encountered, are comprised of silty clay/clayey silt till and silty sand/sandy silt till. Grain size analysis was performed on five (5) soil samples submitted from the surficial and overburden material. All soil samples were found to be medium/fine textured. As a result, medium/fine textured standards were applied as part of this Phase Two ESA. The grain size distribution curves are provided in Appendix G.

5.4 Soil Field Screening

All soil samples were submitted for chemical analyses based on field observations, location, and depth.

5.5 Soil Quality

In accordance with the scope of work, chemical analyses were performed on selected soil samples recovered from the boreholes. The selection of representative “worst case” soil samples was based on field screening, visual and/or olfactory evidence of impacts, and the presence of potential water bearing zones. Analytical results summary tables are provided in Appendix B and copies of the laboratory Certificates of Analysis for the analyzed soil samples are provided in Appendix F.

5.5.1 PAHs

The soil samples submitted for PAHs analysis indicated that all parameters were detected below the applicable MECP Table 2 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.1 for a summary of the soil results analyzed for PAHs.

5.5.2 Metals

The soil samples submitted for metals, As, Sb, Se, B-HWS, Cr(VI), Hg, and CN- analysis indicated that all parameters were detected below the applicable MECP Table 2 SCS; and all laboratory RLDs were below the applicable SCS.

Refer to Table B.2 for a summary of the soil results analyzed for metals.

5.5.3 EC and SAR

EC was detected in soil in exceedance of the applicable MECP Table 2 SCS at three (3) borehole locations and SAR was detected in soil in exceedance of the applicable MECP Table 2 SCS at four (4) borehole locations. However, under the newly amended O.Reg.153/04 (O.Reg.407/19) Section 49.1 (1), if a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under the conditions of snow or ice or both (i.e., application of de-icing salts), its related parameters are not deemed to be in exceedance of the MECP Table 2 SCS. As de-icing salts are used at the Site for vehicular and pedestrian safety EC and SAR are not considered contaminants of concern.

Refer to Table B.2 for a summary of the soil results analyzed for EC and SAR.

5.5.4 Chemical Transformation and Soil Contaminant Sources

As no COCs were detected in soil at the Site, chemical transformations do not need to be considered further.

5.5.5 Evidence of Non-Aqueous Phase Liquid

Inspection of the soil cores retrieved from the boreholes did not indicate the presence of non-aqueous phase liquid (NAPL), staining or sheen.

5.6 Groundwater Quality

Representative groundwater samples were collected from the newly installed monitoring wells to assess groundwater quality at the Site. Evidence of free product (i.e., visible film or sheen), and odour was not observed during well purging (noted in Section 5.6.8).

Analytical results summary tables are provided in Appendix B and copies of the laboratory Certificates of Analysis for the analyzed groundwater samples are provided in Appendix F.

5.6.1 PHCs

Groundwater samples submitted for PHCs analysis indicated that all parameters were detected below the applicable MECP Table 2 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.3 for a summary of the groundwater results analyzed for PHCs.

5.6.2 BTEX

Groundwater samples submitted for BTEX analysis indicated that all parameters were detected below the applicable MECP Table 2 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.4 for a summary of the groundwater results analyzed for BTEX.

5.6.3 VOCs

Groundwater samples submitted for VOCs analysis indicated that all parameters were detected below the applicable MECP Table 2 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.4 for a summary of the groundwater results analyzed for VOCs.

5.6.4 PAHs

Groundwater samples submitted for PAHs analysis indicated that all parameters were detected below the applicable MECP Table 2 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.5 for a summary of the groundwater results analyzed for PAHs.

5.6.5 Metals

Groundwater samples submitted for metals, As, Sb, Se, Cr(VI), Hg and CN- analysis indicated that all parameters were detected below the applicable MECP Table 2 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.6 for a summary of the groundwater results analyzed for metals.

5.6.6 Sodium and Chloride

Sodium was detected in groundwater in exceedance of the applicable MECP Table 2 SCS at one (1) monitoring well location. However, under the newly amended O.Reg.153/04 (O.Reg.407/19) Section 49.1 (1), if a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under the conditions of snow or ice or both (i.e., application of de-icing salts), its related parameters are not deemed to be in exceedance of the MECP Table 2 SCS. As de-icing salts are used at the Site for vehicular and pedestrian safety sodium is not considered a contaminant of concern. All other parameters were detected below the applicable MECP Table 2 SCS.

Refer to Table B.6 for a summary of the groundwater results analyzed for sodium and chloride.

5.6.7 Chemical Transformation and Contaminant Sources

As no COCs were detected in groundwater at the Site, chemical transformations do not need to be considered further.

5.6.8 Evidence of Non-Aqueous Phase Liquid

Inspection of the purged groundwater retrieved from the monitoring wells did not indicate the presence of NAPL, staining, sheen, or odour in groundwater.

5.7 Sediment Quality

As no surface water body was located on-Site, the Supplemental Phase Two ESA did not include sediment sampling.

5.8 Quality Assurance and Quality Control Measures

QA/QC measures were taken during the field activities to meet the objectives of the sampling and QA plan to collect unbiased and representative samples to characterize existing conditions in the fill/upper overburden materials and water table aquifer unit at the Site. QA/QC measures included:

a) The collection of soil and groundwater samples following standard operating procedures;
b) The implementation of decontamination procedures to minimize the potential for sample cross contamination;
c) The collection of recommended analytical test group specific volumes into pre-cleaned laboratory supplied containers provided with necessary preservatives as required;
d) Sample preservation in insulated coolers pre-chilled with ice and meeting holding time requirements;
e) Sample documentation including Chain of Custody protocols; and
f) The collection of QC samples.

Review of field activity documentation indicated that recommended sample volumes were collected from soil and groundwater for each analytical test group into appropriate containers and preserved with proper chemical reagents in accordance with the protocols set out in the "Protocol for Analytical Methods used in the Assessment of Properties under Part XV.1 of the **Environmental Protection Act'**, dated March 9, 2004, amended as of July 1, 2011 (MECP 2011b). Samples were preserved at the required temperatures in pre-chilled insulated coolers and met applicable holding time requirements, when relinquished to the receiving laboratory.

Field QA/QC samples were collected during the soil and groundwater sampling. Duplicate samples were collected to evaluate sampling precision.

Two (2) duplicate soil samples were collected for QA/QC purposes as summarized below.

Borehole	Duplicate Sample I.D.	Analytical Test Group
BH1-SS3	DUP01030	Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR
BH5-SS2	DUP05020	PAHs

One (1) duplicate groundwater sample was collected for QA/QC purposes as summarized below.

Monitoring Well	Duplicate Sample I.D.	Analytical Test Group
MW2	DUP20	PHCs, BTEX, VOCs

The field duplicate sample results were quantitatively evaluated by calculating the relative percent difference (RPDs). Assessment of the duplicate soil and groundwater samples, where quantifiable, showed that the results met analytical test group specific acceptance criteria as specified in the MECP Protocol document (MECP 2011b), with the exception of electrical conductivity at BH1-SS3. Electrical conductivity exceeded the soil RPD criteria of ≤10% for soils. However, the RPD exceedance identified is likely due to the heterogenous nature of soil at the Site. The overall assessment indicates that the soil samples were collected within an acceptable level of precision, and the data is acceptable quality for meeting the objectives of the Phase Two ESA.

The subcontract laboratory used during this investigation was AGAT Laboratories (AGAT). AGAT is accredited by the Standards Council of Canada/Canadian Association for Laboratory Accreditation (Accredited Laboratory No. A3200), in accordance with ISO/IEC 17025:2017 - "General Requirements for the Competence of Testing and Calibration Laboratories" for the analysis of all parameters for all samples in the scope of work for which SCS have been established under O.Reg.153/04.

Certificates of Analysis were received from AGAT reporting the results of all the chemical analyses performed on the submitted soil and groundwater samples. Copies of the AGAT Certificates of Analysis are provided in Appendix F. Review of the Certificates of Analysis prepared by AGAT indicates that they were in compliance with the requirements set out under subsection 47(3) of O.Reg.153/04.

The analytical program conducted by AGAT included analytical test group specific QA/QC measures to evaluate the accuracy and precision of the analytical results and the efficiency of analyte recovery during solute extraction procedures. The laboratory QA/QC program consisted of the preparation and analysis of laboratory duplicate samples to assess precision and sample homogeneity, method blanks to assess analytical bias, spiked blanks and QC standards to evaluate analyte recovery, matrix spikes to evaluate matrix interferences, and surrogate compound recoveries (VOCs only) to evaluate extraction efficiency. The laboratory QA/QC results are presented in the Quality Assurance Report provided in the Certificate of Analysis prepared by AGAT. The QA/QC results are reported as percent recoveries for matrix spikes, spike blanks and QC standards, RPDs for laboratory duplicates, and analyte concentrations for method blanks.

The AGAT QA/QC results were assessed against test group control limits in the case of spiked blanks, matrix spikes and surrogate recoveries, and alert criteria in the case of method blanks and laboratory duplicates.

Review of the laboratory QA/QC results reported by AGAT indicated that they were within acceptable control limits or below applicable alert criteria for the sampled media and analytical test groups. Based on the assessment of the QA/QC results, the analytical results reported by AGAT are of acceptable quality and data qualifications are not required.

5.9 Phase Two Conceptual Site Model

This section presents a Conceptual Site Model (CSM) providing a narrative, graphical, and tabulated description integrating information related to the Site geologic and hydrogeologic conditions, areas of potential environmental concern/potential contaminating activities, the presence and distribution of potential contaminants of concern, contaminant fate and transport, and potential exposure pathways.

5.9.1 Introduction

The Site is located to the south of Prospect Street and east of Brant Street, in Burlington, Ontario, as shown on Figure 1. For simplicity of this report, Brant Street is considered running north to south. The Site is irregular in shape and measures approximately 2,250 m² in size. The Site is currently occupied by one (1) irregularly shaped two-storey slab-on-grade commercial building at 795 Brant Street, and one (1) irregularly shaped two-storey commercial building with one (1) level of basement and a parking garage at 789 Brant Street (the Site buildings). The Site buildings have a total footprint of approximately 420 m² and occupy approximately 19 % of the Site. The areas surrounding the Site buildings are covered with asphalt and landscaping. The Site is located within a mixed residential and commercial area of Burlington. The nearest surface water body is Rambo Creek, located approximately 220 m south, and Lake Ontario, located approximately 1.6 km southeast of the Site. A Site Location Map and Site layout Plan are shown in Figures 1 and 2, respectively.

Refer to the following table for the Site identification information.

Table 1: Site Information

Site Details	
Municipal Address	789 and 795 Brant Street, Burlington, Ontario
Current Owner	Camarro Developments Inc.
Owner Address	25 Main Street West, Unit 1702, Hamilton Ontario L8P 1H1
Owner Contact Person	Mr. Kyle Camarro
Legal Description	**789 Brant Street:** Part of Lot 1, Plan 125, as in 662884 Except Part 1, 20R-9944; Together with 744916; Burlington **795 Brant Street:** Part of Lot 85, RCP Plan 99, as in 835346; Burlington
Property Identification Number (PIN)	**789 Brant Street**: 07076-0272 (LT) **795 Brant Street:** 07076-0017 (LT)
Property Size	2,250 m² (0.225 hectares)
Approximate Universal Transverse Mercator (UTM)	Zone: 17 Easting: 596525.15 Northing: 4798603.12 (1m, NAD83, QGIS)

5.9.2 Potentially Contaminating Activities and Areas of Potential Environmental Concern

A Phase One ESA, in accordance with O. Reg. 153/04, as amended, has been conducted by BIG for the Site. The surrounding land use plan and PCAs identified On-Site and in the Phase One ESA Study Area are shown on Figure 3. A list of all PCA's identified at the Site and within the Phase One ESA Study Area are presented below:

Table 2: Potentially Contaminating Activities in the Phase One Study Area

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
1.	789 and 795 Brant Street	De-icing salts usage (PCA"Other" – Usage of De-icing Salts)	On-Site	Yes	On-Site
2.	809 Brant Street	Former auto service (PCA#10 – Commercial Autobody Shops)	Off-Site (20 m north)	No	Inferred trans-gradient
3.		Former USTs (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)			
4.	814 Brant Street	Former auto service centre (PCA#10 – Commercial Autobody Shops)	Off-Site (50 m northwest)	No	Inferred trans-gradient
5.		Former dry cleaner (PCA#37 –Operation of Dry Cleaning Equipment (where chemicals are used))			
6.	No municipal address	Transformer (PCA#55 – Transformer Manufacturing, Processing and Use)	Northwest adjacent	No	PCB is immobile
7.	796 Brant Street	Former auto service (PCA#10 – Commercial Autobody Shops)	Off-Site (30 m west)	No	Located downgradient
8.		Former UST and gas station (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)			
9.	1448 Graham's Lane	Former USTs (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)	Off-Site (85 m west)	No	Located downgradient
10.	1451 and 1453 Graham's Lane	Former UST (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)	Off-Site (85 m west)	No	Located downgradient
11.		Former machine shop (#33 – Metal Treatment, Coating, Plating and Finishing)			
12.		Former machine shop (PCA#34 – Metal Fabrication)			
13.	760 Brant Street	Former dry cleaner (PCA#37 – Operation of Dry Cleaning Equipment (where chemicals are used))	Off-Site (100 m south)	No	Inferred trans-gradient
14.		Former vehicle units and motors manufacturing (PCA#57 – Vehicles and Associated Parts Manufacturing)			

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
15.	1440 Graham's Lane	Former chemical production (PCA#8 – Chemical Manufacturing, Recycling and Bulk Storage)	Off-Site (125 m west)	No	Located downgradient
16.		Former electronic parts and computer manufacturer (PCA#19 – Electronic and Computer Equipment Manufacturing)			
17.		Former commercial printing (PCA#31 – Ink Manufacturing, Processing, and Bulk Storage)			
18.		Former machinery manufacturer (PCA#33 – Metal Treatment, Coating, Plating and Finishing)			
19.		Former machinery manufacturer (PCA#34 - Metal Fabrication)			
20.	834 Brant Street	Former service centre (PCA#10 – Commercial Autobody Shops)	Off-Site (130 m northwest)	No	Inferred trans-gradient
21.		Former service centre (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)			
22.	1431 Graham's Lane	Hydro Station (PCA#55 – Transformer Manufacturing, Processing and Use)	Off-Site (135 m northwest)	No	Inferred trans-gradient
23.	2038 Ghent Avenue	Former UST (PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks)	Off-Site (140 m southeast)	No	Inferred trans-gradient
24.	1439 Graham's Lane	Automotive shop (PCA#10 – Commercial Autobody Shops)	Off-Site (140 m northwest)	No	Inferred trans-gradient
25.		Former machine shop and tool and die shop (PCA#33 – Metal Treatment, Coating, Plating and Finishing)			
26.		Former machine shop and tool and die shop (PCA#34 – Metal Fabrication)			
27.	850 Brant Street	Autobody shop (PCA#10 – Commercial Autobody Shops)	Off-site (150 m northwest)	No	Inferred trans-gradient
28.	1425 Graham's Lane	Auto collision and repair shop (PCA#10 – Commercial Autobody Shops)	Off-Site (180 m west)	No	Located downgradient

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
29.	1416 Graham's Lane	Former printing facility (PCA#31 – Ink Manufacturing, Processing and Bulk Storage)	Off-Site (225 m west)	No	Located downgradient
30.		Heating equipment and commercial refrigeration equipment manufacturing (PCA#33 – Metal Treatment, Coating, Plating and Finishing)			
31.		Heating equipment and commercial refrigeration equipment manufacturing (PCA#34 – Metal Fabrication)			
32.		Former milk cap covers and seals manufacturer (PCA#43 – Plastics (including Fibreglass) Manufacturing and Processing)			

(1) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area

The identification of the PCAs both on-Site and off-Site within the Phase One study area are shown on Figure 3.

Based on the rationale provided, it is the opinion of the Qualified Person (QP) that one (1) PCA is considered an APEC at the Site. Further discussion is provided below.

5.9.3 Areas of Potential Environmental Concern

Based on the evaluation of the PCAs located on- and off-Site, one (1) APECs is identified, as presented below:

Table 3: Areas of Potential Environmental Concern (APECs)

APEC	Location of APEC on Phase One Property	PCA	PCA Details	Location of PCA (On-Site or Off-Site)	Contaminants of Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1: De-icing salts usage	Exterior of Site buildings	"Other" – Usage of De-icing Salts	De-icing salts have been applied to exterior of the Site for vehicular and pedestrian safety	On-Site	Electrical conductivity, SAR, sodium, chloride	Soil and Groundwater

(1) Areas of potential environmental concern means the area on, in or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental site assessment including through,

a. Identification of past or present uses on, in or under the phase one property and,
b. Identification of potentially contaminating activities.

(2) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area.
SAR = sodium adsorption ratio

Refer to Figures 4 and 5 for the Site plan illustrating the borehole/monitoring well locations and APECs.

5.9.4 Underground Utilities

One (1) gas service line extends northward from the Site building at 795 Brant Street and exits the Site across the northern property boundary.

Two (2) sanitary sewer lines are present on-Site. One (1) sanitary sewer line enters the Site from the western property boundary and extends eastward towards the Site building at 789 Brant Street. One (1) sanitary sewer line enters the Site from the southwest corner of the Site and extends northeastward towards the Site building at 789 Brant Street.

Two (2) water lines are present on-Site. One (1) water line enters the Site across the northern property boundary and extends southward towards a water-valve present on the northwestern portion of the Site. One (1) water line enters the Site across the western property boundary and extends eastward to a water-valve located adjacent to the western building face of Site building at 789 Brant Street.

5.9.5 Physical Site Description

The Phase Two CSM provides a narrative and graphical interpretation of the Site surface features, near surface geologic and hydrogeologic conditions, potential contaminants of concern, contaminant fate and transport mechanisms, and relevant receptors and exposure pathways. These components are discussed in the following sections.

Surface Features

The Site is located to the south of Prospect Street and east of Brant Street, in Burlington, Ontario, as shown on Figure 1. For simplicity of this report, Brant Street is considered running north to south. The Site is irregular in shape and measures approximately 2,250 m² in size. The Site is currently occupied by one (1) irregularly shaped two-storey slab-on-grade commercial building at 795 Brant Street, and one (1) irregularly shaped two-storey commercial building with one (1) level of basement and a parking garage at 789 Brant Street (the Site buildings). The Site buildings have a total footprint of approximately 420 m² and occupy approximately 19 % of the Site. The areas surrounding the Site buildings are covered with asphalt and landscaping.

Geologic and Hydrogeologic Setting

Information on the overburden and bedrock geology of the general Site area was obtained during the Phase One ESA. Based on the review, the following was summarized:

The physiography of the Site is within Iroquois Plain and characterized as sand plains. The surficial geology of the Site is described as coarse-textured glaciolacustrine deposits, consisting of sand, gravel, minor silt, and clay.

Based on the review of the OBM and Toporama map, the Site is at an elevation of approximately 92 metres above sea level (m asl), generally at the same elevation as properties to the north, east, and west of the Site. The surrounding properties to the south are generally at lower elevation than the Site. The Site is relatively flat.

Based on the review of available resources from the City of Burlington and the Ontario Ministry of Natural Resources and Forestry (MNRF) no areas of natural significance were identified at the Site or within the

Phase One study area.

The general stratigraphy at the Site, as revealed in the borehole logs, consists of asphalt or topsoil underlain by reworked native comprised of silty clay/clayey silt or silty sand followed by native materials comprised of silty clay/clayey silt till. Interspersed between the layer of native silty clay/silty clay till, a layer of sandy silt/silty sand was encountered. As previously indicated, more than two-thirds (2/3) of the Site consisted of soil equal to or greater than 2 m in depth. Bedrock was encountered at the Site.

A brief description of the soil stratigraphy at the Site, in order of depth, is summarized in the following sections. The interpreted Site geology is shown on the enclosed cross sections (Figures 7 and 8).

Surface Material

A 120 mm layer of topsoil was encountered at BH1. An asphalt layer was encountered at BH2 to BH4. The asphalt ranged in thickness from 50 mm to 80 mm and was underlain by granular material ranging in thickness from 120 mm to 150 mm.

Reworked Native

Reworked native comprised of silty clay/clayey silt or silty sand was encountered at all boreholes. The reworked native material ranged in thickness from 0.1 to 2.3 m bgs.

Silty clay/Clayey silt till

A layer of silty clay/clayey silt till was observed in all boreholes at the Site beneath the fill material. The silty clay/clayey silt till layer ranged in thickness from 1.5 to 6.1 m bgs.

Silty sand/Sandy silt till

A layer of silty sand/sandy silt till was observed interspersed between the clayey silt/silty clay layer at BH/MW3 to BH/MW5, and below the clayey silt/silty clay layer at BH/MW2. The layer ranged in thickness from 2.3 to 4.6 m bgs.

Bedrock

Bedrock was encountered at the Site at all borehole locations. The bedrock was comprised for weathered shale and extended to a maximum depth of 24.8 m bgs, which was the maximum depth investigated at the Site.

Refer to the geological cross sections in Figures 7 and 8 for an overview of the Site stratigraphy.

Hydrogeologic Setting

One (1) hydrostratigraphic unit was encountered at the Site which acts as an aquifer.

The on-Site monitoring well network consists of a total of five (5) monitoring wells advanced by BIG and screened within the bedrock.

Groundwater depths within the groundwater table across the Site ranged between approximately 1.94 m and 2.60 m bgs on June 28, 2021.

Based on the static water levels observed, the interpreted predominant groundwater flow was towards the west. The interpreted groundwater flow direction is presented on Figure 6.

Hydraulic conductivity testing was completed by BIG. Single Well Response Test (SWRT) analysis was conducted at selected monitoring wells (MW1 to MW5). The hydraulic conductivity values for each of the tested wells were calculated from the SWRT using Aqtesolv Software and the Hvorlsev solution for unconfined conditions. They hydraulic conductivity (K) ranged from $5.15x10^{-8}$ to $3.87x10^{-5}$ m/s, with a geometric mean of $2.03x10^{-6}$ m/s.

The horizontal hydraulic gradient in groundwater, based on groundwater measurements collected on June 28, 2021 was 0.001 m/m between BH/MW2 and BH/MW1.

It is noted that vertical hydraulic gradients were not evaluated for this Site as a second water bearing unit was not identified at the depths investigated at the Site.

Refer to Figure 6 for the groundwater contour plans designed from the groundwater elevations collected as part of the Phase Two ESA.

5.9.6 Site Sensitivity

The Site Sensitivity classification with respect to the conditions set out under Section 41 and 43.1 of O.Reg. 153/04 were evaluated to determine if the Site is sensitive, as presented in the table below:

Table 4: Site Sensitivity

Sensitivity	Classification	Does Sensitivity Apply to Site?
Section 41 applies if	(i) property is within an area of natural significance	No
	(ii) property includes or is adjacent to an area of natural significance or part of such an area	No
	(iii) property includes land that is within 30 m of an area of natural significance or part of such an area	No
	(iv) soil at property has a pH value for surface soil less than 5 or greater than 9	No
	(v) soil at property has a pH value for sub-surface soil less than 5 or greater than 11	No
	(vi) a qualified person is of the opinion that, given the characteristics of the property and the certifications the qualified person would be required to make in a record of site condition in relation to the property as specified in Schedule A, it is appropriate to apply this section to the property	No
Section 43.1 applies if	(i) property is a shallow soil property	No
	(ii) property includes all or part of a water body or is adjacent to a water body or includes land that is within 30 m of a water body	No

5.9.7 Previous Investigations

No previous environmental investigations were available for the Site.

5.9.8 Remediation

No remedial activities have occurred at the Site.

5.9.9 Soil Importation

No soil has been imported at the Site.

5.9.10 Land Use

The Site is currently zoned for commercial land use and will be redeveloped with residential properties.

5.9.11 Contaminants of Concern

The MECP (2011a) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional Land Use and medium/fine textured soils were considered applicable for determining contaminants of concern (COCs), based on the reasons presented below:

Table 5: Site Condition Standards

Descriptor	Site-Specific Condition
Section 41 Site Sensitivity	Not applicable o The soil at the Site has pH values between 5 and 9 for surficial soil; and, between 5 and 11 for subsurface soil. o The Site is not located within, or adjacent to, an area of natural significance, or part of such an area; and the Site does not include land that is within 30 m of an area of natural significance, or part of such an area.
Section 43.1 Site Sensitivity	Not applicable o The Site is not considered a shallow soil property, based on the recovered soil cores, which indicated that more than two-thirds of the Site has an overburden thickness in excess of 2 m; and, o The Site is not located within 30 m of a surface water body; the nearest surface water body, Rambo Creek, is located approximately 220 m south and Lake Ontario is located approximately 1.6 km southeast of the Site.
Ground Water	Potable o The Site is supplied by the City of Burlington municipal water system. o The RSC property is not located within an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater. o The property or one of the properties in the Phase One study area does not have a well-used or intended for use as a source of water for human consumption or agriculture. o The property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the property, are supplied by a municipal drinking water system, as defined in the *Safe Drinking Water Act, 2002*. o The Site is within a highly vulnerable aquifer as defined by Ministry of Environment.
Land Use	Residential/Parkland/Institutional o The future use of the Site will be residential land use
Soil Texture	Medium/fine-textured o The predominant texture of soils at the Site is considered to be medium/fine textured. o Five (5) soil samples from the surficial and overburden materials (BH2-SS2, BH3-SS2, BH4-SS4, BH1-SS5 and BH3-SS5) were submitted for grain size analysis. All samples were found to be medium/fine textured. As a result, medium/fine textured standards were applied as part of this Phase Two ESA.

No soil COCs were identified at the Site. No COCs were identified in groundwater.

It is noted that EC and SAR in soil, and sodium in groundwater were detected at concentrations in exceedance of the applicable MECP Table 2 SCS. However, under the newly amended O.Reg.153/04 (O.Reg.407/19) Section 49.1 (1), if a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under the conditions of snow or ice or both (i.e., application of de-icing salts), its related

parameters are not deemed to be in exceedance of the MECP Table 2 SCS. As de-icing salts are used at the Site for vehicular and pedestrian safety EC, SAR, and sodium are not considered as contaminants of concern.

5.9.12 Soil and Groundwater Impacts

No soil or groundwater impacts were identified at the Site.

5.9.13 Contaminant Fate and Transport

Soil Media

No COCs were identified in soil.

Groundwater Media

No COCs were identified in groundwater.

5.9.14 Preferential Pathways

Given that no COCs ware present at the Site, there are no preferential pathways.

5.9.15 Climatic Conditions

Given that no COCs are present at the Site, the climatic or metrological conditions are not a potential contaminant transport mechanism and is not considered further.

5.9.16 Soil Vapour Migration

Given that no COCs are present at the Site, the climatic or meteorological conditions are not a potential contaminant transport mechanism.

5.9.17 Receptors and Exposure Pathways

Human Health Receptors and Exposure Pathways

As no COCs were identified in soil or groundwater at the Site there are no complete human receptor exposure pathways at the Site.

Scenario	Receptor	Exposure Pathways
Property Residents	Adult (including pregnant female), Teen, Child, Toddler, Infant	None
Workers – Short Term (outdoor)	Adult (including pregnant female)	None
Property Visitor - Recreational	Adult (including pregnant female), Teen, Child, Toddler, Infant	None
Property Visitor - Trespassers	Adult (including pregnant female), Teen, Child, Toddler, Infant	None
Workers – Construction	Adult (including pregnant female)	None

The human health conceptual on-Site model is included in Figure D.1 in Appendix D.

Ecological Receptors and Exposure Pathways

As no COCs were identified in soil or groundwater at the Site there are no complete ecological receptor exposure pathways at the Site.

Primary Source	Secondary Source	Receptor	Exposure Pathway
Impacted Soil/Groundwater	Impacted Soil	Vegetation	None
		Soil invertebrates	None
		Terrestrial birds and mammals	None
	Ambient air	Vegetation	None
		Soil Invertebrates	None
		Terrestrial birds and mammals	None
	Impacted Groundwater	Terrestrial vegetation	None
		Soil invertebrates	None
		Terrestrial birds and mammals	None
	Plant and animal tissue	Soil invertebrates	None
		Terrestrial birds and mammals	None

The ecological health conceptual on-Site model is included in Figure D.2 in Appendix D.

6 Summary of Findings

The findings of the Phase Two ESA conducted at the Site are summarized as follows:

1. The general stratigraphy at the Site, as revealed in the borehole logs, consists of asphalt or topsoil underlain by reworked native comprised of silty clay/clayey silt or silty sand followed by native materials comprised of silty clay/clayey silt till. Interspersed between the layer of native silty clay/silty clay till, a layer of sandy silt/silty sand was encountered. Shale bedrock was encountered at the Site.
2. Grain size analysis was performed on five (5) soil samples submitted from the surifical and overburden materials. All samples were found to be medium/fine textured. As a result, medium/fine textured standards were applied as part of this Phase Two ESA.
3. The groundwater depths across the entire Site ranged between approximately 1.94 m and 2.60 m below ground surface (bgs) on June 28, 2021.
4. The soil analytical results indicated that all parameters were detected at concentrations below the applicable MECP (2011) Table 2 Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional land use and medium/fine textured soils.
5. The soil analytical results indicated that EC and SAR were detected at concentrations above the applicable MECP (2011a) Table 2 Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional land use and medium/fine textured soils. However, under the newly amended O.Reg.153/04 (O.Reg.407/19) Section 49.1 (1), if a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under the conditions of snow or ice or both (i.e., application of de-icing salts), its related parameters are not deemed to be in exceedance of the MECP Table 2 SCS. As de-icing salts are used at the Site for vehicular and pedestrian safety, EC and SAR are not considered contaminants of concern.
6. The groundwater analytical results indicated that all groundwater samples submitted for PHCs, BTEX, VOCs, PAHs, metals and inorganics analyses were either non-detected or detected below the applicable MECP (2011) Table 2 SCS; and all laboratory RDLs were below the applicable SCS.
7. The groundwater analytical results indicated that sodium was detected at concentrations above the applicable MECP (2011a) Table 2 Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional land use and medium/fine textured soils. However, under the newly amended O.Reg.153/04 (O.Reg.407/19) Section 49.1 (1), if a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under the conditions of snow or ice or both (i.e., application of de-icing salts), its related parameters are not deemed to be in exceedance of the MECP Table 2 SCS. As de-icing salts are used at the Site for vehicular and pedestrian safety, sodium is not considered a contaminant of concern.

7 Conclusions and Recommendations

No COCs were identified in soil or groundwater at the Site.

A Record of Site Condition (RSC) can be filed for the Site.

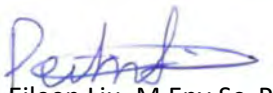
8 General Limitations

The information presented in this report is based on a limited investigation designed to provide information to support an assessment of the current environmental conditions within the subject property. The conclusions and recommendations presented in this report reflect Site conditions existing at the time of the investigation.

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Yours truly,

B.I.G. Consulting Inc.



Eileen Liu, M.Env.Sc, P.Geo
Project Manager



Darko Strajin, P.Eng.
Managing Partner

9 References

1. MECP (2011a) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*";
2. MECP (2011b) Protocol for Analytical Methods Used in the Assessment of Properties under Prt XV.1 of the *Environmental Protection Act*. PIBS 4696e01;
3. Toporama. Retrieved from http://www.atlas.gc.ca/toporama/en/index.html

The following is a list of the environmental investigations reviewed in support of this report:

1. BIG (2021) Phase One Environmental Site Assessment, 789 and 795 Brant Street, Burlington, Ontario. B.I.G Consulting Inc. July 12, 2021.

Figures



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LEGEND

SITE BOUNDARY

SCALE

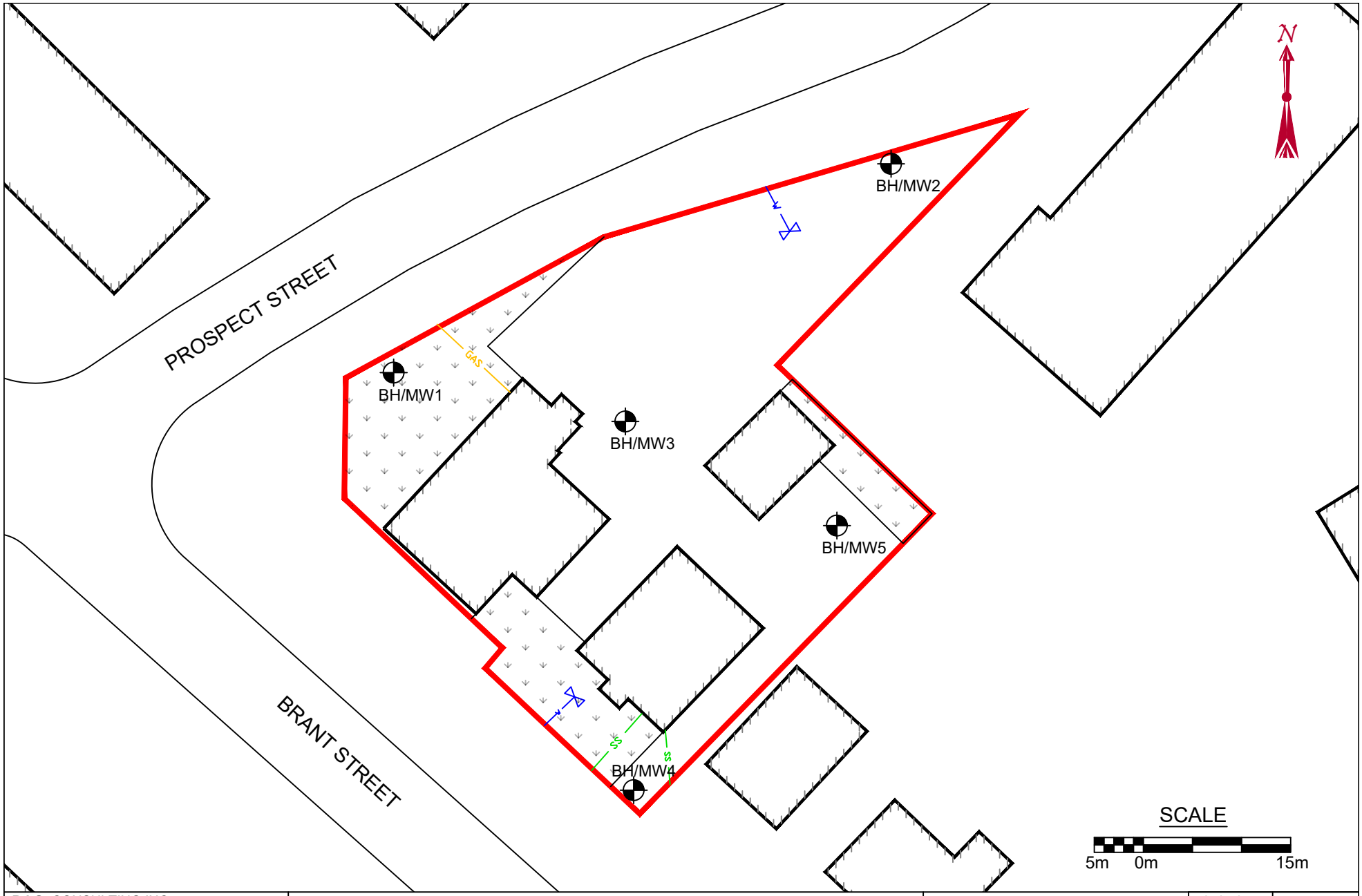
100m 0m 100m 200m 300m 400m 500m

IMAGERY OBTAINED FROM TOPORAMA, NATURAL RESOURCES CANADA,2017

TITLE AND LOCATION

SITE LOCATION PLAN
PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	1



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LEGEND

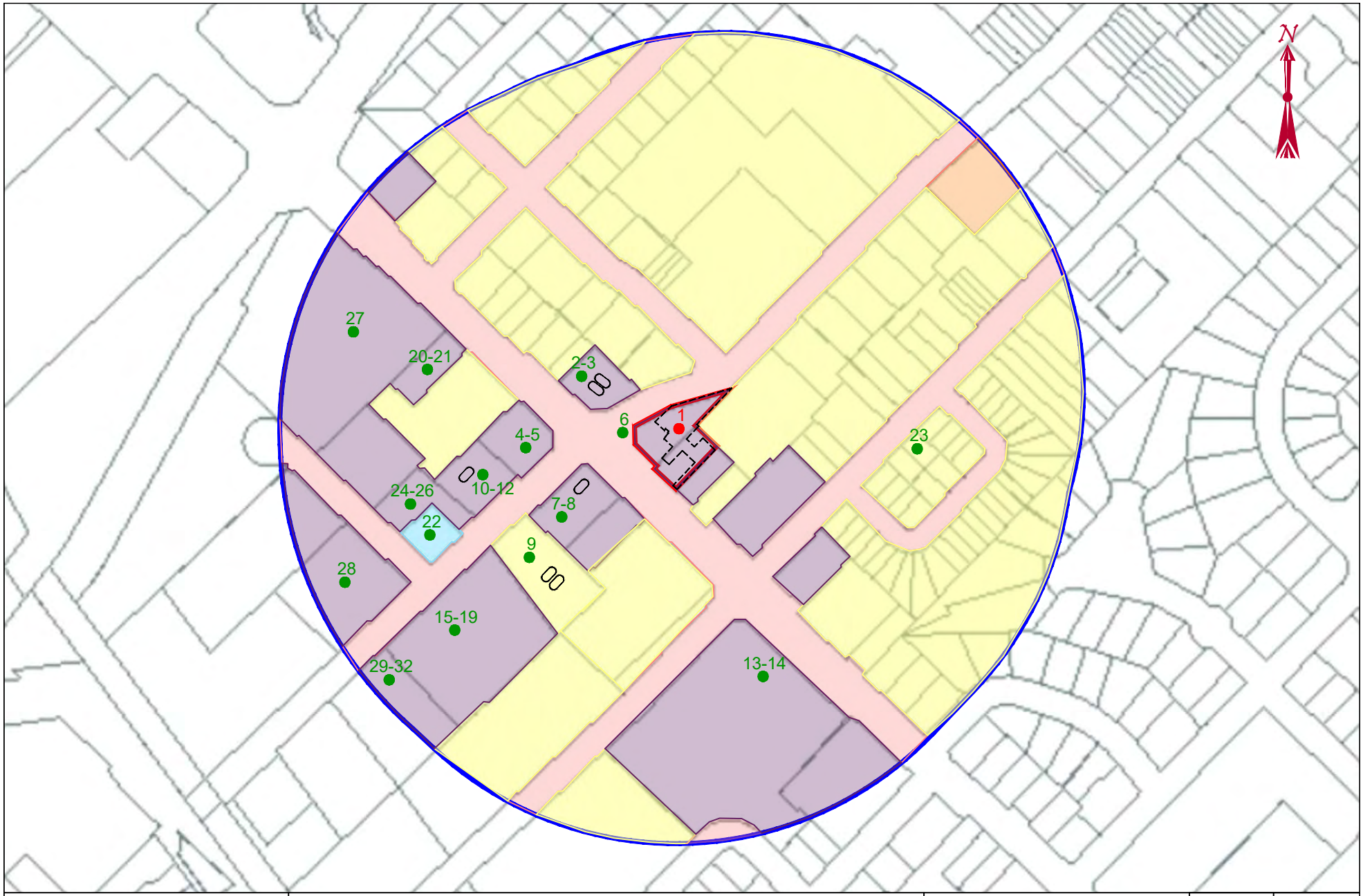
- SITE BOUNDARY
- BUILDING FOOTPRINT
- BOREHOLE/MONITORING WELL
- LANDSCAPED AREAS
- WATER
- WATER VALVE
- SEWER
- GAS

TITLE AND LOCATION

SITE LAYOUT AND UTILITIES PLAN

PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	J.R.
DATE	FIG NO.
JULY 2021	2



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LEGEND

- SITE BOUNDARY
- PHASE ONE STUDY AREA BOUNDARY
- PCA IDENTIFIER
- PCA IDENTIFIER NOT CONTRIBUTING TO APEC
- RESIDENTIAL LAND USE
- COMMERCIAL LAND USE
- INDUSTRIAL LAND USE
- COMMUNITY LAND USE
- INSTITUTIONAL LAND USE
- FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
- PCA AREA

SCALE

25m 0m 50m 100m

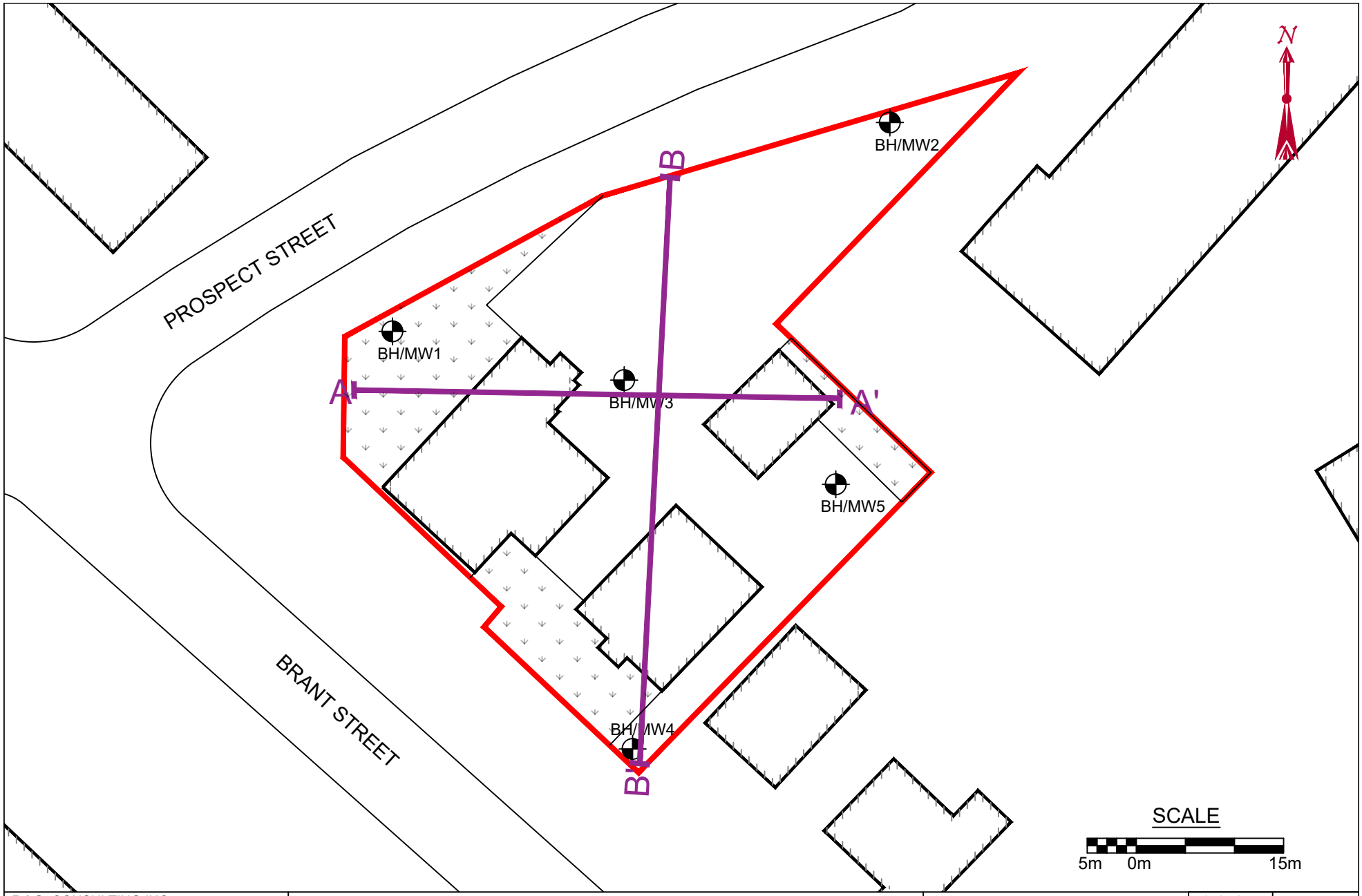
TITLE AND LOCATION

PHASE ONE STUDY AREA AND POTENTIALLY CONTAMINATING ACTIVITIES

PHASE TWO ESA

789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	3



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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- BOREHOLE/MONITORING WELL
- A A' GEOLOGICAL CROSS SECTION
- LANDSCAPED AREAS

TITLE AND LOCATION

BOREHOLE/MONITORING WELL PLAN
PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	4



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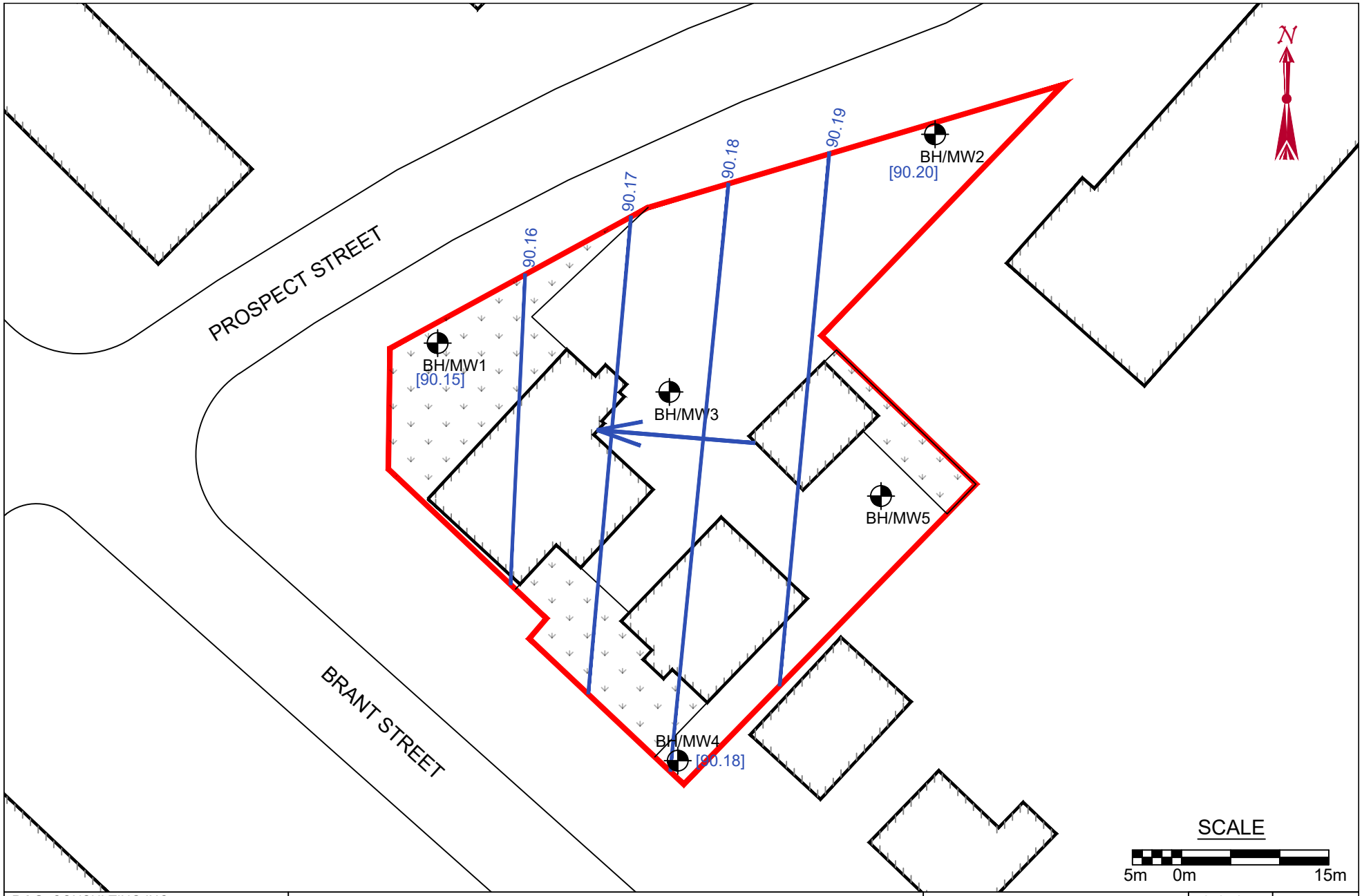
LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LANDSCAPED AREAS
- BOREHOLE/MONITORING WELL
- APEC 1

TITLE AND LOCATION

BOREHOLE/MONITORING WELL LOCATION PLAN WITH AREAS OF POTENTIAL ENVIRONMENTAL CONCERN (APECs)
PHASE TWO ESA
789-795 BRANT STREET, BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	5



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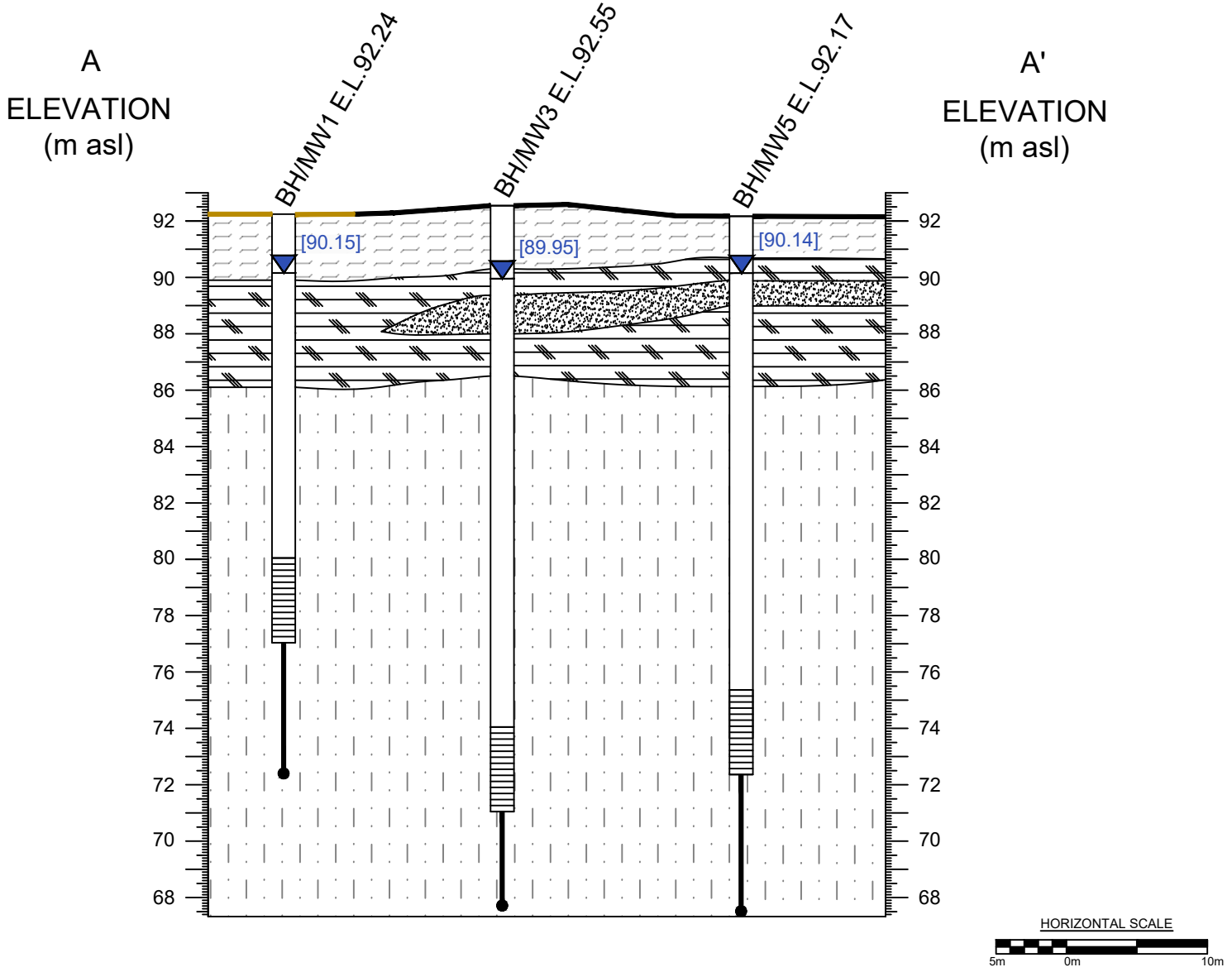
LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LANDSCAPED AREAS
- LOCATION OF BOREHOLE/MONITORING WELL
- GROUNDWATER CONTOUR
- INTERPRETED DIRECTION OF GROUNDWATER FLOW
- [XX.XX] WATERLEVEL MEASUREMENT (JUNE 28, 2021) (m asl)

TITLE AND LOCATION

GROUNDWATER CONTOUR PLAN
PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	6



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LEGEND

- TOPSOIL
- ASPHALT / GRANULAR
- REWORKED NATIVE
- CLAYEY SILT / SILTY CLAY
- SILTY SAND / SANDY SILT
- BEDROCK
- WATER LEVEL
- [xx.xx] WATER LEVEL MEASUREMENT (JUNE 28, 2021) (m asl)

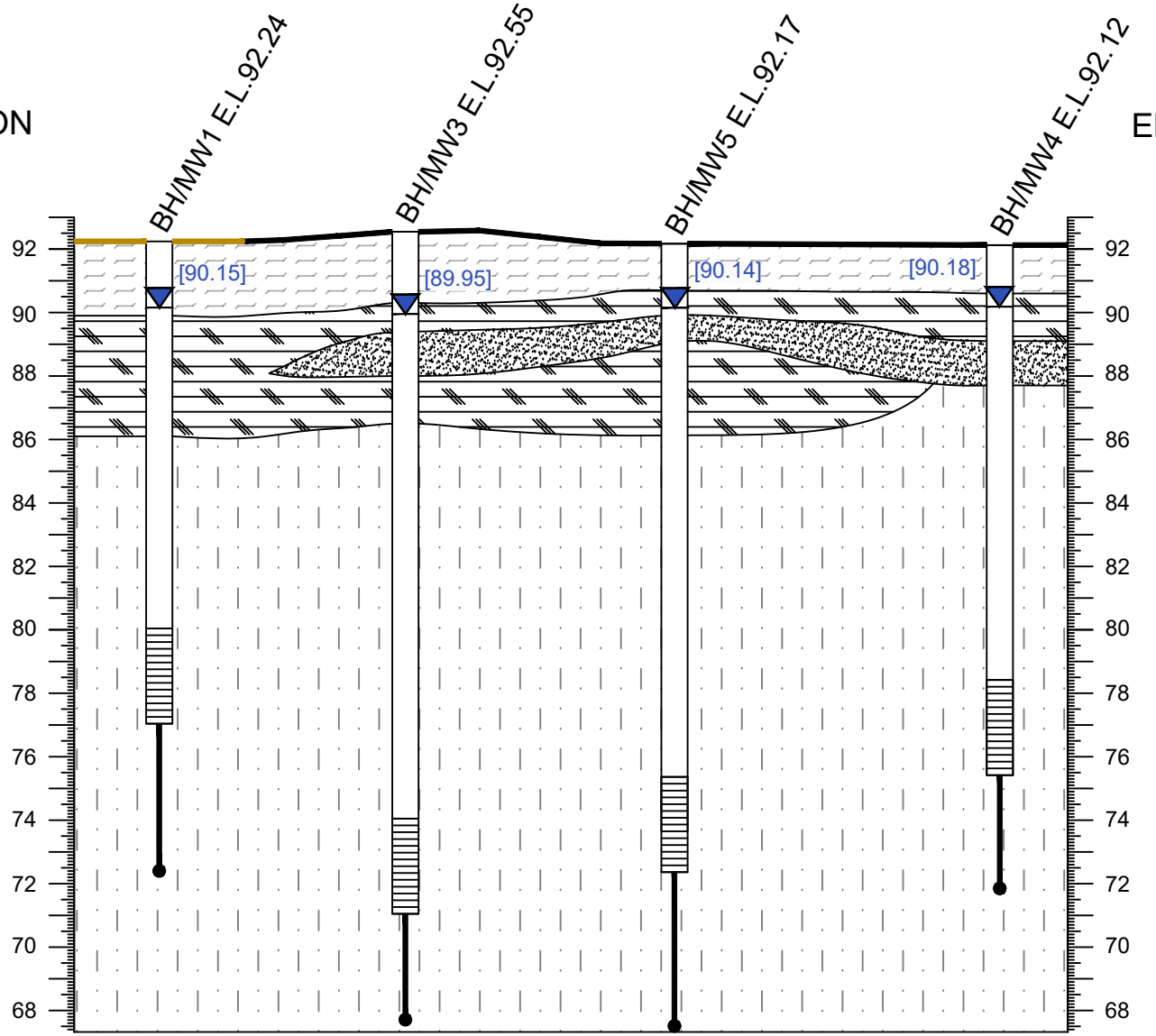
TITLE AND LOCATION

GEOLOGIC CROSS SECTION A-A'
PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	7

B

ELEVATION
(m asl)



B'

ELEVATION
(m asl)

HORIZONTAL SCALE

5m 0m 10m

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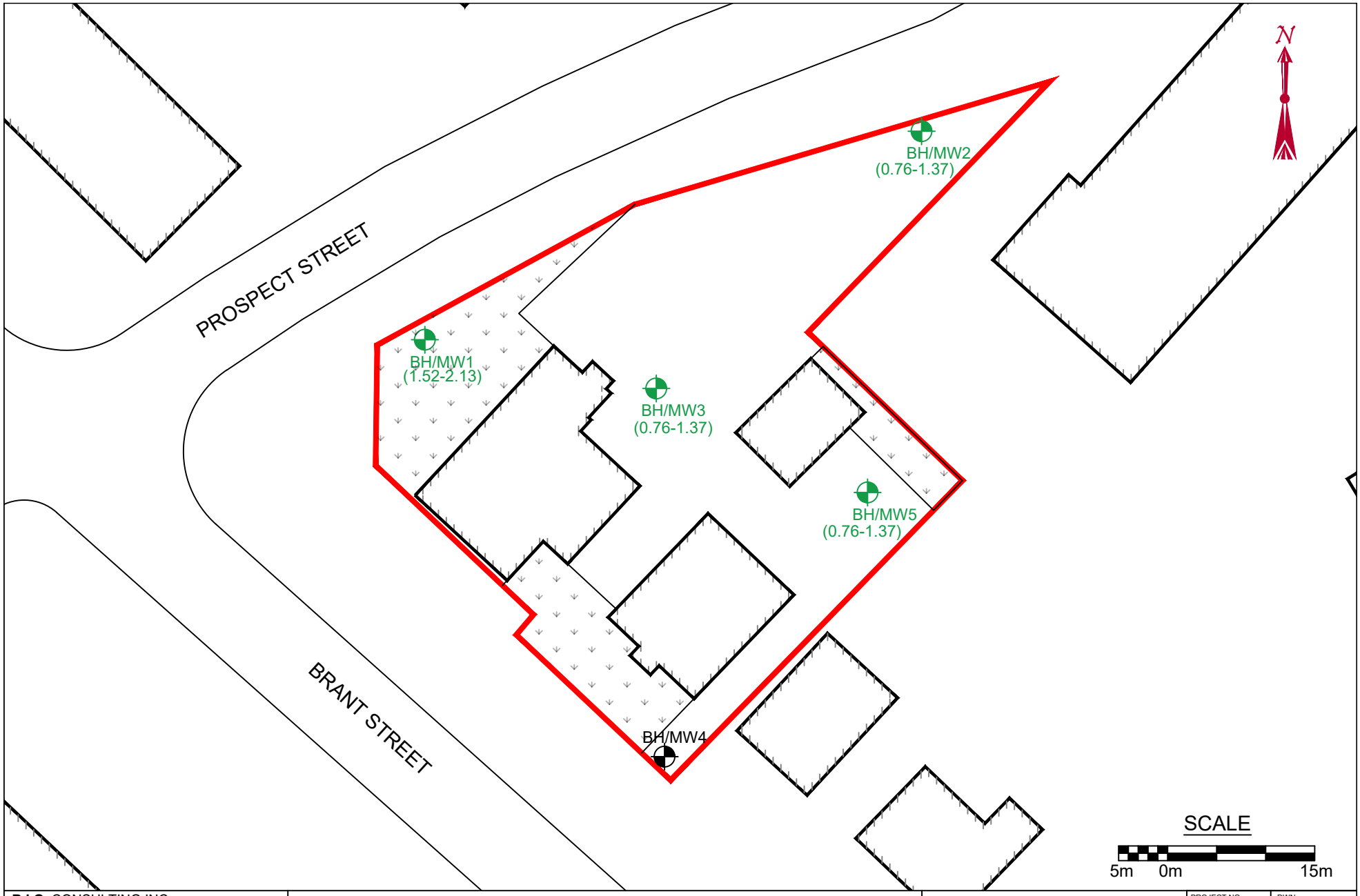
LEGEND

- TOPSOIL
- ASPHALT / GRANULAR
- REWORKED NATIVE
- CLAYEY SILT / SILTY CLAY
- SILTY SAND / SANDY SILT
- BEDROCK
- WATER LEVEL
- [xx.xx] WATER LEVEL MEASUREMENT (JUNE 28, 2021) (m asl)

TITLE AND LOCATION

GEOLOGIC CROSS SECTION B-B'
PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	8



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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LANDSCAPED AREAS
- LOCATION OF BOREHOLE/MONITORING WELL
- MEETS MECP TABLE 2 SCS
- EXCEEDS MECP TABLE 2 SCS
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

PAH CONCENTRATIONS IN SOIL
PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	9



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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LANDSCAPED AREAS
- LOCATION OF BOREHOLE/MONITORING WELL
- MEETS MECP TABLE 2 SCS
- EXCEEDS MECP TABLE 2 SCS
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

METALS (As, Sb, Se, B-HWS, Cr(VI), Hg, CN-) CONCENTRATIONS IN SOIL

PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	10



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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LANDSCAPED AREAS
- LOCATION OF BOREHOLE/MONITORING WELL
- MEETS MECP TABLE 2 SCS
- CONCENTRATION ABOVE TABLE 2 SCS, BUT NOT CONSIDERED A COC
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

EC AND SAR CONCENTRATIONS IN SOIL

PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	11



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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LANDSCAPED AREAS
- LOCATION OF BOREHOLE/MONITORING WELL
- MEETS MECP TABLE 2 SCS
- EXCEEDS MECP TABLE 2 SCS
- [xx.xx] WELL SCREEN DEPTH (m bgs)

TITLE AND LOCATION

PHC CONCENTRATIONS IN GROUNDWATER

PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	12



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LEGEND

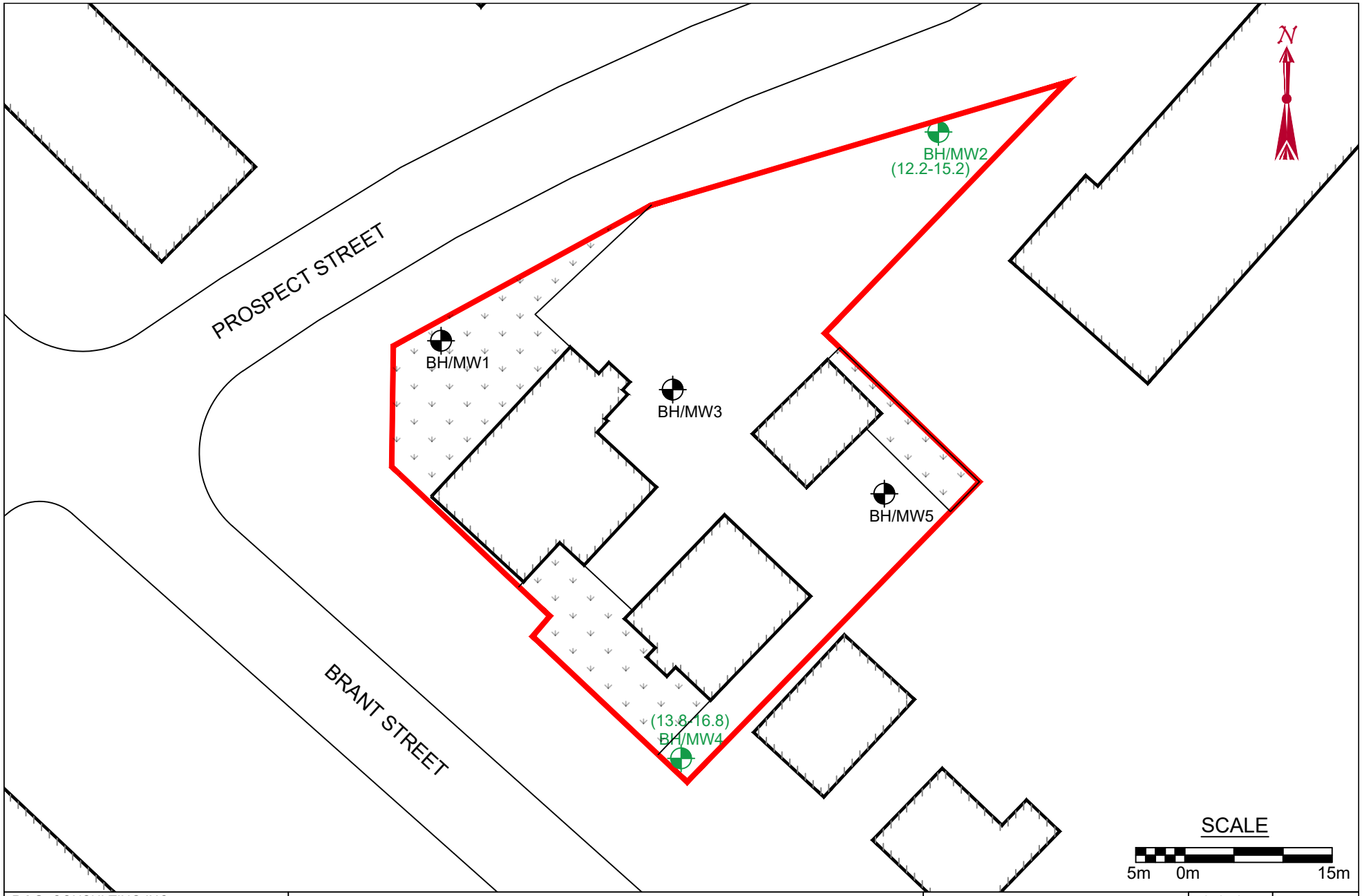
- SITE BOUNDARY
- BUILDING FOOTPRINT
- LANDSCAPED AREAS
- LOCATION OF BOREHOLE/MONITORING WELL
- MEETS MECP TABLE 2 SCS
- EXCEEDS MECP TABLE 2 SCS
- [xx.xx] WELL SCREEN DEPTH (m bgs)

TITLE AND LOCATION

VOCs (INCLUDING BTEX) CONCENTRATIONS IN GROUNDWATER

PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	13



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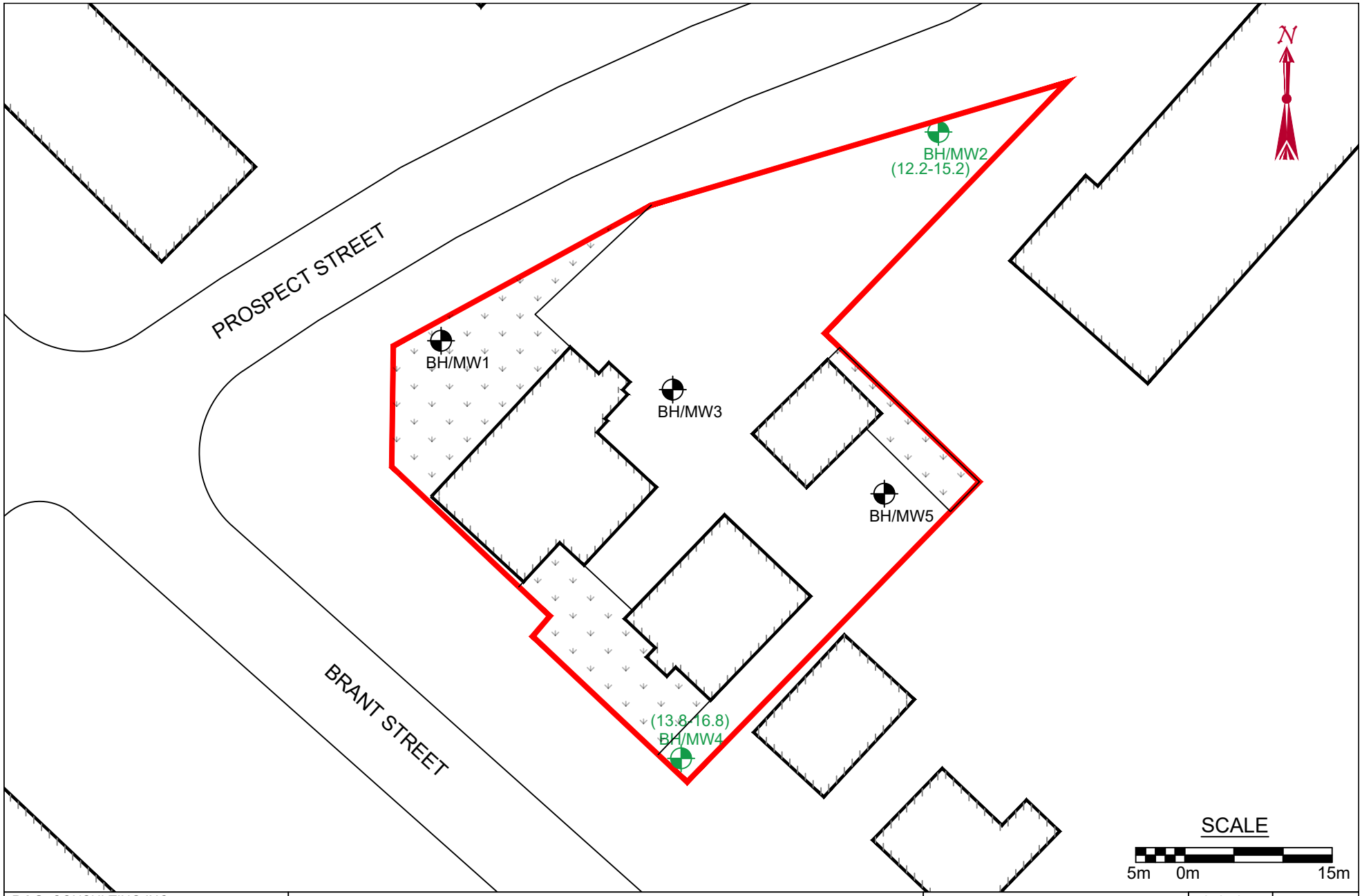
LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LANDSCAPED AREAS
- LOCATION OF BOREHOLE/MONITORING WELL
- MEETS MECP TABLE 2 SCS
- EXCEEDS MECP TABLE 2 SCS
- [xx.xx] WELL SCREEN DEPTH (m bgs)

TITLE AND LOCATION

PAH CONCENTRATIONS IN GROUNDWATER
PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	14



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LEGEND

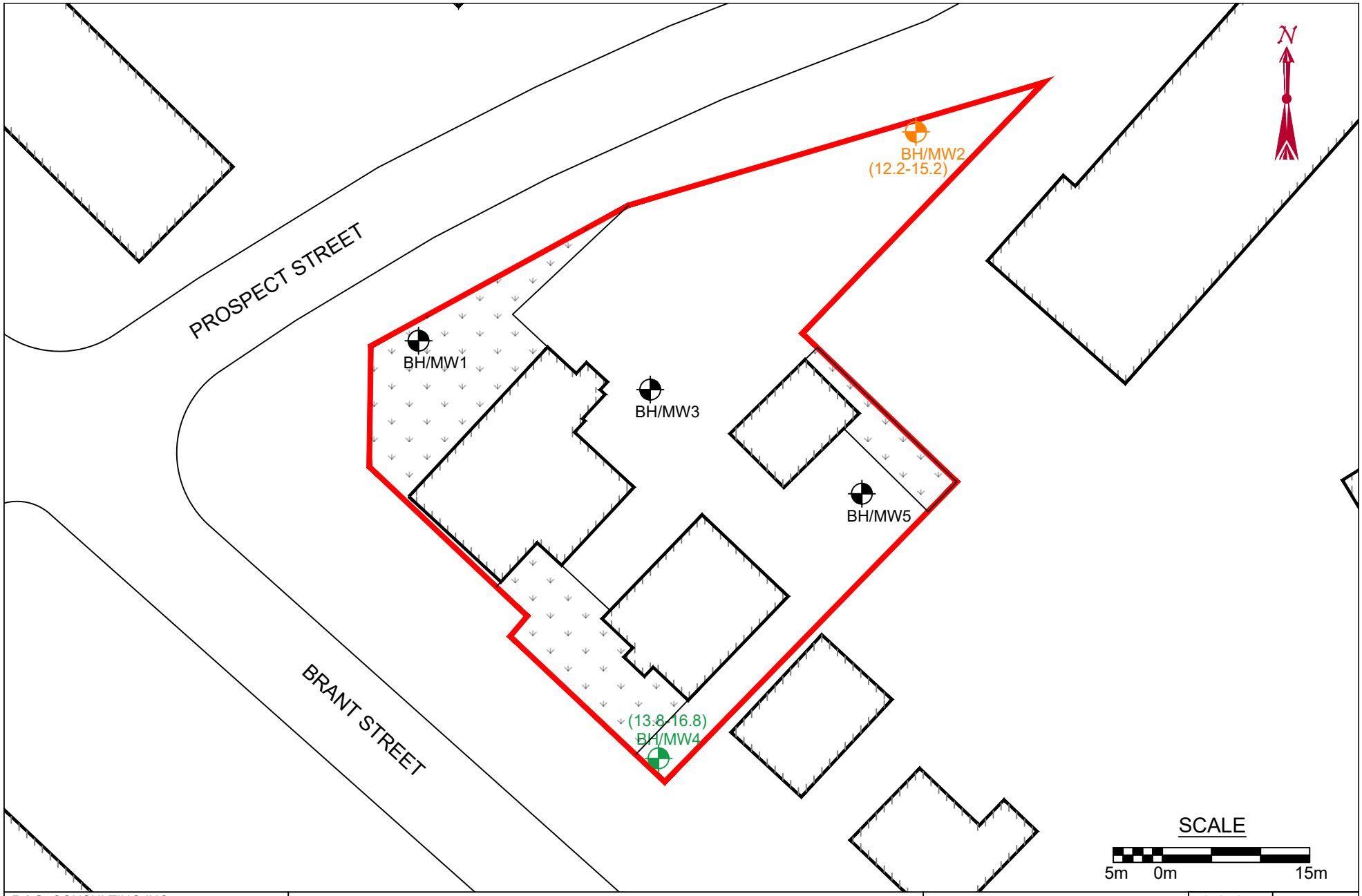
- SITE BOUNDARY
- BUILDING FOOTPRINT
- LANDSCAPED AREAS
- LOCATION OF BOREHOLE/MONITORING WELL
- MEETS MECP TABLE 2 SCS
- EXCEEDS MECP TABLE 2 SCS
- [xx.xx] WELL SCREEN DEPTH (m bgs)

TITLE AND LOCATION

METALS (As, Sb, Se, Cr(VI), Hg, CH-) CONCENTRATIONS IN GROUNDWATER

PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	15



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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LOCATION OF BOREHOLE/MONITORING WELL
- LANDSCAPED AREAS
- MEETS MECP TABLE 2 SCS
- CONCENTRATION ABOVE TABLE 2 SCS, BUT NOT CONSIDERED A COC
- [xx.xx] WELL SCREEN DEPTH (m bgs)

TITLE AND LOCATION

SODIUM AND CHLORIDE CONCENTRATIONS IN GROUNDWATER
PHASE TWO ESA
789-795 BRANT STREET,
BURLINGTON, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-461B	L.C.K.
SCALE	CK.
AS NOTED	T.D.
DATE	FIG NO.
JULY 2021	16

Tables

TABLE 1 – Areas of Potential Environmental Concern (APECs)
BIGC-ENV-461 – Phase Two Environmental Site Assessment
789 and 795 Brant Street, Burlington, Ontario

APEC	Location of APEC on Phase One Property	PCA	PCA Details	Location of PCA (On-Site or Off-Site)	Contaminants of Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1: De-icing salts usage	Majority of the Site	"Other" – Usage of De-icing Salts	De-icing salts have been applied to exterior of the Site for vehicular and pedestrian safety	On-Site	Electrical conductivity, SAR, sodium, chloride	Soil and Groundwater

(1) Areas of potential environmental concern means the area on, in or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental site assessment, including through,
   a. Identification of past or present uses in, on or under the phase one property, and
   b. Identification of potentially contaminating activity.

(2) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area.
SAR = sodium adsorption ratio.

TABLE 2 – Summary of Soil Samples Submitted for Chemical Analysis
BIGC-ENV-461B – Phase Two Environmental Site Assessment
789 and 795 Brant Street, Burlington, Ontario

Soil Sample ID	Rationale	Requested Analyses	Consultant
BH1-SS3	APEC 1 and Site characterization	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR	BIG
BH2-SS2	APEC 1 and Site characterization	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR	BIG
BH3-SS2	APEC 1 and Site characterization	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR	BIG
BH4-SS1	APEC 1 characterization	EC and SAR	BIG
BH5-SS2	APEC 1 and Site characterization	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC, SAR	BIG

TABLE 3 – Monitoring Well Installation Details

BIGC-ENV-461B – Phase Two Environmental Site Assessment

789 and 795 Brant Street, Burlington, Ontario

Well ID	Consultant	Ground Elevation (m asl)	Stick up (m)	Top of screen (m bgs)	Bottom of screen (m bgs)	Screen length (m)	Top of screen (m asl)	Bottom of screen (m asl)	Geologic Units Intercepted by Well Screen	Well Condition
BH/MW1	BIG (2021)	92.24	0.10	12.2	15.2	3.0	80.04	77.04	Shale	Intact
BH/MW2	BIG (2021)	92.34	0.06	12.2	15.2	3.0	80.14	77.14	Shale	Intact
BH/MW3	BIG (2021)	92.55	0.09	18.5	21.5	3.0	74.05	71.05	Shale	Intact
BH/MW4	BIG (2021)	92.12	0.15	13.8	16.8	3.1	78.32	75.32	Shale	Intact
BH/MW5	BIG (2021)	92.17	0.10	16.8	19.8	3.0	75.37	72.37	Shale	Intact

TABLE 4 – Water Level Depths and Elevations

BIGC-ENV-461B – Phase Two Environmental Site Assessment
789 and 795 Brant Street, Burlington, Ontario

Monitoring Well ID	Ground Surface Elevation	Groundwater Level (m bgs)	Groundwater Elevation (AMSL)	Groundwater Monitoring Date
BH/MW1	92.24	2.09	90.15	June 28, 2021
BH/MW2	92.34	2.14	90.20	June 28, 2021
BH/MW3	92.55	2.60	89.95	June 28, 2021
BH/MW4	92.12	1.94	90.18	June 28, 2021
BH/MW5	92.17	2.03	90.14	June 28, 2021

TABLE 5 – Summary of Groundwater Samples Submitted for Chemical Analysis
BIGC-ENV-461B – Phase Two Environmental Site Assessment
789 and 795 Brant Street, Burlington, Ontario

Monitoring Well ID	Rationale	Requested Analyses	Consultant
MW1	Site characterization	PHCs, BTEX, VOCs	BIG
MW2	APEC 1 and Site characterization	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, sodium, chloride	BIG
MW3	Site characterization	PHCs, BTEX, VOCs	BIG
MW4	APEC 1 and Site characterization	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, sodium, chloride	BIG
MW5	Site characterization	PHCs, BTEX, VOCs	BIG

Appendix A - Sampling and Analysis Plan

1. Introduction

This appendix presents the Site Sampling and Analysis Plan (SSAP) that was developed in support of the Phase Two Environmental Site Assessment (ESA), which will be conducted to provide further characterization of the Site subsurface conditions. The SSAP presents the procedures and measures that will be undertaken during field investigative activities to characterize the Site conditions and meet the data quality objectives of the Phase Two ESA.

The SSAP presents the sampling program proposed for the Site, the recommended procedures and protocols for sampling and related field activities, the data quality objectives, and the quality assurance/ quality control (QA/QC) measures that will be undertaken to provide for the collection of accurate, reproducible and representative data. These components are described in further detail below.

2. Field Sampling Program

The field sampling program was developed to provide for the collection of samples of the surficial and subsurface soil materials for chemical analysis of parameters identified as potential contaminants of concern identified in the Phase One ESA.

The soil samples will be collected from of the surficial fill and overburden material. The groundwater samples will be collected from each monitoring well.

The monitoring wells will be installed at selected boreholes to intercept the groundwater table aquifer. The monitoring wells will be installed with 3 m long screens extending to a maximum depth of approximately 21.5 metres below grade.

Elevation of the boreholes and monitoring wells will be obtained through the completion of an elevation survey with reference to a Site temporary benchmark or a local geodetic benchmark. Groundwater flow will be determined through groundwater level measurements and the relative groundwater elevations established in the Site elevation survey.

3. Field Methods

To meet the requirements of the field sampling program, the following field investigative methods will be undertaken:

a) Borehole Drilling;
b) Soil Sampling;
c) Monitoring Well Installation;
d) Monitoring Well Development;
e) Groundwater Level Measurements;
f) Elevation Survey;
g) Groundwater Sampling; and
h) Residue Management Procedures.

The field investigative methods will be performed as described below:

a) *Borehole Drilling*

Boreholes will be advanced at the Site to facilitate the collection of soil samples for chemical analysis and geologic characterization and for the installation of groundwater monitoring wells. Boreholes will be advanced at the Site to a maximum depth of approximately 24.8 m below grade, within the overburden materials to provide for the collection of soil samples beneath the Site. The borehole locations will be selected to assess soil and groundwater quality at the Site.

Prior to borehole drilling, utility clearances will be obtained from public locators, as required. Boreholes will be advanced into the surficial fill and overburden soils by a drilling company under the full-time supervision of BIG staff. A track mounted drilling machine equipped with hollow stem augers and split spoons will be utilized to advance the boreholes through the overburden materials.

b) *Soil Sampling*

Soil samples for geologic characterization and chemical analysis will be collected from the overburden boreholes using 5 cm diameter, 60 cm long, stainless steel split-spoon sampling devices advanced ahead of the augers. The split-spoon samplers will be attached to drill rods and advanced into the soil by means of a machine-driven hammer. Spilt-spoon soil samples will be collected where possible, beginning at the ground surface and subsequently at continuous intervals. Geologic and sampling details of the recovered cores will be logged, and the samples will be assessed for the potential presence of non-aqueous phase liquids. A portion of each soil sample will be placed in a sealed “zip-lock” plastic bag and allowed to reach ambient temperature prior to field screening with a photoionization detector (PID) that will be calibrated by the supplier with an appropriate reference gas and zeroed in ambient conditions prior to use. The vapour measurements will be made by inserting the instrument’s probe into the plastic bag while manipulating the sample to ensure volatilization of the soil gases. These readings will provide a real-time indication of the relative concentration of volatile organic vapours encountered in the subsurface during drilling. Samples for chemical analysis will be selected on the basis of visual, combustible gas, and olfactory evidence of impacts and at specific intervals to define the lateral and vertical extent of suspected impacts.

Recommended volumes of soil samples selected for chemical analysis will be collected into pre-cleaned, laboratory supplied, analytical test group specific containers. The samples will be placed into clean insulated coolers chilled with ice for storage and transport. Samples intended for VOC analysis will be collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes and sealed using Teflon lined septa lids. The samples will be assigned unique identification numbers, and the date, time, location, and requested analyses for each sample will be documented in a bound field notebook. The samples will be submitted to a CAEL certified laboratory within analytical test group holding times under Chain of Custody (COC) protocols. New disposable chemical resistant gloves will be used during the handling and sample collection for each soil core to prevent sample cross-contamination.

c) *Monitoring Well Installation*

Monitoring wells will be installed in general accordance with Ontario Regulation 903/90, as amended and will be installed by a licensed well contractor.

The monitoring wells will be constructed using 50 mm diameter, Schedule 40, PVC riser pipe and number 10 slot size (0.25 mm) well screens. The base of the well screens will be sealed with PVC end caps. All well pipe connections will be factory machined threaded flush couplings. The pipe components will be pre-wrapped in plastic, which will be removed prior to insertion in the borehole to minimize the potential for contamination. No lubricants or adhesives will be used in the construction of the monitoring wells. The annular space around the well screens will be backfilled with silica sand to at least 0.3 m above the top of the screen. Granular bentonite will be placed in the borehole annulus from the top of the sand pack to approximately grade. The monitoring wells will be completed with protective casings.

d) *Monitoring Well Development*

Monitoring wells will be developed to remove fine sediment particles potentially lodged in the sand pack and well screen to enhance contact with the surrounding formation groundwater and will be developed using Wattera® tubing and a monsoon pump. Monitoring well development will be monitored by multiparameter water quality meter, visual observations of turbidity, and by taking field measurements of pH and conductivity for every well volume removed. Standing water volumes will be determined by means of a water level meter. Water quality parameter measurements will be recorded using a multiparameter water quality meter. A minimum of approximately three (3) well volumes will be removed; and, well development will continue until the purged water has chemically stabilized as indicated by field parameters measurements.

Well development details will be documented on a well development log sheet or in a bound hard cover notebook. All water accumulated during well development will be collected and stored in sealed containers.

e) *Groundwater Level Measurements*

Groundwater level measurements will be recorded from monitoring wells to determine groundwater flow and direction at the Site. Water levels will be measured with respect to the top of the casing by means of a groundwater level meter. The water levels will be recorded on water level log sheets or in a bound field notebook. The water level meter probe will be decontaminated between monitoring well locations.

f) *Elevation Survey*

An elevation survey will be conducted to obtain vertical control of the newly installed monitoring well locations. The top of casing and ground surface elevation of each monitoring well location will be surveyed against a known geodetic benchmark, or if unavailable, against a suitable arbitrary temporary benchmark. Elevations measured against a geodetic benchmark will be recorded as meters above mean sea level (m AMSL). The arbitrary temporary benchmark will be assigned an elevation of 100.00 m. The elevation survey will be accurate to within ± 1 cm.

g) *Groundwater Sampling*

Groundwater samples will be collected from monitoring wells for chemical analysis. The monitoring wells will be purged first of three to five wetted well volumes of water, or until dry, to remove standing water and draw in fresh formation water as previously described. Dedicated well materials will be used for well purging and sample collection.

Recommended groundwater sample volumes will be collected into pre-cleaned, laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. The samples will be placed in an insulated cooler chilled with ice for storage and transport. Where needed, bottles will be checked for headspace.

All groundwater samples will be assigned unique identification numbers, and the date, time, project number, and company name will be specified on each bottle. The samples will be submitted to the contractual laboratory within analytical test group holding times under COC protocols. New disposable chemical resistant gloves will be used for each sampling location to prevent sample cross-contamination.

h) *Residue Management Procedures*

The residue materials produced during the borehole drilling, soil sampling programs and monitoring well sampling programs comprised of decontamination fluids from equipment cleaning, and waters from well development and purging will be placed in sealed drums for future off-Site disposal.

4. Field Quality Assurance/Quality Control Program

The objective of the field quality assurance/quality control (QA/QC) program is to obtain soil and groundwater samples and other field measurements that provide data of acceptable quality that meets the objectives of the Supplemental Phase Two ESA. The objectives of the QA/QC program will be achieved through the implementation of procedures for the collection of unbiased (i.e., non-contaminated) samples, sample documentation, and the collection of appropriate QC samples to provide a measure of sample reproducibility and accuracy. The field QA/QC measures will comprise:

a) Decontamination Protocols;
b) Equipment Calibration;
c) Sample Preservation;
d) Sample Documentation; and,
e) Field Quality Control Samples.

Details on the field QA/QC measures are provided in the following sections.

a) *Decontamination Protocols*

Decontamination protocols will be followed during field sampling where non-dedicated sampling equipment is used to prevent sample cross contamination. For the borehole drilling and soil sampling, split-spoon soil sampling devices will be cleaned/decontaminated between sampling intervals and auger flights between borehole locations. For the monitoring well installation, well

components are not to come into contact with the ground surface prior to insertion into boreholes. Electronic water level meters will be decontaminated between monitoring well locations during well development, purging activities, and rising head tests. All decontamination fluids will be collected and stored in sealed containers.

b) *Equipment Calibration*

All equipment requiring calibration will be calibrated according to manufacturer's requirements using analytical grade reagents, or by the supplier prior to conducting field activities.

c) *Sample Preservation*

All samples will be preserved using appropriate analytical test group specific reagents, as required, and upon collection placed in ice-filled insulated coolers for storage and transport.

d) *Sample Documentation*

All samples will be assigned a unique identification number, which is to be recorded along with the date, time, project number, and company name. All samples will be handled and transported following COC protocols.

e) *Field Quality Control Samples*

Field quality controls samples will be collected to evaluate the accuracy and reproducibility of the field sampling procedures. Where required, for groundwater samples, a trip blank prepared by a laboratory will be submitted for chemical analysis to evaluate the potential for sample cross-contamination or bias. The recommended alert criteria for the trip blank sample are the detections of any test group analyte at a concentration in excess of laboratory detection limits.

Appendix B – Analytical Results

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH1-SS3	BH2-SS2	BH3-SS2	BH5-SS2	DUP05020 (Dup of BH5-SS2)
Lab ID		2642072	2625586	2625665	2642074	2642080
Sampling Date		14-Jun-21	11-Jun-21	10-Jun-21	15-Jun-21	15-Jun-21
Soil Sample Depth (m)		1.52-2.13	0.76-1.37	0.76-1.37	0.76-1.37	0.76-1.37
Consultant		BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT
Certificate of Analysis		21T764209	21T763060	21T763060	21T764209	21T764209
Acenaphthene	29	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	0.17	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	0.74	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	0.63	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	0.3	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	0.78	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(ghi)perylene	7.8	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	0.78	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	7.8	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	0.1	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	0.69	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	69	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	0.48	<0.05	<0.05	<0.05	<0.05	<0.05
1-Methylnaphthalene	NV	-	-	-	-	-
2-Methylnaphthalene	NV	-	-	-	-	-
1&2-Methylnaphthalene	3.4	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	0.75	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	7.8	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	78	<0.05	<0.05	<0.05	<0.05	<0.05

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MOECC (2011) SCS.
Non-detect but detection limit exceeds the MOECC (2011) SCS.

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH1-SS3	DUP01030 (Dup of BH1-SS3)	BH2-SS2	BH3-SS2	BH4-SS1	BH5-SS2
Lab ID		2642072	2642077	2625586	2625665	2642084	2642077
Sampling Date		14-Jun-21	14-Jun-21	11-Jun-21	10-Jun-21	15-Jun-21	15-Jun-21
Soil Sample Depth (m)		1.52-2.13	1.52-2.13	0.76-1.37	0.76-1.37	0.0-0.61	0.76-1.37
Consultant		BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	AGAT
Certificate of Analysis		21T764209	21T764209	21T763060	21T763060	21T764209	21T764209
Antimony	7.5	<0.8	<0.8	<0.8	<0.8	-	<0.8
Arsenic	18	8	6	9	6	-	3
Barium	390	108	87.7	106	186	-	123
Beryllium	5	0.8	0.6	0.6	0.8	-	0.9
Boron (Total)	120	15	12	12	13	-	15
Boron (Hot water soluble)	1.5	0.16	0.22	0.32	1.23	-	0.55
Cadmium	1.2	<0.5	<0.5	<0.5	<0.5	-	<0.5
Chromium (total)	160	23	20	26	30	-	30
Chromium VI	10	<0.2	<0.2	<0.2	<0.2	-	<0.2
Cobalt	22	13.8	12.2	14.8	13.7	-	13.6
Copper	180	49.1	44.5	51.4	36.6	-	34.8
Lead	120	12	10	11	14	-	14
Mercury	1.8	<0.10	<0.10	<0.10	<0.10	-	<0.10
Molybdenum	6.9	0.7	0.6	0.6	0.8	-	<0.5
Nickel	130	26	22	30	32	-	30
Selenium	2.4	<0.8	<0.8	<0.8	<0.8	-	<0.8
Silver	25	<0.5	<0.5	<0.5	<0.5	-	<0.5
Thallium	1	<0.5	<0.5	<0.5	<0.5	-	<0.5
Uranium	23	0.52	<0.50	0.57	1.02	-	0.65
Vanadium	86	32.6	28	36.4	40.6	-	35.9
Zinc	340	64	58	67	87	-	81
Electrical Conductivity (mS/cm)	0.7	0.503	0.358	**0.793**	**0.789**	**1.41**	0.511
Sodium Adsorption Ratio (unitless)	5	**8.19**	**5.93**	**11.2**	3.1	**6.99**	**5.31**
Free Cyanide	0.051	<0.040	<0.040	<0.040	<0.040	-	<0.040
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	7.63	7.85	7.78	7.62	-	7.6

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MOECC (2011) SCS.
Non-detect but detection limit exceeds the MOECC (2011) SCS.
pH level outside of the acceptable MOECC range

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW1	MW2	DUP20 (Dup of MW2)	MW3	MW4	MW5	Trip Blank
Lab ID		2676837	2676839	2676843	2676840	2676841	2676842	2676844
Sampling Date		29-Jun-21	29-Jun-21	29-Jun-21	29-Jun-21	29-Jun-21	29-Jun-21	29-Jun-21
Screen Depth Interval (m)		12.2-15.2	12.2-15.2	12.2-15.2	18.5-21.5	13.7-16.8	16.8-19.8	-
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT
Certificate of Analysis		21T768028	21T768028	21T768028	21T768028	21T768028	21T768028	21T768028
PHC F1 (C6-C10)	750	<25	<25	<25	<25	<25	<25	<25
PHC F1 (C6-C10) - BTEX	750	<25	<25	<25	<25	<25	<25	<25
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<100	<100	<100	<100	<100	<100	<100
PHC F4 (C34-C50)	500	<100	<100	<100	<100	<100	<100	<100
Reached baseline at C50?	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MOECC (2011) SCS.
Non-detect but detection limit exceeds the MOECC (2011) SCS.

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW1	MW2	DUP20 (Dup of MW2)	MW3	MW4	MW5	Trip Blank
Lab ID		2676837.0	2676839.0	2676843	2676840	2676841	2676842	2676844
Sampling Date		29-Jun-21	29-Jun-21	29-Jun-21	29-Jun-21	29-Jun-21	29-Jun-21	29-Jun-21
Screen Depth Interval (m)		12.2-15.2	12.2-15.2	12.2-15.2	18.5-21.5	13.7-16.8	16.8-19.8	-
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT
Certificate of Analysis		21T768028	21T768028	21T768028	21T768028	21T768028	21T768028	21T768028
Acetone	2700	<4.0	<2.0	<2.0	<4.0	<1.0	<2.0	<1.0
Benzene	5	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
Bromodichloromethane	16	<0.80	<0.40	<0.40	<0.80	7	3.08	<0.20
Bromoform	25	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
Bromomethane	0.89	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
Carbon Tetrachloride	5	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
Chlorobenzene	30	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
Chloroform	22	<0.80	<0.40	<0.40	<0.80	17.4	5.29	<0.20
Dibromochloromethane	25	<0.40	<0.20	<0.20	<0.40	4.12	2.57	<0.10
1,2-Dichlorobenzene	3	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
1,3-Dichlorobenzene	59	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
1,4-Dichlorobenzene	1	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
Dichlorodifluoromethane	590	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
1,1-Dichloroethane	5	<1.20	<0.60	<0.60	<1.20	<0.30	<0.60	<0.30
1,2-Dichloroethane	5	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
1,1-Dichloroethylene	14	<1.20	<0.60	<0.60	<1.20	<0.30	<0.60	<0.30
cis-1,2-Dichloroethylene	17	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
trans-1,2-Dichloroethylene	17	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
1,2-Dichloropropane	5	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
cis-1,3-Dichloropropene	0.5	<1.20	<0.60	<0.60	<1.20	<0.30	<0.60	<0.30
trans-1,3-Dichloropropene	0.5							
Ethylbenzene	2.4	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
Ethylene Dibromide (1,2-Dibromoethane	0.2	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
Hexane (n)	520	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
Methylene chloride (Dichloromethane)	50	<1.20	<0.60	<0.60	<1.20	<0.30	<0.60	<0.30
Methyl ethyl ketone (2-Butanone)	1800	<4.0	<2.0	<2.0	<4.0	<1.0	<2.0	<1.0
Methyl Isobutyl Ketone	640	<4.0	<2.0	<2.0	<4.0	<1.0	<2.0	<1.0
Methyl t-butyl ether (MTBE)	15	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
Styrene	5.4	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
1,1,1,2-Tetrachloroethane	1.1	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
1,1,2,2-Tetrachloroethane	1	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
Tetrachloroethylene	17	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
Toluene	24	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
1,1,1-Trichloroethane	200	<1.20	<0.60	<0.60	<1.20	<0.30	<0.60	<0.30
1,1,2-Trichloroethane	5	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
Trichloroethylene	5	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
Trichlorofluoromethane	150	<1.60	<0.80	<0.80	<1.60	<0.40	<0.80	<0.40
Vinyl Chloride	1.7	<0.68	<0.34	<0.34	<0.68	<0.17	<0.34	<0.17
m-Xylene + p-Xylene	NV	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20
o-Xylene	NV	<0.40	<0.20	<0.20	<0.40	<0.10	<0.20	<0.10
Xylenes (total)	300	<0.80	<0.40	<0.40	<0.80	<0.20	<0.40	<0.20

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MOECC (2011) SCS.
Non-detect but detection limit exceeds the MOECC (2011) SCS.

Samle ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW2	MW4
Lab ID		2676807	2676816
Sampling Date		29-Jun-21	29-Jun-21
Screen Depth Interval (m)		12.2-15.2	13.7-16.8
Consultant		BIG	BIG
Laboratory		AGAT	AGAT
Certificate of Analysis		21T768027	21T768027
Acenaphthene	4.1	<0.20	<0.20
Acenaphthylene	1	<0.20	<0.20
Anthracene	2.4	<0.10	<0.10
Benzo(a)anthracene	1	<0.20	<0.20
Benzo(a)pyrene	0.01	<0.01	<0.01
Benzo(b)fluoranthene	0.1	<0.10	<0.10
Benzo(ghi)perylene	0.2	<0.20	<0.20
Benzo(k)fluoranthene	0.1	<0.10	<0.10
Chrysene	0.1	<0.10	<0.10
Dibenz(a,h)anthracene	0.2	<0.20	<0.20
Fluoranthene	0.41	<0.20	<0.20
Fluorene	120	<0.20	<0.20
Indeno(1,2,3-cd)pyrene	0.2	<0.20	<0.20
1-Methylnaphthalene	-	-	-
2-Methylnaphthalene	-	-	-
1&2-Methylnaphthalene	3.2	<0.20	<0.20
Naphthalene	11	<0.20	<0.20
Phenanthrene	1	<0.10	<0.10
Pyrene	4.1	<0.20	<0.20

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MOECC (2011) SCS.
Non-detect but detection limit exceeds the MOECC (2011) SCS.

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW2	MW4
Lab ID		2676807.0	2676816.0
Sampling Date		29-Jun-21	29-Jun-21
Screen Depth Interval (m)		12.2-15.2	13.7-16.8
Consultant		BIG	BIG
Laboratory		AGAT	AGAT
Certificate of Analysis		21T768027	21T768027
Antimony	6	1.6	2
Arsenic	25	<1.0	<1.0
Barium	1000	34.9	65.9
Beryllium	4	<0.50	<0.50
Boron (Total)	5000	2520	374
Cadmium	2.7	<0.20	<0.20
Chromium (total)	50	<2.0	<2.0
Chromium VI	25	<2	<2
Cobalt	3.8	<0.50	<0.50
Copper	87	<1.0	3.7
Lead	10	<0.50	3.65
Mercury	1	<0.02	<0.02
Molybdenum	70	19.8	23.2
Nickel	100	<3.0	3.1
Selenium	10	7.2	2.4
Silver	1.5	<0.20	<0.20
Thallium	2	<0.30	<0.30
Uranium	20	<0.50	<0.50
Vanadium	6.2	<0.40	<0.40
Zinc	1100	<5.0	12.1
Sodium	490000	332,000	123,000
Chloride	790000	**979,000**	281,000
Free Cyanide	66	<2	<2

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MOECC (2011) SCS.
Non-detect but detection limit exceeds the MOECC (2011) SCS.
Parameter detected and no SCS provided

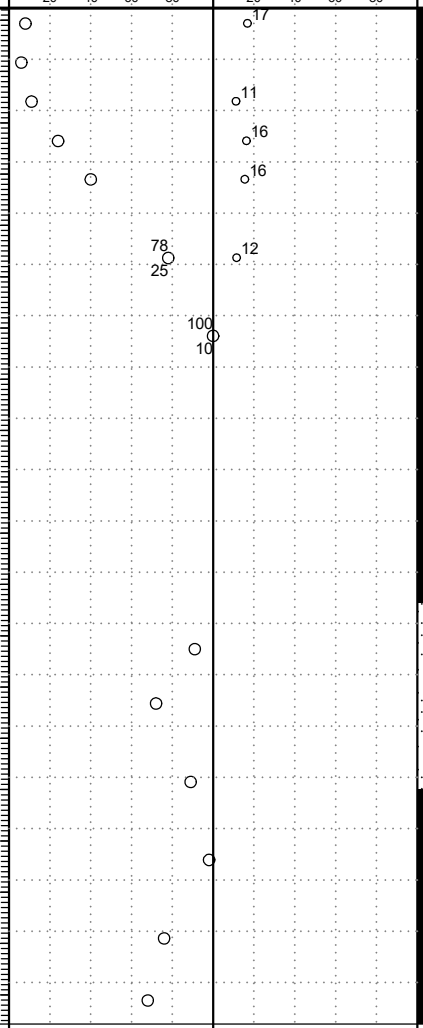
Appendix C – Borehole Logs

RECORD OF BOREHOLE No. BH/MW1

Project Number:	BIGC-ENV-461A	Drilling Location:	See Borehole Location Plan	Logged by:	MV
Project Client:	Camarro Developments Inc.	Drilling Method:	HSA+HQ Rock Coring	Compiled by:	MV
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	CME75	Reviewed by:	SS
Project Location:	789-785 Brant Street, Burlington, Ontario	Date Started:	14 Jun 21	Date Completed: 15 Jun 21	Revision No.: 0, 28/4/22

Geodetic Ground Surface Elevation: 92.24 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	INSTRUMENTATION INSTALLATION	COMMENTS
	TOPSOIL: 120mm 92.12	SS	1	67	8	0	92				
	REWORKED NATIVE: Clayey silt, trace to some sand, trace gravel, brown, moist, firm 0.4	SS	2	0	6	1	91				
	- silty sand, brown, moist to wet, compact 89.95	SS	3	100	11	2	90				
	CLAYEY SILT TILL: trace to some sand, trace gravel, greyish brown, moist, very stiff to hard 2.3	SS	4	75	24	3	89				
	-sandy	SS	5	100	40	4	88				Gr-6%; Sa-26%; Si-48%; Cl-20%
	86.14	SS	6	70	78/25	5	87				
	BEDROCK: Shale, highly weathered to excellen 6.1 quality, occasional limestone layers, reddish brown to grey, damp to moist	SS	7	13	100/10	6	86				
		AU	8	100		7	85				
		AU	9	100		8	84				
		AU	10	100		9	83				
		AU	11	100		10	82				
	ROCK CORE BEGINS	RC	1	93	91	11	81				
	- Excellent Quality - Fair Quality	RC	2	96	72	12	80				
	- Good Quality	RC	3	100	89	13	79				
	- Excellent Quality	RC	4	98	98	14	78				
	- Good Quality	RC	5	100	76	15	77				
	- Fair Quality 72.43	RC	6	100	68	16	76				
	End of Borehole 19.8					17	75				
						18	74				
						19	73				



Notes:
1. Borehole open upon completion of drilling.
2. Ground water level not measured upon completion of drilling due introduced drilling water.
3. Groundwater level reading at 2.09 m bgs on June 28, 2021.

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12-5500 Tomken Rd.
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No freestanding groundwater measured in open borehole on completion of drilling.

Groundwater depth observed on 28/06/2021 at a depth of: 2.09 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

RECORD OF BOREHOLE No. BH/MW2

Project Number:	BIGC-ENV-461A	Drilling Location:	See Borehole Location Plan	Logged by:	MV
Project Client:	Camarro Developments Inc.	Drilling Method:	HSA+HQ Rock Coring	Compiled by:	MV
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	CME75	Reviewed by:	SS
Project Location:	789-785 Brant Street, Burlington, Ontario	Date Started:	11 Jun 21	Date Completed: 14 Jun 21	Revision No.: 0, 28/4/22

Geodetic Ground Surface Elevation: 92.34 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	COMMENTS
	ASPHALT PAVEMENT: 50 mm asphalt over 150 mm granular bases 0.2	SS	1	46	4	0	92	
	REWORKED NATIVE: Clayey silt, some to with sand, trace to some gravel, brown, moist, soft to firm 90.84 1.5	SS	2	100	6	1	91	Sieve Analysis: 17, 25, (58)
	-sandy	SS	3	100	24	2	90	
	CLAYEY SILT TILL: trace to some sand, trace gravel, greyish brown, moist to very moist, very stiff 89.29 3.1	SS	4	92	28	3	89	
	SILTY SAND TILL: trace clay, trace to some gravel, occasional shale fragments, reddish brown, moist, dense 87.77	SS	5	59	24	4	88	
	BEDROCK: Shale, highly weathered to good quality, occasional limestone layers, reddish brown to grey, damp to moist 4.6	SS	6	13	50/8	5	87	
		SS	7	13	50/8	6	86	
		AU	8	100		7	85	
		AU	9	100		8	84	
		AU	10	100		9	83	
		AU	11	100		10	82	
	ROCK CORE BEGINS					11	81	
	- Fair Quality	RC	1	88	63	12	80	
	- Poor Quality	RC	2	96	45	13	79	
	- Good Quality	RC	3	100	79	14	78	
	- Good Quality	RC	4	100	78	15	77	
	- Fair Quality	RC	5	98	58	16	76	
	- Fair Quality 71.92	RC	6	100	67	17	75	
	End of Borehole 20.4					18	74	
						19	73	
						20	72	

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level not measured upon completion of drilling due introduced drilling water.
3. Groundwater level reading at 2.14 m bgs on June 28, 2021.

FIELD TESTING: Penetration Testing — SPT, DCPT; MTO Vane* (Intact, Remould); Nilcon Vane* (Intact, Remould); * Undrained Shear Strength (kPa) 20 40 60 80

LAB TESTING: Rinse pH Values 2 4 6 8 10 12; Soil Vapour Reading, parts per million (ppm) 100 200 300 400; Lower Explosive Limit (LEL) W_P W W_L; Plastic Liquid; 20 40 60 80

INSTRUMENTATION INSTALLATION

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No freestanding groundwater measured in open borehole on completion of drilling.

Groundwater depth observed on 28/06/2021 at a depth of: 2.14 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

RECORD OF BOREHOLE No. BH/MW3

Project Number:	BIGC-ENV-461A	Drilling Location:	See Borehole Location Plan	Logged by:	MV
Project Client:	Camarro Developments Inc.	Drilling Method:	HSA+HQ Rock Coring	Compiled by:	MV
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	CME75	Reviewed by:	SS
Project Location:	789-785 Brant Street, Burlington, Ontario	Date Started:	10 Jun 21	Date Completed: 11 Jun 21	Revision No.: 0, 28/4/22

Geodetic Ground Surface Elevation: 92.55 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	INSTRUMENTATION INSTALLATION	COMMENTS
	ASPHALT PAVEMENT: 80 mm asphalt over 120 mm granular bases 0.2	SS	1	59	12	0	92				
	REWORKED NATIVE: Clayey silt, some sand, trace gravel, dark brown/ black, moist, firm	SS	2	95	8	1	91				Sieve Analysis: 1, 16, (83)
	- dark reddish brown 90.26	SS	3	59	6	2					
	CLAYEY SILT TILL: trace to some sand, trace gravel, occaisonal cobble, brown, moist, very stiff 2.3 89.35	SS	4	92	24	3	90				
	SILTY SAND TILL: gravelly, trace clay, occasional Shale fragments, reddish brown, moist, very dense 3.2 87.98	SS	5	100	64	4	89				Gr-20%; Sa-41%; Si-32%; Cl-7%
	CLAYEY SILT TILL: trace to some sand, trace gravel, occasional cobble, brown, moist, hard 4.6 86.45	SS	6	41	50/13	5	88	50/13	5		
	BEDROCK: Shale, highly weathered to poor quality, occasional limestone layers, reddish brown to grey, damp to moist 6.1	SS	7	13	50/8	6	87	50/8			
		AU	8			7	86				
		AU	9			8	85				
		AU	10			9	84				
		AU	11			10	83				
	ROCK CORE BEGINS					11	82				
	- Poor Quality	RC	1	100	41	12	81				
	- Fair Quality	RC	2	99	67	13	80				
	- Excellent Quality	RC	3	100	100	14	79				
	- Excellent Quality	RC	4	99	90	15	78				
	- Poor Quality	RC	5	100	47	16	77				
	- Excellent Quality	RC	6	100	92	17	76				
	- Excellent Quality *observed calcite precipitation at 22.42 m	RC	7	99	99	18	75				
	- Fair Quality *observed calcite precipitation at 23.18 m 67.89	RC	8	100	51	19	74				
	End of Borehole 24.7					20	73				
						21	72				
						22	71				
						23	70				
						24	69				
							68				

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level not measured upon completion of drilling due introduced drilling water.
3. Groundwater level reading at 2.60 m bgs on June 28, 2021.

FIELD TESTING: Penetration Testing — ○ SPT ● DCPT; MTO Vane* △ Intact ▲ Remould; Nilcon Vane* ◇ Intact ◆ Remould; * Undrained Shear Strength (kPa) 20 40 60 80

LAB TESTING: ★ Rinse pH Values 2 4 6 8 10 12; Soil Vapour Reading △ parts per million (ppm) 100 200 300 400; ▲ Lower Explosive Limit (LEL) W_P W W_L; Plastic Liquid 20 40 60 80

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▽ No freestanding groundwater measured in open borehole on completion of drilling.

▼ Groundwater depth observed on 28/06/2021 at a depth of: 2.60 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

RECORD OF BOREHOLE No. BH/MW4

Project Number:	BIGC-ENV-461A	Drilling Location:	See Borehole Location Plan	Logged by:	MV
Project Client:	Camarro Developments Inc.	Drilling Method:	HSA+HQ Rock Coring	Compiled by:	MV
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	CME75	Reviewed by:	SS
Project Location:	789-785 Brant Street, Burlington, Ontario	Date Started:	19 Jun 21	Date Completed: 19 Jun 21	Revision No.: 0, 28/4/22

Geodetic Ground Surface Elevation: 92.12 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	INSTRUMENTATION INSTALLATION	COMMENTS
	ASPHALT PAVEMENT: 50 mm asphalt over 150 mm granular bases 0.4	SS	1	92	4	0	92				
	REWORKED NATIVE: Clayey silt, trace sand, trace gravel, greyish brown, moist, soft to stiff 1.5	SS	2	84	9	1	91				
	CLAYEY SILT TILL: trace to some sand, trace gravel, brownish grey, moist to very moist, stiff to very stiff 3.1	SS	3	75	9	2	90				
		SS	4	75	16	3	89				
	SILTY SAND TILL: trace clay, trace to some gravel, occasional Shale fragments, reddish brown, moist to wet, compact 4.5	SS	5	75	21	4	88				
	BEDROCK: Shale, highly weathered to good quality, occasional limestone layers, reddish brown to grey, damp to moist	SS	6	13	50/8	5	87	50/8			
		SS	7	13	50/8	6	86	50/8			
		AU	8	100		7	85				
		AU	9	100		8	84				
		AU	10	100		9	83				
		AU	11	100		10	82				
	ROCK CORE BEGINS	RC	1	100	0	11	81				
	- Very Poor Quality *clay infill in weathered limestone between 12.2 & 12.7 m - Poor Quality	RC	2	100	47	12	80				
	- Poor Quality *clay infill between 14.4 & 14.3 m and 14.9 & 15.4 m	RC	3	86	44	13	79				
	- Very Poor Quality	RC	4	92	0	14	78				
	- Good Quality	RC	5	99	78	15	77				
	- Fair Quality 71.86	RC	6	99	55	16	76				
	End of Borehole 20.3					17	75				
						18	74				
						19	73				
						20	72				

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level not measured upon completion of drilling due introduced drilling water.
3. Groundwater level reading at 1.94 m bgs on June 28, 2021.

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▽ No freestanding groundwater measured in open borehole on completion of drilling.

▼ Groundwater depth observed on 28/06/2021 at a depth of: 1.94 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

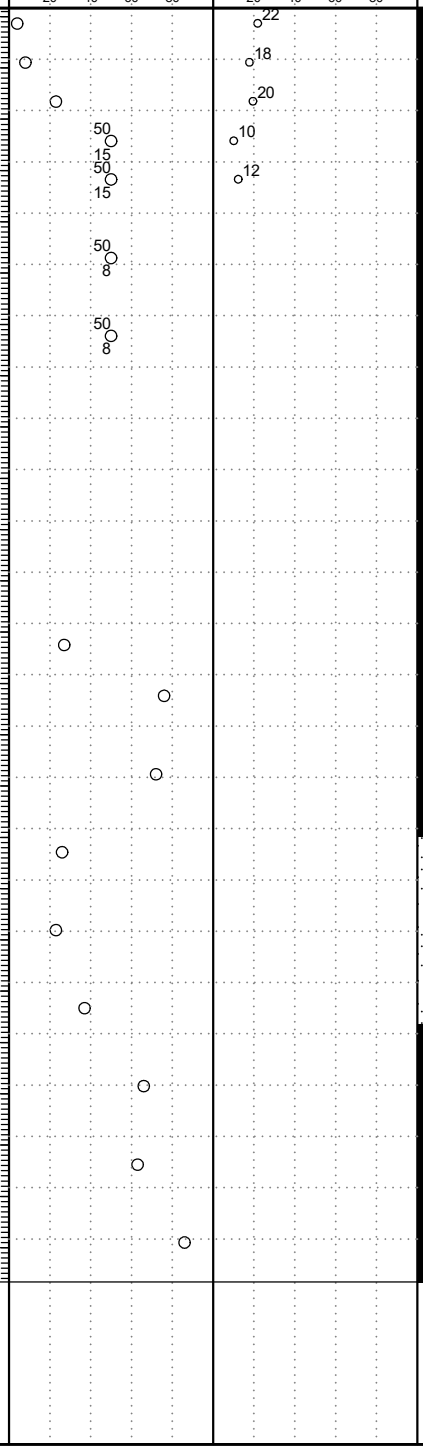
RECORD OF BOREHOLE No. BH/MW5

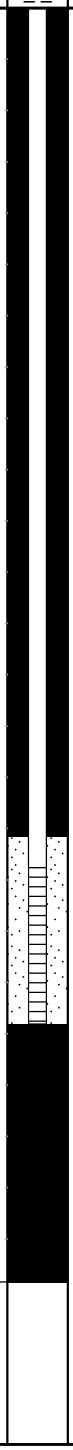
Project Number:	BIGC-ENV-461A	Drilling Location:	See Borehole Location Plan	Logged by:	MV
Project Client:	Camarro Developments Inc.	Drilling Method:	HSA+HQ Rock Coring	Compiled by:	MV
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	CME75	Reviewed by:	SS
Project Location:	789-785 Brant Street, Burlington, Ontario	Date Started:	15 Jun 21	Date Completed: 17 Jun 21	Revision No.: 0, 28/4/22

Geodetic Ground Surface Elevation: 92.17 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)
	ASPHALT PAVEMENT: 50 mm asphalt over 150 mm granular bases 0.4	SS	1	84	4	0	91.97
	REWORKED NATIVE: Clayey silt, trace sand, brown, moist, firm 90.67	SS	2	100	8	1	91
	CLAYEY SILT TILL: trace to some sand, trace gravel, occasional cobble, brown, moist to very moist, very stiff 89.88 2.3	SS	3	95	23	2	90
	SILTY SAND TILL: trace clay, trace to some gravel, brown, moist, very dense 88.97 3.2	SS	4	25	50/15	3	89
	CLAYEY SILT TILL: trace to some sand, trace gravel, reddish brown, moist, hard	SS	5	51	50/15	4	88
	---------- limestone fragments	SS	6	25	50/8	5	87
	86.07 **BEDROCK:** Shale, highly weathered to good quality, occasional limestone layers, reddish brown to grey, damp to moist 6.1	SS	7	25	50/8	6	86
		AU	8	100		7	85
		AU	9	100		8	84
		AU	10	100		9	83
		AU	11	100		10	82
	---------- ROCK CORE BEGINS	RC	1	85	27	11	81
	- Poor Quality Good Quality	RC	2	100	76	12	80
	- Fair Quality *clay infill between14.37 and 14.42 m	RC	3	100	72	13	79
	- Poor Quality *clay infill between 15.76 and 15.78 m	RC	4	100	26	14	78
	- Very Poor Quality *clay infill between 18.08 and 18.38 m	RC	5	100	23	15	77
	- Poor Quality *clay infill between 18.79 & 18.88 m and 19.09 & 19.19 m	RC	6	95	37	16	76
	- Fair Quality *clay infill between 20.32 and 20.36 m	RC	7	95	66	17	75
	- Fair Quality *clay infill between 23.05 and 23.17 m	RC	8	100	63	18	74
	- Good Quality 67.33	RC	9	99	86	19	73
	End of Borehole 24.8					20	72
						21	71
						22	70
						23	69
						24	68

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level not measured upon completion of drilling due introduced drilling water.
3. Groundwater level reading at 2.03 m bgs on June 28, 2021.





COMMENTS

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▽ No freestanding groundwater measured in open borehole on completion of drilling.

▼ Groundwater depth observed on 28/06/2021 at a depth of: 2.03 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

Appendix D – Conceptual Site Models

Figure D.1 - Human Health Conceptual On-Site Model

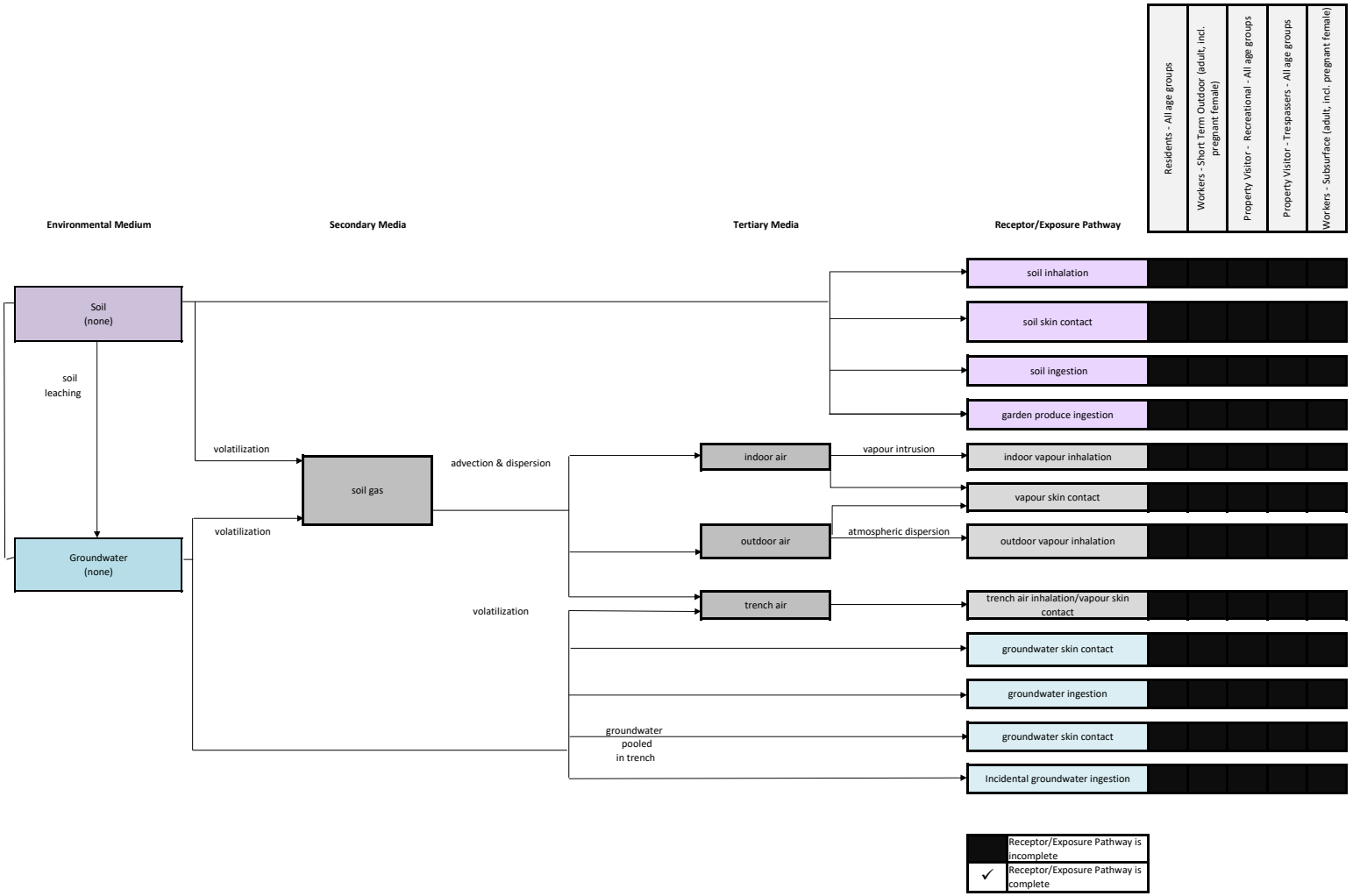
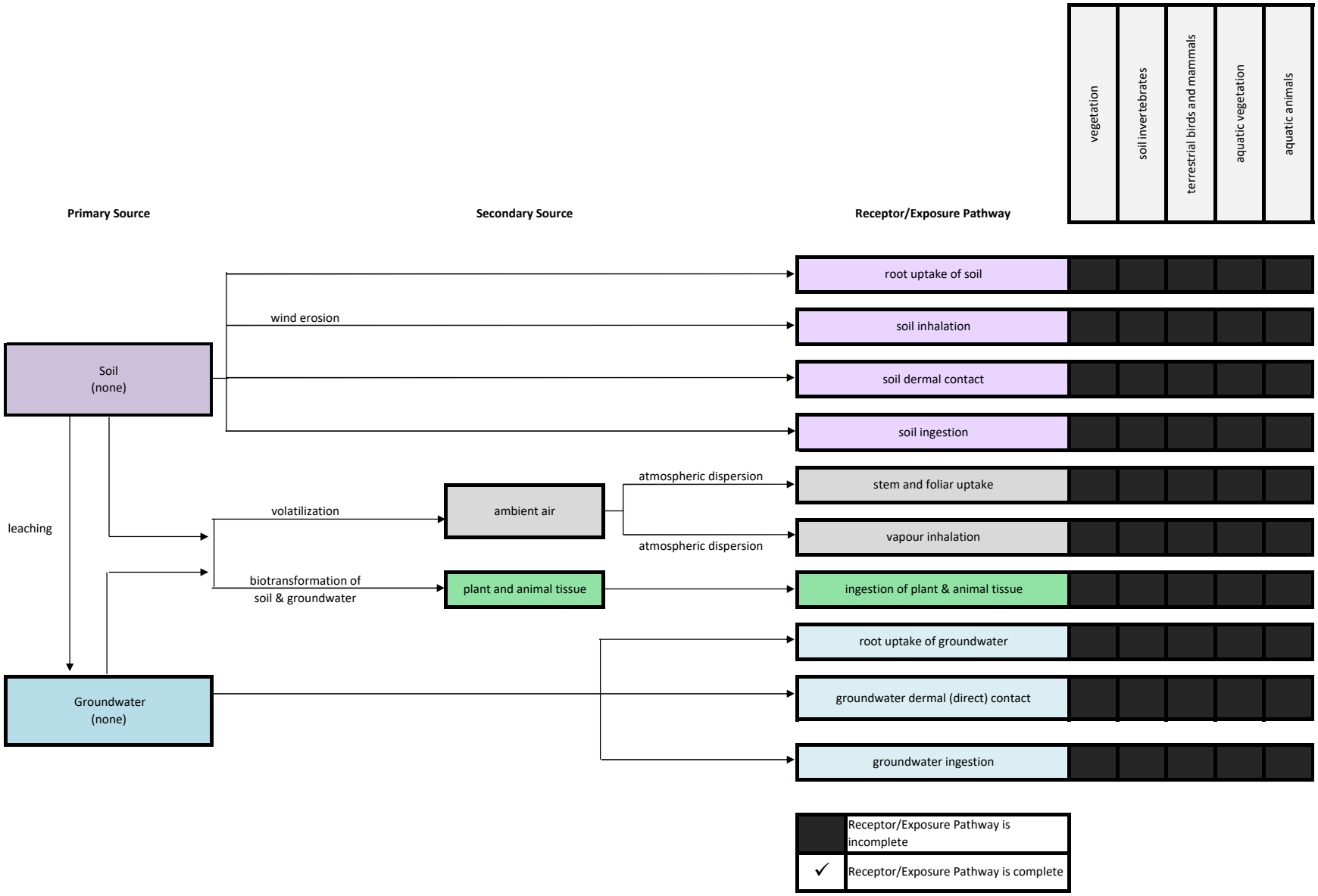


Figure D.2 - Ecological Conceptual On-Site Model



Appendix E – Survey Plan

Appendix F – Certificates of Analysis

AGAT Laboratories

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CLIENT NAME: B.I.G. CONSULTING INC.
12-5500 TOMKEN ROAD
MISSISSAUGA, ON L4W 2Z4
416-214-4880

ATTENTION TO: Eileen Liu

PROJECT: BIGC-ENV-461B

AGAT WORK ORDER: 21T763060

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

DATE REPORTED: Jun 25, 2021

PAGES (INCLUDING COVER): 10

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

Notes

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Certificate of Analysis

AGAT WORK ORDER: 21T763060

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-06-18

DATE REPORTED: 2021-06-25

		SAMPLE DESCRIPTION:		BH2-SS2	BH3-SS2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2021-06-11 12:00	2021-06-10 12:00
Parameter	Unit	G / S	RDL	2625586	2625665
Antimony	µg/g	7.5	0.8	<0.8	<0.8
Arsenic	µg/g	18	1	9	6
Barium	µg/g	390	2.0	106	186
Beryllium	µg/g	5	0.4	0.6	0.8
Boron	µg/g	120	5	12	13
Boron (Hot Water Soluble)	µg/g	1.5	0.10	0.32	1.23
Cadmium	µg/g	1.2	0.5	<0.5	<0.5
Chromium	µg/g	160	5	26	30
Cobalt	µg/g	22	0.5	14.8	13.7
Copper	µg/g	180	1.0	51.4	36.6
Lead	µg/g	120	1	11	14
Molybdenum	µg/g	6.9	0.5	0.6	0.8
Nickel	µg/g	130	1	30	32
Selenium	µg/g	2.4	0.8	<0.8	<0.8
Silver	µg/g	25	0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5
Uranium	µg/g	23	0.50	0.57	1.02
Vanadium	µg/g	86	0.4	36.4	40.6
Zinc	µg/g	340	5	67	87
Chromium, Hexavalent	µg/g	10	0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040
Mercury	µg/g	1.8	0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	**0.793**	**0.789**
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	**11.2**	3.10
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.78	7.62

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21T763060

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-06-18

DATE REPORTED: 2021-06-25

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2625586-2625665 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis perfomed at AGAT Toronto (unless marked by *)

Certified By:



Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21T763060

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2021-06-18

DATE REPORTED: 2021-06-25

		SAMPLE DESCRIPTION:		BH2-SS2	BH3-SS2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2021-06-11 12:00	2021-06-10 12:00
Parameter	**Unit**	**G / S**	**RDL**	**2625586**	**2625665**
Naphthalene	µg/g	0.75	0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.17	0.05	<0.05	<0.05
Acenaphthene	µg/g	58	0.05	<0.05	<0.05
Fluorene	µg/g	69	0.05	<0.05	<0.05
Phenanthrene	µg/g	7.8	0.05	<0.05	<0.05
Anthracene	µg/g	0.74	0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.63	0.05	<0.05	<0.05
Chrysene	µg/g	7.8	0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.48	0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	7.8	0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	3.4	0.05	<0.05	<0.05
Moisture Content	%		0.1	17.2	16.8
Surrogate	**Unit**	**Acceptable Limits**			
Naphthalene-d8	%	50-140		86	86
Acridine-d9	%	50-140		105	96
Terphenyl-d14	%	50-140		99	101

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2625586-2625665 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis perfomed at AGAT Toronto (unless marked by *)

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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Exceedance Summary

AGAT WORK ORDER: 21T763060

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
2625586	BH2-SS2	ON T3 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	0.793
2625586	BH2-SS2	ON T3 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	11.2
2625665	BH3-SS2	ON T3 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	0.789

Results relate only to the items tested. Results apply to samples as received.

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING INC.
AGAT WORK ORDER: 21T763060
PROJECT: BIGC-ENV-461B
ATTENTION TO: Eileen Liu
SAMPLING SITE:
SAMPLED BY:

Soil Analysis

RPT Date: Jun 25, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	2629243		<0.8	<0.8	NA	< 0.8	125%	70%	130%	104%	80%	120%	95%	70%	130%
Arsenic	2629243		3	3	NA	< 1	114%	70%	130%	107%	80%	120%	110%	70%	130%
Barium	2629243		44.4	42.1	5.3%	< 2.0	108%	70%	130%	99%	80%	120%	112%	70%	130%
Beryllium	2629243		<0.4	<0.4	NA	< 0.4	78%	70%	130%	100%	80%	120%	80%	70%	130%
Boron	2629243		8	8	NA	< 5	81%	70%	130%	103%	80%	120%	77%	70%	130%
Boron (Hot Water Soluble)	2639815		0.22	0.20	NA	< 0.10	96%	60%	140%	100%	70%	130%	99%	60%	140%
Cadmium	2629243		<0.5	<0.5	NA	< 0.5	103%	70%	130%	103%	80%	120%	102%	70%	130%
Chromium	2629243		9	9	NA	< 5	105%	70%	130%	110%	80%	120%	113%	70%	130%
Cobalt	2629243		3.2	3.2	0.0%	< 0.5	103%	70%	130%	108%	80%	120%	108%	70%	130%
Copper	2629243		11.5	11.5	0.0%	< 1.0	93%	70%	130%	113%	80%	120%	100%	70%	130%
Lead	2629243		6	6	0.0%	< 1	101%	70%	130%	97%	80%	120%	89%	70%	130%
Molybdenum	2629243		<0.5	<0.5	NA	< 0.5	112%	70%	130%	108%	80%	120%	114%	70%	130%
Nickel	2629243		4	4	NA	< 1	99%	70%	130%	107%	80%	120%	101%	70%	130%
Selenium	2629243		<0.8	<0.8	NA	< 0.8	123%	70%	130%	104%	80%	120%	107%	70%	130%
Silver	2629243		<0.5	<0.5	NA	< 0.5	98%	70%	130%	106%	80%	120%	95%	70%	130%
Thallium	2629243		<0.5	<0.5	NA	< 0.5	111%	70%	130%	103%	80%	120%	98%	70%	130%
Uranium	2629243		<0.50	<0.50	NA	< 0.50	109%	70%	130%	104%	80%	120%	107%	70%	130%
Vanadium	2629243		12.6	13.0	3.1%	< 0.4	109%	70%	130%	104%	80%	120%	113%	70%	130%
Zinc	2629243		20	19	NA	< 5	100%	70%	130%	109%	80%	120%	99%	70%	130%
Chromium, Hexavalent	2635973		<0.2	<0.2	NA	< 0.2	96%	70%	130%	90%	80%	120%	92%	70%	130%
Cyanide, Free	2624444		<0.040	<0.040	NA	< 0.040	97%	70%	130%	105%	80%	120%	112%	70%	130%
Mercury	2629243		<0.10	<0.10	NA	< 0.10	101%	70%	130%	101%	80%	120%	96%	70%	130%
Electrical Conductivity (2:1)	2639815		0.558	0.576	3.2%	< 0.005	104%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	2630022		0.362	0.368	1.6%	NA									
pH, 2:1 CaCl2 Extraction	2625665	2625665	7.62	7.57	0.7%	NA	101%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:



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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T763060

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Jun 25, 2021

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	2629425		<0.05	<0.05	NA	< 0.05	102%	50%	140%	79%	50%	140%	112%	50%	140%
Acenaphthylene	2629425		<0.05	<0.05	NA	< 0.05	113%	50%	140%	100%	50%	140%	77%	50%	140%
Acenaphthene	2629425		<0.05	<0.05	NA	< 0.05	113%	50%	140%	91%	50%	140%	73%	50%	140%
Fluorene	2629425		<0.05	<0.05	NA	< 0.05	118%	50%	140%	94%	50%	140%	100%	50%	140%
Phenanthrene	2629425		<0.05	<0.05	NA	< 0.05	98%	50%	140%	70%	50%	140%	79%	50%	140%
Anthracene	2629425		<0.05	<0.05	NA	< 0.05	117%	50%	140%	105%	50%	140%	106%	50%	140%
Fluoranthene	2629425		<0.05	<0.05	NA	< 0.05	78%	50%	140%	65%	50%	140%	90%	50%	140%
Pyrene	2629425		<0.05	<0.05	NA	< 0.05	70%	50%	140%	63%	50%	140%	89%	50%	140%
Benz(a)anthracene	2629425		<0.05	<0.05	NA	< 0.05	84%	50%	140%	83%	50%	140%	76%	50%	140%
Chrysene	2629425		<0.05	<0.05	NA	< 0.05	86%	50%	140%	76%	50%	140%	87%	50%	140%
Benzo(b)fluoranthene	2629425		<0.05	<0.05	NA	< 0.05	106%	50%	140%	89%	50%	140%	98%	50%	140%
Benzo(k)fluoranthene	2629425		<0.05	<0.05	NA	< 0.05	95%	50%	140%	81%	50%	140%	91%	50%	140%
Benzo(a)pyrene	2629425		<0.05	<0.05	NA	< 0.05	111%	50%	140%	70%	50%	140%	76%	50%	140%
Indeno(1,2,3-cd)pyrene	2629425		<0.05	<0.05	NA	< 0.05	74%	50%	140%	84%	50%	140%	69%	50%	140%
Dibenz(a,h)anthracene	2629425		<0.05	<0.05	NA	< 0.05	76%	50%	140%	92%	50%	140%	76%	50%	140%
Benzo(g,h,i)perylene	2629425		<0.05	<0.05	NA	< 0.05	92%	50%	140%	76%	50%	140%	58%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:

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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T763060

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6036	modified from MSA PART 3, CH 14 and SM 2510 B	EC METER
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER

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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T763060

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	ORG-91-5009	CCME Tier 1 Method	BALANCE

Results relate only to the items tested. Results apply to samples as received.

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webearth.agatlabs.com

LG BIK

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: B.I.G. Consulting Inc.
Contact: Eileen Liu
Address: 505 Consumers Road, Suite 804
Toronto, ON M2J 4V8 Canada
Phone: 647-200-6433 Fax:
Reports to be sent to:
1. Email: eliu@brownfieldigi.com
2. Email:

Regulatory Requirements:

(Please check all applicable boxes)

- [x] Regulation 153/04 — Table 3 (Indicate One) — [ ] Ind/Com [x] Res/Park [ ] Agriculture
- Soil Texture (Check One): [ ] Coarse [x] Fine
- [ ] Excess Soils R406 — Table (Indicate One)
- [ ] Regulation 558
- [ ] CCME
- [ ] Sewer Use [ ] Sanitary [ ] Storm — Region
- [ ] Prov. Water Quality Objectives (PWQO)
- [ ] Other — Indicate One

Is this submission for a **Record of Site Condition?** [x] Yes [ ] No

Report Guideline on *Certificate of Analysis* [x] Yes [ ] No

Project Information:

Project: BIGC-ENV-461B
Site Location: 789 Brant Street, Burlington
Sampled By: MN
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes [ ] No [ ]

Company: B.I.G. Consulting Inc.
Contact: Laine Dougherty
Address: 5500 Tomken Road, Unit 12
Email: Mississauga ON L4W 2Z4 Canada

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Laboratory Use Only

Work Order #: 21776 3060

Cooler Quantity:
Arrival Temperatures: 4.3 | 4.6 | 5.1
Custody Seal Intact: [ ] Yes [ ] No [ ] N/A
Notes: Bagged ice

Turnaround Time (TAT) Required:

Regular TAT [x] 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

[ ] 3 Business Days [ ] 2 Business Days [ ] Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - CrVI, Hg, HWSB	BTEX, F1-F4 PHCs (Analyze F4G if required Yes/No)	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: M&I, VOCs, ABNs, B(a)P, PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach: Metals, VOCs, SVOCs	Excess Soils Characterization Package: pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH2 - SS2	June 11	12:00 PM	2	S		N	✓			✓							N
BH3 - SS2	June 10	12:00 PM	2	S		N	✓			✓							N

'21 JUN 18 13:35

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Sai S Sai S	18 JUN 2021	11:50	SIMRAN	18/21	

Page of

AGAT Laboratories

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CLIENT NAME: B.I.G. CONSULTING
804-505 CONSUMERS ROAD
TORONTO, ON M2J 4V8

ATTENTION TO: Eileen Liu

PROJECT: BIGC-ENV-461B

AGAT WORK ORDER: 21T764209

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Jun 29, 2021

PAGES (INCLUDING COVER): 11

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

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Certificate of Analysis

AGAT WORK ORDER: 21T764209

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING

ATTENTION TO: Eileen Liu

SAMPLING SITE:Brant St, Burlington

SAMPLED BY:MV

O. Reg. 153(511) - EC/SAR

DATE RECEIVED: 2021-06-21

DATE REPORTED: 2021-06-29

				SAMPLE DESCRIPTION:	BH4-SS1
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2021-06-15 12:00
Parameter	Unit	G / S	RDL	2642084	
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	1.41	
Sodium Adsorption Ratio	NA	5	NA	6.99	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2642084 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil).

SAR is a calculated parameter.

Analysis perfomed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 21T764209

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING

ATTENTION TO: Eileen Liu

SAMPLING SITE:Brant St, Burlington

SAMPLED BY:MV

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-06-21

DATE REPORTED: 2021-06-29

		SAMPLE DESCRIPTION:		BH1-SS3	BH5-SS2	DUP01030
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2021-06-14 12:00	2021-06-15 12:00	2021-06-14 12:00
Parameter	Unit	G / S	RDL	2642072	2642074	2642077
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	8	3	6
Barium	µg/g	390	2.0	108	123	87.7
Beryllium	µg/g	5	0.4	0.8	0.9	0.6
Boron	µg/g	120	5	15	15	12
Boron (Hot Water Soluble)	µg/g	1.5	0.10	0.16	0.55	0.22
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	23	30	20
Cobalt	µg/g	22	0.5	13.8	13.6	12.2
Copper	µg/g	180	1.0	49.1	34.8	44.5
Lead	µg/g	120	1	12	14	10
Molybdenum	µg/g	6.9	0.5	0.7	<0.5	0.6
Nickel	µg/g	130	1	26	30	22
Selenium	µg/g	2.4	0.8	<0.8	<0.8	<0.8
Silver	µg/g	25	0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5
Uranium	µg/g	23	0.50	0.52	0.65	<0.50
Vanadium	µg/g	86	0.4	32.6	35.9	28.0
Zinc	µg/g	340	5	64	81	58
Chromium, Hexavalent	µg/g	10	0.2	<0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040	<0.040
Mercury	µg/g	1.8	0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	0.503	0.511	0.358
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	8.19	5.31	5.93
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.63	7.60	7.85

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21T764209

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING

ATTENTION TO: Eileen Liu

SAMPLING SITE:Brant St, Burlington

SAMPLED BY:MV

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-06-21

DATE REPORTED: 2021-06-29

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2642072-2642077 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis perfomed at AGAT Toronto (unless marked by *)

Certified By:



Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21T764209

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING

ATTENTION TO: Eileen Liu

SAMPLING SITE:Brant St, Burlington

SAMPLED BY:MV

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2021-06-21

DATE REPORTED: 2021-06-29

				SAMPLE DESCRIPTION:	BH1-SS3	BH5-SS2	DUP05020
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2021-06-14 12:00	2021-06-15 12:00	2021-06-15 12:00
Parameter	Unit	G / S	RDL		2642072	2642074	2642080
Naphthalene	µg/g	0.75	0.05		<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.17	0.05		<0.05	<0.05	<0.05
Acenaphthene	µg/g	58	0.05		<0.05	<0.05	<0.05
Fluorene	µg/g	69	0.05		<0.05	<0.05	<0.05
Phenanthrene	µg/g	7.8	0.05		<0.05	<0.05	<0.05
Anthracene	µg/g	0.74	0.05		<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05		<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05		<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.63	0.05		<0.05	<0.05	<0.05
Chrysene	µg/g	7.8	0.05		<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05		<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05		<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05		<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.48	0.05		<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05		<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	7.8	0.05		<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	3.4	0.05		<0.05	<0.05	<0.05
Moisture Content	%		0.1		13.3	15.6	18.5
Surrogate	Unit	Acceptable Limits					
Naphthalene-d8	%	50-140			99	72	77
Acridine-d9	%	50-140			69	76	110
Terphenyl-d14	%	50-140			83	83	76

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2642072-2642080 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis perfomed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

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Exceedance Summary

AGAT WORK ORDER: 21T764209

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING

ATTENTION TO: Eileen Liu

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
2642072	BH1-SS3	ON T3 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	8.19
2642074	BH5-SS2	ON T3 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	5.31
2642077	DUP01030	ON T3 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	5.93
2642084	BH4-SS1	ON T3 S RPI MFT	O. Reg. 153(511) - EC/SAR	Electrical Conductivity (2:1)	mS/cm	0.7	1.41
2642084	BH4-SS1	ON T3 S RPI MFT	O. Reg. 153(511) - EC/SAR	Sodium Adsorption Ratio	NA	5	6.99

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING
AGAT WORK ORDER: 21T764209
PROJECT: BIGC-ENV-461B
ATTENTION TO: Eileen Liu
SAMPLING SITE:Brant St, Burlington
SAMPLED BY:MV

Soil Analysis

RPT Date: Jun 29, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	2646887		<0.8	<0.8	NA	< 0.8	105%	70%	130%	98%	80%	120%	94%	70%	130%
Arsenic	2646887		5	5	0.0%	< 1	110%	70%	130%	101%	80%	120%	105%	70%	130%
Barium	2646887		89.3	97.1	8.4%	< 2.0	110%	70%	130%	99%	80%	120%	104%	70%	130%
Beryllium	2646887		0.7	0.7	NA	< 0.4	89%	70%	130%	97%	80%	120%	100%	70%	130%
Boron	2646887		8	9	NA	< 5	79%	70%	130%	98%	80%	120%	92%	70%	130%
Boron (Hot Water Soluble)	2645696		0.20	0.18	NA	< 0.10	95%	60%	140%	96%	70%	130%	97%	60%	140%
Cadmium	2646887		<0.5	<0.5	NA	< 0.5	110%	70%	130%	99%	80%	120%	99%	70%	130%
Chromium	2646887		23	24	NA	< 5	106%	70%	130%	108%	80%	120%	99%	70%	130%
Cobalt	2646887		11.4	10.5	8.2%	< 0.5	105%	70%	130%	107%	80%	120%	100%	70%	130%
Copper	2646887		30.5	23.6	25.5%	< 1.0	94%	70%	130%	107%	80%	120%	101%	70%	130%
Lead	2646887		17	19	11.1%	< 1	103%	70%	130%	96%	80%	120%	96%	70%	130%
Molybdenum	2646887		1.1	0.6	NA	< 0.5	106%	70%	130%	103%	80%	120%	106%	70%	130%
Nickel	2646887		22	20	9.5%	< 1	99%	70%	130%	104%	80%	120%	93%	70%	130%
Selenium	2646887		<0.8	<0.8	NA	< 0.8	108%	70%	130%	96%	80%	120%	98%	70%	130%
Silver	2646887		<0.5	<0.5	NA	< 0.5	102%	70%	130%	101%	80%	120%	94%	70%	130%
Thallium	2646887		<0.5	<0.5	NA	< 0.5	116%	70%	130%	100%	80%	120%	100%	70%	130%
Uranium	2646887		0.57	0.56	NA	< 0.50	105%	70%	130%	99%	80%	120%	103%	70%	130%
Vanadium	2646887		36.0	35.6	1.1%	< 0.4	111%	70%	130%	104%	80%	120%	101%	70%	130%
Zinc	2646887		71	74	4.1%	< 5	98%	70%	130%	101%	80%	120%	114%	70%	130%
Chromium, Hexavalent	2642072	2642072	<0.2	<0.2	NA	< 0.2	108%	70%	130%	90%	80%	120%	76%	70%	130%
Cyanide, Free	2637226		<0.040	<0.040	NA	< 0.040	103%	70%	130%	92%	80%	120%	84%	70%	130%
Mercury	2646887		<0.10	<0.10	NA	< 0.10	95%	70%	130%	96%	80%	120%	90%	70%	130%
Electrical Conductivity (2:1)	2642072	2642072	0.503	0.515	2.4%	< 0.005	107%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	2642072	2642072	8.19	7.88	3.9%	NA									
pH, 2:1 CaCl2 Extraction	2660241		7.70	7.67	0.4%	NA	101%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

O. Reg. 153(511) - EC/SAR									
Electrical Conductivity (2:1)	2642072	2642072	0.503	0.515	2.3%	< 0.005	107%	80%	120%
Sodium Adsorption Ratio	2642072	2642072	8.19	7.88	3.9%	NA			

Comments: NA signifies Not Applicable.

Certified By:



AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING
AGAT WORK ORDER: 21T764209
PROJECT: BIGC-ENV-461B
ATTENTION TO: Eileen Liu
SAMPLING SITE:Brant St, Burlington
SAMPLED BY:MV

Trace Organics Analysis

RPT Date: Jun 29, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	2629425		<0.05	<0.05	NA	< 0.05	102%	50%	140%	79%	50%	140%	112%	50%	140%
Acenaphthylene	2629425		<0.05	<0.05	NA	< 0.05	113%	50%	140%	100%	50%	140%	77%	50%	140%
Acenaphthene	2629425		<0.05	<0.05	NA	< 0.05	113%	50%	140%	91%	50%	140%	73%	50%	140%
Fluorene	2629425		<0.05	<0.05	NA	< 0.05	118%	50%	140%	94%	50%	140%	100%	50%	140%
Phenanthrene	2629425		<0.05	<0.05	NA	< 0.05	98%	50%	140%	70%	50%	140%	79%	50%	140%
Anthracene	2629425		<0.05	<0.05	NA	< 0.05	117%	50%	140%	105%	50%	140%	106%	50%	140%
Fluoranthene	2629425		<0.05	<0.05	NA	< 0.05	78%	50%	140%	65%	50%	140%	90%	50%	140%
Pyrene	2629425		<0.05	<0.05	NA	< 0.05	70%	50%	140%	63%	50%	140%	89%	50%	140%
Benz(a)anthracene	2629425		<0.05	<0.05	NA	< 0.05	84%	50%	140%	83%	50%	140%	76%	50%	140%
Chrysene	2629425		<0.05	<0.05	NA	< 0.05	86%	50%	140%	76%	50%	140%	87%	50%	140%
Benzo(b)fluoranthene	2629425		<0.05	<0.05	NA	< 0.05	106%	50%	140%	89%	50%	140%	98%	50%	140%
Benzo(k)fluoranthene	2629425		<0.05	<0.05	NA	< 0.05	95%	50%	140%	81%	50%	140%	91%	50%	140%
Benzo(a)pyrene	2629425		<0.05	<0.05	NA	< 0.05	111%	50%	140%	70%	50%	140%	76%	50%	140%
Indeno(1,2,3-cd)pyrene	2629425		<0.05	<0.05	NA	< 0.05	74%	50%	140%	84%	50%	140%	69%	50%	140%
Dibenz(a,h)anthracene	2629425		<0.05	<0.05	NA	< 0.05	76%	50%	140%	92%	50%	140%	76%	50%	140%
Benzo(g,h,i)perylene	2629425		<0.05	<0.05	NA	< 0.05	92%	50%	140%	76%	50%	140%	58%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popowkolof

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Method Summary

CLIENT NAME: B.I.G. CONSULTING

AGAT WORK ORDER: 21T764209

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:Brant St, Burlington

SAMPLED BY:MV

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Electrical Conductivity (2:1)	INOR-93-6036	modified from MSA PART 3, CH 14 and SM 2510 B	EC METER
Sodium Adsorption Ratio	INOR-93-6007	McKeague 4.12 & 3.26 & EPA SW-846 6010C	ICP/OES
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER

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Method Summary

CLIENT NAME: B.I.G. CONSULTING

AGAT WORK ORDER: 21T764209

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:Brant St, Burlington

SAMPLED BY:MV

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	ORG-91-5009	CCME Tier 1 Method	BALANCE

Results relate only to the items tested. Results apply to samples as received.

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Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only
Work Order #: 21T764209
Cooler Quantity: 1 large
Arrival Temperatures: 1.9 | 2.8 | 2.2
Custody Seal Intact: ☑ Yes ☐ No ☐ N/A
Notes: Free Ice

Report Information:
Company: B.I.G. Consulting Inc.
Contact: Eileen Liu
Address: 505 Consumers Road, Suite 804
Toronto, ON M2J 4V8
Phone: 647-200-6433 Fax:
Reports to be sent to:
1. Email: eliu@brownfieldigi.com
2. Email:

Regulatory Requirements:
(Please check all applicable boxes)
☑ Regulation 153/04 — Table 3 (Indicate One) — ☐ Ind/Com ☑ Res/Park ☐ Agriculture
Soil Texture (Check One): ☐ Coarse ☑ Fine
☐ Excess Soils R406 — Table (Indicate One)
☐ Regulation 558
☐ CCME
☐ Sewer Use ☐ Sanitary ☐ Storm — (Region)
☐ Prov. Water Quality Objectives (PWQO)
☐ Other (Indicate One)

Is this submission for a **Record of Site Condition?** ☑ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☑ Yes ☐ No

Turnaround Time (TAT) Required:
Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays
For 'Same Day' analysis, please contact your AGAT CPM

Project Information:
Project: BIGC-ENV-461B
Site Location: Brant St. Burlington
Sampled By: MW
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:
Bill To Same: Yes ☐ No ☐
Company: B.I.G. Consulting Inc.
Contact: Laine Dougherty
Address: 5500 Tomken Road, Unit 12 Mississauga ON, L4W 2Z4
Email: ldougherty@brownfieldigi.com

Sample Matrix Legend
B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - CrVI, Hg, HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach: SPLP: ☐ Metals ☐ VCCs ☐ SVCCs	Excess Soils Characterization Package: pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH1-SS3	June 14	12:00 AM/PM	2	S		N	✓			✓							N
BH5-SS2	June 15	12:00 AM/PM	2	S		N	✓			✓							N
DUP01030	June 14	12:00 AM/PM	1	S		N	✓										N
DUP05020	June 15	12:00 AM/PM	1	S		N				✓							N
BH4-SS1	June 15	12:00 AM/PM	1	S		N										✓	N
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Julia Romano	June 21/21	4:00pm	NEAL		
Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time

21 JUN 21 4:35PM
Page ____ of ____
No:

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CLIENT NAME: B.I.G. CONSULTING INC.
12-5500 TOMKEN ROAD
MISSISSAUGA, ON L4W 2Z4
416-214-4880
ATTENTION TO: Eileen Liu
PROJECT: BIGC-ENV-461B
AGAT WORK ORDER: 21T768027
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
WATER ANALYSIS REVIEWED BY: Yris Verastegui, Report Reviewer
DATE REPORTED: Jul 08, 2021
PAGES (INCLUDING COVER): 9
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This report shall not be reproduced or distributed, in whole or in part, without the prior written consent of AGAT Laboratories.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the information contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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Certificate of Analysis

AGAT WORK ORDER: 21T768027

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:789-795 Brant Street, Burlington

SAMPLED BY:SL

O. Reg. 153(511) - PAHs (Water)

DATE RECEIVED: 2021-06-29

DATE REPORTED: 2021-07-08

				SAMPLE DESCRIPTION:	MW2	MW4
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2021-06-29 11:50	2021-06-29 13:20
Parameter	Unit	G / S	RDL		2676807	2676816
Naphthalene	µg/L	6400	0.20		<0.20	<0.20
Acenaphthylene	µg/L	1.8	0.20		<0.20	<0.20
Acenaphthene	µg/L	1700	0.20		<0.20	<0.20
Fluorene	µg/L	400	0.20		<0.20	<0.20
Phenanthrene	µg/L	580	0.10		<0.10	<0.10
Anthracene	µg/L	2.4	0.10		<0.10	<0.10
Fluoranthene	µg/L	130	0.20		<0.20	<0.20
Pyrene	µg/L	68	0.20		<0.20	<0.20
Benzo(a)anthracene	µg/L	4.7	0.20		<0.20	<0.20
Chrysene	µg/L	1	0.10		<0.10	<0.10
Benzo(b)fluoranthene	µg/L	0.75	0.10		<0.10	<0.10
Benzo(k)fluoranthene	µg/L	0.4	0.10		<0.10	<0.10
Benzo(a)pyrene	µg/L	0.81	0.01		<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20		<0.20	<0.20
Dibenz(a,h)anthracene	µg/L	0.52	0.20		<0.20	<0.20
Benzo(g,h,i)perylene	µg/L	0.2	0.20		<0.20	<0.20
2-and 1-methyl Naphthalene	µg/L	1800	0.20		<0.20	<0.20
Sediment					No	No
Surrogate	Unit	Acceptable Limits				
Naphthalene-d8	%	50-140			105	80
Acridine-d9	%	50-140			78	94
Terphenyl-d14	%	50-140			88	88

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2676807-2676816 Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&(j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Certificate of Analysis

AGAT WORK ORDER: 21T768027

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:789-795 Brant Street, Burlington

SAMPLED BY:SL

O. Reg. 153(511) - Metals & Inorganics (Water)

DATE RECEIVED: 2021-06-29

DATE REPORTED: 2021-07-08

		SAMPLE DESCRIPTION:		MW2		MW4
		SAMPLE TYPE:		Water		Water
		DATE SAMPLED:		2021-06-29 11:50		2021-06-29 13:20
Parameter	Unit	G / S	RDL	2676807	RDL	2676816
Dissolved Antimony	µg/L	20000	1.0	1.6	1.0	2.0
Dissolved Arsenic	µg/L	1900	1.0	<1.0	1.0	<1.0
Dissolved Barium	µg/L	29000	2.0	34.9	2.0	65.9
Dissolved Beryllium	µg/L	67	0.50	<0.50	0.50	<0.50
Dissolved Boron	µg/L	45000	100.0	2520	10.0	374
Dissolved Cadmium	µg/L	2.7	0.20	<0.20	0.20	<0.20
Dissolved Chromium	µg/L	810	2.0	<2.0	2.0	<2.0
Dissolved Cobalt	µg/L	66	0.50	<0.50	0.50	<0.50
Dissolved Copper	µg/L	87	1.0	<1.0	1.0	3.7
Dissolved Lead	µg/L	25	0.50	<0.50	0.50	3.65
Dissolved Molybdenum	µg/L	9200	0.50	19.8	0.50	23.2
Dissolved Nickel	µg/L	490	3.0	<3.0	3.0	3.1
Dissolved Selenium	µg/L	63	1.0	7.2	1.0	2.4
Dissolved Silver	µg/L	1.5	0.20	<0.20	0.20	<0.20
Dissolved Thallium	µg/L	510	0.30	<0.30	0.30	<0.30
Dissolved Uranium	µg/L	420	0.50	<0.50	0.50	<0.50
Dissolved Vanadium	µg/L	250	0.40	<0.40	0.40	<0.40
Dissolved Zinc	µg/L	1100	5.0	<5.0	5.0	12.1
Mercury	µg/L	2.8	0.02	<0.02	0.02	<0.02
Chromium VI	µg/L	140	2	<2	2	<2
Cyanide, Free	µg/L	66	2	<2	2	<2
Dissolved Sodium	µg/L	2300000	250	332000	250	123000
Chloride	µg/L	2300000	100	979000	100	281000
Electrical Conductivity	uS/cm	NA	2	2710	2	1310
pH	pH Units		NA	7.83	NA	7.66

Certified By: Iris Verástegui

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Certificate of Analysis

AGAT WORK ORDER: 21T768027

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:789-795 Brant Street, Burlington

SAMPLED BY:SL

O. Reg. 153(511) - Metals & Inorganics (Water)

DATE RECEIVED: 2021-06-29

DATE REPORTED: 2021-07-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2676807-2676816 Metals analysis completed on a filtered sample.
Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Iris Verástegui

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T768027

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:789-795 Brant Street, Burlington

SAMPLED BY:SL

Trace Organics Analysis

RPT Date: Jul 08, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	2661970		< 0.20	< 0.20	NA	< 0.20	94%	50%	140%	99%	50%	140%	113%	50%	140%
Acenaphthylene	2661970		< 0.20	< 0.20	NA	< 0.20	109%	50%	140%	110%	50%	140%	103%	50%	140%
Acenaphthene	2661970		< 0.20	< 0.20	NA	< 0.20	99%	50%	140%	104%	50%	140%	105%	50%	140%
Fluorene	2661970		< 0.20	< 0.20	NA	< 0.20	96%	50%	140%	77%	50%	140%	85%	50%	140%
Phenanthrene	2661970		< 0.10	< 0.10	NA	< 0.10	74%	50%	140%	108%	50%	140%	97%	50%	140%
Anthracene	2661970		< 0.10	< 0.10	NA	< 0.10	105%	50%	140%	117%	50%	140%	112%	50%	140%
Fluoranthene	2661970		< 0.20	< 0.20	NA	< 0.20	103%	50%	140%	93%	50%	140%	104%	50%	140%
Pyrene	2661970		< 0.20	< 0.20	NA	< 0.20	103%	50%	140%	107%	50%	140%	100%	50%	140%
Benzo(a)anthracene	2661970		< 0.20	< 0.20	NA	< 0.20	73%	50%	140%	80%	50%	140%	78%	50%	140%
Chrysene	2661970		< 0.10	< 0.10	NA	< 0.10	107%	50%	140%	97%	50%	140%	116%	50%	140%
Benzo(b)fluoranthene	2661970		< 0.10	< 0.10	NA	< 0.10	94%	50%	140%	105%	50%	140%	84%	50%	140%
Benzo(k)fluoranthene	2661970		< 0.10	< 0.10	NA	< 0.10	86%	50%	140%	105%	50%	140%	99%	50%	140%
Benzo(a)pyrene	2661970		< 0.01	< 0.01	NA	< 0.01	101%	50%	140%	101%	50%	140%	90%	50%	140%
Indeno(1,2,3-cd)pyrene	2661970		< 0.20	< 0.20	NA	< 0.20	81%	50%	140%	78%	50%	140%	74%	50%	140%
Dibenz(a,h)anthracene	2661970		< 0.20	< 0.20	NA	< 0.20	78%	50%	140%	76%	50%	140%	73%	50%	140%
Benzo(g,h,i)perylene	2661970		< 0.20	< 0.20	NA	< 0.20	85%	50%	140%	82%	50%	140%	82%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popowkolof

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T768027

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:789-795 Brant Street, Burlington

SAMPLED BY:SL

Water Analysis

RPT Date: Jul 08, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Water)															
Dissolved Antimony	2676024		<1.0	<1.0	NA	< 1.0	99%	70%	130%	99%	80%	120%	98%	70%	130%
Dissolved Arsenic	2676024		<1.0	<1.0	NA	< 1.0	92%	70%	130%	105%	80%	120%	100%	70%	130%
Dissolved Barium	2676024		76.7	79.4	3.5%	< 2.0	93%	70%	130%	95%	80%	120%	90%	70%	130%
Dissolved Beryllium	2676024		<0.50	<0.50	NA	< 0.50	103%	70%	130%	110%	80%	120%	104%	70%	130%
Dissolved Boron	2676024		117	128	9.0%	< 10.0	111%	70%	130%	118%	80%	120%	101%	70%	130%
Dissolved Cadmium	2676024		<0.20	<0.20	NA	< 0.20	100%	70%	130%	107%	80%	120%	104%	70%	130%
Dissolved Chromium	2676024		<2.0	<2.0	NA	< 2.0	102%	70%	130%	104%	80%	120%	96%	70%	130%
Dissolved Cobalt	2676024		<0.50	<0.50	NA	< 0.50	102%	70%	130%	105%	80%	120%	95%	70%	130%
Dissolved Copper	2676024		1.3	1.6	NA	< 1.0	100%	70%	130%	106%	80%	120%	98%	70%	130%
Dissolved Lead	2676024		<0.50	<0.50	NA	< 0.50	98%	70%	130%	100%	80%	120%	96%	70%	130%
Dissolved Molybdenum	2676024		20.7	19.2	7.5%	< 0.50	102%	70%	130%	108%	80%	120%	98%	70%	130%
Dissolved Nickel	2676024		<3.0	<3.0	NA	< 3.0	101%	70%	130%	104%	80%	120%	95%	70%	130%
Dissolved Selenium	2676024		<1.0	1.9	NA	< 1.0	99%	70%	130%	106%	80%	120%	112%	70%	130%
Dissolved Silver	2676024		<0.20	<0.20	NA	< 0.20	99%	70%	130%	104%	80%	120%	96%	70%	130%
Dissolved Thallium	2676024		<0.30	<0.30	NA	< 0.30	95%	70%	130%	104%	80%	120%	100%	70%	130%
Dissolved Uranium	2676024		3.42	3.48	1.7%	< 0.50	102%	70%	130%	107%	80%	120%	102%	70%	130%
Dissolved Vanadium	2676024		<0.40	0.81	NA	< 0.40	101%	70%	130%	110%	80%	120%	97%	70%	130%
Dissolved Zinc	2676024		<5.0	<5.0	NA	< 5.0	106%	70%	130%	105%	80%	120%	102%	70%	130%
Mercury	2675567		<0.02	<0.02	NA	< 0.02	103%	70%	130%	101%	80%	120%	100%	70%	130%
Chromium VI	2687790		<2	<2	NA	< 2	100%	70%	130%	108%	80%	120%	103%	70%	130%
Cyanide, Free	2683152		<2	<2	NA	< 2	102%	70%	130%	103%	80%	120%	118%	70%	130%
Dissolved Sodium	2676024		86500	90600	4.6%	< 50	98%	70%	130%	96%	80%	120%	95%	70%	130%
Chloride	2683260		108000	104000	3.8%	< 100	90%	70%	130%	100%	80%	120%	106%	70%	130%
Electrical Conductivity	2683610		349	342	2.0%	< 2	109%	90%	110%						
pH	2683610		7.57	7.81	3.1%	NA	99%	90%	110%						

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Certified By: Iris Verástegui

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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T768027

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:789-795 Brant Street, Burlington

SAMPLED BY:SL

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluorene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Chrysene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Sediment			

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Method Summary

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AGAT WORK ORDER: 21T768027

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:789-795 Brant Street, Burlington

SAMPLED BY:SL

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Mercury	MET-93-6100	modified from EPA 245.2 and SM 3112 B	CVAAS
Chromium VI	INOR-93-6034	modified from SM 3500-CR B	LACHAT FIA
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Dissolved Sodium	MET-93-6105	modified from EPA 6010D	ICP/OES
Chloride	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Electrical Conductivity	INOR-93-6000	SM 2510 B	PC TITRATE
pH	INOR-93-6000	modified from SM 4500-H+ B	PC TITRATE

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

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1 LG BIK

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: BIG Consulting Inc
Contact: Eileen Liu
Address: 12-5500 Tomken Rd
Mississauga ON L4W 2Z4
Phone: 905 780 0385 Fax:
Reports to be sent to:
1. Email: eliu@brownfieldgi.com
2. Email:

Project Information:

Project: BIG-ENV-461A
Site Location: 787-795 Brant St, Burlington
Sampled By: SZ
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:
Contact:
Address:
Email: tdougherty@brownfieldgi.; mkeyes@brownfieldgi.com

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 3 (Indicate One)
☐ Ind/Com
☑ Res/Park
☐ Agriculture
Soil Texture (Check One)
☐ Coarse
☑ Fine

☐ Excess Soils R406
Table (Indicate One)
☐ Regulation 558
☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
(Region)
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
(Indicate One)

Is this submission for a **Record of Site Condition?** ☑ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☑ Yes ☐ No

Laboratory Use Only

Work Order #: 21T768027

Cooler Quantity:
Arrival Temperatures: 32-3 | 28-9 | 29.8
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: Ice-packs

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
MW2	21/06/29	1150 AM/PM	8	GW		Y	✓			✓							N
MW4	21/06/29	1320 AM/PM	8	GW		Y	✓			✓							N
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Shirley Li	21/06/29	1600	SIMRAN BC	June 29/21	5:00PM
	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 1 of 1

№: 112148

Document ID: DIV-78-1511.018

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT

Revision Date: January 24, 2020

AGAT Laboratories

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CLIENT NAME: B.I.G. CONSULTING INC.
12-5500 TOMKEN ROAD
MISSISSAUGA, ON L4W 2Z4
416-214-4880

ATTENTION TO: Eileen Liu

PROJECT: BIGC-ENV-461B

AGAT WORK ORDER: 21T768028

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Jul 08, 2021

PAGES (INCLUDING COVER): 12

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. Measurement Uncertainty is not taken into consideration when stating conformity with a specified requirement.

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Certificate of Analysis

AGAT WORK ORDER: 21T768028

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:789 - 795 Brant St, Burlington

SAMPLED BY:SL

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)

DATE RECEIVED: 2021-06-29

DATE REPORTED: 2021-07-08

				SAMPLE DESCRIPTION:	MW1	MW2	MW3	MW4	MW5	DUP20	Trip Blank
				SAMPLE TYPE:	Water	Water	Water	Water	Water	Water	Water
				DATE SAMPLED:	2021-06-29 11:00	2021-06-29 11:30	2021-06-29 12:00	2021-06-29 12:30	2021-06-29 13:00	2021-06-29 11:45	2021-06-29
Parameter	Unit	G / S	RDL		2676837	2676839	2676840	2676841	2676842	2676843	2676844
F1 (C6 - C10)	µg/L	750	25		<25	<25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25		<25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100		<100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100		<100	<100	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100		<100	<100	<100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA	NA	NA	NA	NA	NA	NA
Sediment					No	No	No	No	No	No	No
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	50-140			95.2	111	117	100	77.5	109	104
Terphenyl	%	60-140			110	77	88	107	97	93	66

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2676837-2676844 The C6-C10 fraction is calculated using Toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and nC34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6-C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21T768028

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:789 - 795 Brant St, Burlington

SAMPLED BY:SL

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2021-06-29

DATE REPORTED: 2021-07-08

		SAMPLE DESCRIPTION:		MW1		MW2		MW3		MW4
		SAMPLE TYPE:		Water		Water		Water		Water
		DATE SAMPLED:		2021-06-29 11:00		2021-06-29 11:30		2021-06-29 12:00		2021-06-29 12:30
Parameter	Unit	G / S	RDL	2676837	RDL	2676839	RDL	2676840	RDL	2676841
Dichlorodifluoromethane	µg/L	4400	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
Vinyl Chloride	µg/L	1.7	0.68	<0.68	0.34	<0.34	0.68	<0.68	0.17	<0.17
Bromomethane	µg/L	56	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
Trichlorofluoromethane	µg/L	2500	1.60	<1.60	0.80	<0.80	1.60	<1.60	0.40	<0.40
Acetone	µg/L	130000	4.0	<4.0	2.0	<2.0	4.0	<4.0	1.0	<1.0
1,1-Dichloroethylene	µg/L	17	1.20	<1.20	0.60	<0.60	1.20	<1.20	0.30	<0.30
Methylene Chloride	µg/L	5500	1.20	<1.20	0.60	<0.60	1.20	<1.20	0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	17	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
Methyl tert-butyl ether	µg/L	1400	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
1,1-Dichloroethane	µg/L	3100	1.20	<1.20	0.60	<0.60	1.20	<1.20	0.30	<0.30
Methyl Ethyl Ketone	µg/L	1500000	4.0	<4.0	2.0	<2.0	4.0	<4.0	1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	17	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
Chloroform	µg/L	22	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	17.4
1,2-Dichloroethane	µg/L	12	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
1,1,1-Trichloroethane	µg/L	6700	1.20	<1.20	0.60	<0.60	1.20	<1.20	0.30	<0.30
Carbon Tetrachloride	µg/L	8.4	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
Benzene	µg/L	430	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
1,2-Dichloropropane	µg/L	140	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
Trichloroethylene	µg/L	17	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
Bromodichloromethane	µg/L	85000	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	7.00
Methyl Isobutyl Ketone	µg/L	580000	4.0	<4.0	2.0	<2.0	4.0	<4.0	1.0	<1.0
1,1,2-Trichloroethane	µg/L	30	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
Toluene	µg/L	18000	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
Dibromochloromethane	µg/L	82000	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	4.12
Ethylene Dibromide	µg/L	0.83	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10
Tetrachloroethylene	µg/L	17	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	28	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10
Chlorobenzene	µg/L	630	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10
Ethylbenzene	µg/L	2300	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21T768028

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:789 - 795 Brant St, Burlington

SAMPLED BY:SL

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2021-06-29

DATE REPORTED: 2021-07-08

				SAMPLE DESCRIPTION:		MW1		MW2		MW3		MW4
				SAMPLE TYPE:		Water		Water		Water		Water
				DATE SAMPLED:		2021-06-29 11:00		2021-06-29 11:30		2021-06-29 12:00		2021-06-29 12:30
Parameter	Unit	G / S	RDL	2676837	RDL	2676839	RDL	2676840	RDL	2676841		
m & p-Xylene	µg/L		0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20		
Bromoform	µg/L	770	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10		
Styrene	µg/L	9100	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10		
1,1,2,2-Tetrachloroethane	µg/L	15	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10		
o-Xylene	µg/L		0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10		
1,3-Dichlorobenzene	µg/L	9600	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10		
1,4-Dichlorobenzene	µg/L	67	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10		
1,2-Dichlorobenzene	µg/L	9600	0.40	<0.40	0.20	<0.20	0.40	<0.40	0.10	<0.10		
1,3-Dichloropropene	µg/L	45	1.20	<1.20	0.60	<0.60	1.20	<1.20	0.30	<0.30		
Xylenes (Total)	µg/L	4200	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20		
n-Hexane	µg/L	520	0.80	<0.80	0.40	<0.40	0.80	<0.80	0.20	<0.20		
Surrogate	Unit	Acceptable Limits										
Toluene-d8	% Recovery	50-140		88	2	96	4	91	1	87		
4-Bromofluorobenzene	% Recovery	50-140		97	2	102	4	94	1	96		

Certified By: N Popowkolof

Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21T768028

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:789 - 795 Brant St, Burlington

SAMPLED BY:SL

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2021-06-29

DATE REPORTED: 2021-07-08

SAMPLE DESCRIPTION:				MW5	DUP20		Trip Blank
SAMPLE TYPE:				Water	Water		Water
DATE SAMPLED:				2021-06-29 13:00	2021-06-29 11:45		2021-06-29
Parameter	Unit	G / S	RDL	2676842	2676843	RDL	2676844
Dichlorodifluoromethane	µg/L	4400	0.40	<0.40	<0.40	0.20	<0.20
Vinyl Chloride	µg/L	1.7	0.34	<0.34	<0.34	0.17	<0.17
Bromomethane	µg/L	56	0.40	<0.40	<0.40	0.20	<0.20
Trichlorofluoromethane	µg/L	2500	0.80	<0.80	<0.80	0.40	<0.40
Acetone	µg/L	130000	2.0	<2.0	<2.0	1.0	<1.0
1,1-Dichloroethylene	µg/L	17	0.60	<0.60	<0.60	0.30	<0.30
Methylene Chloride	µg/L	5500	0.60	<0.60	<0.60	0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	17	0.40	<0.40	<0.40	0.20	<0.20
Methyl tert-butyl ether	µg/L	1400	0.40	<0.40	<0.40	0.20	<0.20
1,1-Dichloroethane	µg/L	3100	0.60	<0.60	<0.60	0.30	<0.30
Methyl Ethyl Ketone	µg/L	1500000	2.0	<2.0	<2.0	1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	17	0.40	<0.40	<0.40	0.20	<0.20
Chloroform	µg/L	22	0.40	5.29	<0.40	0.20	<0.20
1,2-Dichloroethane	µg/L	12	0.40	<0.40	<0.40	0.20	<0.20
1,1,1-Trichloroethane	µg/L	6700	0.60	<0.60	<0.60	0.30	<0.30
Carbon Tetrachloride	µg/L	8.4	0.40	<0.40	<0.40	0.20	<0.20
Benzene	µg/L	430	0.40	<0.40	<0.40	0.20	<0.20
1,2-Dichloropropane	µg/L	140	0.40	<0.40	<0.40	0.20	<0.20
Trichloroethylene	µg/L	17	0.40	<0.40	<0.40	0.20	<0.20
Bromodichloromethane	µg/L	85000	0.40	3.08	<0.40	0.20	<0.20
Methyl Isobutyl Ketone	µg/L	580000	2.0	<2.0	<2.0	1.0	<1.0
1,1,2-Trichloroethane	µg/L	30	0.40	<0.40	<0.40	0.20	<0.20
Toluene	µg/L	18000	0.40	<0.40	<0.40	0.20	<0.20
Dibromochloromethane	µg/L	82000	0.20	2.57	<0.20	0.10	<0.10
Ethylene Dibromide	µg/L	0.83	0.20	<0.20	<0.20	0.10	<0.10
Tetrachloroethylene	µg/L	17	0.40	<0.40	<0.40	0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	28	0.20	<0.20	<0.20	0.10	<0.10
Chlorobenzene	µg/L	630	0.20	<0.20	<0.20	0.10	<0.10
Ethylbenzene	µg/L	2300	0.20	<0.20	<0.20	0.10	<0.10

Certified By: N Popowkolof

Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21T768028

PROJECT: BIGC-ENV-461B

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Eileen Liu

SAMPLING SITE:789 - 795 Brant St, Burlington

SAMPLED BY:SL

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2021-06-29

DATE REPORTED: 2021-07-08

				SAMPLE DESCRIPTION:	MW5	DUP20		Trip Blank
				SAMPLE TYPE:	Water	Water		Water
				DATE SAMPLED:	2021-06-29 13:00	2021-06-29 11:45		2021-06-29
Parameter	Unit	G / S	RDL		2676842	2676843	RDL	2676844
m & p-Xylene	µg/L		0.40		<0.40	<0.40	0.20	<0.20
Bromoform	µg/L	770	0.20		<0.20	<0.20	0.10	<0.10
Styrene	µg/L	9100	0.20		<0.20	<0.20	0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	15	0.20		<0.20	<0.20	0.10	<0.10
o-Xylene	µg/L		0.20		<0.20	<0.20	0.10	<0.10
1,3-Dichlorobenzene	µg/L	9600	0.20		<0.20	<0.20	0.10	<0.10
1,4-Dichlorobenzene	µg/L	67	0.20		<0.20	<0.20	0.10	<0.10
1,2-Dichlorobenzene	µg/L	9600	0.20		<0.20	<0.20	0.10	<0.10
1,3-Dichloropropene	µg/L	45	0.60		<0.60	<0.60	0.30	<0.30
Xylenes (Total)	µg/L	4200	0.40		<0.40	<0.40	0.20	<0.20
n-Hexane	µg/L	520	0.40		<0.40	<0.40	0.20	<0.20
Surrogate	Unit	Acceptable Limits						
Toluene-d8	% Recovery	50-140			97	89	1	95
4-Bromofluorobenzene	% Recovery	50-140			108	100	1	100

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21T768028

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SAMPLING SITE:789 - 795 Brant St, Burlington

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O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2021-06-29

DATE REPORTED: 2021-07-08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2676837	Dilution factor=4 The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used. Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene. 1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
2676839	Dilution factor=2 The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used. Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene. 1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
2676840	Dilution factor=4 The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used. Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene. 1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
2676841	Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene. 1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
2676842-2676843	Dilution factor=2 The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used. Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene. 1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
2676844	Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene. 1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING INC.
AGAT WORK ORDER: 21T768028
PROJECT: BIGC-ENV-461B
ATTENTION TO: Eileen Liu
SAMPLING SITE:789 - 795 Brant St, Burlington
SAMPLED BY:SL

Trace Organics Analysis

RPT Date: Jul 08, 2021

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)															
F1 (C6 - C10)	2678599		<25	<25	NA	< 25	98%	60%	140%	93%	60%	140%	87%	60%	140%
F2 (C10 to C16)	2676068		< 100	< 100	NA	< 100	103%	60%	140%	88%	60%	140%	81%	60%	140%
F3 (C16 to C34)	2676068		< 100	< 100	NA	< 100	98%	60%	140%	93%	60%	140%	89%	60%	140%
F4 (C34 to C50)	2676068		< 100	< 100	NA	< 100	102%	60%	140%	95%	60%	140%	78%	60%	140%
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	2682500		<0.20	<0.20	NA	< 0.20	79%	50%	140%	83%	50%	140%	81%	50%	140%
Vinyl Chloride	2682500		<0.17	<0.17	NA	< 0.17	93%	50%	140%	95%	50%	140%	94%	50%	140%
Bromomethane	2682500		<0.20	<0.20	NA	< 0.20	98%	50%	140%	90%	50%	140%	102%	50%	140%
Trichlorofluoromethane	2682500		<0.40	<0.40	NA	< 0.40	102%	50%	140%	116%	50%	140%	111%	50%	140%
Acetone	2682500		<1.0	<1.0	NA	< 1.0	96%	50%	140%	113%	50%	140%	109%	50%	140%
1,1-Dichloroethylene	2682500		<0.30	<0.30	NA	< 0.30	105%	50%	140%	99%	60%	130%	89%	50%	140%
Methylene Chloride	2682500		<0.30	<0.30	NA	< 0.30	92%	50%	140%	90%	60%	130%	109%	50%	140%
trans- 1,2-Dichloroethylene	2682500		<0.20	<0.20	NA	< 0.20	103%	50%	140%	94%	60%	130%	97%	50%	140%
Methyl tert-butyl ether	2682500		<0.20	<0.20	NA	< 0.20	86%	50%	140%	88%	60%	130%	98%	50%	140%
1,1-Dichloroethane	2682500		0.90	1.02	NA	< 0.30	85%	50%	140%	97%	60%	130%	97%	50%	140%
Methyl Ethyl Ketone	2682500		<1.0	<1.0	NA	< 1.0	111%	50%	140%	98%	50%	140%	97%	50%	140%
cis- 1,2-Dichloroethylene	2682500		<0.20	<0.20	NA	< 0.20	109%	50%	140%	118%	60%	130%	97%	50%	140%
Chloroform	2682500		<0.20	<0.20	NA	< 0.20	97%	50%	140%	101%	60%	130%	105%	50%	140%
1,2-Dichloroethane	2682500		<0.20	<0.20	NA	< 0.20	107%	50%	140%	77%	60%	130%	102%	50%	140%
1,1,1-Trichloroethane	2682500		<0.30	<0.30	NA	< 0.30	81%	50%	140%	88%	60%	130%	80%	50%	140%
Carbon Tetrachloride	2682500		<0.20	<0.20	NA	< 0.20	115%	50%	140%	81%	60%	130%	95%	50%	140%
Benzene	2682500		<0.20	<0.20	NA	< 0.20	102%	50%	140%	96%	60%	130%	102%	50%	140%
1,2-Dichloropropane	2682500		<0.20	<0.20	NA	< 0.20	97%	50%	140%	106%	60%	130%	105%	50%	140%
Trichloroethylene	2682500		<0.20	<0.20	NA	< 0.20	115%	50%	140%	94%	60%	130%	92%	50%	140%
Bromodichloromethane	2682500		<0.20	<0.20	NA	< 0.20	114%	50%	140%	118%	60%	130%	112%	50%	140%
Methyl Isobutyl Ketone	2682500		<1.0	<1.0	NA	< 1.0	87%	50%	140%	88%	50%	140%	103%	50%	140%
1,1,2-Trichloroethane	2682500		<0.20	<0.20	NA	< 0.20	105%	50%	140%	92%	60%	130%	92%	50%	140%
Toluene	2682500		<0.20	<0.20	NA	< 0.20	103%	50%	140%	89%	60%	130%	92%	50%	140%
Dibromochloromethane	2682500		<0.10	<0.10	NA	< 0.10	90%	50%	140%	95%	60%	130%	94%	50%	140%
Ethylene Dibromide	2682500		<0.10	<0.10	NA	< 0.10	94%	50%	140%	97%	60%	130%	92%	50%	140%
Tetrachloroethylene	2682500		<0.20	<0.20	NA	< 0.20	103%	50%	140%	94%	60%	130%	104%	50%	140%
1,1,1,2-Tetrachloroethane	2682500		<0.10	<0.10	NA	< 0.10	92%	50%	140%	101%	60%	130%	82%	50%	140%
Chlorobenzene	2682500		<0.10	<0.10	NA	< 0.10	98%	50%	140%	89%	60%	130%	106%	50%	140%
Ethylbenzene	2682500		<0.10	<0.10	NA	< 0.10	84%	50%	140%	84%	60%	130%	97%	50%	140%
m & p-Xylene	2682500		<0.20	<0.20	NA	< 0.20	93%	50%	140%	86%	60%	130%	113%	50%	140%
Bromoform	2682500		<0.10	<0.10	NA	< 0.10	99%	50%	140%	86%	60%	130%	107%	50%	140%
Styrene	2682500		<0.10	<0.10	NA	< 0.10	90%	50%	140%	89%	60%	130%	79%	50%	140%
1,1,2,2-Tetrachloroethane	2682500		<0.10	<0.10	NA	< 0.10	115%	50%	140%	104%	60%	130%	82%	50%	140%
o-Xylene	2682500		<0.10	<0.10	NA	< 0.10	88%	50%	140%	94%	60%	130%	96%	50%	140%

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

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Quality Assurance

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AGAT WORK ORDER: 21T768028
PROJECT: BIGC-ENV-461B
ATTENTION TO: Eileen Liu
SAMPLING SITE:789 - 795 Brant St, Burlington
SAMPLED BY:SL

Trace Organics Analysis (Continued)

RPT Date: Jul 08, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	2682500		<0.10	<0.10	NA	< 0.10	101%	50%	140%	114%	60%	130%	98%	50%	140%
1,4-Dichlorobenzene	2682500		<0.10	<0.10	NA	< 0.10	93%	50%	140%	106%	60%	130%	101%	50%	140%
1,2-Dichlorobenzene	2682500		<0.10	<0.10	NA	< 0.10	115%	50%	140%	104%	60%	130%	101%	50%	140%
n-Hexane	2682500		<0.20	<0.20	NA	< 0.20	73%	50%	140%	102%	60%	130%	112%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popowkolof

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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T768028

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:789 - 795 Brant St, Burlington

SAMPLED BY:SL

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F1 (C6 - C10)	VOL-91- 5010	modified from MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC E3421	BALANCE
Terphenyl	VOL-91-5009	modified from MOE PHC E3421	GC/FID
Sediment			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T768028

PROJECT: BIGC-ENV-461B

ATTENTION TO: Eileen Liu

SAMPLING SITE:789 - 795 Brant St, Burlington

SAMPLED BY:SL

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only

Work Order #: 21T768 028

Cooler Quantity:

Arrival Temperatures: 32.3 | 28.9 | 29.8

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: ice packs

Report Information:

Company: B.I.G. Consulting
Contact: Eileen Liu
Address: 12-5500 Tomken Road
Mississauga, ON L4W 2Z4
Phone: 905-782-0315 Fax:
Reports to be sent to:
1. Email: eliu@brownfieldigi.com
2. Email:

Regulatory Requirements:

(Please check all applicable boxes)

☐ Regulation 558

☑ Regulation 153/04
Table 3 (Indicate One)
☐ Ind/Com
☑ Res/Park
☐ Agriculture
Soil Texture (Check One)
☐ Coarse
☑ Fine

☐ Excess Soils R406
Table (Indicate One)
Sample from APEC?
☐ Yes
☐ No
☐ Stockpile ☐ In-situ

☐ Sewer Use
☐ Sanitary ☐ Storm
Region
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
(Indicate One)

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: BIGC-ENV ~~462D~~ 461A
Site Location: ~~1074 and 1062 Cooke Boulevard, Burlington~~ 78-75 Brant St Burlington
Sampled By: SL
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Is this submission for a **Record of Site Condition?** ☑ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☑ Yes ☐ No

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:
Contact:
Address:
Email: LDougherty@brownfieldigi.com; NKepics@brownfieldigi.com

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics, inc. EC/SAR	Metals - ICPMS, ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs, Analyze F4G if required ☑ Yes ☐ No	PAHs	PCBs	VOC	Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Excess Soils SPLP Rainwater Leach	SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
MW1	21/06/29	1100 AM/PM	8	GW		N			✓			✓						N
MW2		1130 AM/PM							✓			✓						
MW3		1200 AM/PM							✓			✓						
MW4		1230 AM/PM							✓			✓						
MW5		1300 AM/PM							✓			✓						
DUP20		1145 AM/PM							✓			✓						
trip blank		AM/PM	8						✓			✓						
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																

21 JUN 29 4:53PM

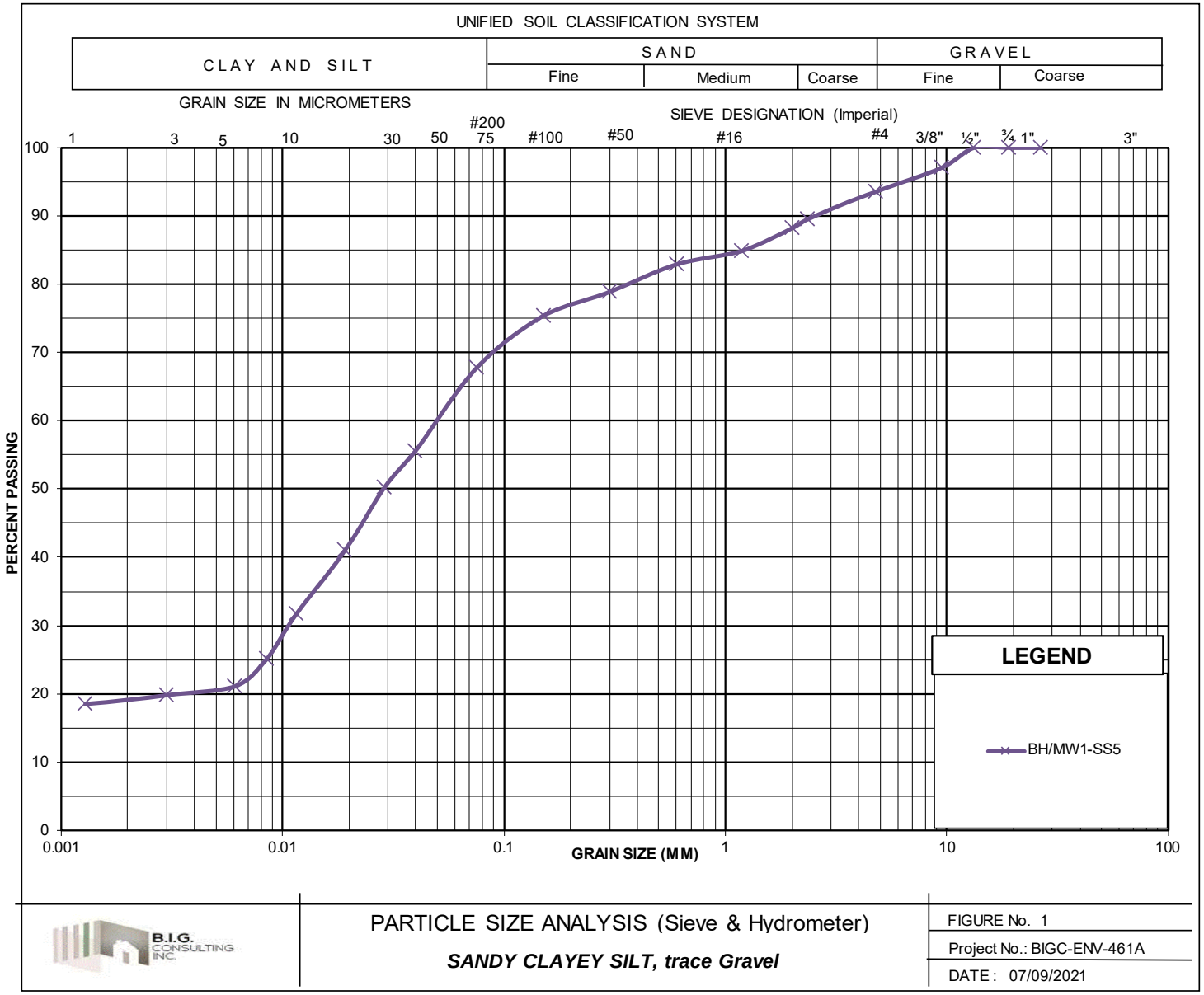
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
SL	21/06/29	1600	SIMRAN		
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 1 of 1

N#:

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT

Appendix G – Grain Size Analysis



B.I.G. CONSULTING INC.

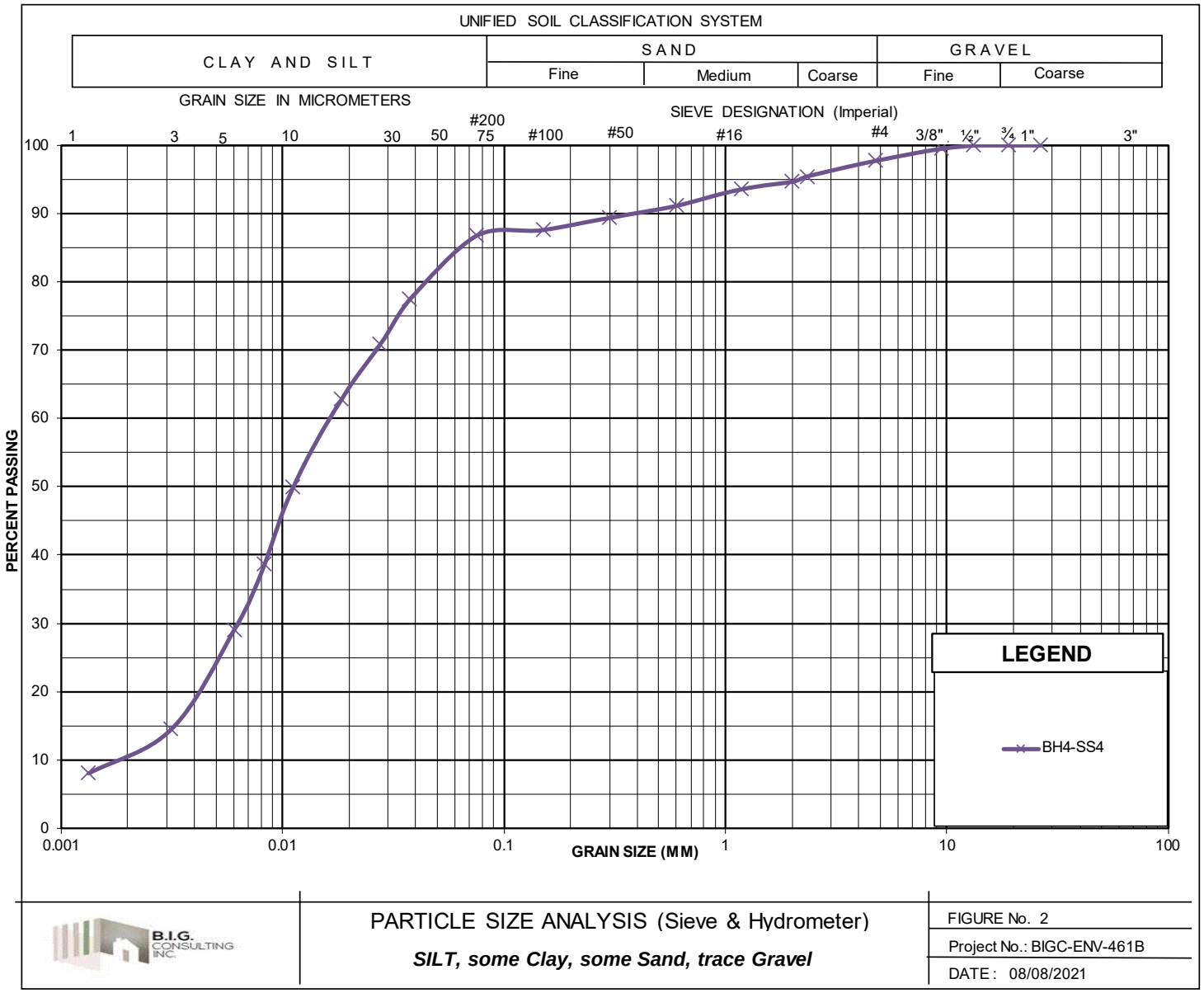
PARTICLE SIZE ANALYSIS (Sieve & Hydrometer)

SANDY CLAYEY SILT, trace Gravel

FIGURE No. 1

Project No.: BIGC-ENV-461A

DATE : 07/09/2021



B.I.G. CONSULTING INC.

PARTICLE SIZE ANALYSIS (Sieve & Hydrometer)

SILT, some Clay, some Sand, trace Gravel

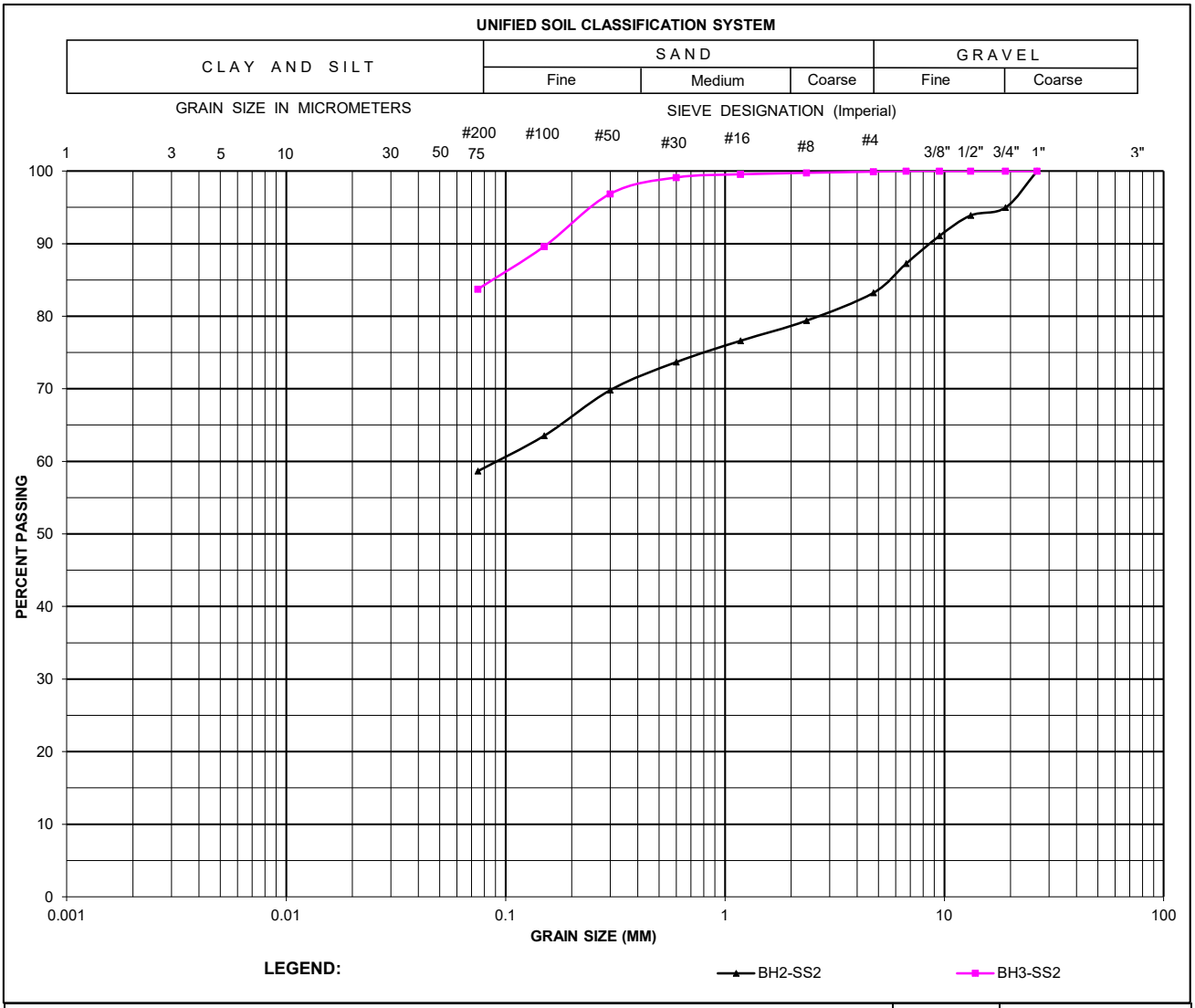
FIGURE No. 2

Project No.: BIGC-ENV-461B

DATE : 08/08/2021

PARTICLE SIZE ANALYSIS
(Sieve)

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CLAYEY SILT, some sand, trace to some gravel

FIGURE No.	3
Project No.:	BIGC-ENV-461A
DATE:	July 9, 2021