SOIL-MAT ENGINEERS & CONSULTANTS LTD.

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PROJECT NO.: SM 188634-E

December 11, 2018

LIV COMMUNITIES
1005 SKYVIEW DRIVE, SUITE 301
Burlington, Ontario
L7P 5B1

Attention: Katherine Rauscher
Project Manager

SUPPLEMENTAL PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1085 CLEARVIEW AVENUE
BURLINGTON, ONTARIO

Dear Ms. Rauscher,

Further to our previous Phase Two Environmental Site Assessment [ESA] in connection with the above noted property, SOIL-MAT ENGINEERS & CONSULTANTS LTD. [SOIL-MAT ENGINEERS] was retained by LIV COMMUNITIES to undertake a Supplemental Phase Two ESA on the above captioned property. This work was undertaken in general accordance with our proposal P7468, dated June 15, 2018.

Our fieldwork, laboratory testing and interpretation in connection with the assessment activities has been finalised and our comments and recommendations, based on our findings, are presented in the following report.

The subject property is herein referred to as the "Site".

1.0 BACKGROUND INFORMATION

1.1 PREVIOUS INVESTIGATIONS

A Preliminary Geotechnical Investigation report was previously prepared by SOIL-MAT ENGINEERS under our Project No.: SM 166997-E, dated November 10, 2016.

A Phase One Environmental Site Assessment was previously prepared by SOIL-MAT ENGINEERS under our Project No.: SM 166997-E, dated November 23, 2016.

Upon completion of the Phase One ESA Report, two [2] potential contaminating activities [PCAs] were identified in connection with the Site. The PCAs are identified in table format on the following page:

PCA Number	PCA Description
12	Concrete, Cement and Lime Manufacturing
30	Importation of Fill Material of Unknown Quality

In response to the concerns outlined in our previous Phase One Environmental Site Assessment, SOIL-MAT ENGINEERS conducted a Phase Two Environmental Site Assessment of the above noted Site. The results of the initial Phase Two ESA investigation are detailed in our report of Project No. SM 177469-E, dated July 24, 2017, which noted the following:

- The laboratory analytical test results for the submitted soil samples are all below the applicable *Ontario Regulation 153/04* [as amended] Table 3 RPI Standards for the Site with the exception of Borehole Nos. 204 and 206 which exceeded the Standards in Electrical Conductivity [EC] and/or Sodium Adsorption Ratio [SAR].
- The lateral and vertical extent of the EC and/or SAR exceedances is not known.

Given the proposed future use of the Site [residential], the Site would be subject to a mandatory Record of Site Condition [RSC] filing. In order to complete and file an RSC the properties will either need to meet the applicable Ontario Regulation 154/04 [as amended] soil and groundwater standards or be subjected to some level of risk assessment activities.

- Further delineate the lateral and vertical extent of the elevated levels of SAR and EC in the soil medium on the Site. If removal of the fill is pursued, the additional lateral and vertical assessment activities would also be beneficial in determining an approximate volume of soil material to be removed for remedial purposes.
- The on-Site materials may be remediated employing a traditional "dig and dump" operation. In this scenario, confirmatory soil sampling would be undertaken on the sidewalls and floor [base] of the remedial excavation. The number of samples would be determined based on the final dimensions of the remedial excavation.
- In the event that the Site is subjected to some level of Risk Assessment [whether a modified generic RA or a Site Specific RA], additional intrusive sampling will be required to establish the lateral and vertical extent of the impact(s) to the soil mediums. It is also noted, that although still preliminary in nature, the laboratory analytical test results [to date] indicate that some level of soil removal and future control measures, such as hard or soft caps, would be required to support the acceptance of an MGRA or SSRA for the Site.

Based on the above, SOIL-MAT ENGINEERS was retained to undertake additional Phase Two ESA activities to assess the above noted areas of concern.

1.2 VISUAL OBSERVATIONS OF THE SITE

At the time of this Report no construction activities were underway. The site was occupied by a single storey community use building located toward the northwest corner of the site. The remainder of the Site was comprised primarily of an asphaltic-concrete covered parking lot structure with some landscaped areas around the perimeter of the Site.

The Site was bound to the north by Masonry Court, to the east and south by residential properties, and to the west by Clearview Avenue.

The topography of the Site is relatively flat and even.

2.0 METHODOLOGY

2.1 PHASE TWO ESA SCOPE OF WORK

The purpose of the Supplementary Phase Two ESA was to assess the specific concerns identified in the previous Phase Two ESA as discussed above. Specifically, this Supplementary Phase Two ESA was designed to address the following:

- Further delineate the lateral and vertical extent of the soil exhibiting elevated levels of select EC and SAR on the Site.

Based on the above, the following Phase Two ESA activities were recommended for the Site:

1. Advance a total of six [6] sampled boreholes to a depth of up to 5.2 metres below ground surface [mbgs] on the Site to aid in defining the vertical and lateral extent of the soil exhibiting elevated levels of EC and SAR on the Site;
2. Submit eleven [11] 'worst-case' soil samples, based on field observations, for laboratory testing for EC and SAR.
3. Present our findings in a Supplemental Phase Two Environmental Site Assessment report with brief discussions on various remediation methods should the analytical test results indicate exceedances.

2.2 PROCEDURE

The Supplemental Phase Two ESA fieldwork programme was carried out on October 25, 2018 with the physical drilling being performed by Davis Drilling under the direction of SOIL-MAT ENGINEERS.

A total of six [6] sampled boreholes were advanced at the locations illustrated on the enclosed Drawing No. 1, Borehole Location Plan. The borings were advanced using solid stem continuous flight auger equipment on October 25, 2018 under the supervision of a representative of SOIL-MAT ENGINEERS to depths ranging between 3.7 to 5.2 metres below existing ground surface.

All boreholes were surveyed by representatives of SOIL-MAT ENGINEERS to a site-specific temporary benchmark described as the top of the manhole located northwest of the entrance to 1085 Clearview avenue on the east side of the street. This temporary benchmark was assigned an elevation of 100.00 metres for convenience.

The borehole and benchmark locations are identified on Drawing No.: 1, Appendix 'A' for reference.

2.3 LABORATORY ANALYTICAL TESTING

All laboratory analytical work was performed by AGAT Laboratories [AGAT] in Mississauga, Ontario. AGAT is a member of the Canadian Association for Laboratory Accreditation [CALA] and meets the requirements of Section 47 of the Record of Site Condition [RSC] Regulation.

2.4 SOIL SAMPLES

Soil samples were examined in the field for visual and olfactory evidence of potential impacts such as unusual staining and/or odours, etc., and were split into two separate samples, including the following:

- One half of the sample was sealed in sampling jars for submission to AGAT for analytical testing, and;
- One half of the sample was sealed in a plastic sampling bag for further characterization in SOIL-MAT ENGINEERS' in-house soils laboratory.

The soil samples that were delivered to AGAT were sealed with no head space in pre-cleaned wide mouth, clear glass sample jars, as provided by the laboratory. The samples were stored and transported in a cooler and kept under ice packs to minimize potential volatilization of select parameters. New disposable sampling gloves were used for the collection of each soil sample with care given to limit contact between the samples and gloves. Dedicated sample retrieval equipment, including a stainless steel split-spoon, was used to retrieve each sample and before depositing it directly it into the AGAT Environmental sample jar.

The samples were delivered to AGAT's depot location in Stoney Creek, Ontario in coolers equipped with ice packs to help maintain a temperature range between the applicable 0°C to 10°C. As reported on the chain of custody for the soil samples, the samples were delivered to AGAT with an average temperature of 4.1°C.

2.5 SAMPLE MANAGEMENT AND FIELD OBSERVATIONS

Professional care was exercised during the retrieval of each sample, the placement of each sample in the appropriate sample jar, the labeling of the field samples and associated chain of custody and in the delivery of the samples to the testing laboratory.

As our standard operating procedures dictate unusual field observations, such as visual or olfactory evidence of a suspected impact, a deviation from SOIL-MAT ENGINEERS' field sampling and handling protocols or incident on the testing laboratories' side was documented either on our field borehole logs or in-house copy of the sample certificate of analysis. There were no deviations recorded during this Supplemental Phase Two ESA.

3.0 GEOLOGICAL SETTING

A copy of SOIL-MAT ENGINEERS' borehole logs are presented in Appendix 'B' for reference.

In summary, the Supplemental Phase Two ESA revealed the following Site stratigraphy:

3.1 PAVEMENT STRUCTURE

All boreholes were advanced through the existing pavement structure of the parking lot, which consists of approximately 25 to 100 millimetres of asphaltic concrete over 75 to 400 millimetres of compact granular base.

3.2 SAND FILL

Sand fill was found beneath the pavement structure in Borehole Nos. 304, 305 and 306. The fill was brown in colour, medium in gradation, contained trace to some gravel and trace silt and was generally in a very loose to loose state. The fill deposit was proven to a depth of approximately 2.2 metres.

3.3 SAND

Native brown sand was encountered beneath the pavement structure in Borehole Nos. 301, 302 and 303, and beneath the sand fill in Borehole Nos. 304, 305 and 306. The sand was medium in gradation, contains trace to some gravel and trace silt and is generally in a compact state. The sand was proven to termination in all boreholes at depths of 3.7 to 5.2 metres.

3.4 GROUNDWATER

All boreholes were recorded as 'dry' upon completion of drilling activities. It is noted that insufficient time would have passed for the static groundwater level to stabilize in the open boreholes. Groundwater monitoring wells were previously installed and based on the groundwater readings the static groundwater level is estimated at a depth of approximately 4.0 to 5.0 metres below grade, although seasonal fluctuations must be expected.

4.0 ONTARIO REGULATION 153/04 [AS AMENDED] SITE CLASSIFICATION AND SELECTION CRITERIA

The following criteria was utilised to determine the appropriate site classification and Ontario Regulation 153/04 [as amended] soil and groundwater standards.

- Current land use: Commercial;
- Intended land use: Residential;
- Drinking Water Supply: Non-potable Ground Water;
- On-site Soil Texture: Coarse Grained Soils;
- Depth to Bedrock: Greater than 8.2 metres;
- pH of soils on the Site: Within Standard range;
- Surface Water Body: None observed within 30 metres of the Site.

Based on the above, all soil and groundwater laboratory analytical test results were compared to the Table 3 Soil and Ground Water Standards for a Residential/Parkland/Institutional Property Use [RPI] in a non-potable groundwater condition from the Ministry of the Environment document "Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environment Protection Act, [2011], hereinafter referred to as the 'Table 3 RPI Standards'.

5.0 SUPPLEMENTAL PHASE TWO ESA ANALYTICAL TEST RESULTS

5.1 SOIL SAMPLES SELECTED FOR LABORATORY ANALYTICAL TESTING

In total, eleven [11] discrete soil samples were secured from the Site to assess potential impacts on the Site, along with two [2] duplicate samples. The secured soil samples were submitted to AGAT for laboratory analytical testing as described in the summary table below:

TABLE B: SUMMARY OF SOIL SAMPLE TEST RESULTS

Sample ID	Depth [m bgs]	Laboratory Analysis	Soil Description	Table 3 RPI Exceedances
BH301 SS1	0.8 – 1.4	EC & SAR	Sand	Exceeds the Table 3 RPI SCSs in SAR reported as 13.8 vs the Standard of 5.
BH301 SS2	1.5 – 2.1	EC & SAR	Sand	Exceeds the Table 3 RPI SCSs in SAR reported as 8.81 vs the Standard of 5.
BH302 SS1	0.8 – 1.4	EC & SAR	Sand	No exceedances reported
BH302 SS2	1.5 – 2.1	EC & SAR	Sand	No exceedances reported
BH303 SS1	0.8 – 1.4	EC & SAR	Sand	No exceedances reported
BH303 SS2	1.5 – 2.1	EC & SAR	Sand	No exceedances reported
BH304 SS4	3.0 – 3.6	EC & SAR	Sand	No exceedances reported
BH305 SS1	0.8 – 1.4	EC & SAR	Sand Fill	No exceedances reported
BH305 SS2	1.5 – 2.1	EC & SAR	Sand	No exceedances reported
BH306 SS1	0.8 – 1.4	EC & SAR	Sand Fill	Exceeds the Table 3 RPI SCSs in SAR reported as 12.1 vs the Standard of 5.
BH306 SS2	1.5 – 2.1	EC & SAR	Sand/Sand Fill	Exceeds the Table 3 RPI SCSs in SAR reported as 10.0 vs the Standard of 5.
Dupe 1 (BH304 SS4)	3.0 – 3.6	EC & SAR	Sand	No exceedances reported
Dupe 2 (BH303 SS2)	1.5 – 2.1	EC & SAR	Sand	No exceedances reported
Notes: EC = Electrical Conductivity, SAR = Sodium Absorption Ratio				

The laboratory analytical test results for the submitted soil samples indicate elevated levels of SAR in Borehole Nos. 301 and 306 when compared with the Table 3 RPI site condition standards.

The AGAT Certificate of Analysis is included in Appendix 'C' for reference.

6.0 SUMMARY AND GENERAL COMMENTS

Based on SOIL-MAT ENGINEERS' field observations and the analytical test results received in its office, SOIL-MAT ENGINEERS offers the following:

SOIL SAMPLES – EC AND SAR

The Supplemental Phase Two ESA activities carried out by SOIL-MAT ENGINEERS revealed a SAR exceedance. This is in addition to elevated levels of EC and SAR identified in our previous Phase Two ESA. The elevated levels of EC and SAR within the sand fill and native sand would be associated with the affects of the application of de-icing salt to the parking lot areas of the commercial property for safety of vehicles and pedestrians.

Based on the present data the vertical delineation of the EC and SAR was achieved and the elevated levels appear limited to the upper 3.0 metres in Borehole No. 304. The lateral

delineation of the elevated EC and/or SAR has not been established, however the present data would suggest the affected area to be the majority of the eastern portion of the Site.

The sample locations are illustrated on Drawing No.: 2, Appendix 'A'.

7.0 RECOMMENDATIONS

As stated above and in conjunction with our Phase Two ESA, an area of EC and SAR has been identified within the soil medium. The EC and SAR exceedances are typically in the upper 3.0 metres and have been found on the east portion of the property in the sand fill and native sand materials.

It is our understanding that the development on the property is anticipated to include an underground parking level, which will likely require the majority of the existing impacted materials to be excavated and transported off-site. Although not ideal, as arrangement should be made in advance for the ease of construction, confirmatory testing of the EC and SAR in the soil can be conducted during the advancement of the proposed building excavation. This would be done to file the Record of Site Condition [RSC] under the full depth generic site condition standards.

Alternatively, it may be considered to pursue submission of the RSC under a stratified site condition. In this approach the affected soils with elevated EC and SAR would be removed to their limits, and to a minimum depth of 1.5 metres below the proposed finished grade [less the depth of any pavement structure]. It would then be feasible to apply the Stratified Site Condition Standards to the subsurface soils, more than 1.5 metres below grade, for the purposes of filing the RSC. This approach would limit the depth and volume of excavation required for remediation, and would also likely facilitate a more rapid filing of the RSC. It should be understood where an RSC is filed under a stratified site condition, this fact would be required to be reflected on the title of the property.

It may also be considered to address the elevated EC and SAR levels within soil by a Risk Assessment. For the given parameters and site conditions it is anticipated that this would be able to be accommodated within a Modified Generic Risk Assessment model. This process would require additional sampling and testing to refine the vertical and lateral delineation of the EC and SAR impacts, and would require a time period of perhaps 9 to 12 months to complete. This approach would allow the majority, if not all, of the affected soils to remain on the site, or the RSC to be filed prior to the advancement of the excavation for the proposed building. It would also account for the potential of elevated EC/SAR levels within the subsurface soils outside of the proposed building footprint.

It is noted that subsurface soil conditions may be present on-site that are not typical of those presented in this Report. If future activities reveal such soils, SOIL-MAT ENGINEERS should be contacted to assess the soil conditions with respect to the proposed activity.

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of LIV COMMUNITIES. The material in it reflects SOIL-MAT ENGINEERS' best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.

We trust this Report is satisfactory for your purposes. Please feel free to contact our Office if you have any questions, or we may be of further service to you.

Yours very truly,
SOIL-MAT ENGINEERS & CONSULTANTS LTD.

Jeremy Yang, M.Sc. Eng.
Environmental Scientist

Keith Gleadall, B.A., EA Dipl.
Environmental Manager



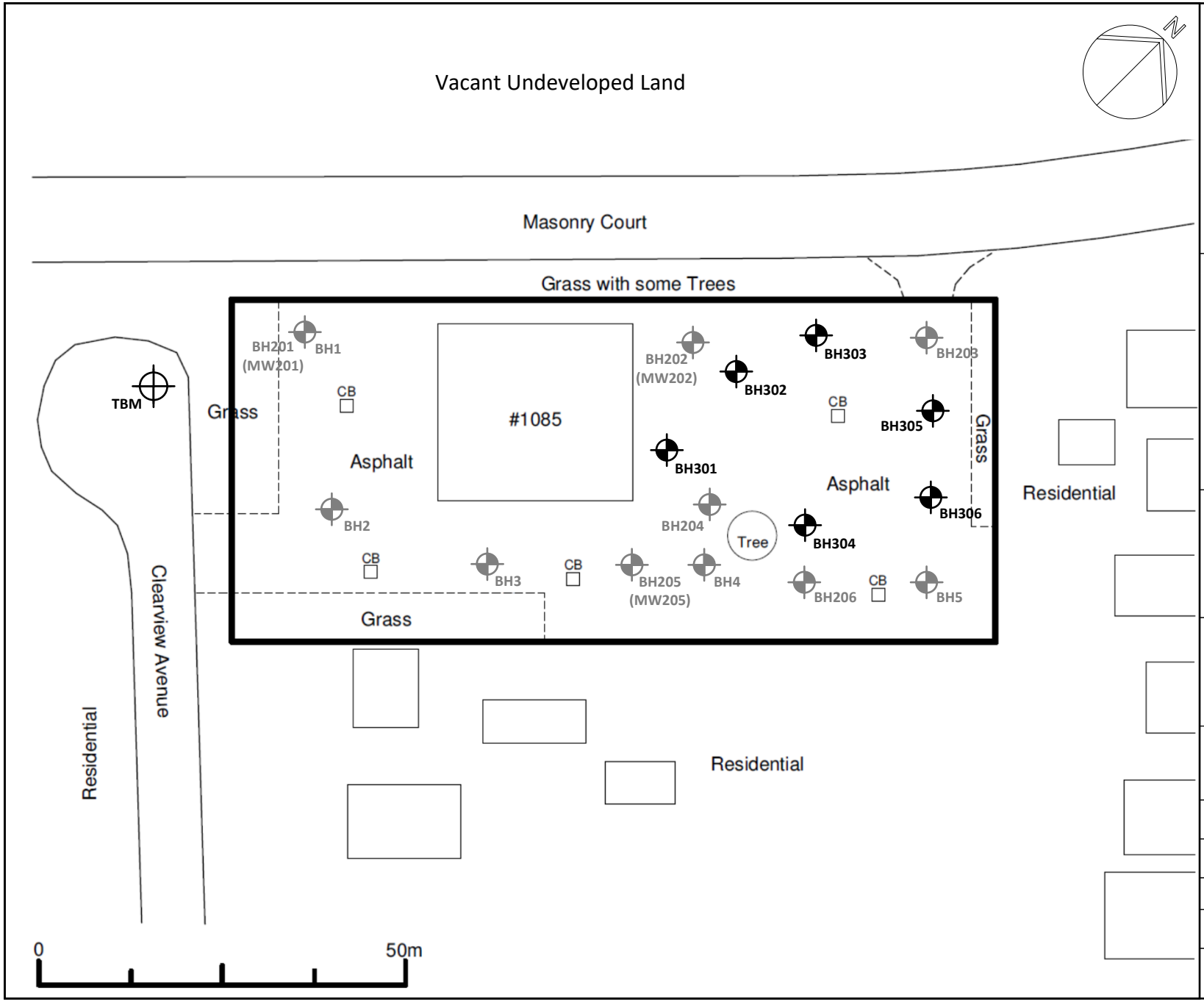
Ian Shaw., P. Eng., QP_{ESA}
Review Engineer

Distribution: LIV COMMUNITIES [2]

Enclosures:
- Appendix 'A': Drawing Nos, 1 & 2 – Borehole Location Plan & Analytical Data summary
- Appendix 'B' Borehole Logs;
- Appendix 'C' AGAT Soil Analytical Test Results;
- Appendix 'D' Qualifications of Assessors;
- Appendix 'E' Statement of Limitations.

Appendix ‘A’

1. Drawing No.: 1: Borehole Location Plan;
2. Drawing No.: 2: Analytical Data Summary [Soil] EC and SAR;



LEGEND

BH# Borehole Location

BH# Previous Borehole Location

TBM Temporary Benchmark

Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 188634-E.

2. Borehole locations are approximate.

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Supplemental Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Borehole Location Plan

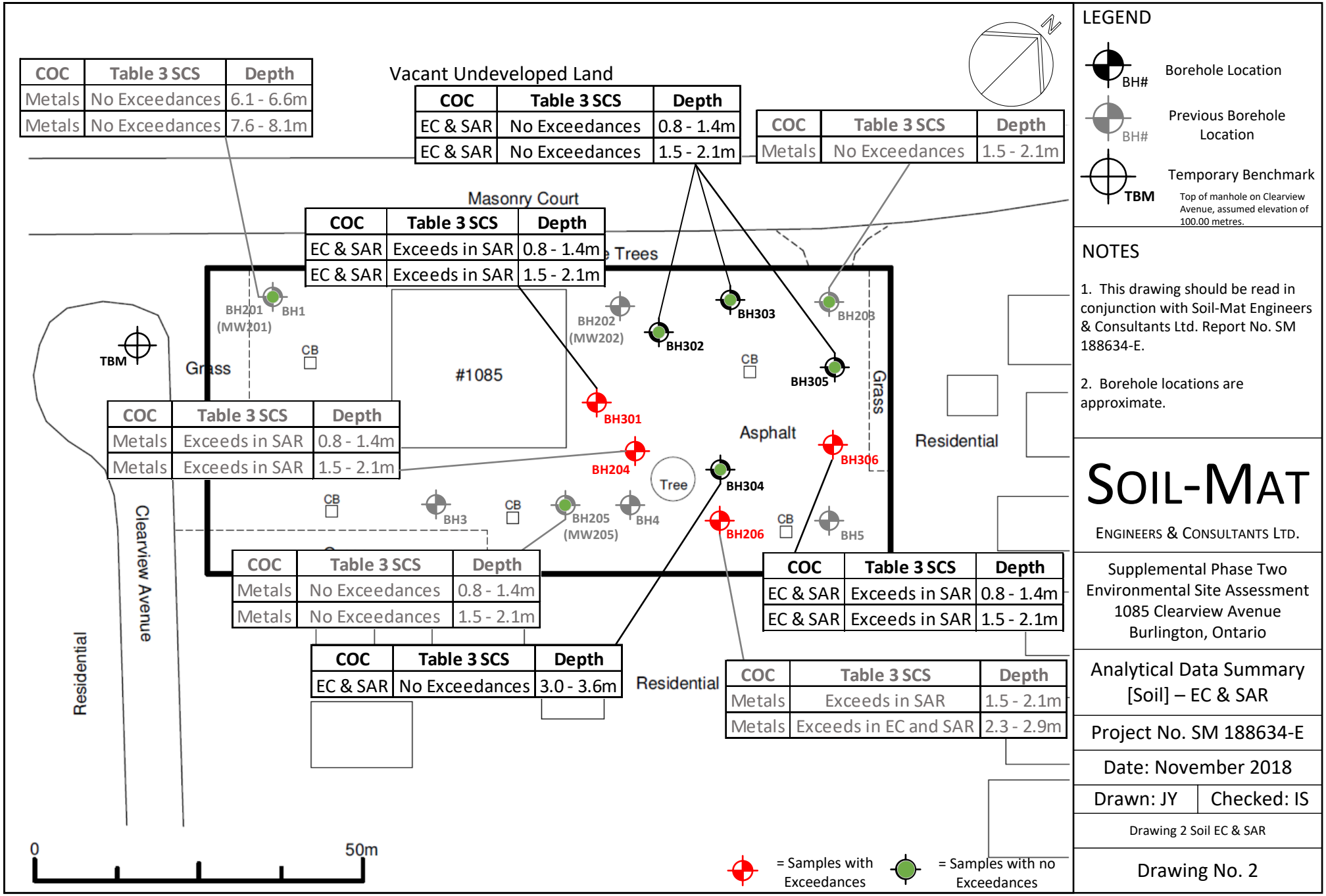
Project No. SM 188634-E

Date: November 2018

Drawn: JY | Checked: IS

SM 188634-E Borehole Location Plan

Drawing No. 1



COC	Table 3 SCS	Depth
Metals	No Exceedances	6.1 - 6.6m
Metals	No Exceedances	7.6 - 8.1m

COC	Table 3 SCS	Depth
EC & SAR	No Exceedances	0.8 - 1.4m
EC & SAR	No Exceedances	1.5 - 2.1m

COC	Table 3 SCS	Depth
Metals	No Exceedances	1.5 - 2.1m

COC	Table 3 SCS	Depth
EC & SAR	Exceeds in SAR	0.8 - 1.4m
EC & SAR	Exceeds in SAR	1.5 - 2.1m

COC	Table 3 SCS	Depth
Metals	Exceeds in SAR	0.8 - 1.4m
Metals	Exceeds in SAR	1.5 - 2.1m

COC	Table 3 SCS	Depth
Metals	No Exceedances	0.8 - 1.4m
Metals	No Exceedances	1.5 - 2.1m

COC	Table 3 SCS	Depth
EC & SAR	Exceeds in SAR	0.8 - 1.4m
EC & SAR	Exceeds in SAR	1.5 - 2.1m

COC	Table 3 SCS	Depth
EC & SAR	No Exceedances	3.0 - 3.6m

COC	Table 3 SCS	Depth
Metals	Exceeds in SAR	1.5 - 2.1m
Metals	Exceeds in EC and SAR	2.3 - 2.9m

LEGEND

- BH# — Borehole Location
- BH# — Previous Borehole Location
- TBM — Temporary Benchmark
  Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 188634-E.
2. Borehole locations are approximate.

SOIL-MAT
ENGINEERS & CONSULTANTS LTD.

Supplemental Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Analytical Data Summary [Soil] – EC & SAR

Project No. SM 188634-E

Date: November 2018

Drawn: JY | Checked: IS

Drawing 2 Soil EC & SAR

Drawing No. 2

Appendix ‘B’

1. Borehole Logs

Log of Borehole No. 301

Project No: SM 188634-E
Project: Supplemental Phase Two ESA
Location: 1085 Clearview Avenue, Burlington
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No.1
:
:

Soil-Mat

Depth (ft)	Depth (m)	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
		99.13	Ground Surface									
0–3	0–1		**Pavement Structure** Approximately 75 millimetres of asphaltic concrete over 75 millimetres of compact granular base.									
			Sand Brown, medium in gradation, trace to some gravel, trace silt, loose to compact.		SS	1	6,4,5,6	9				
4–7	1–2				SS	2	5,5,5,5	10				
8–10	2–3				SS	3	5,8,10,11	18				
11	3	95.50			SS	4	8,8,8,10	16				
12–33	4–9		End of Borehole NOTES: 1. Borehole was advanced using solid stem auger equipment on October 25, 2018 to termination at a depth of 3.7 metres. 2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903. 3. Soil samples will be discarded after 3 months unless otherwise directed by our client.									

Drill Method: Solid Stem Augers
Drill Date: October 25, 2018
Hole Size: 150 millimetres
Drilling Contractor: Davis Drilling

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
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E: info@soil-mat.ca

Datum: Temporary Benchmark
Field Logged by: MC
Checked by: JY
Sheet: 1 of 1

Log of Borehole No. 302

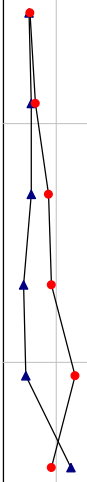
Project No: SM 188634-E
Project: Supplemental Phase Two ESA
Location: 1085 Clearview Avenue, Burlington
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No.1
:
:

Soil-Mat

Depth (ft)	Depth (m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0	0	99.15	Ground Surface							
0–5	0–1.5	99.15–94.00	**Pavement Structure** Approximately 100 millimetres of asphaltic concrete over 200 millimetres of compact granular base. **Sand** Brown, medium in gradation, trace to some gravel, trace silt, loose to compact.	SS	1	6,5,5,5	10			
5–10	1.5–3			SS	2	5,6,6,7	12			
10–15	3–4.5			SS	3	4,7,10,14	17			
15–16	4.5–5			SS	4	5,8,10,11	18			
16–20	5–6			SS	5	8,10,17,11	27			
16–20	5–6			SS	6	6,7,11,17	18			
16	5	94.00	End of Borehole							

Moisture Content w% (10 20 30 40)
Standard Penetration Test blows/300mm (20 40 60 80)



NOTES:

1. Borehole was advanced using solid stem auger equipment on October 25, 2018 to termination at a depth of 5.2 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Solid Stem Augers
Drill Date: October 25, 2018
Hole Size: 150 millimetres
Drilling Contractor: Davis Drilling

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Datum: Temporary Benchmark
Field Logged by: MC
Checked by: JY
Sheet: 1 of 1

Log of Borehole No. 303

Project No: SM 188634-E
Project: Supplemental Phase Two ESA
Location: 1085 Clearview Avenue, Burlington
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No.1
:
:

Soil-Mat

Depth (ft)	Depth (m)	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
		99.24		Ground Surface									
0	0	98.89		**Pavement Structure** Approximately 50 millimetres of asphaltic concrete over 300 millimetres of compact granular base.									
3	1			**Sand** Brown, medium in gradation, trace to some gravel, trace silt, compact.		SS	1	6,9,6,8	15				
6	2					SS	2	5,7,12,9	19				
9	3					SS	3	4,6,13,15	19				
11		95.60				SS	4	9,12,12,15	24				
12	4			End of Borehole NOTES: 1. Borehole was advanced using solid stem auger equipment on October 25, 2018 to termination at a depth of 3.7 metres. 2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903. 3. Soil samples will be discarded after 3 months unless otherwise directed by our client.									
18	5												
21	6												
24	7												
27	8												
30	9												
33													

Drill Method: Solid Stem Augers
Drill Date: October 25, 2018
Hole Size: 150 millimetres
Drilling Contractor: Davis Drilling

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130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Temporary Benchmark
Field Logged by: MC
Checked by: JY
Sheet: 1 of 1

Log of Borehole No. 304

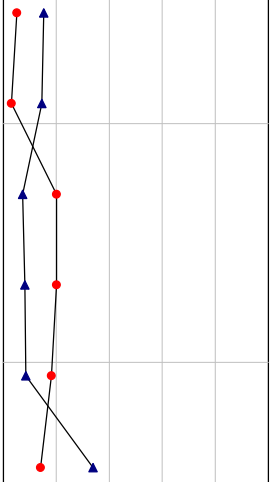
Project No: SM 188634-E
Project: Supplemental Phase Two ESA
Location: 1085 Clearview Avenue, Burlington
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No.1
:
:

Soil-Mat

Depth (ft / m)	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	98.96		Ground Surface								
0–1 / 0	98.53		**Pavement Structure** Approximately 25 millimetres of asphaltic concrete over 400 millimetres of compact granular base.								
1–2 / 0–1			**Sand Fill** Brown, medium in gradation, trace to some gravel, trace silt, very loose to loose.		SS	1	3,3,2,1	5			
2–3 / 1					SS	2	1,1,2,2	3			
3 / 1	96.75		**Sand** Brown, medium in gradation, trace to some gravel, trace silt, compact.		SS	3	7,9,11,13	20			
4–5 / 1–2					SS	4	8,10,10,10	20			
5–6 / 2					SS	5	5,9,9,19	18			
6 / 2	93.80				SS	6	6,7,7,6	14			
6–7 / 2			End of Borehole								

Moisture Content w% (10 20 30 40)
Standard Penetration Test blows/300mm (20 40 60 80)



NOTES:

1. Borehole was advanced using solid stem auger equipment on October 25, 2018 to termination at a depth of 5.2 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Solid Stem Augers
Drill Date: October 25, 2018
Hole Size: 150 millimetres
Drilling Contractor: Davis Drilling

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Temporary Benchmark
Field Logged by: MC
Checked by: JY
Sheet: 1 of 1

Log of Borehole No. 305

Project No: SM 188634-E
Project: Supplemental Phase Two ESA
Location: 1085 Clearview Avenue, Burlington
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No.1
:
:

Soil-Mat

Depth (ft)	Depth (m)	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
		99.14		Ground Surface									
0	0	98.79		**Pavement Structure** Approximately 50 millimetres of asphaltic concrete over 300 millimetres of compact granular base.									
3	1	97.70		**Sand Fill** Brown, medium in gradation, trace to some gravel, trace clay, loose.		SS	1	4,3,4,6	8				
6	2					SS	2	4,8,10,10	18				
				Sand Brown, medium in gradation, trace to some gravel, trace silt, compact.									
9	3					SS	3	5,5,7,13	12				
11		95.50				SS	4	9,9,11,12	20				
12	4			End of Borehole									
16	5			NOTES: 1. Borehole was advanced using solid stem auger equipment on October 25, 2018 to termination at a depth of 3.7 metres. 2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903. 3. Soil samples will be discarded after 3 months unless otherwise directed by our client.									
20	6												
23	7												
26	8												
29	9												
33													

Drill Method: Solid Stem Augers
Drill Date: October 25, 2018
Hole Size: 150 millimetres
Drilling Contractor: Davis Drilling

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Temporary Benchmark
Field Logged by: MC
Checked by: JY
Sheet: 1 of 1

Log of Borehole No. 306

Project No: SM 188634-E
Project: Supplemental Phase Two ESA
Location: 1085 Clearview Avenue, Burlington
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No.1
:
:

Soil-Mat

Depth (ft)	Depth (m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
		99.02	Ground Surface							
0	0	98.54	**Pavement Structure** Approximately 75 millimetres of asphaltic concrete over 400 millimetres of compact granular base.							
3	1			SS	1	4,2,3,3	5			
6	2	97.20	**Sand Fill** Brown, medium in gradation, trace to some gravel, trace clay, loose.	SS	2	2,2,3,2	5			
			Sand Brown, medium in gradation, trace to some gravel, trace silt, compact.	SS	3	6,10,8,13	18			
11	3	95.35		SS	4	7,10,12,13	22			
12	4		End of Borehole							

NOTES:

1. Borehole was advanced using solid stem auger equipment on October 25, 2018 to termination at a depth of 3.7 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Moisture Content w% (10 20 30 40)

Standard Penetration Test blows/300mm (20 40 60 80)



Drill Method: Solid Stem Augers
Drill Date: October 25, 2018
Hole Size: 150 millimetres
Drilling Contractor: Davis Drilling

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Temporary Benchmark
Field Logged by: MC
Checked by: JY
Sheet: 1 of 1

Appendix ‘C’

1. AGAT Certificate of Analysis - Soil

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
130 LANCING DRIVE
HAMILTON, ON L8W3A1
(905) 318-7440

ATTENTION TO: Jeremy Yang

PROJECT: 188634

AGAT WORK ORDER: 18H402704

SOIL ANALYSIS REVIEWED BY: Yris Verastegui, Report Reviewer

DATE REPORTED: Nov 05, 2018

PAGES (INCLUDING COVER): 7

VERSION*: 1

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

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

Member of: Association of Professional Engineers and Geoscientists of Alberta (APEGA)
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.

Results relate only to the items tested and to all the items tested
All reportable information as specified by ISO 17025:2005 is available from AGAT Laboratories upon request

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 18H402704

PROJECT: 188634

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Jeremy Yang

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2018-10-29 **DATE REPORTED: 2018-10-31**

		SAMPLE DESCRIPTION:		BH 301 SS1	BH 301 SS2	BH 302 SS1	BH 302 SS2	BH 303 SS1	BH 303 SS2	BH 304 SS4	BH 305 SS1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-10-25	2018-10-25	2018-10-25	2018-10-25	2018-10-25	2018-10-25	2018-10-25	2018-10-25
Parameter	**Unit**	**G / S**	**RDL**	**9658391**	**9658393**	**9658394**	**9658395**	**9658396**	**9658397**	**9658398**	**9658399**
Electrical Conductivity	mS/cm	0.57	0.005	0.356	0.240	0.106	0.138	0.127	0.168	0.256	0.163
Sodium Adsorption Ratio	NA	2.4	NA	**13.8**	**8.81**	2.10	**3.95**	1.04	**2.95**	**3.28**	**3.62**

		SAMPLE DESCRIPTION:		BH 305 SS2	BH 306 SS1	BH 306 SS2	Dup 1	Dup 2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-10-25	2018-10-25	2018-10-25	2018-10-25	2018-10-25
Parameter	**Unit**	**G / S**	**RDL**	**9658400**	**9658401**	**9658402**	**9658403**	**9658404**
Electrical Conductivity	mS/cm	0.57	0.005	0.136	0.429	0.353	0.283	0.175
Sodium Adsorption Ratio	NA	2.4	NA	**3.73**	**12.1**	**10.0**	**3.22**	**2.97**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
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.

9658391-9658404 EC & SAR were determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil).

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Iris Verástegui

Results relate only to the items tested and to all the items tested

AGAT Laboratories

Guideline Violation

AGAT WORK ORDER: 18H402704

PROJECT: 188634

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Jeremy Yang

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
9658391	BH 301 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	13.8
9658393	BH 301 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	8.81
9658395	BH 302 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	3.95
9658397	BH 303 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	2.95
9658398	BH 304 SS4	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	3.28
9658399	BH 305 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	3.62
9658400	BH 305 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	3.73
9658401	BH 306 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	12.1
9658402	BH 306 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	10.0
9658403	Dup 1	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	3.22
9658404	Dup 2	ON T1 S RPI/ICC	O. Reg. 153(511) - ORPs (Soil)	Sodium Adsorption Ratio	NA	2.4	2.97

Results relate only to the items tested and to all the items tested

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 18H402704

PROJECT: 188634

ATTENTION TO: Jeremy Yang

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date:			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) - ORPs (Soil)															
Electrical Conductivity	9658391	9658391	0.356	0.394	10.1%	< 0.005	97%	90%	110%	NA			NA		
Sodium Adsorption Ratio	9658391	9658391	13.8	15.9	13.7%	NA	NA			NA			NA		

Comments: NA signifies Not Applicable.

Certified By: Iris Verástegui

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.

Results relate only to the items tested and to all the items tested

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 18H402704

PROJECT: 188634

ATTENTION TO: Jeremy Yang

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Electrical Conductivity	INOR-93-6036	McKeague 4.12, SM 2510 B	EC METER
Sodium Adsorption Ratio	INOR-93-6007	McKeague 4.12 & 3.26 & EPA SW-846 6010C	ICP/OES

Results relate only to the items tested and to all the items tested

AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
www.agatlabs.com webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

Laboratory Use Only

Work Order #: 18H402704

Cooler Quantity: 1 BOX

Arrival Temperatures: 4.4 | 4.0 | 3.9

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: Soil-Mat Engineers
Contact: Jeremy Yang
Address: 130 Lancing Drive, Hamilton, ON
Phone: 905-318-7440 Fax:
Reports to be sent to:
1. Email: jyang@soil-mat.ca
2. Email: craigmd@mcmaster.ca

Regulatory Requirements:

☐ No Regulatory Requirement

(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 (Indicate One)
☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (Check One) ☐ Coarse ☐ Fine

☐ Sewer Use
☐ Sanitary ☐ Storm
Region (Indicate One)

☐ Regulation 558
☐ CCME
☐ 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 ☐ 1 Business Day

OR Date Required (Rush Surcharges May Apply): 5 DAY

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

Project Information:

Project: 188633
Site Location: 1085 Clearview Avenue
Sampled By: Malcolm Craig
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:

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	Metals and Inorganics	Metal Scan	Hydride Forming Metals	Client Custom Metals	(Check Applicable) ORPs: ☐ B-HWS ☐ Cl⁻ ☐ CN⁻ ☐ Cr⁶⁺ ☑ EC ☐ FOC ☐ NO_3/NO_2 ☐ Total N ☐ Hg ☐ pH ☑ SAR	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3/NO_2	Volatiles: ☐ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	Chlorophenols	PCBs	Organochlorine Pesticides	TCLP Metals/Inorganics	Sewer Use	Corrosivity	Lead and Arsenic
BH 301 SS1	25Oct18	AM	1	Soil						☑											
BH 301 SS2		AM	1							☑											
BH 302 SS1		PM	1							☑											
BH 302 SS2		AM	1							☑											
BH 303 SS1		AM	1							☑											
BH 303 SS2		AM	1							☑			☑								
BH 304 SS4		PM	1							☑											
BH 305 SS1		AM	1							☑											
BH 305 SS2		AM	1							☑											
BH 306 SS1		AM	1							☑											
BH 306 SS2		AM	1							☑											

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
[illegible]	4/4/5	Oct 26	Daniella Jaic	Oct 29/18	4:50pm
Daniella Jaic	Oct 29/18				

Page 1 of 2

N°:

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

AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
www.agatlabs.com webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

Laboratory Use Only

Work Order #: 18H402704

Cooler Quantity: 1 BOX

Arrival Temperatures: 4.4 | 4.0 | 3.9

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes:

Report Information:

Company: Soil-Mat Engineers
Contact: Jeremy Yang
Address: 130 Lancing Drive, Hamilton, ON
Phone: 905-318-7440 Fax:
Reports to be sent to:
1. Email: jyang@soil-mat.ca
2. Email: craigmd@mcmaster.ca

Regulatory Requirements:

(Please check all applicable boxes)

☐ No Regulatory Requirement

☑ Regulation 153/04 Table 1 (Indicate One)
☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (Check One) ☐ Coarse ☐ Fine

☐ Sewer Use ☐ Sanitary ☐ Storm
Region (Indicate One)

☐ Regulation 558 ☐ CCME ☐ 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 ☐ 1 Business Day

OR Date Required (Rush Surcharges May Apply): 5 DAY

Please provide prior notification for rush TAT

**TAT is exclusive of weekends and statutory holidays*

Project Information:

Project: 188633
Site Location: 1085 Clearview Avenue
Sampled By: Malcolm Craig
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:

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
Dup 1	25Oct18	PM	1	Soil	
Dup 2	11	am	1	11	

(Check Applicable)

Metals and Inorganics	Metal Scan	Hydride Forming Metals	Client Custom Metals	ORPs: ☐ B-HWS ☐ Cr ☐ CN^- ☐ Cr^{6+} ☑ EC ☐ FOC ☐ NO_3/NO_2 ☐ Total N ☐ Hg ☐ pH ☑ SAR	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3/NO_2	Volatiles: ☐ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	Chlorophenols	PCBs	Organochlorine Pesticides	TCLP Metals/Inorganics	Sewer Use	Corrosivity	Lead and Arsenic
				☑												
				☑												

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
MS Cr	Oct 26	4:45	Daniella Jaic	Oct 26/18	4:50pm
Daniella Jaic	Oct 29/18				

Page 2 of 2

N°:

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

Document ID: DIV-75-1511-0006 Date Issued: Jan 8, 2015

Appendix ‘D’

1. Qualification of Assessors

COMPANY BACKGROUND

SOIL-MAT ENGINEERS & CONSULTANTS LTD. [SOIL-MAT ENGINEERS] is a Canadian Consulting Engineering firm owned by its senior staff. Over the past thirty years the principals of SOIL-MAT ENGINEERS have undertaken geotechnical investigations in all areas of Hamilton and surrounding area and are familiar with the distinct geology of the area and therefore well-versed with the various soil, bedrock and groundwater conditions. SOIL-MAT ENGINEERS has a staff of over twenty-five engineers and technical staff who specialize in geotechnical assignments, environmental assessments, hydrogeological investigations and construction quality control/assurance projects. The company commenced operation on June 15, 1992 and has undertaken over 5,000 projects since its inception. The firm and all professional staff are in good standing with Professional Engineers Ontario. The company has maintained a current Certificate of Authorisation since it was granted on April 28, 1992. The firm's office and laboratory facilities are located at 130 Lancing Drive in Hamilton, Ontario.

REPORT AUTHORS

Jeremy Yang, M.Sc. Eng.
Project Manager

Mr. Yang has over four years of experience in conducting Phase I ESA research and Phase II ESA fieldwork, including soil and groundwater sampling. Mr. Yang also has experience in Phase III Environmental Site Assessments including remediation of underground storage tanks and various ex-situ 'dig and dump' remediation programmes.

Ian Shaw, P. Eng.
[Director/ Senior Professional]

Mr. Shaw has over seventeen years of experience in the geotechnical and geo-environmental fields. Mr. Shaw has supervised the geotechnical investigations for the replacement/rehabilitation of bridge/culvert structures located within the Haldimand County, numerous residential and industrial subdivision projects, slope stability assignments associated with Hamilton Conservation Authority and Conservation Halton requirements, and several high rise developments in Hamilton, Burlington, Oakville, Brantford, St. Catharines, and Niagara Falls. Mr. Shaw has also been involved in numerous hydrogeological investigations, primarily within the City of Hamilton, associated with the development of residential and commercial subdivision projects. Some of Mr. Shaw's projects have included the decommissioning of underground and above ground fuel oil storage tanks, the implementation of in-situ and ex-situ remediation programmes and numerous 'dig and dump' remediation projects.

Keith Gleadall, B.A., EA Dipl.

Vice-President [Senior Professional]

Mr. Gleadall has over seventeen years of experience in conducting Phase I, II and III Environmental Site Assessments and has successfully completed the requirements of the Associated Environmental Site Assessors of Canada and a Post Graduate Diploma in Environmental Site Assessment from Niagara College. Mr. Gleadall is responsible for undertaking numerous hydrogeological investigations, primarily within the City of Hamilton, associated with the development of residential and commercial subdivision projects, together with Phase I, II and III Environmental Site Assessments. Projects have included the decommissioning of underground and above ground fuel oil storage tanks, the implementation of in-situ and ex-situ remediation programmes, the decommissioning of a former dry-cleaning facility and numerous 'dig and dump' remediation projects.

Appendix ‘E’

1. Statement of Limitations

REPORT LIMITATIONS

Achieving the objectives that are stated in this report has required SOIL-MAT ENGINEERS to derive conclusions based upon the best and most recent information currently available to SOIL-MAT ENGINEERS. No investigative method can completely eliminate the possibility of obtaining partially imprecise information. SOIL-MAT ENGINEERS has expressed professional judgement in gathering and analysing the information obtained and in the formulation of its conclusions.

Information in this report was obtained from sources deemed to be reliable, however, no representation or warranty is made as to the accuracy of this information. To the best of SOIL-MAT ENGINEERS' knowledge, the information gathered from outside sources contained in this report on which SOIL-MAT ENGINEERS has formulated its opinions and conclusions, are both true and correct. SOIL-MAT ENGINEERS assumes no responsibility for any misrepresentation of facts gathered from outside sources.

This report was prepared to assess and document evidence of potential environmental contamination, and not to judge the acceptability of the risks associated with such environmental contamination. Much of the information gathered for this report is only accurate at the time of collection and a change in the Site conditions may alter the interpretation of SOIL-MAT ENGINEERS' findings. Furthermore, the reader should note that the Site reconnaissance described in this report was an environmental assessment of the Site, not a regulatory compliance or an environmental audit of the Site.

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of LIV COMMUNITES. The material in it reflects SOIL-MAT ENGINEERS best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.