ALSTON GEOTECHNICAL CONSULTANTS INC.

Geotechnical Investigation Report
Proposed Building Development
10 Aspen Springs Drive
Bowmanville, Ontario

Project No. 22.003
28 April, 2022

Prepared For:

Watters Environmental Group Inc.
9135 Keele Street
Unit A1
Vaughan, Ontario
L4K 0J4

1 Copy - Watters Environmental Group Inc.
1 Copy - Alston Geotechnical Consultants Inc.

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ENCLOSURES

1.0 INTRODUCTION

Alston Geotechnical Consultants Inc. has been retained by Watters Environmental Group Inc. (Watters) on behalf of Sunray Developments to carry out a Geotechnical Investigation at the site of a proposed building development which is located at 10 Aspen Springs Drive, in Bowmanville, Ontario. Authorization to proceed with this project was given by Tanner Leonhardt, B. Eng., on behalf of Watters.

The proposed development will consist of a building complex which is to include a nine storey mid-rise building and two twenty five storey high-rise building. The entire site area will be underlain by a substructure featuring three basement levels. The purpose of this investigation has been to review and interpret the subsurface conditions illustrated by the sampled boreholes advanced at the site and based on those data, to provide an interpretation of the engineering characteristics of the various soil materials which underlie the site, as well as to present recommendations pertaining to the geotechnical design of the building foundations and substructure.

2.0 FIELDWORK

The fieldwork for this study was carried out in the period 28 February to 22 March, 2022. This work consisting of advancing eleven sampled boreholes at the site to depths ranging from 11 m to 28 m. The boreholes were advanced at the locations shown on the Site Plan, Watters Figure 1. The following paragraphs present a commentary on the engineering characteristics of the various soil materials contacted in the site boreholes.

3.1 Site Description

The site lies on the west side of Bowmanville Avenue, in Bowmanville, Ontario. The northern site boundary is at the edge of the rail right-of-way and the southern boundary of the site fronts on to Aspen Springs Drive. The site is presently unused. It is generally grass covered with some scrub and small trees. The site generally falls with westing from Bowmanville Avenue. A detailed site description is given in the companion report by Watters.

3.2 Surface Cover

A gravel surfaced parking area is located at the southeast corner of the site. Elsewhere the site is surfaced with a layer of topsoil which is typically about 100 mm to 200 mm thick. The topsoil is intermittently underlain by disturbed ground (classified as fill), which is up to about 1.8 m thick. Typically, the fill consists of silty clay material. The evidence of in situ testing carried out in this material indicates that it is loosely compacted and was not subject to selection or dense compaction when placed on site.

3.3 Upper Silt to Sand

The upper layer in the native soil profile at the location of Boreholes 101, 102, 105, 109 and 110 consists of silt and fine sand soil fractions present in varying proportions (sandy silt to silty fine sand). The soil also includes a trace to some gravel and occasional cobbles. In general, the soil is coloured brown and is in a damp condition above a depth of about 3.5 m to 4 m. Occasional steeply inclined fissures were found in soil samples. The soil is coloured grey and is in a moist condition in the portions of the layer which underlie that depth.

Standard penetration tests carried out in this soil layer recorded low N-values (1 to 4 blows/300 mm) in the near surface sub-unit of the layer. The results of in situ testing indicate that below a depth of about 1.5 m to 2 m, the soil is compact to dense, rapidly becoming very dense

The water content of samples of the sand to silt soil was found to range from 4% to 8%. The results of a representative Grain Size Distribution test are reported in Figure 103.

3.4 Clayey Silt to Sandy Clay

Below the topsoil and fill surficial fill sand units in Boreholes 104, 106, 107, 108 and 109, and below the silt and sand soil unit in the balance of the boreholes, all explorations contacted a thick stratum consisted of weakly plastic clayey sandy silt to sandy clay, which includes some gravel and occasional cobbles. Based on the characteristics of the soil, it

should be anticipated that a distribution of boulders will be embedded within this soil stratum. In the upper sub-unit of the stratum occasional, steeply inclined fissures were observed in the soil samples which exhibit an oxidized face.

Standard Penetration tests carried out in the stratum measured N-values which generally exceed 50 blows/300 mm, although occasional lower N-values were observed within the stratum in certain boreholes. The results of in situ testing and observations of soil samples indicate that this stratum is heavily overconsolidated and of hard cosnsitency. It is considered probable that the infrequent lower recorded N-values represent zones which are of limited extent in which the soil imbibed water following retreat of the consolidating ice sheet.

Typically, the water content of samples of the soil was found to range from 6% to 12%, with a somewhat higher water content being recorded in the less dense zones of the stratum.. The results of Grain Size Distribution tests carried out on samples of the soil are reported on Figures 102 and 103, which illustrate the similarity in gradation to the overlying layer. However, differences in soil plasticity occur depending on clay fraction. Atterberg Limits tests were carried out on representative samples and the test results are reported in Figure 101 which show that the soils are of low plasticity (CL/ML or CL designation).

The soil stratum was only fully penetrated in Boreholes102, 103 and 107.

3.5 Lower Silty Clay

The basal soil stratum consists of grey silty clay which includes a trace to some sand and a trace to some gravel. Faint layering was observed in some soil samples. It is anticipated that larger cobble and boulder sizes could be embedded in this layer.

The results of in situ testing indicate that the soil is of hard consistency.

Water content values ranging from 8% to 12% were measured on soil samples. The

results of a grain size distribution test are reported in Figure 104. Atterburg limits tests indicate a low to intermediate plasticity (CL/CI designation).

The results of Laboratory testing are attached to this report in Appendix 'B'.

3.6 Groundwater Conditions

A full evaluation of the groundwater conditions at the site are presented in the companion Hydrogeological Investigation, which was carried out by Palmer. That report gives full details of groundwater levels and level variations, as well as recommendations for groundwater control at the site. The results of water level monitoring indicate levels in the range 0.5 m to 3.6 m below the existing ground surface.

4.0 DISCUSSION AND RECOMMENDATIONS

4.1 General

The building developments will consist of a nine storey mid-rise residential building positioned east west across the southern limit of the property and two adjacent 25 storey residential towers along the eastern site boundary extending to the northern site limit. The entire site area will be underlain by a 3 level basement substructure.

4.2 Summarized Subsurface Condition

The site is presently unused, except for a gravelled surface parking area at the southeast corner of the site. Elsewhere, the site cover consists of grass, scrub and a few trees. There are intermittent areas of disturbed soil located at shallow depth throughout the site area. The soil strata which underlie the surficial layers consist of compact becoming very dense silt and sand, hard clayey silt to sandy clay, and a basal soil unit consisting of hard silty clay. The site is characterized by a shallow water table.

4.3 Foundation Design

The selection of a three level basement substructure will position the lower basement floor slab at a depth of about 9 m below the existing ground surface, and the foundation bearing

surface at a depth of about 10 m. The borehole data indicate that, at this depth, the foundation soil will consist of hard clayey sandy silt to sandy clay which includes a trace to some gravel, and occasional cobbles and boulders. Mostly, the consistency of the soil is represented by Standard Penetration tests N-values of more than 50 blows/300 mm. However, the borehole data indicate that the soil stratum includes infrequent lenses of soil represented by N-values in the range 30 to 40 blows/300 mm. These included zones are of limited areal extent and thickness. The native soils will provide competent support to foundation loads provided that the bearing surface is well prepared and protected from deterioration. Assuming a bearing surface consisting of undisturbed native soils, foundations may be designed to apply an allowable bearing pressure at Serviceability Limit States (SLS) of 700 kPa and a bearing resistance at Ultimate Limit States (ULS) of 1050 kPa. It is expected that foundations less than 2 m wide will experience a consolidation (long term) settlement of less than 25 mm. It is noted that the soil stratum is heavily overconsolidated and thus, some rebound is expected to occur in the base of excavations following removal of overburden loads. Based on empirical data, it is anticipated that the rebound could be up to about 30 mm. Such rebound will be reconsolidated on re-application of loads, within a short time period. Improved recommendations regarding design values of bearing pressure and settlement will be made when details regarding column loads and spacing are available. The site classification with respect to seismic site response is Class 'C'.

Depending on the actual building column loads, consideration may be given to supporting individual columns on drilled shafts ("Caissons"). For such foundations the design may be based on adhesion values at SLS and ULS of 80 kPa and 120 kPa, respectively, and end bearing pressures at SLS and ULS of 1.25 MPa and 1.85 MPa, respectively for a shaft with a toe elevation not less than 8 m below the base of basement excavation. No unusual difficulty is anticipated in advancing drilled shafts, however, allowance should be made for clearing boulder size in the course of foundation advancement.

4.4 Basement Substructure

The design of the basement walls should be based on lateral earth pressures evaluated using the expression:

– $p_h = K_0 (\gamma h+q);$

where:

– p_h = *lateral pressure at depth h;*

– K_0 = *'at rest' lateral earth pressure coefficient, use 0.5*

– γ = *unit weight of retaining soil, assume 22 kN/m³;*

– h = *depth;*

– q = *surcharge loading.*

For the portion of the basement walls which lie above the groundwater level, the full unit weight of the soil should be used. For portions of wall that lie below that water level (refer to the report by Palmer), the submerged unit weight of the soil should be used however, the full hydraulic pressure should be added to the soil pressure.

Aspects of basement design relating to groundwater elevation and drainage are addressed in the companion Hydrogeological Report. The basement floor should be underlain by a sub-slab fill consisting of granular material. The design of this layer is dependent on hydrogeological requirements as well as providing uniform support. This aspect will be addressed after selection of drainage requirements for the project have been determined, i.e. whether the basement design will consist of a waterproof (tanked) structure, or if the substructure is to feature a surrounding drainage blanket and underfloor drains.

4.5 Shoring and Excavation

The evaluation of the lateral pressures applied to shoring may be evaluated using the expression given above. However, the active earth pressure coefficient (Ka) should be substituted for the at-rest coefficient (Ko), a value of 0.26 is appropriate.

There is no geotechnical constraint on selection of a shoring system. However, it should be noted that in the event a solder pile and lagging system is selected, the presence of fissures within the upper sub-unit of the solder profile should be noted. There will be a tendency for slabs to "peel off" any steeply inclined soil slopes.. Also, in the portion of timber lagging which is installed through the silt to sand soil strata, the gaps between the planks should be sealed to prevent loss of silt fines from the supported soil through this interface.

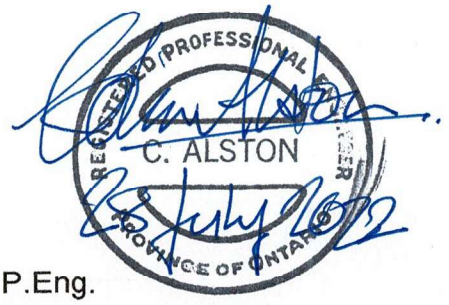
The hard consistency of the native soils will influence the selection of excavator required for the site conditions.

5.0 LIMITATIONS OF REPORT

A description of the Limitations which are inherent in carrying out conventional geotechnical engineering site evaluations and reports is attached in Appendix 'A', which is an integral part of this report.

This report has been prepared without knowledge of column loads, column spacing or other structural loads and requirements. The recommendations presented in the report are subject to revision and modification when details are known regarding the actual site requirements.

ALSTON GEOTECHNICAL CONSULTANTS INC.



Colin Alston, P.Eng.

/ld

APPENDIX 'A'

Appendix 'A'

LIMITATIONS OF REPORT

The conclusions and recommendations in this report are based on information determined at the test hole locations. Soil and groundwater conditions between and beyond the test holes may differ from those encountered at the test hole locations, and conditions may become apparent during construction which could not be detected or anticipated at the time of the soil investigation.

The design recommendations given in this report are applicable only to the project described in the text, and then only if constructed substantially in accordance with details of alignment and elevations stated in the report. Since all details of the design may not be known to us, in our analysis certain assumptions had to be made as set out in this report. The actual conditions may, however, vary from those assumed, in which case changes and modifications may be required to our recommendations.

This report was prepared for Watters Environmental Group and their Client by Alston Geotechnical Consultants Inc. The material in it reflects Alston Geotechnical Consultants Inc. 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 decisions which the Third Party may make based on it, are the sole responsibility of such Third Parties.

We recommend, therefore, that we be retained during the final design stage to review the design drawings and to verify that they are consistent with our recommendations or the assumptions made in our analysis. We recommend also that we be retained during construction to confirm that the subsurface conditions throughout the site do not deviate materially from those encountered in the test holes. In cases where these recommendations are not followed, the company's responsibility is limited to accurately interpreting the conditions encountered at the test holes, only.

The comments given in this report on potential construction problems and possible methods are intended for the guidance of the design engineer, only. The number of test holes may not be sufficient to determine all the factors that may affect construction methods and costs. The contractors bidding on this project or undertaking the construction should, therefore, make their own interpretation of the factual information presented and draw their own conclusions as to how the subsurface conditions may affect their work.

APPENDIX 'B'

WATER CONTENT RECORD

Project: CA21-035	Client: WATTERS ENVIRONMENTAL	By:AM
Ref. No.:	BOWMANVILLE	08/03/2022

Borehole	Sample No.	Container No.	Wet Soil +Tare (g)	Dry Soil + Tare (g)	Tare (g)	Water Content (%)
BH 107	1A	512	114.45	103.60	13.8	12.1%
	1B	616	98.61	96.10	12.3	3.0%
	2	524	100.25	95.15	13.8	6.3%
	3	525	113.96	107.91	13.7	6.4%
	4	534	93.43	88.77	13.8	6.2%
	5	607	100.76	95.73	14.0	6.2%
	6	612	108.77	102.97	13.0	6.4%
	7	615	114.47	108.25	13.7	6.6%
	8	633	131.86	125.80	13.8	5.4%
	9	517	105.61	98.08	13.8	8.9%
	10	518	106.83	100.01	13.8	7.9%
	11	520	102.79	95.53	13.7	8.9%
	12	521	134.86	124.44	13.8	9.4%
	13	522	115.22	107.37	13.8	8.4%
	14	526	100.84	93.53	13.8	9.2%
	15	527	90.31	83.82	13.7	9.3%
	17	530	100.48	94.14	13.8	7.9%
	18	539	53.30	50.17	13.7	8.6%
	19	540	106.72	98.93	13.7	9.1%
	20	541	87.14	80.87	13.8	9.4%
	21	604	90.50	81.03	12.2	13.8%
	22	472	148.25	128.86	19.1	17.7%
BH 111	1	410	135.10	129.27	19.1	5.3%
	2	414	94.42	88.54	19.2	8.5%
	3A	427	118.48	106.38	18.6	13.8%
	3B	455	130.70	121.06	18.9	9.4%
	3C	465	105.49	99.70	19.5	7.2%
	4	468	154.72	148.71	19.1	4.6%
	5	700	124.47	120.05	21.0	4.5%
	6	710	141.52	134.47	20.9	6.2%
	7		276.35	264.79	4.1	4.4%
	8	725	158.29	147.03	20.9	8.9%
	9	509	91.63	84.73	13.8	9.7%
	10	401	107.84	100.27	19.7	9.4%
	11	523	86.35	78.72	13.8	11.7%
	12	532	80.83	74.28	13.7	10.8%
	13	406	86.51	81.09	19.6	8.8%
	14	404	89.43	81.46	18.4	12.6%

WATER CONTENT RECORD

Project:	Client:	By:
Ref. No.:	Location:	Date:

Borehole	Sample No.	Container No.	Wet Soil +Tare (g)	Dry Soil + Tare (g)	Tare (g)	Water Content (%)
BH 11	15	644	101.69	88.65	13.7	17.4%
	16	502	109.37	101.43	13.7	9.1%
	17	503	97.97	91.40	13.9	8.5%
	18	506	118.05	107.79	13.8	10.9%

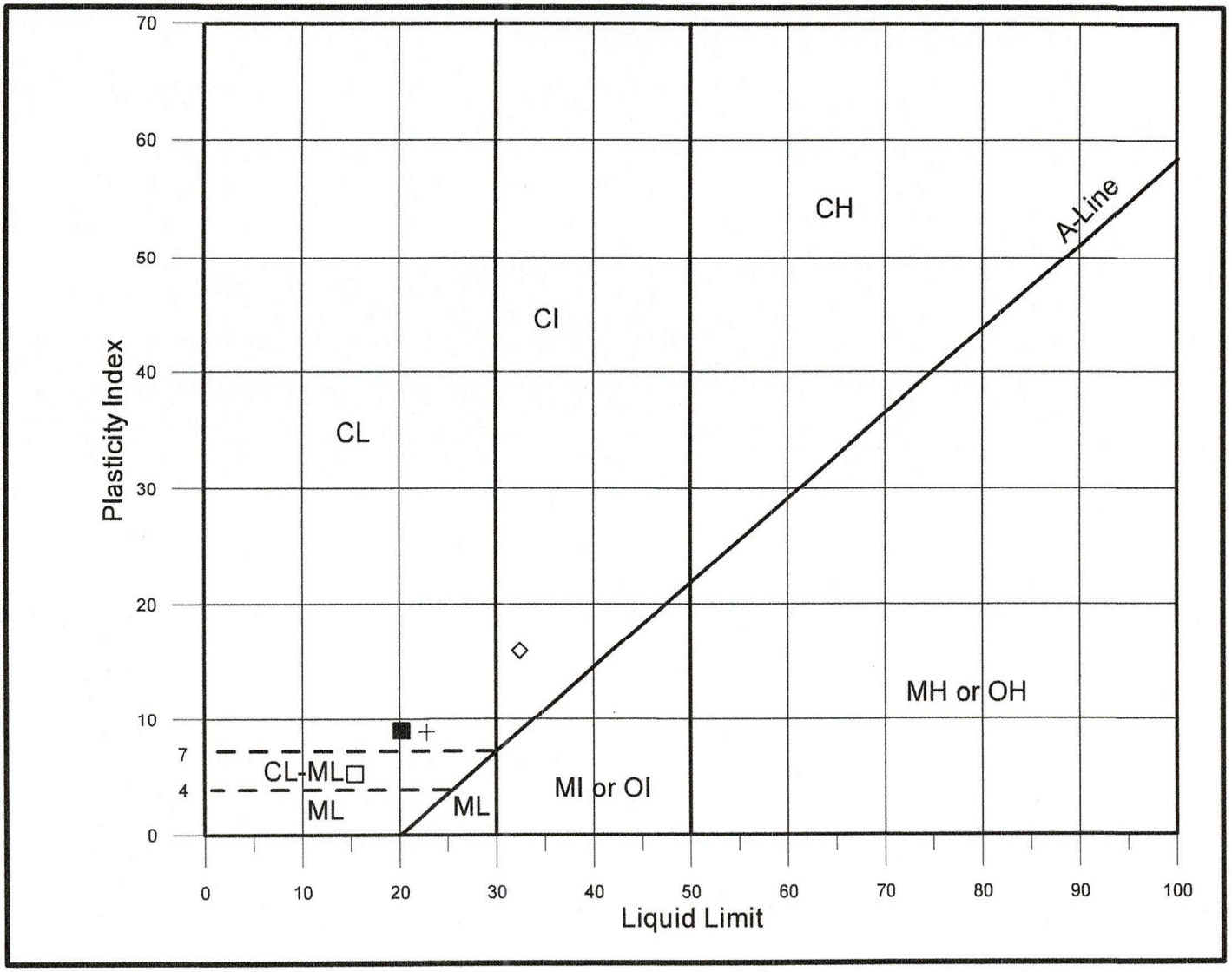
WATER CONTENT RECORD

Project: CA 21-035	Alston Geotechnical Consultants Inc	By: AC
Ref. No.:	Watters Environmental - Bowmanville	On: April 11/22

Borehole	Sample No.	Container No.	Wet Soil +Tare (g)	Dry Soil + Tare (g)	Tare (g)	Water Content (%)
BH103	1	427	83.39	70.62	18.6	24.6%
	2	469	100.33	94.43	19.7	7.9%
	3	467	105.24	100.38	19.3	6.0%
	4	422	105.24	100.38	19.3	6.0%
	5	439	94.42	91.23	19.2	4.4%
	6	411	102.08	97.04	19.1	6.5%
	7	402	142.57	135.05	19.7	6.5%
	8	549	97.19	90.98	13.7	8.0%
	10	513	101.29	94.63	13.7	8.2%
	11	546	110.64	96.90	13.8	16.5%
	12	637	102.19	94.01	13.7	10.2%
	13	618	95.98	86.32	13.1	13.2%
	14	505	78.10	73.20	13.8	8.2%
	15	507	87.23	81.97	13.9	7.7%

WATER CONTENT RECORD

PLASTICITY CHART



Client: Alston Geotechnical Consultants Inc.
Project: Lab Testing Watters' Bowmanville Project
Ref. No.: CA21-035

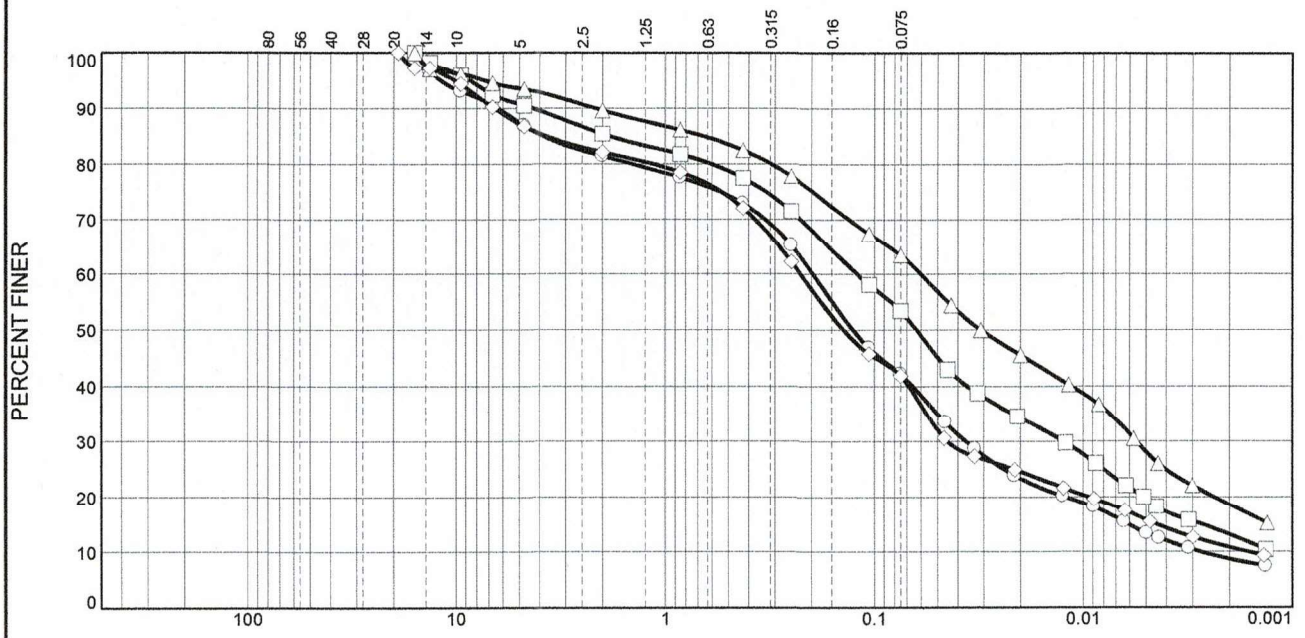
Sample	Symbol
BH107, Sample 22	◇
BH107, Sample 13	□
BH111, Sample 15	+
BH103, Sample 14	■

Remarks:

TERRAPEX

Figure No. 101

Particle Size Distribution Report



	% +75mm	% Gravel	% Sand		% Fines	
			Coarse	Fine	Silt	Clay
○	0.0	18.5	8.6	30.7	33.5	8.7
□	0.0	14.6	7.9	24.1	40.3	13.1
△	0.0	10.4	7.1	19.1	44.8	18.6
◇	0.0	17.8	10.2	30.1	31.1	10.8

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			3.8267	0.1968	0.1269	0.0366	0.0061	0.0028	2.45	70.59
□			1.8408	0.1211	0.0629	0.0125	0.0027			
△			0.6551	0.0599	0.0311	0.0056				
◇			3.7064	0.2262	0.1409	0.0449	0.0045	0.0016	5.42	137.58

Material Description	USCS	AASHTO
○ SILTY SAND some gravel trace clay		
□ SANDY SILT some gravel some clay		
△ SANDY SILT some clay and trace to some gravel		
◇ SILTY SAND some gravel some clay		

Project No. CA21035 **Client:** AGC Lab Testing

Project: Watters Environmental - Bowmanville

○ **Sample Number:** BH 111, Sample 10

□ **Sample Number:** BH 107, Sample 14

△ **Sample Number:** BH 111, Sample 14

◇ **Sample Number:** BH 103, Sample 7

Terrapex

Toronto, Ontario

Remarks:

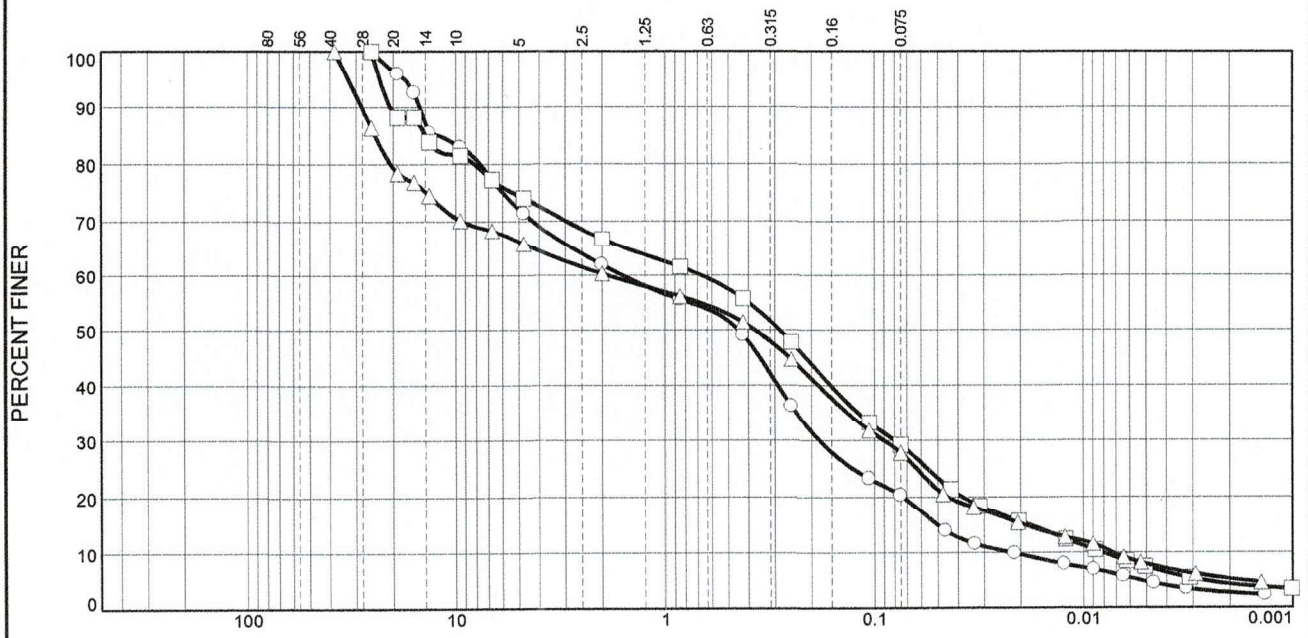
○HYDROMETER DETAILS:
Spec. Grav. 2.75(assumed);Vb= 53cm^3; L2=13.8cm; L1=10.7cm; hs=0.16cm/Div; A=30.2cm^2; Mass of Disp. Agent=40g/1 Test Date: March 17, 2022

□HYDROMETER DETAILS:

Figure 102

Tested By: ○ AM/CK □ AM/KC △ AM/CK ◇ AM **Checked By:** DM

Particle Size Distribution Report



	% +75mm	% Gravel	% Sand		% Fines	
			Coarse	Fine	Silt	Clay
○	0.0	38.0	12.9	28.8	17.6	2.7
□	0.0	33.3	10.9	26.6	24.9	4.3
△	0.0	39.7	8.8	23.7	22.6	5.2

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			11.9685	1.5878	0.4462	0.1837	0.0500	0.0223	0.95	71.20
□			13.9782	0.6693	0.2833	0.0799	0.0181	0.0081	1.17	82.20
△			24.3384	1.8765	0.3705	0.0900	0.0191	0.0073	0.59	258.54

Material Description	USCS	AASHTO
○ SAND AND GRAVEL some silt trace clay		
□ GRAVELLY SILTY SAND trace clay		
△ SANDY SILTY GRAVEL trace clay		

Project No. CA21035 **Client:** AGC Lab Testing

Project: Watters Environmental - Bowmanville

○ **Sample Number:** BH 107, Sample 10

□ **Sample Number:** BH 107, Sample 6

△ **Sample Number:** BH 111, Sample 7

Terrapex

Toronto, Ontario

Remarks:

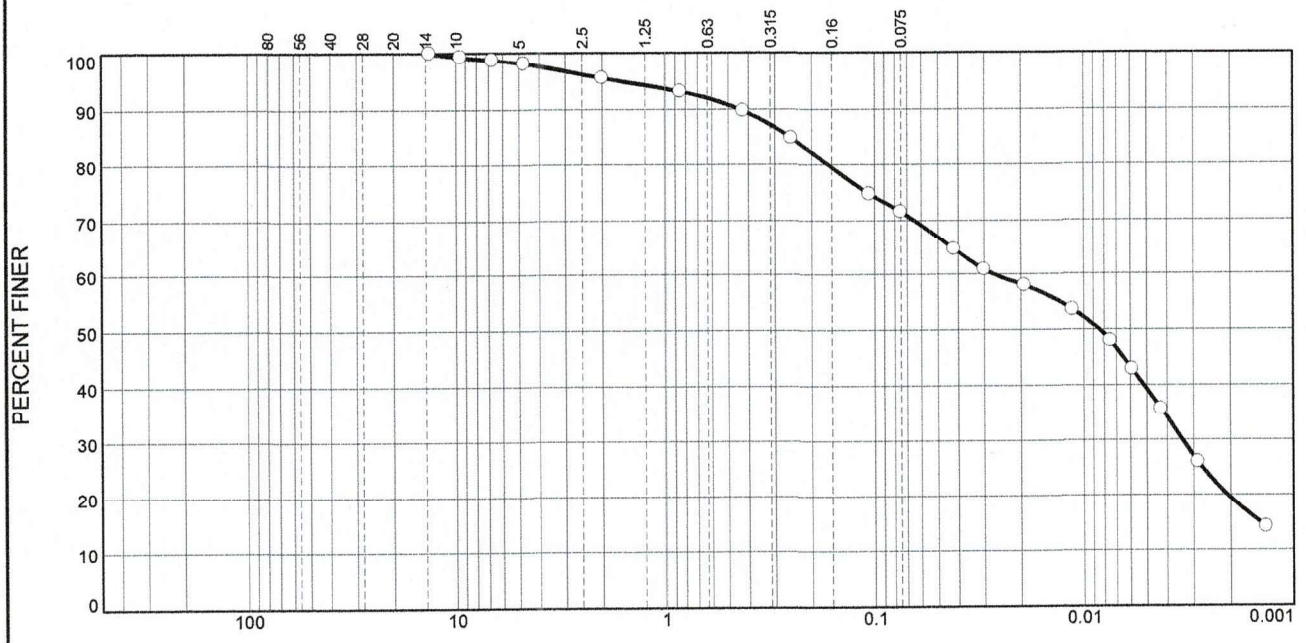
○HYDROMETER DETAILS:
Spec. Grav. 2.75(assumed);Vb= 53cm^3; L2=13.8cm; L1=10.7cm; hs=0.16cm/Div; A=30.2cm^2; Mass of Disp. Agent=24g/1 Test Date: March 9, 2022

□HYDROMETER DETAILS:

Figure 103

Tested By: ○ AM/CK □ AM/CK △ AM **Checked By:** DM

Particle Size Distribution Report



% +75mm	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0.0	4.4	5.8	18.3	52.1	19.4

LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
		0.2540	0.0271	0.0084	0.0034	0.0014			

Material Description	USCS	AASHTO
SANDY SILT some clay trace gravel		

Project No. CA21-035 **Client:** Alston Geotechnical Consultants Inc

Project: Watters - Bowmanville

Sample Number: BH 103, Sample 12

Remarks:

HYDROMETER DETAILS:
Spec. Grav. 2.75(assumed);Vb= 53cm^3; L2=13.8cm; L1=10.7cm; hs=0.16cm/Div; A=30.2cm^2; Mass of Disp. Agent=40g/1 Test Dte: April 4, 2022

Terrapex

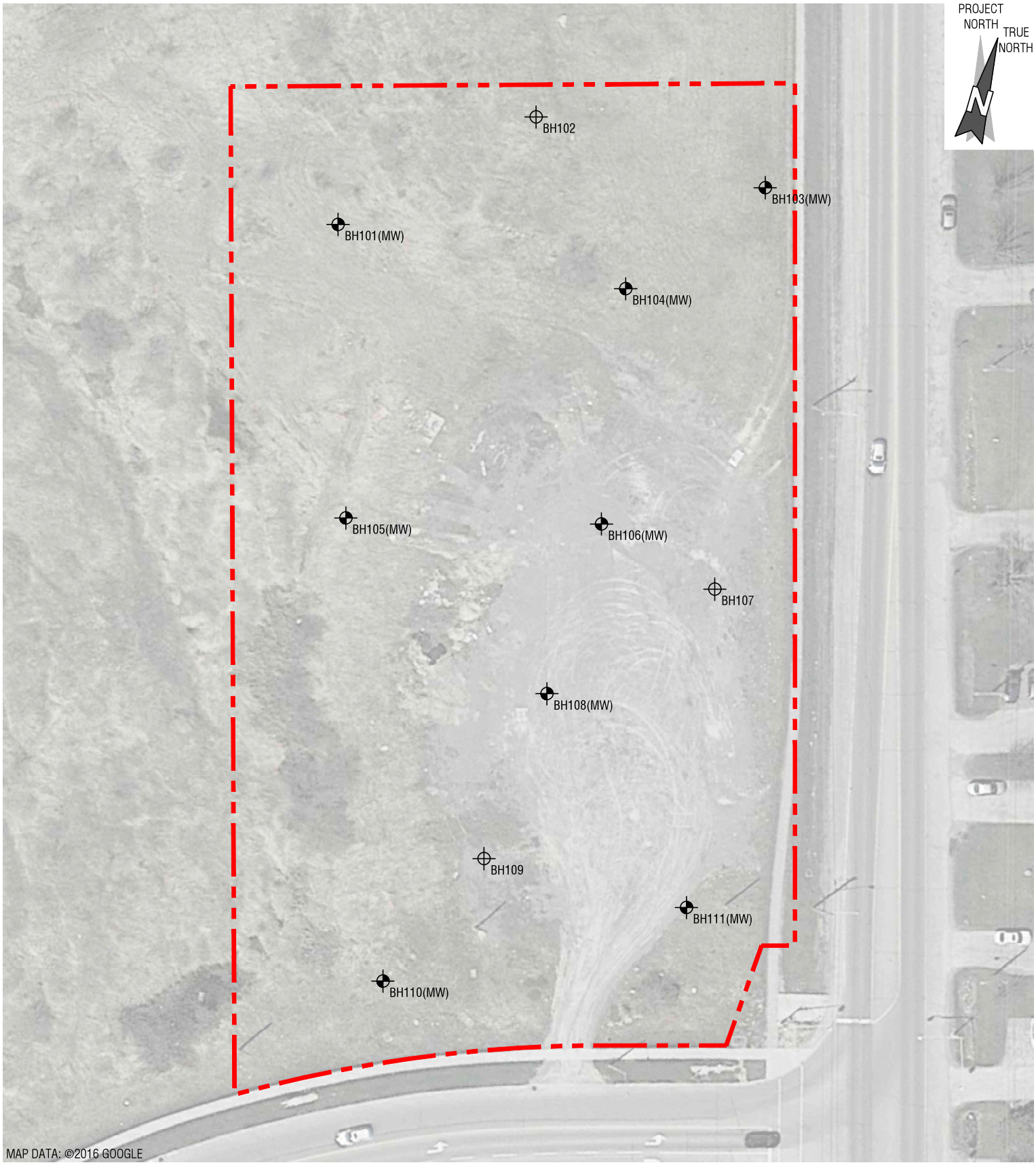
Toronto, Ontario

Figure 104

Tested By: AM

ENCLOSURES

FIGURE



LEGEND:

APPROXIMATE EXTENT OF THE SITE

BOREHOLE LOCATION

MONITORING WELL LOCATION

CONFIDENTIAL

0m 40m

APPROXIMATE SCALE

DRAWN: B. CALDERONE

CHECKED: T. ALSTON

DATE: APRIL 2022

CLIENT: SUNRAY GROUP OF HOTELS

SITE ADDRESS: 10 ASPEN SPRINGS DRIVE BOWMANVILLE, ONTARIO

REPORT NAME: GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION

FIGURE NAME: BOREHOLE LOCATION PLAN

PROJECT No: 21-0136.03

FIGURE No: 1

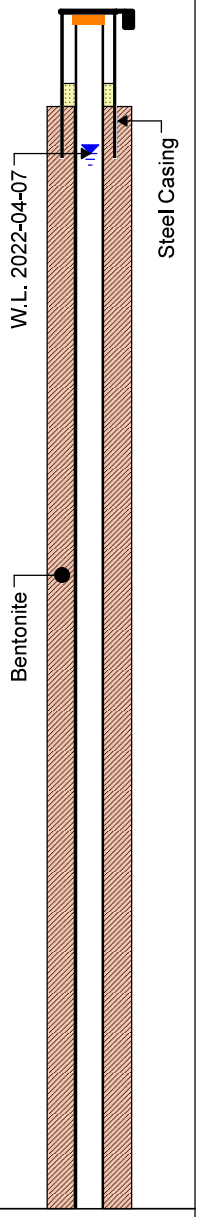
BOREHOLE LOG SHEETS

WATTERS ENVIRONMENTAL GROUP INC.®
9135 Keele Street, Unit A1
Concord, Ontario L4K 0J4
www.wattersenvironmental.com
416-361-2407

Borehole No: BH101(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 15.3 m
Logged By: T.A. **Elevation:** Approximate 121.6

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
0 / 0		Ground Surface	121.6								
		220 mm Topsoil	0.0	1	SS	4	0				
2		comapct moist brown SILT and fine SAND trace to some gravel		2	SS	33	100				
4				3	SS	14	75				
6 / 2				4	SS	29	75				
8											
10			118.2	5A	SS	44	100				
		moist brown	3.4	5B	SS						
12		moist grey									
14 / 4		very dense SANDY SILT trace to some gravel trace clay occasional cobble weakly plastic (Till-like)		6	SS	41	100				
16				7	SS	76	100				
18											
20 / 6			115.2	8A	SS	88	75				
			6.4	8B	SS						
22		hard grey SILTY SANDY CLAY some gravel (Till-like)									
24											
26 / 8				9	SS	50 for 100 mm	75				
28											



Drilled By: Davis Drilling Ltd. CME 55
Drill Method: Split Spoon Sampling and Hollow Augers
Drill Date: 2022-03-21

Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 1 of 2

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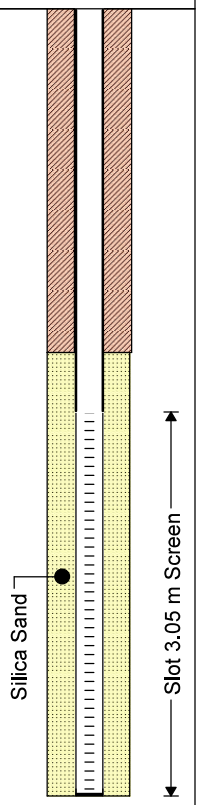
Borehole No: BH101(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L.
Logged By: T.A.
Total Depth: 15.3 m
Elevation: Approximate 121.6

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
30											
32				10	SS	62	100				
34		hard grey SILTY SANDY CLAY trace to some gravel (Till-like)		11	SS	50 for 150 mm	75				
36											
38											
40				12	SS	82 for 275 mm	100				
42											
44											
46				13	SS	50 for 75 mm	100				
48											
50			106.3	14	SS	50 for 100 mm	100				
52		End of Borehole	15.3								
54											
56											
58											
60											

10 12 14 16 18



Drilled By: Davis Drilling Ltd. CME 55
Drill Method: Split Spoon Sampling and Hollow Augers
Drill Date: 2022-03-21
Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 2 of 2

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Borehole No: BH102

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 28.0 m
Logged By: T.A. **Elevation:** Approximate 124.4

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
0 / 0		Ground Surface	124.4								
		50 mm Topsoil	0.0	1	SS	4	100				
2		grey silty clay Possible FILL									
				2	SS	6	50				
4											
6 / 2			122.6 1.8	3	SS	16	100				
8		SANDY SILT trace to some gravel trace gravel (Till - like)		4	SS	70	75				
10				5	SS	50 for 75 mm	10				
12 / 4		damp brown occasional fissures, oxidized faces		6	SS	38	100				
14											
16		grey moist		7	SS	50 for 150 mm	100				
18											
20 / 6			118.3 6.1	8	SS	50 for 100 mm	50				
22		hard grey SILTY SANDY CLAY some gravel occasional cobbles									
24											
26 / 8				9	SS	50 for 125 mm	100				
28											
30											

Drilled By: Davis Drilling Ltd. CME 55
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-17 & 18

Hole Size: 170 mm and 100 mm
Screening Tool:
Sheet: 1 of 3

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Borehole No: BH102

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 28.0 m
Logged By: T.A. **Elevation:** Approximate 124.4

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
32		hard grey SANDY SILTY CL:AY trace to some gravel occasional cobble (Till - like)		10	SS	50 for 50 mm	90				
34	10										
36				11	SS	50 for 125 mm	100				
38											
40	12			12	SS	50 for 140 mm	90				
42											
44											
46	14			13	SS	50 for 125 mm	100				
48											
50				14	SS	50 for 100 mm	100				
52	16										
54											
56				15	SS	50 for 75 mm	50				
58											
60	18			16	SS	50 for 75 mm	30				

Drilled By: Davis Drilling Ltd. CME 55
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-17 & 18

Hole Size: 170 mm and 100 mm
Screening Tool:
Sheet: 2 of 3

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Borehole No: BH102

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 28.0 m
Logged By: T.A. **Elevation:** Approximate 124.4

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
62											
64		hard grey SILTY CLAY trace sand trace gravel									
66	20			17	SS	50 for 100 mm	75				
68											
70			103.1								
72	22		21.3	18	SS	90 for 275 mm	30				
74		hard grey SILTY CLAY trace sand trace to some gravel									
76				19	SS	90 for 290 mm	100				
78	24										
80				20	SS	72	100				
82											
84											
86	26			21	SS	85	100				
88											
90											
92	28			22	SS	51	100				
		End of Borehole	96.4 28.0								

Drilled By: Davis Drilling Ltd. CME 55
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-17 & 18

Hole Size: 170 mm and 100 mm
Screening Tool:
Sheet: 3 of 3

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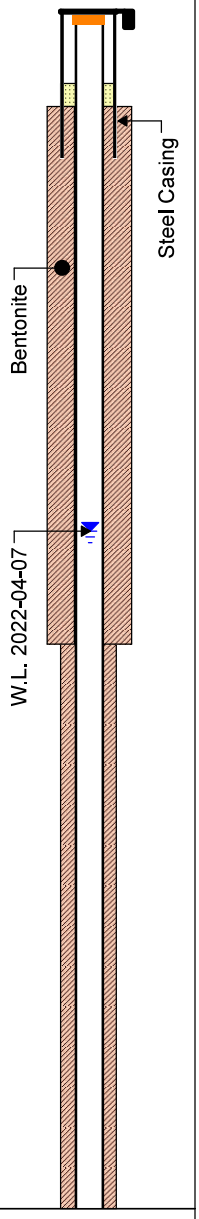
Borehole No: BH103(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.6 m
Logged By: T.A. **Elevation:** Approximate 124.8

SUBSURFACE PROFILE				SAMPLE							
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	Well Completion Data
0 / 0		Ground Surface	124.8								
		TOPSOIL, trace rootlets	0.0	1	SS	11	100				
2			124.1								
		stiff to very stiff brown SILTY SANDY CLAY trace to some gravel occasional fissure	0.7	2	SS	15	100				
4			123.3								
			1.5	3	SS	43	100				
6 / 2		dense									
8		very dense		4	SS	72	75				
		damp SILT and fine SAND some gravel, occasional cobble (Till - like)		5	SS	50 for 150 mm	100				
10											
12 / 4				6	SS	72	100				
14		damp brown									
		moist grey		7	SS	82 for 275 mm	100				
16											
18											
20 / 6			118.7								
			6.1	8	SS	50 for 100 mm	50				
22		hard grey SILTY SANDY CLAY trace to some gravel occasional sand lenses (Till-like)									
24											
26 / 8				9	SS	50 for 125 mm	0				
28											



Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-04

Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 1 of 3

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Borehole No: BH103(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.6 m
Logged By: T.A. **Elevation:** Approximate 124.8

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
30											
32	10	hard grey SILTY SANDY CLAY trace some gravel occasional sand lenses (Till - like)		10	SS	50 for 150 mm	100				
34											
36				11	SS	32	100				
38											
40	12			12	SS	82	75				
42											
44											
46	14			13	SS	50 for 150 mm	100				
48											
50			109.6 15.2								
52	16	hard grey SILTY CLAY trace to some gravel trace sand		14	SS	68	100				
54											
56				15	SS	50 for 75 mm	75				
58											
60	18			16	SS	50 for 75 mm	75				

Slot 3.05 m Screen

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-04

Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 2 of 3

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Borehole No: BH103(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L.
Logged By: T.A.
Total Depth: 21.6 m
Elevation: Approximate 124.8

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
62		hard grey SILTY CLAY trace to some gravel trace sand									Silica Sand; Slot 3.05 m Screen
64											
20 66				17	SS	50 for 150 mm	100				
68											
70				18	SS	50 for 150 mm	100				
72		End of Borehole	103.2 21.6								
22 74											
76											
78											
24 80											
82											
84											
26 86											
88											
90											
28 92											

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-04
Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 3 of 3

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Borehole No: BH104

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.4 m
Logged By: T.A. **Elevation:** Approximate 125.0

SUBSURFACE PROFILE				SAMPLE							
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	Well Completion Data
0 / 0		Ground Surface	125.0								
		70 mm Topsoil	0.0	1A	SS	8	80				
		grey to brown silty clay trace rootlets trace gravel FILL		1B	SS						
2				2A	SS	6	90				
4		Topsoil	123.8 1.2	2B	SS						
6 / 2				3	SS	27	100				
8		compact damp brown very dense SILT and fine SAND some gravel occassional cobble occasional fissure oxidized faces occasional sand seam		4	SS	72	100				
10				5	SS	50 for 150 mm	100				
12 / 4				6	SS	75 for 275 mm	100				
14											
16				7A	SS	79	100				
				7B	SS						
18											
20 / 6			118.9 6.1	8	SS	50 for 50 mm	20				
22		hard grey SILTY SANDY CLAY some gravel occasional cobbles (Till-like)									
24											
26 / 8				9	SS	50 for 100 mm	75				
28											
30											

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-17

Hole Size: 170 mm & 100 mm
Screening Tool:
Sheet: 1 of 3

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Borehole No: BH104

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.4 m
Logged By: T.A. **Elevation:** Approximate 125.0

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
32		hard grey SILTY SANDY CLAY some gravel occasional cobble (TILL-like)		10	SS	79	60				
34	10										
36				11	SS	97	75				
38											
40	12			12	SS	50 for 100 mm	10				
42											
44											
46	14			13	SS	90 for 275 mm	100				
48											
50				14	SS	79	80				
52	16										
54											
56				15	SS	50 for 150 mm	75				
58											
60	18			16	SS	50 for 75 mm	75				

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-17

Hole Size: 170 mm & 100 mm
Screening Tool:
Sheet: 2 of 3

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Borehole No: BH104

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.4 m
Logged By: T.A. **Elevation:** Approximate 125.0

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
62											
64		hard grey SILTY SANDY CLAY some gravel occasional cobbles (Till-like)									
66 – 20				17	SS	50 for 75 mm	25				
68											
70			103.6	18	SS	50 for 100 mm	75				
72 – 22		End of Borehole	21.4								
74											
76											
78											
80 – 24											
82											
84											
86 – 26											
88											
90											
92 – 28											

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-17

Hole Size: 170 mm & 100 mm
Screening Tool:
Sheet: 3 of 3

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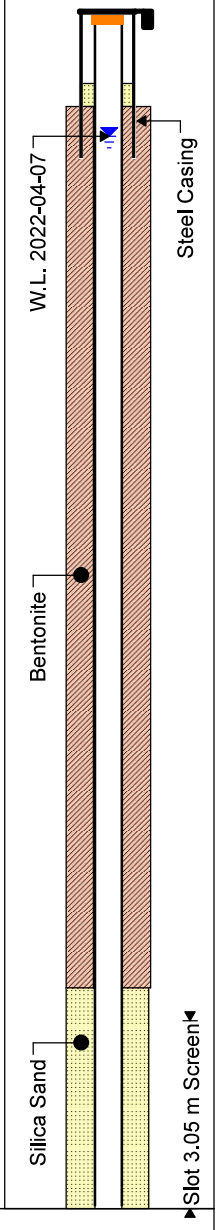
Borehole No: BH105(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L.
Total Depth: 10.9 m
Logged By: T.A.
Elevation: Approximate 121.2

SUBSURFACE PROFILE				SAMPLE							
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	Well Completion Data
0 / 0		Ground Surface	121.2								
		Topsoil	0.0	1	SS	1	50				
		loose brown SILT and fine SAND trace rootlets	120.4 0.8	2	SS	26	60				
6 / 2		compact / very dense		3	SS	51	100				
		SILT and fine SAND trace to some gravel occasional fissure oxidized faces occassional sand pocket		4	SS	81	100				
10				5	SS	50 for 125 mm	60				
12 / 4		damp brown / moist grey		6	SS	50 for 125 mm	100				
16				7	SS	50 for 100 mm	100				
20 / 6			114.8 6.4	8A	SS	54	100				
				8B	SS		100				
22		hard grey SILTY SANDY CLAY some gravel occasional cobble occasional wet sand seam (Till-like)									
26 / 8				9	SS	65	80				
28											



Drilled By: Davis Drilling Ltd. CME 55
Drill Method: Split Spoon Sampling and Hollow Augers
Drill Date: 2022-03-21
Hole Size: 200 mm
Screening Tool:
Sheet: 1 of 2

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Borehole No: BH105(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 10.9 m
Logged By: T.A. **Elevation:** Approximate 121.2

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
		hard grey SILTY CLAY some gravel, occasional cobble occasional wet sand seam (Till-Like)		10	SS	38	100				Slot 3.05 m Screen
		hard grey SILTY CLAY trace sand trace gravel	110.8 10.4 110.3	11	SS	50 for 100 mm	100				
		End of Borehole	10.9								

Drilled By: Davis Drilling Ltd. CME 55
Drill Method: Split Spoon Sampling and Hollow Augers
Drill Date: 2022-03-21

Hole Size: 200 mm
Screening Tool:
Sheet: 2 of 2

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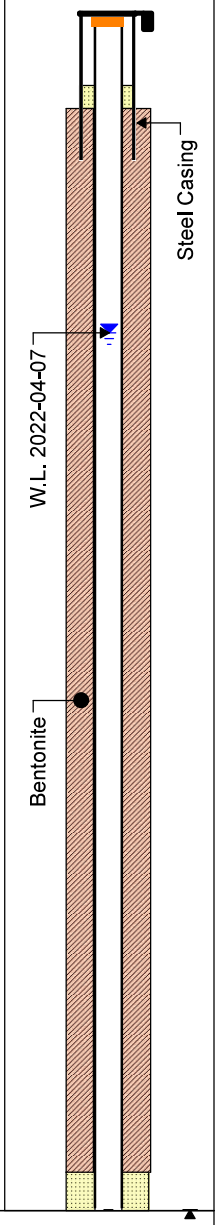
Borehole No: BH106(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 12.8 m
Logged By: T.A. **Elevation:** Approximate 124.3

SUBSURFACE PROFILE				SAMPLE							
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	Well Completion Data
		Ground Surface	124.3								
0 / 0		brown silty clay, some gravel some sand FILL	0.0	1	SS	12	100				
			123.7								
2		stiff dark brown SILTY SANDY CLAY some gravel (possible Fill)	0.7	2	SS	16	100				
4											
6 / 2			122.5	3A	SS	14	100				
		hard brown SILTY SANDY CLAY trace to some gravel occasional wet sand lense and seam	1.8	3B	SS						
8				4	SS	58	75				
10				5A	SS	75	100				
12			120.5	5B	SS						
14 / 4		very dense SILT and fine SAND trace to some gravel trace clay occasional sand lense and seam (Till - like)	3.8	6	SS	88 for 275 mm	100				
16				7	SS	50 for 125 mm	100				
18		damp brown occasional fissure oxidized face									
20 / 6		moist grey		8	SS	50 for 125 mm	50				
22											
24											
26 / 8				9	SS	50 for 150 mm	75				
28			115.2								



Drilled By: Davis Drilling Ltd. CME 75
Drill Method: Split Spoon Sampling and Hollow Augers
Drill Date: 2022-03-02 & 03

Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 1 of 2

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Borehole No: BH106(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L.
Logged By: T.A.
Total Depth: 12.8 m
Elevation: Approximate 124.3

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
0		hard grey SILTY SANDY CLAY trace to some gravel occasional cobble occasional sand seam (Till-like)		10	SS	38	100				Silica Sand; Slot 3.05 m Screen
				11	SS	85	100				
				12	SS	50	100				
			111.5								
		End of Borehole	12.8								

Drilled By: Davis Drilling Ltd. CME 75
Drill Method: Split Spoon Sampling and Hollow Augers
Drill Date: 2022-03-02 & 03
Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 2 of 2

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Borehole No: BH107

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 28.0 m
Logged By: T.A. **Elevation:** Approximate 124.3

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
0 / 0		Ground Surface	124.3								
		450 mm brown sandy silt, trace gravel FILL 300 mm grey sand and angular gravel FILL	0.0 123.5	1	SS	38	100				
2		hard brown SILTY SANDY CLAY trace gravel occasional fissure oxidized faces	0.8	2	SS	34	50				
6 / 2			122.0	3	SS	58	100				
8		very dense damp SILT and fine SAND some gravel (Till - like)	2.3	4	SS	50 for 150 mm	100				
10				5	SS	72	100				
12 / 4				6	SS	75	100				
14				7	SS	50 for 100 mm	100				
16											
18		damp brown									
20 / 6		grey moist		8	SS	50 for 150 mm	75				
22											
24											
26 / 8		moist to wet occasional sand seams and lenses		9	SS	50 for 125 mm	75				
28											
30											

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-02-28

Hole Size: 170 mm and 100 mm
Screening Tool:
Sheet: 1 of 3

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Borehole No: BH107

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 28.0 m
Logged By: T.A. **Elevation:** Approximate 124.3

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
32		very dense SILT and fine SAND some gravel (Till - like)		10	SS	50 for 100 mm	75				
34	10										
36				11	SS	50 for 125 mm	100				
38			112.4								
40	12	hard grey SILTY SANDY CLAY some gravel occasional cobbles	11.9	12	SS	39	75				
42											
44											
46	14			13	SS	56	100				
48											
50				14	SS	50 for 100 mm	100				
52	16										
54											
56				15	SS	50 for 100 mm	60				
58											
60	18			16	SS	50 for 100 mm	75				

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-02-28

Hole Size: 170 mm and 100 mm
Screening Tool:
Sheet: 2 of 3

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Borehole No: BH107

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 28.0 m
Logged By: T.A. **Elevation:** Approximate 124.3

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
62											
64											
66 — 20		hard grey SILTY SANDY CLAY some gravel occasional cobbles		17	SS	50 for 100 mm	75				
68											
70				18	SS	50 for 75 mm	30				
72 — 22											
74											
76				19	SS	50 for 150 mm	100				
78											
80 — 24				20	SS	50 for 150 mm	100				
82											
84			98.4								
86 — 26		hard grey SILTY CLAY trace sand trace gravel	25.9	21	SS	50 for 100 mm	100				
88											
90				22	SS	80	100				
92 — 28		End of Borehole	96.3 28.0								

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-02-28

Hole Size: 170 mm and 100 mm
Screening Tool:
Sheet: 3 of 3

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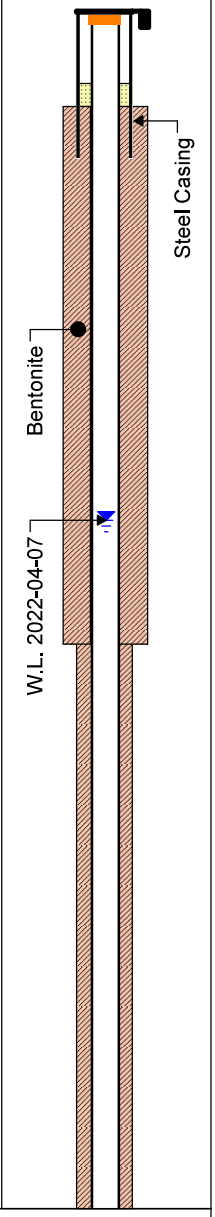
Borehole No: BH108(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.4 m
Logged By: T.A. **Elevation:** Approximate 124.9

SUBSURFACE PROFILE				SAMPLE							
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	Well Completion Data
0 / 0		Ground Surface	124.9								
		brown some grey silty clay, some gravel, trace organics FILL	0.0 / 124.5	1	SS	23	100				
2			0.5								
		very stiff SILTY SANDY CLAY trace to some gravel		2	SS	35	100				
4											
6 / 2				3	SS	17	100				
			122.6								
8			2.3	4A	SS	7	100				
		loose		4B	SS						
10		compact									
		very dense		5	SS	48	100				
12		damp SILT and fine SAND some gravel, occasional cobble (Till - like)		6A	SS	90 for 250 mm	100				
14 / 4				6B	SS						
		occasional fissure oxidized faces		7A	SS	77	100				
16				7B	SS						
18											
20 / 6				8	SS	50 for 125	100				
22											
24		damp to moist brown									
		grey wet		9	SS	93 for 275 mm	100				
26 / 8											
28											



Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-02
Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 1 of 3

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Borehole No: BH108(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.4 m
Logged By: T.A. **Elevation:** Approximate 124.9

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
30											
32	10	SILT and fine SAND some gravel occasional cobble (Till - like)		10	SS	50 for 125 mm	100				
34											
36				11	SS	47	100				
38											
40	12			12	SS	33	75				
42											
44			111.2								
46	14	hard grey SILTY SANDY CLAY trace to some gravel occasional sand pocket occasional cobbles (Till-like)	13.7	13	SS	43	100				
48											
50				14	SS	76	100				
52	16										
54											
56				15	SS	50 for 125 mm	60				
58											
60	18			16	SS	50 for 125 mm	75				

Slot 3.05 m Screen

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-02

Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 2 of 3

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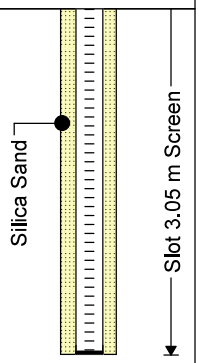
Borehole No: BH108(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.4 m
Logged By: T.A. **Elevation:** Approximate 124.9

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
62											
64		hard grey SILTY SANDY CLAY trace to some gravel occasional sand pocket occasional cobbles (Till-like)									
66 (20)				17	SS	50 for 125 mm	100				
68											
70			103.5	18	SS	50 for 125 mm	30				
72 (22)		End of Borehole	21.4								
74											
76											
78 (24)											
80											
82											
84											
86 (26)											
88											
90											
92 (28)											



Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-02
Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 3 of 3

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Borehole No: BH109

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.4 m
Logged By: T.A. **Elevation:** Approximate 125.1

SUBSURFACE PROFILE				SAMPLE							
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	Well Completion Data
		Ground Surface	125.1								
0 / 0		brown siltyclay some sand, some gravle occasional topsoil pocket FILL	0.0	1	SS	6	100				
2			124.3 0.8								
4		damp brown SANDY SILT some gravel		2	SS	43	50				
6 / 2				3	SS	22	100				
8		compact		4	SS	11	100				
10		loose		5A	SS	8	100				
12				5B	SS						
4		dense		6A	SS	26	100				
14		grey trace clay weakly plastic occassional sand seam		6B	SS						
16				7	SS	67	100				
18											
20 / 6			119.0 6.1	8	SS	50 for 125 mm	100				
22		damp brown									
24		moist grey very dense SANDY SILT some grave occasional cobble trace clay weakly plastic (Till - like)									
26 / 8				9	SS	40	75				
28											
30											

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-02 & 03

Hole Size: 170 mm and 100 mm
Screening Tool:
Sheet: 1 of 3

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Borehole No: BH109

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.4 m
Logged By: T.A. **Elevation:** Approximate 125.1

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
32		very dense SANDY SILT some gravel occasional cobble trace clay, weakly plastic (Till - like)		10	SS	80	75				
34	10										
36				11	SS	50 for 125 mm	25				
38											
40	12		112.9								
42		hard grey SILTY SANDY CLAY some gravel (Till-Like)	12.2	12	SS	33	75				
44											
46	14			13	SS	50 for 125 mm	100				
48											
50				14	SS	56	80				
52	16										
54											
56				15	SS	50 for 125 mm	60				
58											
60	18			16	SS	50 for 100 mm	75				

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-02 & 03

Hole Size: 170 mm and 100 mm
Screening Tool:
Sheet: 2 of 3

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Borehole No: BH109

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.4 m
Logged By: T.A. **Elevation:** Approximate 125.1

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
62											
64		hard grey SILTY SANDY CLAY some gravel (Till-like)									
66 — 20				17	SS	50 for 100 mm	75				
68											
70			103.7	18	SS	50 for 100 mm	30				
72 — 22		End of Borehole	21.4								
74											
76											
78 — 24											
80											
82											
84 — 26											
86											
88											
90											
92 — 28											

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-02 & 03

Hole Size: 170 mm and 100 mm
Screening Tool:
Sheet: 3 of 3

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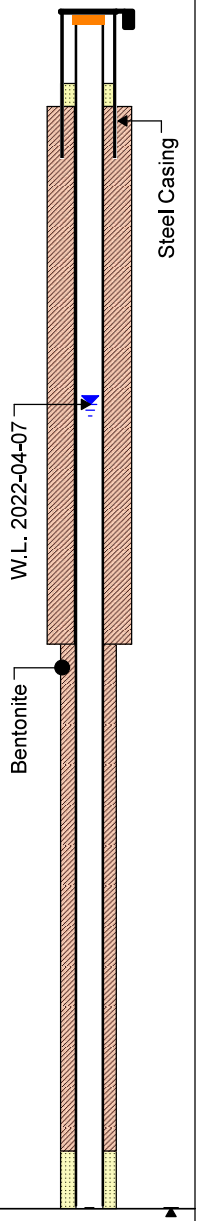
Borehole No: BH110(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.6 m
Logged By: T.A. **Elevation:** Approximate 122.0

SUBSURFACE PROFILE				SAMPLE							
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	Well Completion Data
0 / 0		Ground Surface	122.0								
		TOPSOIL trace gravel trace rootlets	0.0	1	SS	11	10				
2			121.1								
			0.9	2A	SS	10	50				
4				2B	SS		50				
		compact									
6 / 2		very dense		3	SS	57	50				
8		SILT and fine SAND some gravel occassional fissure oxidized face		4	SS	65	100				
10				5	SS	50 for 140 mm	100				
12		damp brown									
		damp brown to grey		6	SS	65	100				
14											
16				7	SS	50 for 150 mm	100				
18											
20 / 6		trace to some clay weakly plastic		8	SS	50 for75 mm	50				
22											
24											
26 / 8			114.1	9A	SS	90 for 275 mm	75				
			7.9	9B	SS		75				
28		hard grey SILTY CLAY trace sand	112.9								



Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-22
Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 1 of 3

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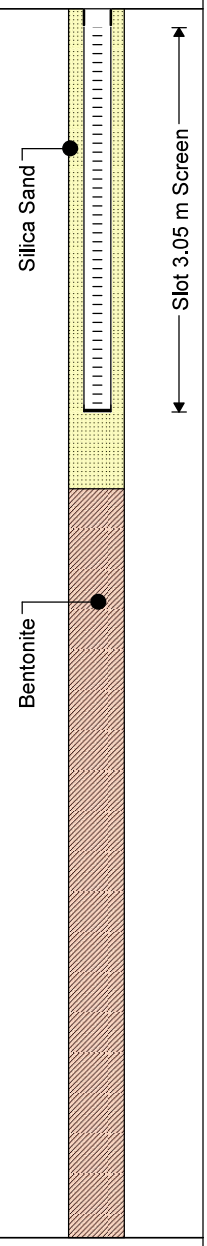
Borehole No: BH110(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.6 m
Logged By: T.A. **Elevation:** Approximate 122.0

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
30											
32	10	hard grey SILTY SANDY CLAY some gravel occasional cobbles		10	SS	48	100				
34			111.3 10.7								
36				11	SS	41	100				
38	12	hard grey SILTY CLAY trace sand trace gravel occassional thin silt and sand seam occasional gravel lense faintly laminated									
40				12	SS	59	100				
42											
44											
46	14			13	SS	26	100				
48											
50				14	SS	50 for 125 mm	75				
52	16										
54											
56				15	SS	50 for 100 mm	50				
58											
60	18			16	SS	50 for 25 mm	50				



Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-22

Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 2 of 3

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Borehole No: BH110(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.6 m
Logged By: T.A. **Elevation:** Approximate 122.0

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
62		hard grey SILTY CLAY trace sand trace gravel occasional thin silt and sand seam occasional gravel lense faintly laminated									
64											
66 – 20				17	SS	50 for 75 mm	100				
68											
70				18	SS	50 for 110 mm	100				
72 – 22		End of Borehole	100.4 21.6								
74											
76											
78 – 24											
80											
82											
84 – 26											
86											
88											
90											
92 – 28											

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-22

Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 3 of 3

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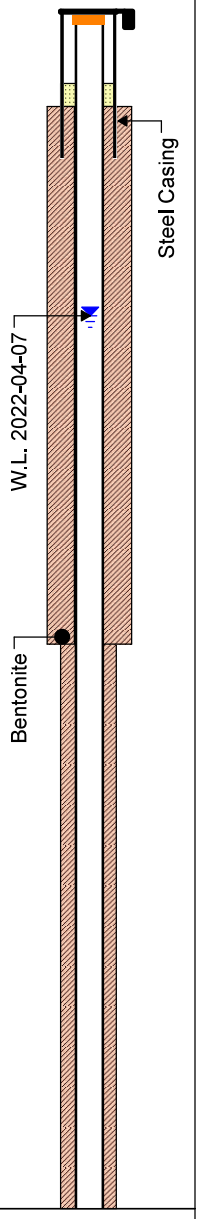
Borehole No: BH111(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.7 m
Logged By: T.A. **Elevation:** Approximate 124.6

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth (ft / m)	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
0 / 0		Ground Surface	124.6								
		grey sand and angular gravel FILL	0.0	1	SS	50 for 75 mm	100				
2 /		compact brown weakly plastic SANDY SILT trace clay trace gravel occasional silt parting		2	SS	18	50				
6 / 2			122.6	3A	SS	26	100				
			2.0	3B	SS						
8 /		very dense SILT and fine SAND some gravel occasional cobble (Till - like)		4	SS	50 for 125 mm	100				
10 /				5	SS	50 for 150 mm	100				
12 / 4				6	SS	80	100				
14 /				7	SS	50 for 125 mm	100				
16 /											
18 /		damp brown									
20 / 6		moist grey		8	SS	50 for 100 mm	75				
22 /											
24 /											
26 / 8				9	SS	50 for 100 mm	75				
28 /											



Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-01

Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 1 of 3

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Borehole No: BH111(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.7 m
Logged By: T.A. **Elevation:** Approximate 124.6

SUBSURFACE PROFILE				SAMPLE							Well Completion Data
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	
30											
32	10	very dense SILT and fine SAND some gravel occasional cobble (Till - like)		10	SS	50 for 125 mm	75				
34			113.9								
36		hard grey SILTY SANDY CLAY some gravel occasional cobbles (Till-like)	10.7	11	SS	50 for 75 mm	75				
38	12										
40				12	SS	50 for 100 mm	75				
42											
44											
46	14			13	SS	50 for 50 mm	75				
48											
50				14	SS	50 for 100 mm	100				
52	16										
54											
56				15	SS	50 for 75 mm	75				
58											
60	18			16	SS	50 for 75 mm	75				

Slot 3.05 m Screen

Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-01
Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 2 of 3

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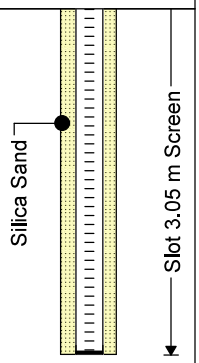
Borehole No: BH111(MW)

Project No.: 21-0136.03
Client: Sunray Group of Hotels
Location: 10 Aspen Springs Dr,. Bowmanville, Ontario
Project Manager: T.L. **Total Depth:** 21.7 m
Logged By: T.A. **Elevation:** Approximate 124.6

SUBSURFACE PROFILE				SAMPLE							
Depth	Symbol	Description	Depth/Elev. (m)	Number	Type	N-Value	Recovery %	Shear (kPa)	Lab Submitted	Mositure (%)	Well Completion Data
62											
64		hard grey SILTY SANDY CLAY some gravel occasional cobbles (Till-like)									
66 20				17	SS	50 for 75 mm	100				
68											
70			102.9	18	SS	81 for 250 mm	100				
72 22		End of Borehole	21.7								
74											
76											
78 24											
80											
82											
84											
86 26											
88											
90											
92 28											



Drilled By: Davis Drilling Ltd.
Drill Method: Split Spoon Sampling, Hollow Augers and Mud Rotary Drilling
Drill Date: 2022-03-01

Hole Size: 170 mm/100 mm
Screening Tool:
Sheet: 3 of 3