

**Project: 20-169-105****April 11, 2025****Humphries Planning Group Inc.****190 Pippin Road, Suite A****Vaughan, ON, L4K 4X9****Attn: Rosemarie L. Humphries****via email: rhumphries@humphriesplanning.com****Re: Geotechnical Comments on Long-Term Stability of Proposed Side Slopes for
Greenway Corridor, Macville-Humberking Subdivision
Caledon (Bolton), Ontario**

Dear Rosemarie:

Further to the recent Comments Matrix received from the local authorities, it is understood that TRCA has expressed concerns regarding the long-term stability of proposed side slopes for the Greenway Corridor along the west side of Humber Station Road. As part of DS Consultants Ltd's. (DS) most recent geotechnical investigation carried out for the proposed residential development (the findings of which are documented in our report titled "Preliminary Geotechnical Investigation, Proposed Development, Caledon Station, Bolton, Ontario, Draft Plan of Subdivision (21T-22001) and for Amendment for the Zoning By-Law (RZ 2022-0002), Draft Plan of Subdivision (21T-22002), Zoning By-Law (RZ 2022-0003), PRE-2023-0080" dated June 25, 2024), eleven (11) boreholes (BH22-20, BH22-21, BH22-22, BH20-14 (drilled by DS) and BH5, BH7, BH8, BH12, BH13, BH15 and BH16 (drilled by Soil Engineers Ltd.) (refer to enclosed Borehole Location Plan and Borehole Logs) were drilled to depths ranging from 6.6 to 11.3 m below existing grade in the area of the proposed Greenway Corridor.

Based on the borehole findings, below surficial materials (i.e., topsoil, pavement structure, fill, and/or weathered/disturbed soils, the site is generally underlain by very stiff to hard clayey silt to silty clay till underlain by very dense sandy silt till (BH22-22) which are found in a generally moist state.

Based on the attached drawing titled "Community-Wide Functional Servicing Report – October 204- Grading Cross Sections, it is understood that the Greenway Corridor grading works on the west side of Humber Station Road will include side slopes of 3H:1V or flatter. Based on this understanding, and the subsurface conditions encountered in the relevant boreholes, it is DS's opinion that side slopes of 3H:1V or flatter will be stable in the long term.



DS CONSULTANTS LTD.

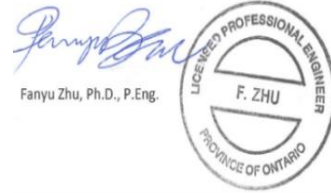
Geotechnical ♦ Environmental ♦ Materials ♦ Hydrogeology

We trust that the information contained in this report is satisfactory. Should you have any questions, please do not hesitate to contact this office.

DS CONSULTANTS LTD

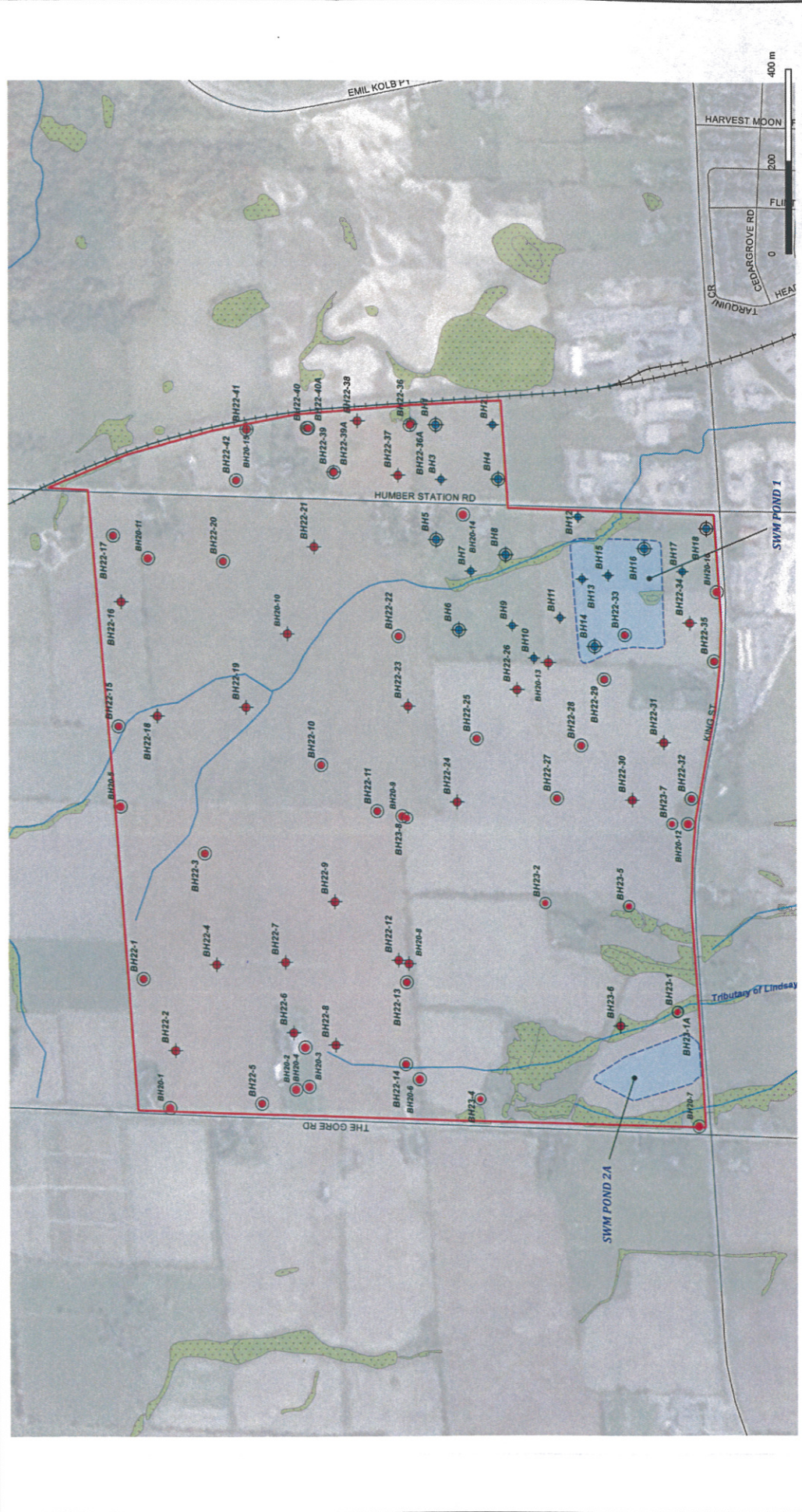


Osbert (Ozzie) Benjamin, P.Eng.
Senior Geotechnical Engineer



Fanyu Zhu, Ph.D., P.Eng.
Principal Engineer

Enclosure: Borehole Location Plan and Relevant Borehole Logs for Greenway Corridor
Community-Wide Functional Servicing Report – October 204- Grading Cross Sections



Legend

- Caledon Station Property Boundary
- Borehole
- Monitoring Well
- Borehole (Soil Eng)
- Monitoring Well (Soil Eng)
- Wetland
- SWM Pond

Project: GEOTECHNICAL INVESTIGATION
Caledon Station, Caledon (Bolton), ON

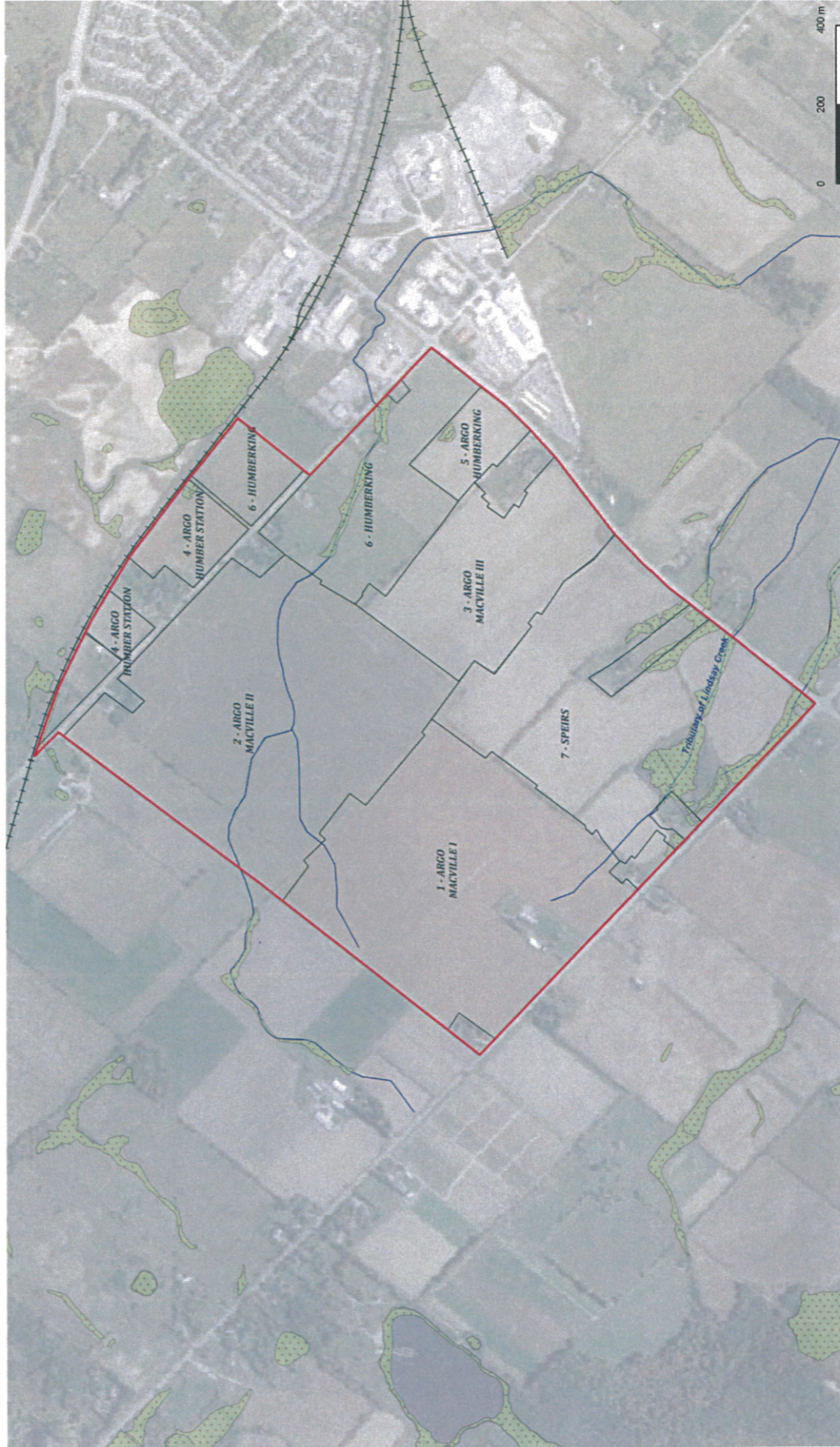
Title: BOREHOLE AND MONITORING WELL LOCATIONS

Client: DS CONSULTANTS LTD.
6221 Highway 7, Unit 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

CALEDON COMMUNITY PARTNERS
c/o GLEN SCHNARR & ASSOCIATES

Size:	11x17	Approved By:	O.B	Drawn By:	S.Y	Date:	May 2024
Rev:	0	Scale:	As Shown	Project No.:	20-169-105	Drawing No.:	1

Image Map Source: Google Satellite Image



Legend

- Caledon Station Property Boundary
- Parcels
- Wetland

Project: GEOTECHNICAL INVESTIGATION
Caledon Station and Argo King I & Argo King II, Caledon (Bolton), ON

Title: SITE LOCATION PLAN

Client: CALEDON COMMUNITY PARTNERS
c/o GLEN SCHNARR & ASSOCIATES

DS CONSULTANTS LTD.
6221 Highway 7, Unit 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
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Size:	11x17	Approved By:	D.S.	Drawn By:	S.Y.	Date:	June 2024
Rev:	0	Scale:	As Shown	Project No.:	20-169-105	Drawing No.:	1A
Image/Map Source: Google Satellite Image							



PROJECT: Geotechnical Investigation
CLIENT: Caledon Community Partners
PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4858613.57 E 597956.89

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-29-2022
REF. NO.: 20-169-104
ENCL NO.: 29

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT w _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT w _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)		
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)								WATER CONTENT (%)	
								○ UNCONFINED ● QUICK TRIAXIAL	+ FIELD VANE & Sensitivity x LAB VANE								
269.4								20 40 60 80 100							GR SA SI CL		
269.0	TOPSOIL: 250mm		1	SS	7		269										
0.3	WEATHERED/DISTURBED																
268.6	NATIVE: clayey silt, some sand to sandy, trace rootlets, trace gravel, brown, moist, firm		2	SS	24		268										
0.8	SILTY CLAY TO CLAYEY SILT																
	TILL: trace sand, gravelly sand pocket@1.0m, brown, moist, very stiff to hard		3	SS	30		267										
			4	SS	45		266.9 m Sep 08, 2022										
			5	SS	39		266										
							265										
	grey below 4.6m		6	SS	19		264										
							263										
			7	SS	21		262										
261.2			8	SS	18												
8.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 2.51																

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 23-9-22

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH
NOTES

+ 3, X 3: Numbers refer
to Sensitivity

○ = 3% Strain at Failure



PROJECT: Geotechnical Investigation
CLIENT: Caledon Community Partners
PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4858504.78 E 598123.48

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Aug-26-2022
REF. NO.: 20-169-104
ENCL NO.: 30

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (C _u) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
267.4								20 40 60 80 100							
267.0	TOPSOIL: 250mm		1	SS	6		267								
0.3	WEATHERED/DISTURBED														
266.6	NATIVE: sandy silt, trace rootlets, trace clay, trace gravel, brown, moist, loose		2	SS	20		266								
0.8	SILTY CLAY TILL: some sand, trace gravel, brown, moist, very stiff to hard		3	SS	18		265								
			4	SS	30		264								
			5	SS	33		263								
			6	SS	16		262								
			7	SS	16		261								
			8	SS	19		260								
259.2	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.														
8.2															

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY GPJ DS.GDT 23-9-22

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3, X 3: Numbers refer to Sensitivity

○ = 3% Strain at Failure



PROJECT: Geotechnical Investigation

CLIENT: Caledon Community Partners

PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON

DATUM: Geodetic

BH LOCATION: See Drawing 1 N 4858239.64 E 598130.15

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm

Date: Aug-26-2022

REF. NO.: 20-169-104

ENCL NO.: 31

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (C _u) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
267.8								20 40 60 80 100							GR SA SI CL
267.8	TOPSOIL: 250mm		1	SS	7										
0.3	WEATHERED/DISTURBED														
267.0	NATIVE: clayey silt to silty clay, trace rootlets, some sand, trace gravel, dark brown, moist, firm		2	SS	16										
1 0.8	CLAYEY SILT TO SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	26										
			4	SS	33										
			5	SS	39										
	grey below 4.6m		6	SS	15										
			7	SS	22										
260.2															
7.6	SANDY SILT TILL: some clay to clayey, trace gravel, silty sand		8	SS	68										
259.6	rockets, grey, moist, very dense														
8.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 1.43 Mar. 21, 2023 0.73														

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3, X 3: Numbers refer to Sensitivity

O = 3% Strain at Failure



PROJECT: Geotechnical Investigation

CLIENT: Bolton Option 3 Landowners Group

PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario

DATUM: Geodetic

BH LOCATION: See Drawing 1 N 4858339.89 E 598409.18

DRILLING DATA

Method: Solid Stem Auger

Diameter: 150mm

Date: Jul-30-2020

REF. NO.: 20-169-100

ENCL NO.: 15

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (C _u) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)		
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)								WATER CONTENT (%)	
								20 40 60 80 100	20 40 60 80 100							10 20 30	
267.7	TOPSOIL: 400mm		1	SS	7		W. L. 267.5 m Mar 21, 2023									GR SA SI CL	
0.0 267.3																	
0.4 266.9	FILL: clayey silt, trace topsoil/ organics, trace gravel, trace sand, trace rootlets, brown, moist, firm		2	SS	14												
0.8	SILTY CLAY TILL: some sand, trace gravel, frequent sand seams, brown, moist, stiff to hard		3	SS	13												
			4	SS	27												
			5	SS	28		W. L. 264.3 m Aug 06, 2020 Oct 22, 2020										
							Bentonite										
			6	SS	24												
	grey below 6m		7	SS	18												
			8	SS	29												
			9	SS	22												
							Filter Pack Slotted Pipe										
	interbed of clayey silt and sandy silt layers, wet below 10.5m		10	SS	35												
256.4 11.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 3.32 Sept 8, 2020 3.43 Oct 22, 2020 3.59 Mar 21, 2023 0.19																

DS SOIL LOG-2021-FINAL 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 23-9-25

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH
NOTES+ 3 X 3. Numbers refer
to Sensitivity

○ = 3% Strain at Failure

JOB NO.: 2108-S069

LOG OF BOREHOLE NO.: 5

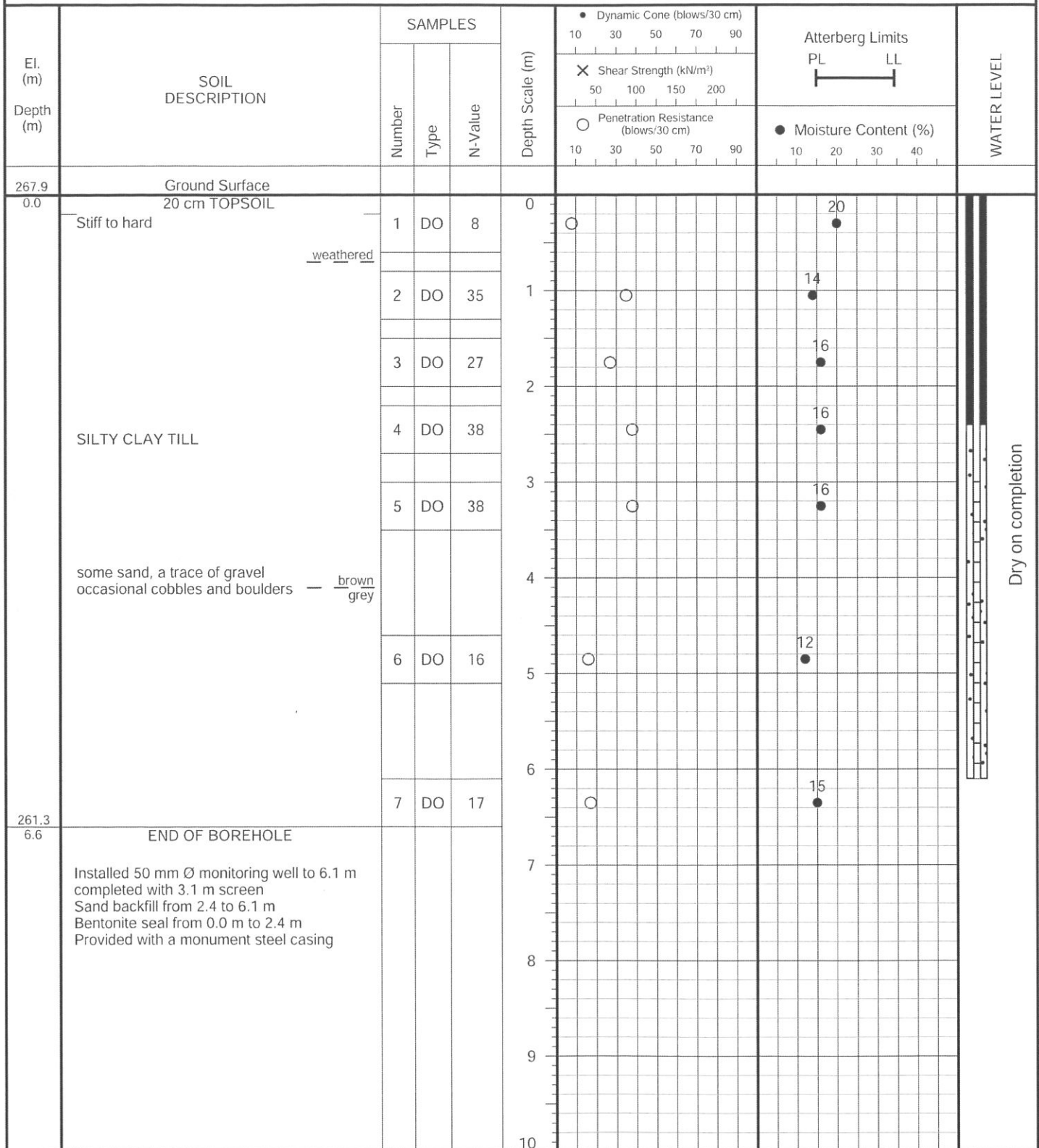
FIGURE NO.: 5

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 4, 2021



Soil Engineers Ltd.

JOB NO.: 2108-S069

LOG OF BOREHOLE NO.: 7

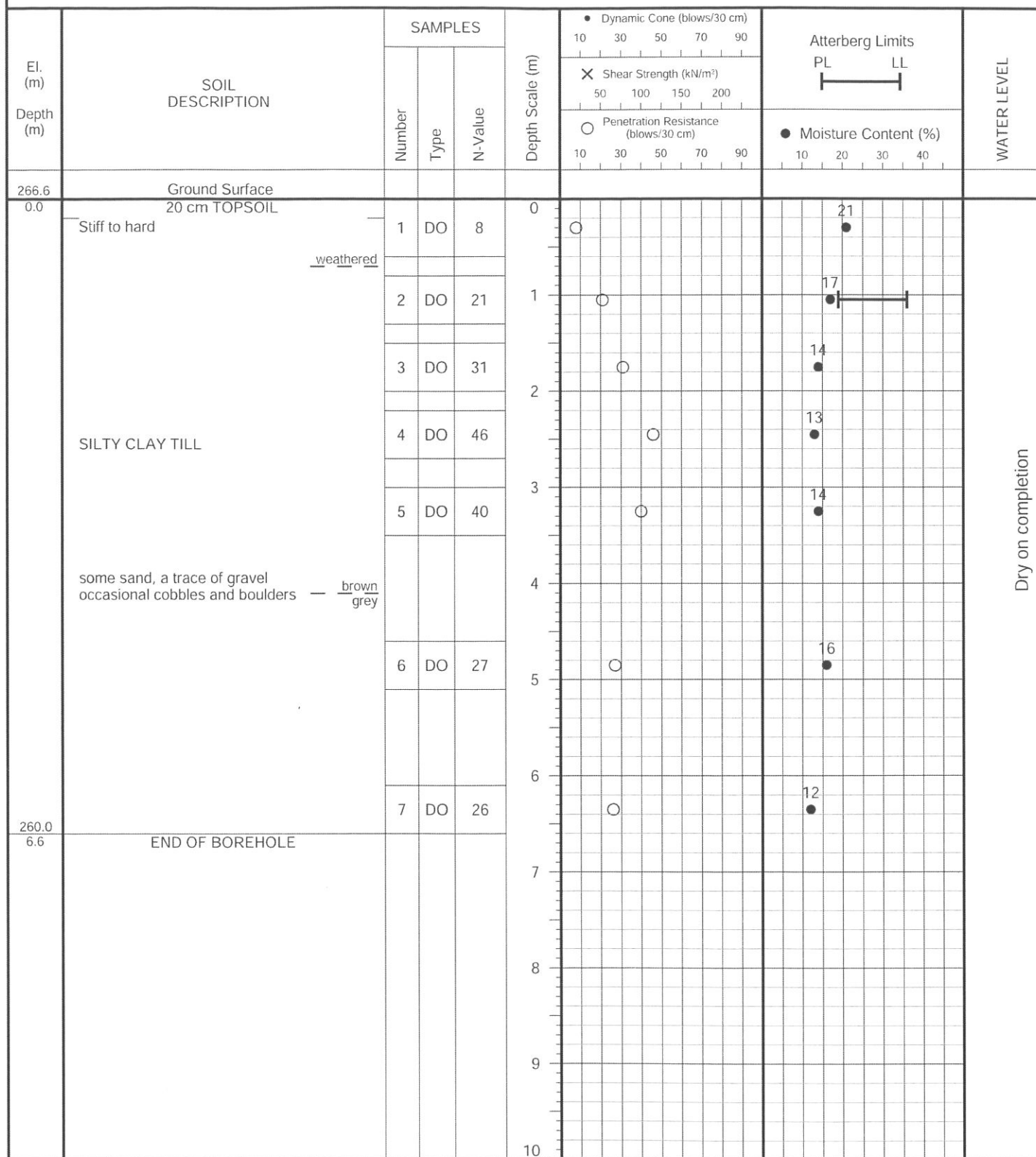
FIGURE NO.: 7

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021



Soil Engineers Ltd.

JOB NO.: 2108-S069

LOG OF BOREHOLE NO.: 8

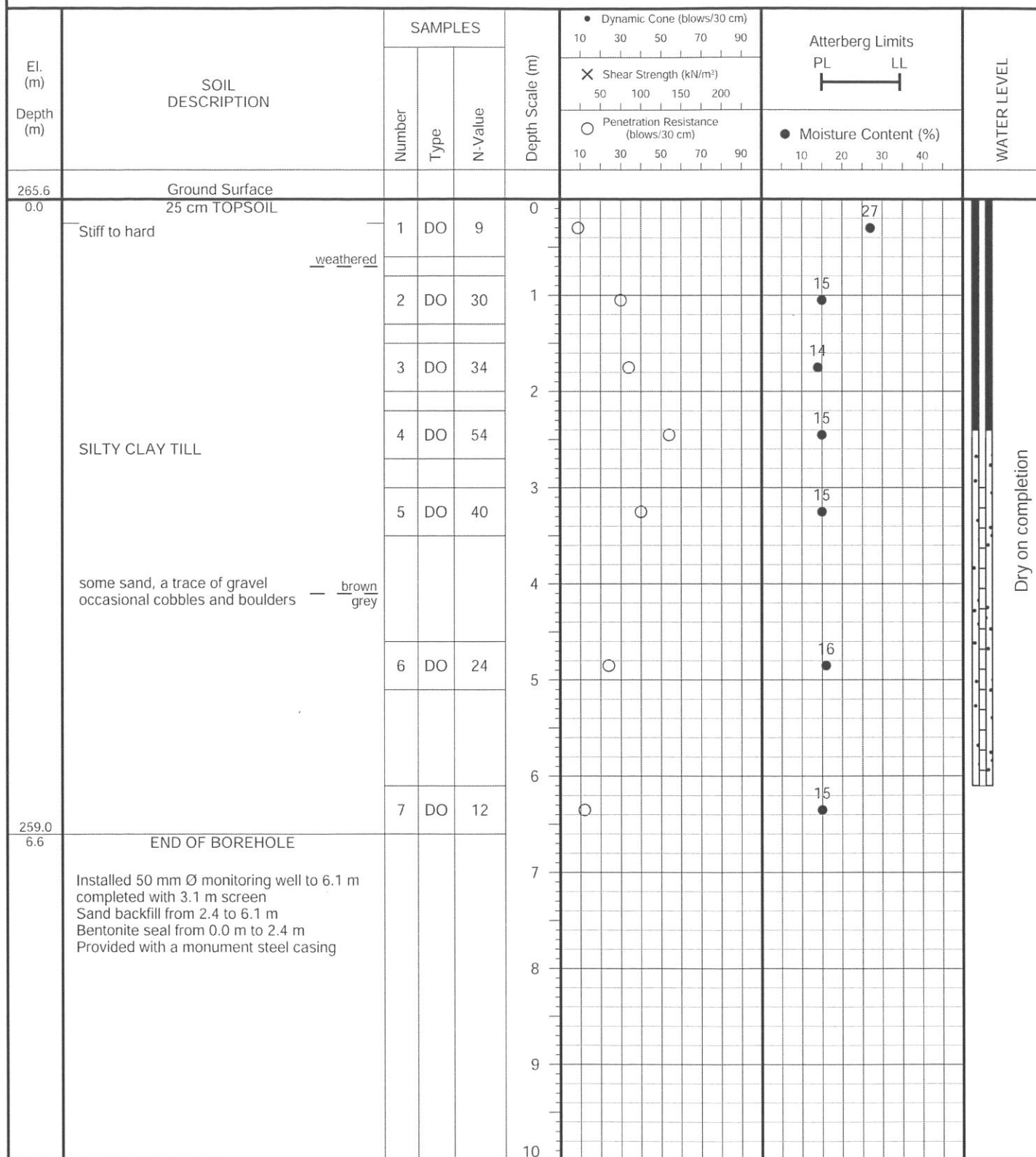
FIGURE NO.: 8

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021



Soil Engineers Ltd.

JOB NO.: 2108-S069

LOG OF BOREHOLE NO.: 12

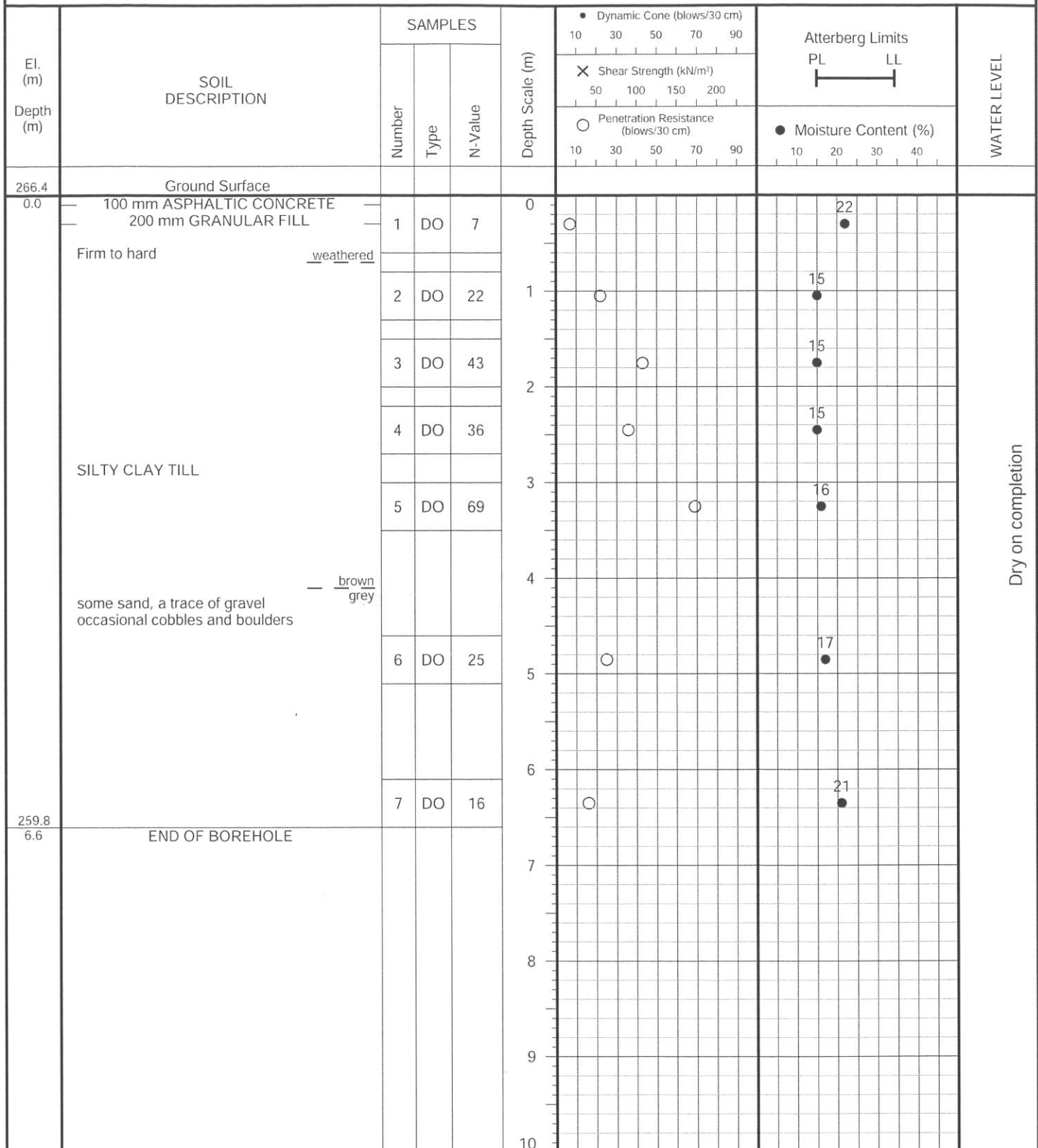
FIGURE NO.: 12

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 4, 2021



Soil Engineers Ltd.

JOB NO.: 2108-S069

LOG OF BOREHOLE NO.: 13

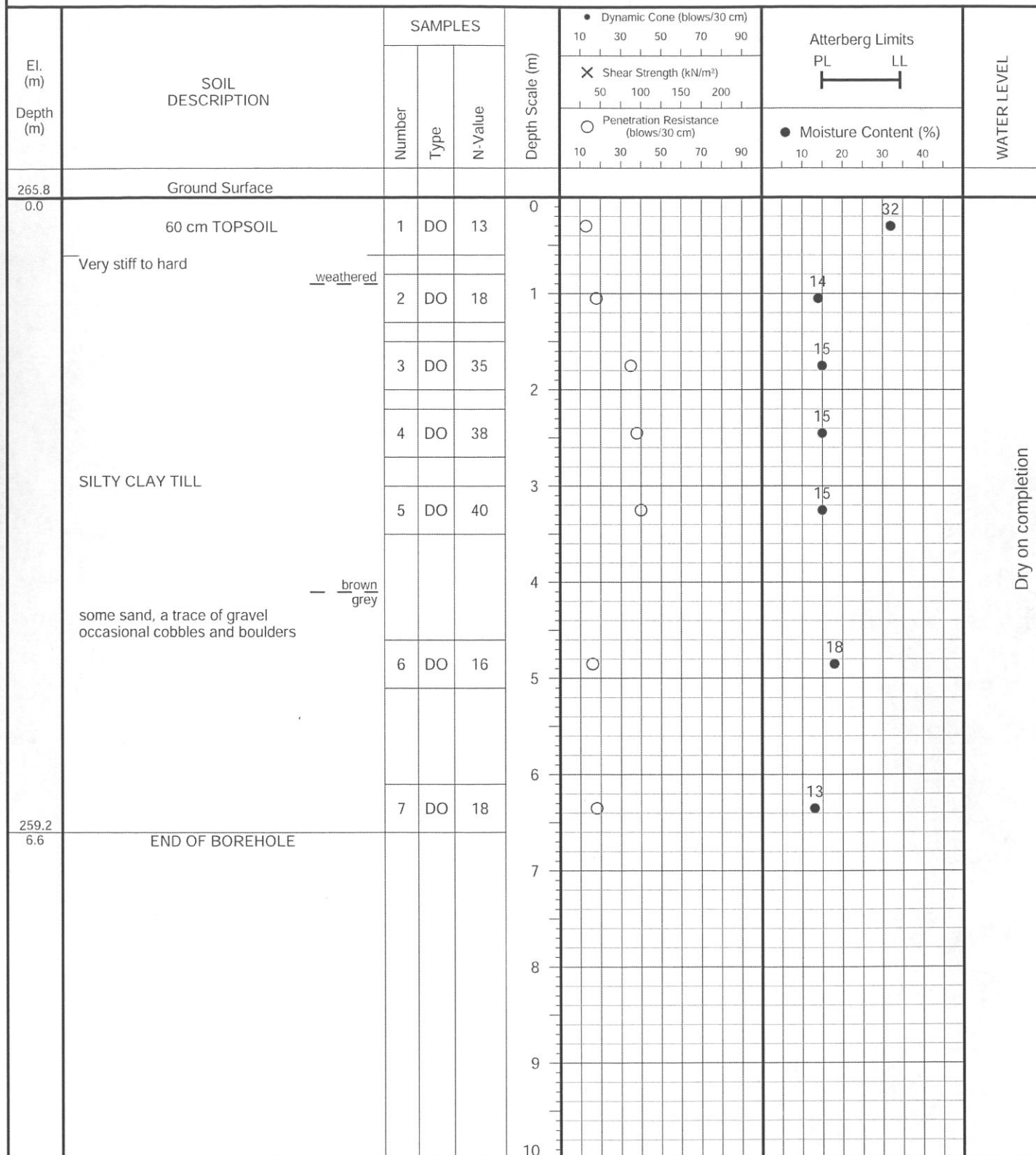
FIGURE NO.: 13

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021



Soil Engineers Ltd.

JOB NO.: 2108-S069

LOG OF BOREHOLE NO.: 15

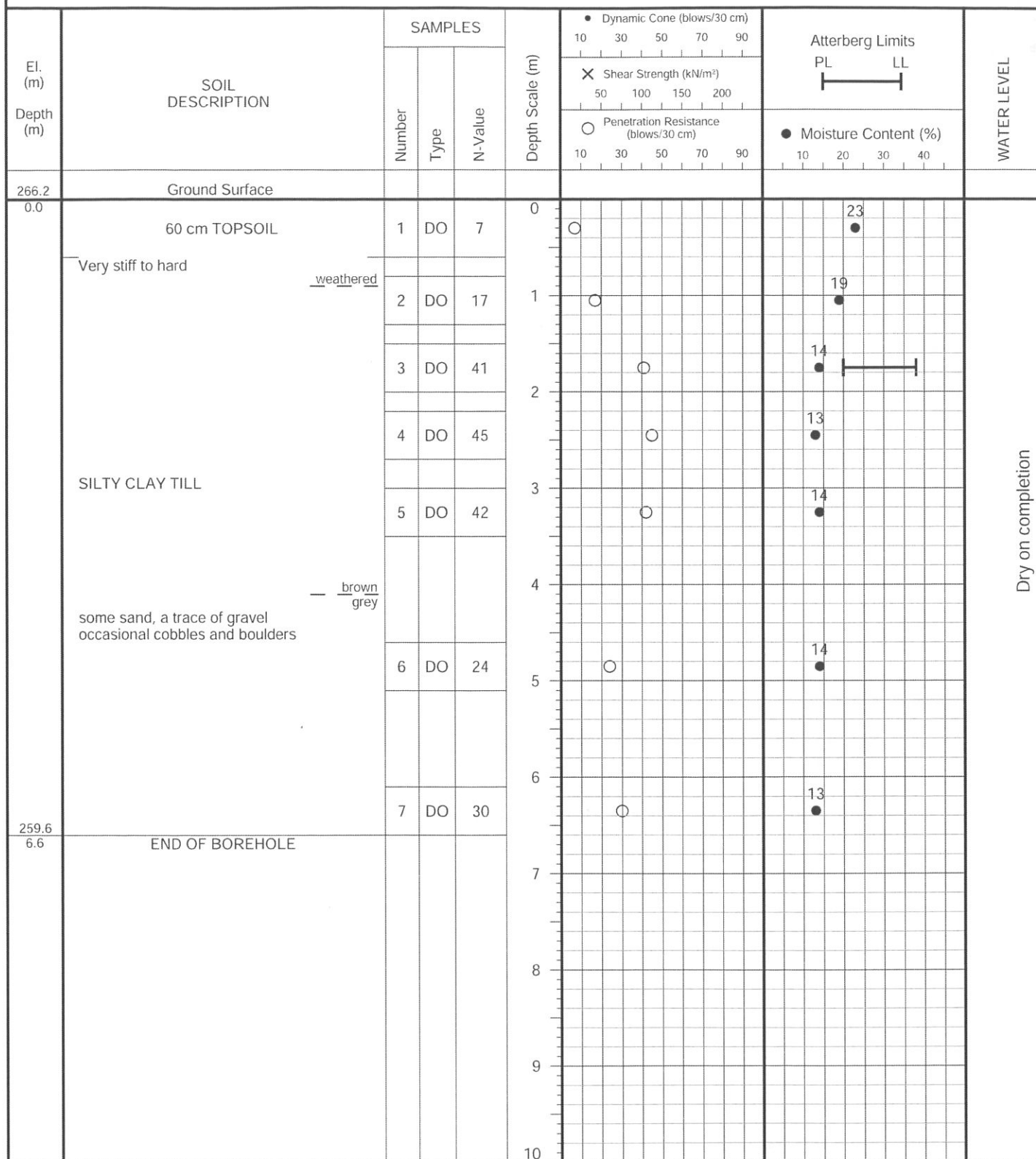
FIGURE NO.: 15

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021



Soil Engineers Ltd.

JOB NO.: 2108-S069

LOG OF BOREHOLE NO.: 16

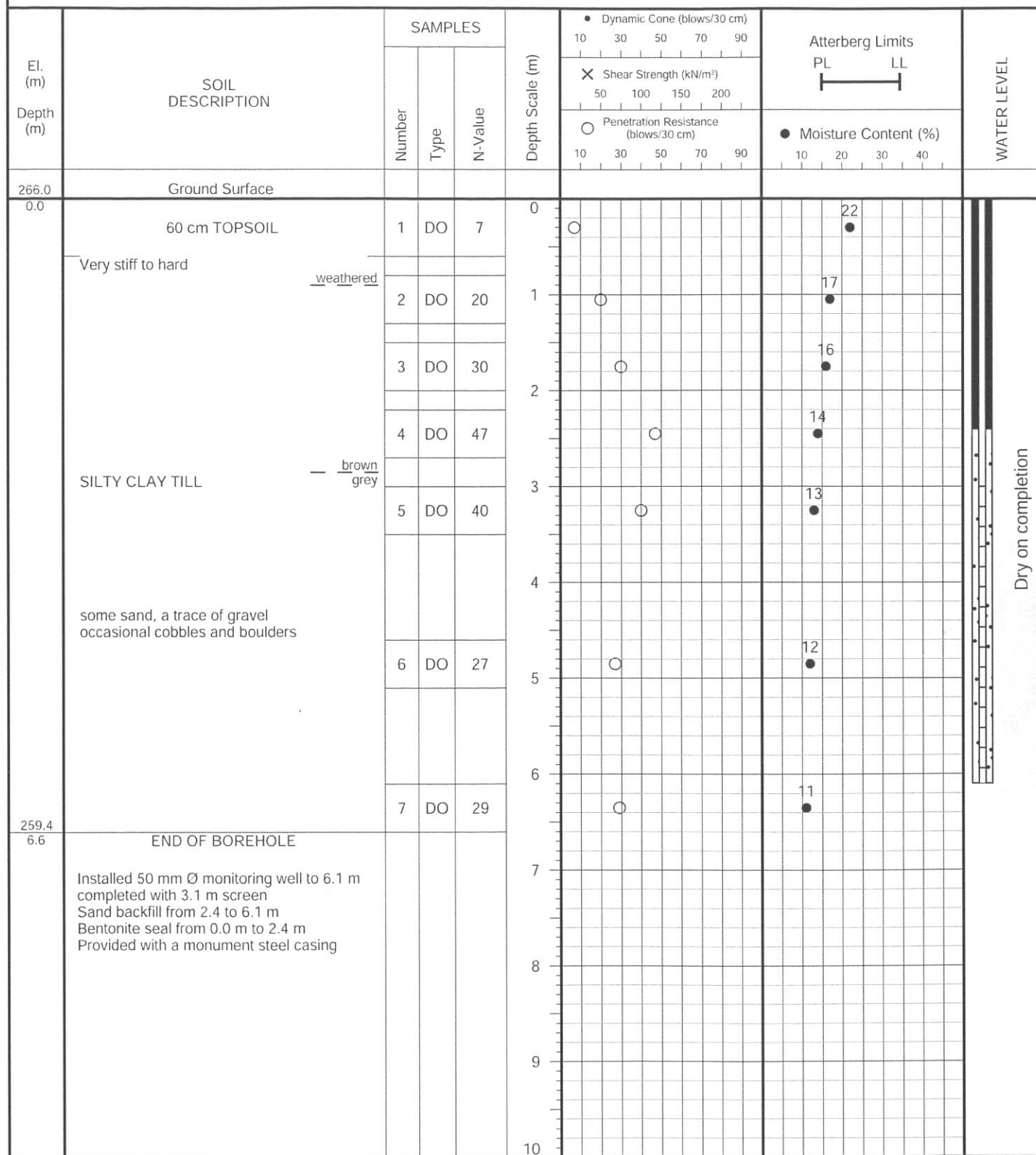
FIGURE NO.: 16

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021



Soil Engineers Ltd.

[illegible]



URBANTECH
CONSULTANTS

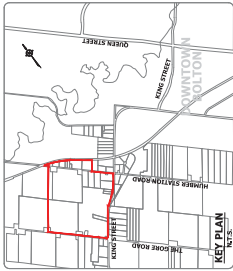
**TOWN OF CALEDON
 REGIONAL MUNICIPALITY OF PEEL
 CALEDON STATION SECONDARY PLAN**

GRADING PLAN
 (4 OF 5)

REVISION NO.	DATE	BY	CHECKED BY	APPROVED BY	DATE	SCALE
1	10/10/2010	J.M.	A.S.		10/10/2010	1"=40'
2	11/10/2010	J.M.	A.S.		11/10/2010	1"=40'
3	12/10/2010	J.M.	A.S.		12/10/2010	1"=40'
4	01/11/2010	J.M.	A.S.		01/11/2010	1"=40'
5	02/11/2010	J.M.	A.S.		02/11/2010	1"=40'
6	03/11/2010	J.M.	A.S.		03/11/2010	1"=40'
7	04/11/2010	J.M.	A.S.		04/11/2010	1"=40'
8	05/11/2010	J.M.	A.S.		05/11/2010	1"=40'
9	06/11/2010	J.M.	A.S.		06/11/2010	1"=40'
10	07/11/2010	J.M.	A.S.		07/11/2010	1"=40'
11	08/11/2010	J.M.	A.S.		08/11/2010	1"=40'
12	09/11/2010	J.M.	A.S.		09/11/2010	1"=40'
13	10/11/2010	J.M.	A.S.		10/11/2010	1"=40'
14	11/11/2010	J.M.	A.S.		11/11/2010	1"=40'
15	12/11/2010	J.M.	A.S.		12/11/2010	1"=40'
16	01/12/2010	J.M.	A.S.		01/12/2010	1"=40'
17	02/12/2010	J.M.	A.S.		02/12/2010	1"=40'
18	03/12/2010	J.M.	A.S.		03/12/2010	1"=40'
19	04/12/2010	J.M.	A.S.		04/12/2010	1"=40'
20	05/12/2010	J.M.	A.S.		05/12/2010	1"=40'
21	06/12/2010	J.M.	A.S.		06/12/2010	1"=40'
22	07/12/2010	J.M.	A.S.		07/12/2010	1"=40'
23	08/12/2010	J.M.	A.S.		08/12/2010	1"=40'
24	09/12/2010	J.M.	A.S.		09/12/2010	1"=40'
25	10/12/2010	J.M.	A.S.		10/12/2010	1"=40'
26	11/12/2010	J.M.	A.S.		11/12/2010	1"=40'
27	12/12/2010	J.M.	A.S.		12/12/2010	1"=40'
28	01/01/2011	J.M.	A.S.		01/01/2011	1"=40'
29	02/01/2011	J.M.	A.S.		02/01/2011	1"=40'
30	03/01/2011	J.M.	A.S.		03/01/2011	1"=40'
31	04/01/2011	J.M.	A.S.		04/01/2011	1"=40'
32	05/01/2011	J.M.	A.S.		05/01/2011	1"=40'
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34	07/01/2011	J.M.	A.S.		07/01/2011	1"=40'
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39	12/01/2011	J.M.	A.S.		12/01/2011	1"=40'
40	01/02/2011	J.M.	A.S.		01/02/2011	1"=40'
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44	05/02/2011	J.M.	A.S.		05/02/2011	1"=40'
45	06/02/2011	J.M.	A.S.		06/02/2011	1"=40'
46	07/02/2011	J.M.	A.S.		07/02/2011	1"=40'
47	08/02/2011	J.M.	A.S.		08/02/2011	1"=40'
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REFER TO 303



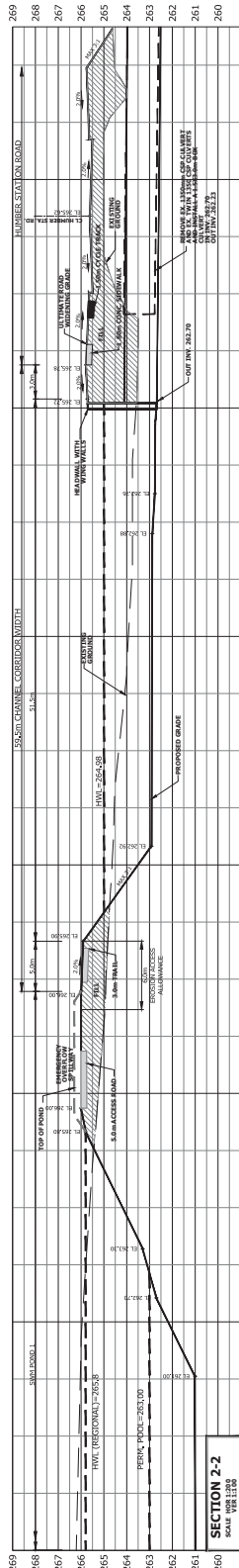
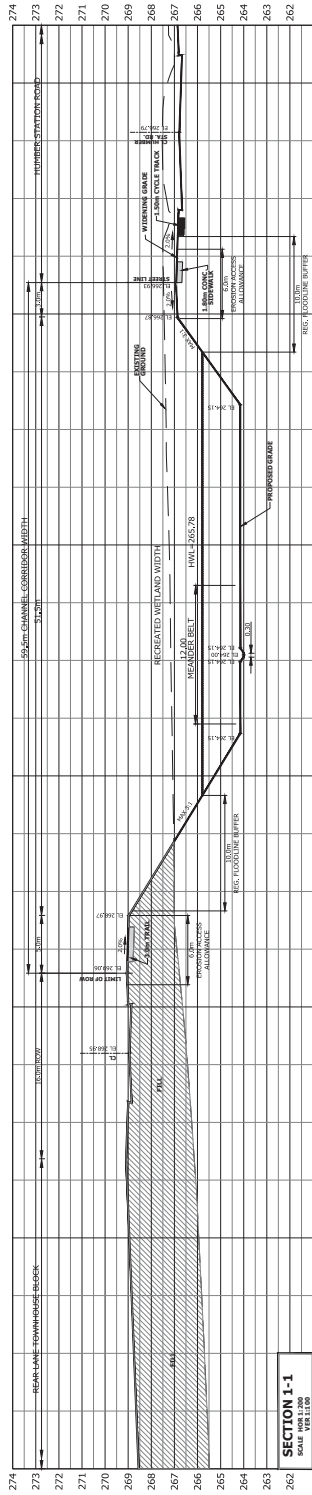
NOTE:
REFER TO DRAWING 304 FOR
CROSS SECTION LOCATION

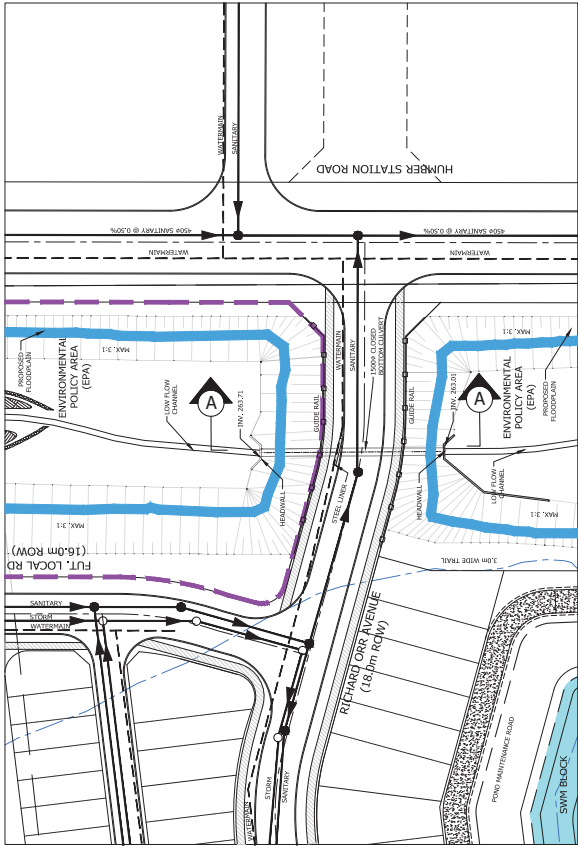
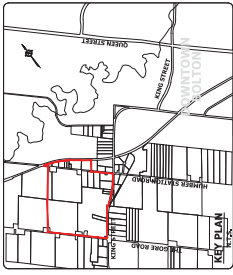


TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL
CALEDON STATION SECONDARY PLAN

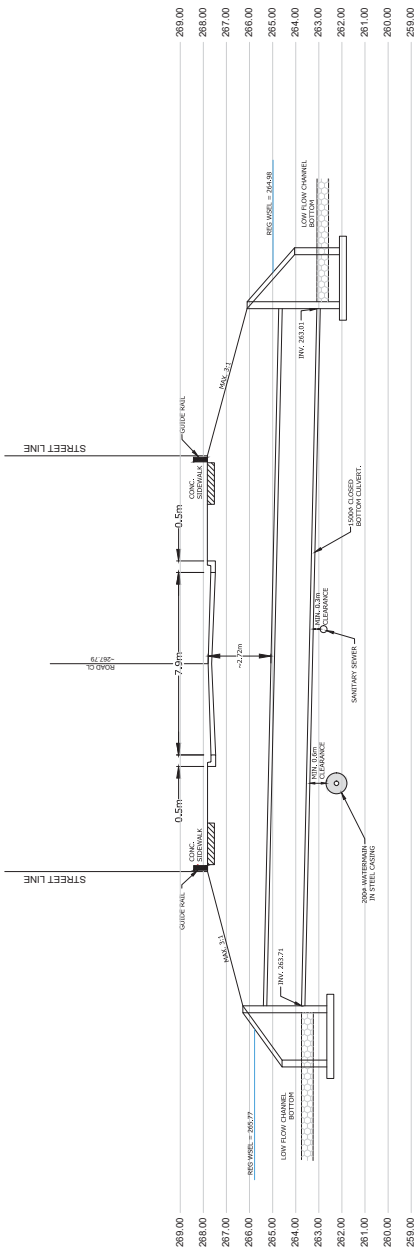
CHANNEL CROSS SECTIONS
(1-1 AND 2-2)

DESIGNED BY	DATE	SCALE	PROJECT NO.
REVIEWED BY	DATE	SCALE	PROJECT NO.
SCALE	DATE	SCALE	PROJECT NO.
401			





PLAN VIEW
1:500



SECTION A-A
SCALE 1:100

NOTES:

- * CLOSED BOTTOM CULVERTS TO BE IMPLEMENTED AT ROAD CROSSINGS.
- * WATERMAIN TO BE PRE-INSTALLED UNDERNEATH CLOSE BOTTOM CULVERT AND ENCASED IN STEEL LINER.
- * THE SANITARY SEWER WILL BE PRE-INSTALLED UNDERNEATH THE CULVERT WITH A MINIMUM CLEARANCE REQUIRED BY THE REGION AND T.R.C.A.
- * CROSSING TREATMENT (HEADWALL, WINGWALLS, AND PROTECTIVE/SAFETY FENCING) TO BE DETERMINED AND APPROVED AT DETAIL DESIGN STAGE.



TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEI
CALEDON STATION SECONDARY PLAN

TYPICAL ROAD CROSSING DETAIL

DESIGNED BY:	DATE:	REV:	DATE:	REV:	DATE:
DRN 101	15-05-18	15-05-18	15-05-18	15-05-18	15-05-18
CHECKED BY:	DATE:	REV:	DATE:	REV:	DATE:
15-05-18	15-05-18	15-05-18	15-05-18	15-05-18	15-05-18
SCALE:	AS SHOWN	DATE:	15-05-18	402	SHEET NO.