March 19, 2025
File: PG4216-LET.02

PATERSON GROUP
Consulting Engineers
9 Auriga Drive
Ottawa, Ontario
K2E 7T9
Tel: (613) 226-7381

Geotechnical Engineering
Environmental Engineering
Hydrogeology
Materials Testing
Building Science
Rural Development Design
Temporary Shoring Design
Retaining Wall Design
Noise and Vibration Studies

patersongroup.ca

Tamarack (Richmond) Corporation
3187 Albion Road South
Ottawa, Ontario
K1V 8Y3

Attention: **Mike Green**

Subject: **Sump Pump Feasibility Report**
Proposed Residential Development
5970 and 6038 Ottawa Street - Ottawa

Further to your request, Paterson Group (Paterson) completed a sump pump feasibility study as per City guidelines to determine the use of sump pumps for the proposed residential development to be located at 5970 and 6038 Ottawa Street in the City of Ottawa.

This report provides a discussion on the criteria to design the underside of footing elevations with respect to the existing groundwater table. The current report should be read in conjunction with Paterson Report PG4216-1 Revision 4 dated March 14, 2025.

1.0 Background Information

The field investigation programs completed at the subject site were carried out by Paterson between December 2018 and March 2025. The investigations consisted of 47 boreholes and 25 test pits extending to a maximum depth of 9.8 m and 3.8 m below ground surface (bgs), respectively. A bedrock delineation program was also carried out in December 2020, consisting of a total of 87 probe holes to the bedrock surface.

The test holes were distributed in a manner to provide general coverage of the subject site and has been presented in Drawing PG4216-2 - Test Hole Location Plan attached to this letter report.

Field Survey

The test hole locations were selected by Paterson to provide general coverage of the proposed development, taking into consideration the existing site features and underground utilities. The location and ground surface elevation at each borehole and test pit location were provided by Stantec Geomatics Ltd during the initial investigation, and by Paterson for the supplemental investigations.

The test hole locations and ground surface elevations at each test hole location are referenced to a geodetic datum. The location of the test holes and ground surface elevations at each test hole location are presented on Drawing PG4216-2 - Test Hole Location Plan in Appendix 2.

Subsurface Profile

Generally, the subsurface profile encountered within the subject site consists of topsoil underlain by a compact to dense glacial till deposit, and a firm to very stiff silty clay deposit followed by glacial till throughout the eastern portion of the subject site. The glacial till deposit is typically comprised of silty sand and/or silty clay with varying amounts of gravel, cobbles and boulders. The above noted layers have been underlain by a fair to excellent quality limestone bedrock.

Practical refusal to drill and excavation was encountered at multiple locations throughout the subject site. Bedrock surface elevations are presented in Drawing PG4216-4 - Bedrock Contour Plan attached to the current report.

Based on available geological mapping, the bedrock consists of dolostone of the Oxford formation with an overburden drift thickness ranging between 5 and 10 m.

For the purpose of this study, reference should be made to the area deemed acceptable for sump pumps presented on Drawing PG4216-5 – Designated Silty Clay Areas attached to the current report. Specific details of the soil profiles at the test hole locations relevant to the sump pump study area are presented on the Soil Profile and Test Data sheets also attached to the current report.

Monitoring Well Installation

PVC groundwater monitoring wells within the sump pump study area were installed in select borehole locations by Paterson to permit monitoring of the groundwater levels subsequent to the completion of the sampling programs. Monitoring well construction details are described below:

- Slotted PVC 1.5 m screen at the base of each borehole.
- 51 mm diameter PVC riser pipe from the top of the screen to the ground surface.
- No.3 silica sand backfill within annular space around screen.
- Bentonite hole plug placed directly above PVC slotted screen.
- Clean backfill from top of bentonite plug to the ground surface.

Specific details of the installation of each monitoring well are further included in the Soil Profile and Test Data sheets and attached to the current letter report.

2.0 Groundwater Monitoring Program

The monitoring wells within the sump pump study area were equipped with a Van Essen Instrument Mini-Diver Water Level Logger to monitor fluctuations in the groundwater levels during the spring melt as part of a review for the use of sump pumps within the study area of the proposed development. The Mini-Divers were programmed to continuously measure and record groundwater levels throughout the study area during the pre-construction stages of the development at a rate of 1 reading every 12 hours. The results of the groundwater fluctuations and correlated precipitation events for each monitoring well location between April 8, 2021, and April 21, 2023, have been summarized in Figure 1 through Figure 11 attached to the current report.

Groundwater Monitoring Results

The data presented in Figure 1 through Figure 11 illustrate the collected groundwater elevations. The readings measured within the monitoring wells varied from below the tip of the data logger (>3.6 m and below 90.3 m) to above the original ground surface (Approximately 94.45 m). The low and high groundwater elevation measurements at each well location between April 8, 2021, and April 21, 2023, are summarized in Table 1 below.

Table 1 – Recorded Groundwater Elevations				
Test Hole ID	**Ground Surface Elevation (2021) (m)**	**Low Groundwater Elevation (m)**	**High Groundwater Elevation (m)**	**Difference in Groundwater Depth (m)**
BH 1D-21	94.24	91.00	94.25	3.25
BH 1S-21	94.24	92.10	94.00	1.90
BH 2-21	93.91	91.00	93.30	2.30
BH 3-21	93.91	91.55	93.65	2.10
BH 4D-21	94.51	91.70	94.45	2.75
BH 4S-21	94.51	92.65	94.40	1.75
BH 5-21	94.21	91.00	94.15	3.15
BH 6-21	94.04	90.60	93.95	3.35
BH 7D-21	93.62	91.80	94.05	2.25
BH 7S-21	93.62	91.75	94.00	2.25
BH 8-21	94.05	90.65	94.00	3.35
BH 9-21	94.21	91.55	94.00	2.45
BH 10D-21	94.08	91.35	93.70	2.35
BH 10S-21	94.08	92.10	93.55	1.45
BH 11-21	93.92	90.30	92.95	2.65

Based on our analysis of the data retrieved from the data loggers between April 8, 2021 and April 21, 2023 groundwater fluctuations can be observed with a difference in elevation between the low and high readings ranging from 90.3 to 94.45 m. The lowest water level readings were found to range between an elevation of 90.3 (or lower) and 92.7 m throughout the monitoring period. During the spring melt season and heavy rain events, the highest water level readings were found to range between an elevation of 92.95 m and 94.45 m, with an average fluctuation of approximately 2.5 m.

Upon analysing the data collected from the monitoring wells and the subsequent rain events, groundwater reading spikes occurred within short periods of time after each rain event followed by a rapid lowering of the groundwater readings over the following days. It should be noted that the fluctuating groundwater readings are expected to be the result of the accumulation of rainwater within the fissures of the desiccated clay layer (weathered crust), as well as surficial permeation through the sand layers, which provides the collected water access to the shallow monitoring well screens. This is an indication that the groundwater level readings have been influenced by temporarily 'perched' groundwater, which is typical of monitoring well data within low permeability clay deposits, where water from rain events or spring melt tend to be maintained within the upper portion of the subsoil profile until either sheet drainage or evapotranspiration can eliminate the collected water, as well as surficial rainwater infiltration through the sand layers.

3.0 Hydraulic Conductivity Testing

Based on discussions with David Schaeffer Engineering Ltd. (DSEL), it is understood the proposed underside of footing depths will be approximately 1.8 m below the proposed center line of the roadways. As such, the underside of footings were estimated to be located slightly below to slightly above existing ground surface. Therefore, monitoring wells could not be positioned to straddle both above and below the expected USF elevation to facilitate hydraulic testing. As such, Atterberg testing and hydrometers in accordance with Unified Soil Classification System (USCS) identified on-site materials as clay soils and is in agreement with the ISTB-2018-04. As such, the hydraulic conductivity values for the silty clay within the sump pump study area were conservatively estimated based on experience at similar sites and published values. Hydraulic conductivity for silty clay generally ranges from 1×10^{-7} to 1×10^{-12} m/sec and is dependent on the moisture level and consistency of the material.

Hydraulic conductivity (slug) testing was conducted on the glacial till underlying the silty clay deposit. The test data was analyzed as per the method set out by Hvorslev (1951). Assumptions inherent in the Hvorslev method include a homogeneous and isotropic aquifer of infinite extent with zero-storage assumption, and a screen length significantly greater than the monitoring well diameter. The assumption regarding aquifer storage is considered to be appropriate for groundwater flow through the overburden aquifer. The assumption regarding screen length and well diameter is considered to be met based on a screen length of 1.5 m and a diameter of 0.05 m. While the idealized assumptions regarding aquifer extent, homogeneity, and isotropy are not strictly met in this case (or in any real-world situation), it has been our experience that the Hvorslev method produces effective point estimates of hydraulic conductivity in conditions similar to those encountered at the subject site.

Hvorslev analysis is based on the line of best fit through the field data (hydraulic head recovery vs. time), plotted on a semi-logarithmic scale. In cases where the initial hydraulic head displacement is known with relative certainty, such as in this case where a physical slug has been introduced, the line of best fit is considered to pass through the origin.

Based on the above test methods, the monitoring wells screened in the glacial till displayed hydraulic conductivity values ranging between 1.27×10^{-7} to 1.00×10^{-5} m/sec. The values measured within the monitoring wells are generally consistent with similar material Paterson has encountered on other sites and typical published values for glacial till. The results of the hydraulic conductivity testing completed by Paterson and others have been attached to the current letter report.

4.0 Summary and Recommendations

It is understood that the proposed residential buildings within the subject site will include a basement level. It is also understood that sump pump systems are proposed for the buildings within the sump pump study area of the subject development to provide an outlet for stormwater and spring melt water collected from the perimeter foundation drainage system. Specific locations are to be determined by the Civil engineer during detailed design.

Groundwater Table Versus USF Elevations

Based on the above discussion, the pre-development seasonal high groundwater table within the sump pump study area is anticipated to be at elevations ranging between 92.95 and 94.45 m. Paterson reviewed the following grading plans prepared by DSEL as part of our assessment:

DSEL – Tamarack Richmond, Grading Plan, Project No. 1042, Drawing No. 04D, dated October 2024.

While detailed grading has not been provided for the proposed development, DSEL has noted that the proposed underside of footing (USF) will be placed at an approximate depth of 1.8 m below the center line elevation of the proposed roads identified in the above noted grading plan.

Seasonal High Groundwater Level

As indicated above, the pre-development seasonal high water was measured between 92.95 to 94.45 m. Based on our review of the latest conceptual plan provided by DSEL, the proposed USF elevations across the study area are generally below the measured seasonal high groundwater table. It is important to note that the groundwater levels recorded for the site are considered pre-development groundwater levels. From a geotechnical perspective, the pre-development groundwater levels are usually higher than post-development groundwater levels and highly dependent on the inverts of the proposed site servicing pipes.

Sump Pumps (Study Area)

It should be noted that based on the Technical Bulletin ISTB-2018-04 and ISTB-2019-02 issued by the City of Ottawa regarding installation of sump pumps, for typical sites, a minimum 300 mm vertical separation is recommended between the design underside of footing elevation and the seasonal high groundwater level.

As previously noted, the proposed USF elevations across the study area are generally below the pre-development seasonal high groundwater table. As such, assessment of the backfill permeability and estimates of the rate of groundwater ingress are required to rationalize the use of sump pumps at the site, as per Appendix 8 of ISTB-2018-04.

Clay Continuity

The boreholes completed within the sump pump study area of the subject site are in conformance with the City of Ottawa borehole spacing guidelines. The native silty clay soils within the study area are considered to be laterally vertically continuous. The boreholes within the study area of the subject site identify a silty clay deposit at the borehole locations at similar elevations throughout. Therefore, the silty clay deposit is considered to be laterally continuous across the sump pump study area of the proposed residential development.

Backfill Recommendations

It should also be noted that the backfill used against the foundation walls should consist of workable site excavated or imported silty clay as defined by the USCS. All surfaces adjacent to the proposed buildings should be shaped to shed water away from the building's foundation. All the sump pump installations should be inspected and approved by Paterson at the time of installation.

Permeability of Soils and Groundwater Ingress Rate

Based on Atterberg Limits testing completed on the silty clay within the sump pump study area, the material has been classified as CL-CH - Inorganic Clay of Low to High Plasticity per the (USCS). Atterberg Limits testing results have been attached to the current report. For the purpose of this study, a conservative hydraulic conductivity value of 1×10^{-7} m/sec has been used for the silty clay deposit identified on site.

Based on the subsoil profile below the proposed footings, the groundwater ingress rate was calculated to be less than 0.06 L/s (<5,000 L/day) and significantly less than the minimum pump capacity of 0.9 L/s (77,760 L/day) at 3.6 m head as per the above noted sump pump design Bulletin. Also, due to the characteristics of the underlying silty clay, the groundwater levels will not impact the performance of a sump pump due to the low permeability of the soils.

Based on the above, the sump pumps are not expected to be overloaded and/or continuously running. **As such, the minimum design requirements for the main sump pump system and the backup pump battery will be achieved for the estimated groundwater rate of ingress under worst case scenarios.**

5.0 Conclusion

Based on our observations and available design details, the subject area identified in Drawing PG4216-5 – Designated Silty Clay Areas is considered to have met the requirements detailed in the Technical Bulletin ISTB-2018-04 and ISTB-2019-02 issued by the City of Ottawa regarding installation of sump pumps.

We trust that the current submission meets your immediate requirements.

Best Regards,

Paterson Group Inc.

Nicholas Zulinski, P.Geo., géo.

Michael Killam, P.Eng.

Attachments:

- ❑ Soil Profile and Test Data Sheets
- ❑ Symbol and Terms
- ❑ Drawing PG4216-2 – Test Hole Location Plan
- ❑ Drawing PG4216-4 – Bedrock Contour Plan
- ❑ Drawing PG4216-5 – Designated Silty Clay Areas
- ❑ Figures 1 through 11 - Groundwater Monitoring Levels
- ❑ Atterberg Testing Results
- ❑ Hydraulic Conductivity Testing
- ❑ DSEL – Grading Plan

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435369.03 **NORTHING:** 5003654.34 **ELEVATION:** 95.31

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: March 6, 2025

FILE NO. : PG4216

HOLE NO. : BH 1-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.28m [95.03m]									95
GLACIAL TILL: Brown silty clay, some gravel and sand 0.61m [94.70m]			AU 1						
GLACIAL TILL: Compact, brown silty sand, trace clay and gravel 1.14m [94.17m]		1	SS 2	64	2-8-50-/ 58/0.2			1.03 m 2025-03-12	94
BEDROCK: Good to excellent quality limestone		2	RC 1	100	RQD 78				93
		3	RC 2	100	RQD 95			3.05m	92
4.57m [90.75m]		4	RC 3	100	RQD 100			4.57m	91
End of Borehole		5							90
(GWL at 1.03 m depth - March 12, 2025)		6							89
		7							88
		8							87
		9							86
		10							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435568.93 **NORTHING:** 5003478.60 **ELEVATION:** 96.60

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: March 6, 2025

FILE NO. : PG4216

HOLE NO. : BH 2-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.28m [96.32m]									96
FILL: Brown silt, with gravel, trace clay, sand and crushed stone 0.69m [95.91m]									
BEDROCK: Fair to poor quality limestone		1	RC 1 AU 1	100	RQD 53			1.21 m 2025-03-12	
- Good quality below 2.6 m depth		2	RC 2	86	RQD 36				95
		3	RC 3	100	RQD 76			3.43m	94
		4	RC 4	97	RQD 83				93
4.95m [91.65m]		5						4.95m	92
End of Borehole									91
(GWL at 1.21 m depth - March 12, 2025)		6							90
		7							89
		8							88
		9							87
		10							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435522.74 **NORTHING:** 5003885.37 **ELEVATION:** 95.76

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: March 6, 2025

FILE NO. : PG4216

HOLE NO. : BH 3-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE											
TOPSOIL 0.25m [95.51m]											
Loose, brown **CLAYEY SILT**, trace sand - Trace gravel by 0.7 m depth		1	AU 1 SS 2	75	2-2-2-5 4						95
1.45m [94.31m]											
Compact, brown **SILTY SAND**, trace gravel		2	SS 3	83	5-11-15-17 26						94
2.41m [93.35m]			SS 4	100	50-/-/-/ 50/0.1					2.38 m 2025-03-12	
BEDROCK: Excellent to fair quality limestone		3	RC 1	100	RQD 90					3.35m	93
		4									92
4.90m [90.86m]			RC 2	74	RQD 56					4.88m	91
End of Borehole (GWL at 2.38 m depth - March 12, 2025)		5									90
		6									89
		7									88
		8									87
		9									86
		10									

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435522.74 **NORTHING:** 5003885.37 **ELEVATION:** 95.76

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: March 6, 2025

FILE NO. : PG4216

HOLE NO. : BH 3A-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
For soil profile refer to BH 3-25		0							95
2.41m [93.35m]		1						0.89m	94
End of Borehole		2						1.88 m 2025-03-12	93
(GWL at 1.88 m depth - March 12, 2025)		3						2.41m	92
		4							91
		5							90
		6							89
		7							88
		8							87
		9							86
		10							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435611.53 **NORTHING:** 5003727.26 **ELEVATION:** 97.14

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: March 6, 2025

FILE NO. : PG4216

HOLE NO. : BH 4-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.25m [96.89m]									97
GLACIAL TILL: Compact, brown silty clay, with gravel, trace sand 0.76m [96.38m]			AU 1						
BEDROCK: Good to fair quality limestone		1	RC 1	85	RQD 85				96
		2	RC 2	68	RQD 58				95
		3	RC 3	76	RQD 58				94
- Mud seams from 4.42 m to 4.57 m depth		4	RC 4	100	RQD 54				93
5.03m [92.11m]		5						3.45m / 3.76 m 2025-03-12 / 4.98m	92
End of Borehole		6							91
(GWL at 3.76 m depth - March 12, 2025)		7							90
		8							89
		9							88
		10							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435856.20 **NORTHING:** 5003665.21 **ELEVATION:** 95.53

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: March 7, 2025

FILE NO. : PG4216

HOLE NO. : BH 5-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.86m [94.67m]		0	AU 1					0.34 m 2025-03-12	95
GLACIAL TILL: Compact, brown silty sand, some gravel and cobbles, trace clay 1.45m [94.08m]		1	SS 2	67	3-12-17-23 29				94
			SS 3	0	50-/-/-/ 50/0.03				
BEDROCK: Excellent quality limestone		2	RC 1	100	RQD 100				93
		3	RC 2	100	RQD 100			3.43m	92
4.95m [90.58m]		4	RC 3	100	RQD 95				91
End of Borehole		5						4.95m	90
(GWL at 0.34 m depth - March 12, 2025)		6							89
		7							88
		8							87
		9							86
		10							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435817.85 **NORTHING:** 5004471.80 **ELEVATION:** 94.12

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: March 7, 2025

FILE NO. : PG4216

HOLE NO. : BH 6-25

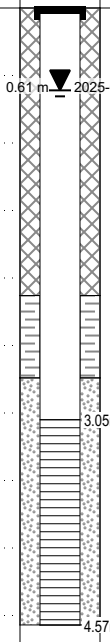
SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE								
TOPSOIL 0.20m [93.92m]			AU 1					
GLACIAL TILL: Compact, brown silty clay, some sand, trace gravel 0.61m [93.52m]								
GLACIAL TILL: Dense to very dense, brown sandy silt, with gravel, cobbles and boulders		1	SS 2	79	6-17-13-17 30			
		2	SS 3	46	10-21-34-27 55			
2.21m [91.92m]								
GLACIAL TILL: Compact, brown silty sand, trace gravel and cobbles		3	SS 4	75	7-9-11-11 20			
			SS 5	83	9-12-13-12 25			
- Grey by 3.73 m depth		4	SS 6	43	3-8-50-/ 58/0.25			
4.57m [89.56m]								
End of Borehole		5						
Practical refusal to augering at 4.57 m depth		6						
(GWL at 0.61 m depth - March 12, 2025)		7						
		8						
		9						
		10						

PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80

REMOULDED SHEAR STRENGTH (kPa)

UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80

PL (%) WATER CONTENT (%) LL (%) 20 40 60 80



SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435747.94 **NORTHING:** 5004424.67 **ELEVATION:** 94.61

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : BH 1-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.23m [94.38m]									
GLACIAL TILL: Compact, brown silty sand, with gravel, trace clay, cobbles and boulders			AU 1			24	○		
		1	SS 2	58	P	22	○		
		2	SS 3	75	5-7-9-8 16	12	○		
- Dense by 3.0 m depth		3	SS 4	67	7-13-21-21 34	13	○		
- Grey by 4.6 m depth		5	SS 5	8	6-5-8-20 13	8	○		
		6	SS 6	58	8-12-13-6 25	10	○		
6.71m [87.90m]									
End of Borehole		7							
		8							
		9							
		10							85

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435865.23 **NORTHING:** 5004448.81 **ELEVATION:** 94.07

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : BH 2-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL, trace sand and gravel 0.28m [93.79m]			AU 1			16			94
GLACIAL TILL: Compact to dense, brown silty sand, with gravel, cobbles and boulders		1	SS 2	58	11-11-11-24 22	11			93
		2	SS 3	58	9-18-23-20 41	11			92
3.05m [91.02m]		3							91
Compact to dense, brown **SILTY SAND**, trace gravel 3.66m [90.41m]			SS 4	25	16-14-13-13 27	23			
GLACIAL TILL: Dense, grey silty sand, with gravel, cobbles and boulders		4							90
		5	SS 5	33	6-14-25-21 39	9			89
6.71m [87.36m]		6	SS 6	83	9-19-25-24 44	10			88
End of Borehole		7							87
		8							86
		9							85
		10							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435899.31 **NORTHING:** 5004264.51 **ELEVATION:** 94.06

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : BH 3-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) / PL (%) WATER CONTENT (%) LL (%)	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE							20 40 60 80		
TOPSOIL, trace clay		0	AU 1			39			94
0.23m [93.83m]									
Hard, brown **SILTY CLAY**		1	SS 2	100	P	37	△80 ▲>250		93
1.45m [92.61m]									
GLACIAL TILL: Compact, brown silty clay, with gravel, trace sand, cobbles and boulders		2	SS 3	50	P	31			92
2.29m [91.77m]									
GLACIAL TILL: Compact, brown silty sand, with gravel, trace clay, occasional cobbles		3	SS 4	58	4-9-7-4 16	12			91
			SS 5	50	8-4-15-19 19	12			
- Grey by 4.6 m depth		4							90
		5	SS 6	42	3-17-4-6 21	11			89
		6							88
6.71m [87.35m]			SS 7	42	15-28-13-12 41	14			
End of Borehole		7							87
		8							86
		9							85
		10							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435891.01 **NORTHING:** 5004133.10 **ELEVATION:** 93.78

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

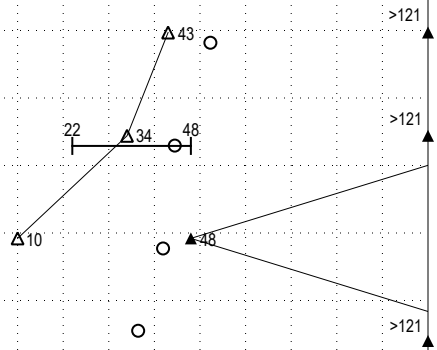
REMARKS:

DATE: December 19, 2024

FILE NO. : PG4216

HOLE NO. : BH 3A-21

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) / PL (%) WATER CONTENT (%) LL (%)	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE							20 40 60 80		
For soil profile refer to BH 3-21		1							93
2.29m [91.49m]		2							92
Very stiff, brown **SILTY CLAY**		3	SS 1	100	P	52			91
3.73m [90.05m]		4	SS 2	100	P	44			90
Firm, grey **SILTY CLAY**		5	SS 3	75	P	42			89
4.88m [88.90m]		6	SS 4	100	2-4-1-1 5	36 12			88
GLACIAL TILL: Dense, grey silty clay, trace sand, gravel, cobbles and boulders		7	SS 5	94	2-5-27-50 32	12			87
5.87m [87.91m]		8							86
End of Borehole		9							85
		10							84



SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435891.01 **NORTHING:** 5004133.10 **ELEVATION:** 93.78

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 19, 2024

FILE NO. : PG4216

HOLE NO. : BH 3B-21

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
For soil profile refer to BH 3-21		1							93
		2							92
3.05m [90.73m]		3							91
Brown **SILTY CLAY**			TW 1	100					
3.81m [89.97m]		4							90
Grey **SILTY CLAY**			TW 2	100					
4.42m [89.36m]									
End of Borehole		5							89
		6							88
		7							87
		8							86
		9							85
		10							84

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435936.41 **NORTHING:** 5004099.07 **ELEVATION:** 93.87

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

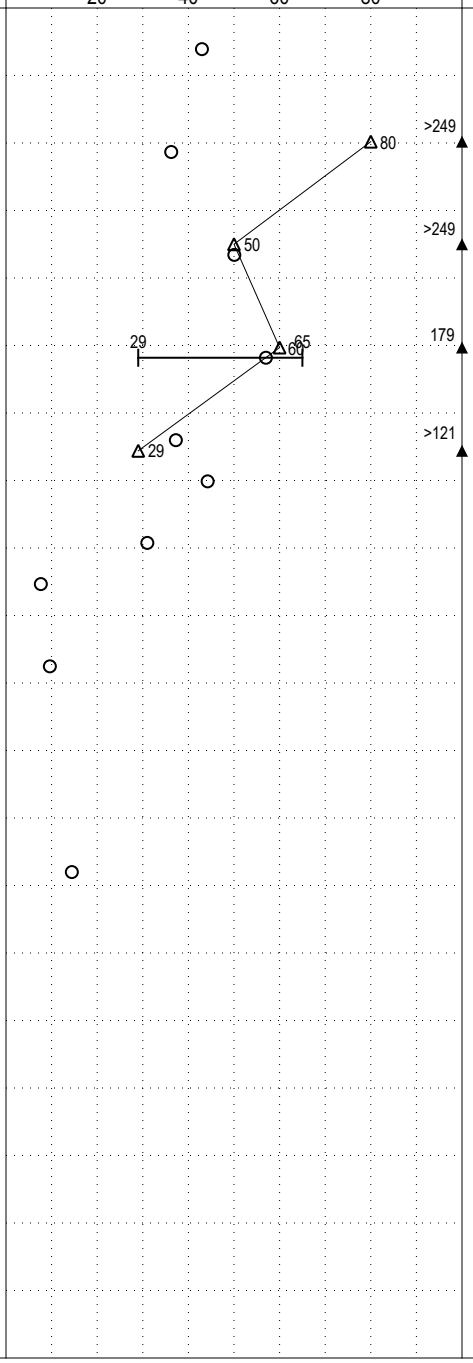
REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : BH 4-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.25m [93.62m]			AU 1			43			93
Hard, brown **SILTY CLAY**		1	SS 2	50	P	36			92
		2	SS 3	100	P	50			91
- Very stiff by 2.3 m depth		3	SS 4	100	P	57			90
3.50m [90.37m]			SS 5		P	37			89
GLACIAL TILL: Compact, grey silty sand, with clay, gravel, cobbles and boulders		4	SS 6	100	P	44 / 31			88
		5	SS 7	50	2-6-9-5 15	8 / 10			87
6.71m [87.16m]		6	SS 8	67	3-3-3-2 6	14			86
End of Borehole		7							85
		8							84
		9							
		10							



SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435936.41 **NORTHING:** 5004099.07 **ELEVATION:** 93.87

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 19, 2024

FILE NO. : PG4216

HOLE NO. : BH 4A-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / △ REMOULDED SHEAR STRENGTH (kPa) / ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
For soil profile refer to BH 4-24		1							93
		2							92
2.90m [90.97m]									
Brown **SILTY CLAY**		3	TW 1	100					91
3.51m [90.36m]									
End of Borehole		4							90
		5							89
		6							88
		7							87
		8							86
		9							85
		10							84

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435994.61 **NORTHING:** 5003956.27 **ELEVATION:** 93.90

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : BH 5-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.25m [93.65m]									
Hard, brown **SILTY CLAY**		1	AU 1			39			93
		2	SS 2	100	P	52			92
2.90m [91.00m]		3	SS 3	42	4-5-4-6 9	9 11			91
GLACIAL TILL: Compact, brown silty sand, with gravel, cobbles and boulders - Grey by 3.4 m depth		4							90
- Dense by 4.6 m depth		5	SS 4		5-10-29-24 39	9			89
5.36m [88.54m]									
End of Borehole		6							88
Practical refusal to augering at 5.36 m depth		7							87
		8							86
		9							85
		10							84

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435422.68 **NORTHING:** 5003879.79 **ELEVATION:** 94.24

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 17, 2024

FILE NO. : PG4216

HOLE NO. : BH 6-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL, trace clay 0.05m [94.19m]			AU 1			39			94
GLACIAL TILL: Compact, brown sandy clay, with silt, gravel, cobbles and boulders		1	SS 2	100	P	30			93
		2	SS 3	50	3-3-3-2 6	14			92
		3	SS 4	92	6-8-3-2 11	13			91
4.57m [89.67m]		4							90
GLACIAL TILL: Compact grey silty sand, with gravel, cobbles and boulders		5	SS 5	83	8-13-18-19 31	9			89
6.10m [88.14m]		6							88
GLACIAL TILL: Compact, grey sand, with cobbles and boulders 6.71m [87.53m]			SS 6	100	2-3-16-43 19	19			
End of Borehole		7							87
		8							86
		9							85
		10							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435600.21 **NORTHING:** 5004031.42 **ELEVATION:** 93.94

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 17, 2024

FILE NO. : PG4216

HOLE NO. : BH 7-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.20m [93.74m]			AU 1			34			
GLACIAL TILL: Brown silty sand, with gravel, cobbles and boulders		1	SS 2	75	13-20-12-8 32	10			93
- Increasing clay content by 1.5 m depth		2	SS 3	75	4-8-4-4 12	11			92
- Increasing sand content by 3.0 m depth		3	SS 4	83	1-20-23-16 43	9			91
- Grey by 3.5 m depth 3.71m [90.23m]									
End of Borehole		4							90
Practical refusal to augering at 3.71 m depth		5							89
		6							88
		7							87
		8							86
		9							85
		10							84

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435672.21 **NORTHING:** 5003946.75 **ELEVATION:** 94.52

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 17, 2024

FILE NO. : PG4216

HOLE NO. : BH 8-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.18m [94.34m]									
GLACIAL TILL: Compact, brown silty sand, with clay, gravel, cobbles and boulders			AU 1			22			94
		1	SS 2	33	4-9-5-3 14	25			
			SS 3	67	6-5-4-6 9	14			93
		2							
									92
- Increasing sand content by 3.0 m depth		3	SS 4		12-50-/-/ 50/0.08	11			
3.53m [90.99m]									91
End of Borehole									
Practical refusal to augering at 3.53 m depth		4							90
		5							89
		6							
		7							88
		8							87
		9							86
		10							85

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435719.68 **NORTHING:** 5004015.59 **ELEVATION:** 94.18

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 17, 2024

FILE NO. : PG4216

HOLE NO. : BH 9-24

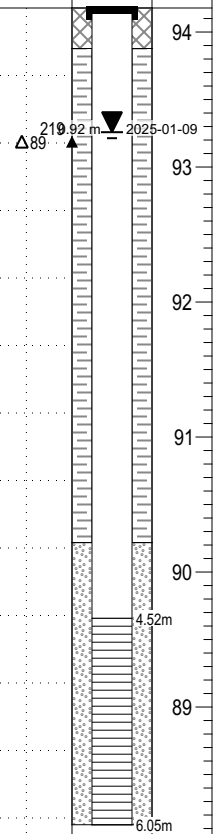
SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE								
TOPSOIL 0.25m [93.93m]								
Hard, brown **SILTY CLAY**			AU 1			31		
		1	SS 2	58	P	25		
1.45m [92.73m]								
Compact, brown **SILTY SAND**, with clay, gravel, cobbles and boulders		2	SS 3	100	2-5-5-3 10	23 17		
2.06m [92.12m]								
GLACIAL TILL: Dense, brown silty sand, with gravel, cobbles and boulders		3	RC 1	100	RQD 90			
2.97m [91.21m]								
BEDROCK: Excellent to good quality limestone		4						
		5	RC 2	100	RQD 92			
		6	RC 3	83	RQD 74			
6.17m [88.01m]								
End of Borehole		7						
(GWL at 0.92 m depth - January 9, 2025)		8						
		9						
		10						

PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80

REMOULDED SHEAR STRENGTH (kPa)

UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80

PL (%) WATER CONTENT (%) LL (%) 20 40 60 80



SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435719.68 **NORTHING:** 5004015.59 **ELEVATION:** 94.18

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

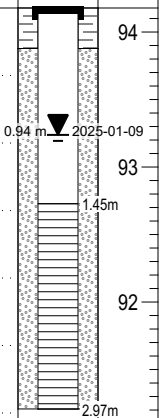
REMARKS:

DATE: December 18, 2024

FILE NO. : PG4216

HOLE NO. : BH10-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
For soil profile refer to BH 9-24									
2.97m [91.21m]									
End of Borehole Practical refusal to augering at 2.97 m depth (GWL at 0.94 m depth - January 9, 2025)									



SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435692.30 **NORTHING:** 5004138.10 **ELEVATION:** 93.82

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

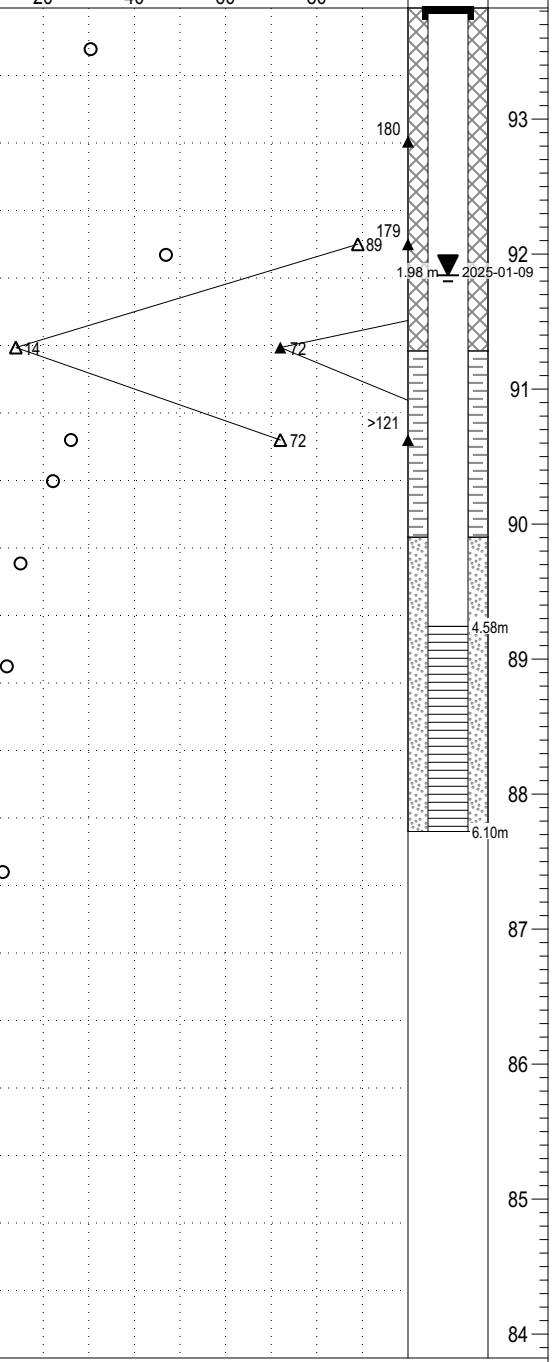
REMARKS:

DATE: December 18, 2024

FILE NO. : PG4216

HOLE NO. : BH11-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.25m [93.57m]									
Very stiff, brown **SILTY CLAY**		1	AU 1			30			
		2	SS 2	100	P	47			92
- Grey by 3.4 m depth		3	SS 3	75	P	26			91
3.66m [90.16m]						22			
GLACIAL TILL: Loose to dense, grey silty sand, with clay, gravel, cobbles and boulders		4	SS 4	67	0-1-1-/ 2	15			90
		5	SS 5	67	2-3-3-5 6	12			89
6.53m [87.29m]		6	SS 6	42	13-21-50-/ 71/0.23	11			88
End of Borehole		7							87
Practical refusal to augering at 6.53 m depth		8							86
(GWL at 1.98 m depth - January 9, 2025)		9							85
		10							84



SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435768.33 **NORTHING:** 5004247.28 **ELEVATION:** 93.93

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 18, 2024

FILE NO. : PG4216

HOLE NO. : BH12-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	MONITORING WELL CONSTRUCTION	ELEVATION (m)
GROUND SURFACE								
TOPSOIL 0.36m [93.57m]		0	AU 1			36		93
Hard, brown **SILTY CLAY**		1					239 1.08 m 2025-01-09	
		2	SS 2	100	P	54	199	92
- Silt content increasing by 3.0 m depth		3	SS 3	83	P	29	149 >121	91
3.73m [90.20m]								
GLACIAL TILL: Compact, grey silty clay, with sand, gravel, cobbles and boulders		4	SS 4	67	9-3-9-9 12	15		90
4.57m [89.36m]								
GLACIAL TILL: Dense, grey silty sand, with gravel, cobbles and boulders, trace clay		5	SS 5	67	9-15-22-21 37	18	5.34m	89
6.91m [87.02m]		6	SS 6	100	50-/-/-/ 50/0.08	16	6.86m	88
End of Borehole		7						87
(GWL at 1.08 m depth - January 9, 2025)		8						86
		9						85
		10						84

PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80

REMOULDED SHEAR STRENGTH (kPa)

UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80

PL (%) WATER CONTENT (%) LL (%) 20 40 60 80

25 54 40 87

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435783.20 **NORTHING:** 5004220.10 **ELEVATION:** 93.50

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 19, 2024

FILE NO. : PG4216

HOLE NO. : BH12A-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
For soil profile refer to BH 12-24									
3.05m [90.45m]									
Brown **SILTY CLAY**, with high silt content			TW 1	96					
3.80m [89.70m]									
GLACIAL TILL			TW 2	62					
4.42m [89.08m]									
End of Borehole									

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435783.20 **NORTHING:** 5004220.10 **ELEVATION:** 93.50

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 19, 2024

FILE NO. : PG4216

HOLE NO. : BH12B-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
For soil profile refer to BH 12-24		1							93
		2							92
2.74m [90.76m]									91
Brown **SILTY CLAY**		3	TW 1	92					90
3.35m [90.15m]									
End of Borehole		4							89
		5							88
		6							87
		7							86
		8							85
		9							84
		10							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435792.21 **NORTHING:** 5004358.09 **ELEVATION:** 93.96

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 19, 2024

FILE NO. : PG4216

HOLE NO. : BH13-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	RECOVERY (%)	N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
Hard to very stiff, brown **SILTY CLAY**		0	SS 1	50	4-4-4-3 8	36			93
1.45m [92.51m]		1					109 >249 ▲		
GLACIAL TILL: Compact, brown silty clay, with sand, gravel, cobble sand boulders		2	SS 2	92	1-2-8-9 10	14			92
			SS 3	100	3-4-4-5 8	13			
- Silty sand, with clay, gravel, cobbles and boulders by 3.3 m depth		3	SS 4	67	5-8-18-16 26	12			91
3.66m [90.30m]									
End of Borehole		4							90
		5							89
		6							88
		7							87
		8							86
		9							85
		10							84

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435792.21 **NORTHING:** 5004358.09 **ELEVATION:** 93.96

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 19, 2024

FILE NO. : PG4216

HOLE NO. : BH13A-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
For soil profile refer to BH 13-24									
0.38m [93.58m]									
Brown **SILTY CLAY**			TW 1	62					
0.99m [92.97m]									
End of Borehole									

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 436034.93 **NORTHING:** 5004037.45 **ELEVATION:** 93.95

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 19, 2024

FILE NO. : PG4216

HOLE NO. : BH14-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	RECOVERY (%)	N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
For soil profile refer to TP 6									
2.29m [91.66m]									
Very stiff, brown **SILTY CLAY**, with high silt content			SS 1	83	P	36	22 32 △43 >121		
2.97m [90.98m]									
GLACIAL TILL: Dense to compact, brown silty clay, with sand, gravel, cobbles and boulders			SS 2	50	5-12-6-3 18	11	>121		
			SS 3	33	4-3-2-2 5	10			
- Silty sand by 4.2 m depth			SS 4	42	23-26-20-16 46	12			
5.18m [88.77m]									
End of Borehole									

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 436034.93 **NORTHING:** 5004037.45 **ELEVATION:** 93.95

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Track Mounted Drill Rig

REMARKS:

DATE: December 19, 2024

FILE NO. : PG4216

HOLE NO. : BH14A-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							93
For soil profile refer to TP 6		1							92
2.29m [91.66m]		2							91
Brown **SILTY CLAY**			TW 1	96					
2.90m [91.05m]		3							90
End of Borehole		4							89
		5							88
		6							87
		7							86
		8							85
		9							84
		10							

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

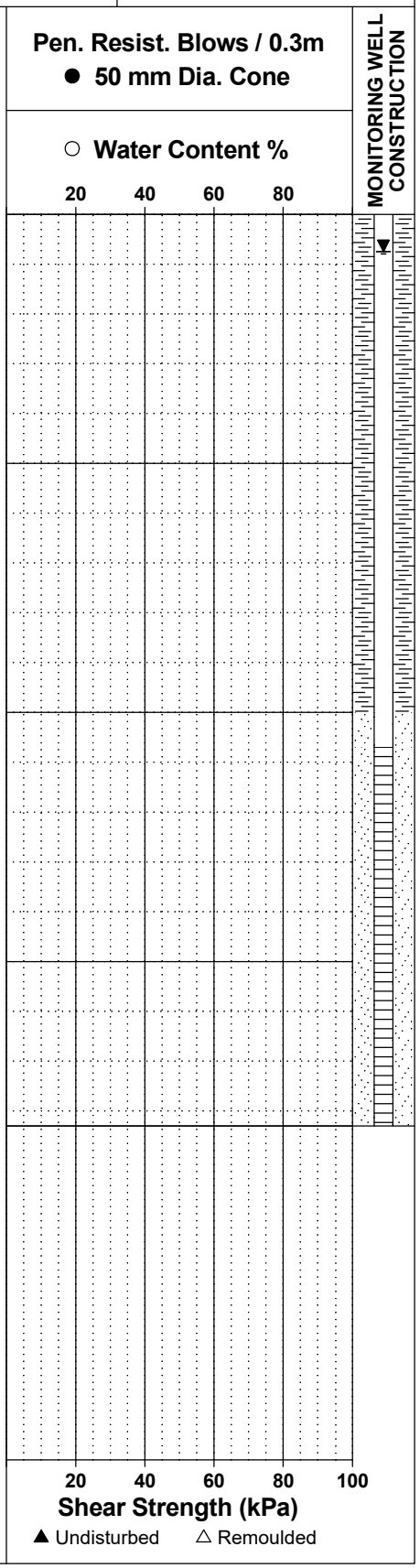
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.237
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 19

FILE NO. PG4216
HOLE NO. BH 1D-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	94.24
TOPSOIL 0.30		AU	1				
Very stiff, brown **SILTY CLAY**		SS	2	100	7	1	93.24
1.83		SS	3	100	16		
GLACIAL TILL: Compact silt, some sand and clay, trace gravel 2.13						2	92.24
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles and boulders		SS	4	8	+50		
- some running sand present by 3.5m depth		SS	5	100	34	3	91.24
3.66							
End of Borehole							
(GWL @ 0.15m - March 31, 2021)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.237
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 19

FILE NO. PG4216
HOLE NO. BH 1S-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	94.24
TOPSOIL 0.30							
Very stiff, brown **SILTY CLAY**						1	93.24
1.83							
GLACIAL TILL: Compact silt, some sand and clay, trace gravel 2.13						2	92.24
End of Borehole							
(GWL @ 0.16m - March 31, 2021)							

Pen. Resist. Blows / 0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

MONITORING WELL CONSTRUCTION

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

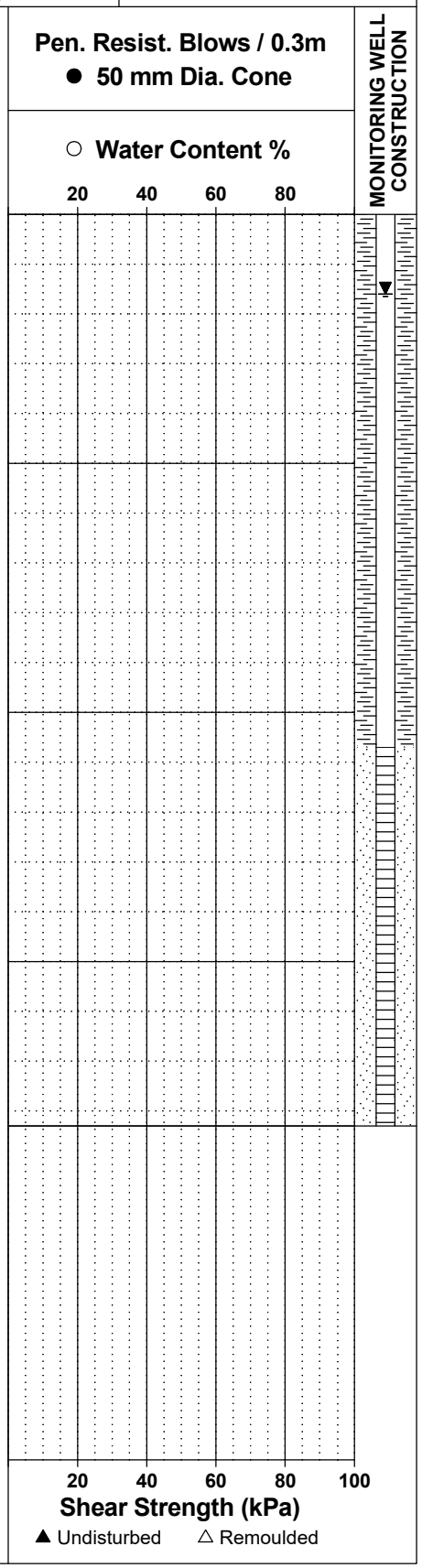
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 93.908
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 75 Power Auger **DATE:** 2021 March 19

FILE NO. PG4216
HOLE NO. BH 2-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	93.91
TOPSOIL							
0.25		AU	1				
Very stiff to stiff, brown **SILTY CLAY,** trace sand		SS	2	92	4	1	92.91
		SS	3	100	2	2	91.91
2.21							
GLACIAL TILL: Brown silty clay some sand, gravel, cobbles and boulders		SS	4	75	4	3	90.91
		SS	5	17	3		
3.66							
End of Borehole							
(GWL @ 0.32m - March 31, 2021)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 92.787
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 75 Power Auger **DATE:** 2021 March 19

FILE NO. PG4216
HOLE NO. BH 3-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	92.79		
		AU	1						
		SS	2	100	6	1	91.79		
Very stiff to stiff, brown **SILTY CLAY**		SS	3	50	4	2	90.79		
		SS	4	75	3	3	89.79		
3.12									
Stiff, grey **SILTY CLAY**		SS	5	100	2				
3.66									
End of Borehole									

Pen. Resist. Blows / 0.3m: 20 40 60 80
Shear Strength (kPa): 20 40 60 80 100
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

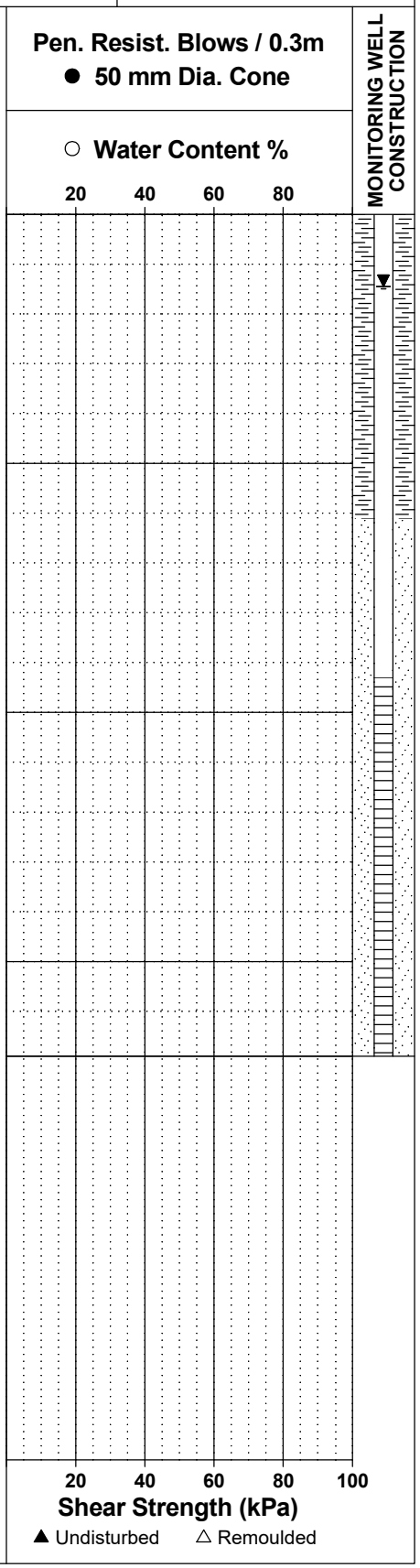
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.514
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 22

FILE NO. PG4216
HOLE NO. BH 4D-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE							
TOPSOIL						0	94.51
0.18							
		AU	1				
Very stiff to stiff, brown **SILTY CLAY,** trace sand		SS	2	58	5	1	93.51
		SS	3	50	11	2	92.51
2.36							
GLACIAL TILL: Brown silty clay with sand, gravel, cobbles and boulders		SS	4	58	20	3	91.51
		SS	5	8	+50		
3.38							
End of Borehole							
Practical refusal to augering at 3.38m depth							
(GWL @ 0.29m - March 31, 2021)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

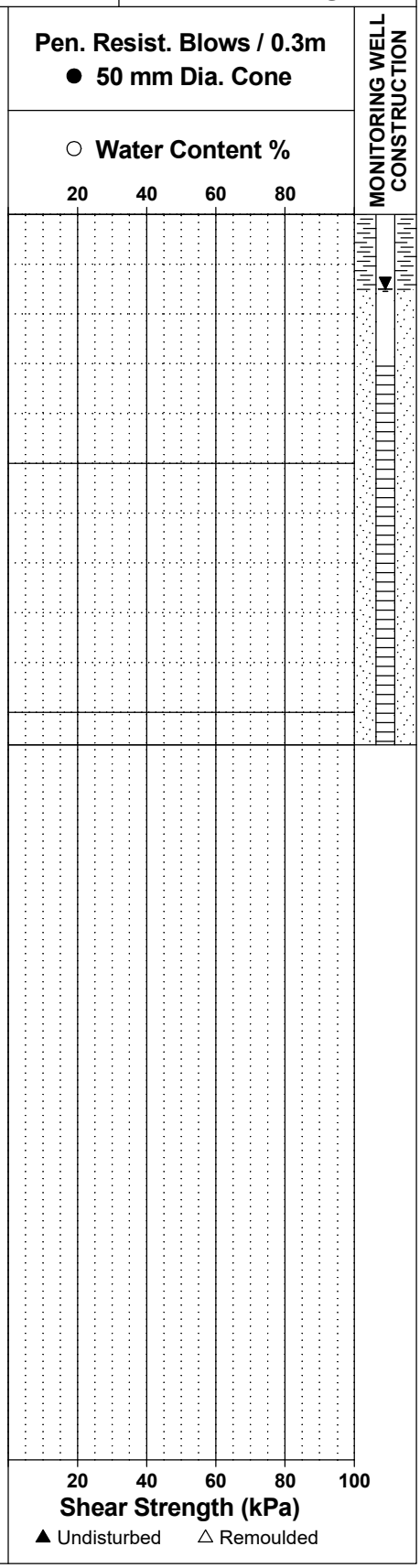
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.514
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 22

FILE NO. PG4216
HOLE NO. BH 4S-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE									
TOPSOIL 0.18						0	94.51		
Very stiff to stiff, brown **SILTY CLAY,** trace sand						1	93.51		
2.13						2	92.51		
End of Borehole (GWL @ 0.30m - March 31, 2021)									



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.212
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 22

FILE NO. PG4216
HOLE NO. BH 5-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	94.21		
TOPSOIL 0.23		AU	1						
Very stiff to stiff, brown **SILTY CLAY,** trace sand		SS	2	58	5	1	93.21		
		SS	3	50	5	2	92.21		
2.49									
GLACIAL TILL: Brown silty clay with sand, gravel, cobbles and boulders		SS	4	100	6	3	91.21		
		SS	5	42	7				
3.66									
End of Borehole									
(GWL @ 0.30m - March 31, 2021)									

Pen. Resist. Blows / 0.3m: 20 40 60 80
Water Content %: 20 40 60 80
Shear Strength (kPa): 20 40 60 80 100
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.044
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 22

FILE NO. PG4216
HOLE NO. BH 6-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	94.04		
TOPSOIL 0.25		AU	1						
Very stiff to stiff, brown **SILTY CLAY**		SS	2	100	5	1	93.04		
		SS	3	33	1	2	92.04		
2.21									
GLACIAL TILL: Compact to dense, brown silty clay with sand, gravel, cobbles and boulders		SS	4	75	9	3	91.04		
		SS	5	50	33				
3.66									
End of Borehole									
(GWL @ 0.26m - March 31, 2021)									

Pen. Resist. Blows / 0.3m: 20 40 60 80
Water Content %: 20 40 60 80
Shear Strength (kPa): 20 40 60 80 100
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 93.623
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 75 Power Auger **DATE:** 2021 March 23

FILE NO. PG4216
HOLE NO. BH 7D-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	93.62		
		AU	1						
		SS	2	33	9	1	92.62		
Very stiff to stiff, brown **SILTY CLAY**		SS	3	17	4	2	91.62		
		SS	4	50	6				
						3	90.62		
3.35		SS	5	67	6				
GLACIAL TILL: Brown silty clay with sand, gravel, cobbles and boulders									
3.66									
End of Borehole									

Pen. Resist. Blows / 0.3m: 20 40 60 80
Water Content %: 20 40 60 80
Shear Strength (kPa): 20 40 60 80 100
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 93.623
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 23

FILE NO. PG4216
HOLE NO. BH 7S-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	93.62	20 40 60 80	
Very stiff to stiff, brown **SILTY CLAY**						1	92.62		
2.13						2	91.62		
End of Borehole									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.047
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 75 Power Auger **DATE:** 2021 March 23

FILE NO. PG4216
HOLE NO. BH 8-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	94.05		
TOPSOIL 0.25		AU	1						
Very stiff to stiff, brown **SILTY CLAY**		SS	2	100	2	1	93.05		
		SS	3	100	12				
2.13						2	92.05		
GLACIAL TILL: Compact, brown silty clay with sand, gravel, cobbles and boulders		SS	4	58	23				
3.20						3	91.05		
GLACIAL TILL: Compact, brown silty sand with gravel, clay, cobbles and boulders		SS	5	58	24				
3.66									
End of Borehole									
(GWL @ 0.49m - March 31, 2021)									

Pen. Resist. Blows / 0.3m: 20 40 60 80
Shear Strength (kPa): 20 40 60 80 100
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

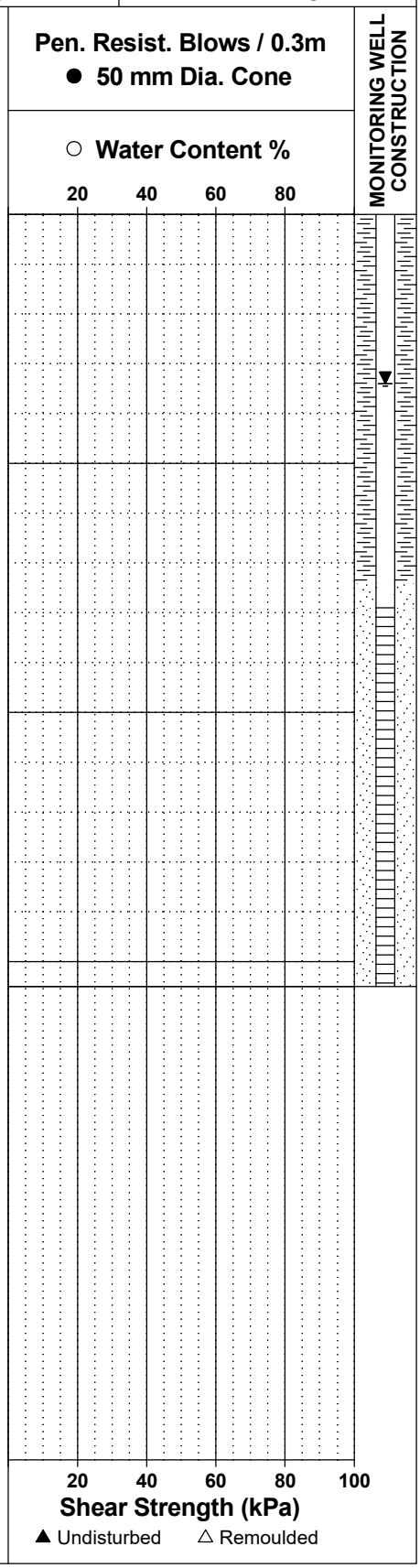
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.209
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 23

FILE NO. PG4216
HOLE NO. BH 9-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	94.21
TOPSOIL		AU	1				
0.20							
Very stiff to stiff, brown **SILTY CLAY**		SS	2	100	2	1	93.21
		SS	3	75	2	2	92.21
2.21							
GLACIAL TILL: Compact, brown silty sand with gravel, clay, cobbles and boulders		SS	4	50	23		
3.10		SS	5	8	+50	3	91.21
End of Borehole							
(GWL @ 0.68m - March 31, 2021)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.076
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 23

FILE NO. PG4216
HOLE NO. BH10D-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	94.08		
TOPSOIL 0.23		AU	1						
Very stiff to stiff, brown **SILTY CLAY**		SS	2	75	8	1	93.08		
		SS	3	100	4	2	92.08		
2.13 **GLACIAL TILL:** Clayey silt, some sand, gravel, cobbles and boulders		SS	4	100	6				
		SS	5	75	7	3	91.08		
3.66 End of Borehole									
(GWL @ 0.72m - March 31, 2021)									

Pen. Resist. Blows / 0.3m: 20 40 60 80
Water Content %: 20 40 60 80
Shear Strength (kPa): 20 40 60 80 100
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.076
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 23

FILE NO. PG4216
HOLE NO. BH10S-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	94.08	20 40 60 80	
TOPSOIL 0.23									
Very stiff to stiff, brown **SILTY CLAY**						1	93.08		
2.13						2	92.08		
End of Borehole (GWL @ 0.49m - March 31, 2021)									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Eagleson Road
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 92.938
DATUM: Geodetic
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2021 March 23

FILE NO. PG4216
HOLE NO. BH11-21

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows / 0.3m ● 50 mm Dia. Cone ○ Water Content %	MONITORING WELL CONSTRUCTION
GROUND SURFACE						0	92.94		
		AU	1						
Very stiff to stiff, brown **SILTY CLAY**		SS	2	100	4	1	91.94		
		SS	3	67	6	2	90.94		
2.21									
Stiff, grey **SILTY CLAY**		SS	4	83	3	3	89.94		
3.35		SS	5	75	15				
GLACIAL TILL: Grey silty clay with sand, gravel, cobbles and boulders									
3.66									
End of Borehole									
(GWL @ 0.13m - March 31, 2021)									

Pen. Resist. Blows / 0.3m: 20 40 60 80
Water Content %: 20 40 60 80
Shear Strength (kPa): 20 40 60 80 100
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 93.96
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. PG4216
HOLE NO. BH 1

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	93.96
TOPSOIL 0.20		AU	1				
Loose, brown **SANDY SILT,** some clay		SS	2	54	5	1	92.96
1.22		SS	3	67	39	2	91.96
		SS	4	71	23		
		SS	5	58	14	3	90.96
Dense to compact, brown **SILTY SAND,** trace gravel		SS	6	71	32	4	89.96
		SS	7		24	5	88.96
5.94		SS	8	100	3		
		SS	9	67	42	6	87.96
GLACIAL TILL: Dense to very dense, grey silty sand with gravel and clay		SS	10	91	82	7	86.96
						8	85.96
						9	84.96
9.75		SS	11		7		
End of Borehole							
(GWL @ 0.61m - Dec. 28, 2018)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %
20 40 60 80

PIEZOMETER CONSTRUCTION

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

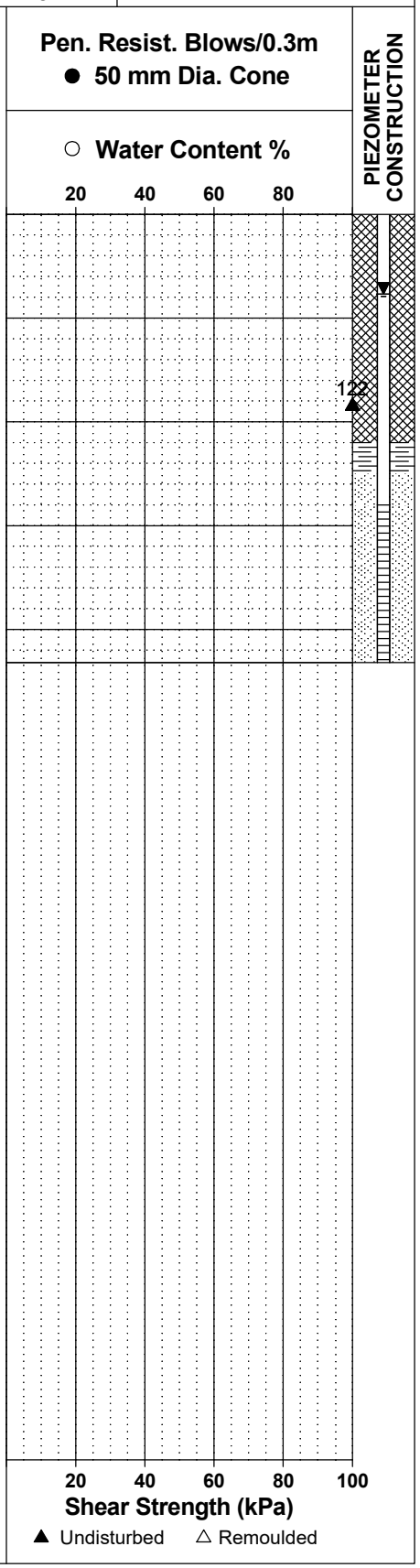
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.23
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. **PG4216**
HOLE NO. **BH 2**

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	94.23
TOPSOIL 0.25		AU	1				
Stiff to very stiff, brown **SILTY CLAY** some sand		SS	2	92	4	1	93.23
2.13						2	92.23
GLACIAL TILL: Brown silty clay with sand, gravel, cobbles and boulders		SS	3	8	12		
		SS	4	42	35	3	91.23
4.32						4	90.23
End of Borehole							
Practical refusal to augering at 4.32m depth							
(GWL @ 0.77m - Dec. 28, 2018)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.76
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. PG4216
HOLE NO. BH 3

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface									
TOPSOIL 0.15		AU	1			0	94.76		
Stiff to firm, brown **SILTY CLAY**		SS	2	92	6	1	93.76		
		SS	3	92	6				
2.13		SS	4	0	50+	2	92.76		
GLACIAL TILL: Brown sandy silt with clay, gravel, cobbles and boulders		SS	5	67	23	3	91.76		
4.42						4	90.76		
End of Borehole									
Practical refusal to augering at 4.42m depth									
(GWL @ 0.62m - Dec. 28, 2018)									

Water Content % scale: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

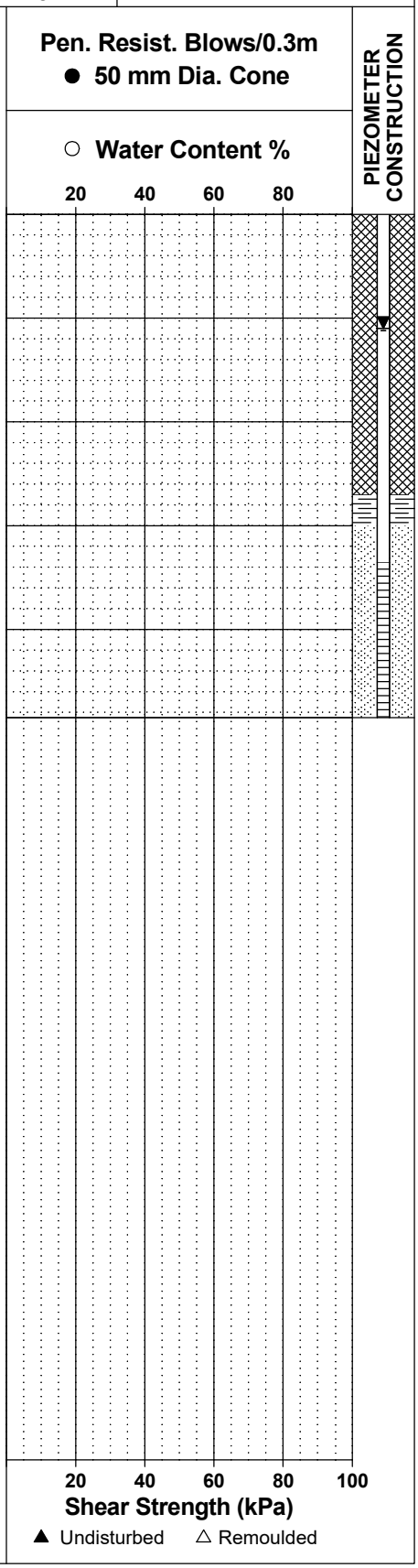
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 97.71
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. PG4216
HOLE NO. BH 4

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	97.71
TOSPOIL 0.30		AU	1				
		SS	2	71	40	1	96.71
		SS	3	71	68	2	95.71
GLACIAL TILL: Very dense, brown silty sand with gravel, cobbles and boulders		SS	4	71	50+		
		SS	5	88	73	3	94.71
						4	93.71
4.85		SS	6	100	50+		
End of Borehole Practical refusal to augering at 4.85m depth (GWL @ 1.10m - Dec. 28, 2018)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

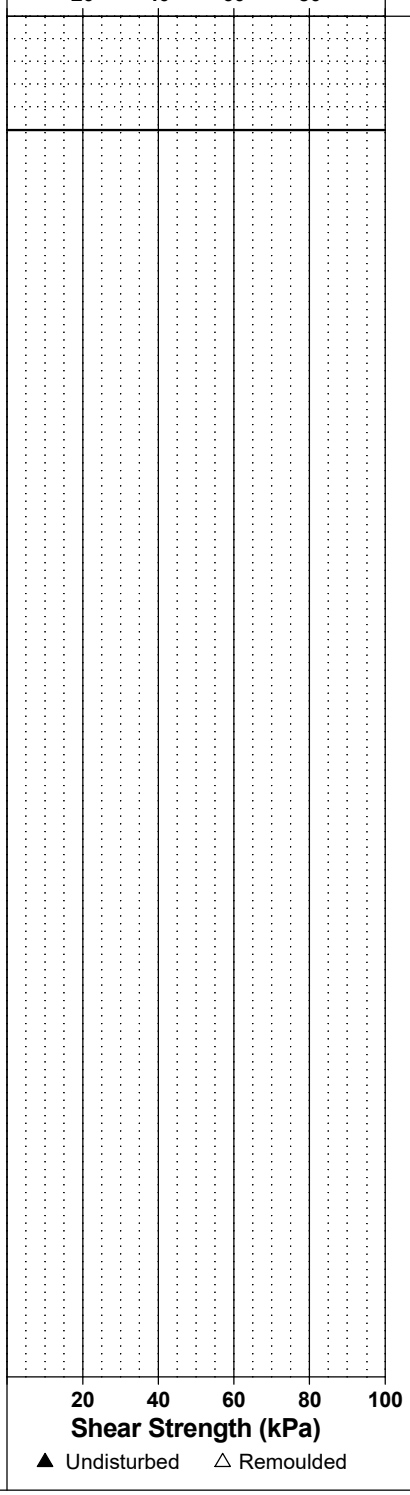
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 97.45
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. PG4216
HOLE NO. BH 5

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface									
TOPSOIL 0.30		AU	1			0	97.45		
Very stiff, brown **CLAYEY SILT** 1.01		SS	2		50+	1	96.45		
End of Borehole									
Practical refusal to augering at 1.01m depth									
(BH dry upon completion)									



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

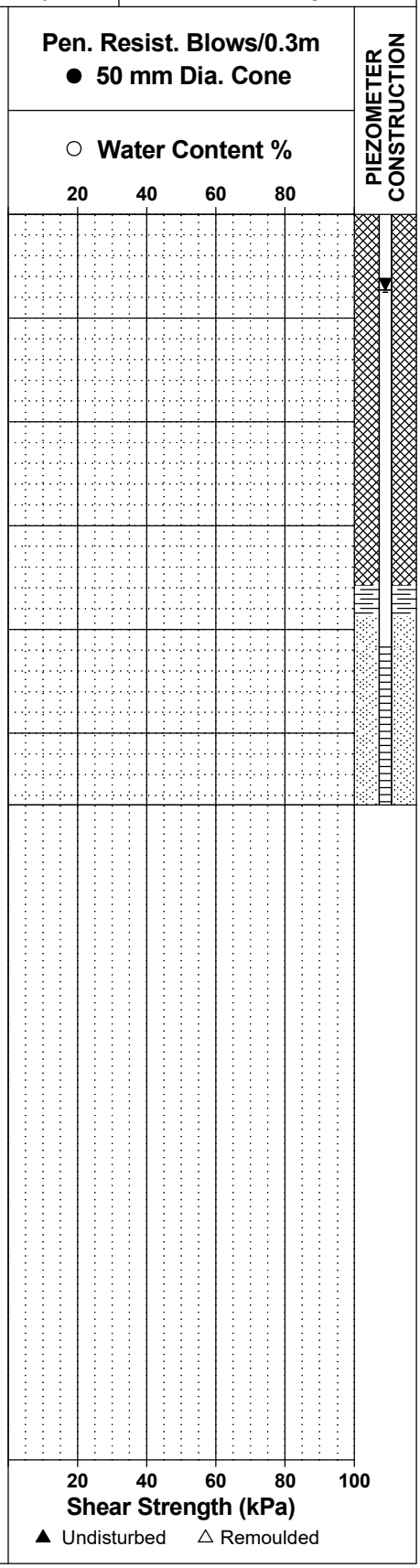
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.70
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. PG4216
HOLE NO. BH 6

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	94.70
TOPSOIL 0.30		AU	1				
Compact to loose, brown **SANDY SILT,** trace clay		SS	2	67	12	1	93.70
1.93		SS	3	92	5	2	92.70
Brown **SILTY CLAY** 2.19		SS	4	88	59		
GLACIAL TILL: Very dense, brown silty sand with gravel, cobbles and boulders		SS	5	71	68	3	91.70
		SS	6	100	50	4	90.70
5.69		SS	7	100	50+	5	89.70
End of Borehole							
Practical refusal to augering at 5.69m depth							
(GWL @ 0.73m - Dec. 28, 2018)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

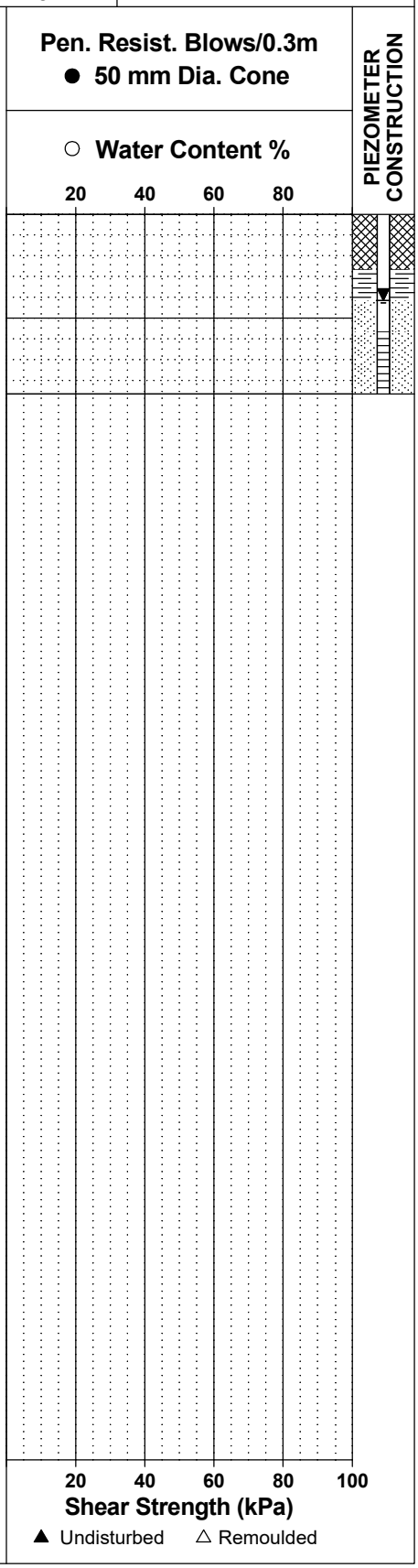
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.88
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. PG4216
HOLE NO. BH 7

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface							
TOPSOIL 0.25		AU	1			0	94.88
GLACIAL TILL: Brown silty sand with clay and gravel		SS	2	67	9	1	93.88
1.73		SS	3	50	50+		
End of Borehole							
Practical refusal to augering at 1.73m depth							
(GWL @ 0.83m - Dec. 28, 2018)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

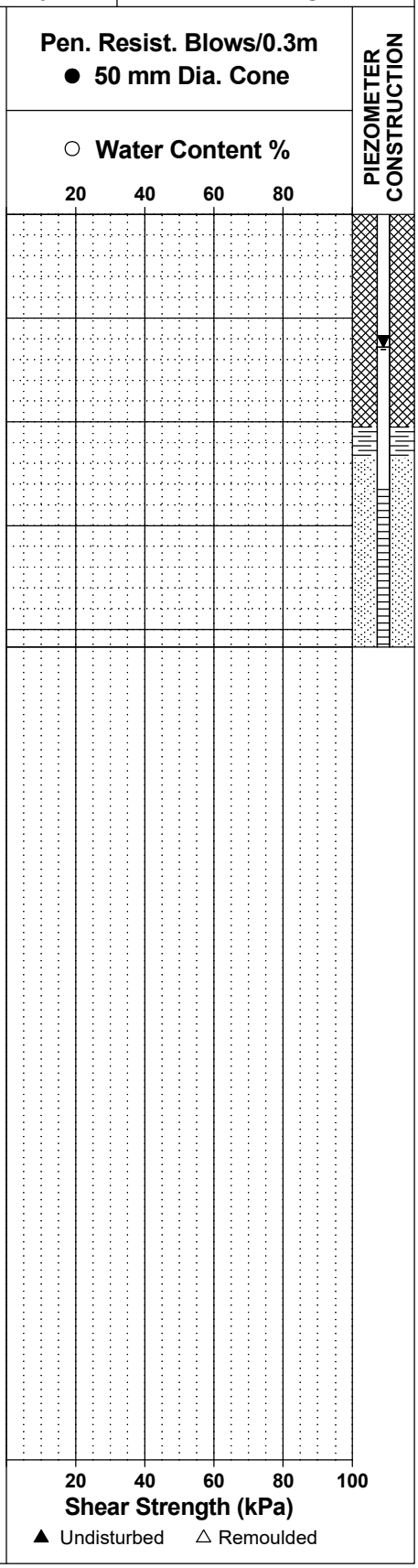
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.03
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. PG4216
HOLE NO. BH 8

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	94.03
TOPSOIL 0.25		AU	1				
Very stiff, brown **SILTY CLAY**		SS	2	79	13	1	93.03
1.73		SS	3	96	6	2	92.03
GLACIAL TILL: Brown silty sand with gravel, cobbles, boulders		SS	4	71	7		
		SS	5	50	36	3	91.03
4.17						4	90.03
End of Borehole							
Practical refusal to augering at 4.17m depth							
(GWL @ 1.28m - Dec. 28, 2018)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

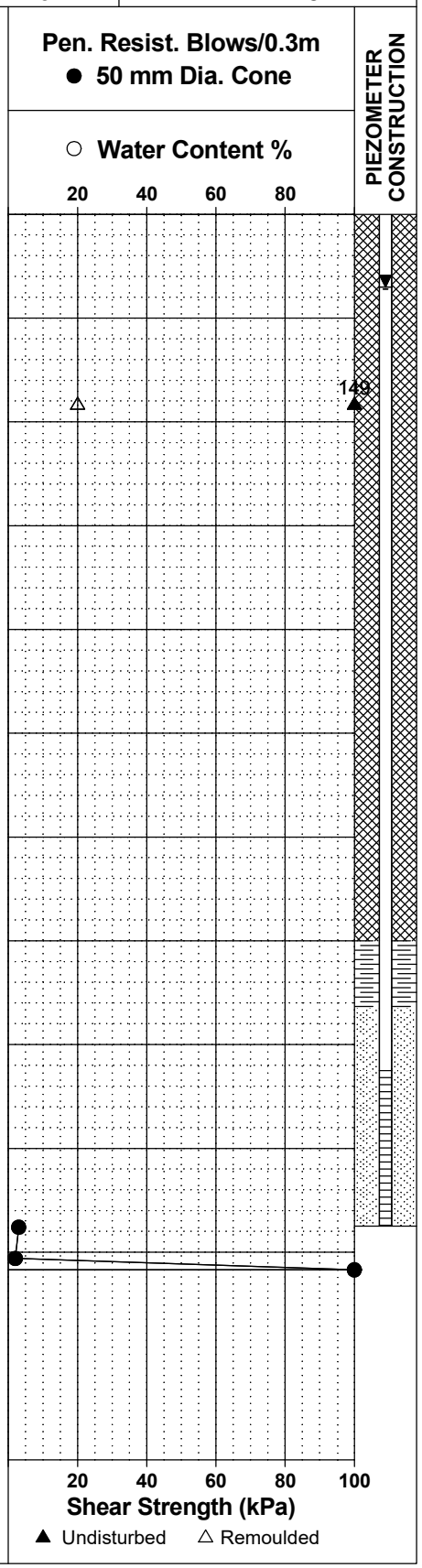
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 93.78
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. PG4216
HOLE NO. BH 9

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	93.78
TOPSOIL 0.25		AU	1				
Very stiff, brown **SILTY CLAY**		SS	2	96	4	1	92.78
		SS	3	83	P	2	91.78
2.29							
Brown **SANDY SILT,** trace clay		SS		88	P	3	90.78
3.05							
		SS	5	46	7	4	89.78
		SS	6	79	9		
Loose, brown **SILTY SAND** with gravel, trace clay		SS	7	71	9	5	88.78
6.10						6	87.78
		SS	8	100	26		
		SS	9	62	14	7	86.78
Compact to dense, grey **SILTY SAND**		SS	10	62	36	8	85.78
						9	84.78
9.75		SS	11	42	31		
Dynamic Cone Penetration Test commenced at 9.75m depth. 10.17						10	83.78
End of Borehole							
Practical DCPT refusal at 10.17m depth							
(GWL @ 0.70m - Dec. 28, 2018)							



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

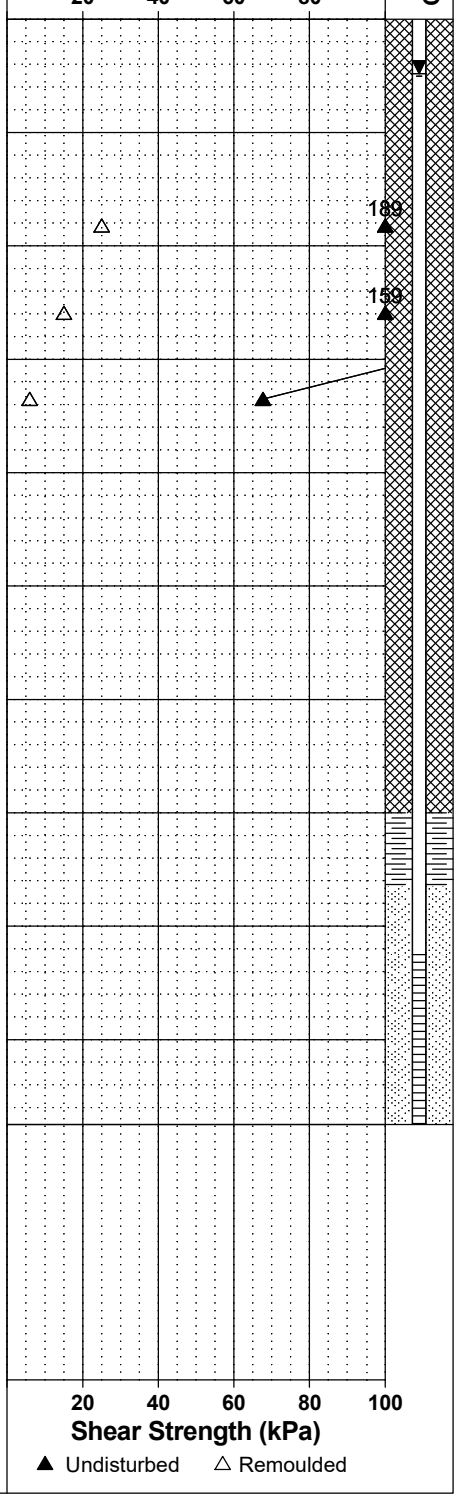
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 93.37
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: CME 55 Power Auger **DATE:** 2018 December 13

FILE NO. PG4216
HOLE NO. BH10

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface							
TOPSOIL 0.30		AU	1			0	93.37
		SS	2	96	6	1	92.37
		SS	3	54	P	2	91.37
Very stiff, brown **SILTY CLAY**		SS	4	100	P		
- grey by 2.9m depth						3	90.37
		SS	5	58	10	4	89.37
		SS	6	83	37	5	88.37
5.41		SS	7	96	50+		
		SS	8	83	75	6	87.37
GLACIAL TILL: Very dense, grey silty sand with gravel, cobbles and boulders		SS	9	92		7	86.37
						8	85.37
			10	100	50+	9	84.37
9.75							
End of Borehole							
(GWL @ 0.48m - Dec. 28, 2018)							



SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 436079.41 **NORTHING:** 5003734.86 **ELEVATION:** 94.53

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP 1-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.20m [94.33m]									
Stiff, brown **SILTY CLAY**			G 1			34	△22 ▲88		94
1.40m [93.12m]		1							
GLACIAL TILL: Compact, brown silty clay, some gravel, occasional cobbles and boulder									93
2.15m [92.38m]		2	G 2			27			
End of Test Pit Test pit terminated on bedrock surface No groundwater infiltration was observed upon completion of the test pit		3							92
		4							91
		5							90

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435766.77 **NORTHING:** 5003865.03 **ELEVATION:** 95.89

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP 2-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.15m [95.74m]									
GLACIAL TILL: Compact to very dense, brown silty sand, some gravel, cobbles and boulders		1	G 1			9	○		95
		2	G 2			11	○		94
- Increasing boulder content by 2.7 m depth									
3.00m [92.89m]		3							93
End of Test Pit Practical refusal to excavation at 3.00 m depth Groundwater infiltration was observed the bottom of the test pit		4							92
		5							91

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435639.53 **NORTHING:** 5003762.56 **ELEVATION:** 97.15

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP 3-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.20m [96.95m]									97
GLACIAL TILL: Compact, brown silty sand, some gravel and cobbles, occasional boulders			G 1			13	○		
		1							96
			G 2			10	○		
1.95m [95.20m]		2							95
End of Test Pit Test pit terminated on bedrock surface No groundwater infiltration was observed upon completion of the test pit		3							94
		4							93
		5							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435453.45 **NORTHING:** 5003767.76 **ELEVATION:** 94.94

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP 4-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.25m [94.69m]									
Compact, brown **SILT**, trace clay and sand			G 1			33	○		
1.00m [93.94m]		1							94
GLACIAL TILL: Loose, brown silt, some clay and gravel			G 2			26	○		
2.05m [92.89m]		2							93
End of Test Pit Test pit terminated on bedrock surface Groundwater infiltration was observed at 1.30 m depth		3							92
		4							91
		5							90

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435320.86 **NORTHING:** 5003704.85 **ELEVATION:** 94.65

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP 5-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE											
TOPSOIL 0.20m [94.45m]		0									94
Compact, brown **SILT**, some sand			G 1			25					
1.25m [93.40m]		1									93
End of Test Pit											
Test pit terminated on bedrock surface		2									92
No groundwater infiltration was observed upon completion of the test pit		3									91
		4									90
		5									

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435449.30 **NORTHING:** 5003642.99 **ELEVATION:** 95.32

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP 6-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.10m [95.22m]									
GLACIAL TILL: Compact, brown silty sand, with gravel, cobbles and boulders			G 1			13	○		95
1.05m [94.27m]		1							94
End of Test Pit Test pit terminated on bedrock surface No groundwater infiltration was observed upon completion of the test pit		2							93
		3							92
		4							91
		5							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435565.10 **NORTHING:** 5003574.64 **ELEVATION:** 96.93

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP 7-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.15m [96.78m]		0							96
GLACIAL TILL: Compact, brown silty sand, some gravel and cobbles, occasional boulders		1	G 1			17			95
		2	G 2			12			94
2.75m [94.18m]		3	G 3			12			93
End of Test Pit Test pit terminated on bedrock surface		4							92
		5							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435618.80 **NORTHING:** 5003684.74 **ELEVATION:** 97.72

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP 8-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL									
0.25m [97.47m]									
GLACIAL TILL: Compact, brown silty sand, some gravel, cobbles and boulders		1	G 1			12	○		97
			G 2			11	○		96
		2	G 3			10	○		
2.70m [95.02m]									95
End of Test Pit Test pit terminated on bedrock surface No groundwater infiltration was observed upon completion of the test pit		3							94
		4							93
		5							

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435764.56 **NORTHING:** 5003694.37 **ELEVATION:** 95.94

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP 9-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.15m [95.79m]									
GLACIAL TILL: Compact, brown silty sand, some gravel, cobbles and boulders		1	G 1			11	○		95
			G 2			12	○		
2.40m [93.54m]		2							94
End of Test Pit Test pit terminated on bedrock surface No groundwater infiltration was observed upon completion of the test pit		3							93
		4							92
		5							91

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435773.40 **NORTHING:** 5003504.87 **ELEVATION:** 97.38

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP10-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) / UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.20m [97.18m]									97
GLACIAL TILL: Compact, brown silty sand, some gravel, cobbles and boulders		1	G 1			14	○		
			G 2			12	○		96
2.30m [95.08m]		2							
End of Test Pit Test pit terminated on bedrock surface No groundwater infiltration was observed upon completion of the test pit		3							95
		4							94
		5							93

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435928.90 **NORTHING:** 5003701.30 **ELEVATION:** 94.87

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP11-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.25m [94.62m]									
GLACIAL TILL: Compact, brown silty sand, clay, with gravel, some cobbles, boulders and clay		1	G 1			13	○		94
1.80m [93.07m]			G 2			14	○		
End of Test Pit Test pit terminated on bedrock surface No groundwater infiltration was observed upon completion of the test pit		2 3 4 5							93 92 91 90

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435480.15 **NORTHING:** 5003517.81 **ELEVATION:** 95.92

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP12-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.20m [95.72m]									
GLACIAL TILL: Compact to loose, brown silty sand, some gravel, occasional cobbles and boulders		1	G 1			14	○		95
			G 2			40	○		
- Grey by 1.60 m depth			G 3			7	○		
1.90m [94.02m]									94
End of Test Pit		2							
Test pit terminated on bedrock surface									
Groundwater infiltration was observed at 1.40 m depth		3							93
		4							92
		5							91

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation

5970 and 6038 Ottawa Street, Ottawa, Ontario

COORD. SYS.: UTM ZONE 18 **EASTING:** 435577.21 **NORTHING:** 5003410.85 **ELEVATION:** 96.69

PROJECT: Proposed Mixed-Use Development

ADVANCED BY: Excavator

REMARKS:

DATE: December 16, 2024

FILE NO. : PG4216

HOLE NO. : TP13-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH (kPa) ▲ UNDRAINED SHEAR STRENGTH (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.25m [96.44m]									
GLACIAL TILL: Compact, brown silty sand, some gravel, occasional cobbles and boulders 0.40m [96.29m]			G 1			21			
Weathered **BEDROCK** 0.60m [96.09m]									
End of Test Pit									
Test pit terminated on bedrock surface		1							96
No groundwater infiltration was observed upon completion of the test pit		2							95
		3							94
		4							93
		5							92

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.63
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP 1

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface									
TOPSOIL 0.30						0	94.63		
GLACIAL TILL: Loose to compact, grey-brown silty sand with clay, gravel and cobbles - some rootlest at upper 0.2m depth - grey by 2.0m depth		G	1			1	93.63		
		G	2			2	92.63		
		G	3						
		G	4			3	91.63		
		G	5						▽
End of Test Pit 3.70 (Groundwater infiltration at 3.5m depth)									

Pen. Resist. Blows/0.3m: ● 50 mm Dia. Cone; ○ Water Content %
20 40 60 80

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.42
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP 2

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	94.42		
TOPSOIL									
0.30									
Very stiff, grey-brown **SILTY CLAY**		G	1			1	93.42	>130	
- some rootlets at upper 0.2m depth		G	2					>130	
- grey by 1.0m depth									
2.00		G	3			2	92.42		
GLACIAL TILL: Grey silty clay with sand, gravel, cobbles and boulders		G	4						
		G	5			3	91.42		
		G	6						
3.70		G	7						
End of Test Pit									
(TP dry upon completion)									

Shear Strength (kPa): 20 40 60 80 100
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.48
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. **PG4216**
HOLE NO. **TP 3**

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	94.48		
TOPSOIL 0.30									
Very stiff, brown **SILTY CLAY**		G	1			1	93.48	>130	
		G	2						
- grey by 1.6m depth		G	3			2	92.48		
		G	4						
2.50									
GLACIAL TILL: Grey silty clay with sand, gravel, cobbles and boulders		G	5			3	91.48		
		G	6						
3.50									
End of Test Pit									
(Water infiltration at base of test pit)									

Pen. Resist. Blows/0.3m: 20 40 60 80
Water Content %: 20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 93.63
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP 4

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	93.63	20 40 60 80	
TOPSOIL									
0.30									
		G	1					>130	
		G	2			1	92.63	>130	▽
Very stiff, brown **SILTY CLAY**		G	3					>130	
		G	4			2	91.63		
		G	5						
- grey by 2.8m depth		G	6			3	90.63		
		G	7						
3.70									
End of Test Pit									
(Groundwater infiltration at 1.0m depth)									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.28
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. **PG4216**
HOLE NO. **TP 5**

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	94.28		
TOPSOIL									
0.30									
		G	1					>130	
Very stiff, brown **SILTY CLAY**		G	2			1	93.28	>130	▽
- grey-brown by 1.0m depth		G	3						
- grey by 1.8m depth		G	4			2	92.28		
		G	5						
		G	6			3	91.28		
3.50		G	7						
End of Test Pit Practical refusal to excavation at 3.50m depth (Groundwater infiltration at 1.2m depth)									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

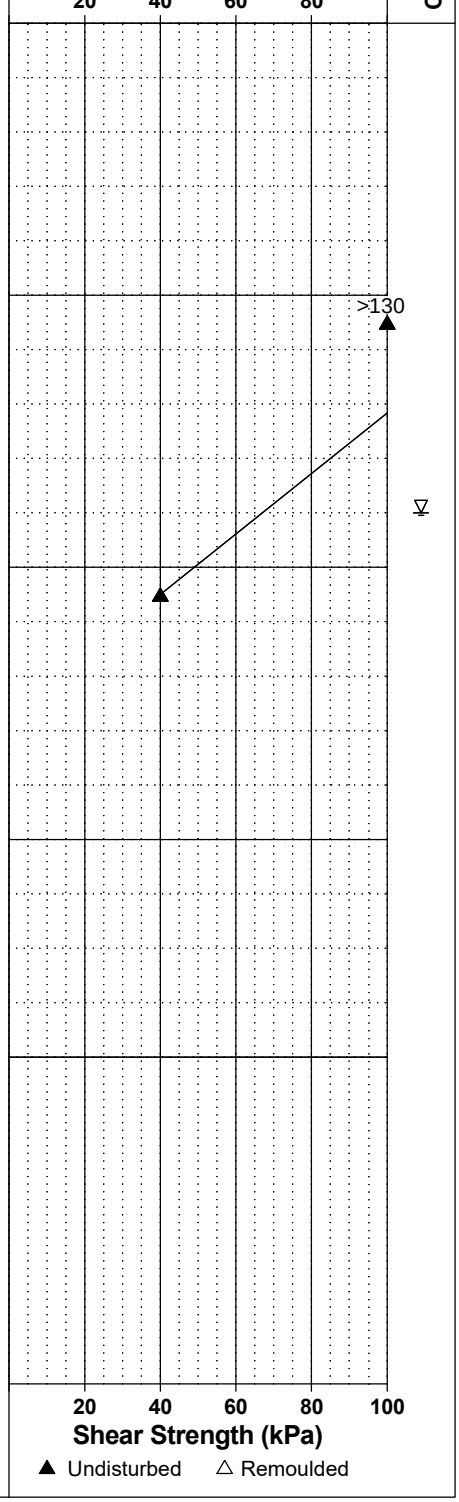
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.03
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP 6

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
Ground Surface						0	94.03
TOPSOIL 0.30							
Very stiff to stiff, brown **SILTY CLAY**		G	1				
		G	2			1	93.03
		G	3				
- firm and grey by 1.8m depth		G	4			2	92.03
2.80		G	5				
GLACIAL TILL: Grey silty clay with sand, gravel, cobbles and boulders		G	6			3	91.03
3.80		G	7				
End of Test Pit Practical refusal to excavation at 3.80m depth (Groundwater infiltration at 1.8m depth)							



PIEZOMETER CONSTRUCTION

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.46
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP 7

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	94.46	20 40 60 80	
TOPSOIL 0.30		G	1						
Very stiff, brown **SILTY CLAY**		G	2			1	93.46		
		G	3						▽
- grey and with sand by 1.8m depth		G	4			2	92.46		
		G	5						
3.00 Grey **CLAYEY SILT** 3.20		G	6			3	91.46		
GLACIAL TILL: Grey silty clay with sand, gravel, cobbles and boulders 3.70		G	7						
End of Test Pit									
Practical refusal to excavation at 3.70m depth									
(Groundwater infiltration at 1.8m depth)									

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.53
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP 8

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	94.53		
TOPSOIL 0.30		G	1						
Very stiff, brown **SILTY CLAY**						1	93.53		
- grey-brown by 0.8m depth		G	2						
- grey by 1.4m depth		G	3						▽
		G	4			2	92.53		
2.80		G	5						
GLACIAL TILL: Grey silty clay with sand, gravel, cobbles and boulders		G	6			3	91.53		
3.80		G	7						
End of Test Pit									
Practical refusal to excavation at 3.80m depth									
(Groundwater infiltration at 1.9m depth)									

Pen. Resist. Blows/0.3m: ● 50 mm Dia. Cone; ○ Water Content %
20 40 60 80

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

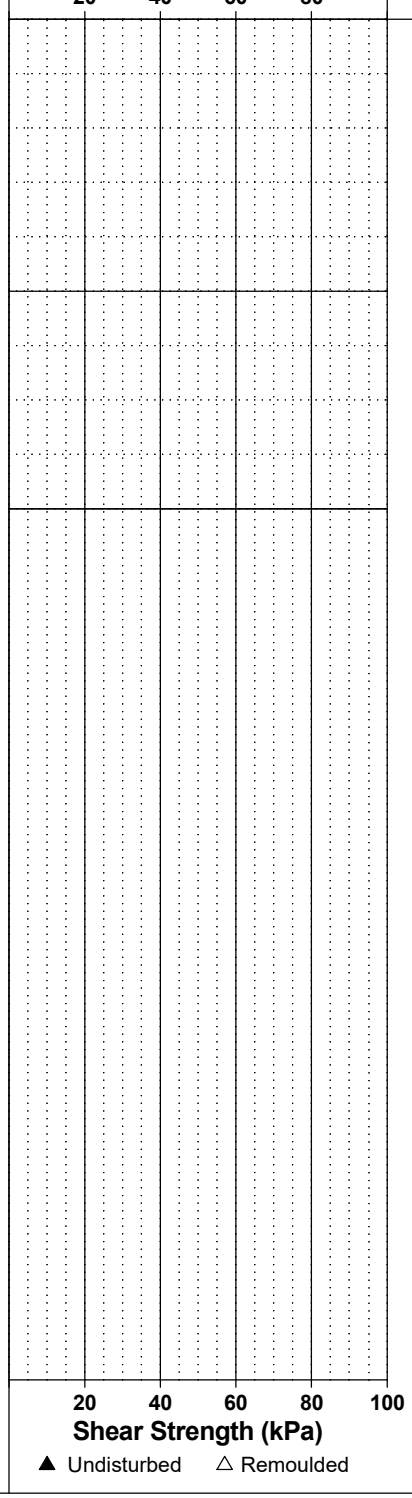
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 97.18
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP 9

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	97.18		
TOPSOIL 0.30									
Brown **SILTY SAND** with rootlets 0.60									
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders, some clay		G	1			1	96.18		
1.80 End of Test Pit									
Practical refusal to excavation at 1.80m depth									
(TP dry upon completion)									



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

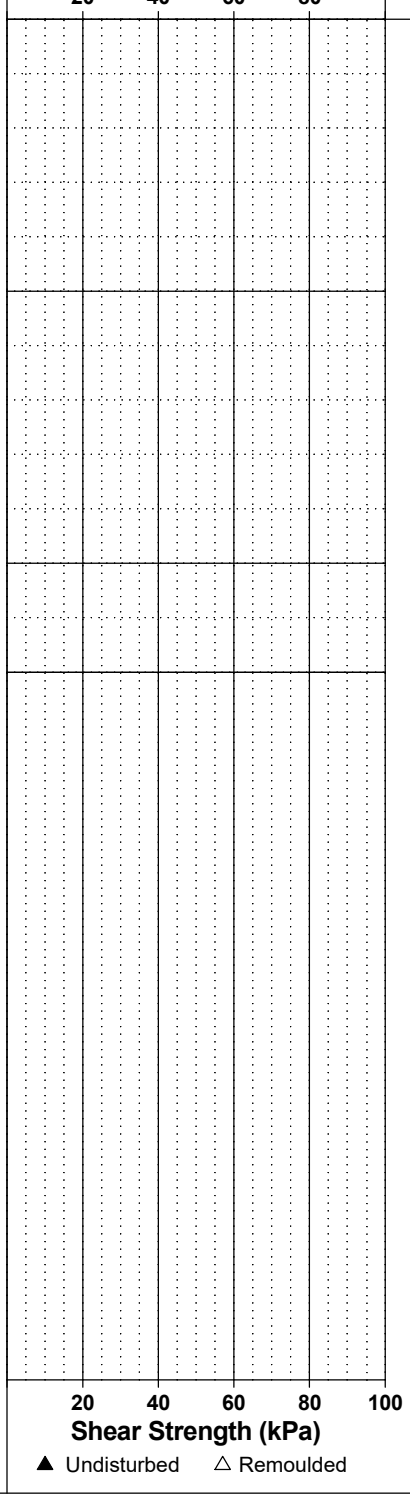
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 97.48
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP 9A

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	97.48		
TOPSOIL 0.30									
Brown **SILTY SAND,** trace rootlets 0.60									
GLACIAL TILL: Light brown to grey silty sand with clay, gravel, cobbles and boulders						1	96.48		
						2	95.48		
2.40 End of Test Pit Practical refusal to excavation at 2.40m depth (TP dry upon completion)									



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

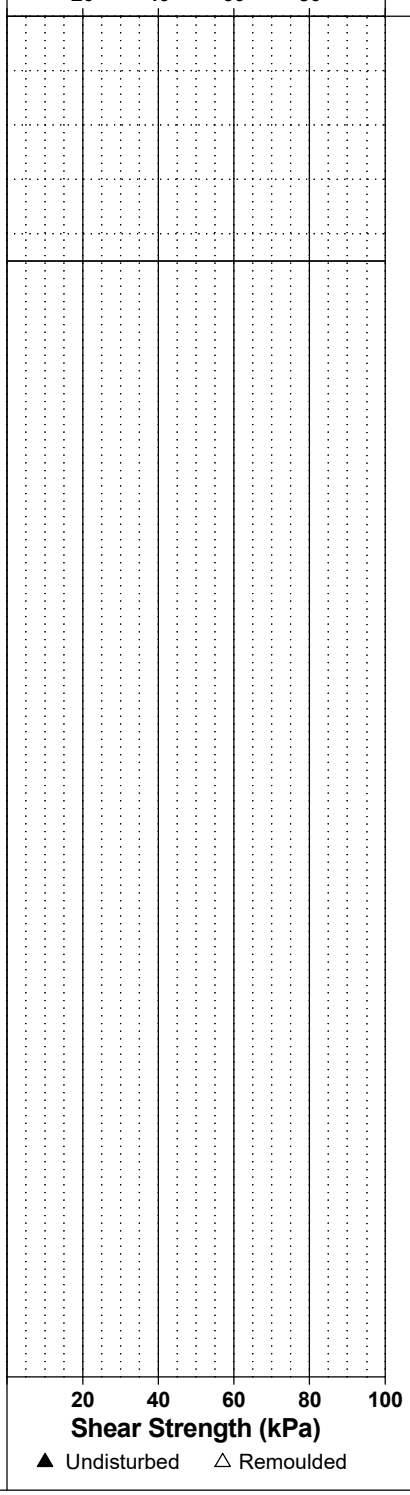
SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 95.63
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP10

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	95.63		
TOPSOIL 0.35									
Very stiff, red-brown **SILTY CLAY,** some sand, trace organics 0.65		G	1						
GLACIAL TILL: Brown silty sand with gravel and sand 0.90		G	2						
End of Test Pit									
Practical refusal to excavation at 0.90m depth									
(TP dry upon completion)									



patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Development - Eagleson Road at Ottawa St.
Ottawa, Ontario

EASTING: **NORTHING:** **ELEVATION:** 94.45
DATUM: Ground surface elevations were referenced to a geodetic datum.
REMARKS:
BORINGS BY: Hydraulic Shovel **DATE:** 2019 February 27

FILE NO. PG4216
HOLE NO. TP11

SAMPLE DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	PIEZOMETER CONSTRUCTION
Ground Surface						0	94.45		
FILL: Sand with cobbles									
0.25									
GLACIAL TILL: Loose to compact, grey-brown silty sand with clay, gravel, cobbles and boulders		G	1			1	93.45		
		G	2						
		G	3			2	92.45		
		G	4						
2.80									
End of Test Pit									
Practical refusal to excavation at 2.80m depth									
(TP dry upon completion)									

Pen. Resist. Blows/0.3m: 20 40 60 80
Water Content %: 20 40 60 80
Shear Strength (kPa): 20 40 60 80 100
▲ Undisturbed △ Remoulded

SYMBOLS AND TERMS

SOIL DESCRIPTION

Behavioural properties, such as structure and strength, take precedence over particle gradation in describing soils. Terminology describing soil structure are as follows:

Desiccated	-	having visible signs of weathering by oxidation of clay minerals, shrinkage cracks, etc.
Fissured	-	having cracks, and hence a blocky structure.
Varved	-	composed of regular alternating layers of silt and clay.
Stratified	-	composed of alternating layers of different soil types, e.g. silt and sand or silt and clay.
Well-Graded	-	Having wide range in grain sizes and substantial amounts of all intermediate particle sizes (see Grain Size Distribution).
Uniformly-Graded	-	Predominantly of one grain size (see Grain Size Distribution).

The standard terminology to describe the strength of cohesionless soils is the relative density, usually inferred from the results of the Standard Penetration Test (SPT) 'N' value. The SPT N value is the number of blows of a 63.5 kg hammer, falling 760 mm, required to drive a 51 mm O.D. split spoon sampler 300 mm into the soil after an initial penetration of 150 mm.

Relative Density	'N' Value	Relative Density %
Very Loose	<4	<15
Loose	4-10	15-35
Compact	10-30	35-65
Dense	30-50	65-85
Very Dense	>50	>85

The standard terminology to describe the strength of cohesive soils is the consistency, which is based on the undisturbed undrained shear strength as measured by the in situ or laboratory vane tests, penetrometer tests, unconfined compression tests, or occasionally by Standard Penetration Tests.

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

SYMBOLS AND TERMS (continued)

SOIL DESCRIPTION (continued)

Cohesive soils can also be classified according to their “sensitivity”. The sensitivity is the ratio between the undisturbed undrained shear strength and the remoulded undrained shear strength of the soil.

Terminology used for describing soil strata based upon texture, or the proportion of individual particle sizes present is provided on the Textural Soil Classification Chart at the end of this information package.

ROCK DESCRIPTION

The structural description of the bedrock mass is based on the Rock Quality Designation (RQD).

The RQD classification is based on a modified core recovery percentage in which all pieces of sound core over 100 mm long are counted as recovery. The smaller pieces are considered to be a result of closely-spaced discontinuities (resulting from shearing, jointing, faulting, or weathering) in the rock mass and are not counted. RQD is ideally determined from NXL size core. However, it can be used on smaller core sizes, such as BX, if the bulk of the fractures caused by drilling stresses (called “mechanical breaks”) are easily distinguishable from the normal in situ fractures.

RQD %	ROCK QUALITY
90-100	Excellent, intact, very sound
75-90	Good, massive, moderately jointed or sound
50-75	Fair, blocky and seamy, fractured
25-50	Poor, shattered and very seamy or blocky, severely fractured
0-25	Very poor, crushed, very severely fractured

SAMPLE TYPES

SS	-	Split spoon sample (obtained in conjunction with the performing of the Standard Penetration Test (SPT))
TW	-	Thin wall tube or Shelby tube
PS	-	Piston sample
AU	-	Auger sample or bulk sample
WS	-	Wash sample
RC	-	Rock core sample (Core bit size AXT, BXL, etc.). Rock core samples are obtained with the use of standard diamond drilling bits.
P	-	Split-spoon pushed through sampling interval which was also tested using a vane apparatus and resulted in a obtaining a sample of disturbed material (i.e., blow-counts not reflective of undisturbed, in-situ soils and not considered relevant)

SYMBOLS AND TERMS (continued)

GRAIN SIZE DISTRIBUTION

MC%	-	Natural moisture content or water content of sample, %
LL	-	Liquid Limit, % (water content above which soil behaves as a liquid)
PL	-	Plastic limit, % (water content above which soil behaves plastically)
PI	-	Plasticity index, % (difference between LL and PL)
Dxx	-	Grain size which xx% of the soil, by weight, is of finer grain sizes These grain size descriptions are not used below 0.075 mm grain size
D10	-	Grain size at which 10% of the soil is finer (effective grain size)
D60	-	Grain size at which 60% of the soil is finer
Cc	-	Concavity coefficient = $(D30)^2$ / (D10 x D60)
Cu	-	Uniformity coefficient = D60 / D10

Cc and Cu are used to assess the grading of sands and gravels:
Well-graded gravels have: $1 < Cc < 3$ and $Cu > 4$
Well-graded sands have: $1 < Cc < 3$ and $Cu > 6$
Sands and gravels not meeting the above requirements are poorly-graded or uniformly-graded.
Cc and Cu are not applicable for the description of soils with more than 10% silt and clay
(more than 10% finer than 0.075 mm or the #200 sieve)

CONSOLIDATION TEST

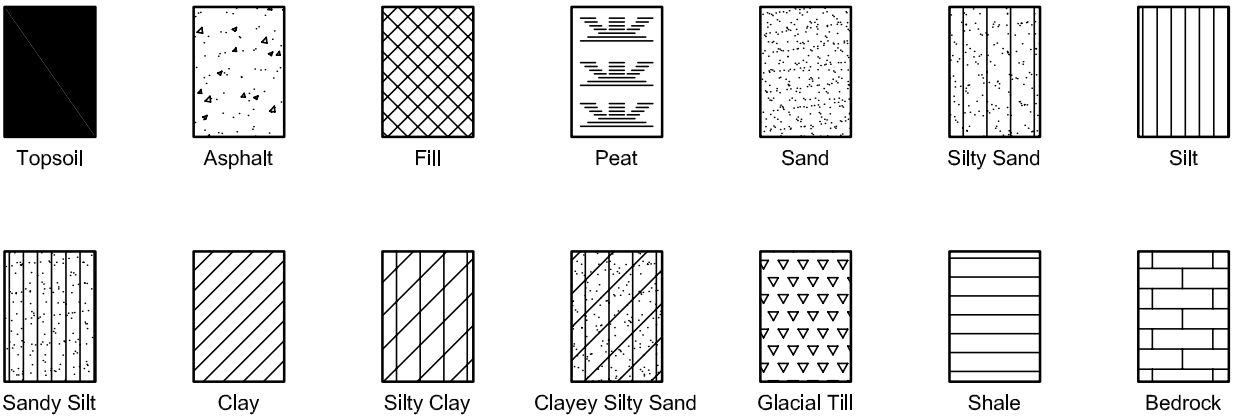
p'_o	-	Present effective overburden pressure at sample depth
p'_c	-	Preconsolidation pressure of (maximum past pressure on) sample
Ccr	-	Recompression index (in effect at pressures below p'_c)
Cc	-	Compression index (in effect at pressures above p'_c)
OC Ratio		Overconsolidaton ratio = p'_c / p'_o
Void Ratio		Initial sample void ratio = volume of voids / volume of solids
Wo	-	Initial water content (at start of consolidation test)

PERMEABILITY TEST

k	-	Coefficient of permeability or hydraulic conductivity is a measure of the ability of water to flow through the sample. The value of k is measured at a specified unit weight for (remoulded) cohesionless soil samples, because its value will vary with the unit weight or density of the sample during the test.

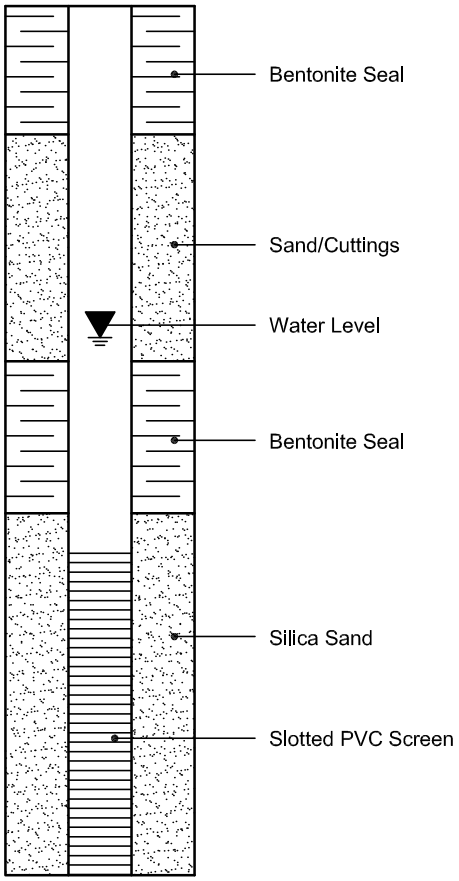
SYMBOLS AND TERMS (continued)

STRATA PLOT

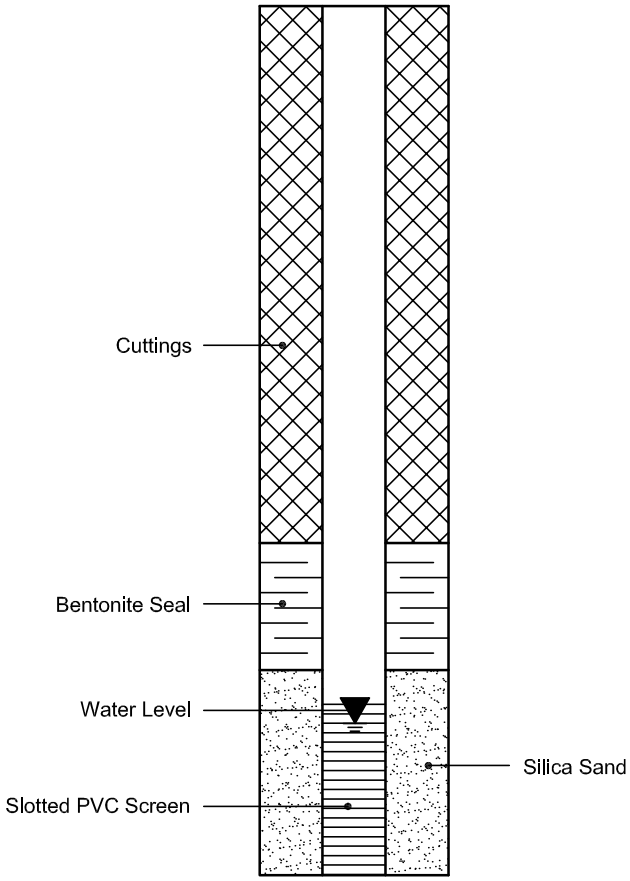


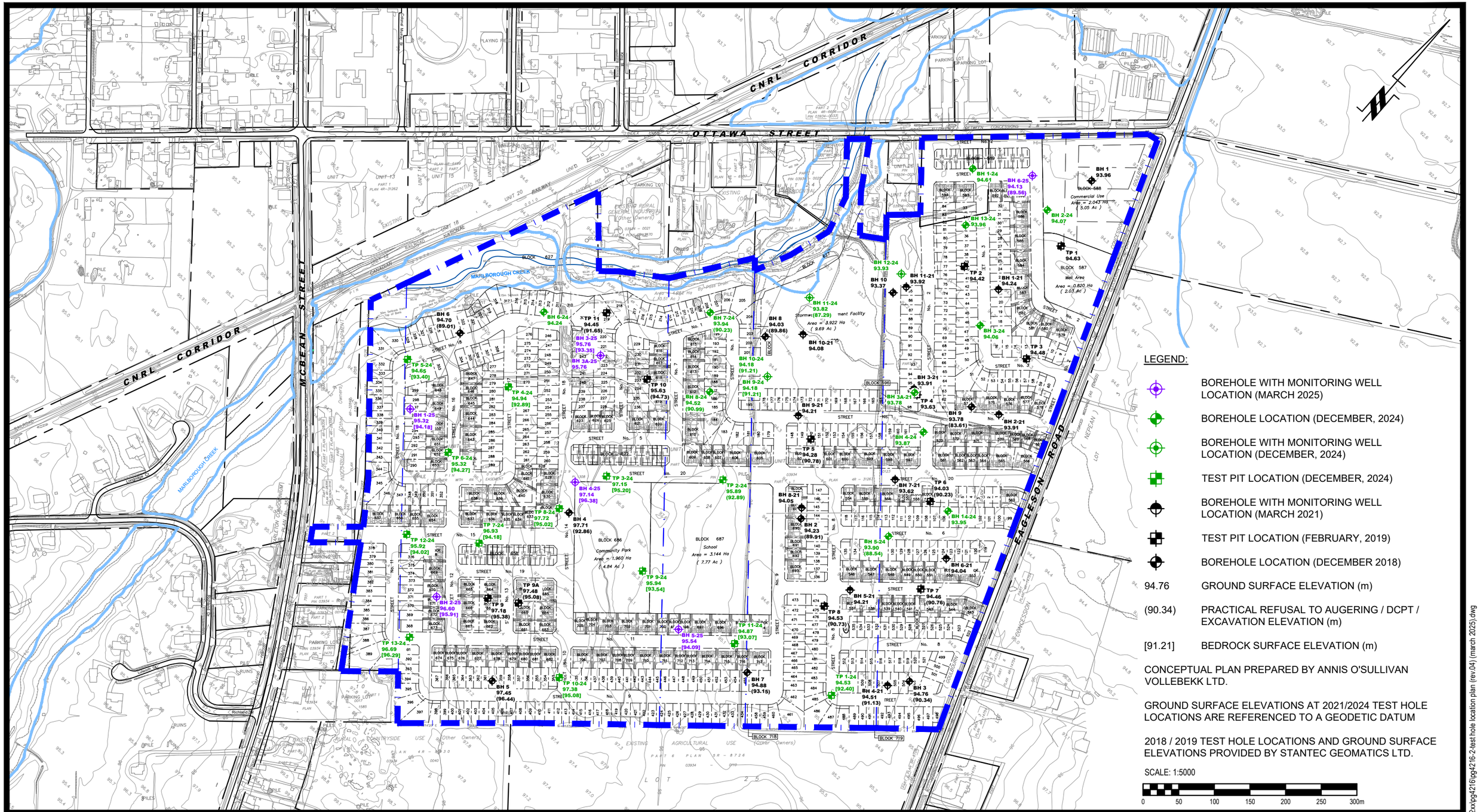
MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION





LEGEND:

- BOREHOLE WITH MONITORING WELL LOCATION (MARCH 2025)
- BOREHOLE LOCATION (DECEMBER, 2024)
- BOREHOLE WITH MONITORING WELL LOCATION (DECEMBER, 2024)
- TEST PIT LOCATION (DECEMBER, 2024)
- BOREHOLE WITH MONITORING WELL LOCATION (MARCH 2021)
- TEST PIT LOCATION (FEBRUARY, 2019)
- BOREHOLE LOCATION (DECEMBER 2018)
- 94.76 GROUND SURFACE ELEVATION (m)
- (90.34) PRACTICAL REFUSAL TO AUGERING / DCPT / EXCAVATION ELEVATION (m)
- [91.21] BEDROCK SURFACE ELEVATION (m)

CONCEPTUAL PLAN PREPARED BY ANNIS O'SULLIVAN VOLLEBEKK LTD.

GROUND SURFACE ELEVATIONS AT 2021/2024 TEST HOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM

2018 / 2019 TEST HOLE LOCATIONS AND GROUND SURFACE ELEVATIONS PROVIDED BY STANTEC GEOMATICS LTD.

SCALE: 1:5000

0 50 100 150 200 250 300m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
4	ADDED 2024/2025 BOREHOLES AND 2024 TEST PITS	03/14/2025	FC
3	ADDED CONCEPTUAL PLAN	05/12/2024	FC
2	BH 1-21 TO BH 11-21 ADDED	05/04/2021	OC
1	NEW TEST PITS ADDED	28/03/2019	DP

TAMARACK (RICHMOND) CORPORATION
SUPPLEMENTAL GEOTECHNICAL INVESTIGATION
PROPOSED MIXED-USE DEVELOPMENT
5970 AND 6038 OTTAWA STREET
OTTAWA, ONTARIO

Title:
TEST HOLE LOCATION PLAN

Scale: 1:5000	Date: 01/2019
Drawn by: MPG	Report No.: PG4216-1
Checked by: KP	Dwg. No.: PG4216-2
Approved by: FA	Revision No.: 4

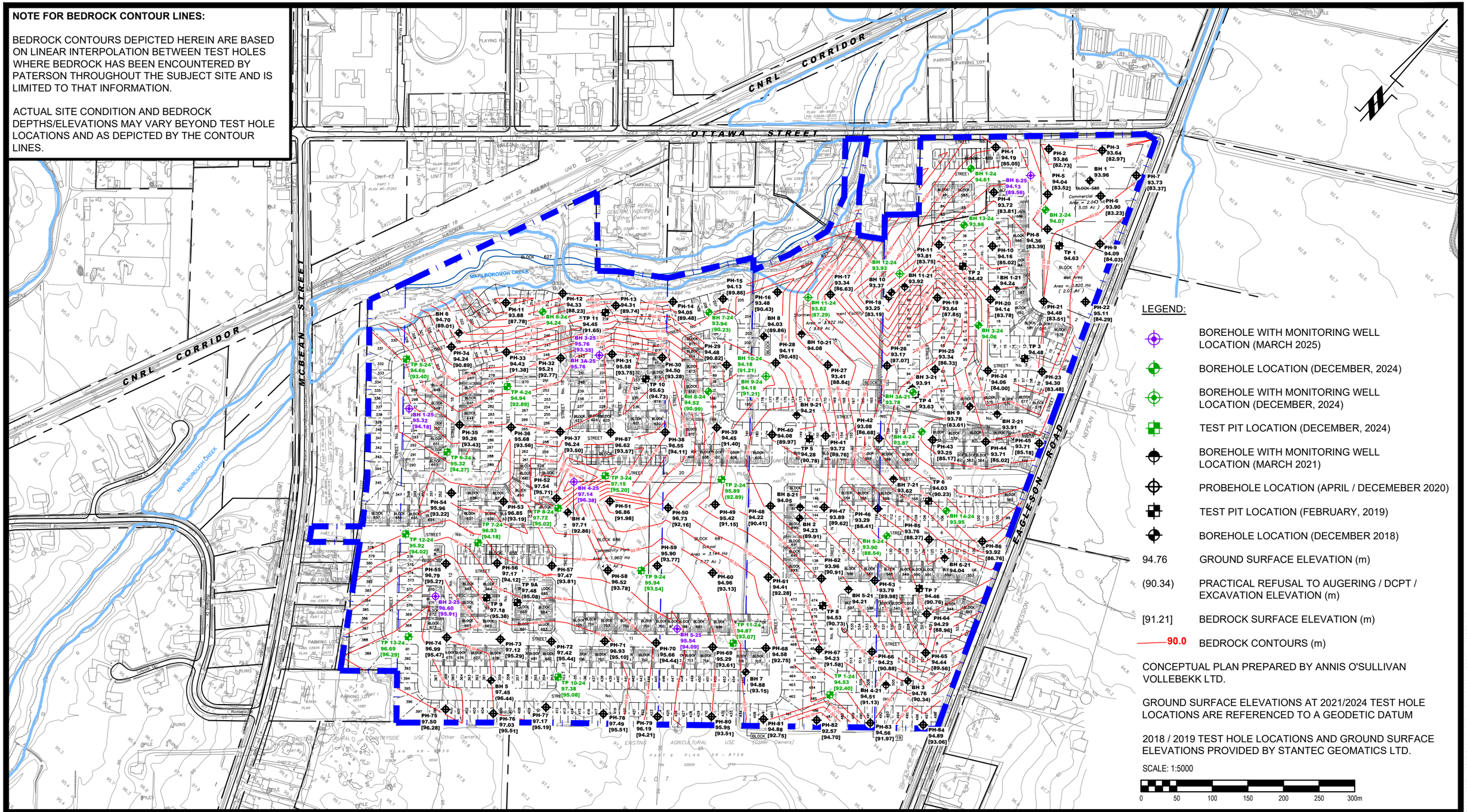
p:\autocad drawings\geotechnical\pg42xx\pg4216\pg4216-2-test hole location plan (rev.04) (march 2025).dwg

11x17

NOTE FOR BEDROCK CONTOUR LINES:

BEDROCK CONTOURS DEPICTED HEREIN ARE BASED ON LINEAR INTERPOLATION BETWEEN TEST HOLES WHERE BEDROCK HAS BEEN ENCOUNTERED BY PATERSON THROUGHOUT THE SUBJECT SITE AND IS LIMITED TO THAT INFORMATION.

ACTUAL SITE CONDITION AND BEDROCK DEPTHS/ELEVATIONS MAY VARY BEYOND TEST HOLE LOCATIONS AND AS DEPICTED BY THE CONTOUR LINES.



LEGEND:

BOREHOLE WITH MONITORING WELL LOCATION (MARCH 2025)

BOREHOLE LOCATION (DECEMBER, 2024)

BOREHOLE WITH MONITORING WELL LOCATION (DECEMBER, 2024)

TEST PIT LOCATION (DECEMBER, 2024)

BOREHOLE WITH MONITORING WELL LOCATION (MARCH 2021)

PROBEHOLE LOCATION (APRIL / DECEMEBER 2020)

TEST PIT LOCATION (FEBRUARY, 2019)

BOREHOLE LOCATION (DECEMBER 2018)

94.76 GROUND SURFACE ELEVATION (m)

(90.34) PRACTICAL REFUSAL TO AUGERING / DCPT / EXCAVATION ELEVATION (m)

[91.21] BEDROCK SURFACE ELEVATION (m)

90.0 BEDROCK CONTOURS (m)

CONCEPTUAL PLAN PREPARED BY ANNIS O'SULLIVAN VOLLEBEKK LTD.

GROUND SURFACE ELEVATIONS AT 2021/2024 TEST HOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM

2018 / 2019 TEST HOLE LOCATIONS AND GROUND SURFACE ELEVATIONS PROVIDED BY STANTEC GEOMATICS LTD.

SCALE: 1:5000

0 50 100 150 200 250 300m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
3	ADDED 2024/2025 BOREHOLES AND 2024 TEST PITS UPDATED BEDROCK CONTOURS	03/14/2025	FC
2	ADDED CONCEPTUAL PLAN	05/12/2024	FC
1	BH 1-21 TO BH 11-21 ADDED	05/04/2021	OC

TAMARACK (RICHMOND) CORPORATION
SUPPLEMENTAL GEOTECHNICAL INVESTIGATION
PROPOSED MIXED-USE DEVELOPMENT
5970 AND 6038 OTTAWA STREET
OTTAWA, ONTARIO

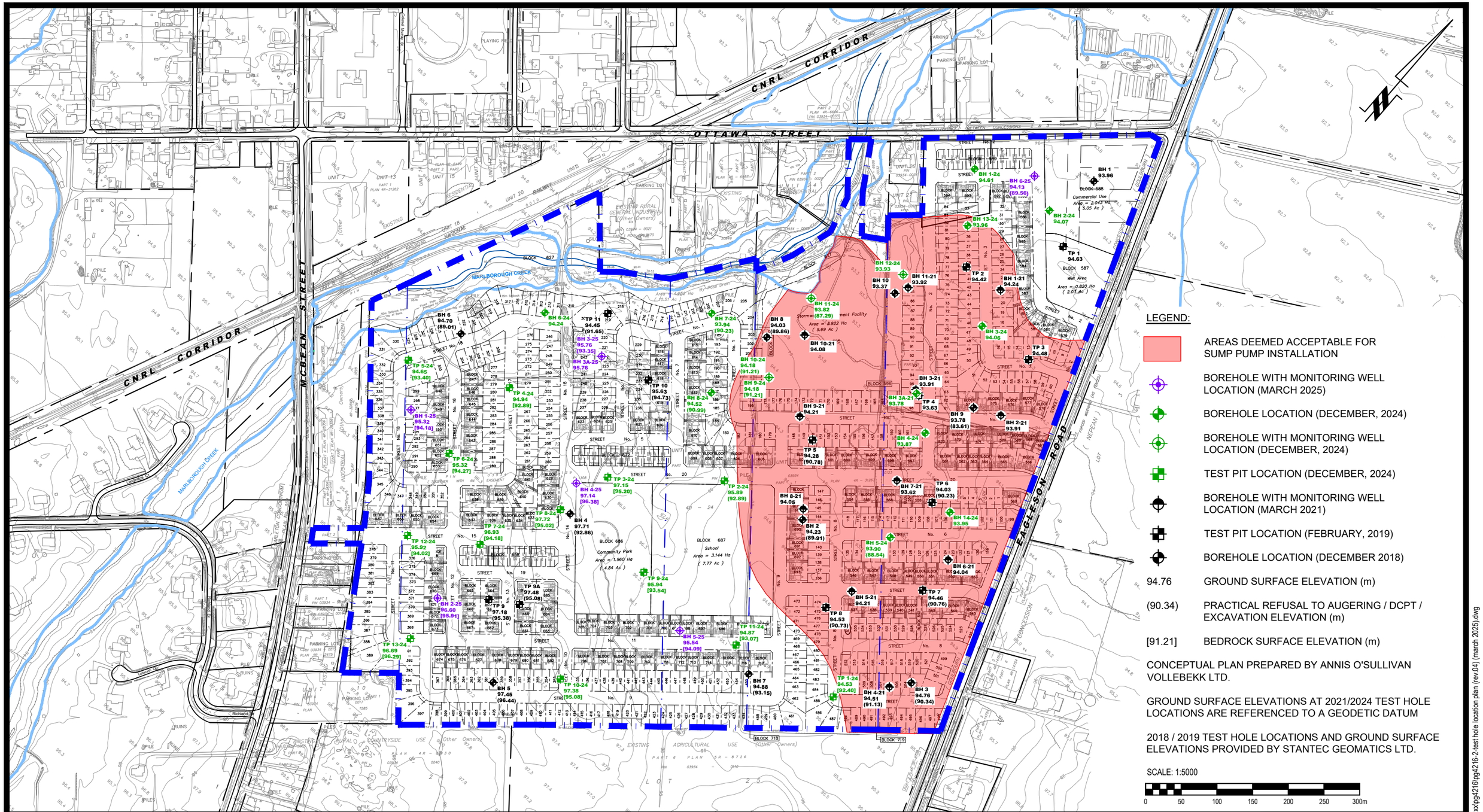
Title:

BEDROCK CONTOUR PLAN

Scale: 1:5000	Date: 02/2020
Drawn by: RCG	Report No.: PG4216
Checked by: KP	Dwg. No.: PG4216-4
Approved by: FA	Revision No.: 3

p:\autocad drawings\geotechnical\pg4xx\xpg4216\pg4216-2-test hole location plan (rev.04) (march 2025).dwg

11x17



LEGEND:

- AREAS DEEMED ACCEPTABLE FOR SUMP PUMP INSTALLATION
- BOREHOLE WITH MONITORING WELL LOCATION (MARCH 2025)
- BOREHOLE LOCATION (DECEMBER, 2024)
- BOREHOLE WITH MONITORING WELL LOCATION (DECEMBER, 2024)
- TEST PIT LOCATION (DECEMBER, 2024)
- BOREHOLE WITH MONITORING WELL LOCATION (MARCH 2021)
- TEST PIT LOCATION (FEBRUARY, 2019)
- BOREHOLE LOCATION (DECEMBER 2018)

94.76 GROUND SURFACE ELEVATION (m)

(90.34) PRACTICAL REFUSAL TO AUGERING / DCPT / EXCAVATION ELEVATION (m)

[91.21] BEDROCK SURFACE ELEVATION (m)

CONCEPTUAL PLAN PREPARED BY ANNIS O'SULLIVAN VOLLEBEKK LTD.

GROUND SURFACE ELEVATIONS AT 2021/2024 TEST HOLE LOCATIONS ARE REFERENCED TO A GEODETIC DATUM

2018 / 2019 TEST HOLE LOCATIONS AND GROUND SURFACE ELEVATIONS PROVIDED BY STANTEC GEOMATICS LTD.

SCALE: 1:5000

0 50 100 150 200 250 300m

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
3	ADDED 2024/2025 BOREHOLES AND 2024 TEST PITS	03/14/2025	FC
2	ADDED CONCEPTUAL PLAN	05/12/2024	FC
1	BH 1-21 TO BH 11-21 ADDED	05/04/2021	OC

TAMARACK (RICHMOND) CORPORATION
SUPPLEMENTAL GEOTECHNICAL INVESTIGATION
PROPOSED MIXED-USE DEVELOPMENT
5970 AND 6038 OTTAWA STREET
OTTAWA, ONTARIO

Title:

DESIGNATED SILTY CLAY AREAS

Scale: 1:5000	Date: 02/2020
Drawn by: RCG	Report No.: PG4216-1
Checked by: KP	Dwg. No.: PG4216-5
Approved by: FA	Revision No.: 3

p:\autocad drawings\geotechnical\pg42xx\pg4216\pg4216-2-test hole location plan (rev.04) (march 2025).dwg

11x17

Figure 1: BH 1-21 - Groundwater Monitoring Levels vs Precipitation Data

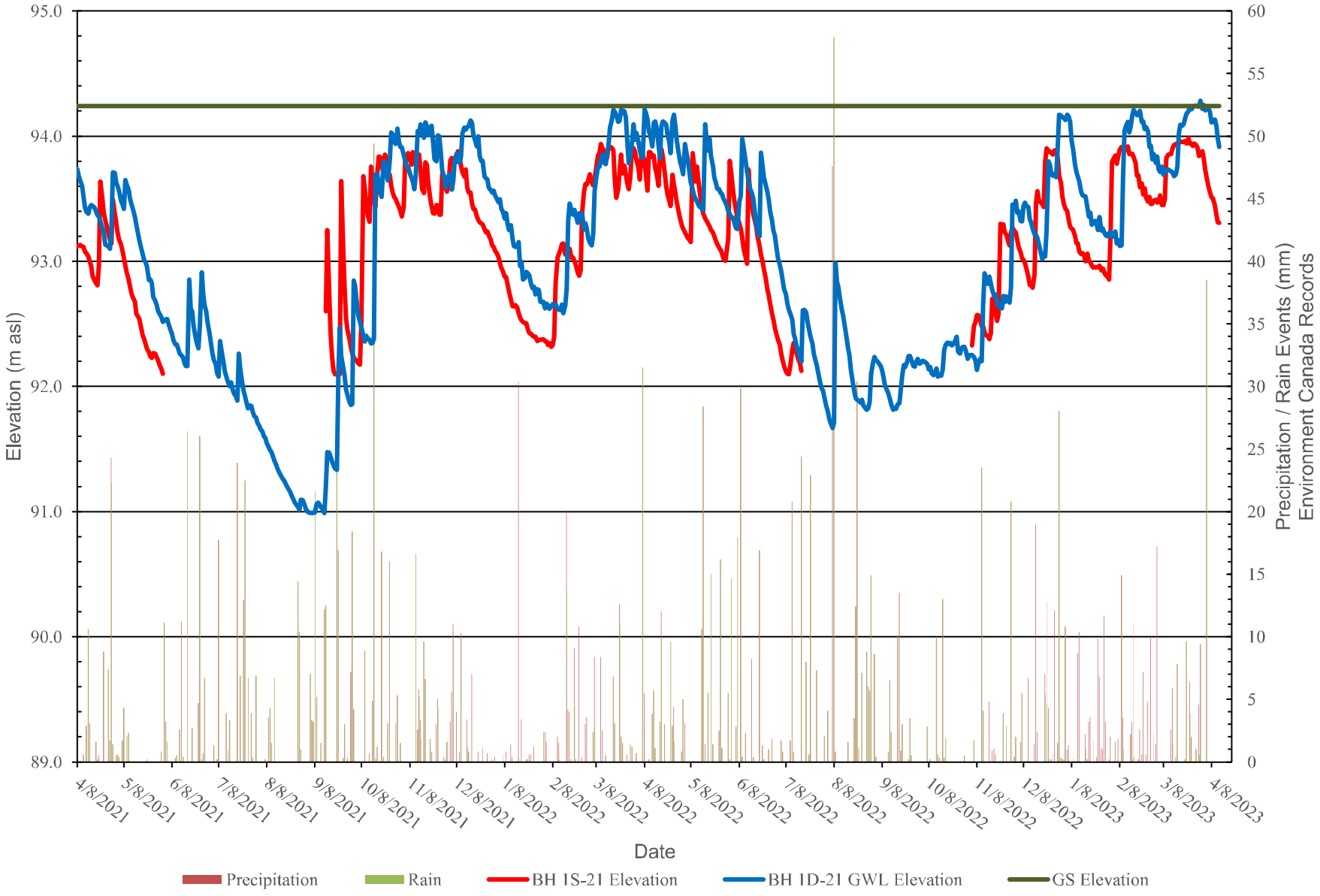


Figure 2: BH 2-21 - Groundwater Monitoring Levels vs Precipitation Data

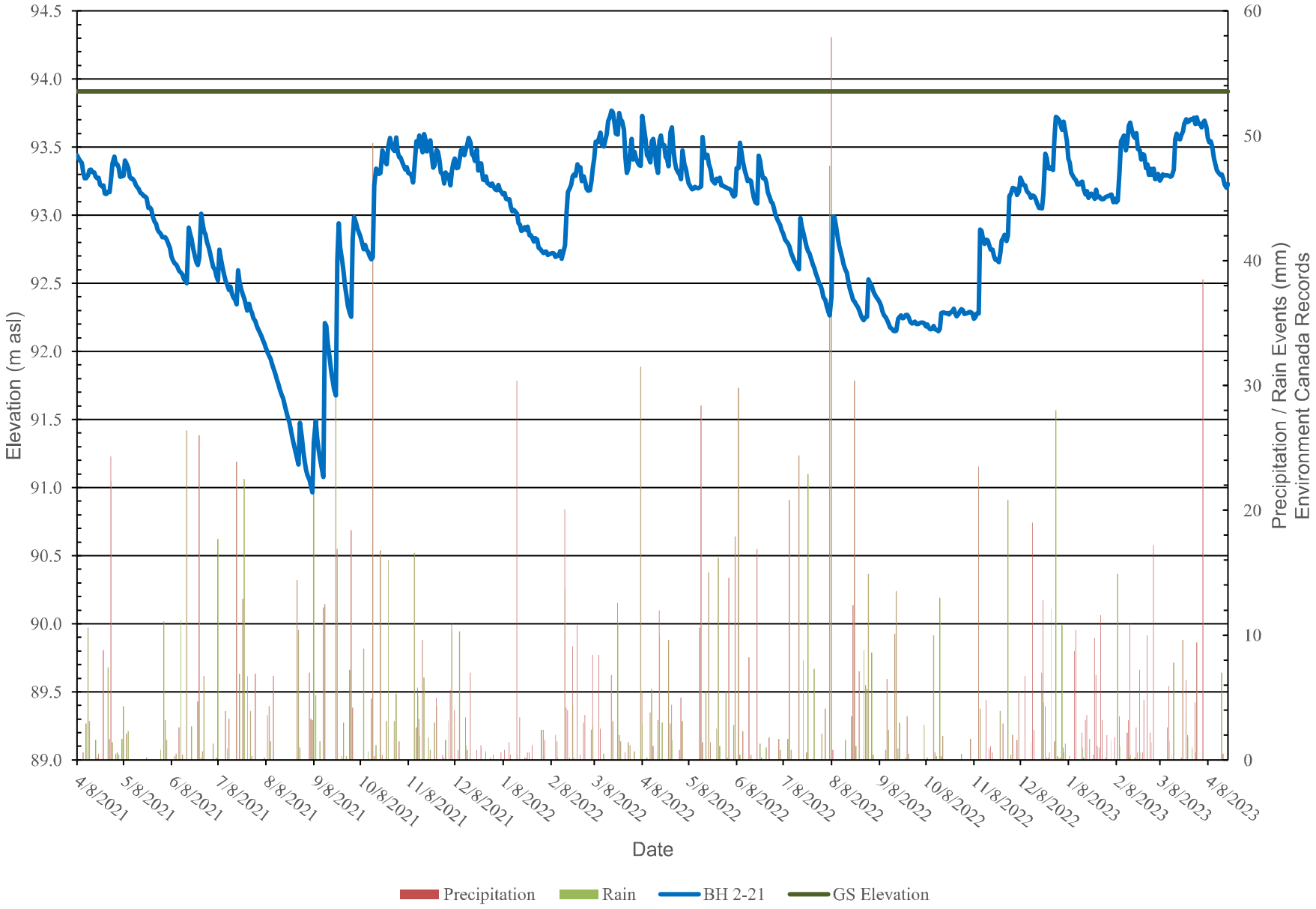


Figure 3: BH 3-21 - Groundwater Monitoring Levels vs Precipitation Data

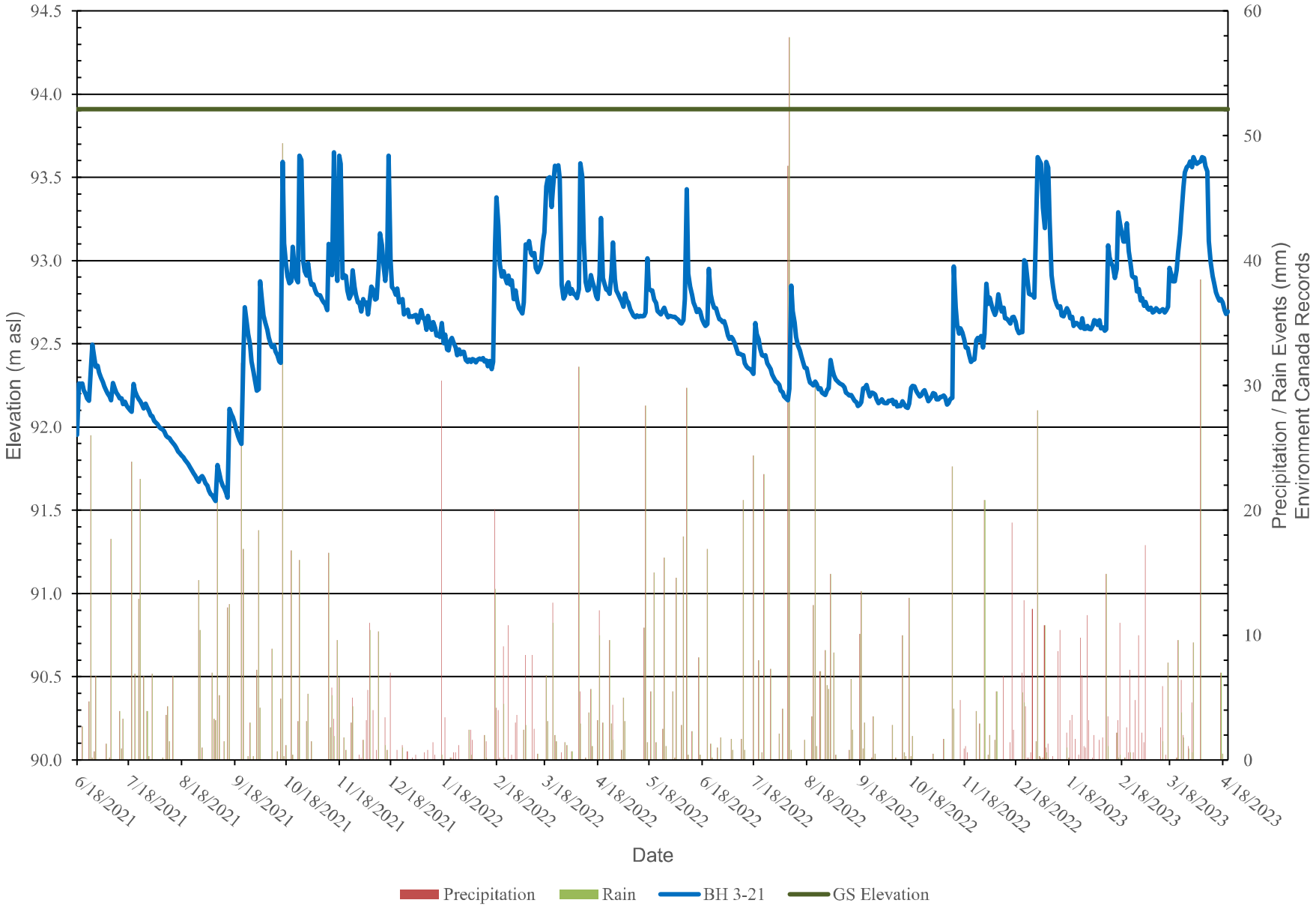


Figure 4: BH 4-21 - Groundwater Monitoring Levels vs Precipitation Data

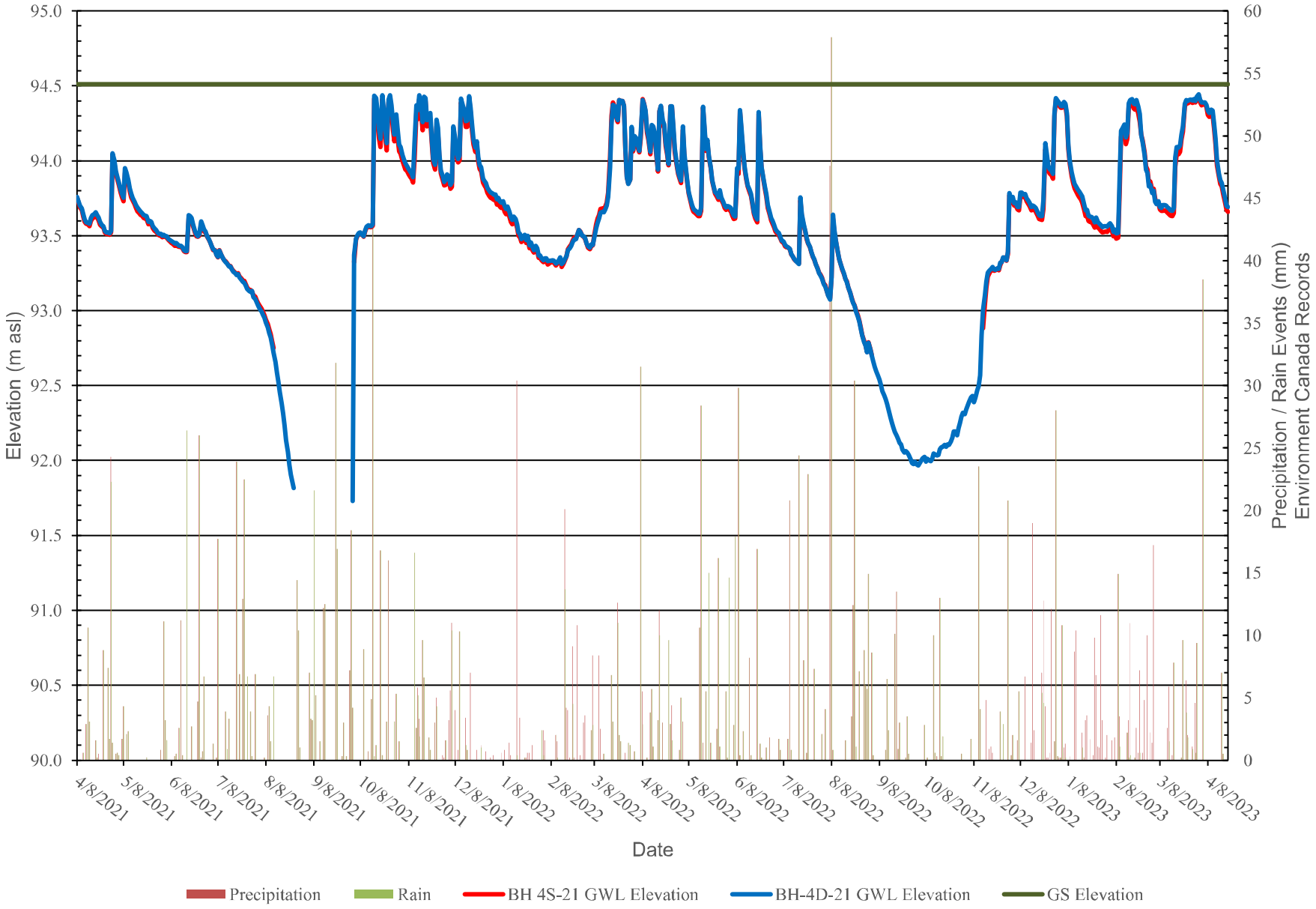


Figure 5: BH 5-21 - Groundwater Monitoring Levels vs Precipitation Data

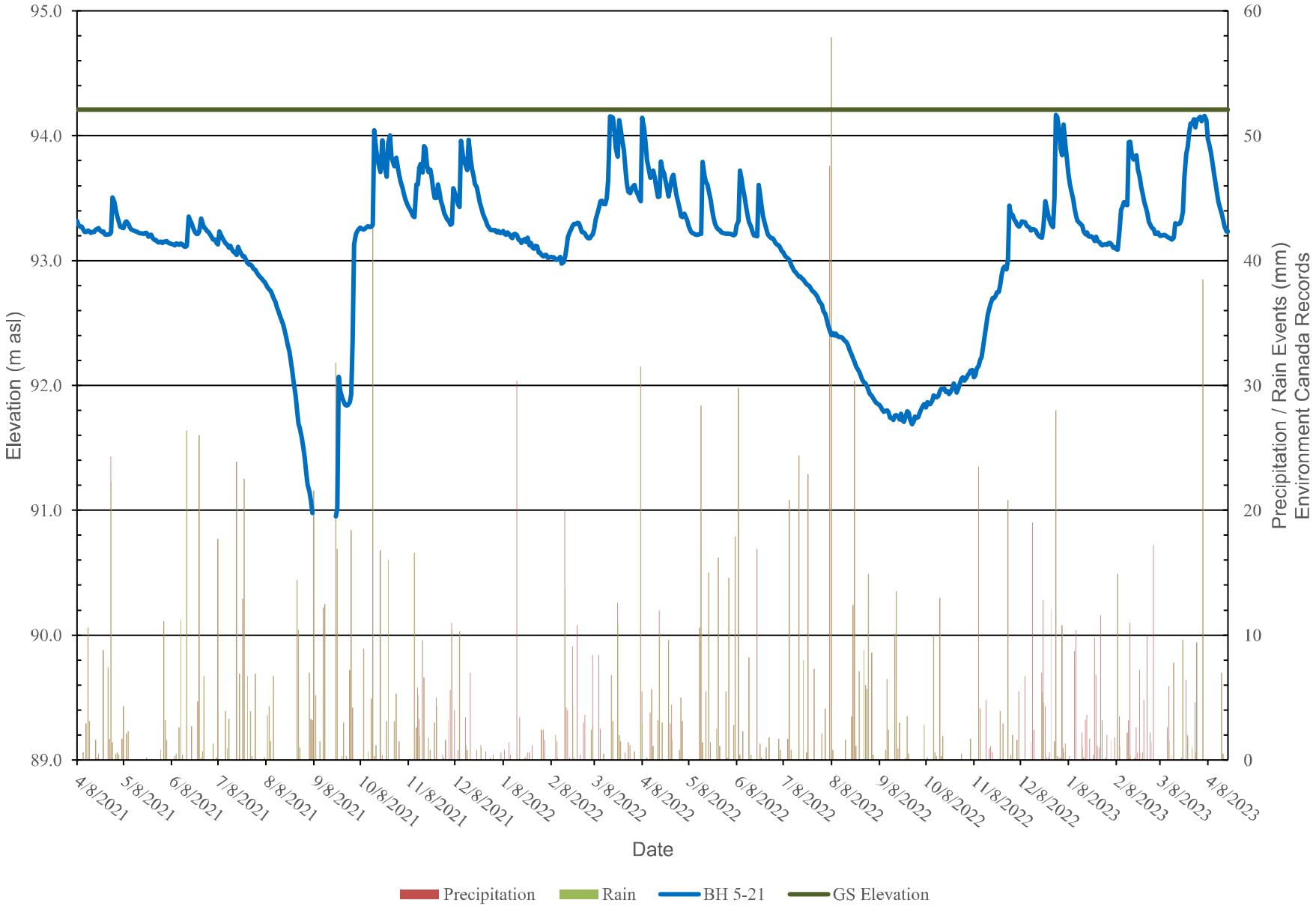


Figure 6: BH 6-21 - Groundwater Monitoring Levels vs Precipitation Data

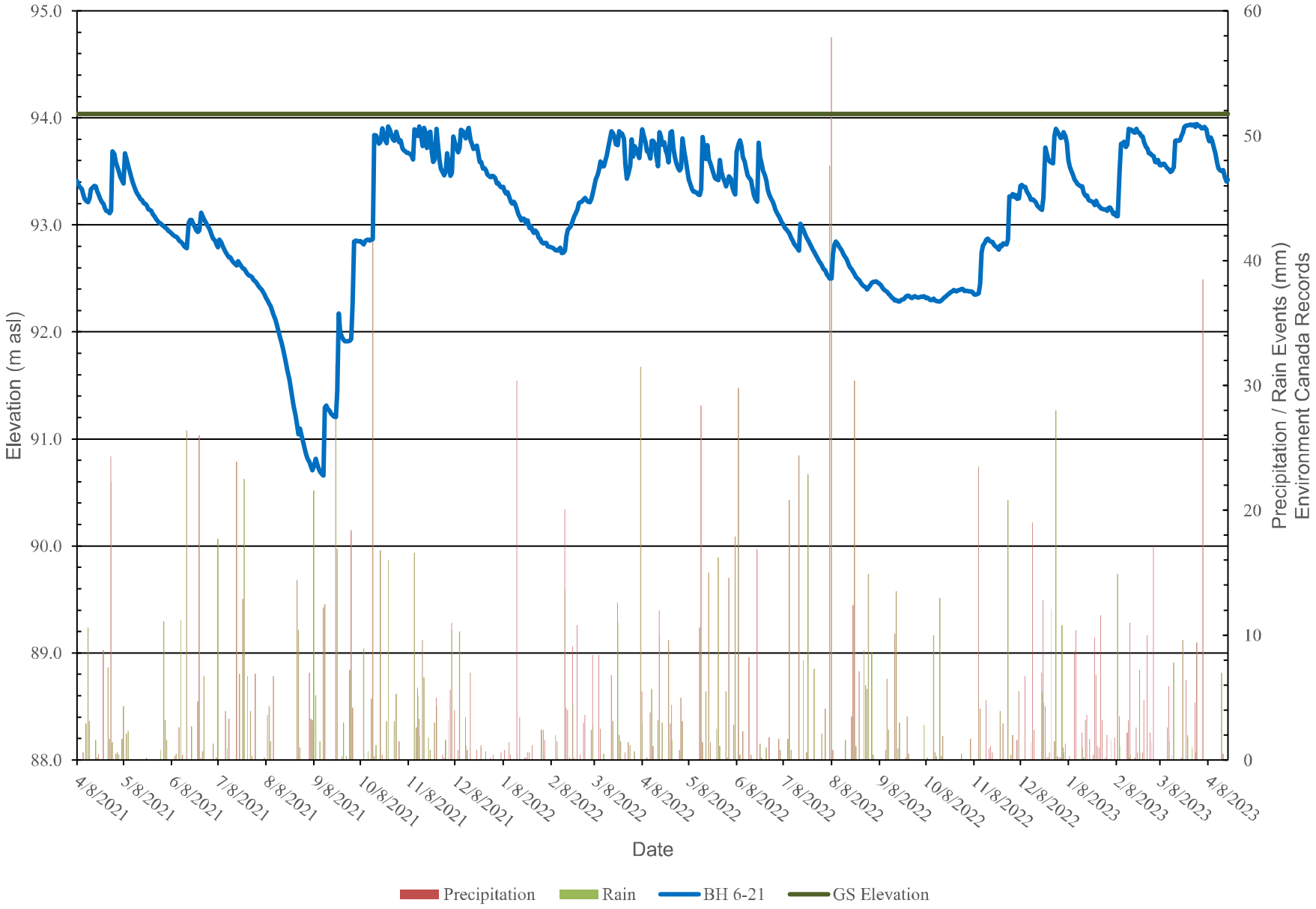


Figure 7: BH 7-21 - Groundwater Monitoring Levels vs Precipitation Data

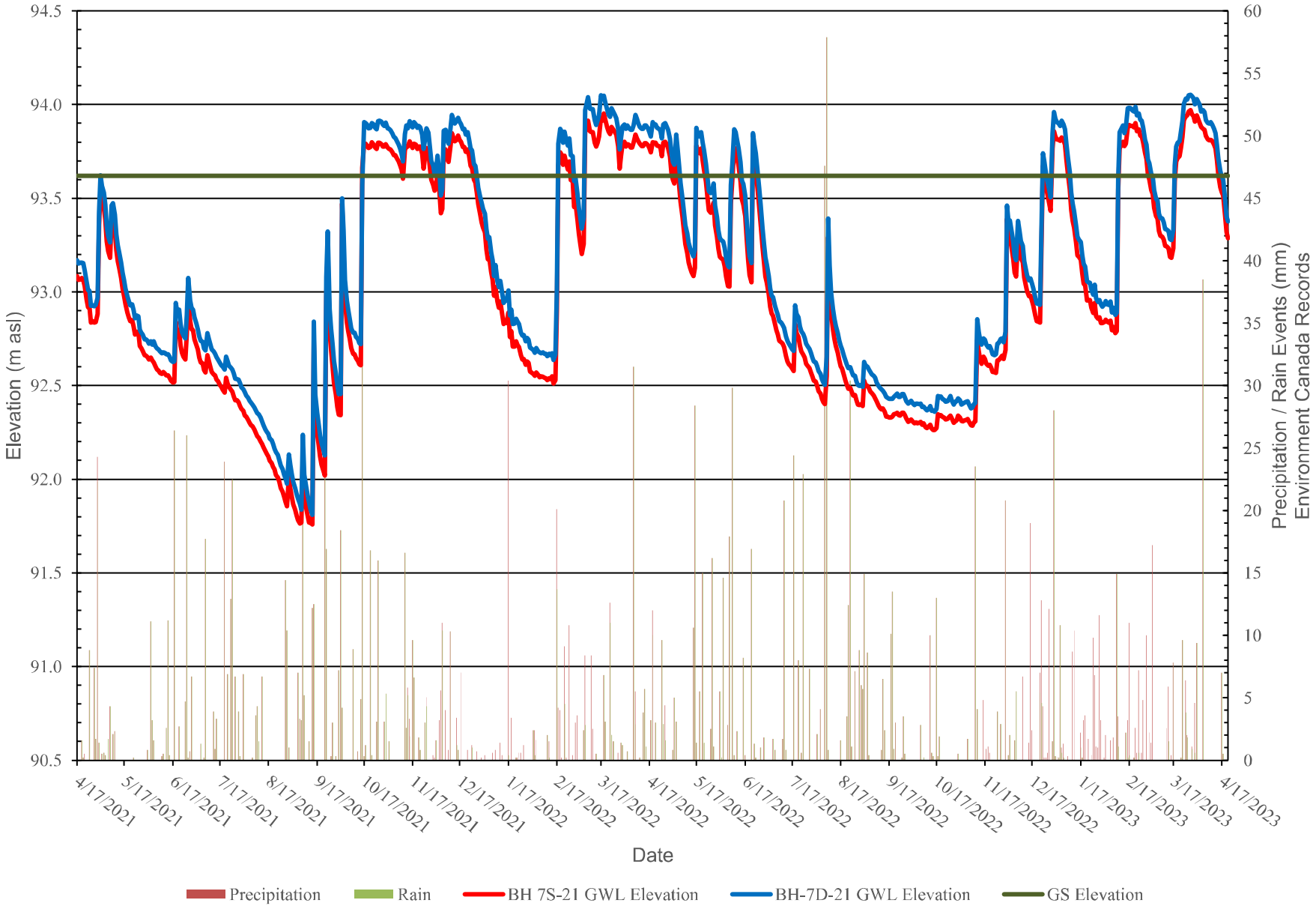


Figure 8: BH 8-21 - Groundwater Monitoring Levels vs Precipitation Data

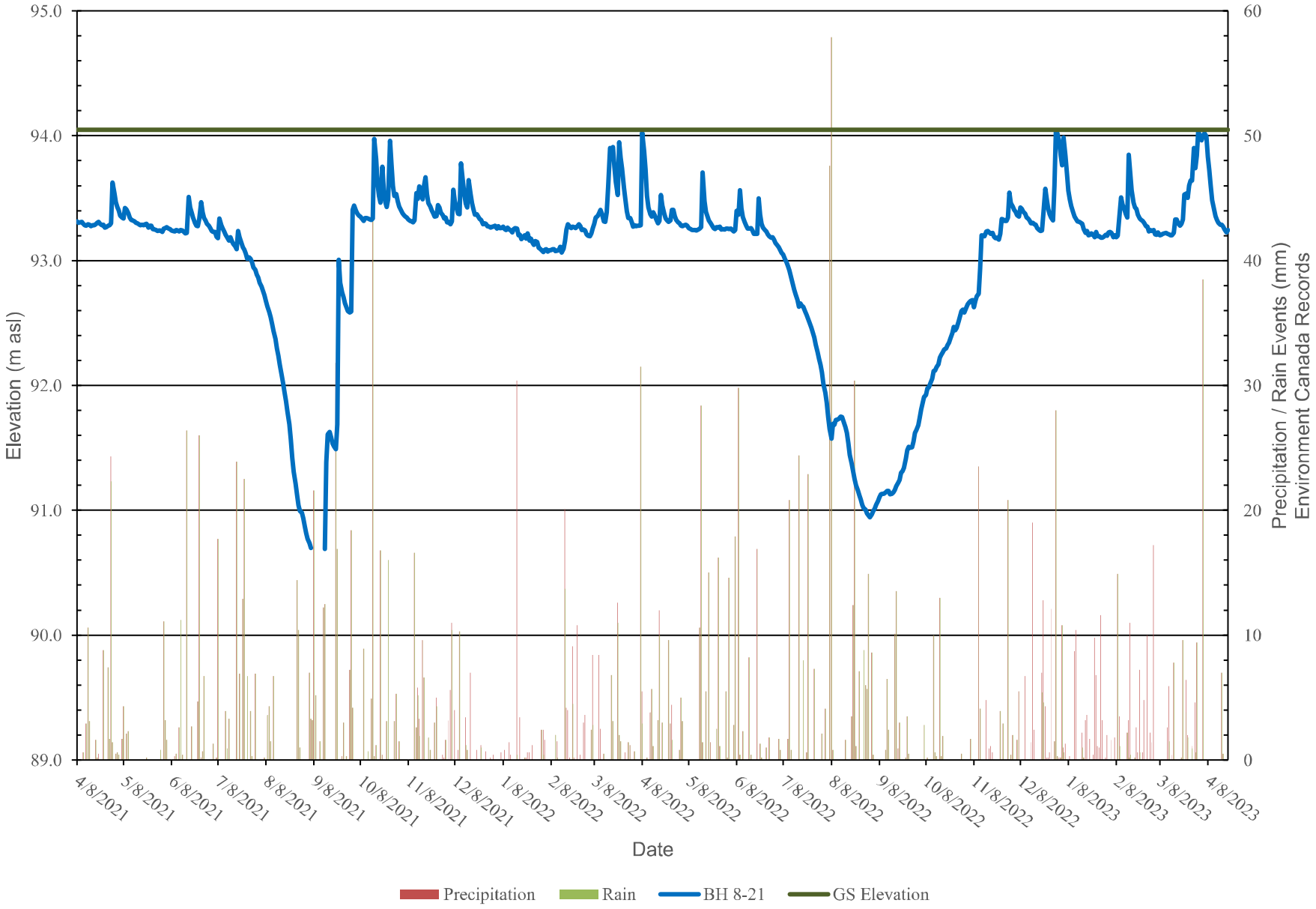


Figure 9: BH 9-21 - Groundwater Monitoring Levels vs Precipitation Data

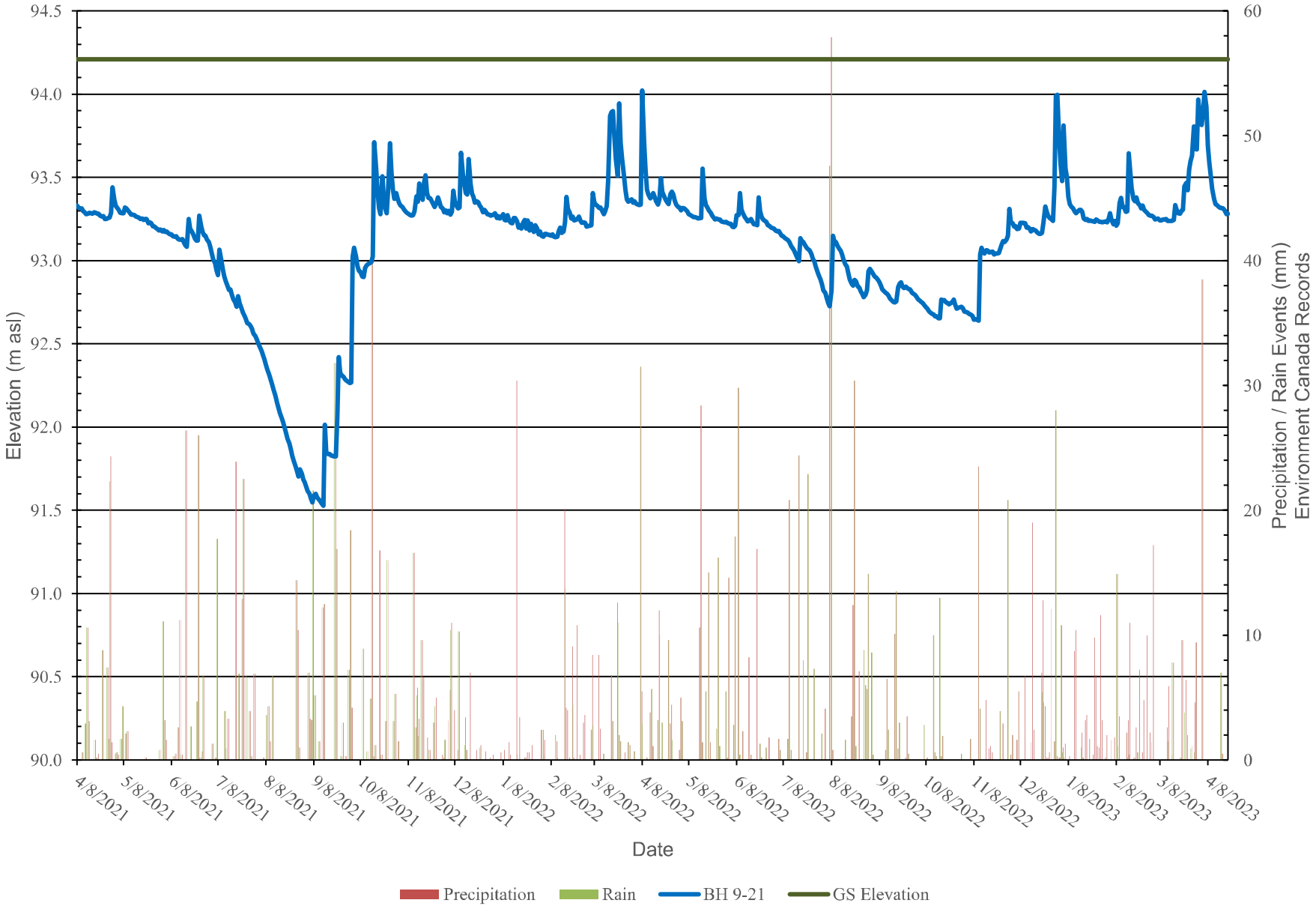


Figure 10: BH 10-21 - Groundwater Monitoring Levels vs Precipitation Data

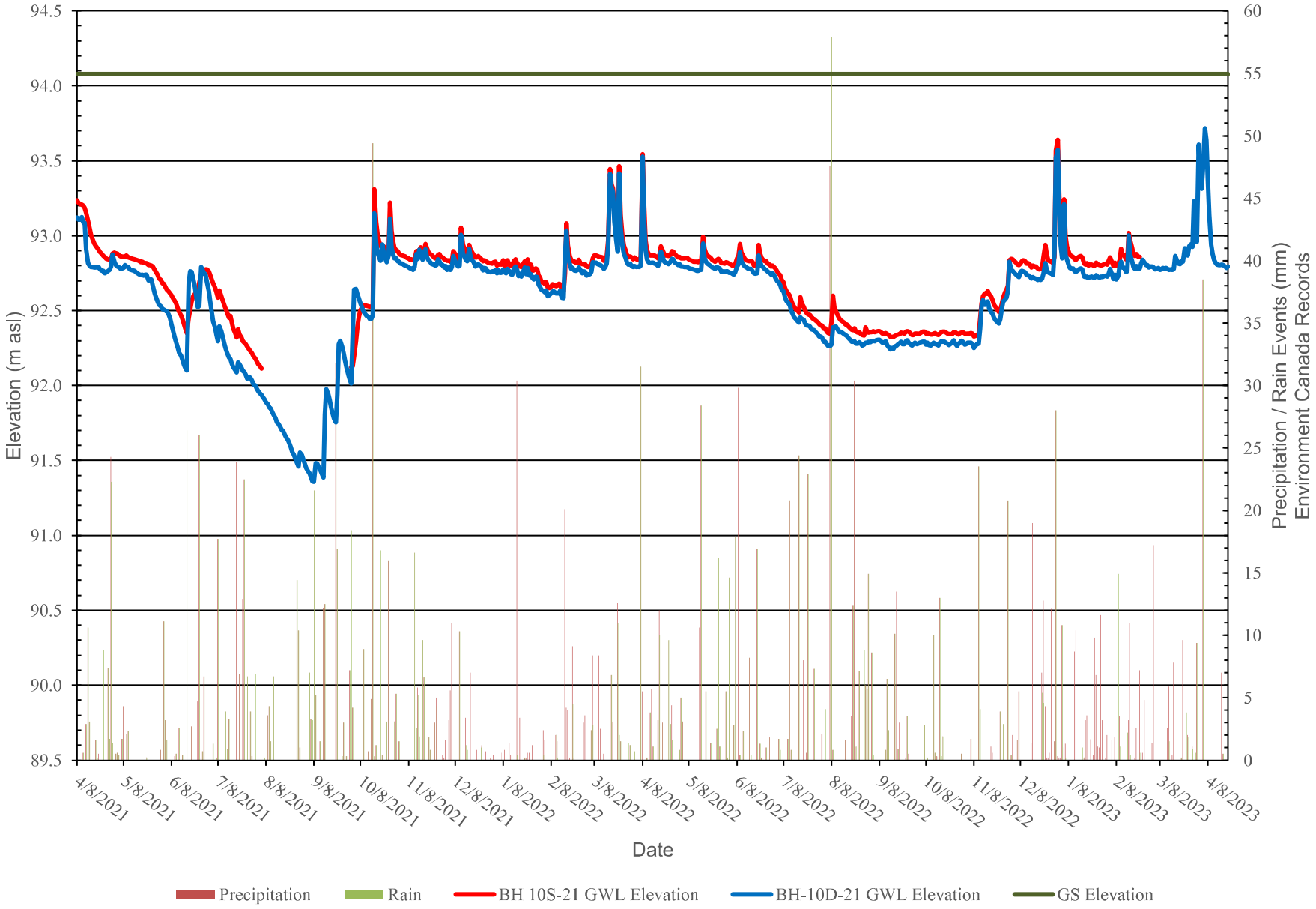
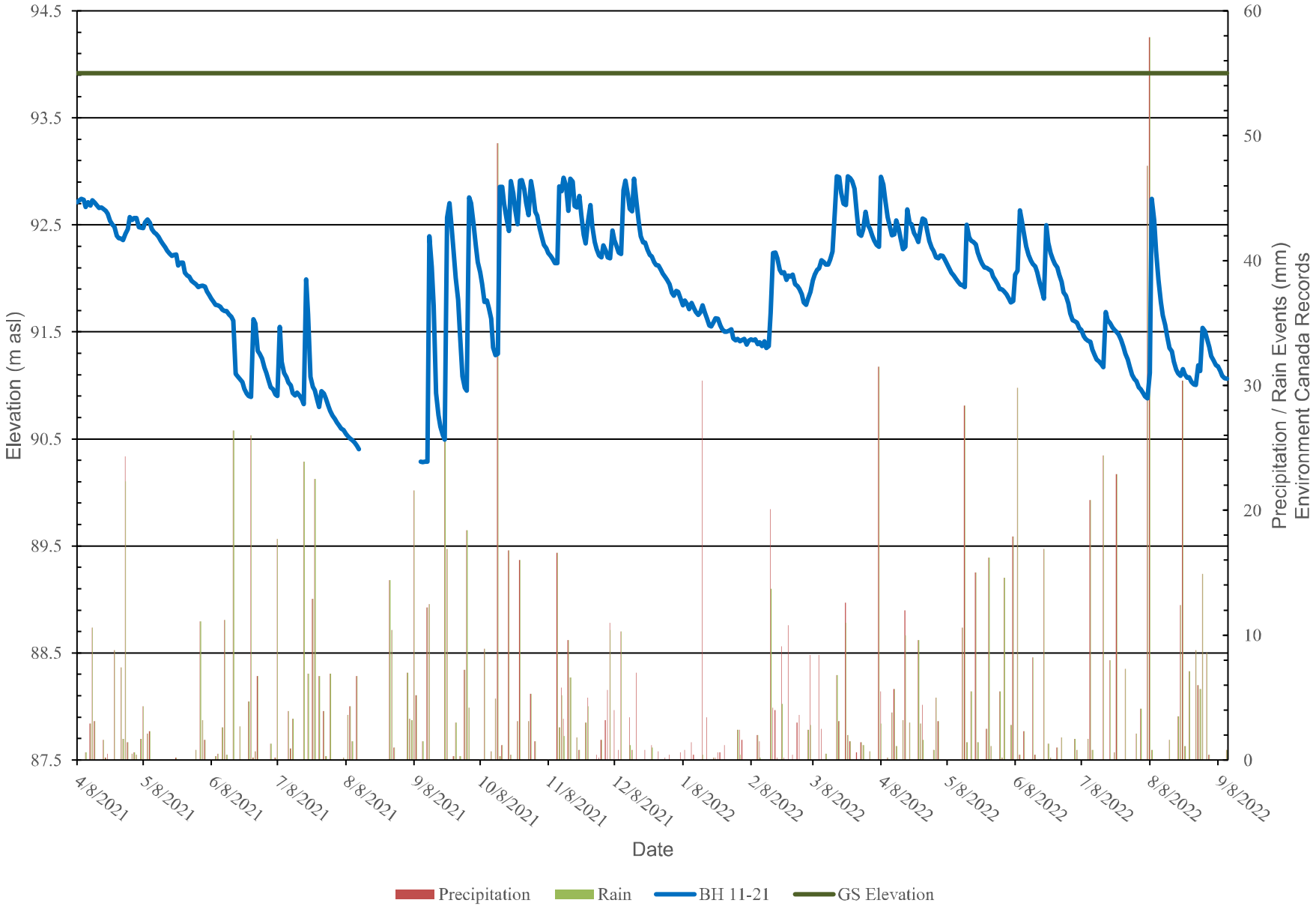
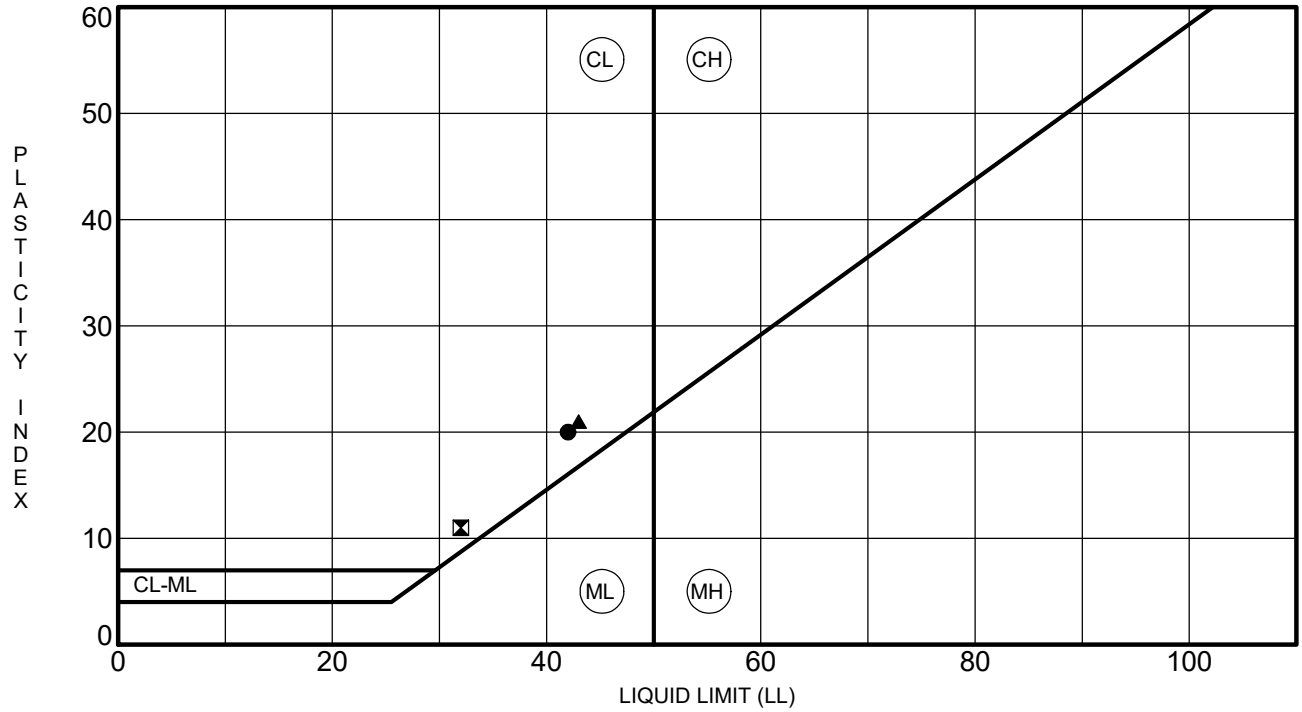


Figure 11: BH 11-21 - Groundwater Monitoring Levels vs Precipitation Data





Specimen Identification		LL	PL	PI	Fines	Classification
●	BH 3-24 SS2	42	22	20		CL - Inorganic clay with low plasticity
⊠	BH 5-24 SS2	32	21	11		CL - Inorganic clay with low plasticity
▲	TP 1-24 G1	43	22	21		CL - Inorganic clay with low plasticity

CLIENT **Tamarack (Richmond) Corporation**

PROJECT **Geotechnical Investigation - Proposed Mixed-Use Development - 5970 and 6038 Ottawa Street**

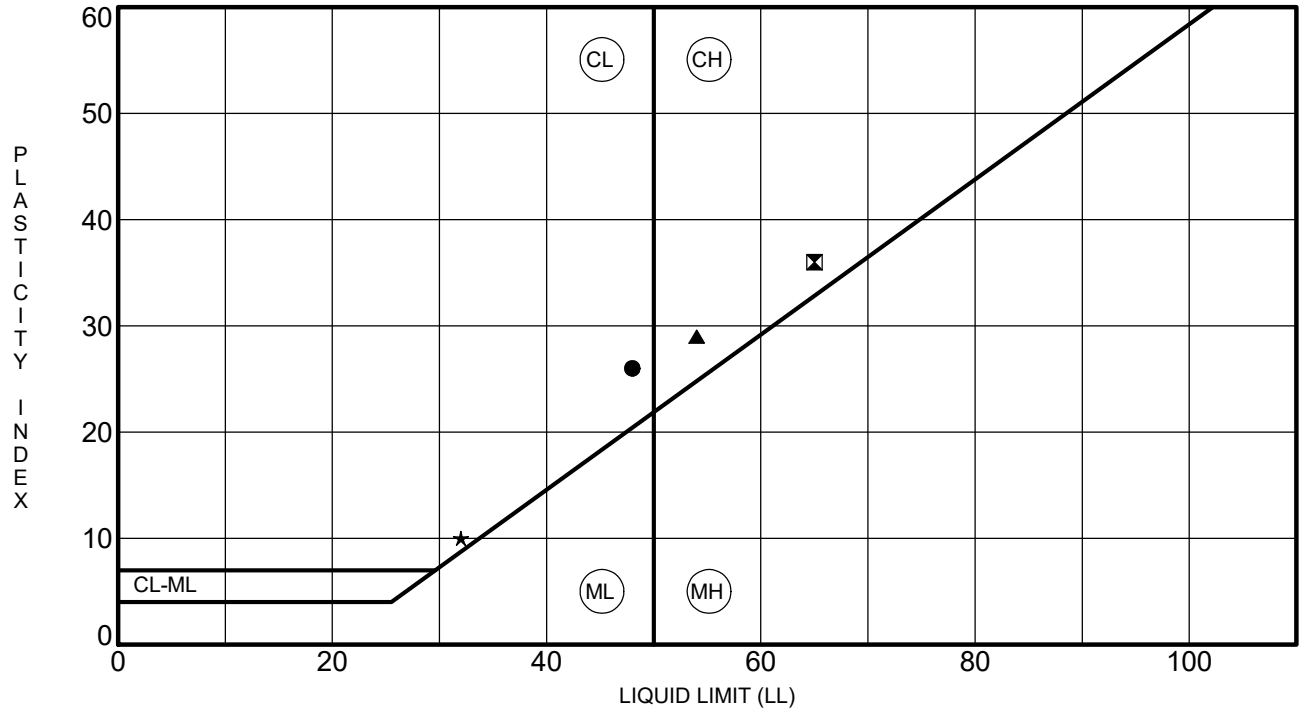
FILE NO. **PG4216**

DATE **14 Mar 25**

PATERSON GROUP

9 Auriga Drive
Ottawa, Ontario
K2E 7T9
TEL: (613) 226-7381

ATTERBERG LIMITS' RESULTS



Specimen Identification			LL	PL	PI	Fines	Classification
●	BH 3A-21	SS2	48	22	26		CL - Inorganic clays of low plasticity
⊠	BH 4-24	SS4	65	29	36		CH - Inorganic clays of high plasticity
▲	BH12-24	SS2	54	25	29		CH - Inorganic clays of high plasticity
★	BH14-24	SS1	32	22	10		CL - Inorganic clays of low plasticity

CLIENT **Tamarack ("Richmond") Corporation**

PROJECT **Geotechnical Investigation - Proposed Mixed-Use Development - 5970 and 6038 Ottawa Street**

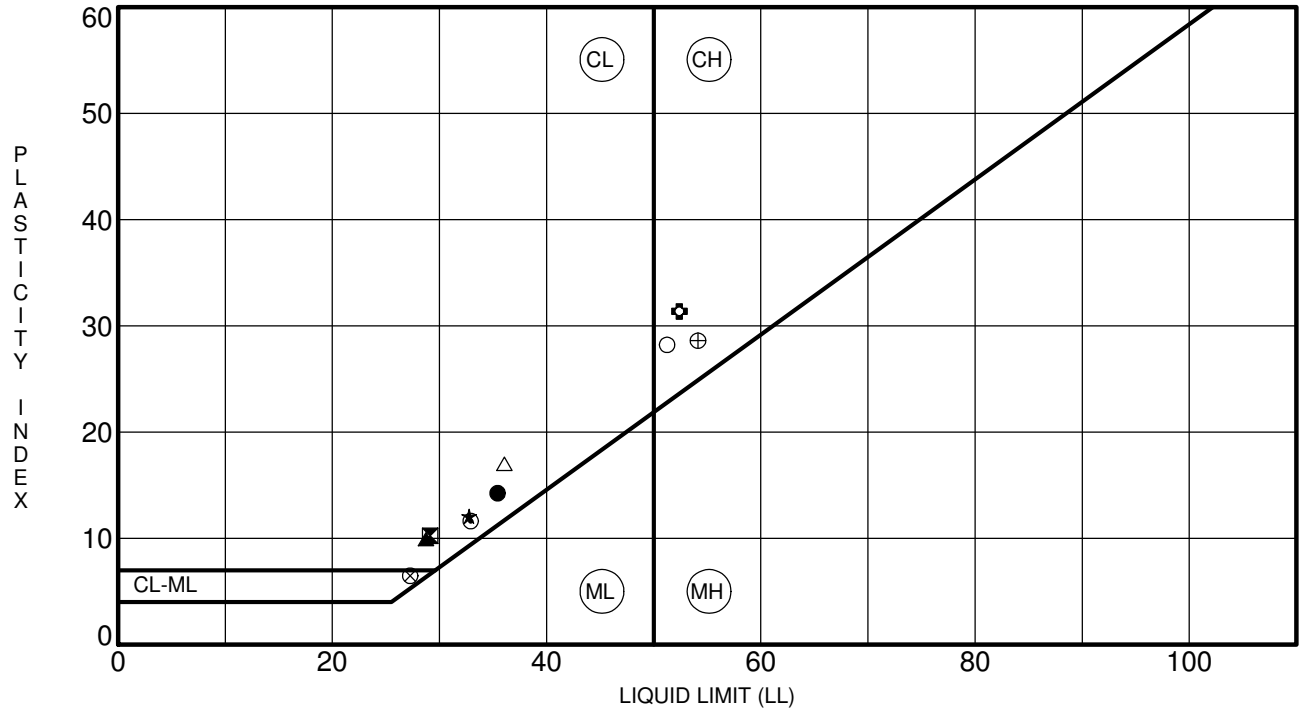
FILE NO. **PG4216**

DATE **14 Jan 25**

PATERSON GROUP

9 Auriga Drive
Ottawa, Ontario
K2E 7T9
TEL: (613) 226-7381

ATTERBERG LIMITS' RESULTS



Specimen Identification			LL	PL	PI	Fines	Classification
●	BH 2	SS 2	35	21	14		CL - Inorganic clay with low plasticity
⧓	BH 3	SS 3	29	19	10		CL - Inorganic clay with low plasticity
▲	BH 8	SS 2	29	19	10		CL - Inorganic clay with low plasticity
★	TP 2	G 3	33	21	12		CL - Inorganic clay with low plasticity
⊙	TP 3	G 4	33	21	12		CL - Inorganic clay with low plasticity
✿	TP 4	G 6	52	21	31		CH - Inorganic clays of high plasticity
○	TP 5	G 6	51	23	28		CH - Inorganic clays of high plasticity
△	TP 6	G 5	36	19	17		CL - Inorganic clay with low plasticity
⊗	TP 7	G 6	27	21	6		CL-ML - Inorganic silt with some clay with low plasticity
⊕	TP 8	G 5	54	26	29		CH - Inorganic clays of high plasticity

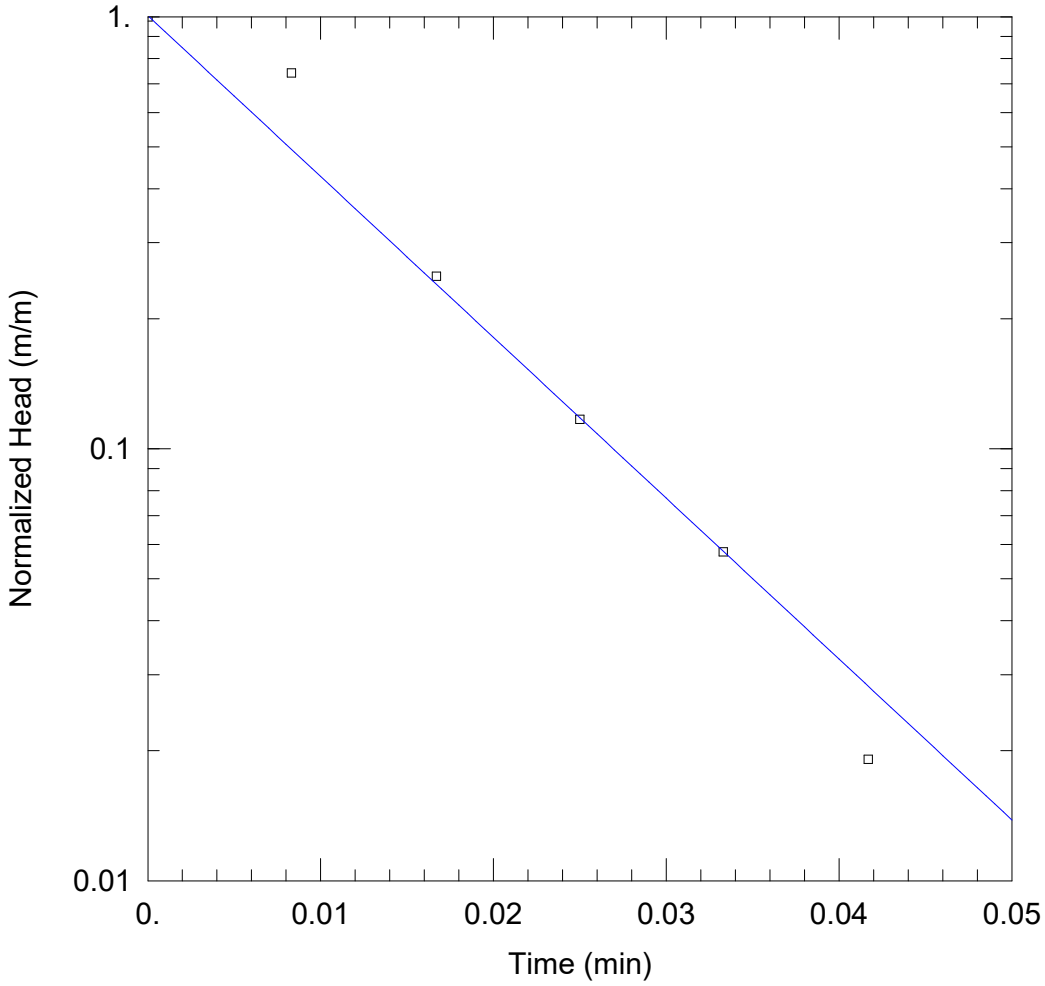
CLIENT **Taggart Construction** FILE NO. **PG4216**

PROJECT **Geotechnical Investigation - Proposed Development - Eagleson Road at Ottawa St.** DATE **27 Feb 19**

patersongroup Consulting Engineers

9 Auriga Drive, Ottawa, Ontario K2E 7T9

ATTERBERG LIMITS' RESULTS



FALLING HEAD 1 OF 1

Data Set: P:\...\PG4216 BH9-24 Falling Head 1 of 1.aqt
Date: 02/26/25 Time: 16:14:40

PROJECT INFORMATION

Company: Paterson Group
Client: Taggart Investments
Project: PG4216
Location: Eagleson Road at Ottawa Street
Test Well: BH9-24
Test Date: January 9, 2025

AQUIFER DATA

Saturated Thickness: 5.135 m Anisotropy Ratio (Kz/Kr): 1.

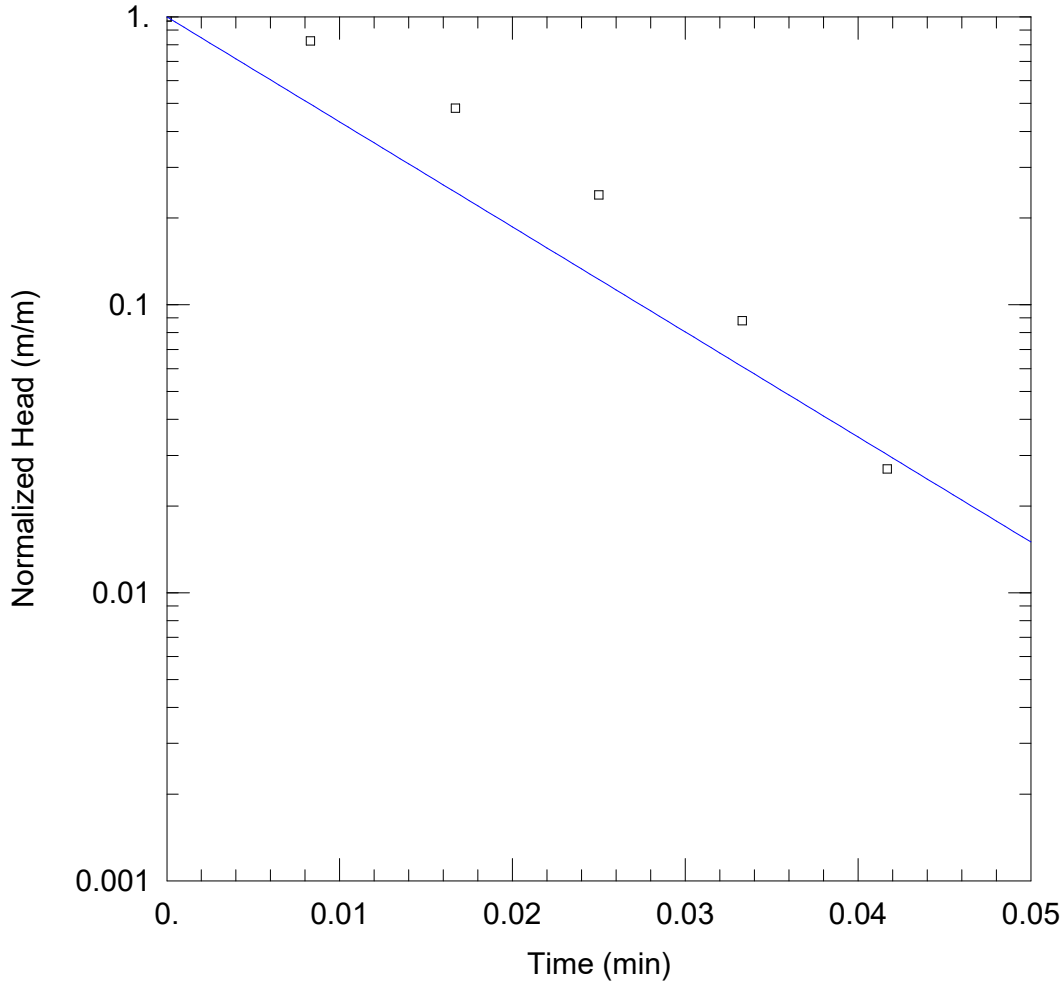
WELL DATA (BH9-24)

Initial Displacement: 0.649 m Static Water Column Height: 5.135 m
Total Well Penetration Depth: 5.135 m Screen Length: 1.524 m
Casing Radius: 0.01588 m Well Radius: 0.0381 m

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev

K = 0.0005179 m/sec y0 = 0.6533 m



RISING HEAD 1 OF 1

Data Set: P:\...\PG4216 BH9-24 Rising Head 1 of 1 - Copy.aqt
Date: 02/26/25 Time: 16:59:59

PROJECT INFORMATION

Company: Paterson Group
Client: Taggart Investments
Project: PG4216
Location: Eagleson Road at Ottawa Street
Test Well: BH9-24
Test Date: January 9, 2025

AQUIFER DATA

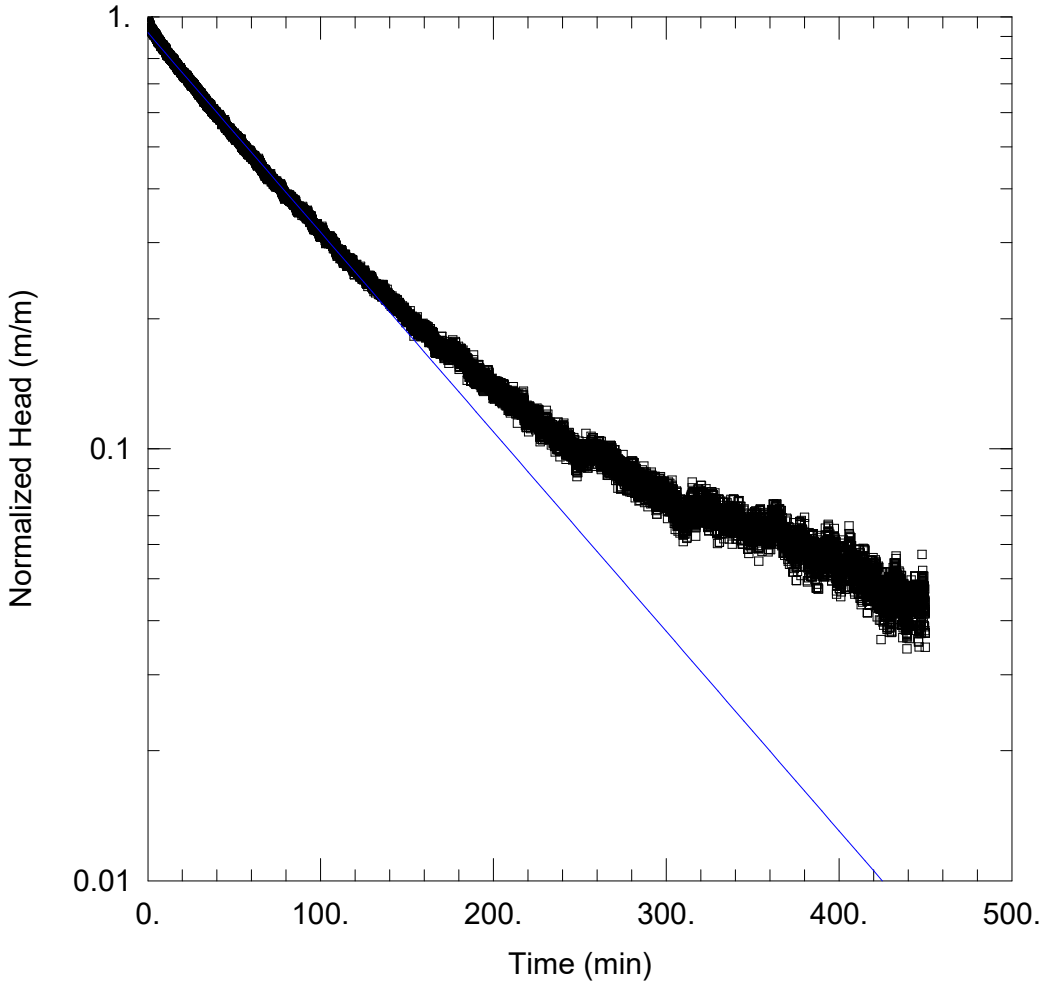
Saturated Thickness: 5.14 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH9-24)

Initial Displacement: 0.325 m
Total Well Penetration Depth: 5.14 m
Casing Radius: 0.01588 m
Static Water Column Height: 5.14 m
Screen Length: 1.524 m
Well Radius: 0.0381 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 0.0005072 m/sec
y0 = 0.325 m



FALLING HEAD 1 OF 1

Data Set: P:\...\PG4216 BH10-24 Falling Head 1 of 1.aqt
Date: 02/26/25 Time: 16:18:32

PROJECT INFORMATION

Company: Paterson Group
Client: Taggart Investments
Project: PG4216
Location: Eagleson Road at Ottawa Street
Test Well: BH10-24
Test Date: January 9, 2025

AQUIFER DATA

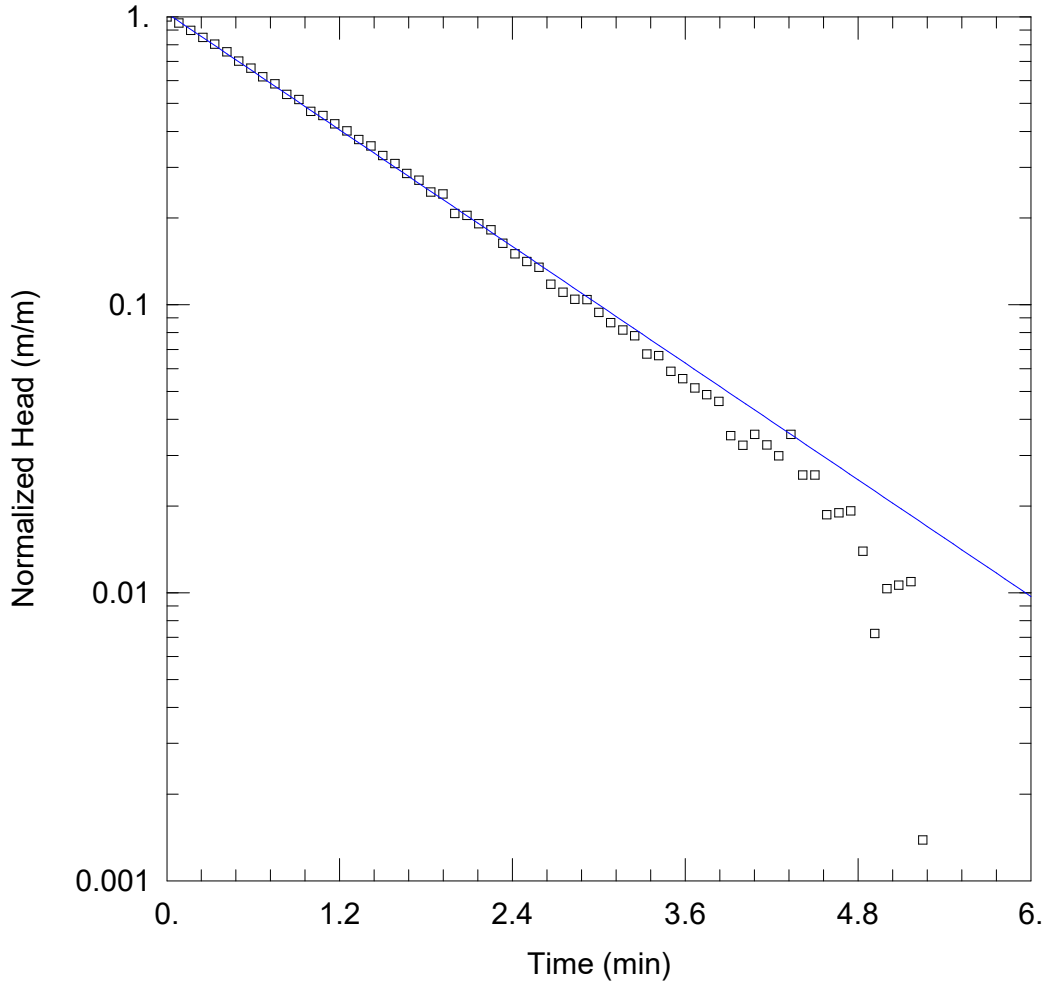
Saturated Thickness: 2.11 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH10-24)

Initial Displacement: 0.448 m
Total Well Penetration Depth: 2.11 m
Casing Radius: 0.0254 m
Static Water Column Height: 2.11 m
Screen Length: 1.524 m
Well Radius: 0.1048 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 1.265E-7 m/sec
y0 = 0.4117 m



FALLING HEAD 1 OF 1

Data Set: P:\...\PG4216 BH10D-21 Falling Head 1 of 1.aqt
Date: 02/26/25 Time: 16:20:38

PROJECT INFORMATION

Company: Paterson Group
Client: Taggart Investments
Project: PG4216
Location: Eagleson Road at Ottawa Street
Test Well: BH10D-21
Test Date: January 9, 2025

AQUIFER DATA

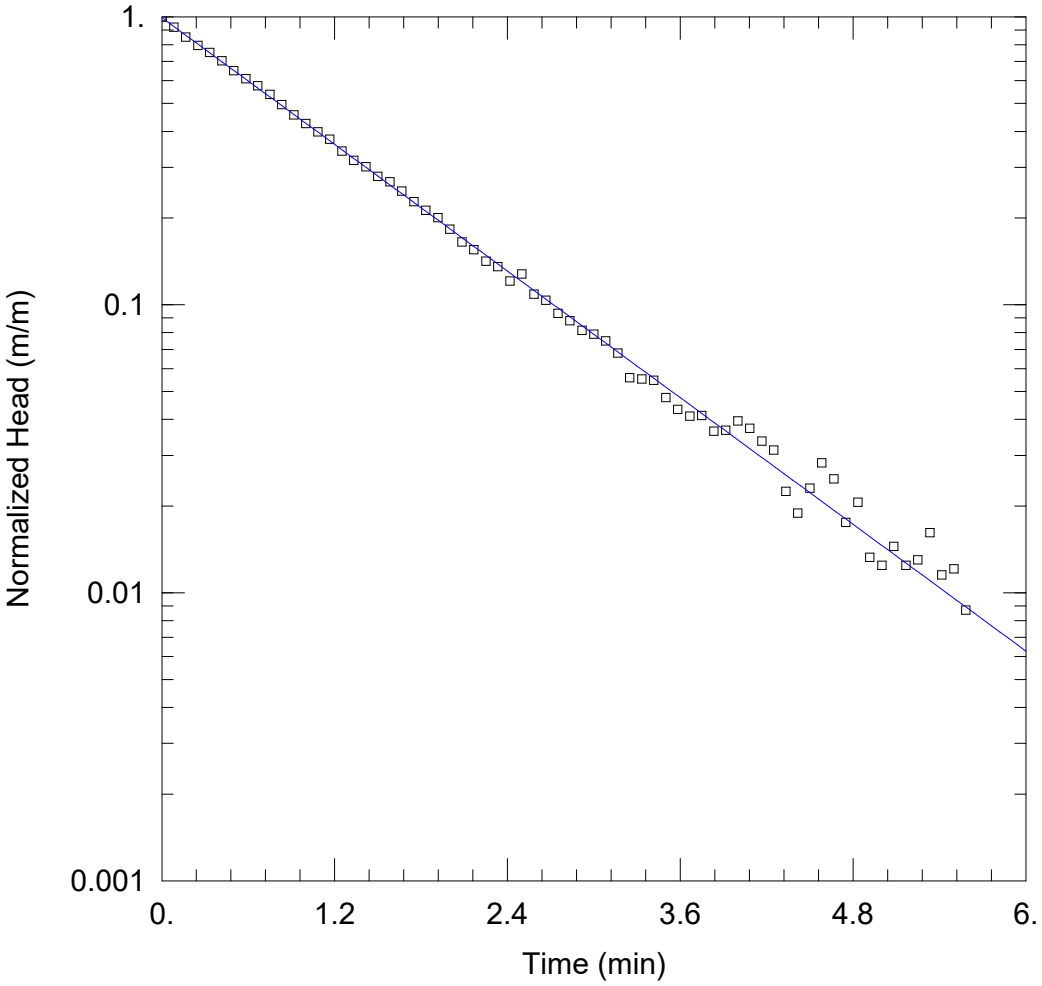
Saturated Thickness: 2.375 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH10D-21)

Initial Displacement: 0.415 m
Total Well Penetration Depth: 2.375 m
Casing Radius: 0.0254 m
Static Water Column Height: 2.375 m
Screen Length: 1.524 m
Well Radius: 0.1048 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 9.245E-6 m/sec
y0 = 0.4272 m



RISING HEAD 1 OF 1

Data Set: P:\...\PG4216 BH10D-21 Rising Head 1 of 1.aqt
Date: 02/26/25 Time: 16:23:01

PROJECT INFORMATION

Company: Paterson Group
Client: Taggart Investments
Project: PG4216
Location: Eagleson Road at Ottawa Street
Test Well: BH10D-21
Test Date: January 9, 2025

AQUIFER DATA

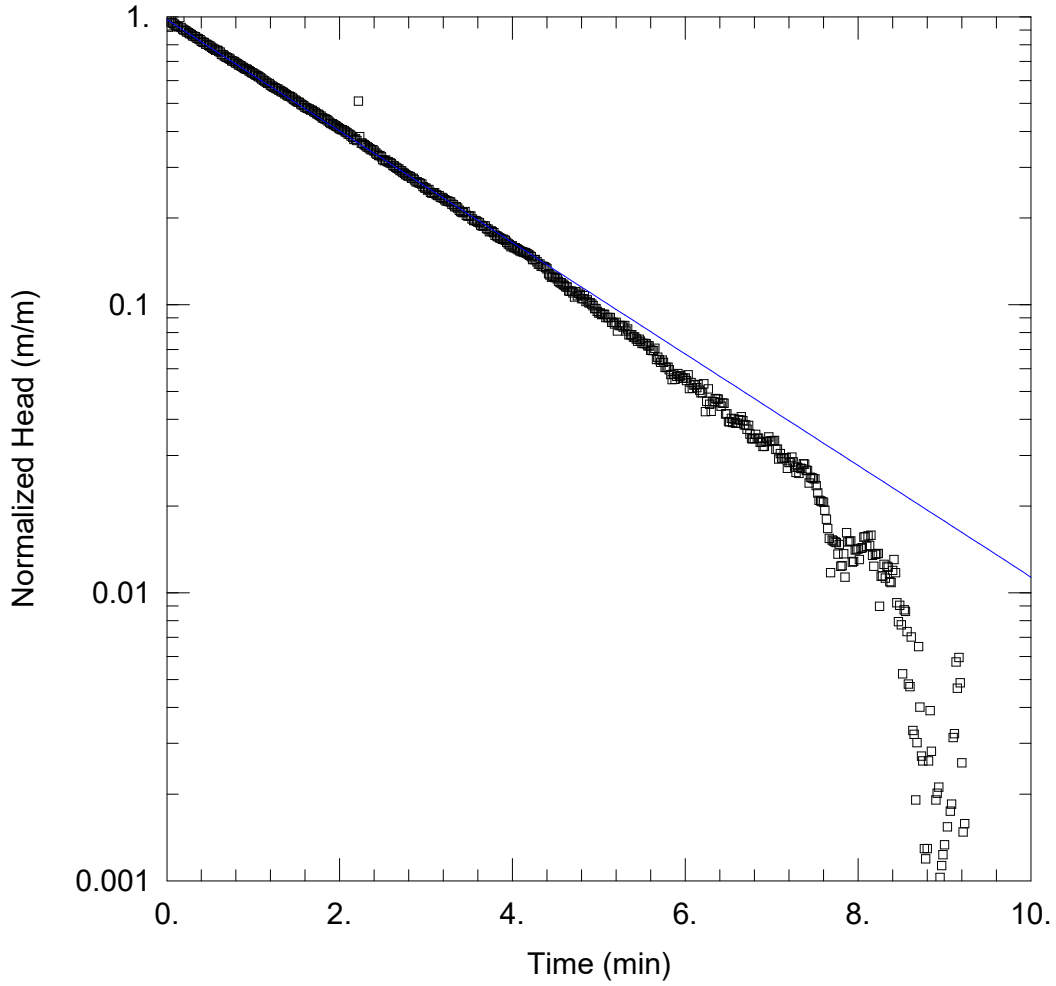
Saturated Thickness: 2.375 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH10D-21)

Initial Displacement: 0.45 m
Total Well Penetration Depth: 2.375 m
Casing Radius: 0.0254 m
Static Water Column Height: 2.375 m
Screen Length: 1.524 m
Well Radius: 0.1048 m

SOLUTION

Aquifer Model: Confined
Solution Method: Hvorslev
K = 1.004E-5 m/sec
y0 = 0.4468 m



FALLING HEAD 1 OF 1

Data Set: P:\...\PG4216 BH11-24 Falling Head 1 of 1.aqt
Date: 02/26/25 Time: 16:24:14

PROJECT INFORMATION

Company: Paterson Group
Client: Taggart Investments
Project: PG4216
Location: Eagleson Road at Ottawa Street
Test Well: BH11-24
Test Date: January 9, 2025

AQUIFER DATA

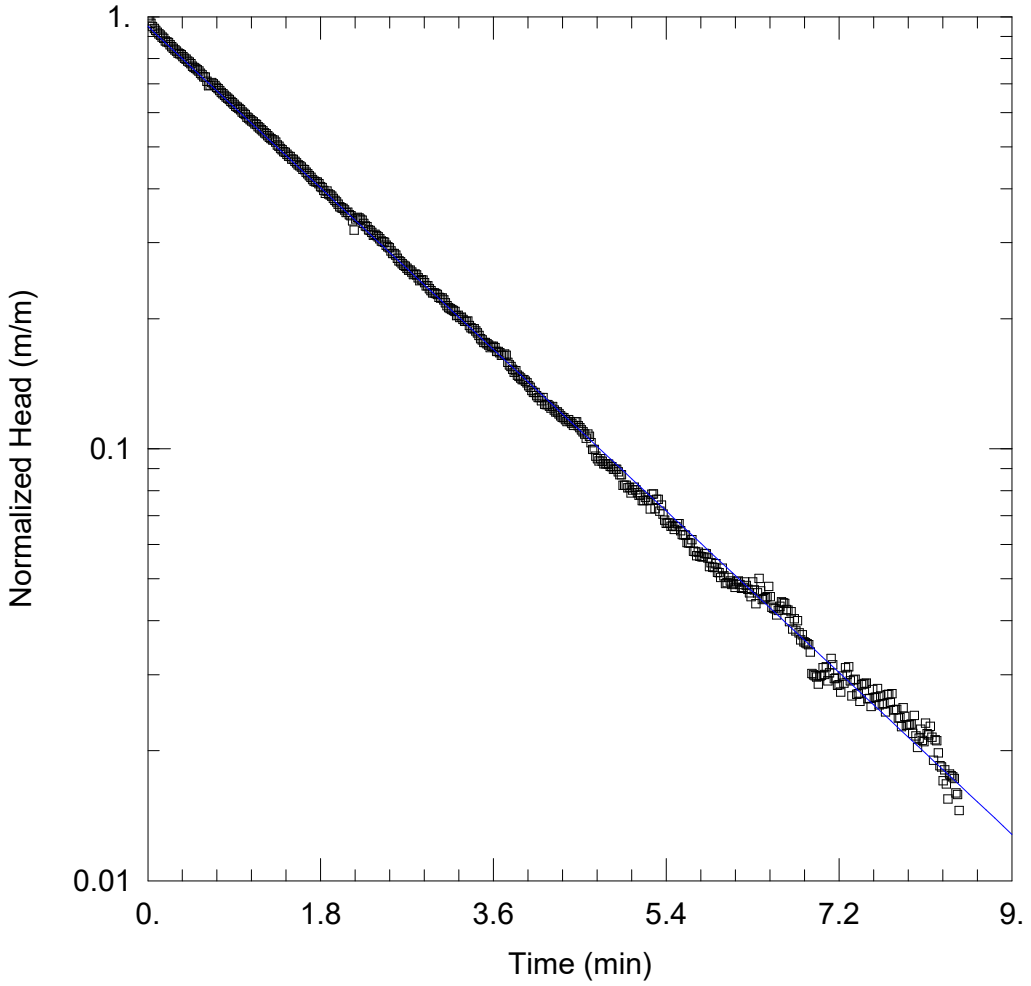
Saturated Thickness: 4.585 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH11-24)

Initial Displacement: 0.487 m Static Water Column Height: 4.585 m
Total Well Penetration Depth: 4.585 m Screen Length: 1.524 m
Casing Radius: 0.0254 m Well Radius: 0.1048 m

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev
K = 5.301E-6 m/sec y0 = 0.4764 m



RISING HEAD 1 OF 1

Data Set: P:\...\PG4216 BH11-24 Rising Head 1 of 1.aqt
Date: 02/26/25 Time: 16:25:47

PROJECT INFORMATION

Company: Paterson Group
Client: Taggart Investments
Project: PG4216
Location: Eagleson Road at Ottawa Street
Test Well: BH11-24
Test Date: January 9, 2025

AQUIFER DATA

Saturated Thickness: 4.58 m Anisotropy Ratio (Kz/Kr): 1.

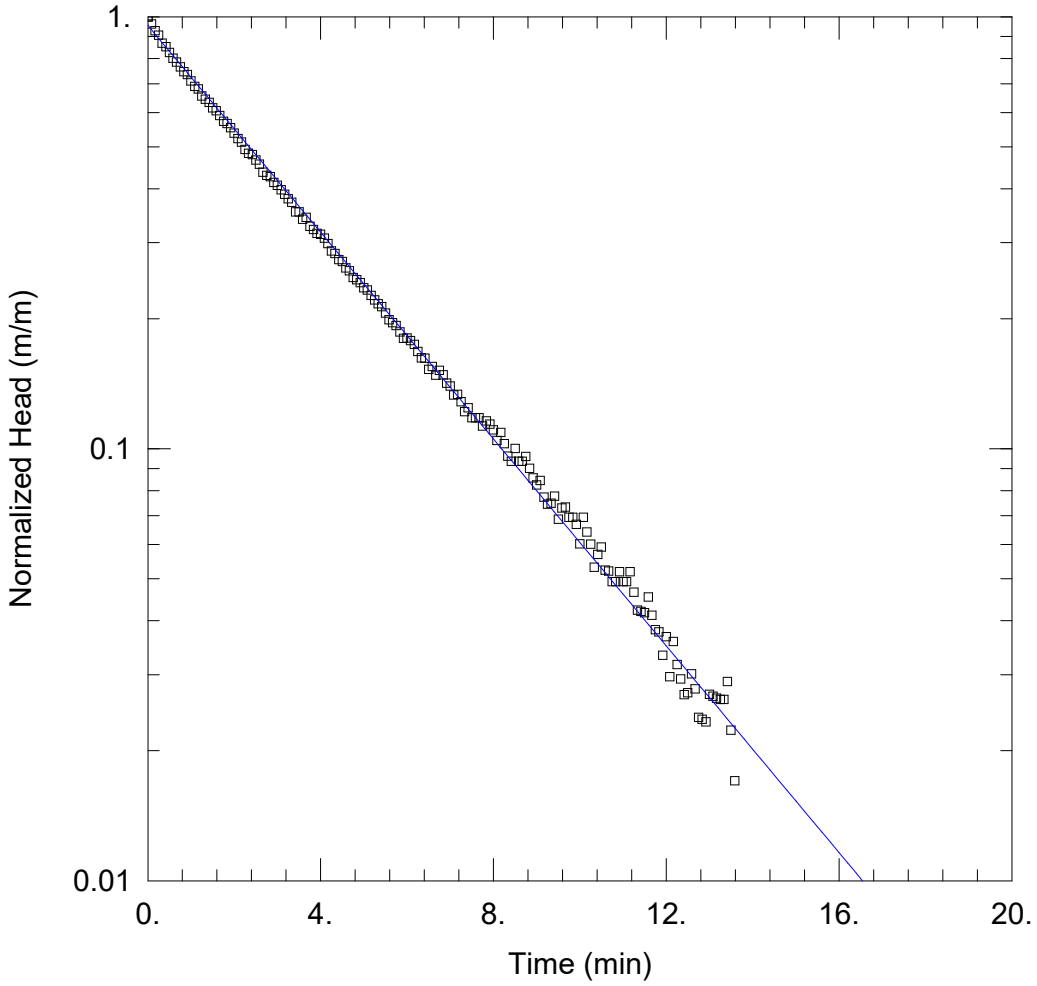
WELL DATA (BH11-24)

Initial Displacement: 0.498 m Static Water Column Height: 4.58 m
Total Well Penetration Depth: 4.58 m Screen Length: 1.524 m
Casing Radius: 0.0254 m Well Radius: 0.1048 m

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev

K = 5.69E-6 m/sec y0 = 0.4732 m



FALLING HEAD 1 OF 1

Data Set: P:\...\PG4216 BH12-24 Falling Head 1 of 1.aqt
Date: 02/26/25 Time: 16:26:49

PROJECT INFORMATION

Company: Paterson Group
Client: Taggart Investments
Project: PG4216
Location: Eagleson Road at Ottawa Street
Test Well: BH12-24
Test Date: January 9, 2025

AQUIFER DATA

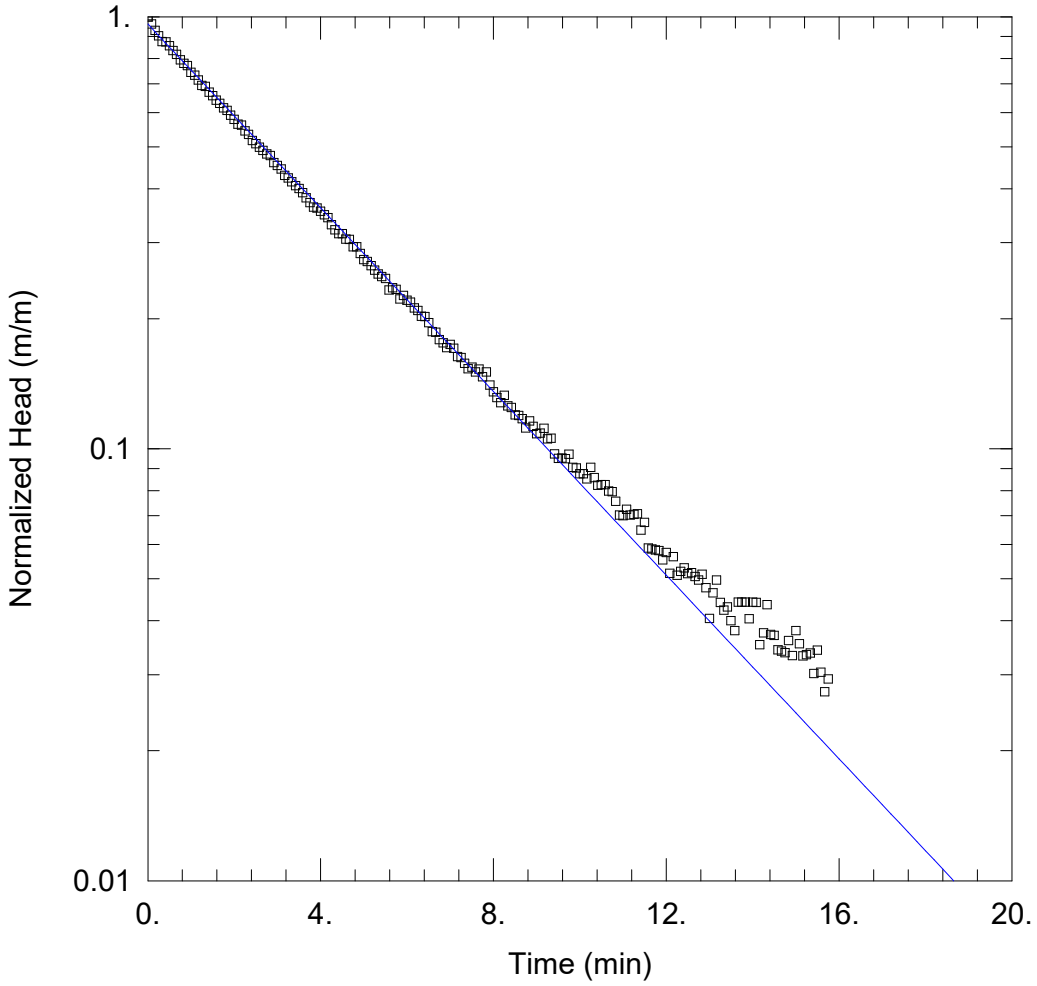
Saturated Thickness: 5.855 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH12-24)

Initial Displacement: 0.442 m Static Water Column Height: 5.855 m
Total Well Penetration Depth: 5.855 m Screen Length: 1.524 m
Casing Radius: 0.0254 m Well Radius: 0.1048 m

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev
K = 3.278E-6 m/sec y0 = 0.4223 m



RISING HEAD 1 OF 1

Data Set: P:\...\PG4216 BH12-24 Rising Head 1 of 1.aqt
Date: 02/26/25 Time: 16:29:31

PROJECT INFORMATION

Company: Paterson Group
Client: Taggart Investments
Project: PG4216
Location: Eagleson Road at Ottawa Street
Test Well: BH12-24
Test Date: January 9, 2025

AQUIFER DATA

Saturated Thickness: 5.845 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH12-24)

Initial Displacement: 0.467 m Static Water Column Height: 5.845 m
Total Well Penetration Depth: 5.845 m Screen Length: 1.524 m
Casing Radius: 0.0254 m Well Radius: 0.1048 m

SOLUTION

Aquifer Model: Confined Solution Method: Hvorslev
K = 2.912E-6 m/sec y0 = 0.4493 m

GRADING NOTES

- PRELIMINARY GRADING REPRESENTS CENTERLINE OF ROAD LOW POINTS, CENTERLINE GRADES UP TO 0.35m HIGHER AT DETAILED DESIGN TO ACCOUNT FOR ROAD HIGH POINTS, LOT GRADING HIGHER TO BE PROVIDED AT DETAILED DESIGN
- PRELIMINARY GRADING BASED ON MAXIMUM GRADE RAISE OF 2.0m FOR RESIDENTIAL LOTS
- GRADE RAISE RESTRICTIONS AND PLACEMENT OF LIGHTWEIGHT FILL TO BE REVIEWED BY PATERSON GROUP DURING DETAILED DESIGN
- PRELIMINARY GRADING DOES NOT REPRESENT ROAD SAGS, MINIMUM LONGITUDINAL SLOPES OF 0.5% TO BE MAINTAINED DURING DETAILED DESIGN THROUGH SAWTOOTHING
- RETAINING WALLS TO BE DESIGNED BY STRUCTURAL ENGINEER AT DETAILED DESIGN

OTTAWA STREET

XS 2150 PER JOCK RIVER FLOOD RISK MAP JULY 21, 2005
XS 2170 PER HEC RAS RESULTS
MIN CHANNEL ELEV = 90.80
2-YR = 92.35
100-YR = 93.57

XS 2353 PER JOCK RIVER FLOOD RISK MAP JULY 21, 2005
MIN CHANNEL ELEV = 91.52
2-YR = 92.35
100-YR = 93.58

RAILWAY CORRIDOR

MARLBOROUGH CREEK

EAGLESON ROAD

MCBEAN STREET

COMMERCIAL BLOCK

WELL AREA

6m SERVICING BLOCK

PARK

SCHOOL

SERVICING 1

SERVICING 2

SERVICING 5

SERVICING 6

POND INLET WEST

POND INLET EAST

S.W.M POND 1
PP ELEV 92.35
MAX W.L. ELEV 94.30

SEDIMENT MANAGEMENT AREA

SEDIMENT FOREBAY

STREET No. 1
STREET No. 2
STREET No. 3
STREET No. 4
STREET No. 5
STREET No. 6
STREET No. 7
STREET No. 8
STREET No. 9
STREET No. 11
STREET No. 12
STREET No. 13
STREET No. 14
STREET No. 15
STREET No. 16
STREET No. 17
STREET No. 18
STREET No. 20

LEGEND

- SUBJECT LANDS
- STORM OVERLAND FLOW ARROW
- 192.851 PROPOSED CENTERLINE ELEVATION
- [192.85] FUTURE GRADES (BY OTHERS)
- 100 YEAR FLOODPLAIN
- 193.50 / 193.50 PROPOSED ELEVATION / EXISTING ELEVATION
- 244.50 EXISTING CONTOUR ELEVATION
- ←1.00m— GRADE CHANGE
- MEANDER BELT LIMIT

CUT-FILL DEPTH TO EXISTING GROUND

CUT DEPTH (m)	FILL DEPTH (m)
0 - 1.0	0 - 1.0
1.0 - 2.0	1.0 - 2.0
2.0 - 3.0	2.0 - 3.0
>3.0	>3.0

DSEL
120 Iber Road, Unit 103
Stittsville, Ontario, K2S 1E9
Tel. (613) 836-0856
Fax. (613) 836-7183
www.DSEL.ca

TAMARACK RICHMOND

CITY OF OTTAWA

GRADING PLAN

SCALE:	1:2000	PROJECT No.:	1042
DATE:	OCTOBER 2024	DRAWING:	04D