June 30, 2026
PG7998-LET.01 Revision 1

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Geotechnical Engineering
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Tamarack (Cardinal Creek) Corporation
3187 Albion Road South
Ottawa, ON
K1V 8Y3

Attention: **Mike Green**

Subject: **Geotechnical Investigation**
Proposed Residential Development
900 Geographe Terrace – Cardinal Creek Village – Phase 8

Dear Mike,

Paterson Group Inc. (Paterson) was commissioned by Tamarack (Cardinal Creek) Corporation to conduct a geotechnical investigation for the proposed residential development, referred to as Phase 8 of the Cardinal Creek Village development, to be located at the aforementioned site (reference should be made to *Figure 1 - Key Plan* attached to the end of this report for the general site location). This report presents our findings and recommendations from a geotechnical perspective for the planned development.

1.0 Proposed Development

Based on the available drawings provided by the client, the proposed development will consist of residential dwellings provided with basement levels and with associated local roadways, landscaped areas and will be municipally serviced.

2.0 Field Investigation

The field program for the current geotechnical investigation was carried out on May 20, 2026, and consisted of a total of seven (7) test pits excavated to a maximum depth of 4.1 m below the existing ground surface. Furthermore, previous field investigations were carried out within the vicinity and throughout the subject site by Paterson in March and December 2012.

The test hole locations were determined in the field by Paterson personnel and distributed in a manner to provide general coverage of the subject site, taking into consideration underground utilities and existing site conditions.

The test pit locations from the current investigation and relevant test hole locations from previous investigations are shown on Drawing *PG7998-1 - Test Hole Location Plan* attached to this report

The test pits were excavated using a backhoe. All fieldwork was conducted under the full-time supervision of Paterson personnel under the direction of a senior engineer from the geotechnical department. The test pitting procedure consisted of excavating to the required depths at the selected locations, sampling, and testing the overburden.

Grab soil samples were collected from the sidewalls of test pits. All samples were visually inspected and initially classified on-site and were placed in sealed plastic bags, labelled, and transported to our laboratory for further examination and classification. The depths at which the grab samples were recovered from the test pits are shown as G on the Soil Profile and Test Data sheets in the attachment of the current letter report. Undrained shear strength testing was carried out in cohesive soils using a field vane apparatus.

Subsurface conditions observed in the test holes were recorded in detail in the field. Reference should be made to the Soil Profile and Test Data sheets presented in the attachment of this report for specific details of the soil profile encountered at the test hole locations.

Sidewall infiltration was observed at the time of completing the test pits and was recorded prior to backfilling the test pits. The groundwater observations are discussed in the following section and presented in the Soil Profile and Test Data sheets in the attachment to the current report.

Two (2) Atterberg limits tests and one (1) linear shrinkage analysis were completed on selected soil samples. Moisture content testing was completed on all recovered soil samples from the current investigation. The results of the testing are presented in the attachment to the current report.

3.0 Field Observations

Surface Conditions

The subject site currently consists of vacant undeveloped land free of notable vegetation or structures. The subject is bordered to the west and south by existing residential dwellings and to the north and east by Famille-Laporte Avenue and Geographe Terrace, respectively. The subject site is slightly lower than the grade along Famille Laporte Street, slightly higher than the rear yards for the dwellings along Cartographe Street and at-grade with the rear-yards along Mishawashkode Street and Geographe Terrace. The subject site is relatively flat, and reference should be made to *Drawing PG7998-1 – Test Hole Location Plan* for the ground surface elevation at each test hole location.

3.1 Subsurface Conditions

Overburden

Generally, the subsurface profile encountered at the borehole locations was observed to consist of fill underlain by a deposit of silty clay which was further underlain by either glacial till and/or the bedrock formation. The fill appeared to consist of a mixture of silty clay and silty sand with variable amounts of gravel, topsoil and cobbles and extended to depths ranging between 1.0 and 1.6 m below ground surface.

The silty clay deposit was generally observed to consist of a hard to very stiff brown silty clay extending to depths ranging between 2.1 and 4.0 m below ground surface. Glacial till was encountered at all test holes with the exception of TP 3-26 and TP 6-26 and consisted of either a silty clay or silty sand matrix with variable amounts of clay, silt, sand, gravel, cobbles and boulders. The glacial till layer appears to be in a compact to dense state of compactness at the time of completing the current investigation.

Practical refusal to augering and excavation was encountered at BH 11-12, TP 2-26, TP 3-26 and TP 7-26. Specific details of the soil profile at each test hole location are presented on the Soil Profile and Test Data sheets attached to this report.

Bedrock

Based on available geological mapping, bedrock depth ranges from 15 to 25 m below the existing ground surface and consists of interbedded limestone and dolomite of the Gull River Formation. Reference should be made to *Drawing PG7998-2 – Bedrock Contour Plan* attached to this report.

Atterberg Limits and Shrinkage Limits Testing

Atterberg limits testing was completed on a select silty clay sample recovered from BH 2-26. The results of the Atterberg limits test are summarized in Table 1 and are also presented in the attachments of the current report.

Table 1 - Atterberg Limits Results

Sample	Depth (m)	LL (%)	PL (%)	PI (%)	Water Content (%)
TP 4-26	2.6	68	30	38	35
TP 6-26	3.6	73	35	38	45

Notes: LL: Liquid Limit; PL: Plastic Limit; PI: Plasticity Index

One shrinkage test was complete on a grab sample (G4) recovered from TP 6-26 and from a depth of 3.6 m below ground surface. The test yielded a shrinkage limit of 22.5 and a shrinkage ration of 1.69.

Groundwater

Groundwater was observed infiltrating slowly from the sidewalls and bases of the majority of the test pits at the time of completing the current investigation. The groundwater depth observations are also presented in the Soil Profile and Test Data sheets in the attachments of the current report. Groundwater levels are subject to seasonal fluctuations. Therefore, the groundwater levels could vary at the time of construction.

4.0 Geotechnical Assessment

From a geotechnical perspective, the subject site is considered to be suitable for the proposed developments from a geotechnical perspective. Based on the results of the field investigation, the proposed building may be founded on conventional shallow footings placed on an undisturbed very stiff brown silty clay bearing surface.

Due to the presence of a silty clay deposit within the study area, the proposed grading throughout the subject site will be subjected to a permissible grade restriction. Permissible grade raise recommendations are discussed in the following sections. If higher permissible grade raises are required, preloading with or without a surcharge, lightweight fill and/or other measures should be investigated to reduce the risks of unacceptable long-term post-construction total and differential settlements.

The above and other considerations are discussed in the following sections.

4.1 Site Grading and Preparation

Topsoil and deleterious fill, such as those containing organic materials, should be stripped from within the proposed building footprints, paved areas, pipe bedding, and other settlement sensitive structures. Care should be taken not to disturb adequate bearing soils below the founding level during site preparation activities. Disturbance of the subgrade may result in sub-excavation of the disturbed material and the placement of additional suitable fill material.

If encountered, existing foundation walls, utility pipes, and other construction debris should be entirely removed from within the building footprint. Under paved areas, existing construction remnants such as foundation walls should be excavated to a minimum of 1 m below the final grade.

4.2 Fill Placement

Fill placed for grading throughout the building footprints should consist, unless otherwise specified, of clean imported granular fill, such as Ontario Provincial Standard Specifications (OPSS) Granular A or Granular B Type II. The imported fill material should be tested and approved prior to delivery to the site. The fill should be placed in maximum 300 mm thick loose lifts and compacted by suitable compaction equipment. Fill placed beneath the buildings should be compacted to a minimum of 98% of the Standard Proctor Maximum Dry Density (SPMDD).

From a geotechnical perspective, non-specified existing fill, along with site-excavated soil, free of organic, debris, inorganic material, and/or stones/cobbles larger than 100 mm in their longest dimension, could be placed as general landscaping fill, where settlement of the ground surface is of minor concern. These materials should be spread in a maximum of 300 mm thick loose lifts and at least compacted by the tracks of the spreading equipment to minimize voids.

If this material is to be used to build up the subgrade level for areas to be paved, it should be compacted in a maximum 300 mm thick loose lifts to at least 95% of the material’s SPMDD using a suitably sized sheepsfoot roller, in the dry and above-freezing conditions. Each lift of site-generated fill should be reviewed and approved by Paterson field personnel at the time of construction.

Any soft or poor performing areas should be removed and replaced with approved engineered fill consisting of OPSS Granular A or Granular B Type II, with a maximum particle size of 50 mm. The engineered fill should be placed in maximum 300 mm loose lifts and compacted to 98% SPMDD using suitable vibratory equipment as per OPSS 501.

4.3 Foundation Design

Bearing Resistance Values

Using continuously applied loads, strip footings, up to 3 m wide, and pad footings up to 5 m wide, founded on an undisturbed very stiff brown silty clay bearing surface, can be designed using a bearing resistance value at serviceability limit states (SLS) of **150 kPa** and a factored bearing resistance value at ultimate limit states (ULS) of **225 kPa**. A geotechnical resistance factor of 0.5 was applied to the reported bearing resistance value at ULS.

An undisturbed soil bearing surface consists of one from which all topsoil and deleterious materials, such as loose, frozen or disturbed soil, whether in situ or not, have been removed, in the dry, prior to the placement of concrete for the footings.

Permissible Grade Raise Recommendations

Due to the presence of the silty clay deposit, a permissible grade raise restriction of **3.0 m** is recommended for the proposed development, and consistent with the previously recommended permissible grade raise restriction provided in Paterson Group *Geotechnical Report PG1796-4 Revision 1* dated September 19, 2014. A post-development groundwater lowering of 0.5 m was considered in our permissible grade raise restriction calculations.

If greater permissible grade raises are required, preloading with or without a surcharge, lightweight fill, and/or other measures should be investigated to reduce the risks of unacceptable long-term post construction total and differential settlements.

Settlement

For design purposes, based on the recommendations provided herein, the total and differential settlements are estimated to be 25 to 20 mm, respectively and considers the bearing resistance and grade raise restriction values provided herein.

Lateral Support

The bearing medium under footing-supported structures is required to be provided with adequate lateral support with respect to excavations and different foundation levels.

Above the groundwater level, adequate lateral support is provided to the in-situ bearing medium soils or engineered fill when a plane extending down and out from the bottom edge of the footing at a minimum of 1.5H:1V passes only through in situ soil or engineered fill of the same or higher capacity as that of the bearing medium.

4.4 Design for Earthquake

The site class for seismic site response can be taken as **Class X_D**. If a higher seismic site class is required for the proposed building, a site-specific shear wave velocity test may be completed to accurately determine the applicable seismic site classification for foundation design of the proposed building, as defined in the Ontario Building Code (OBC) 2024.

Soils underlying the subject site are not susceptible to liquefaction or cyclic softening. Reference should be made to the latest version of the OBC 2024 for a full discussion of the earthquake design requirements.

4.5 Basement Slab

With the removal of all topsoil and deleterious fill, such as material containing a high content of organic materials within the footprint of the proposed buildings, native soil surface or engineered fill surface approved by Paterson personnel at the time of construction, will be considered to be an acceptable subgrade surface on which to commence backfilling for basement slab construction.

Any soft areas should be removed and reinstated with appropriate backfill material. OPSS Granular A or OPSS Granular B Type II, with a maximum particle size of 50 mm, placed in maximum 300 mm thick loose lifts and compacted to a minimum of 98% of the material's SPMDD are recommended for backfilling below the floor slab for this purpose. The upper 200 mm of sub-slab fill is recommended to consist of 19 mm clear crushed stone stone. All backfill materials within the footprint of the proposed buildings should be placed in a maximum of 300 mm thick loose layers and compacted to at least 95% of their SPMDD.

4.6 Pavement Design

For design purposes, the pavement structures presented in the following Table 3 are recommended for the design of driveways and car-only parking areas.

Table 3 – Recommended Pavement Structure – Driveways and Car Only Parking

Thickness (mm)	Material Description
50	**Wear Course** – HL-3 or Superpave 12.5 Asphaltic Concrete
150	**BASE** - OPSS Granular A Crushed Stone
300	**SUBBASE** - OPSS Granular B Type II
SUBGRADE - Either in situ soil or OPSS Granular B Type I or II material placed over in situ soil.	

Table 4 – Recommended Pavement Structure - Local Roadways

Thickness (mm)	Material Description
40	**Wear Course -** HL-3 or Superpave 12.5 Asphaltic Concrete
50	**Binder Course -** HL-8 or Superpave 19.0 Asphaltic Concrete
150	**BASE** - OPSS Granular A Crushed Stone
400	**SUBBASE** - OPSS Granular B Type II
SUBGRADE - Either in situ soils or OPSS Granular B Type I or II material placed over in situ soil	

Minimum Performance Graded (PG) 58-34 asphalt cement should be used for this project. If soft spots develop in the subgrade during compaction or due to construction traffic, the affected areas should be excavated and replaced with OPSS Granular B Type I or II material.

The pavement granular base and subbase should be placed in a maximum 300 mm thick lifts and compacted to a minimum of 100% of the material's SPMDD using suitable vibratory equipment.

Pavement Structure Drainage

The satisfactory performance of the pavement structure is largely dependent on the contact zone between the subgrade material and the base stone remaining in a dry condition. Failure to provide adequate drainage under conditions of heavy wheel loading can result in the fine subgrade soil being pumped into the voids in the stone subbase, thereby reducing load carrying capacity.

Where silty clay is anticipated at subgrade level, consideration should be given to installing subdrains during pavement construction as per City of Ottawa standards. The subdrain invert should be approximately 300 mm below subgrade level, and the subgrade surface should be crowned to promote water flow to drainage lines.

5.0 Design and Construction Precautions

5.1 Foundation Drainage and Backfill

It is recommended that a perimeter foundation drainage system be provided for the proposed basement structures. The foundation drainage system should consist of a 100 mm diameter, geotextile wrapped, perforated, corrugated, plastic pipe, surrounded on all sides by 150 mm of 19 mm clear crushed stone, placed at the footing level around the exterior perimeter of the structures. The clear crushed stone should be wrapped in a non-woven geotextile. The pipe should have a positive outlet, such as a gravity connection to the storm sewer or ditch.

The backfill against the exterior sides of the foundation walls should consist of free-draining, non-frost susceptible granular materials. The greater part of the site excavated materials will be frost susceptible and, as such, are not recommended for re-use as backfill against the foundation walls, unless used in conjunction with a composite drainage system, such as Delta Terraxx or an approved equivalent. Imported granular materials, such as clean sand or OPSS Granular B Type I granular material, should otherwise be used for this purpose. Fill placed as backfill should be compacted using the tracks of the placement equipment.

5.2 Protection of Footings Against Frost Action

Perimeter footings of heated structures are required to be insulated against the deleterious effect of frost action. A minimum of 1.5 m thick soil cover (or equivalent) should be provided in this regard.

Exterior unheated footings, such as those for isolated exterior piers, are more prone to deleterious movement associated with frost action than the exterior walls of the structure proper and require additional protection, such as soil cover of 2.1 m or a combination of soil cover and foundation insulation.

5.3 Excavation Side Slopes

The excavation side slopes above the groundwater level extending to a maximum depth of 3 m should be cut back at 1H:1V or flatter. The flatter slope is required for excavation below groundwater level. The slope cross-sections recommended are for temporary slopes.

The subsoil at this site is considered to be mainly a Type 2 and Type 3 soil according to the Occupational Health and Safety Act and Regulations for Construction Projects. Excavated soil should not be stockpiled directly at the top of excavations and heavy equipment should be kept away from the excavation sides.

Slopes in excess of 3 m in height should be periodically inspected by Paterson field personnel in order to detect if the slopes are exhibiting signs of distress. Excavation side slopes should also be protected from erosion by surface water and rainfall events by the use of tarpaulins or other means of erosion protection along their footprint in conjunction with dry conditions at the slope toes.

Excavated soil should not be stockpiled directly at the top of excavations, and heavy equipment should maintain a safe working distance from the excavation sides. Slopes in excess of 3 m in height should be periodically inspected by Paterson field personnel in order to detect if the slopes are exhibiting signs of distress.

It is recommended that an engineered steel trench box be used at all times to protect personnel working in trenches. It is expected that services will be installed by “cut and cover” methods and excavations will not be left open for extended periods of time.

5.4 Pipe Bedding and Backfill

Bedding and backfill materials should be in accordance with the most recent Material Specifications and Standard Detail Drawings from the Department of Public Works and Services, Infrastructure Services Branch of the City of Ottawa.

A minimum of 150 mm of OPSS Granular A should be placed for bedding for sewer or water pipes when placed on a soil subgrade. The bedding should extend to the spring line of the pipe. Cover material, from the spring line to a minimum of 300 mm above the obvert of the pipe, should consist of OPSS Granular A or Granular B Type II with a maximum size of 25 mm. The bedding and cover materials should be placed in maximum 225 mm thick lifts and compacted to 99% of the SPMDD.

It should generally be possible to re-use the upper portion of the dry to moist (not wet) site-generated brown silty clay above the cover material if the excavation and backfilling operations are carried out in dry weather conditions. Any stones greater than 200 mm in their longest dimension should be removed from these materials prior to placement.

Where hard surface areas are considered above the trench backfill, the trench backfill material within the frost zone (about 1.8 m below finished grade) should match the soils exposed at the trench walls to minimize differential frost heaving. The trench backfill should be placed in maximum 300 mm thick loose lifts and compacted to a minimum of 95% of the material’s SPMDD.

5.5 Groundwater Control

Due to the relatively impervious nature of the silty clay materials, it is anticipated that groundwater infiltration into the excavations should be low to moderate and controllable using open sumps. Pumping from open sumps should be sufficient to control the groundwater influx through the sides of shallow excavations.

Initially higher infiltration rates are expected to be encountered for service trenches extending below the clay deposit. However, it is expected these influxes should be able to be managed using open sumps.

The contractor should be prepared to direct water away from all bearing surfaces and subgrades, regardless of the source, to prevent disturbance to the founding medium.

Groundwater Control for Building Constructions

Under the current regulations enacted by the Ministry of Environment, Conservation and Parks (MECP), any dewatering in excess of 50,000 L/day requires a registration on the Environmental Activity and Sector Registry (EASR), so long as that dewatering is related to construction. If the dewatering is not related to construction, a Permit to Take Water obtained from the MECP will be required.

Based on the soil and groundwater levels, the excavation for the proposed development is anticipated to require an EASR to facilitate dewatering of the proposed development. A minimum of three to four weeks should be allotted for completion of the EASR registration and the Water Taking and Discharge Plan, to be prepared by a Qualified Person as stipulated under O.Reg. 63/16.

Should a Permit to Take Water be required, a minimum of five to six months should be allotted for completion of the permit, due to the minimum review period imposed by the MECP.

Impacts on Neighbouring Structures

Due to the anticipated founding depth of the proposed structure, it is not anticipated that the excavation will extend below the long-term groundwater level. Accordingly, significant short-term groundwater lowering during construction and long-term groundwater lowering following construction are not anticipated. Therefore, adverse effects are not anticipated for neighbouring properties as a result of groundwater lowering.

5.6 Winter Construction

Precautions must be taken if winter construction is considered for this project.

The subsurface soil conditions at this site mostly consist of frost susceptible materials. In the presence of water and freezing conditions, ice could form within the soil mass. Heaving and settlement upon thawing could occur.

In the event of construction during below zero temperatures, the founding stratum should be protected from freezing temperatures by the use of straw, propane heaters and tarpaulins or other suitable means. In this regard, the base of the excavations should be insulated from sub-zero temperatures immediately upon exposure and until such time as heat is adequately supplied to the building and the footings are protected with sufficient soil cover to prevent freezing at founding level.

Trench excavations and pavement construction are also difficult activities to complete during freezing conditions without introducing frost in the subgrade or in the excavation walls and bottoms. Precautions should be taken if such activities are to be carried out during freezing conditions. Additional information could be provided, if required.

Precautions must be taken where excavations are carried out in proximity to existing structure which may be adversely affected due to the freezing conditions. Provisions should be made by the contractor to protect the walls of the excavations from freezing, if applicable.

5.7 Corrosion Potential and Sulphates

The results of analytical testing show that the sulphate content is less than 0.1%. This result is indicative that Type 10 Portland cement (normal cement) would be appropriate for this site. The chloride content and the pH of the sample indicate that they are not significant factors in creating a corrosive environment for exposed ferrous metals at this site, whereas the resistivity is indicative of a moderate to slightly aggressive corrosive environment.

5.8 Tree Planting Considerations

Based on the results of the Atterberg limit testing mentioned above, the plasticity index was found to be less than 40%. Based on this, the following tree planting setbacks are recommended for footings founded upon the silty clay deposit encountered throughout the subject site.

☐ Large trees (mature tree height over 14 m) can be planted at the subject site provided a tree to foundation setback equal to the full mature height of the tree can be provided (e.g., in a park or other green space). Tree planting setback limits may be reduced to 4.5 m for small (mature height up to 7.5 m) and medium size trees (mature height 7.5 to 14 m), provided that the conditions noted below are met:

☐ The underside of footing (USF) is 2.1 m or greater below the lowest finished grade must be satisfied for footings within 10 m from the tree, as measured from the centre of the tree trunk and verified by means of the Grading Plan as indicated procedural changes below.

☐ A small tree must be provided with a minimum 25 m^3 of available soil volume while a medium tree must be provided with a minimum of 30 m^3 of available soil volume, as determined by the Landscape Architect. The developer is to ensure that the soil is generally un-compacted when backfilling in street tree planting locations.

- The tree species must be small (mature tree height up to 7.5 m) to medium size (mature tree height 7.5 m to 14 m) as confirmed by the Landscape Architect.

- The foundation walls are to be reinforced at least nominally (minimum of two upper and two lower 15 mm bars in the foundation wall).

- Grading surrounding the tree must promote drainage to the tree root zone (in such a manner as not to be detrimental to the tree).

6.0 Recommendations

It is recommended that the preliminary and detailed grading, servicing and landscaping plans be reviewed from a geotechnical perspective by Paterson once the preliminary and final details of the proposed development have been prepared. It is a requirement for the foundation design data provided herein to be applicable that a material testing and observation program be performed by the Paterson field personnel. The following aspects of the program should be performed by Paterson:

- Observation of all bearing surfaces prior to the placement of concrete.

- Sampling and testing of the concrete and fill materials used.

- Review and inspection of the installation of the foundation drainage systems.

- Periodic observation of the condition of unsupported excavation side slopes in excess of 3 m in height, if applicable.

- Observation of all subgrades prior to backfilling and follow-up field density tests to determine the level of compaction achieved.

- Sampling and testing of the bituminous concrete, including mix design reviews.

A report confirming that these works have been conducted in general accordance with our recommendations could be issued, upon request, following the completion of a satisfactory materials testing and observation program by Paterson field personnel. All excess soils generated by construction activities that will be transported on-site or off-site should be handled as per *Ontario Regulation 406/19: On-Site and Excess Soil Management*.

7.0 Statement of Limitations

The recommendations provided in this report are in accordance with our present understanding of the project. Paterson requests permission to review the recommendations when the project drawings and specifications are completed. A soil investigation is a limited sampling of a site. Should any conditions at the site be encountered which differ from those at the test locations, Paterson requests immediate notification to permit reassessment of our recommendations.

The recommendations provided herein should only be used by the design professionals associated with this project. They are not intended for contractors bidding on or undertaking the work. The latter should evaluate the factual information provided in this report and determine the suitability and completeness for their intended construction schedule and methods. Additional testing may be required for their purposes. The present letter report applies only to the project described in this document. Use of this report for purposes other than those described herein or by person(s) other than Tamarack (Cardinal Creek) Corporation or their agents is not authorized without review by Paterson for the applicability of our recommendations to the alternative use of the report.

We trust that the current submission meets your immediate requirements.

Best Regards,

Paterson Group Inc.

N Versolato

Nicholas F. R. Versolato, P.Eng., ing.

Drew Petahtegoose, P.Eng.

LICENSED PROFESSIONAL ENGINEER
June 30, 2026
D. J. PETAHTEGOOSE
100568013
PROVINCE OF ONTARIO

Attachments:

☐ Soil Profile and Test Data Sheets
☐ Symbols and Terms
☐ Atterberg Limit and Shrinkage Limits Testing Results
☐ Analytical Testing Results
☐ Figure 1 – Key Plan
☐ Drawing PG7998-1 – Test Hole Location Plan
☐ Drawing PG7998-2 – Bedrock Contour Plan

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List of Services
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Temporary Shoring Design ◊ Building Science ◊ Noise and Vibration Studies

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation

900 Geographe Terrace - Cardinal Creek Village - Phase 8, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 385370.88 **NORTHING:** 5040499.65 **ELEVATION:** 69.16

PROJECT: Proposed Residential Development

ADVANCED BY: Backhoe

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** May 20, 2026

FILE NO. : PG7998

HOLE NO. : TP 1-26

SAMPLE DESCRIPTION

GROUND SURFACE

FILL: Topsoil and brown silty sand, with clay and crushed stone

1.50m [67.66m]

Very stiff, brown **SILTY CLAY**

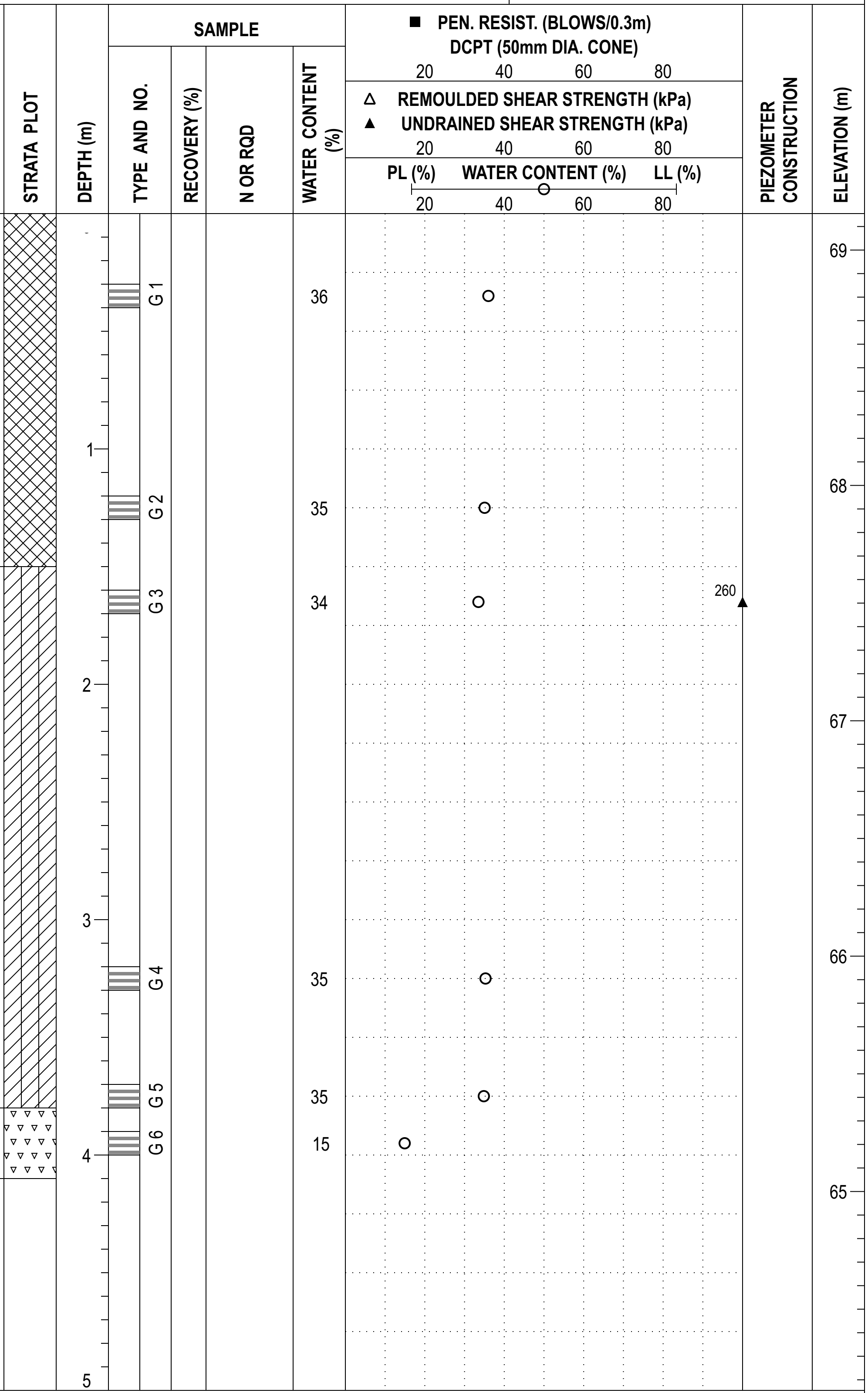
3.80m [65.36m]

GLACIAL TILL: Grey silty clay, with cobbles and boulders

4.10m [65.06m]

End of Test Pit

Groundwater infiltration osberved at 3.50 m depth



TYPE AND NO.	WATER CONTENT (%)
G 1	36
G 2	35
G 3	34
G 4	35
G 5	35
G 6	15

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

900 Geographe Terrace - Cardinal Creek Village - Phase 8, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 385390.50 **NORTHING:** 5040453.50 **ELEVATION:** 69.72

PROJECT: Proposed Residential Development
ADVANCED BY: Backhoe
REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** May 20, 2026

FILE NO. : PG7998
HOLE NO. : TP 2-26

SAMPLE DESCRIPTION

GROUND SURFACE

FILL: Brown silty sand, trace clay, gravel and organics

1.00m [68.72m]

TOPSOIL

1.20m [68.52m]

Very stiff, brown **SILTY CLAY**

2.10m [67.62m]

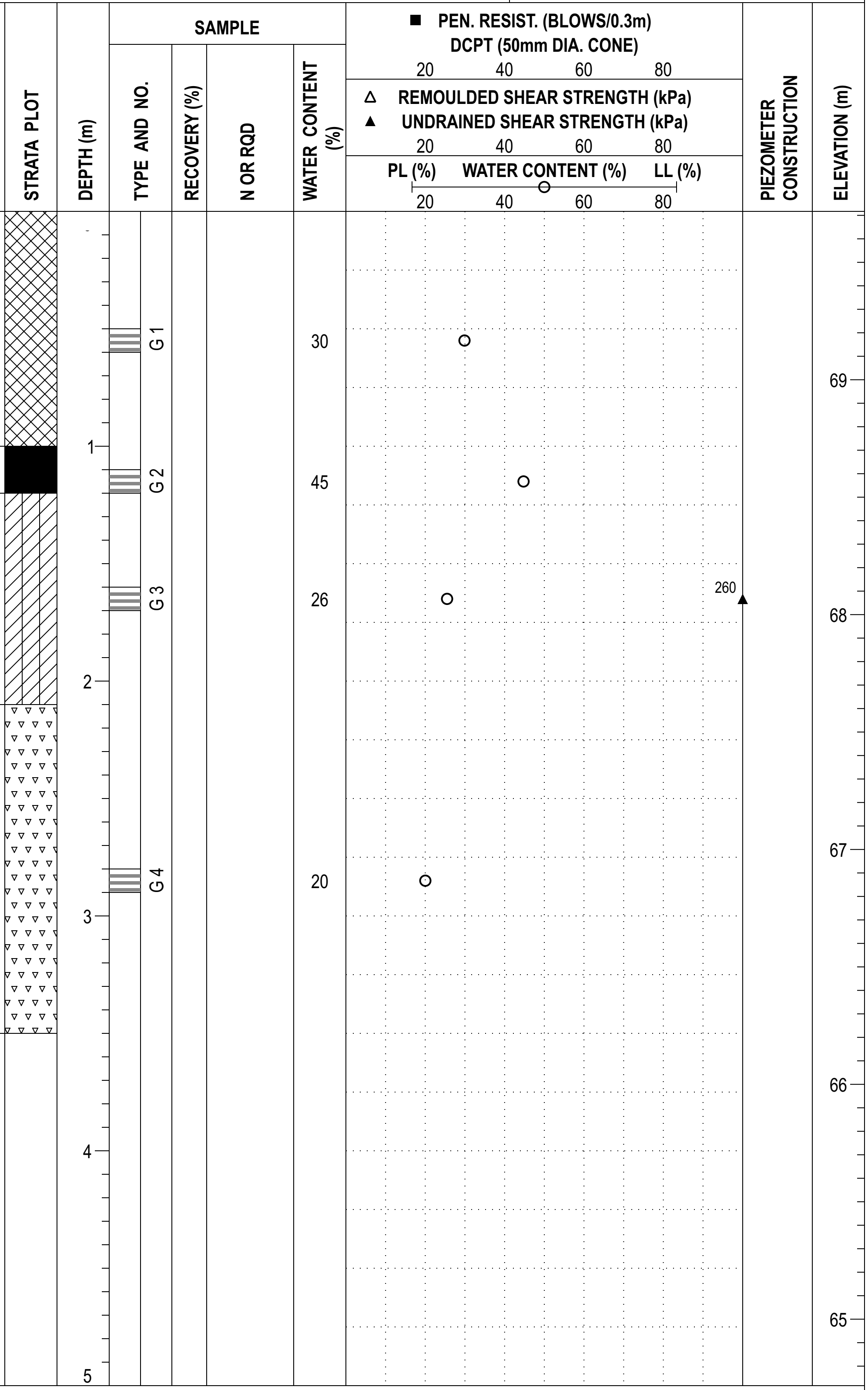
GLACIAL TILL: Grey silty clay, with cobbles and boulders

3.50m [66.22m]

End of Test Pit

Practical refusal to excavation on inferred bedrock at 3.50 m depth

Groundwater infiltration observed at 3.00 m depth



SOIL PROFILE AND TEST DATA

Geotechnical Investigation

900 Geographe Terrace - Cardinal Creek Village - Phase 8, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 385400.62 **NORTHING:** 5040403.26 **ELEVATION:** 69.54

PROJECT: Proposed Residential Development

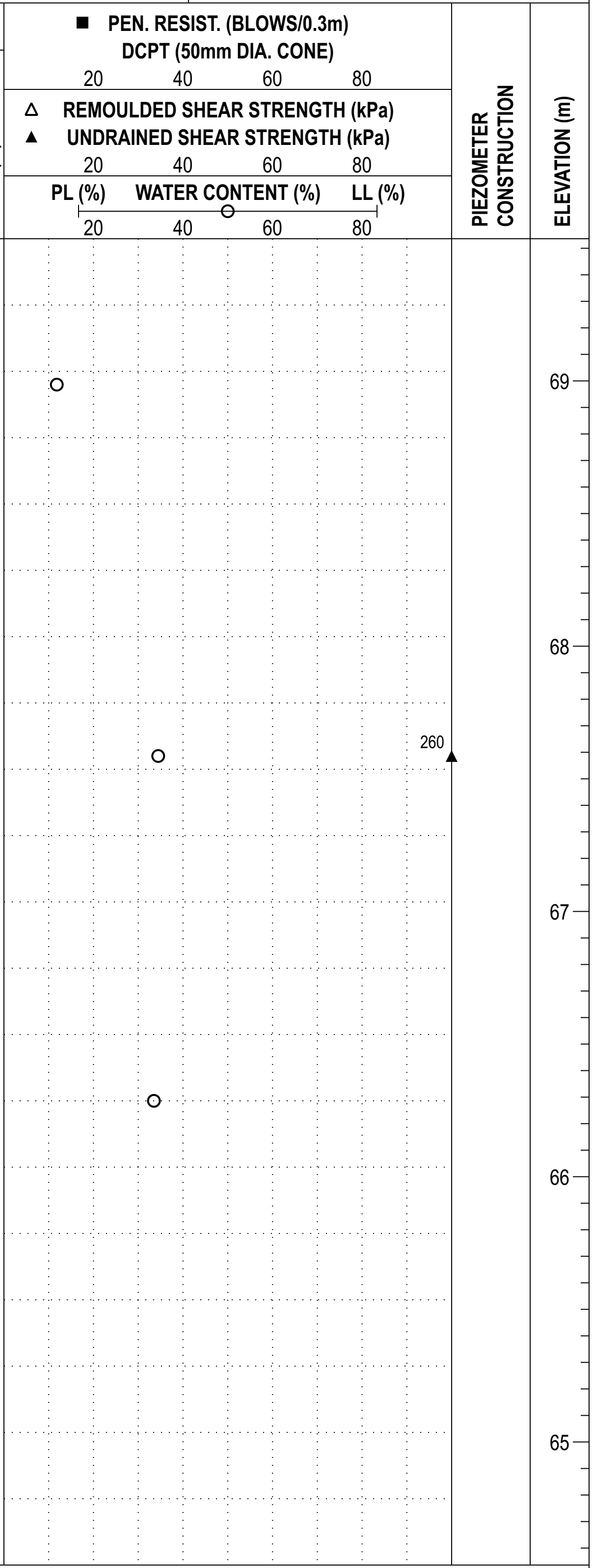
ADVANCED BY: Backhoe

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** May 20, 2026

FILE NO. : PG7998

HOLE NO. : TP 3-26

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	TYPE AND NO.	RECOVERY (%)	N OR RQD	WATER CONTENT (%)
GROUND SURFACE						
FILLL: Brown silty sand, trace topsoil and gravel	▨		G 1			12
1.20m [68.34m]						
Very stiff, brown **SILTY CLAY**	▨		G 2			34
			G 3			34
3.70m [65.84m]						
End of Test Pit Practical refusal to excavation on inferred bedrock at 3.70 m depth Groundwater infiltration observed at 3.50 m depth						



SOIL PROFILE AND TEST DATA

Geotechnical Investigation

900 Geographe Terrace - Cardinal Creek Village - Phase 8, Ottawa, Ontario

PATERSON GROUP

COORD. SYS.: MTM ZONE 9 **EASTING:** 385335.27 **NORTHING:** 5040435.30 **ELEVATION:** 68.35

PROJECT: Proposed Residential Development

ADVANCED BY: Backhoe

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** May 20, 2026

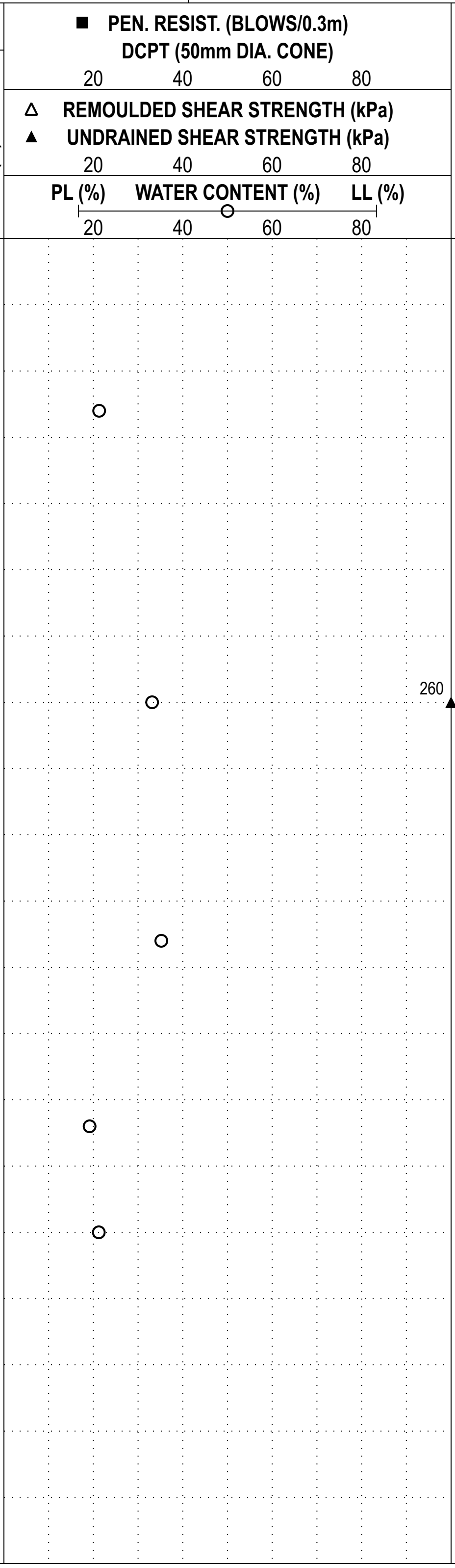
FILE NO. : PG7998

HOLE NO. : TP 4-26

SAMPLE DESCRIPTION	TYPE AND NO.	RECOVERY (%)	N OR RQD	WATER CONTENT (%)
GROUND SURFACE				
FILL: Brown silty clay, with cobbles, trace topsoil	G 1			21
1.50m [66.85m]				
Very stiff, brown **SILTY CLAY**	G 2			33
	G 3			35
3.10m [65.25m]				
GLACIAL TILL: Brown silty sand, with cobbles, trace clay	G 4			19
	G 5			21
4.00m [64.35m]				

End of Test Pit

Groundwater infiltration osberved at 3.40 m depth



STRATA PLOT | DEPTH (m): 1, 2, 3, 4, 5 | PIEZOMETER CONSTRUCTION | ELEVATION (m): 68, 67, 66, 65, 64

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

900 Geographe Terrace - Cardinal Creek Village - Phase 8, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 385445.80 **NORTHING:** 5040431.54 **ELEVATION:** 70.56

PROJECT: Proposed Residential Development

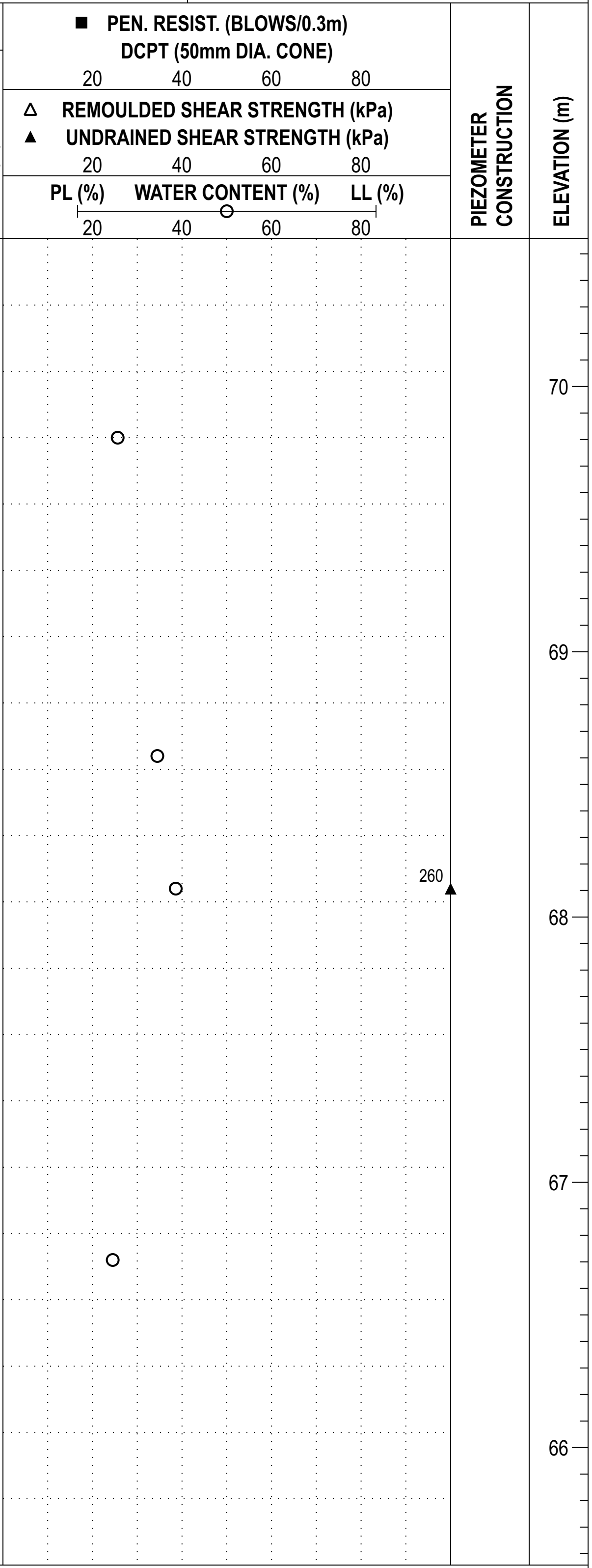
ADVANCED BY: Backhoe

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** May 20, 2026

FILE NO. : **PG7998**

HOLE NO. : **TP 5-26**

SAMPLE DESCRIPTION	DEPTH (m)	SAMPLE TYPE AND NO.	 RECOVERY (%)	 N OR RQD	WATER CONTENT (%)
GROUND SURFACE					
FILL: Brown silty sand, trace clay and crushed stone		G 1			26
1.60m [68.96m]	1				
Very stiff, brown **SILTY CLAY**	2	G 2 G 3			34 39
3.50m [67.06m]	3				
GLACIAL TILL: Brown silty sand, with cobbles, trace clay		G 4			25
4.00m [66.56m]	4				
End of Test Pit Groundwater infiltration osberved at 3.70 m depth	5				



SOIL PROFILE AND TEST DATA

Geotechnical Investigation

900 Geographe Terrace - Cardinal Creek Village - Phase 8, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 385418.34 **NORTHING:** 5040487.52 **ELEVATION:** 70.53

PROJECT: Proposed Residential Development

ADVANCED BY: Backhoe

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** May 20, 2026

FILE NO. : PG7998

HOLE NO. : TP 6-26

SAMPLE DESCRIPTION

GROUND SURFACE

FILL: Brown silty clay, trace clay and cobbles

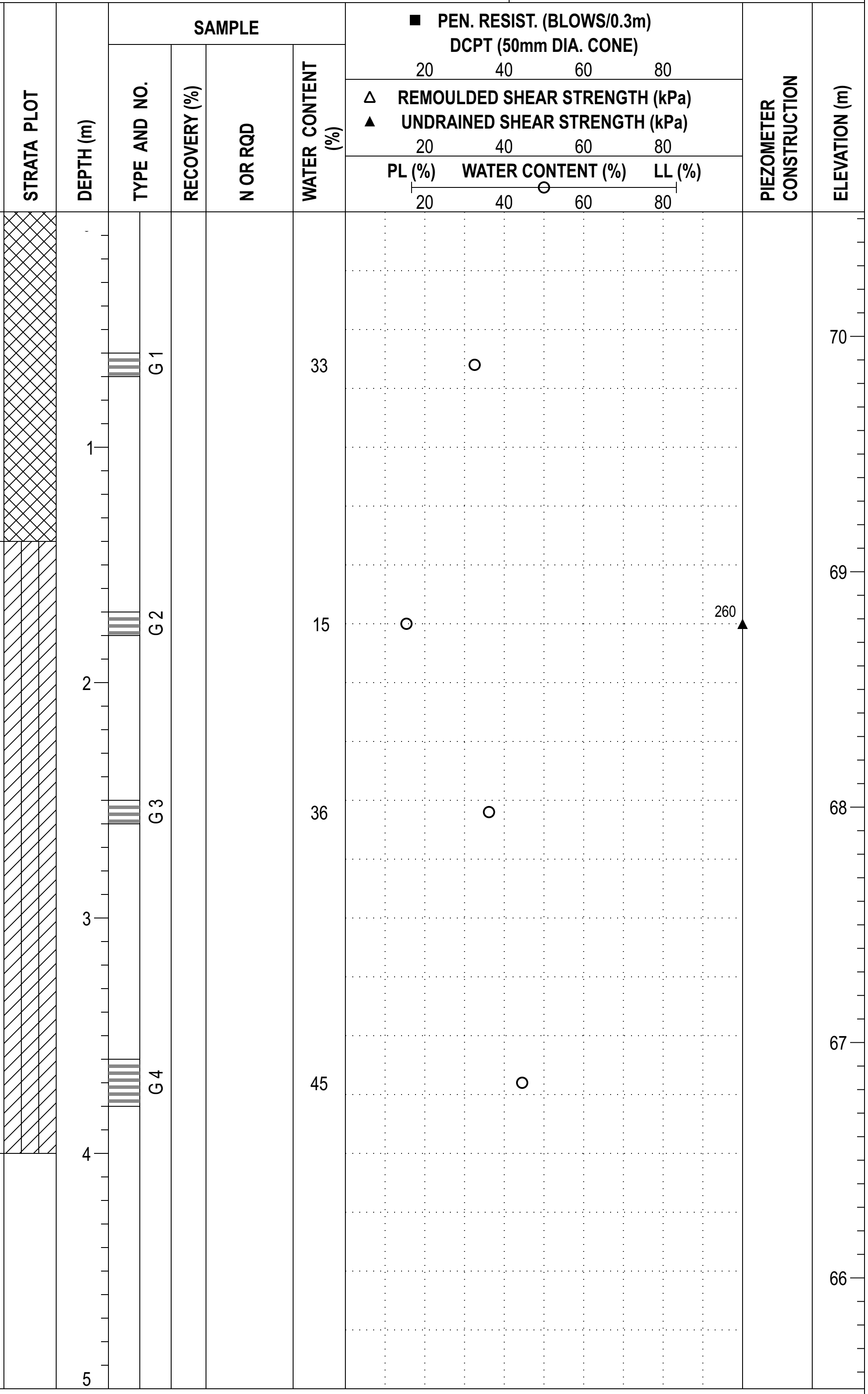
1.40m [69.13m]

Very stiff, brown **SILTY CLAY**

4.00m [66.53m]

End of Test Pit

Groundwater infiltration observed at 4.00 m depth



DISCLAIMER: THE DATA PRESENTED IN THIS SHEET IS THE PROPERTY OF PATERSON GROUP AND THE CLIENT FOR WHOM IT WAS PRODUCED. THIS SHEET SHOULD BE READ IN CONJUNCTION WITH ITS CORRESPONDING REPORT. PATERSON GROUP IS NOT RESPONSIBLE FOR THE UNAUTHORIZED USE OF THIS DATA.

PATERSON GROUP

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

900 Geographe Terrace - Cardinal Creek Village - Phase 8, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 385373.85 **NORTHING:** 5040490.56 **ELEVATION:** 69.19

PROJECT: Proposed Residential Development

ADVANCED BY: Backhoe

REMARKS: Datum: NAD1983 (Canada) Geoid: HT2-2010 **DATE:** May 20, 2026

FILE NO. : PG7998

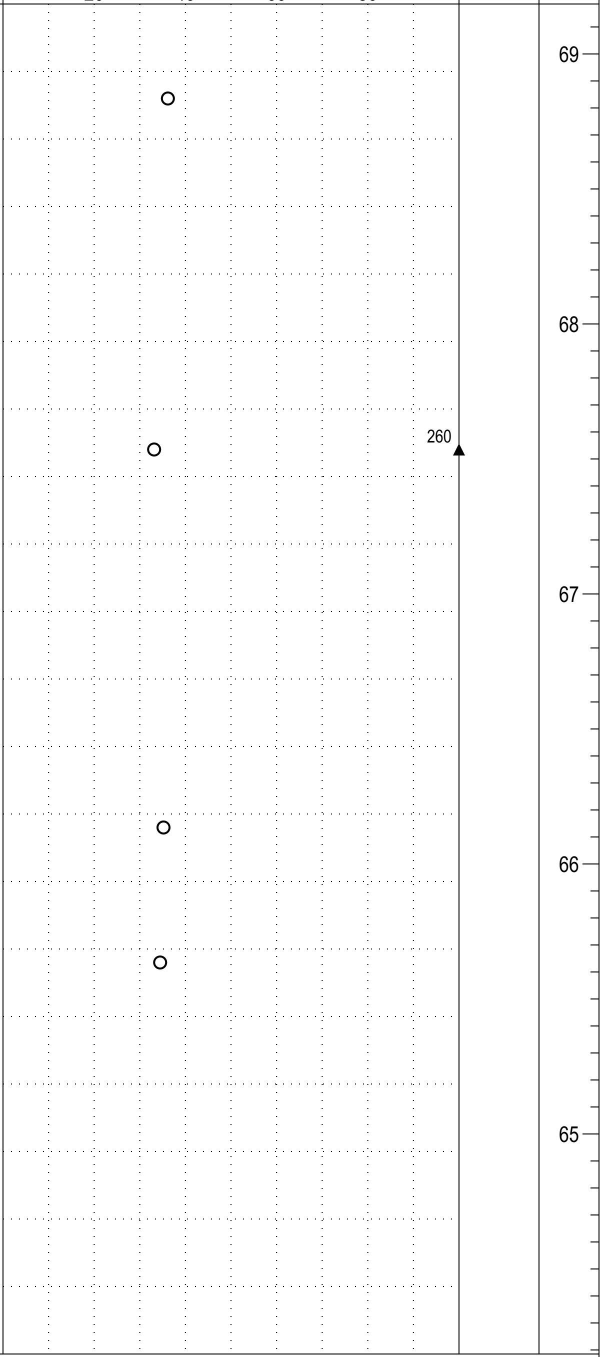
HOLE NO. : TP 7-26

SAMPLE DESCRIPTION GROUND SURFACE	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N OR RQD	SAMPLE WATER CONTENT (%)	PIEZOMETER CONSTRUCTION	ELEVATION (m)
FILL: Brown silty clay, trace sand, cobbles and topsoil	▨		G 1			36		
1.40m [67.78m]								
Very stiff, brown **SILTY CLAY**	▨		G 2			33		
3.10m [66.09m]								
GLACIAL TILL: Grey silty clay, with gravel, cobbles and boulders	▽		G 3			35		
			G 4			34		
3.80m [65.39m]								
End of Test Pit Practical refusal to excavation on inferred bedrock at 3.80 m depth Groundwater infiltration observed at 3.80m depth								

■ 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



P:/AutoCAD Drawings/Test Hole Data Files/PG79xx/PG7998/data.sqlite 2026-06-30, 10:00 Paterson_Template OA

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Queen Street
Ottawa, Ontario

DATUM Ground surface elevations provided by Stantec Geomatics Ltd.

REMARKS

BORINGS BY CME 55 Power Auger

DATE March 28, 2012

FILE NO. PG1796

HOLE NO. BH11-12

SOIL DESCRIPTION	SAMPLE TYPE	NUMBER	% RECOVERY	N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE					0	67.84
FILL: Brown silty sand 0.13	AU	1				
TOPSOIL 0.36						
Very stiff, brown **SILTY CLAY**	SS	2	100	18	1	66.84
	SS	3	100	25		
2.21					2	65.84
GLACIAL TILL: Brown silty clay with sand, gravel, cobbles and boulders	SS	4	100	50+		
					3	64.84
	SS	5	55	48		
3.96						

End of Borehole

Practical refusal to augering @ 3.96m depth

(GWL @ 0.40m-April 13, 2012)

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

Piezometer Construction

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Queen Street
Ottawa, Ontario

DATUM Ground surface elevations provided by Stantec Geomatics Limited.

REMARKS

BORINGS BY Backhoe

DATE December 20, 2012

FILE NO. PG1796

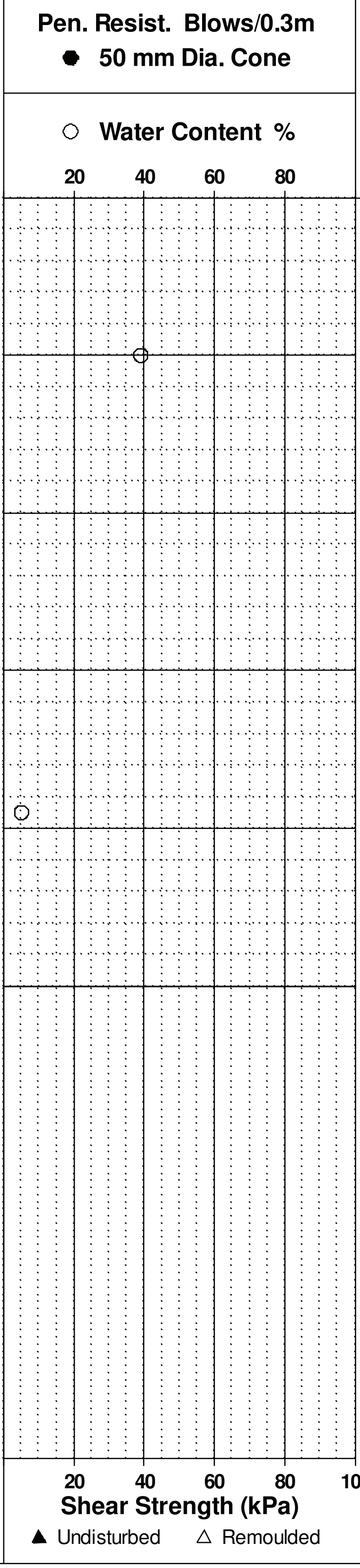
HOLE NO. TP39-12

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Piezometer Construction
GROUND SURFACE						0	68.96	
TOPSOIL 0.25								
Stiff, brown **SILTY CLAY,** trace sand 0.70								
Hard to very stiff, brown **SILTY CLAY**		G	1			1	67.96	
						2	66.96	
3.40						3	65.96	∇
GLACIAL TILL: Compact to dense, grey sand with gravel, cobbles, trace clay		G	2			4	64.96	
5.00						5	63.96	

End of Test Pit

TP terminated on inferred bedrock surface at 5.00m depth

(Groundwater infiltration at 3.4m depth)



SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Queen Street
Ottawa, Ontario

DATUM Ground surface elevations provided by Stantec Geomatics Limited.

REMARKS

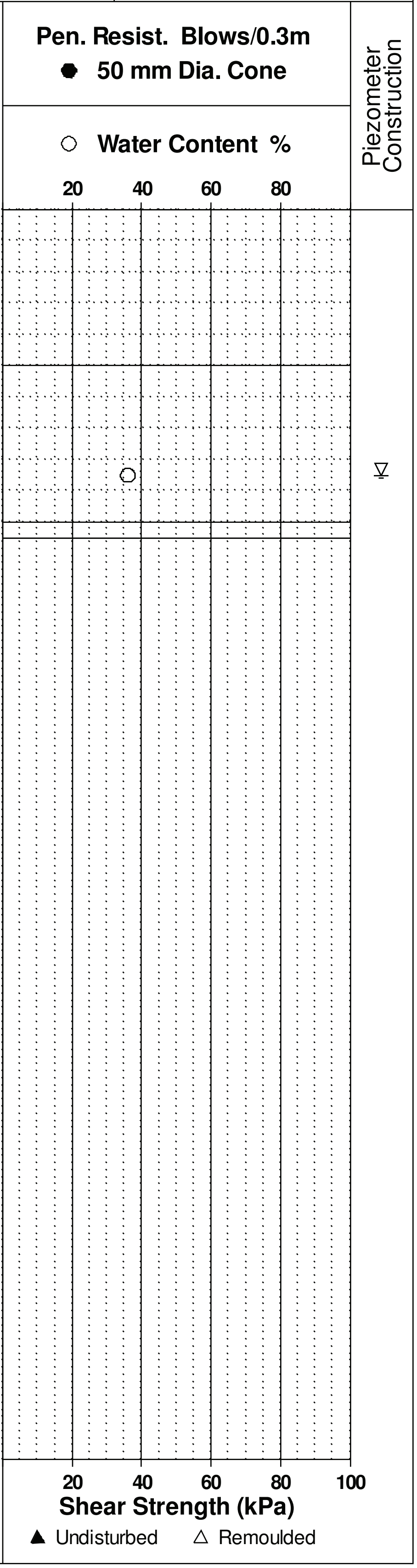
BORINGS BY Backhoe

DATE December 19, 2012

FILE NO. PG1796

HOLE NO. TP42-12

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	71.87
TOPSOIL 0.35							
Hard to very stiff, brown **SILTY CLAY** 2.00		G	1			1 2	70.87 69.87
GLACIAL TILL: Dense, brown silty sand with gravel, cobbles, trace clay and boulders 2.10							
End of Test Pit TP terminated on inferred bedrock surface at 2.10m depth (Groundwater infiltration at 1.7m depth)							



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 relative strength of cohesionless soils is the compactness condition, 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. An SPT N value of “P” denotes that the split-spoon sampler was pushed 300 mm into the soil without the use of a falling hammer.

Compactness Condition	‘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 shear vane tests, unconfined compression tests, or occasionally by the Standard Penetration Test (SPT). Note that the typical correlations of undrained shear strength to SPT N value (tabulated below) tend to underestimate the consistency for sensitive silty clays, so Paterson reviews the applicable split spoon samples in the laboratory to provide a more representative consistency value based on tactile examination.

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, S_t, is the ratio between the undisturbed undrained shear strength and the remoulded undrained shear strength of the soil. The classes of sensitivity may be defined as follows:

Low Sensitivity: $S_t < 2$
Medium Sensitivity: $2 < S_t < 4$
Sensitive: $4 < S_t < 8$
Extra Sensitive: $8 < S_t < 16$
Quick Clay: $S_t > 16$

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 NQ or larger size core. However, it can be used on smaller core sizes, such as BQ, 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, generally recovered using a piston sampler
G - "Grab" sample from test pit or surface materials
AU - Auger sample or bulk sample
WS - Wash sample
RC - Rock core sample (Core bit size BQ, NQ, HQ, etc.). Rock core samples are obtained with the use of standard diamond drilling bits.

SYMBOLS AND TERMS (continued)

PLASTICITY LIMITS AND GRAIN SIZE DISTRIBUTION

WC% - Natural water 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 at 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)

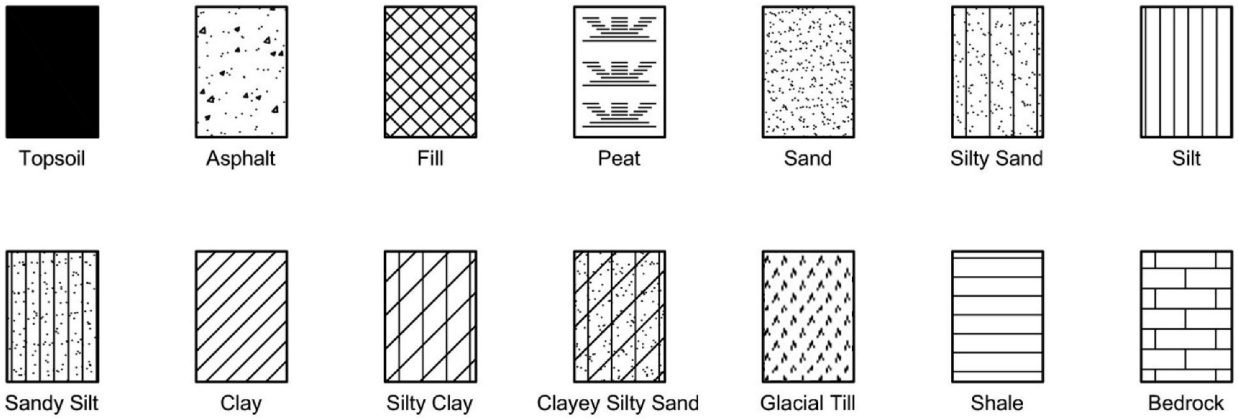
OC Ratio Overconsolidaton ratio = p'_c / p'_o
Void Ratio Initial sample void ratio = volume of voids / volume of solids
Wo - Initial water content (at start of consolidation test)

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.

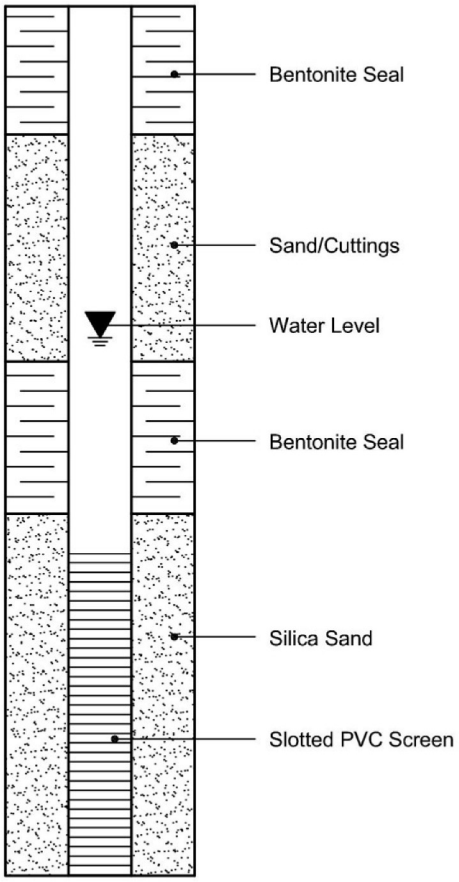
SYMBOLS AND TERMS (continued)

STRATA PLOT

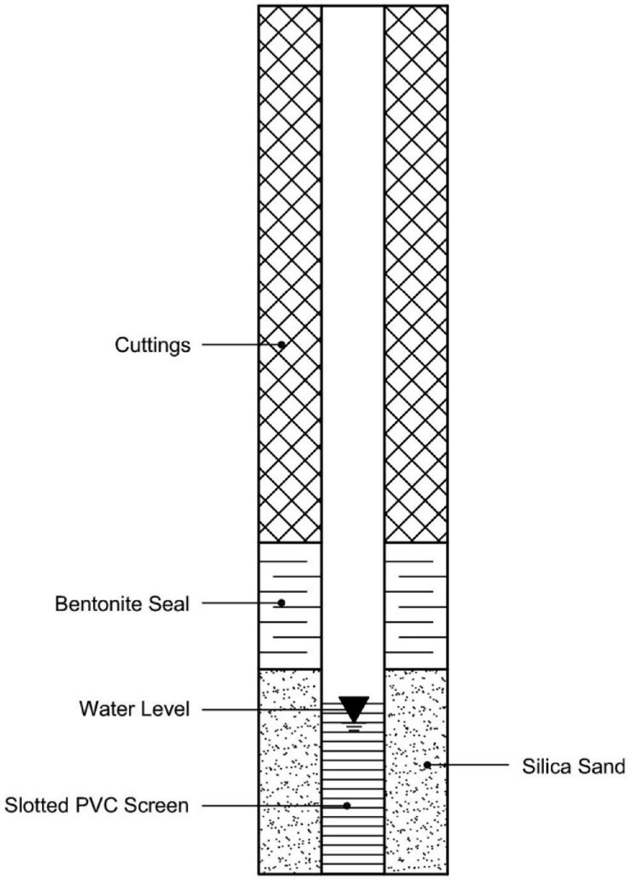


MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION



PATERSON GROUP

ATTERBERG LIMITS
LS-703/704

CLIENT:	Tamarack (Cardinal Creek) Corp.	FILE NO.:	PG7998
PROJECT:	Proposed Residential Dev.	DATE SAMPLED:	20-May
LOCATION:	TP4-26 G3 2.6-2.7M	DATE REPORTED:	04-Jun
LAB NUMBER:	66421		

LIQUID LIMIT DETERMINATION

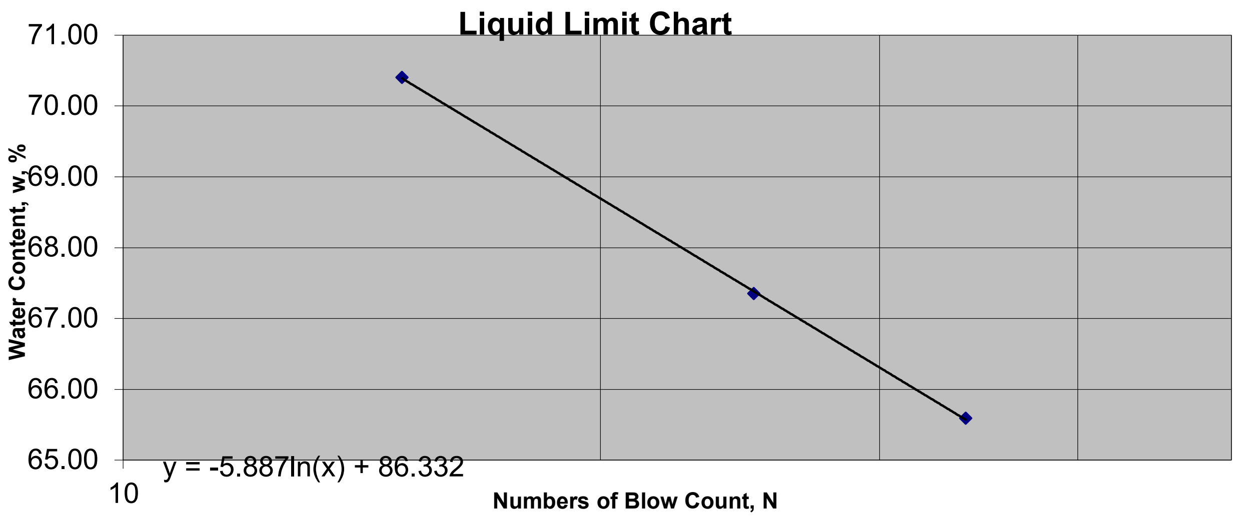
CAN NO.	**12**	**34**	**128**				
WT. OF CAN	8.60	4.30	6.36				
WT. OF SOIL & CAN	22.76	18.14	21.18				
WT. OF DRY SOIL & CAN	16.91	12.57	15.31				
WT. OF MOISTURE	5.85	5.57	5.87				
WT. OF DRY SOIL & CAN	8.31	8.27	8.95				
WATER CONTENT, w, %	**70.40**	**67.35**	**65.59**				
NO. OF BLOWS, N	15	25	34				

PLASTIC LIMIT DETERMINATION

CAN NO.	**1**	**11**
WT. OF CAN	19.94	19.97
WT. OF SOIL & CAN	28.07	27.81
WT. OF DRY SOIL & CAN	26.19	26.01
WT. OF MOISTURE	1.88	1.80
WT. OF DRY SOIL & CAN	6.25	6.04
WATER CONTENT, w, %	**30.08**	**29.80**

RESULTS

LIQUID LIMIT	**68**
PLASTIC LIMIT	**30**
PLASTICITY INDEX	**38**



TECHNICIAN: CP	**REVIEWED BY:**	**C. Beadow**	**J. Forsyth, P. Eng.**

PATERSON GROUP

ATTERBERG LIMITS
LS-703/704

CLIENT:	Tamarack (Cardinal Creek) Corp.	FILE NO.:	PG7998
PROJECT:	Proposed Residential Dev.	DATE SAMPLED:	20-May
LOCATION:	TP6-26 G4 3.6-3.8M	DATE REPORTED:	04-Jun
LAB NUMBER:	66422		

LIQUID LIMIT DETERMINATION

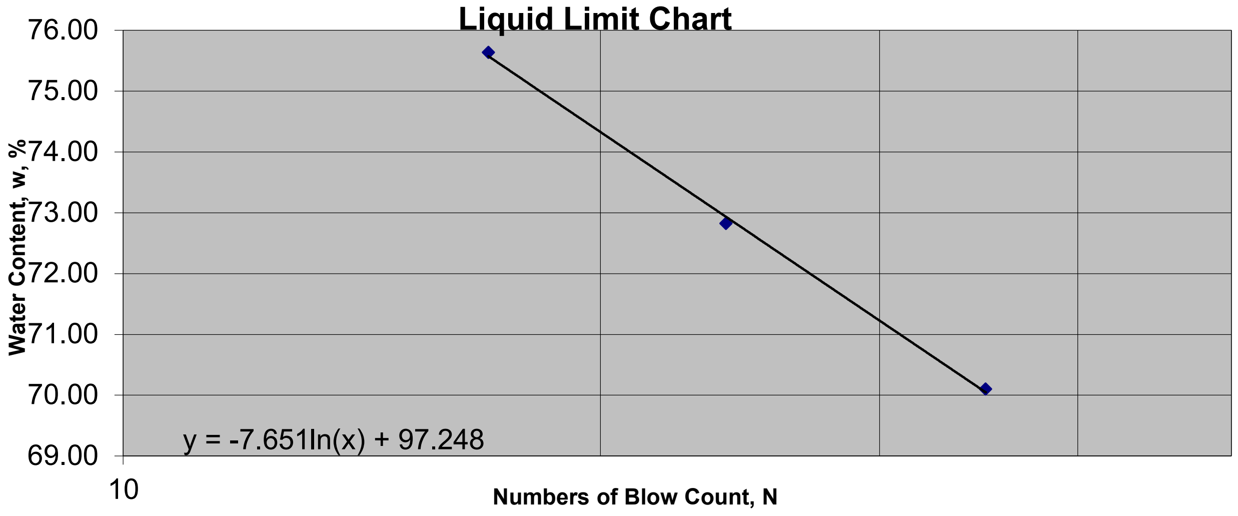
CAN NO.	**13**	**14**	**33**				
WT. OF CAN	8.64	8.63	4.30				
WT. OF SOIL & CAN	24.78	22.30	18.52				
WT. OF DRY SOIL & CAN	17.83	16.54	12.66				
WT. OF MOISTURE	6.95	5.76	5.86				
WT. OF DRY SOIL & CAN	9.19	7.91	8.36				
WATER CONTENT, w, %	**75.63**	**72.82**	**70.1**				
NO. OF BLOWS, N	17	24	35				

PLASTIC LIMIT DETERMINATION

CAN NO.	**12**	**9**
WT. OF CAN	16.77	19.39
WT. OF SOIL & CAN	24.81	27.29
WT. OF DRY SOIL & CAN	22.71	25.23
WT. OF MOISTURE	2.1	2.06
WT. OF DRY SOIL & CAN	5.94	5.84
WATER CONTENT, w, %	**35.35**	**35.27**

RESULTS

LIQUID LIMIT	**73**
PLASTIC LIMIT	**35**
PLASTICITY INDEX	**38**



TECHNICIAN: CP	**REVIEWED BY:**	**C. Beadow**	**J. Forsyth, P. Eng.**

PATERSON GROUP

LINEAR SHRINKAGE
ASTM D4943-02

CLIENT:	Tamarack (Cardinal Creek) Corp.	DEPTH:	3.6-3.8M	FILE NO.:	PG7998
PROJECT:	Proposed Residential Dev.	BH OR TP No:	TP6-26 G4	DATE SAMPLED:	20-May-26
LAB No.:	66422	TESTED BY:	D.K	DATE RECEIVED:	20-May-26
SAMPLED BY:	Taggart	DATE REPORTED:	04-Jun-26	DATE TESTED:	20-May-26

LABORATORY INFORMATION & TEST RESULTS

Moisture No. of Blows(7)		Calibration (Two Trials) Tin NO.(A1)		
Tare	5.19	Tin	4.84	4.84
Soil Pat Wet + Tare	61.18	Tin + Grease	5.21	5.2
Soil Pat Wet	55.99	Glass	43.23	43.23
Soil Pat Dry + Tare	35.46	Tin + Glass + Water	85.26	85.26
Soil Pat Dry	30.27	Volume	36.82	36.83
Moisture	**84.97**	**Average Volume**	**36.83**	

Soil Pat + String	30.61
Soil Pat + Wax + String in Air	35.95
Soil Pat + Wax + String in Water	12.02
Volume Of Pat (Vdx)	23.93

RESULTS:

Shrinkage Limit	**22.55**
Shrinkage Ratio	**1.688**
Volumetric Shrinkage	**105.382**
Linear Shrinkage	**21.328**

COMMENTS:

REVIEWED BY:	**Curtis Beadow**	**Joe Forsyth, P. Eng.**

Report Date: 27-May-2026

Client: **Paterson Group Consulting Engineers (Ottawa)**

Order Date: 21-May-2026

Client PO: 65970

Project Description: PG7998

Client ID:		TP4-26 G3	-	-	-		
Sample Date:		20-May-26 09:00	-	-	-	-	-
Sample ID:		2621307-01	-	-	-		
Matrix:		Soil	-	-	-		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	74.8	-	-	-	-	-
General Inorganics							
pH	0.05 pH Units	7.08	-	-	-	-	-
Resistivity	0.1 Ohm.m	55.3	-	-	-	-	-
Anions							
Chloride	10 ug/g	<10	-	-	-	-	-
Sulphate	10 ug/g	110	-	-	-	-	-

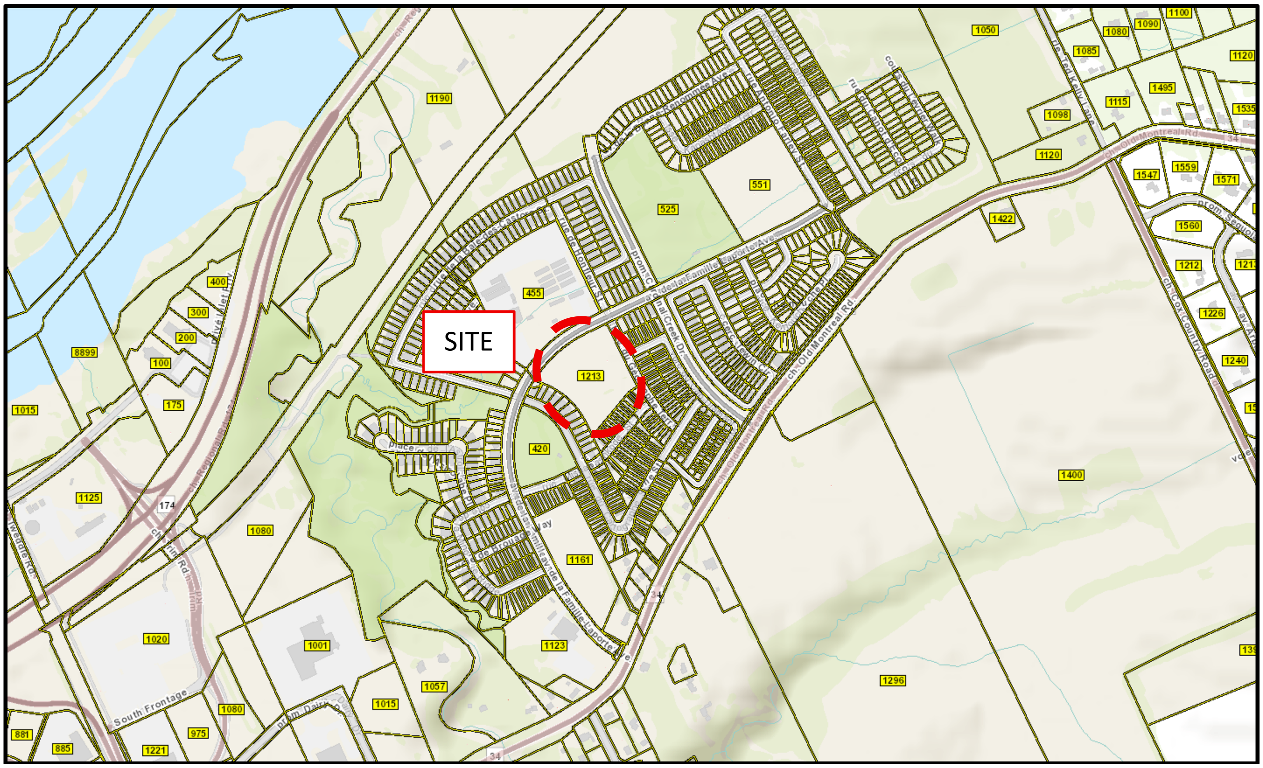
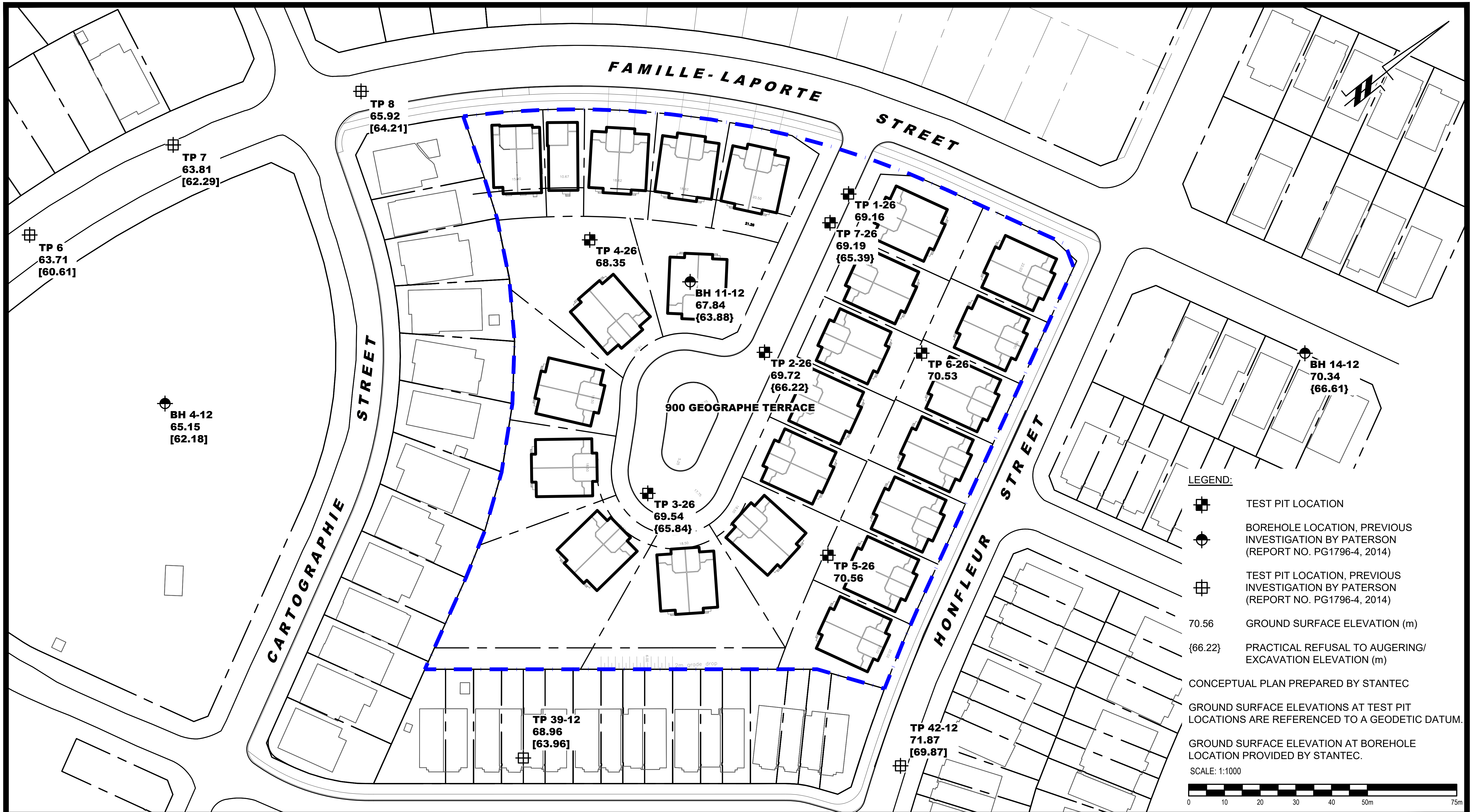


FIGURE 1

KEY PLAN



LEGEND:

▣	TEST PIT LOCATION
⊕	BOREHOLE LOCATION, PREVIOUS INVESTIGATION BY PATERSON (REPORT NO. PG1796-4, 2014)
⊞	TEST PIT LOCATION, PREVIOUS INVESTIGATION BY PATERSON (REPORT NO. PG1796-4, 2014)
70.56	GROUND SURFACE ELEVATION (m)
{66.22}	PRACTICAL REFUSAL TO AUGERING/ EXCAVATION ELEVATION (m)

CONCEPTUAL PLAN PREPARED BY STANTEC

GROUND SURFACE ELEVATIONS AT TEST PIT LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

GROUND SURFACE ELEVATION AT BOREHOLE LOCATION PROVIDED BY STANTEC.

SCALE: 1:1000

PATERSON GROUP

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

NO.	REVISIONS	DD/MM/YYYY	INITIAL

TAMARACK (CARDINAL CREEK) CORP.
GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
OTTAWA, 900 GEOGRAPHE TERRACE - CARDINAL CREEK VILLAGE - PHASE 8 ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale: 1:1000	Date: 05/2026
Drawn by: ZS	Report No.: PG7998-1
Checked by: GJ	Dwg. No.: **PG7998-1**
Approved by: DP	Revision No.:

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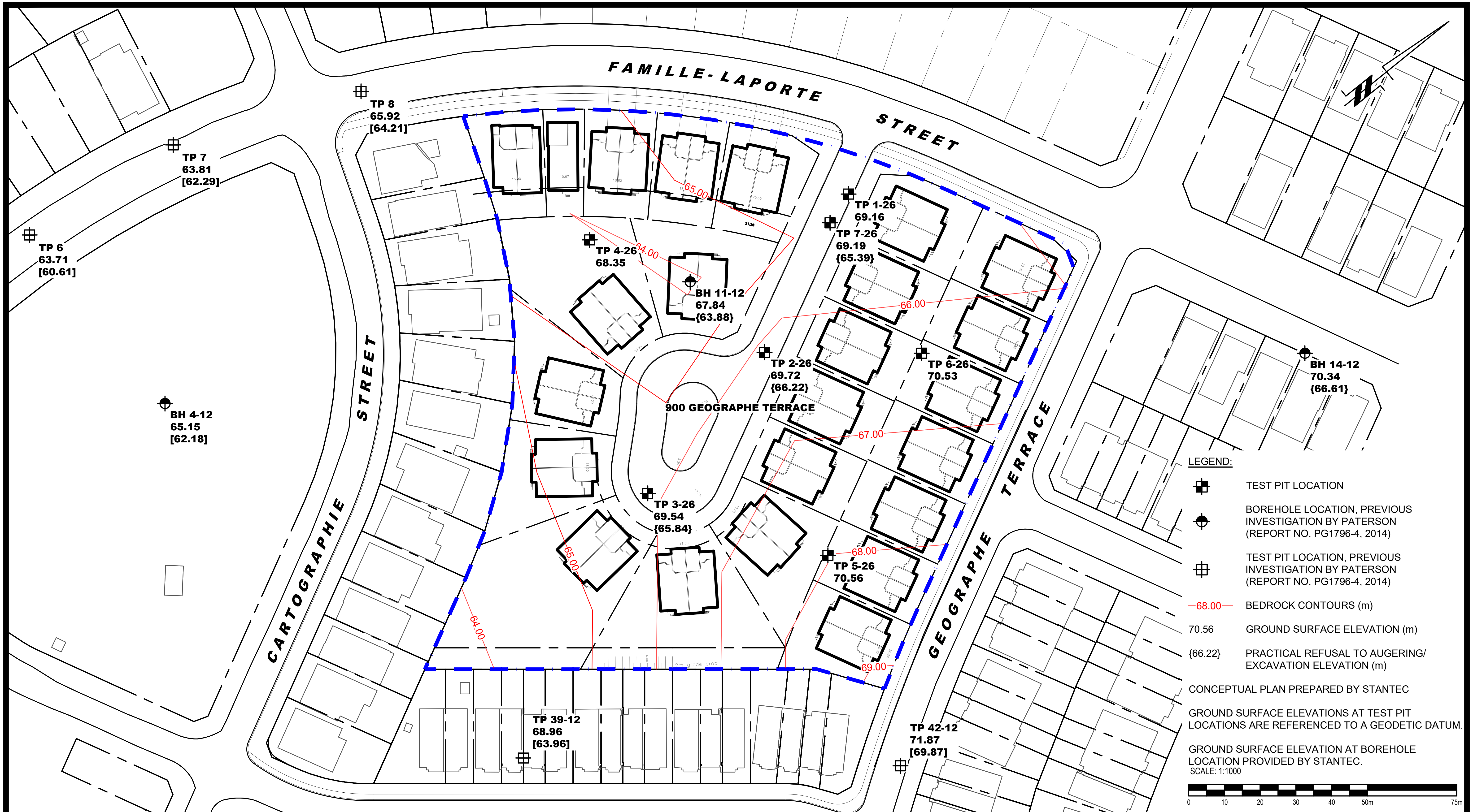
11x17



LEGEND:

▣	TEST PIT LOCATION
⌖	BOREHOLE LOCATION, PREVIOUS INVESTIGATION BY PATERSON (REPORT NO. PG1796-4, 2014)
⊞	TEST PIT LOCATION, PREVIOUS INVESTIGATION BY PATERSON (REPORT NO. PG1796-4, 2014)
—68.00—	BEDROCK CONTOURS (m)
70.56	GROUND SURFACE ELEVATION (m)
{66.22}	PRACTICAL REFUSAL TO AUGERING/ EXCAVATION ELEVATION (m)

CONCEPTUAL PLAN PREPARED BY STANTEC

GROUND SURFACE ELEVATIONS AT TEST PIT LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

GROUND SURFACE ELEVATION AT BOREHOLE LOCATION PROVIDED BY STANTEC.

PATERSON GROUP

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NO.	REVISIONS	DD/MM/YYYY	INITIAL

TAMARACK (CARDINAL CREEK) CORP.
GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
OTTAWA, 900 GEOGRAPHE TERRACE - CARDINAL CREEK VILLAGE - PHASE 8 ONTARIO

Title:

BEDROCK CONTOUR PLAN

Scale: 1:1000
Date: 05/2026
Drawn by: ZS
Report No.: PG7998-1
Checked by: GJ
Dwg. No.: PG7998-2
Approved by: DP
Revision No.:

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