PATERSON GROUP

Geotechnical Investigation

Proposed Residential Development

Westwood – Block 324
5725 Fernbank Road
Ottawa, Ontario

Prepared for CRT Developments

Report PG2236-3 Revision 7 dated September 28, 2026

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1.0 Introduction

Paterson Group (Paterson) was commissioned by CRT Developments to conduct a geotechnical investigation for Block 324 of the proposed residential development to be located along 5725 Fernbank Road in the City of Ottawa (refer to Figure 1 – Key Plan in Appendix 2 of this report).

The objective of the geotechnical investigation was to:

- Determine the subsoil and groundwater conditions at this site by means of test pits.
- Provide geotechnical recommendations pertaining to design of the proposed development including construction considerations which may affect the design.

The following report has been prepared specifically and solely for the aforementioned project which is described herein. It contains our findings and includes geotechnical recommendations pertaining to the design and construction of the subject development as they are understood at the time of writing this report.

Investigating the presence or potential presence of contamination on the subject property was not part of the scope of work of the present investigation. Therefore, the present report does not address environmental issues.

2.0 Proposed Development

It is anticipated that Block 324 of the development will consist of townhouse residential dwellings with paved car parking areas and local driveways. It is further anticipated that the site will be serviced by future municipal services.

3.0 Method of Investigation

3.1 Field Investigation

Field Program

The field program for the current geotechnical investigation was carried out on January 27, 2025, and consisted of advancing a total of twenty (20) test pits to a maximum depth of 2.5 m below existing ground surface.

A previous investigation was undertaken by Paterson on January 26, 2021, and consisted of advancing a total of nine (9) test pits to a maximum depth of 2.2 m below existing ground surface. The test pit locations were distributed in a manner to provide general coverage of the subject site and taking into consideration underground utilities and site features. The test pit locations are shown on Drawing PG2236-5 – Test Hole Location Plan included in Appendix 2.

The test pits were completed using an excavator and backfilled with the excavated soil upon completion. All fieldwork was conducted under the full-time supervision of Paterson personnel under the direction of a senior engineer. The test pit procedures consisted of excavating to the required depth at the selected location and sampling the overburden.

Sampling and In Situ Testing

Grab samples were collected from the test pits at selected intervals. The samples were initially classified on site, placed in sealed plastic bags and transported to our laboratory. 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 Appendix 1.

The subsurface conditions observed in the test pits were recorded in detail in the field. The soil profiles are logged on the Soil Profile and Test Data sheets in Appendix 1 of this report.

Sample Storage

All samples will be stored in the laboratory for a period of one (1) month after issuance of this report. They will then be discarded unless we are otherwise directed.

3.2 Field Survey

The test pit locations were selected by Paterson to provide general coverage of the proposed development, taking into consideration the existing site features and underground utilities. The test pit locations and ground surface elevation at each test pit location were surveyed by Paterson using a handheld GPS and referenced to a geodetic datum.

The location of the test pits and ground surface elevation at each test pit location as well as the survey points along the fill pile are presented on Drawing PG2236–5 – Test Hole Location Plan in Appendix 2.

3.3 Laboratory Testing

Soil samples were recovered from the subject site and visually examined in our laboratory to review the results of the field logging.

3.4 Analytical Testing

One (1) soil sample was submitted for analytical testing to assess the corrosion potential for exposed ferrous metals and the potential of sulphate attacks against subsurface concrete structures. The sample was analyzed to determine the concentration of sulphate and chloride, the resistivity and the pH of the sample. The results are discussed in Section 6.7 and shown in Appendix 1.

4.0 Observations

4.1 Surface Conditions

The subject site is currently undeveloped land that is relatively flat along the northern portion, and uneven across the southern portion. The ground surface across the site slopes down towards the north. Fill piles varying from 1 to 3 m in height are present throughout the southern portion of the site.

The site is bordered by Robert Grant Avenue to the east, similar undeveloped land to the south, a residential development to the west, and a property containing transmission towers to the north.

4.2 Subsurface Profile

Generally, the soil profile at the test hole locations consists of topsoil and/or fill overlying compact to dense glacial till and/or bedrock. The encountered glacial till layer consisted of brown silty sand to sandy silt with gravel, cobbles, and boulders. All test holes were terminated on the bedrock surface varying between 0.2 and 2.5 m below existing ground surface. Reference should be made to the Soil Profile and Test Data sheets in Appendix 1 for the details of the soil profile encountered at each test hole location.

Bedrock

Based on available geological mapping, and refusal to excavation, the bedrock in the subject area consists of interbedded dolostone and limestone of the Gull River formation, with an overburden drift thickness of 0 to 5 m depth.

Reference can be made to Drawing PG2236-5A – Bedrock Contour Plan for the test hole locations and depth which bedrock had been encountered. It should be understood that the bedrock contours depicted on the aforementioned contour plan are based on linear interpolation between test holes where bedrock had been confirmed by Paterson and is limited to that information.

Actual site conditions and bedrock depths/elevation may vary beyond the test hole locations and as inferred by the depicted contour lines. Based on this, it is possible that the bedrock surface may vary within plus or minus 500 mm to 1 m at contour line locations and where the bedrock surface has not been discretely confirmed by a test hole.

4.3 Groundwater

Groundwater infiltration levels were recorded within the open holes. Based on our observations, the groundwater table is not present within the overburden soils.

It should be noted that groundwater levels are subject to seasonal fluctuations. Therefore, the groundwater levels could vary at the time of construction.

5.0 Discussion

5.1 Geotechnical Assessment

From a geotechnical perspective, the subject site is suitable for the proposed development. It is anticipated that the proposed buildings will be founded over conventional shallow footings placed over an undisturbed, compact glacial till or clean, bedrock bearing surface.

It is anticipated that bedrock removal will be required as part of the excavation operations for the proposed development.

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

5.2 Site Grading and Preparation

Stripping Depth

Topsoil and deleterious fill, such as those containing organic materials, should be stripped from under any buildings, paved areas, pipe bedding and other settlement sensitive structures.

Bedrock Removal

It is expected that line-drilling in conjunction with hoe-ramming and controlled blasting will be required to remove the bedrock. In areas of weathered bedrock and where only a small quantity of bedrock is to be removed, bedrock removal may be possible by hoe-ramming.

Prior to considering blasting operations, the effects of blasting on existing services, buildings, and other structures should be addressed. A pre-blasting or pre-construction survey of existing structures located in proximity blasting operations must be conducted before any activities commence on the site.

The extent of the survey should be determined by the blasting consultant and should be sufficient to address any inquiries or claims related to blasting operations.

The blasting operations should be planned and conducted under the supervision of a licensed professional engineer who is an experienced blasting consultant.

Vibration Considerations

Construction operations are the cause of vibrations, and possibly, sources of nuisance to the community. Therefore, means to reduce the vibration levels as much as possible should be incorporated in the construction operations to maintain, as much as possible, a cooperative environment with the residents.

The following construction equipment could be the source of vibrations: piling equipment, hoe ram, compactor, dozer, crane, truck traffic, etc. The construction of a shoring system with soldier piles or sheet piling will require these pieces of equipment. Vibrations, whether caused by blasting operations or by construction operations, could be the source of detrimental vibrations on the nearby buildings and structures. Therefore, all vibrations are recommended to be limited.

Two parameters are used to determine the permissible vibrations, namely, the maximum peak particle velocity and the frequency. For low frequency vibrations, the maximum allowable peak particle velocity is less than that for high frequency vibrations. As a guideline, the peak particle velocity should be less than 15 mm/s between frequencies of 4 to 12 Hz, and 50 mm/s above a frequency of 40 Hz (interpolate between 12 and 40 Hz). The guidelines are for current construction standards.

Considering that these guidelines are beyond human perceptible levels and, in some cases, could be very disturbing for certain individuals, it is recommended that a pre-construction survey be completed to minimize the risks of claims during or after the construction of the proposed buildings.

Over-Excavation of Bedrock

Sedimentary bedrock, such as limestone, dolomite, and shale, contain bedding planes, joints, fractures, and mud seams which create natural planes of weakness within the rock mass. Although several factors of a blast can be controlled to reduce backbreak and overbreak, during blasting the rock mass tends to break along natural planes of weakness that may extend beyond the designed excavation profile. However, estimating the exact amount of backbreak and overbreak that may occur is not possible with conventional drilling and blasting construction methods.

It should be expected that overbreak might occur along the excavation perimeter with conventional drilling and blasting methods for bedrock excavation. Additionally, overbreak is expected throughout the lower blasting layers due to variable stratification planes and weakness planes in the bedrock substrate.

It is very difficult to mitigating significant overbreak given the constraints posed by the geometry and spacing of the foundations relative to the zone of influence of blast and the in-situ characteristics of the bedrock.

Depending on the methodology undertaken by the contractor, efforts to minimize backbreak and overbreak may significantly increase the time and cost of excavation operations and are not guaranteed to completely eliminate the potential for backbreak and overbreak. As such, volume estimates of bedrock to be removed may not be reflective of the actual volume of bedrock that may be required to be removed at the time of construction. This may result in additional materials, such as imported fill and concrete, to compensate for the loss of additional rock.

Where overbreak of the bedrock surface has occurred and the footings are to be placed on clean surface sounded bedrock, the foundation bearing surface should be reinstated with lean concrete from the bedrock surface to the underside of the footing.

It is recommended that blasting operations be planned and conducted under the supervision of a licensed professional engineer in blasting operations.

Fill Placement

Fill placed for grading beneath the building areas 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. The fill should be placed in maximum 300 mm thick loose lifts and compacted by suitable compaction equipment. Fill placed beneath the building should be compacted to a minimum of 98% of the standard Proctor maximum dry density (SPMDD).

Non-specified existing fill along with site-excavated soil could be placed as general landscaping fill where settlement of the ground surface is of minor concern. These materials should be spread in lifts with a maximum thickness of 300 mm and compacted by the tracks of the spreading equipment to minimize voids. Non-specified existing fill and site-excavated soils are not suitable for placement as backfill against foundation walls, unless used in conjunction with a geocomposite drainage membrane, such as Miradrain G100N or Delta Drain 6000.

If excavated rock is to be used as fill, it should be suitably fragmented to produce a well-graded material with a maximum particle size of 300 mm. This material should be used structurally only to build up the subgrade for pavements.

Where the fill is open-graded, a blinding layer of finer granular fill and/or a woven geotextile may be required to prevent adjacent finer materials from migrating into the voids, with associated loss of ground and settlements. This can be assessed at the time of construction.

5.3 Foundation Design

Bearing Resistance Values (Conventional Shallow Foundation)

Based on the subsurface profile encountered, it is anticipated that the proposed buildings will be founded on bedrock or loose to dense glacial till.

Bedrock Bearing Surface

Footings placed on a clean, surface sounded bedrock surface can be designed using a bearing resistance value at ultimate limits states (ULS) of **500 kPa**. A geotechnical factor of 0.5 was applied to the above noted bearing resistance value. A higher bearing capacity may be provided for the bedrock if additional testing consisting of coring the bedrock is completed.

A clean, surface-sounded bedrock bearing surface should be free of loose materials, and have no near surface seams, voids, fissures or open joints which can be detected from surface sounding with a rock hammer.

Footings bearing on an acceptable bedrock bearing surface and designed for the bearing resistance values provided herein will be subjected to negligible potential post-construction total and differential settlements.

Overburden Bearing Surface

Footings placed on an undisturbed, compact glacial till can be designed using a bearing resistance value at SLS of **150 kPa** and a factored bearing resistance value at ULS of **250 kPa** incorporating a geotechnical factor of 0.5. Where soils are noted to be in a loose state of compaction, a proof-rolling program witnessed by Paterson personnel is recommended to be completed.

An undisturbed soil bearing surface consists of one from which all topsoil and deleterious materials, such as loose, frozen or disturbed soil, have been removed, in the dry, prior to the placement of concrete footings.

Footings bearing on an undisturbed soil bearing surface and designed using the bearing resistance values provided herein will be subjected to potential post-construction total and differential settlements of 25 and 20 mm, respectively.

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. Adequate lateral support is provided to the above noted overburden soils bearing media when a plane extending down and out from the bottom edges of the footing, at a minimum of 1.5H:1V, passes only through in situ soil of the same or higher capacity as that of the bearing medium. In unfractured bedrock, a plane with a slope of 1H:6V can be used.

Bedrock/Soil Transition

Where a building is founded partly on bedrock and partly on soil, it is recommended to decrease the soil bearing resistance value by 25% for the footings placed on soil bearing media to reduce the potential long term total and differential settlements. Also, at the soil/bedrock and bedrock/soil transitions, it is recommended that the upper 0.5 m of the bedrock be removed for a minimum length of 2 m (on the bedrock side) and replaced with nominally compacted OPSS Granular A or Granular B Type II material. The width of the sub-excavation should be at least the proposed footing width plus 0.5 m. Steel reinforcement, extending at least 3 m on both sides of the 2 m long transition, should be placed in the top part of the footings and foundation walls.

5.4 Design for Earthquakes

The site class for seismic site response can be taken as **Class C** for foundations constructed at the subject site. A higher site class, such as Class A or B may be provided for foundations placed on or near the bedrock surface. However, the higher site class will need to be confirmed by a site-specific seismic shear wave velocity test. The soils underlying the subject site are not susceptible to liquefaction. Reference should be made to the latest revision of the 2024 Ontario Building Code for a full discussion of the earthquake design requirements.

5.5 Basement Slab

With the removal of all topsoil and deleterious fill within the footprint of the proposed buildings, the native soils or bedrock surface approved by Paterson will be considered an acceptable subgrade upon which to commence backfilling for floor slab construction.

Where existing fill or glacial till subgrade is encountered below the basement slab, provisions should be made to proof-rolling the soil subgrade using heavy vibratory compaction equipment prior to placing any fill. Any soft areas should be removed and backfilled with appropriate backfill material.

OPSS Granular B Types I or II, with a maximum particle size of 50 mm, are recommended for backfilling below the floor slab (outside the zones of influence of the footings). It is recommended that the upper 200 mm of sub-floor fill consists of 19 mm clear crushed stone.

5.6 Pavement Design

Car only parking and local residential roadways are expected at this site. The subgrade material will consist of native soil and fill. The proposed pavement structures are presented in Tables 1 and 2.

Table 1 – Recommended Pavement Structure – 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 fill, in-situ soil, or OPSS Granular B Type I or II material placed over in-situ soil or fill.	

Table 2 – Recommended Pavement Structure – Local Residential Roadways	
Thickness (mm)	**Material Description**
40	**Wear Course –** HL-3 or Superpave 12.5 Asphaltic Concrete
50	**Wear Course –** HL-8 or Superpave 19 Asphaltic Concrete
150	**BASE –** OPSS Granular A Crushed Stone
400	**SUBBASE –** OPSS Granular B Type II
Subgrade – Either fill, in-situ soil, or OPSS Granular B Type I or II material placed over in-situ soil or fill.	

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.

Minimum Performance Graded (PG) 64-28 asphalt cement should be used for this project. The pavement granular base and subbase should be placed in maximum 300 mm thick lifts and compacted to a minimum of 98% of the material's SPMDD using suitable compaction equipment.

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

6.0 Design and Construction Precautions

6.1 Foundation Drainage and Backfill

Foundation Drainage

It is recommended that a perimeter foundation drainage system be provided for the proposed buildings. The system should consist of a 100 to 150 mm diameter perforated corrugated plastic pipe, surrounded on all sides by 150 mm of 10 mm clear crushed stone, placed at the footing level around the exterior perimeter of the structure. The clear 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.

Underfloor Drainage

Underfloor drainage may be required to control water infiltration for the lower basement area. For preliminary design purposes, we recommend that 150 mm diameter perforated PVC pipes be placed at every bay opening. The spacing of the underfloor drainage system should be confirmed at the time of completing the excavation when water infiltration can be better assessed.

Foundation Backfill

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 drainage geocomposite, such as Delta Drain 6000, connected to the perimeter foundation drainage system. Imported granular materials, such as clean sand or OPSS Granular B Type I granular material, should otherwise be used for this purpose.

6.2 Protection of Footings Against Frost Action

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

Other exterior unheated footings, such as those for isolated exterior piers and retaining walls, are more prone to deleterious movement associated with frost action. These should be provided with a minimum 2.1 m thick soil cover (or insulation equivalent).

6.3 Excavation Side Slopes

The side slopes of excavations in the overburden materials should be either cut back at acceptable slopes or should be retained by shoring systems from the start of the excavation until the structure is backfilled. It is assumed that sufficient room will be available for the greater part of the excavation to be undertaken by open-cut methods (i.e. unsupported excavations). Where space restrictions exist, or to reduce the trench width, the excavation can be carried out within the confines of a fully braced steel trench box.

Unsupported 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 subsoil at this site is considered to be mainly a Type 2 and 3 soil according to the Occupational Health and Safety Act and Regulations for Construction Projects.

In bedrock, almost vertical side slopes can be used provided that all loose rock and blocks with unfavourable weak planes are removed or stabilized.

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 the geotechnical consultant in order to detect if the slopes are exhibiting signs of distress.

It is recommended that a trench box be used at all times to protect personnel working in trenches with steep or vertical sides. 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.

6.4 Pipe Bedding and Backfill

At least 150 mm of OPSS Granular A should be used for pipe bedding for sewer and water pipes. The bedding should extend to the spring line of the pipe. Cover material, from the spring line to at least 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 compacted to 95% of the material’s standard Proctor maximum dry density.

It should generally be possible to re-use the glacial till above the cover material if the excavation and filling 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. Well fractured bedrock should be acceptable as backfill for the lower portion of the trenches when the excavation is within bedrock provided the rock fill is placed only from at least 300 mm above the top of the service pipe and that all stones are 300 mm or smaller in their longest dimension.

The backfill material within the frost zone (about 1.8 m below finished grade) should match the soils exposed at the trench walls to reduce potential differential frost heaving. The backfill should be placed in maximum 225 mm thick loose lifts and compacted to a minimum of 95% of the material's SPMDD.

6.5 Groundwater Control

Groundwater Control for Building Construction

Based on our observations, 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. 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.

Permit to Take Water

It is anticipated that groundwater infiltration into the excavation 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 the shallow excavation. 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.

A temporary Ministry of the Environment, Conservation and Parks (MECP) permit to take water (PTTW) may be required for this project if more than 400,000 L/day of ground and/or surface water is to be pumped during the construction phase. A minimum 4 to 5 months should be allowed for completion of the PTTW application package and issuance of the permit by the MECP.

For typical ground or surface water volumes being pumped during the construction phase, typically between 50,000 to 400,000 L/day, it is required to register on the Environmental Activity and Sector Registry (EASR).

A minimum of two 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.

If a project qualifies for a PTTW based upon anticipated conditions, an EASR will not be allowed as a temporary dewatering measure while awaiting the MECP review of the PTTW application.

6.6 Winter Construction

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

The subsoil conditions at this site 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.

6.7 Corrosion Potential and Sulphate

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.

7.0 Recommendations

It is recommended that the following be carried out by Paterson once preliminary and future details of the proposed development have been prepared:

- ❑ Review preliminary and detailed grading, servicing, and structural plan(s) from a geotechnical perspective.
- ❑ Review of the geotechnical aspects of the excavation contractor's shoring design, prior to construction, if applicable.

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 geotechnical consultant. The following aspects of the program should be performed by Paterson:

- ❑ Review and inspection of the installation of the foundation drainage systems.
- ❑ Observation of all bearing surfaces prior to the placement of concrete.
- ❑ Sampling and testing of the concrete and fill materials.
- ❑ 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.
- ❑ 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 the completion of a satisfactory inspection program by the geotechnical consultant.

All excess soil must be handled as per *Ontario Regulation 406/19: On-Site and Excess Soil Management*.

8.0 Statement of Limitations

The recommendations provided are in accordance with the present understanding of the project. Paterson requests permission to review the recommendations when the drawings and specifications are completed.

A soils 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 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 CRT Developments or their agents is not authorized without review by Paterson for the applicability of our recommendations to the alternative use of the report.

Paterson Group Inc.



Owen R. Canton, B.Eng.

David J. Gilbert, P.Eng.

Report Distribution:

- ❑ CRT Developments
- ❑ Paterson Group

APPENDIX 1

SOIL PROFILE AND TEST DATA SHEETS

SYMBOLS AND TERMS

ANALYTICAL TEST RESULTS

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352328.68 **NORTHING:** 5014757.39 **ELEVATION:** 108.56

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP 1-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH, Cur (kPa) ▲ PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE											
FILL: Brown silty sand, with gravel and crushed stone, trace debris		0	G 1								108
0.90m [107.66m]											
End of Test Pit Test pit terminated on bedrock surface		1									107
		2									106
		3									105
		4									104
		5									

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352333.16 **NORTHING:** 5014778.22 **ELEVATION:** 107.55

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP 2-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
FILL: Brown silty sand, with gravel, crushed stone and cobbles		0	G 1						
0.50m [107.05m]									107
End of Test Pit									
Test pit terminated on bedrock surface		1							106
		2							105
		3							104
		4							103
		5							

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352338.96 **NORTHING:** 5014803.97 **ELEVATION:** 107.60

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP 3-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / △ REMOULDED SHEAR STRENGTH, Cur (kPa) ▲ PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							107
FILL: Brown silty clay, with sand, gravel and crushed stone, trace cobbles									
0.90m [106.70m]									
GLACIAL TILL: Brown sandy silt, trace gravel and cobbles		1	G 1						106
1.40m [106.20m]									
End of Test Pit Test pit terminated on bedrock surface		2							105
		3							104
		4							103
		5							

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352361.44 **NORTHING:** 5014795.93 **ELEVATION:** 107.26

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP 4-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
FILL: Brown silty sand, with gravel and crushed stone, trace cobbles 0.40m [106.86m]		0	G 1						107
End of Test Pit Test pit terminated on bedrock surface		1							106
		2							105
		3							104
		4							103
		5							

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352385.68 **NORTHING:** 5014794.44 **ELEVATION:** 107.36

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP 5-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH, Cur (kPa) PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0									107
FILL: Brown silty sand, with gravel and crushed stone 0.20m [107.16m]											
End of Test Pit		1									106
Test pit terminated on bedrock surface		2									105
		3									104
		4									103
		5									

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

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352357.08 **NORTHING:** 5014830.00 **ELEVATION:** 106.25

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP 6-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH, Cur (kPa) PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0									106
FILL: Brown silty sand, with topsoil, trace crushed stone 0.50m [105.75m]			G 1								
End of Test Pit Test pit terminated on bedrock surface		1									105
		2									104
		3									103
		4									102
		5									

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352362.07 **NORTHING:** 5014854.81 **ELEVATION:** 105.89

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP 7-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH, Cur (kPa) PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0									105
FILL: Brown silty sand, trace gravel, crushed stone, cobbles and wood			G 1								
0.90m [104.99m]		1									
End of Test Pit Test pit terminated on bedrock surface		2									104
		3									103
		4									102
		5									101

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

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352337.40 **NORTHING:** 5014856.99 **ELEVATION:** 105.51

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP 8-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / ∆ REMOULDED SHEAR STRENGTH, Cur (kPa) ▲ PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.30m [105.21m]		0							105
GLACIAL TILL: Brown sandy silt, trace clay, gravel and cobbles 1.90m [103.61m]		1	G 1						104
End of Test Pit Test pit terminated on bedrock surface		2							103
		3							102
		4							101
		5							

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352322.61 **NORTHING:** 5014832.34 **ELEVATION:** 105.96

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP 9-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							105
FILL: Brown silty sand, trace gravel, topsoil, wood and cobbles									
0.40m [105.56m]									
GLACIAL TILL: Brown sandy silt, trace gravel and cobbles		1	G 1						104
1.60m [104.36m]									
End of Test Pit Test pit terminated on bedrock surface		2							103
		3							102
		4							101
		5							

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352315.23 **NORTHING:** 5014808.37 **ELEVATION:** 106.17

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP10-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
FILL: Brown sandy silt, trace gravel and cobbles		0	G 1						106
0.80m [105.37m]									
End of Test Pit		1							105
Test pit terminated on bedrock surface		2							104
		3							103
		4							102
		5							

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352302.66 **NORTHING:** 5014818.77 **ELEVATION:** 105.98

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP11-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH, Cur (kPa) ▲ PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0									105
FILL: Brown silty sand, trace clay and gravel											
0.40m [105.58m]											
GLACIAL TILL: Brown silty sand, trace gravel and cobbles			G 1								
1.10m [104.88m]		1									104
End of Test Pit Test pit terminated on bedrock surface		2									103
		3									102
		4									101
		5									

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352297.48 **NORTHING:** 5014835.92 **ELEVATION:** 105.79

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP12-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							105
GLACIAL TILL: Brown sandy silt, trace gravel and cobbles		1	G 1						
1.30m [104.49m]									
End of Test Pit Test pit terminated on bedrock surface		2							104
		3							103
		4							102
		5							101

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352286.02 **NORTHING:** 5014866.08 **ELEVATION:** 105.14

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP13-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							105
FILL: Brown silty sand, trace gravel, crushed stone and wood									
0.40m [104.74m]									
GLACIAL TILL: Brown silty sand, trace gravel and cobbles		1	G 1						104
1.50m [103.64m]									
End of Test Pit Test pit terminated on bedrock surface		2							103
		3							102
		4							101
		5							

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352266.04 **NORTHING:** 5014878.15 **ELEVATION:** 104.55

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP14-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							104
FILL: Brown silty sand, trace gravel, crushed stone and wood									
0.40m [104.15m]									
GLACIAL TILL: Brown silty sand, trace gravel and cobbles		1	G 1						103
1.50m [103.05m]									
End of Test Pit Test pit terminated on bedrock surface		2							102
		3							101
		4							100
		5							

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352270.85 **NORTHING:** 5014902.54 **ELEVATION:** 103.80

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP15-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH, Cur (kPa) PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0									103
FILL: Brown silty sand, trace gravel, crushed stone and cobbles 0.30m [103.50m]											
GLACIAL TILL: Brown silty sand, trace gravel and cobbles		1	G 1								102
1.40m [102.40m]											
End of Test Pit Test pit terminated on bedrock surface		2									101
		3									100
		4									99
		5									

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352284.06 **NORTHING:** 5014914.88 **ELEVATION:** 103.76

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP16-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							103
FILL: Brown silty sand, trace gravel and crushed stone									
0.30m [103.46m]									
GLACIAL TILL: Brown silty sand, trace gravel and cobbles		1	G 1						102
1.80m [101.96m]									
End of Test Pit Test pit terminated on bedrock surface		2							101
		3							100
		4							99
		5							

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352287.99 **NORTHING:** 5014945.68 **ELEVATION:** 103.32

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP17-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE									
TOPSOIL 0.30m [103.02m]		0							103
GLACIAL TILL: Brown silty sand, trace gravel and cobbles		1							102
- Grey below 2.00 m depth 2.50m [100.82m]		2	G 1						101
End of Test Pit Test pit terminated on bedrock surface		3							100
		4							99
		5							

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352327.64 **NORTHING:** 5014908.30 **ELEVATION:** 104.16

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP18-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							104
FILL: Brown silty sand, trace topsoil, gravel and crushed stone 0.30m [103.86m]									
GLACIAL TILL: Brown silty sand, trace gravel and cobbles 1.10m [103.06m]		1							103
GLACIAL TILL: Brown sandy silt, trace clay, gravel and cobbles 1.60m [102.56m]			G 1						
End of Test Pit Test pit terminated on bedrock surface		2							102
		3							101
		4							100
		5							

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

P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352327.45 **NORTHING:** 5014889.03 **ELEVATION:** 104.78

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP19-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80 / REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80 / PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE		0							104
FILL: Brown silty sand, with topsoil 0.40m [104.38m]									
GLACIAL TILL: Brown silty sand, trace gravel and cobbles		1	G 1						103
1.70m [103.08m]									
End of Test Pit Test pit terminated on bedrock surface		2							102
		3							101
		4							100
		5							

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P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

SOIL PROFILE AND TEST DATA

Geotechnical Investigation

Block 324 - 5725 Fernbank Road, Ottawa, Ontario

COORD. SYS.: MTM ZONE 9 **EASTING:** 352314.98 **NORTHING:** 5014864.90 **ELEVATION:** 105.72

PROJECT: Proposed Residential Development

BORINGS BY: Excavator

REMARKS:

DATE: January 27, 2025

FILE NO. : PG2236

HOLE NO. : TP20-25

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE TYPE AND NO.	SAMPLE RECOVERY (%)	SAMPLE N, Nc OR RQD	SAMPLE WATER CONTENT (%)	PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE) 20 40 60 80	REMOULDED SHEAR STRENGTH, Cur (kPa) / PEAK SHEAR STRENGTH, Cu (kPa) 20 40 60 80	PL (%) WATER CONTENT (%) LL (%) 20 40 60 80	PIEZOMETER CONSTRUCTION	ELEVATION (m)
GROUND SURFACE											
FILL: Brown silty sand, trace topsoil, crushed stone and wood		0									
0.40m [105.32m]											
GLACIAL TILL: Brown silty sand, trace gravel and cobbles		1	G 1								105
		2									104
2.40m [103.32m]											
End of Test Pit Test pit terminated on bedrock surface		3									103
		4									102
		5									101

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P:/Autocad Drawings/Test Hole Data Files/PG22xx/PG2236/data.sqlite 2025-01-31, 17:26 Paterson_Template None

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Westwood
Block 324 - 5725 Fernbank Road - Ottawa, Ontario

DATUM Geodetic

FILE NO. PG2236

REMARKS

HOLE NO. TP 1-21

BORINGS BY Excavator **DATE** 2021 January 26

SOIL 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	105.69		
FILL: Brown silty clay some organics		G	1						
0.80									
TOPSOIL		G	2			1	104.69		
1.00									
GLACIAL TILL: Comapct brown silty sand to sandy silt, trace clay, gravel, cobbles and boulders		G	3						
2.20						2	103.69		
End of Test Pit Excavation refusal on bedrock surface at 2.20 m depth (TP dry upon completion)									

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

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Westwood
Block 324 - 5725 Fernbank Road - Ottawa, Ontario

DATUM Geodetic

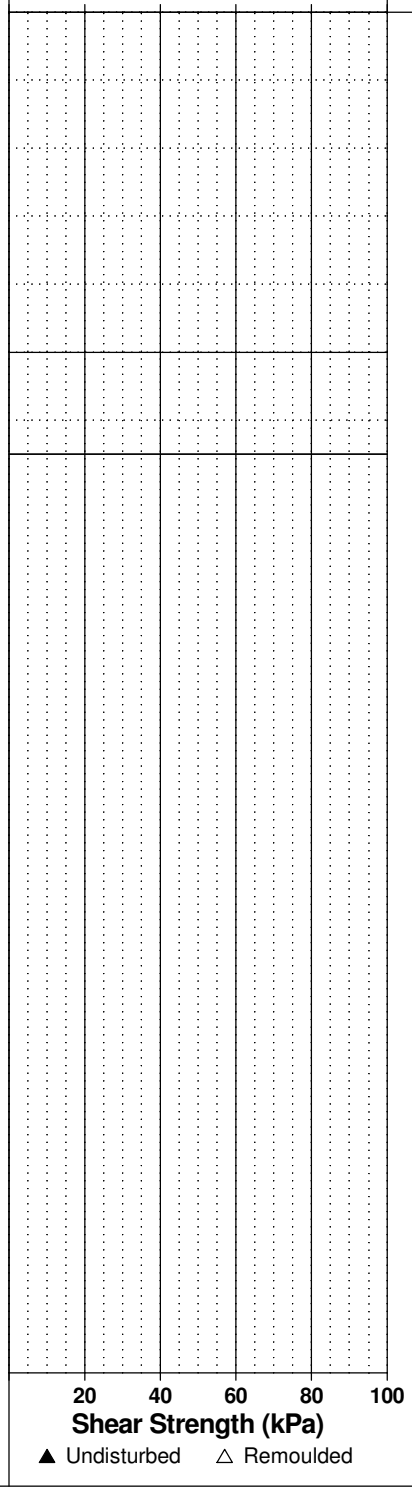
FILE NO. PG2236

REMARKS

HOLE NO. TP 2-21

BORINGS BY Excavator **DATE** 2021 January 26

SOIL 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	103.55		
FILL: Brown silty sand, trace clay and organics									
0.30									
GLACIAL TILL: Compact to dense brown silty sand to sandy silt with gravel, cobbles and boulders trace clay		G	1			1	102.55		
		G	2						
1.80									
End of Test Pit Excavation refusal on bedrock surface at 1.80 m depth (TP dry upon completion)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Westwood
Block 324 - 5725 Fernbank Road - Ottawa, Ontario

DATUM Geodetic

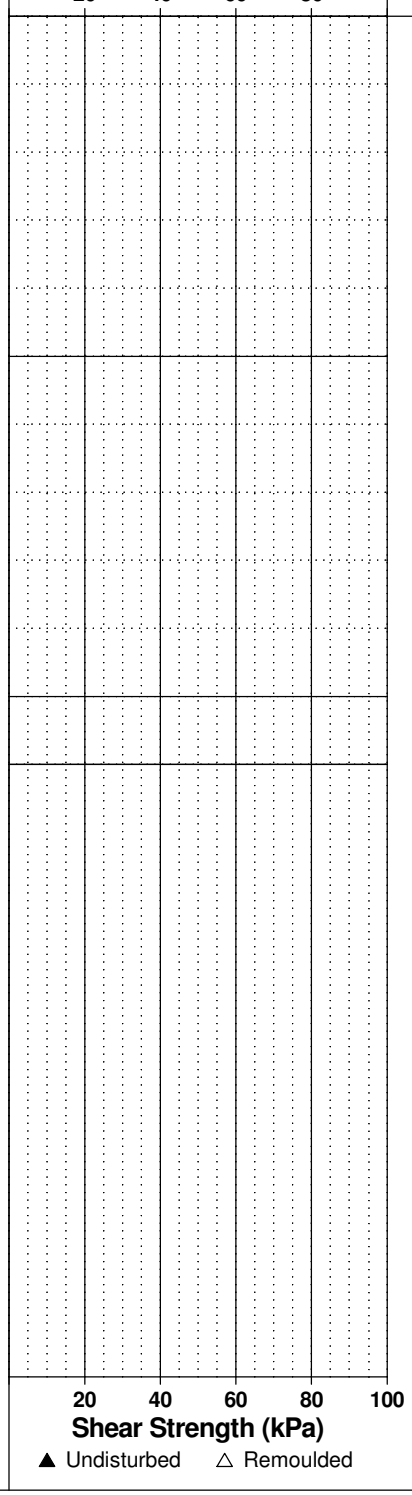
FILE NO. PG2236

REMARKS

HOLE NO. TP 3-21

BORINGS BY Excavator **DATE** 2021 January 26

SOIL 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	103.32		
TOPSOIL		G	1						
0.30									
GLACIAL TILL: Compact to dense silty sand with clay, some gravel and cobbles		G	2			1	102.32		
1.60									
GLACIAL TILL: Compact brown silty sand with gravel, cobbles and boulders		G	3			2	101.32		
2.20									
End of Test Pit Excavation refusal on bedrock surface at 2.20 m depth (TP dry upon completion)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Westwood
Block 324 - 5725 Fernbank Road - Ottawa, Ontario

DATUM Geodetic

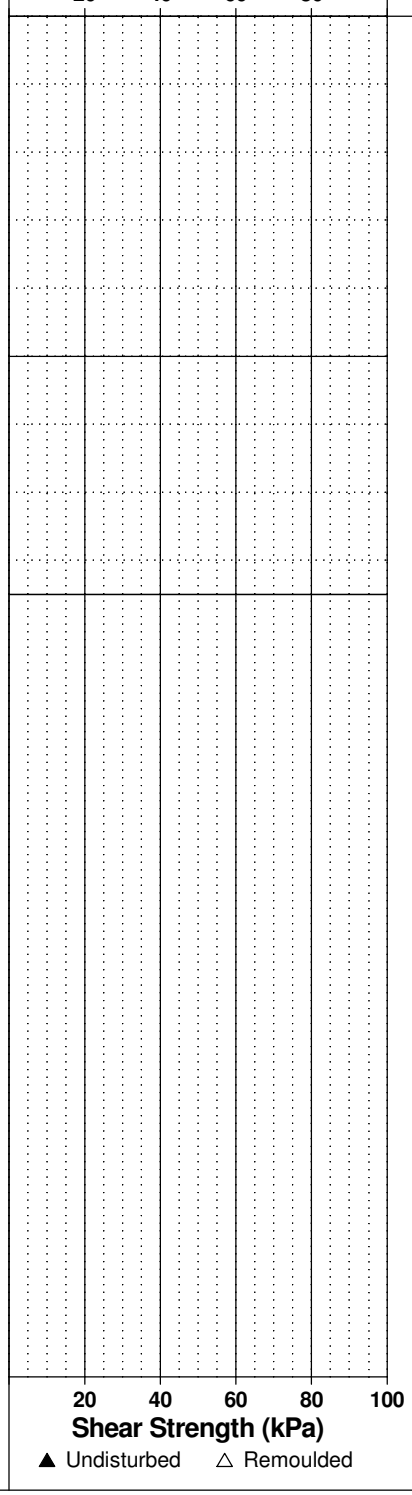
FILE NO. PG2236

REMARKS

HOLE NO. TP 4-21

BORINGS BY Excavator **DATE** 2021 January 26

SOIL 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	104.42		
TOPSOIL		G	1						
0.50									
GLACIAL TILL: Loose to compact brown sandy silt with gravel, cobbles and boulders, trace clay		G	2			1	103.42		
1.70									
End of Test Pit Excavation refusal on bedrock surface at 1.70 m depth (TP dry upon completion)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Westwood
Block 324 - 5725 Fernbank Road - Ottawa, Ontario

DATUM Geodetic

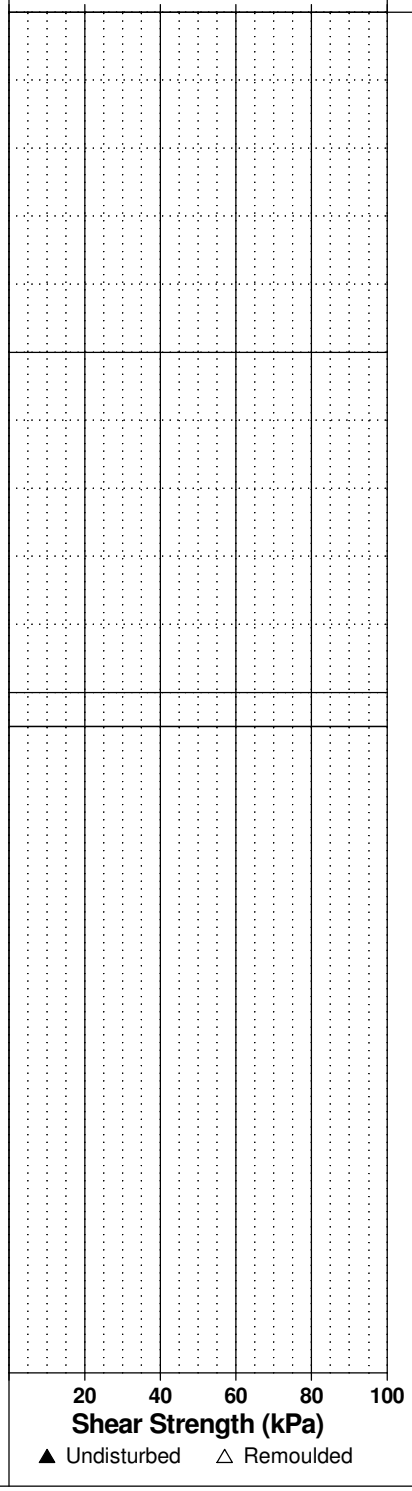
FILE NO. PG2236

REMARKS

HOLE NO. TP 5-21

BORINGS BY Excavator **DATE** 2021 January 26

SOIL 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	104.91		
TOPSOIL 0.30		G	1						
GLACIAL TILL: Compact brown sandy silt with gravel, cobbles, boulders, trace clay		G	2			1	103.91		
		G	3			2	102.91		
2.10 End of Test Pit Excavation refusal on bedrock surface at 2.10 m depth (TP dry upon completion)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Westwood
Block 324 - 5725 Fernbank Road - Ottawa, Ontario

DATUM Geodetic

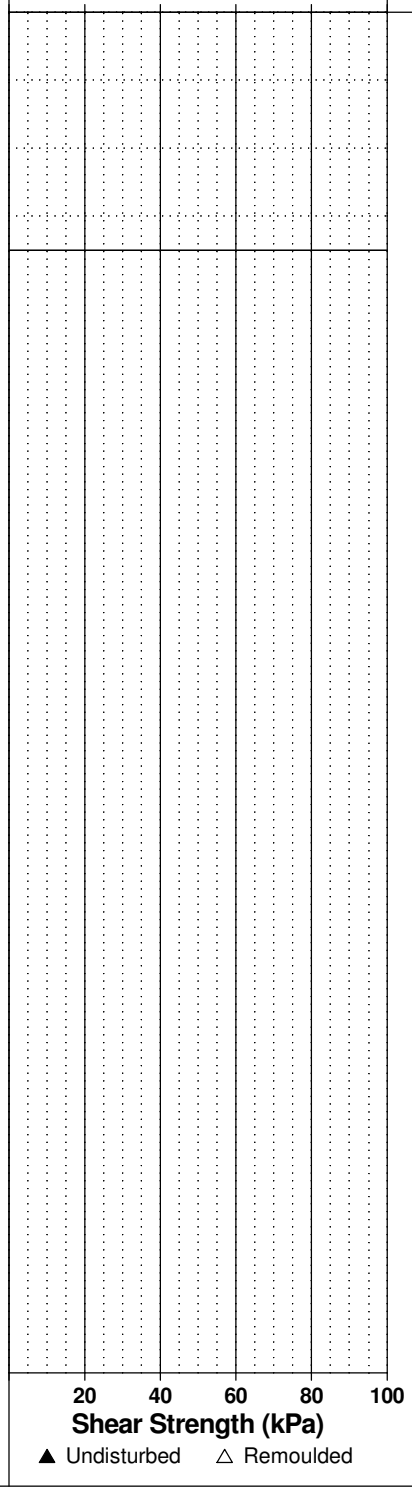
FILE NO. PG2236

REMARKS

HOLE NO. TP 6-21

BORINGS BY Excavator **DATE** 2021 January 26

SOIL 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									
FILL: Brown silty sand with organics and rootlets						0	105.73		
		G	1						
0.70									
End of Test Pit Excavation refusal on bedrock surface at 0.70 m depth (TP dry upon completion)									



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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Westwood
Block 324 - 5725 Fernbank Road - Ottawa, Ontario

DATUM Geodetic

FILE NO. PG2236

REMARKS

HOLE NO. TP 7-21

BORINGS BY Excavator **DATE** 2021 January 26

SOIL 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	106.40		
FILL: Brown silty sand, with roots, organics matter, boulders, trace clay		G	1						
0.90									
End of Test Pit Excavation refusal on bedrock surface at 0.90 m depth (TP dry upon completion)									

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

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SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Westwood
Block 324 - 5725 Fernbank Road - Ottawa, Ontario

DATUM Geodetic

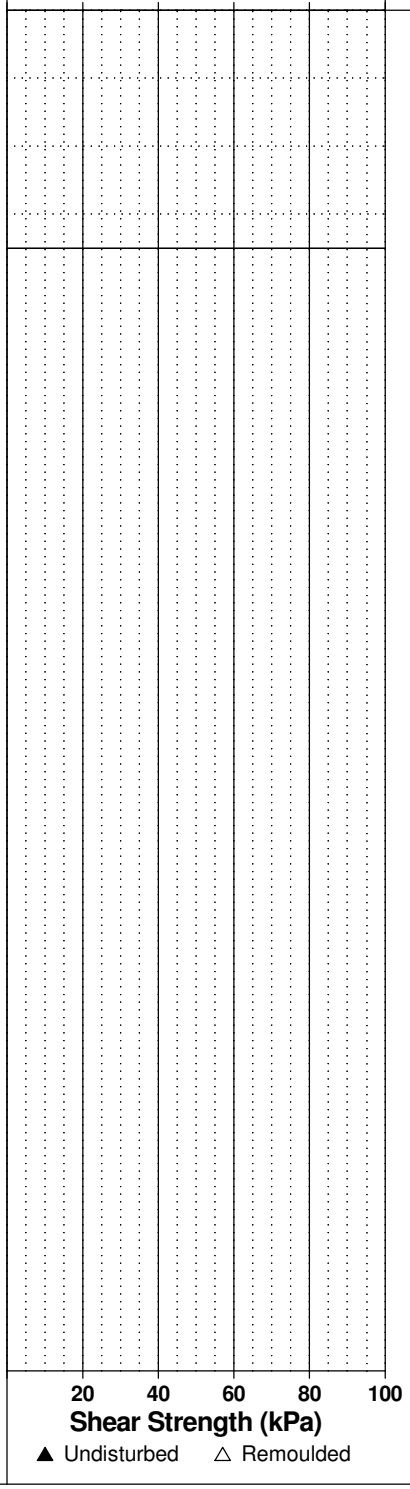
FILE NO. PG2236

REMARKS

HOLE NO. TP 8-21

BORINGS BY Excavator **DATE** 2021 January 26

SOIL 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	107.29		
FILL: Brown silty sand with roots, organic matter, boulders, trace clay		G	1						
0.70									
End of Test Pit Excavation refusal on bedrock surface at 0.70 m depth (TP dry upon completion)									



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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Proposed Residential Development - Westwood
Block 324 - 5725 Fernbank Road - Ottawa, Ontario

DATUM Geodetic

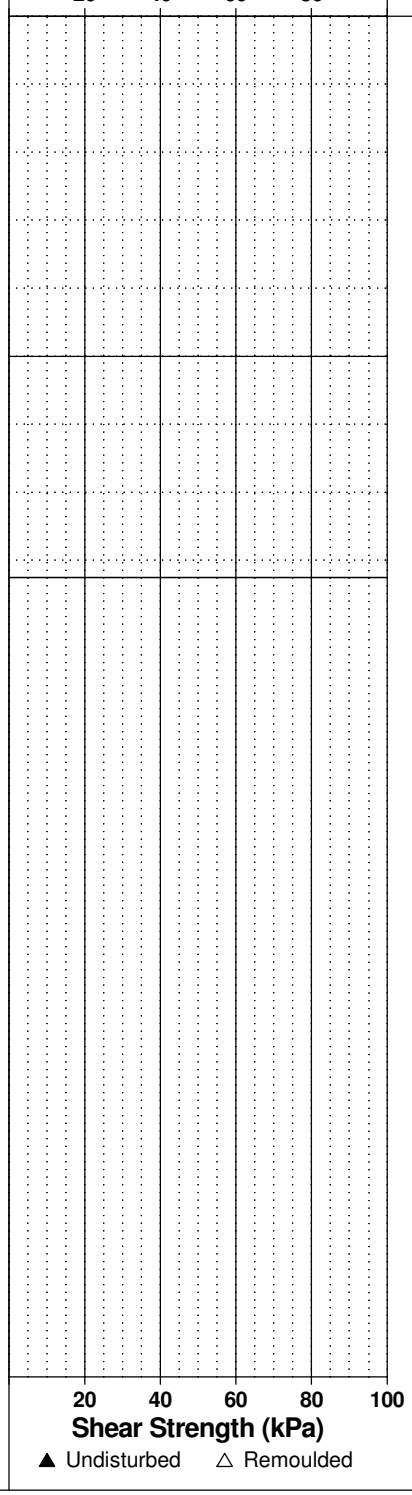
FILE NO. PG2236

REMARKS

HOLE NO. TP 9-21

BORINGS BY Excavator **DATE** 2021 January 26

SOIL 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	107.36		
TOPSOIL									
0.50		G	1						
FILL: Loose brown sandy silt with rootlets, crushed stone and trace clay						1	106.36		
		G	2						
1.65									
End of Test Pit Excavation refusal on bedrock surface at 1.65 m depth (TP dry upon completion)									



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.

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

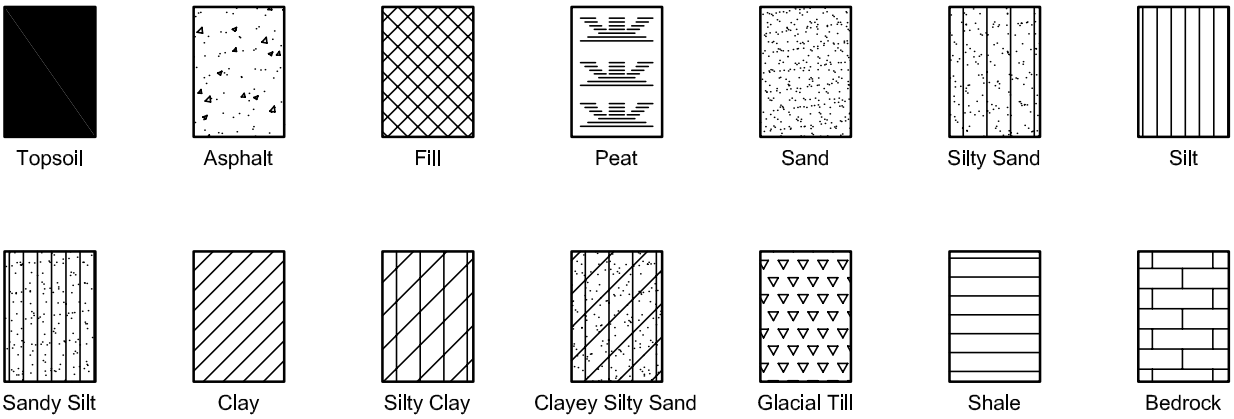
p'_o	-	Present effective overburden pressure at sample depth
p'_c	-	Preconsolidation pressure of (maximum past pressure on) sample
Ccr	-	Recompression index (in effect at pressures below p'_c)
Cc	-	Compression index (in effect at pressures above p'_c)
OC Ratio		Overconsolidaton ratio = p'_c / p'_o
Void 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.

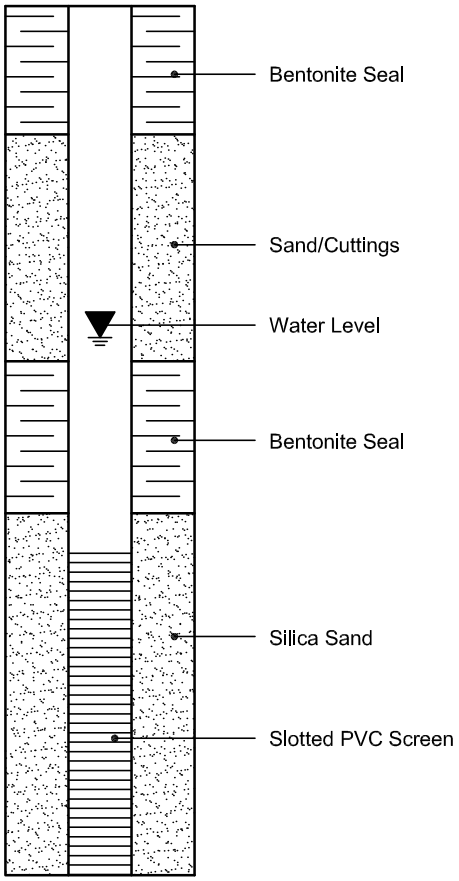
SYMBOLS AND TERMS (continued)

STRATA PLOT

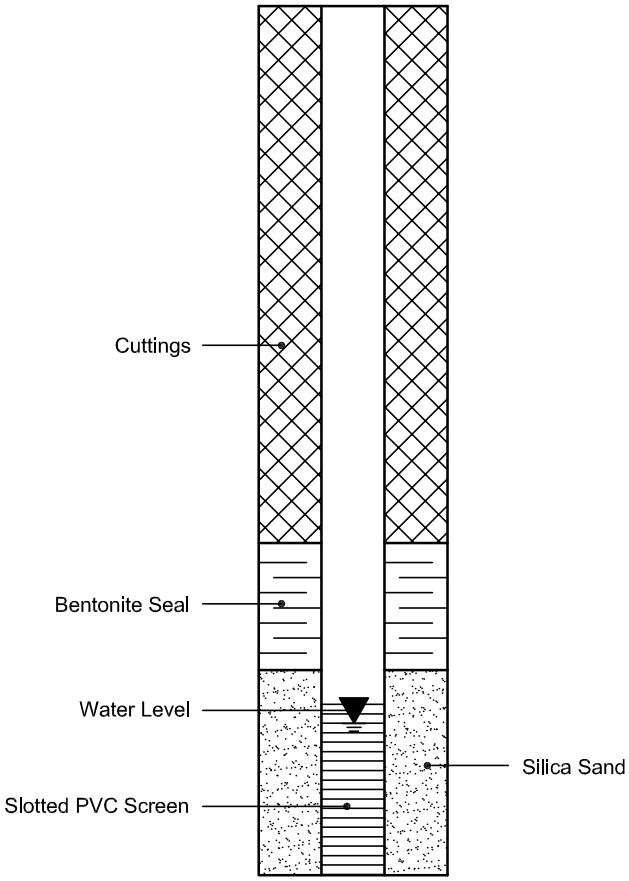


MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION



Certificate of Analysis

Report Date: 01-Feb-2021

Client: **Paterson Group Consulting Engineers**

Order Date: 26-Jan-2021

Client PO: **31198**

Project Description: PG2236

	Client ID:	TP2-G2	-	-	-
	Sample Date:	26-Jan-21 09:00	-	-	-
	Sample ID:	2105197-01	-	-	-
	MDL/Units	Soil	-	-	-
Physical Characteristics					
% Solids	0.1 % by Wt.	91.2	-	-	-
General Inorganics					
pH	0.05 pH Units	7.72	-	-	-
Resistivity	0.10 Ohm.m	87.8	-	-	-
Anions					
Chloride	5 ug/g dry	<5	-	-	-
Sulphate	5 ug/g dry	10	-	-	-

APPENDIX 2

FIGURE 1 – KEY PLAN

FIGURE 2 – BARRIER BLOCK SPECIFICATIONS

DRAWING PG2236-5 – TEST HOLE LOCATION PLAN

DRAWING PG2236-5A – BEDROCK CONTOUR PLAN

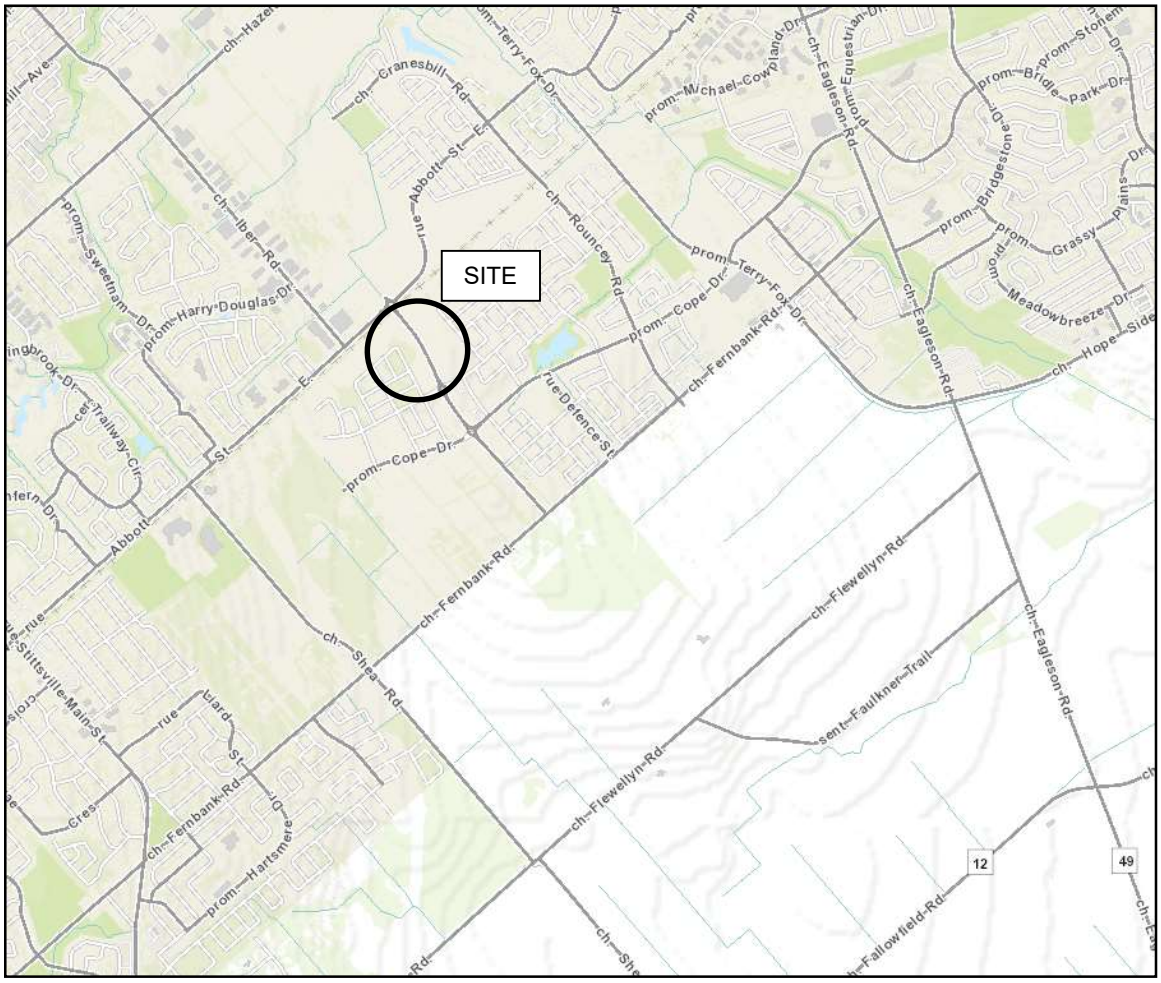
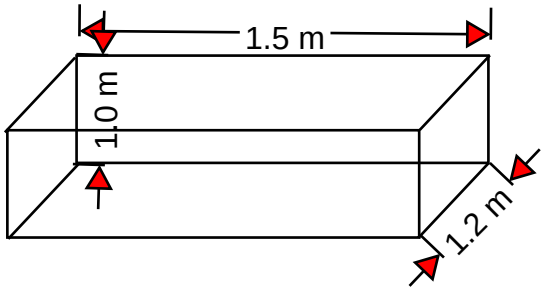


FIGURE 1

KEY PLAN

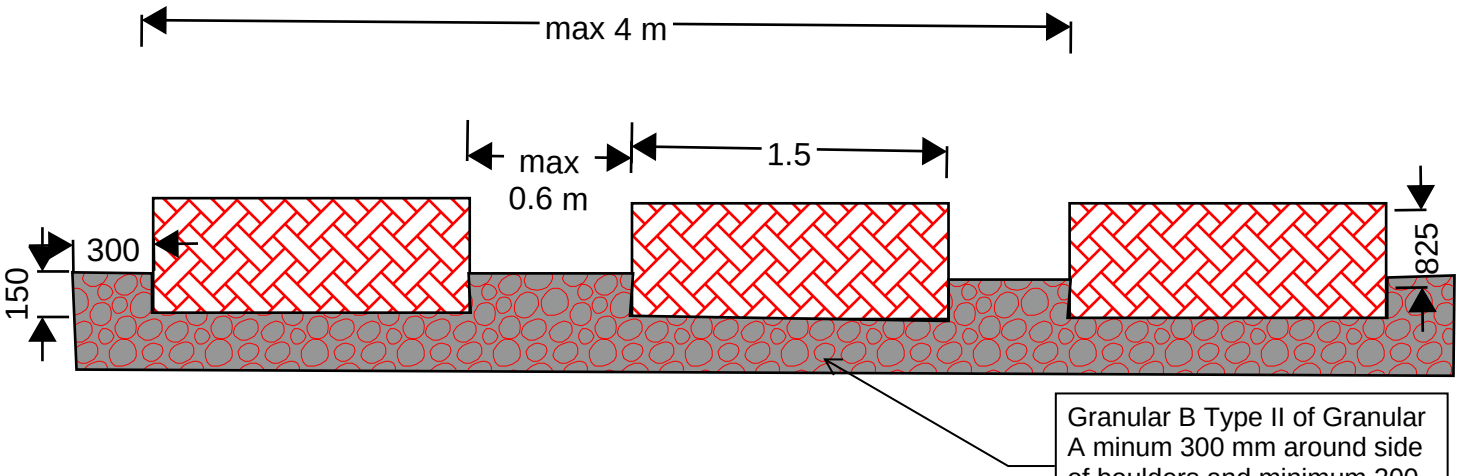
PATERSON GROUP	Geotechnical Review	Job No.: PG5451
	CRT Phase 3, Fernbank Road, Ottawa	Date: December 8, 2023
	Figure 2-Barrier Block Specifications	Dwn: PB
	Drawing is not to scale	Page: 1 of 1

Block Size (NTS)



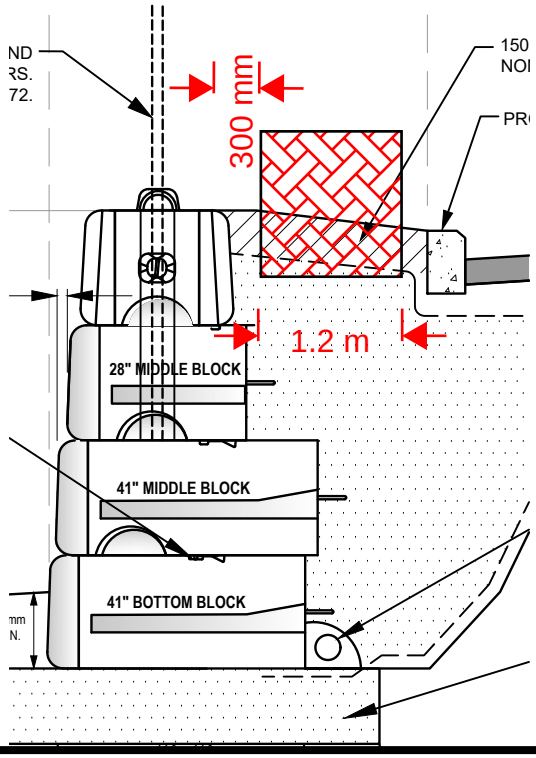
-All blocks must be free of significant cracking.
-Blocks should be handled with care to avoid splitting the blocks while handling

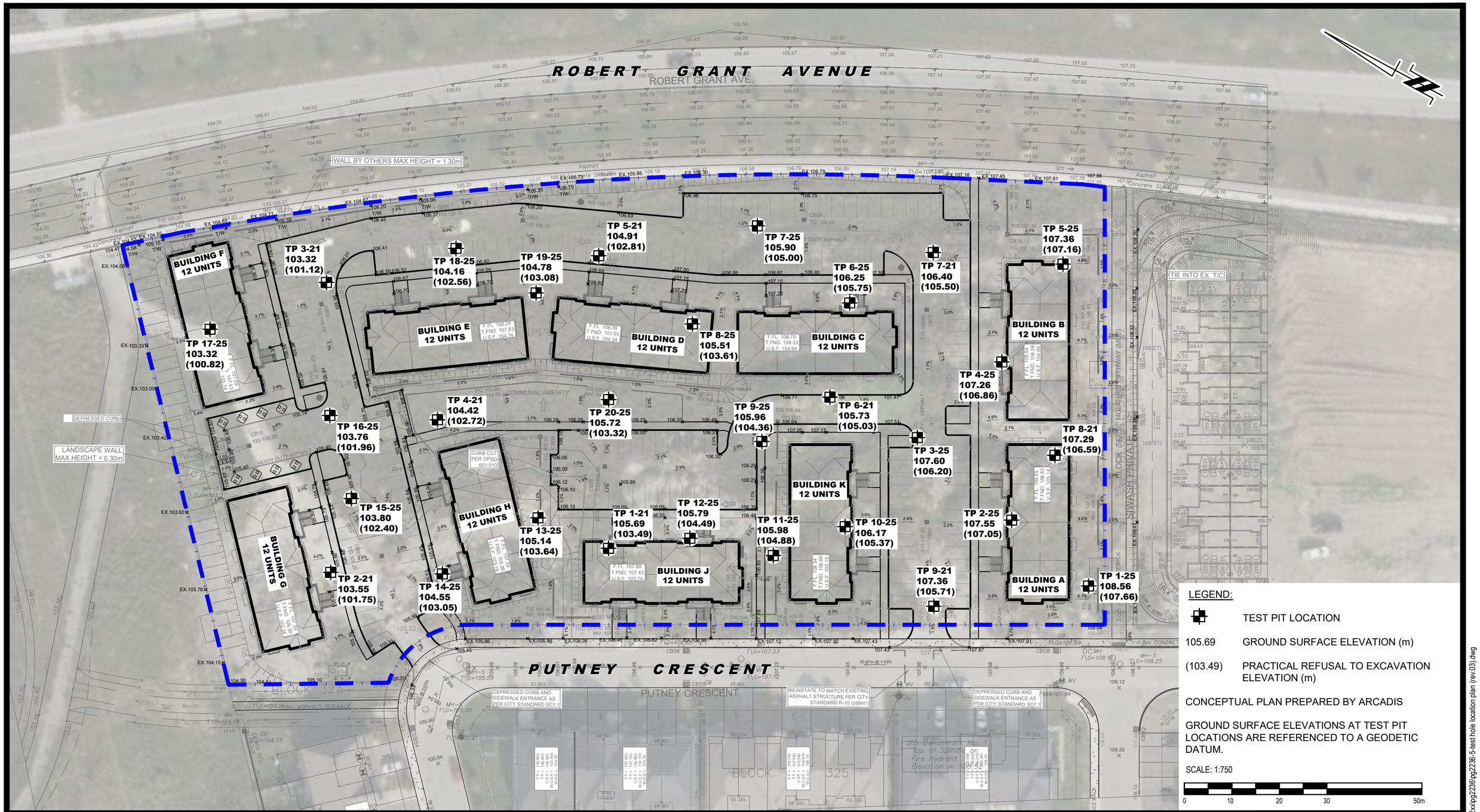
Profile View



Granular B Type II of Granular A minum 300 mm around side of boulders and minimum 200 mm base

Cross Section





LEGEND:

- TEST PIT LOCATION
- 105.69 GROUND SURFACE ELEVATION (m)
- (103.49) PRACTICAL REFUSAL TO EXCAVATION ELEVATION (m)

CONCEPTUAL PLAN PREPARED BY ARCADIS

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

SCALE: 1:750

0 10 20 30 50m

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

NO.	REVISIONS	DD/MM/YYYY	INITIAL
3	UPDATED TO NEW CONCEPTUAL PLAN	18/06/2026	OC
2	ADDED 2025 TEST PITS TO DRWAING	28/01/2025	KB
1	LATEST CONCEPTUAL PLAN ADDED TO DRAWING	22/03/2022	MS

CRT DEVELOPMENTS INC.

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
WESTWOOD - BLOCK 324 - 5725 FERNBANK ROAD
OTTAWA, ONTARIO

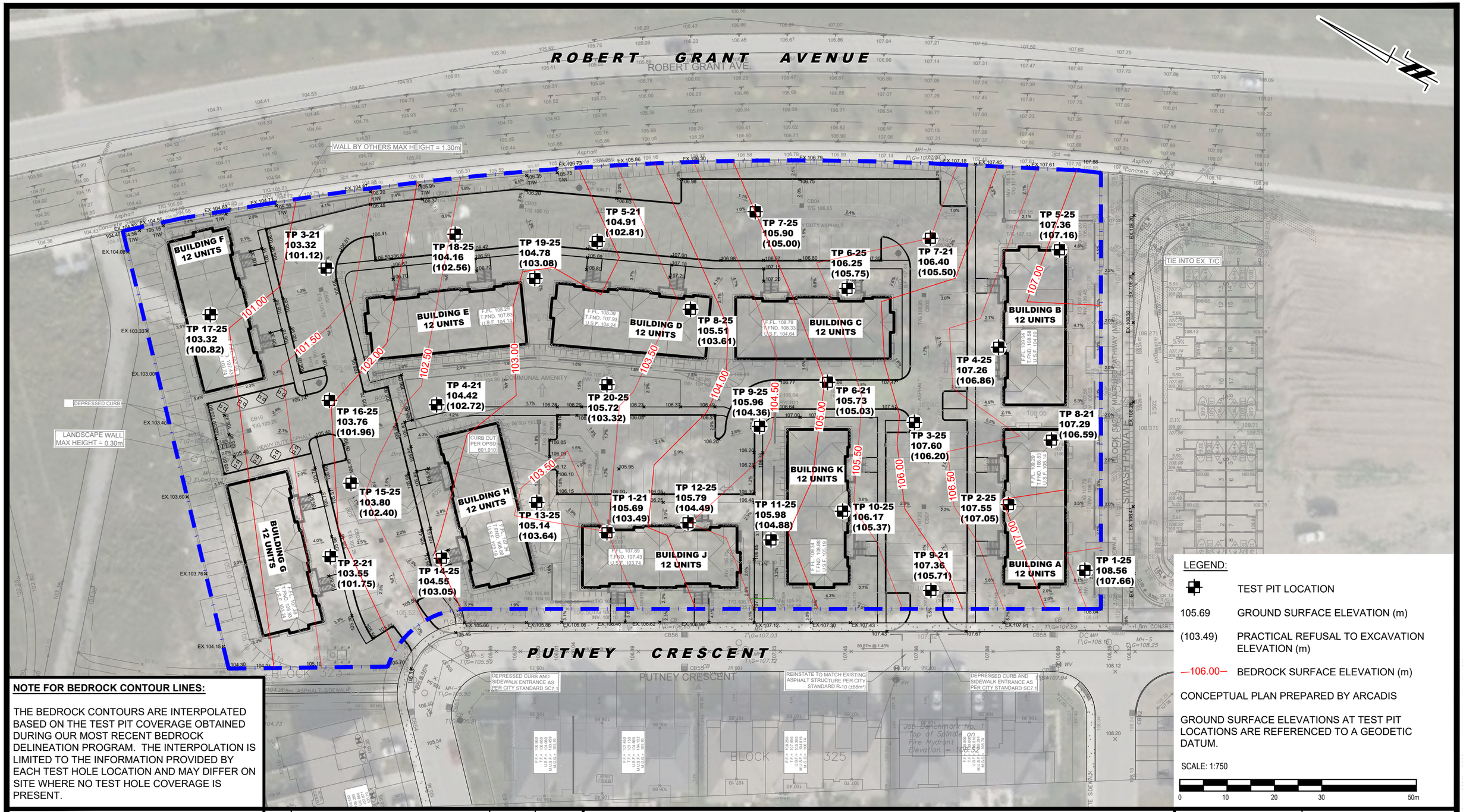
Title:

TEST HOLE LOCATION PLAN

Scale: 1:750	Date: 01/2021
Drawn by: YA	Report No.: PG2236-3
Checked by: MS	Dwg. No.: PG2236-5
Approved by: DJG	Revision No.: 3

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11x17



NOTE FOR BEDROCK CONTOUR LINES:

THE BEDROCK CONTOURS ARE INTERPOLATED BASED ON THE TEST PIT COVERAGE OBTAINED DURING OUR MOST RECENT BEDROCK DELINEATION PROGRAM. THE INTERPOLATION IS LIMITED TO THE INFORMATION PROVIDED BY EACH TEST HOLE LOCATION AND MAY DIFFER ON SITE WHERE NO TEST HOLE COVERAGE IS PRESENT.

LEGEND:

⊕	TEST PIT LOCATION
105.69	GROUND SURFACE ELEVATION (m)
(103.49)	PRACTICAL REFUSAL TO EXCAVATION ELEVATION (m)
—106.00—	BEDROCK SURFACE ELEVATION (m)

CONCEPTUAL PLAN PREPARED BY ARCADIS

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

SCALE: 1:750

0 10 20 30 50m

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

NO.	REVISIONS	DD/MM/YYYY	INITIAL
1	UPDATED TO NEW CONCEPTUAL PLAN	18/06/2026	OC

CRT DEVELOPMENTS INC.

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL DEVELOPMENT
WESTWOOD - BLOCK 324 - 5725 FERNBANK ROAD
OTTAWA, ONTARIO

Title:

BEDROCK CONTOUR PLAN

Scale: 1:750	Date: 03/2025
Drawn by: ZS	Report No.: PG2236-3
Checked by: KB	Dwg. No.: PG2236-5A
Approved by: DJG	Revision No.: 1

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