

Groundwater Impact Assessment

Proposed Residential Development

3400 Woodroffe Avenue
Ottawa, Ontario

Prepared for DCR Phoenix Group of Companies

Report PH5238-REP.01

June 26, 2026



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1.0 Introduction

Paterson Group (Paterson) was commissioned by DCR Phoenix Group of Companies to complete a Groundwater Impact Assessment (GIA) for the proposed residential development, to be located at 3400 Woodroffe Avenue, in the City of Ottawa, Ontario as shown on the Drawings in Appendix 1.

The following report has been prepared specifically and solely for the aforementioned project described herein. It contains a hydrogeological review and assessments pertaining to the proposed development as it is understood by Paterson at the time of writing this report.

1.1 Proposed Development

It is our understanding that the proposed development will consist of townhouse blocks and low-rise buildings, with associated local roadways, parking areas and landscaped areas. The development is further expected to be municipally serviced.

2.0 Background Information

A geotechnical field investigation was carried out on September 20, 2024 by Paterson at the subject site. During the investigation, nine (9) test pits were advanced to a maximum depth of 3.3 m below ground surface (bgs). A previous field investigation was carried out on September 25 and 26, 2008 by others. During that investigation, 10 test pits were advanced to a maximum depth of 4.9 m bgs. The test hole locations were distributed in a manner to provide general coverage of the subject site taking into consideration site features.

Reference should be made to the Soil Profile and Test Data sheets included in Appendix 2 for the details of the soil profiles encountered at each test hole location. The locations of the test holes are presented on Paterson Drawing PG7287-1 - Test Hole Location Plan included in Appendix 2.

3.0 Site Conditions

The subject site is currently vacant of any structures with the ground surface covered by grass and shrubs. Mature trees line the west and south border of the site. The site is bordered to the north by the Longfields Community Church and low-rise detached homes, to the east by Woodroffe Avenue followed by low-rise detached homes and to the south and west by single-family home estate lots. The ground surface at the subject site is highest within the central portion and slopes downward to the eastern and western portions. The site is generally at grade with adjacent properties and roadways.

3.1 Geology

Generally, the subsurface profile encountered at the test hole locations consisted of topsoil or fill underlain by glacial till. The glacial till consisted of a brown silty sand matrix with varying amounts of gravel, cobbles and boulders. The content of cobbles and boulders was noted to increase with depth. Specific details of the soil profile at each test hole location within the subject site are presented on the Soil Profile and Test Data sheets included in Appendix 2.

According to surficial mapping prepared by the Ontario Geological Survey (OGS, MRD128-Revised) the subject site is in an area where the surficial geology is recorded to consist of stone-poor, sandy silt to silty sand-textured till on Paleozoic terrain. The surficial mapping is presented on Drawing PH5238-1 - Surficial Geology Plan included in Appendix 1.

Fill

At select test hole locations, fill was encountered at surface and extended to maximum observed depth of 2.7 m bgs. The fill generally consisted of brown silty sand with gravel, cobbles and organics.

Glacial Till

At all test hole locations, a compact to very dense brown glacial till deposit was encountered below the fill. The glacial till deposit generally consisted of a brown silty sand matrix with varying amounts of gravel, cobbles and boulders. The content of cobbles and boulders was noted to increase with depth. The glacial till deposit extended to a maximum observed depth of 4.9 m bgs.

Bedrock

Based on the available geological mapping provided by the Ontario Geological Survey (OGS, MRD 219), the subject site is located in an area where the bedrock consists of dolostone, minor shale and sandstone of the Oxford formation with an overburden drift thickness of 5 to 10 m. The bedrock geology is presented on Drawing PH5238-2 - Bedrock Geology Plan included in Appendix 1.

Karst Features

The term 'karst' refers to a geologic formation characterized by the dissolution of carbonate bedrock, such as limestone. For karstification to occur, precipitation must be able to infiltrate the top of the bedrock and enlarge previously existing joints and bedding planes through the process of dissolution. Based on available mapping by the Ontario Geological Survey (OGS, GRS005), there is no inferred, potential or known karstification in the subject site.

3.2 Hydrogeology

Existing Aquifer Systems

Aquifer systems are defined as a geological media, either overburden soils or fractured bedrock, which permit the movement of groundwater under hydraulic gradients. Groundwater infiltration/seepage was not observed in the open test pits at the subject site during either field investigation. The absence of water observed in the overburden makes it an unlikely source for water supply wells. Water supply wells in the vicinity are expected to only be accessing the underlying bedrock aquifer.

Based on the available geological mapping provided by the Ontario Geological Survey (OGS, MRD 219), the bedrock aquifer system consists of dolostone, minor shale and sandstone of the Oxford formation.

A review of available Water Well Records (WWRs) provided by the Ministry of the Environment, Conservation and Parks (MECP) and online municipal water supply mapping (GeoOttawa) was conducted as part of this assessment to identify potentially privately serviced properties in the vicinity of the subject site. Based on the absence of municipal water supplies, the estate lots to the south and west of the subject site are expected to be serviced by private water supply wells.

Groundwater Levels

Groundwater infiltration was not observed in any of the open test pits during the field investigations conducted at the subject site. It should be noted that

groundwater levels can fluctuate both seasonally and in conjunction with precipitation events. As such, water levels may vary at the time of construction.

Horizontal Hydraulic Gradients

As previously mentioned, groundwater infiltration was not observed in the open test pits during the field investigations completed at the subject site. Therefore, the absolute direction and magnitude of horizontal hydraulic gradients in the vicinity of the subject site was not determined.

Based on subwatershed mapping provided by the Rideau Valley Conservation Authority, the subject site is characterized by two (2) subwatersheds. The western portion of the subject site is located within the Jock River - Barrhaven catchment of the Jock River subwatershed. The eastern portion of the subject site is located within the Rideau River - Hogs Back catchment of the Lower Rideau River subwatershed. Groundwater flow in the vicinity of the subject site is generally expected to reflect local topography. The regional flow direction is expected to be in a southwest direction toward the Jock River or southeast toward the Rideau River.

Vertical Hydraulic Gradients

Vertical hydraulic gradients were not measured within the subject site as the field investigations completed at the site did not warrant the installation of nested monitoring wells.

Hydraulic Conductivity

Hydraulic conductivity values for the subsoils encountered at the subject site were conservatively estimated based on published values and Paterson's experience at similar sites in the area. The hydraulic conductivity for glacial till generally ranges from 1.0×10^{-5} to 1.0×10^{-9} m/sec, depending on the compaction and composition of the glacial till at a given location.

Groundwater Recharge and Discharge

In general, groundwater will follow the path of least resistance from areas of higher hydraulic head to areas of lower hydraulic head. Upward and downward hydraulic gradients are typically indicative of areas of discharge and recharge, respectively.

Based on mapping provided by the MECP in the Source Protection Information Atlas, the subject site is not mapped as a significant groundwater recharge area (SGRA) or having Highly Vulnerable Aquifers (HVAs).

Based on groundwater not being observed at the subject site, it is our interpretation that precipitation will intercept the soil surface where it will flow vertically downward through the unsaturated surficial soils before intercepting bedrock where it will predominantly travel laterally at the bedrock interface. During periods with potential high groundwater levels, precipitation can infiltrate the subsoils traveling vertically downwards to the groundwater table before travelling laterally through the non-cohesive soil deposits in a direction dependent on the localized flow regime within the subject site. While the soils on site would allow for some degree of recharge to occur, the developed nature of the region would limit the volume of recharge anticipated within the study area.

It should be noted that site specific testing provides better resolution than the high level SGRA mapping provided by the MECP.

With regards to discharge zones, neither the topographical nor geological conditions are suitable for discharge to be occurring on a large scale at the subject site. Furthermore, no indication of groundwater discharge zones was identified during Paterson's field investigations.

4.0 Potential Impacts

4.1 Radius of Influence

Based on available civil drawings provided by Novatech which are included in Appendix 3, the anticipated depth of excavation for servicing installations will range from 2 to 4 m bgs. The deepest servicing excavations are expected to be on the east end of the subject site, connecting to existing services on Stoneleigh Street. The maximum depth of excavation for the building foundations is expected to be 2 m bgs. As mentioned before, groundwater was not encountered in the open test pits during the field investigations completed at the subject site. Based on possible spring high groundwater levels that may be encountered at the time of excavation, it is estimated that approximately 0.5 to 1.5 m of saturated soil could be encountered within the open excavations.

In order to determine potential impacts, potential theoretical radii of influence have been calculated based on the anticipated saturated excavation depths, discussed above.

These calculations were completed based on Sichardt (1992) using the equation:

$$R = 3000 * \Delta h (k^{0.5})$$

- ☐ R = Radius of influence (m)
- ☐ Δh = Drawdown of groundwater (m)
- ☐ k = Hydraulic conductivity (m/sec)

For the purposes of completing the calculations, the following assumptions were made:

- ☐ $k = 1.0 \times 10^{-5}$ m/sec (conservatively estimated based on the silty sand matrix of the glacial till encountered)
- ☐ $\Delta h = 0.5$ to 1.5 m, to review potential minimum and maximum conditions

Using the above equation and assumptions, a radius of influence of approximately 5 to 15 m will develop as a steady state condition, extending from the edge of the excavations.

4.2 Adverse Effects on Neighbouring Water Wells

A search of the Ontario WWRs database indicates there are several domestic water supply wells within 500 m of the subject site as depicted on Drawing PH5238-3 - MECP Water Well Location Plan included in Appendix 1. As previously mentioned, the estate lots west and south of the subject site are expected to currently be serviced by private water supply wells. The wells that are currently in use were noted to be accessing the underlying bedrock aquifer system with

sufficient vertical separation between the maximum potential depth of excavation and the depth of the wells. Furthermore, WWRs note that the water-bearing zones were encountered below the anticipated servicing depths at the subject site. As such, these wells are considered to have a relatively low potential to be impacted by construction dewatering activities at the subject site. As bedrock removal is not anticipated for this development, potential impacts associated with bedrock removal (blasting and hoe-ramming) were not considered.

As a precautionary measure, a Baseline Water Sampling Program has been recommended to be completed prior to commencing construction on site. The premise of the program is to obtain groundwater quality information from the water supply wells in the vicinity of the proposed development prior to the project commencing. This ensures that all parties involved (developer, homeowners, and City of Ottawa) are protected should a concern arise during or after construction.

Baseline Water Sampling Program

As mentioned above, the theoretical radius of influence that may develop as a result of dewatering activities associated with the proposed development is expected to be 5 to 15 m, from the edge of the excavations at the time of construction, depending on the hydraulic properties and groundwater levels across the site. The domestic wells in the area were completed at depths well below the anticipated municipal servicing depths with WWRs noting that the water-bearing zones were encountered below the anticipated servicing depths at the subject site.

Based on the water service mapping provided by the City of Ottawa, as well as all the available information, a total of five (5) potential privately serviced lots have been identified to be included in the Baseline Water Sampling Program.

The following municipal addresses are proposed to be included in the Baseline Water Sampling Program:

- 9 Newland Drive
- 13 Newland Drive
- 19 Newland Drive
- 21 Newland Drive
- 3436 Woodroffe Avenue

The available water well records that are mapped within the aforementioned properties are included in Appendix 4.

The homeowners of the aforementioned properties will be invited to participate in the Baseline Water Sampling Program by providing one registered letter delivered by Canada Post. Upon receipt of the letter, homeowners will have approximately two to four weeks to contact Paterson to participate in the sampling program. To avoid the harassment of homeowners, homeowners that do not contact Paterson

within four-weeks of receiving the notification letter will be considered to have elected not to participate in the program. Interested homeowners will be interviewed for the purpose of obtaining anecdotal baseline water quality/quantity information about their water supply well followed by the collection of a raw water sample that will be submitted to an accredited laboratory for analysis.

The parameters that are being analyzed as part of the sampling program consist of the "Subdivision Water Quality Package" offered by Eurofins Environmental Testing Canada Inc. This package includes; alkalinity, bacteria, colour, conductivity, pH, hardness, IC anions, NH₃, TKN, DOC, phenols, sulphide, trace metals (as listed in City of Ottawa's Hydrogeological and Terrain Analysis Guidelines), Tannin & Lignin, TDS and turbidity.

A draft copy of the registered letter has been appended to this report and will be submitted to the City of Ottawa for review prior to commencement of the Baseline Water Sampling Program outlined above.

4.3 Adverse Effects on Adjacent Structures

The overburden at the subject site generally consists of topsoil underlain by a compact to very dense brown glacial till deposit. The majority of the expected groundwater infiltration will be encountered within the glacial till deposit. The potential dewatering volumes due to groundwater infiltration into excavation footprints are anticipated to be low to moderate dependant on the location across the site, majority composition of the soils at a given location and groundwater level at the time of excavation. The structures in the surrounding area typically consist of low-rise residential buildings and are expected to be founded on the dense glacial till. The compressibility of the glacial till in the area as a result of dewatering is anticipated to be minimal. Additionally, given the nature of the development, the duration of excavations on-site is expected to be short-term in duration. As such, any effects related to ground surface settlement due to the water taking activities are anticipated to be negligible.

If the taking of water is shown to cause negative impacts to surrounding structures, the Party responsible for water taking activities shall take action to remedy the impacts, compensate persons for reasonable costs associated to do so and shall reduce water taking amounts to alleviate the negative impacts.

4.4 Soil, Surface Water and Groundwater

A search of the MECP Environmental Site Registry for Records of Site Condition (RSC) was conducted as part of the assessment of the site, neighbouring properties and the general area. No RSC sites were identified within 500 m of the subject site.

A Phase I Environmental Site Assessment (ESA) was completed by Paterson for the subject site, dated November 7, 2025. The assessment found no environmental concerns with the historical use of the property, current site conditions or surrounding properties. Based on the findings, a Phase II ESA was not required.

It is anticipated that excess soil will be handled in accordance with O.Reg. 406-19 – On-site and Excess Soil Management.

With respect to surface water bodies within 500 m of the subject site, the Jock River is located approximately 480 m southwest of the subject site. As the Jock River is well outside the anticipated radius of influence, adverse effects to surface water features resulting from dewatering activities at the subject site are expected to be negligible.

Based on limited site area and existing municipal servicing around the site, construction dewatering is not to be expected to be directed to overland drainage. The contractor will be required to maintain appropriate Best Management Practices with respect to sediment and erosion control to ensure negative effects to the surrounding environment are minimized.

The groundwater that is pumped from the excavations must be managed in an appropriate manner. The contractor may be required to implement a water management and treatment program to dispose of the pumped water. It is expected the groundwater will be discharged to City of Ottawa sewer system. As such, it will be subject to the City of Ottawa Sewer Use Bylaws and a permit will be required to discharge the water to the sewer system. Further treatment may be required should the discharge not meet the required guidelines.

4.5 Adjacent Permits to Take Water

A search of the MECP Environmental Site Registry provided no active Permit to Take Water (PTTW) or Environmental Activity and Sector Registry (EASR) within 500 m of the subject site.

Based on no active water taking permits within 500 m of the subject site, the risk of cumulative impacts resulting from multiple water taking permits in proximity to each other is considered negligible.

4.6 Existing Servicing

All existing wells within the subject site will be required to be properly decommissioned by a licensed well contractor as per O.Reg. 903 prior to construction.

5.0 Recommendations

The following aspects of the program should be performed prior to commencing construction for the proposed residential development:

- ☐ A Baseline Water Sampling Program should be completed based on the methodology described in Section 4.2 of this report.
- ☐ All existing wells within the proposed development should be properly decommissioned as per O.Reg. 903 prior to construction, if they are not intended to be maintained in accordance with the regulations.
- ☐ Prior to and during site development, it is recommended that construction best management practices with respect to fuels and chemical handling, spill prevention, erosion and sediment control be followed.
- ☐ If water taking volumes associated with the development are expected to be greater than 50,000 L/day, a registration on the Environmental Activity and Sector Registry (EASR) for construction dewatering or Permit to Take Water (PTTW) will be required.

6.0 Statement of Limitations

The recommendations provided in this report are in accordance with our present understanding of the project.

A hydrogeological review of this nature is a limited sampling of a site. The recommendations are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around the test locations. Should any conditions at the site be encountered which differ from those at the test locations, we request notification immediately in order to permit reassessment of our recommendations.

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 DCR Phoenix Group of Companies or their agent(s) is not authorized without review by Paterson Group for the applicability of our recommendations to the altered use of the report.

Paterson Group Inc.



Zavian Buchanan, E.I.T.



Michael Laflamme, P.Geo.



APPENDIX 1

DRAWING PH5238-1 - SURFICIAL GEOLOGY PLAN

DRAWING PH5238-3 - BEDROCK GEOLOGY PLAN

DRAWING PH5238-1 - MECP WATER WELL LOCATION PLAN



LEGEND:

— PROPERTY BOUNDARY

TILL

SCALE: 1:1250



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

NO.	REVISIONS	DATE	INITIAL

OTTAWA, Title:	DCR PHOENIX GROUP OF COMPANIES GROUNDWATER IMPACT ASSESSMENT PROPOSED RESIDENTIAL DEVELOPMENT 3400 WOODROFFE AVENUE	ONTARIO
	SURFICIAL GEOLOGY PLAN	

Scale:	1:1250	Date:	06/2026
Drawn by:	GK	Report No.:	PH5238-REP.01
Checked by:	ZB	Dwg. No.:	PH5238-1
Approved by:	ML	Revision No.:	



LEGEND:

— PROPERTY BOUNDARY

OXFORD FORMATION, DOLOSTONE, MINOR SHALE AND SANDSTONE

SCALE: 1:1250

0 5 10 15 20 25 50 75m



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

NO.	REVISIONS	DATE	INITIAL

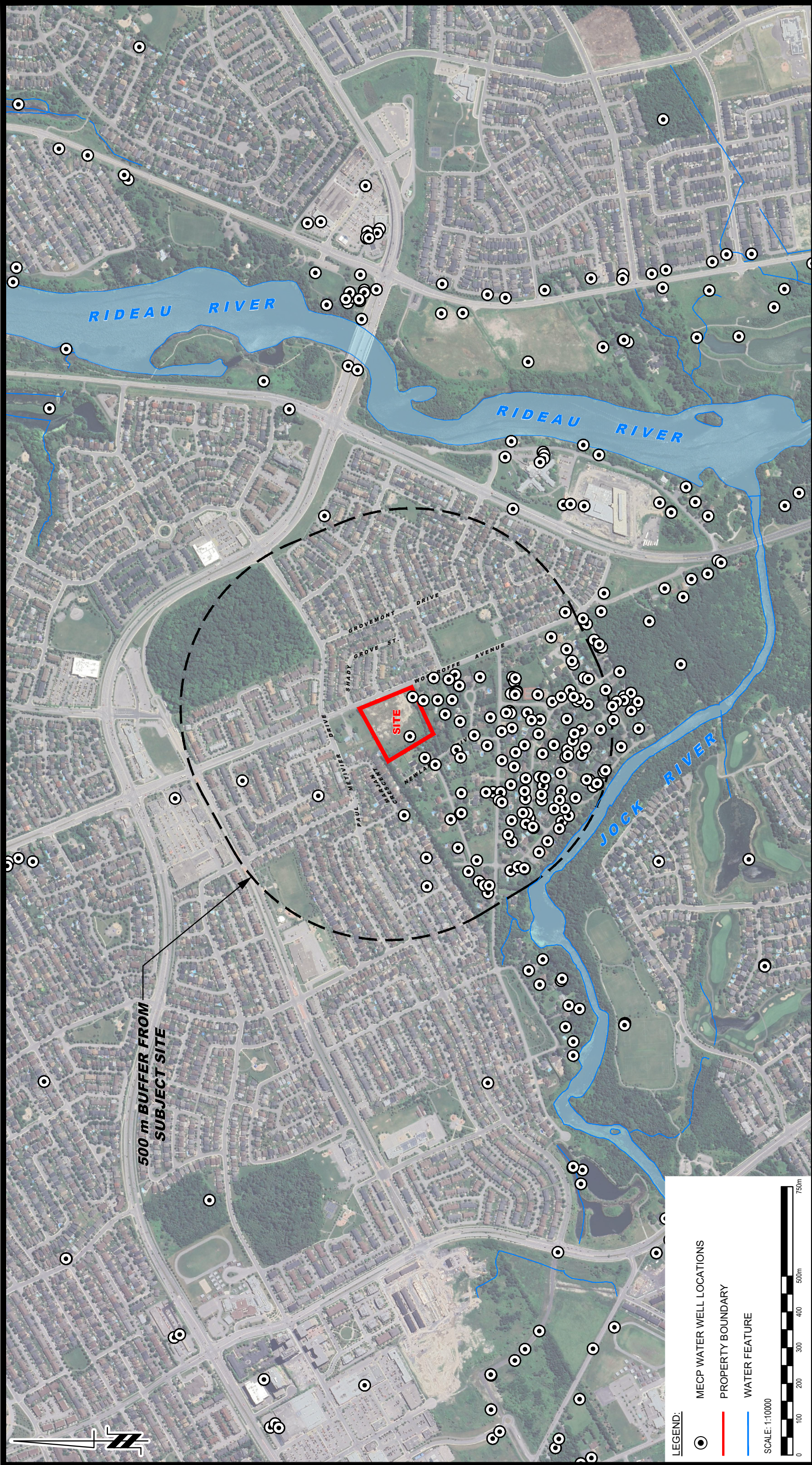
OTTAWA,
Title:

BEDROCK GEOLOGY PLAN

DCR PHOENIX GROUP OF COMPANIES
GROUNDWATER IMPACT ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT
3400 WOODROFFE AVENUE

ONTARIO

Scale:	1:1250	Date:	06/2026
Drawn by:	GK	Report No.:	PH5238-REP.01
Checked by:	ZB	Dwg. No.:	PH5238-2
Approved by:	ML	Revision No.:	



- LEGEND:**
- MECP WATER WELL LOCATIONS
 - PROPERTY BOUNDARY
 - WATER FEATURE

SCALE: 1:10000



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

NO.				REVISIONS		DATE	INITIAL

DCR PHOENIX GROUP OF COMPANIES GROUNDWATER IMPACT ASSESSMENT PROPOSED RESIDENTIAL DEVELOPMENT 3400 WOODROFFE AVENUE		Scale:	1:10000	Date:	06/2026
OTTAWA,	ONTARIO	Drawn by:	GK	Report No.:	PH5238-REP.01
Title:		Checked by:	ZB	Dwg. No.:	PH5238-2
		Approved by:	ML	Revision No.:	

APPENDIX 2

PATERSON - SOIL PROFILE AND TEST DATA SHEETS

PG7287-1 - TEST HOLE LOCATION PLAN



3400 Woodroffe Avenue

ELEVATION: 103.84

FILE NO. : PG7287

HOLE NO.: TP 1-24

DATE: September 20, 2024

P:/AutoCAD Drawings/Test Hole Data Files/PG72xx/PG7287/data.sqlite 2024-10-03, 15:42 Paterson_Template AA

PAGE: 1 / 1

COORD. SYS.: MTM ZONE 9 **EASTING:** 366336.47 **NORTHING:** 5014606.43 **ELEVATION:** 104.02

PROJECT: Proposed Residential Development **FILE NO. :** PG7287

BORINGS BY: Excavator

REMARKS: **DATE:** September 20, 2024 **HOLE NO. :** TP 2-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				■ PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N, Nc OR RQD	WATER CONTENT (%)	20	40	60	80		
							Δ REMOULDED SHEAR STRENGTH, Cur (kPa)					
							▲ PEAK SHEAR STRENGTH, Cu (kPa)					
							PL (%)	WATER CONTENT (%)		LL (%)		
20	40	60	80									
GROUND SURFACE		0										104
FILL: Compact, brown silty fine sand, with gravel, cobbles and organics 0.04m [103.98m]			G 1									
FILL: Brown silty sand, with gravel, trace crushed stone, brick, concrete and organics 0.34m [103.68m]												
End of Test Pit												
Test Pit terminated on concrete slab at 0.34 m depth.												
(Test Pit dry upon completion)												
		1										103
		2										102
		3										101
		4										

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ELEVATION: 104.51

FILE NO. : PG7287

HOLE NO.: TP 2A-24

DATE: September 20, 2024

PAGE: 1 / 1

COORD. SYS.: MTM ZONE 9 **EASTING:** 366307.01 **NORTHING:** 5014598.50 **ELEVATION:** 103.91

PROJECT: Proposed Residential Development

FILE NO. : PG7287

BORINGS BY: Excavator

REMARKS:
DATE: September 20, 2024

HOLE NO. : TP 3-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				■ PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N, Nc OR RQD	WATER CONTENT (%)	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									
GROUND SURFACE		0										
FILL: Compact, brown silty fine sand, with gravel, cobbles, concrete and trace organics			G 1									
- Some construction debris, trace wood and glass		1										103

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COORD. SYS.: MTM ZONE 9 **EASTING:** 366297.45 **NORTHING:** 5014644.95 **ELEVATION:** 104.33

PROJECT: Proposed Residential Development

FILE NO. : PG7287

BORINGS BY: Excavator

REMARKS:
DATE: September 20, 2024

HOLE NO. : TP 4-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				■ PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N, Nc OR RQD	WATER CONTENT (%)	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									
GROUND SURFACE		0										
FILL: Compact, brown silty sand, with gravel, trace concrete and organics 0.05m [104.28m]			G 1									104
GLACIAL TILL: Compact to very dense, brown silty fine sand, with gravel, cobbles and boulders												
- Cobbles and gravel comprise approximately 30 to 40 % of the total composition of the glacial till.												
- Boulders, 0.3 to 0.7 m in dimension, comprise approximately 10 to 20 % of the total composition of the glacial till.		1	G 2									103
- Total composition of gravel, cobbles and boulders increasing with depth.												
		2										102
			G 3									
2.90m [101.43m]												
End of Test Pit		3										101
Test Pit terminated on very dense glacial till at 2.90 m depth.												
(Test Pit dry upon completion)												
		4										

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COORD. SYS.: MTM ZONE 9 EASTING: 366262.93 NORTHING: 5014665.01 ELEVATION: 103.75

PROJECT: Proposed Residential Development

FILE NO. : PG7287

BORINGS BY: Excavator

REMARKS:

DATE: September 20, 2024

HOLE NO. : TP 5-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				■ PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N, Nc OR RQD	WATER CONTENT (%)	20	40	60	80		
							△ REMOULDED SHEAR STRENGTH, Cur (kPa)					
							▲ PEAK SHEAR STRENGTH, Cu (kPa)					
							PL (%)	WATER CONTENT (%)		LL (%)		
GROUND SURFACE						20	40	60	80			
FILL: Compact, brown silty sand, with gravel and cobbles, trace organics 0.03m [103.72m]		0	G 1									
GLACIAL TILL: Compact, dark brown silty fine sand, with gravel, cobbles and boulders - Dense to very dense by 1.3 m depth.		1	G 2									
GLACIAL TILL: Very dense, light brown silty fine sand, with gravel, cobbles and boulders - Cobbles and gravel comprise 30 to 40 % of the total composition of the glacial till. - Boulders, 0.3 to 1.2 m in dimension, comprise 20 to 30 % of the total composition of the glacial till. - Total composition of gravel, cobbles and boulders increasing with depth.		2										
End of Test Pit Test Pit terminated on very dense glacial till at 3.20 m depth. (Test Pit dry upon completion)		3	G 3									
		4										

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3400 Woodroffe Avenue

ELEVATION: 104.48

HOLE NO. : TP 6-24

COORD. SYS.: MTM ZONE 9 **EASTING:** 366322.76 **NORTHING:** 5014673.60 **ELEVATION:** 105.41

PROJECT: Proposed Residential Development

FILE NO. : PG7287

BORINGS BY: Excavator

REMARKS:
DATE: September 20, 2024

HOLE NO. : TP 7-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				■ PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N, Nc OR RQD	WATER CONTENT (%)	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									
GROUND SURFACE		0										
FILL: Compact, brown silty fine sand, with gravel and cobbles, trace organics and concrete												
0.40m [105.01m]												
GLACIAL TILL: Dense, brown silty fine sand, with gravel, cobbles and boulders			G 1								105	
		1										
- Cobbles and gravel comprise approximately 20 to 30 % of the total composition of the glacial till.			G 2								104	
- Boulders, 0.3 to 0.7 m in dimension, comprise approximately 5 to 15 % of the total composition of the glacial till.												
- Total composition of boulders and cobbles increasing with depth.		2									103	
			G 3									
2.80m [102.61m]												
End of Test Pit		3										
Test Pit terminated on very dense glacial till at 2.80 m depth.												
(Test Pit dry upon completion)											102	
		4										

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.

COORD. SYS.: MTM ZONE 9 **EASTING:** 366365.80 **NORTHING:** 5014682.88 **ELEVATION:** 104.22

PROJECT: Proposed Residential Development

FILE NO. : PG7287

BORINGS BY: Excavator

REMARKS:
DATE: September 20, 2024

HOLE NO. : TP 8-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				■ PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N, Nc OR RQD	WATER CONTENT (%)	20	40	60	80		
							△ REMOULDED SHEAR STRENGTH, Cur (kPa)					
							▲ PEAK SHEAR STRENGTH, Cu (kPa)					
						PL (%)	WATER CONTENT (%)		LL (%)			
							20	40	60	80		
GROUND SURFACE		0										
FILL: Compact, brown silty sand, with gravel and cobbles, trace organics 0.20m [104.02m]												104
GLACIAL TILL: Compact to very dense, brown silty fine sand, with gravel, cobbles and boulders												
- Cobbles and gravel comprise approximately 30 to 40 % of the total composition of the glacial till.												
- Boulders, 0.3 to 1 m in dimension, comprise approximately 20 to 30 % of the total composition of the glacial till.		1										103
- Total composition of gravel, cobbles and boulders increasing with depth.												
		2										102
		3										101
		4										
End of Test Pit												
Test Pit terminated on very dense glacial till at 2.50 m depth.												
(Test Pit dry upon completion)												

End of Test Pit

Test Pit terminated on very dense glacial till at 2.50 m depth.

(Test Pit dry upon completion)

COORD. SYS.: MTM ZONE 9 **EASTING:** 366337.76 **NORTHING:** 5014713.17 **ELEVATION:** 104.62

PROJECT: Proposed Residential Development

FILE NO. : PG7287

BORINGS BY: Excavator

REMARKS:
DATE: September 20, 2024

HOLE NO. : TP 9-24

SAMPLE DESCRIPTION	STRATA PLOT	DEPTH (m)	SAMPLE				■ PEN. RESIST. (BLOWS/0.3m) DCPT (50mm DIA. CONE)				PIEZOMETER CONSTRUCTION	ELEVATION (m)
			TYPE AND NO.	RECOVERY (%)	N, Nc OR RQD	WATER CONTENT (%)	20	40	60	80		
							△ REMOULDED SHEAR STRENGTH, Cur (kPa)					
							▲ PEAK SHEAR STRENGTH, Cu (kPa)					
PL (%)	WATER CONTENT (%)		LL (%)									
20	40	60	80	20	40	60	80					
GROUND SURFACE		0										
FILL: Compact, brown silty sand, with gravel and cobbles, trace organics												
0.03m [104.59m]												
GLACIAL TILL: Dense to very dense, brown silty fine sand, with cobbles and boulders												
- Cobbles and gravel comprise approximately 30 to 40 % of the total composition of the glacial till.											104	
- Boulders, 0.3 to 1.1 m in dimension, comprise approximately 20 to 30 % of the total composition of the glacial till.												
- Total composition of gravel, cobbles and boulders increasing with depth.											103	

End of Test Pit

Test Pit terminated on very dense glacial till at 2.60 m depth.

(Test Pit 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 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)
D _{xx}	-	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
D ₁₀	-	Grain size at which 10% of the soil is finer (effective grain size)
D ₆₀	-	Grain size at which 60% of the soil is finer
C _c	-	Concavity coefficient = $(D_{30})^2 / (D_{10} \times D_{60})$
C _u	-	Uniformity coefficient = D_{60} / D_{10}

C_c and C_u are used to assess the grading of sands and gravels:

Well-graded gravels have: $1 < C_c < 3$ and $C_u > 4$

Well-graded sands have: $1 < C_c < 3$ and $C_u > 6$

Sands and gravels not meeting the above requirements are poorly-graded or uniformly-graded.

C_c and C_u 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

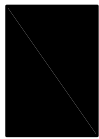
p' _o	-	Present effective overburden pressure at sample depth
p' _c	-	Preconsolidation pressure of (maximum past pressure on) sample
C _{cr}	-	Recompression index (in effect at pressures below p' _c)
C _c	-	Compression index (in effect at pressures above p' _c)
OC Ratio		Overconsolidation ratio = p'_c / p'_o
Void Ratio		Initial sample void ratio = volume of voids / volume of solids
W _o	-	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.
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SYMBOLS AND TERMS (continued)

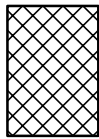
STRATA PLOT



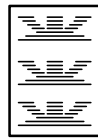
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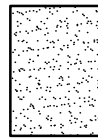
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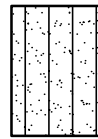
Fill



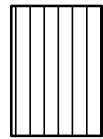
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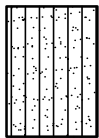
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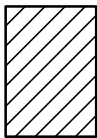
Silty Sand



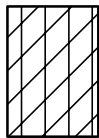
Silt



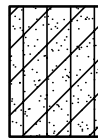
Sandy Silt



Clay



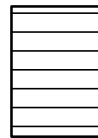
Silty Clay



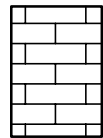
Clayey Silty Sand



Glacial Till



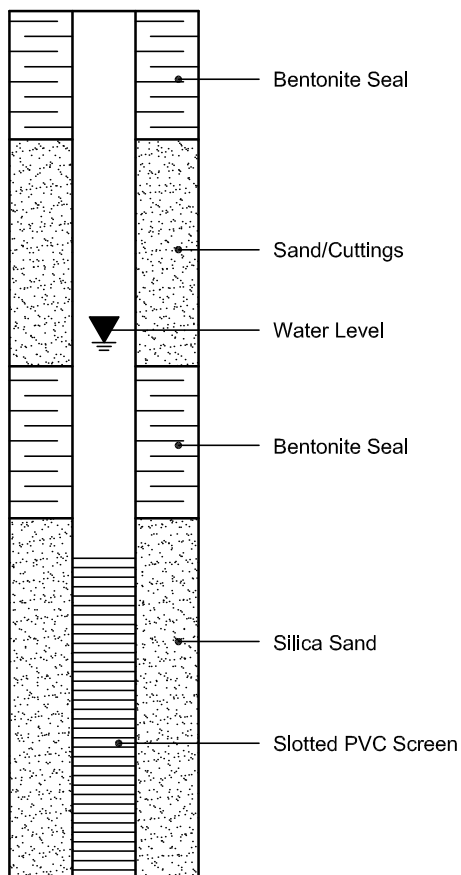
Shale



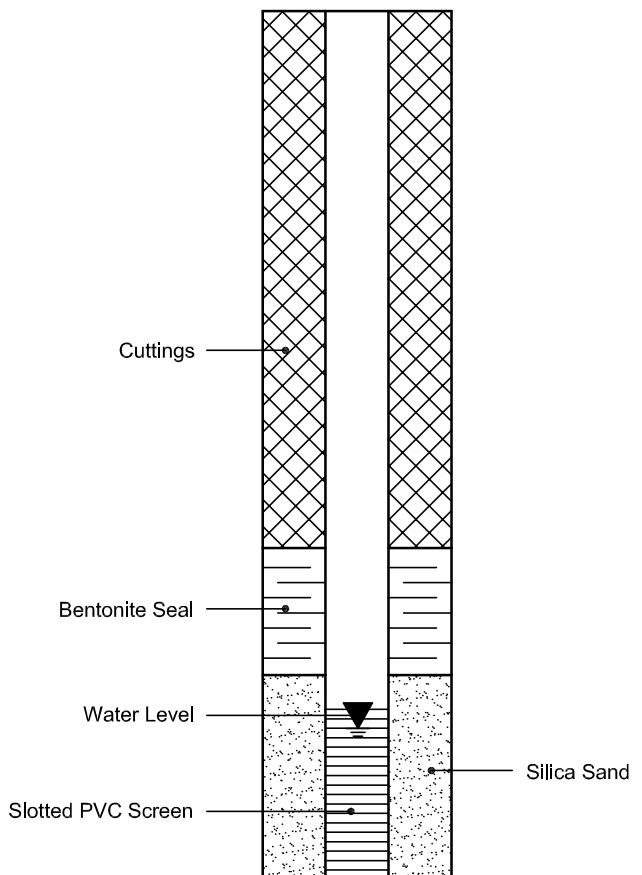
Bedrock

MONITORING WELL AND PIEZOMETER CONSTRUCTION

MONITORING WELL CONSTRUCTION



PIEZOMETER CONSTRUCTION



Golder Associates Ltd.

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TEST PIT RECORD

TEST PIT #08-1

DATE: # September 25, 2008

PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to Goedetic datum

Depth (m)	Elevation (m)	Description	Remarks
0.00	104.73	Dark Brown organic Topsoil with roots	very difficult digging below 2 metres depth due to increase boulders (up to 0.7 m size) content
0.15	104.58	Red brown SILTY SAND and GRAVEL, trace organics and rootlets	
0.42	104.31	Compact to very dense, grey brown silty to bouldery SAND and GRAVEL, some cobble and boulder (GLACIAL TILL)	
0.42	104.31	Very dense BOULDER, SAND and GRAVEL	
4.00	100.73	Bottom of test pit within bouldery TILL	

- Backhoe refusal at 4.0m
- Test pit walls stable.
- No water seepage.
- Dimensions : 2m x 4m

Golder Associates Ltd.

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TEST PIT RECORD

TEST PIT #08-2

DATE: # September 25, 2008

PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to Geodetic datum

Depth (m)	Elevation (m)	Description	Remarks
0.00	104.22	Dark Brown organic TOPSOIL with roots	very difficult digging below 1.5 metres depth due to increasing boulder (upto 0.7 m size) content
0.15	104.07	Red brown Silty SAND and GRAVEL, some cobble, trace rootlet	
0.50	103.72	Compact to very dense, grey brown SILTY SAND and GRAVEL, increasing cobble and boulder content with depth (GLACIAL TILL)	
1.50	102.72	Very dense, bouldery (GLACIAL TILL)	
4.00	100.22	Bouldery SAND and GRAVEL with variable silt content (GLACIAL TILL)	

- End of test pit at 4.0 m.
- Test pit walls stable.
- No water seepage.
- Dimensions : 1m x 3m

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TEST PIT RECORD

TEST PIT #08-3

DATE: # September 25, 2008

PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to Goedetic datum

Depth (m)	Elevation (m)	Description	Remarks
0.00	104.98	Dark Brown organic TOPSOIL with roots	Boulder up to 1.2 metres long is noted with in the test pit
0.18	104.80	Red brown SAND and GRAVEL, some silt and cobble, trace rootlet	
0.45	104.53	Dense to very dense, grey brown silty to bouldery SAND and GRAVEL (GLACIAL TILL)	
4.00	100.98	Bottom of the test pit within very dense bouldery SAND and GRAVEL with variable silt content (GLACIAL TILL)	

- End of testpit at 4.0 m.
- Test pit walls stable.
- No water seepage.
- Dimensions : 1 x 3m

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TEST PIT RECORD

TEST PIT #08-4

DATE: # September 25, 2008

PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to Goedetic datum

Depth (m)	Elevation (m)	Description	Remarks
0.00	104.71	Dark Brown organic TOPSOIL	very difficult digging below 2 metres depth due to increasing boulder (upto 1.2 m size) content
0.20	104.51	Red brown sandy GRAVEL, some cobble, trace to some shells	
0.90	103.81	Compact to dense, grey brown silty SAND and GRAVEL with variable cobble and boulder content (GLACIAL TILL)	
2.00	102.71	Dense to very dense bouldery	
4.00	100.71	Bottom of Testpit within Bouldery SAND and GRAVEL with variable silt content (GLACIAL TILL)	

- End of test pit at 4.0 m.
- Test pit walls stable.
- No water seepage.
- Dimensions : 1m x 3m

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TEST PIT RECORD

TEST PIT #08-5

DATE: # September 25, 2008

PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to Goedetic datum

Depth (m)	Elevation (m)	Description	Remarks
0.00	105.76	Dark Brown organic TOPSOIL with roots	
0.18	105.58	Red brown coarse SAND and GRAVEL, some cobble and boulder, trace silt	
1.20	104.56	Dense to very dense, grey brown silty to bouldery SAND and GRAVEL (GLACIAL TILL)	
4.00	101.76	Bottom of Test pit within very dense bouldery SAND and GRAVEL with variable silt content (GLACIAL TILL)	

- End of test pit at 4.0m.
- Test pit walls stable.
- No water seepage.
- Dimensions : 1m x 3m

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Fax (613) 592-9601



TEST PIT RECORD

TEST PIT #08-6

DATE: # September 26, 2008

PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to Goedetic datum

Depth (m)	Elevation (m)	Description	Remarks
0.00	105.99	Dark Brown organic TOPSOIL	
0.12	105.87	Grey brown SAND and GRAVEL, some silt, cobble and shell	
0.80	105.19	Brown coarse SAND and GRAVEL with some shells	
1.40	104.59	Dense to very dense silty SAND and GRAVEL/COBBLE, some boulder (GLACIAL TILL)	
4.00	101.99	Bottom of Testpit within very dense silty SAND and GRAVEL with some boulder (GLACIAL TILL)	

- End of test pit at 4.0 m.
- Test pit walls stable.
- No water seepage.
- Dimensions : 1m x 3m

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TEST PIT RECORD

TEST PIT #08-7

DATE: # September 25, 2008

PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to **Geodetic datum**

Depth (m)	Elevation (m)	Description	Remarks
0.00	100.63	Dark brown organic TOPSOIL	Very difficult to dig below 2.2 metres due to granular bouldery content (typical)
0.15	100.48	Red brown silty SAND and GRAVEL, some cobble, trace organics and rootlet	
0.55	100.08	Dense to very dense grey brown silty/bouldery SAND and GRAVEL (GLACIAL TILL)	
3.80	96.83	Bottom of Test pit within very dense bouldery SAND and GRAVEL with variable silt content (GLACIAL TILL)	

- End of test pit at 3.8 m.
- Test pit walls stable.
- No water seepage.
- Dimensions : 1m x 3m

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Fax (613) 592-9601



TEST PIT RECORD

TEST PIT #08-8

DATE: # September 25, 2008

PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to Geodetic datum

Depth (m)	Elevation (m)	Description	Remarks
0.00	102.54	Dark brown organic TOPSOIL	very difficult digging below 2 metres depth due to increasing boulder (> 0.15 m size) content
0.20	102.34	Red brown silty SAND, some gravel, trace organics	
0.60	101.94	Compact to dense grey brown silty SAND and GRAVEL with variable cobble and boulder (GLACIAL TILL)	
2.00	100.54	- very dense, cobbly and bouldery	
4.90	97.64	Bottom of Testpit within bouldery SAND and GRAVEL with variable silt content (GLACIAL TILL)	

- End of test pit at 4.9 m.
- Test pit walls stable.
- No water seepage.
- Dimensions : 1 m x 3 m

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TEST PIT RECORD

TEST PIT #08-9

DATE: # September 26, 2008

PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to Geodetic datum

Depth (m)	Elevation (m)	Description	Remarks
0.00	101.90	Dark brown organic TOPSOIL with roots	very difficult digging below 1 meter depth due to increasing gravel content
0.20	101.70	Red brown silty SAND, some gravel, trace organics	
0.70	101.20	Compact to dense grey brown silty SAND and GRAVEL with variable cobble and boulder content (GLACIAL TILL)	
1.00	100.90	- becomes very dense and bouldery	
3.10	98.80	Bottom of Testpit within bouldery SAND and GRAVEL with variable silt content (GLACIAL TILL)	

- End of test pit at 3.1 m.
- Test pit walls stable.
- No water seepage.
- Dimensions : 1m x 3m

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TEST PIT RECORD

TEST PIT #08-10

DATE: # September 26, 2008

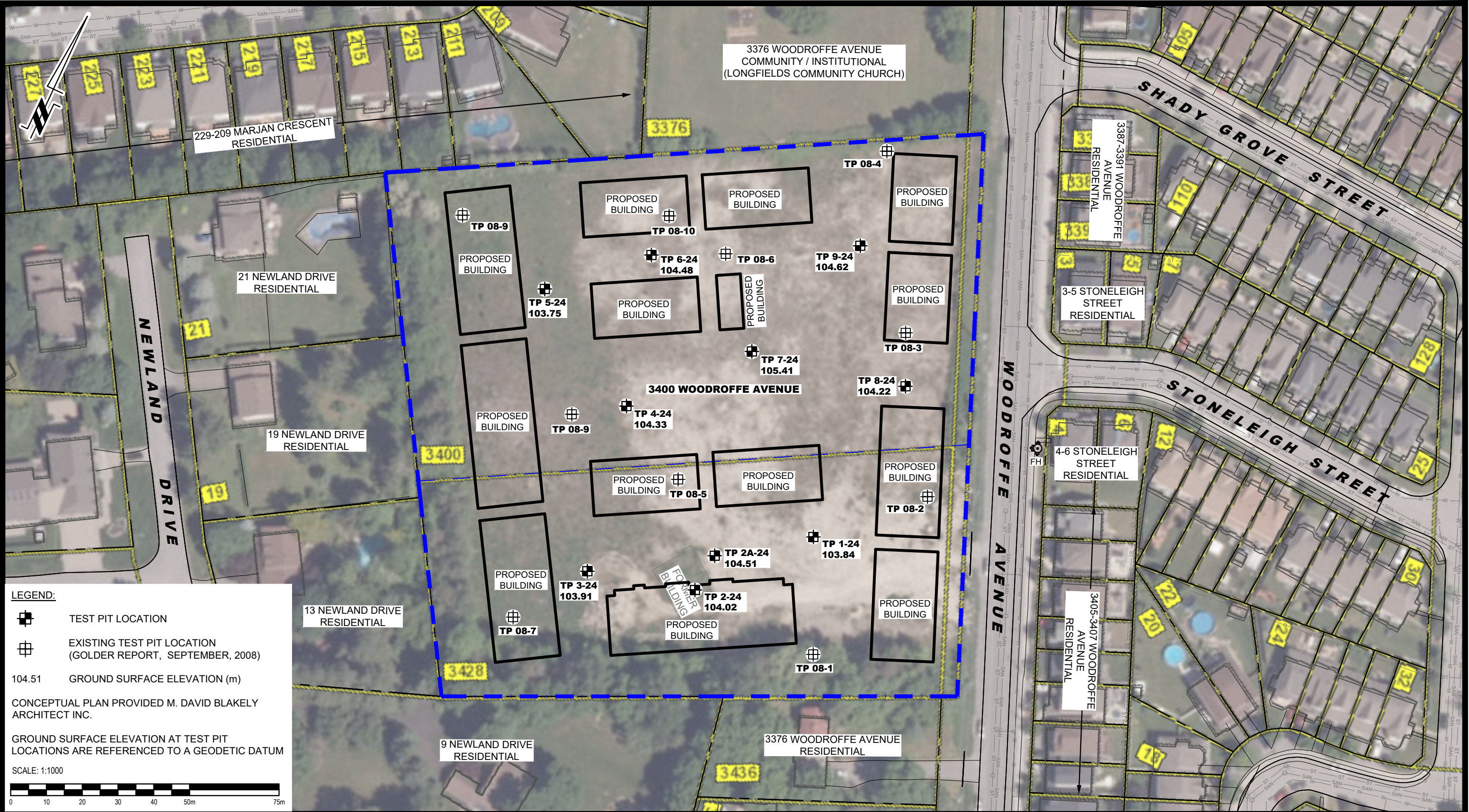
PROJECT: BORRELLO DEVELOPMENT - PROPOSED RESIDENTIAL RESIDENCE
PROJECT No.: 08-1121-0147

EQUIPMENT: Test pit excavated with rubber-tired back-hoe, Type Deere 362

NOTES : Ground surface elevation at the testpit location is referenced to Goedetic datum

Depth (m)	Elevation (m)	Description	Remarks
0.00	107.04	Dark brown SAND, some gravel and cobbles, trace organics (FILL)	very difficult digging below 1 metres depth due to increasing boulder content
0.50	106.54	Brown fine SAND (FILL)	
0.80	106.24	Dark brown SAND, some gravel and cobbles, occasional boulder, trace organics (FILL)	
1.30	105.74	Native TOPSOIL	
1.45	105.59	Gray borwn silty SAND and GRAVEL (Glacial Till)	
1.80	105.24	Bottom of Testpit	

- End of test pit at 1.8 m.
- Test pit walls stable.
- No water seepage.
- Dimensions : 1m x 3m



LEGEND:

- TEST PIT LOCATION
- EXISTING TEST PIT LOCATION (GOLDER REPORT, SEPTEMBER, 2008)
- 104.51 GROUND SURFACE ELEVATION (m)

CONCEPTUAL PLAN PROVIDED M. DAVID BLAKELY ARCHITECT INC.

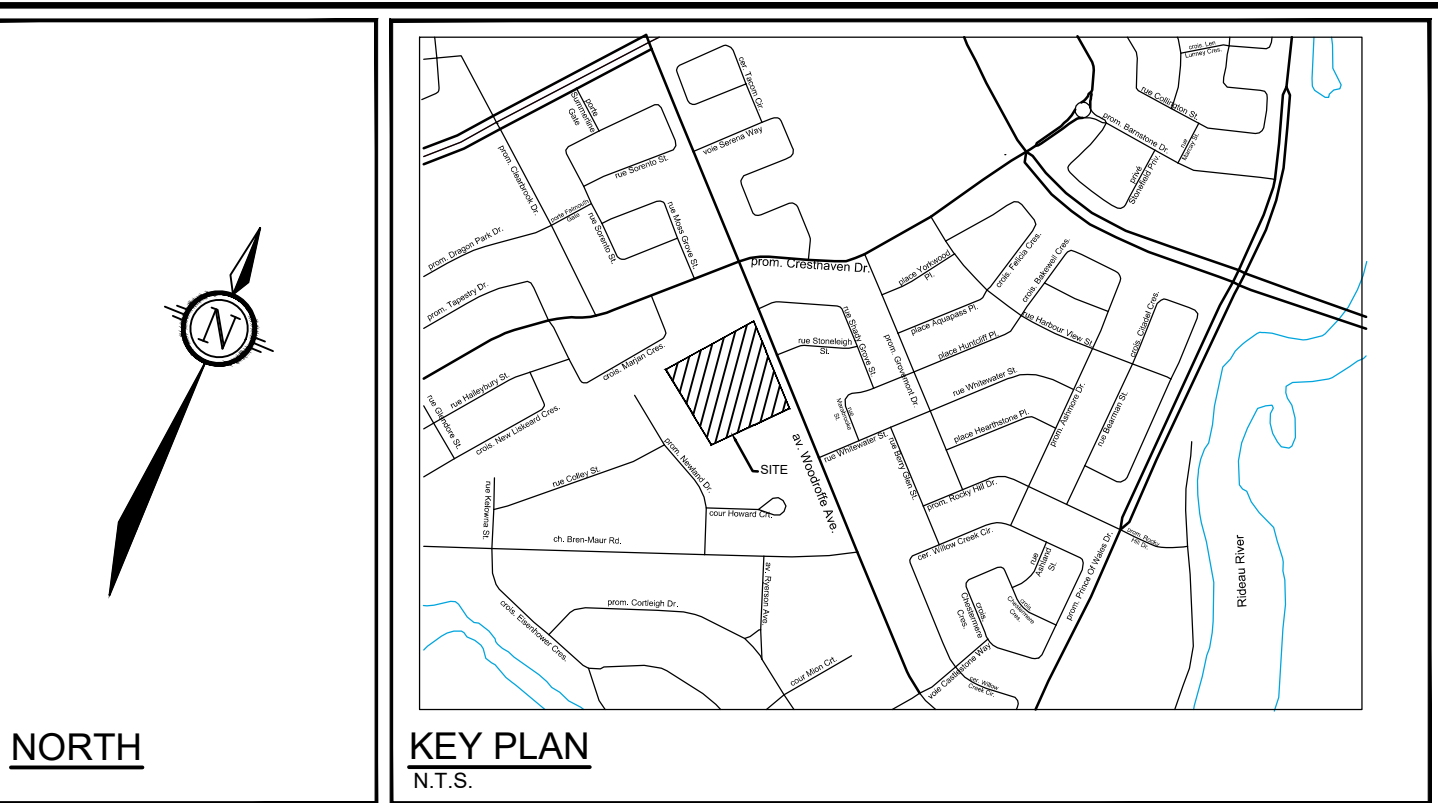
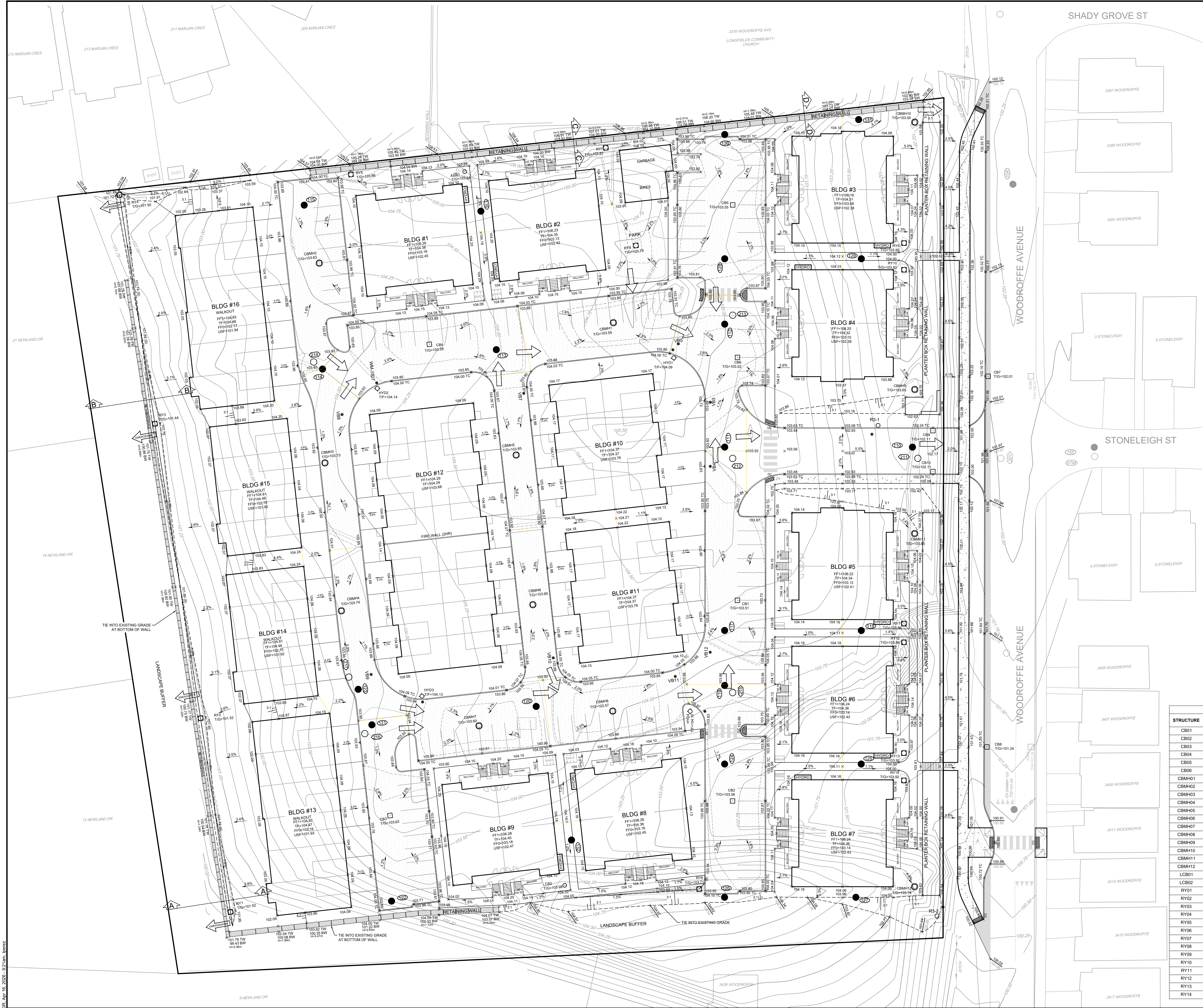
GROUND SURFACE ELEVATION AT TEST PIT LOCATIONS ARE REFERENCED TO A GEODETIC DATUM

SCALE: 1:1000

 PATERSON GROUP 9 AURIGA DRIVE OTTAWA, ON K2E 7T9 TEL: (613) 226-7381					DCR PHOENIX GROUP OF COMPANIES GEOTECHNICAL INVESTIGATION PROPOSED RESIDENTIAL DEVELOPMENT 3400 WOODROFFE AVENUE	Scale: 1:1000 Drawn by: YA Checked by: PT Approved by: SD	Date: 09/2024 Report No.: PG7287-1 Dwg. No.: PG7287-1 Revision No.:		
								OTTAWA, Title:	ONTARIO
	NO.	REVISIONS	DATE	INITIAL					

APPENDIX 3

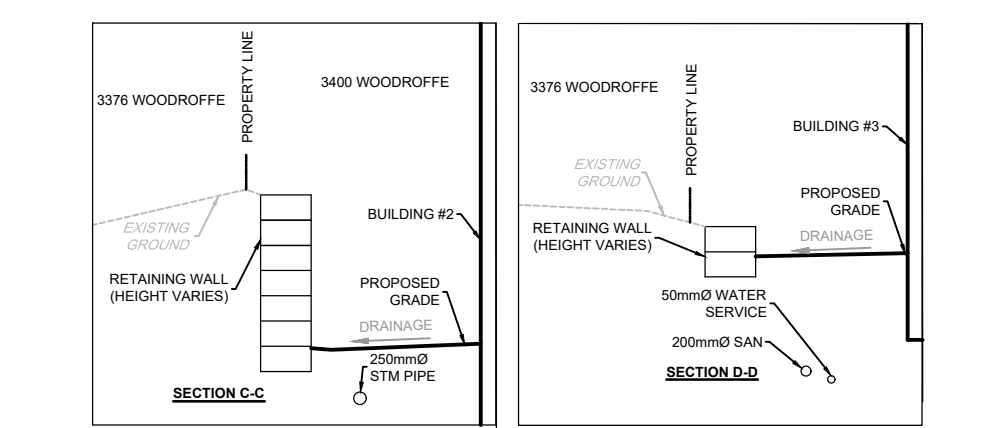
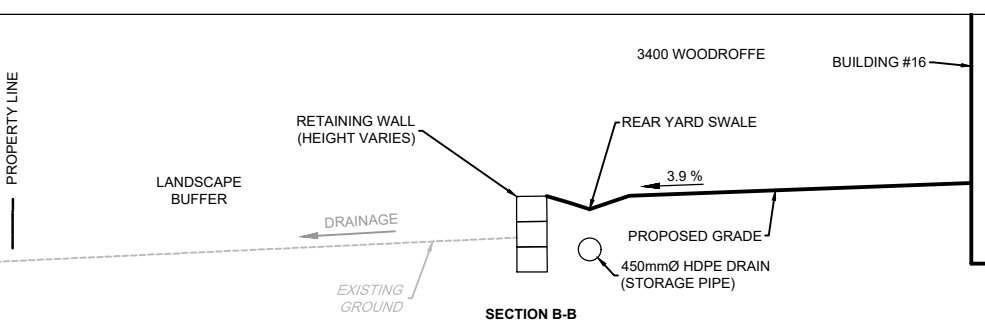
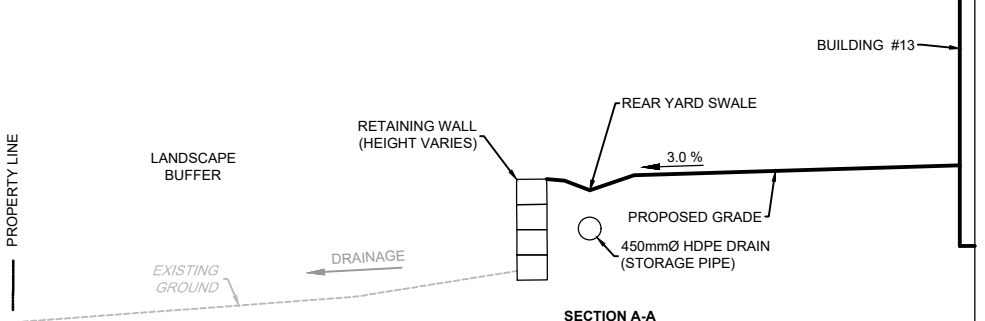
NOVATECH - CIVIL DRAWINGS



- LEGEND**
- PROPOSED GRADE AND DIRECTION OF FLOW
 - PROPOSED ELEVATION
 - PROPOSED ELEVATION
 - EXISTING ELEVATION
 - TERRACING (3:1 MAX)
 - PROPOSED RETAINING WALL
 - MAJOR OVERLAND FLOW DIRECTION
 - EMERGENCY FLOW DIRECTION
 - EXISTING CONTOUR AND ELEVATION
 - PROPOSED SANITARY MANHOLE
 - PROPOSED STORM MANHOLE
 - PROPOSED CATCHBASIN
 - RY1
 - TG=
 - PROPOSED REAR YARD CATCHBASIN WITH TOP OF GRATE ELEVATION
 - VB
 - PROPOSED VALVE & VALVE BOX LOCATION
 - HYD
 - TP=
 - PROPOSED HYDRANT WITH TOP OF FLANGE ELEVATION
 - FF1
 - FINISHED FLOOR ELEVATION - 1ST FLOOR
 - TF
 - TOP OF FOUNDATION
 - FF0
 - FINISHED FLOOR ELEVATION - BASEMENT
 - USF
 - UNDERSIDE OF FOOTING ELEVATION
 - TW
 - TOP OF WALL ELEVATION
 - BW
 - BOTTOM OF WALL ELEVATION
 - MAX STATIC PONDING LIMITS
 - 100-YR PONDING LIMITS
 - 100-YR +20% PONDING LIMITS

PAVEMENT STRUCTURE:

- 40mm ASPHALT SP12.5
- 50mm ASPHALT SP19.0
- 150mm GRAN "A"
- 450mm GRAN "B" TYPE II
- 690mm TOTAL DEPTH

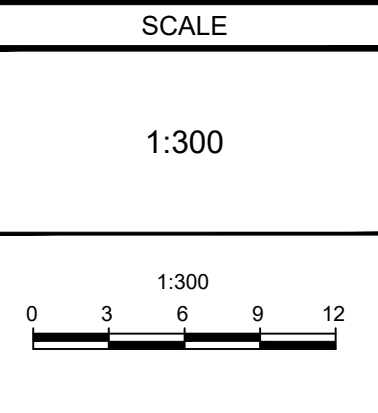


STRUCTURE	PONDING					MAX STATIC PONDING ELEVATION	MAX STATIC PONDING DEPTH (m)
	100 YEAR PONDING ELEVATION	100 YEAR PONDING DEPTH (m)	100 YEAR +20% PONDING ELEVATION	100 YEAR +20% PONDING DEPTH (m)			
CB01	103.79	0.28	103.83	0.32		103.83	0.32
CB02	103.80	0.30	103.86	0.30		103.86	0.30
CB03	103.83	0.20	103.87	0.24		103.87	0.20
CB04	103.73	0.18	103.87	0.32		103.88	0.33
CB05	103.76	0.21	103.81	0.26		103.85	0.30
CB06	103.69	0.17	103.77	0.25		103.82	0.30
CBMH01	103.70	0.15	103.74	0.19		103.85	0.30
CBMH02	103.92	0.29	103.94	0.31		103.93	0.30
CBMH03	103.94	0.21	103.95	0.22		103.93	0.20
CBMH04	103.95	0.21	103.96	0.22		103.94	0.20
CBMH05	103.87	0.22	103.91	0.26		103.90	0.25
CBMH06	103.91	0.26	103.93	0.28		103.91	0.26
CBMH07	103.77	0.17	103.86	0.26		103.90	0.30
CBMH08	103.76	0.19	103.85	0.28		103.87	0.30
CBMH09	103.22	0.00	103.60	0.00		103.73	0.08
CBMH10	103.23	0.00	103.61	0.11		103.58	0.08
CBMH11	103.60	0.00	103.88	0.00		103.99	0.04
CBMH12	103.60	0.00	103.88	0.10		103.83	0.05
LCB01	103.92	0.06	103.95	0.09		103.94	0.08
LCB02	103.80	0.00	103.86	0.00		104.05	0.07
RY01	101.73	0.21	101.81	0.29		101.79	0.27
RY02	101.73	0.21	101.81	0.29		101.77	0.25
RY03	101.73	0.29	101.77	0.33		101.75	0.31
RY04	101.73	0.23	101.77	0.27		101.72	0.22
RY05	103.92	0.06	103.95	0.09		103.95	0.09
RY06	103.80	0.08	103.86	0.14		103.96	0.13
RY07	103.92	0.10	103.95	0.13		103.95	0.14
RY08	103.82	0.03	103.87	0.08		103.94	0.15
RY09	103.22	0.00	103.61	0.00		104.00	0.05
RY10	103.22	0.00	103.61	0.00		103.97	0.05
RY11	103.60	0.00	103.88	0.00		103.99	0.05
RY12	103.60	0.00	103.88	0.00		104.01	0.05
RY13	103.60	0.00	103.88	0.00		103.97	0.05
RY14	103.60	0.00	103.88	0.00		103.97	0.05

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS,
WATERMANS, SEWERS AND OTHER
UNDERGROUND AND OVERGROUND UTILITIES AND
STRUCTURES IS NOT NECESSARILY SHOWN ON
THE CONTRACT DRAWINGS, AND WHERE SHOWN,
THE ACCURACY OF THE POSITION OF SUCH
UTILITIES AND STRUCTURES IS NOT GUARANTEED.
BEFORE STARTING WORK, DETERMINE THE EXACT
LOCATION OF ALL SUCH UTILITIES AND
STRUCTURES AND ASSUME ALL LIABILITY FOR
DAMAGE TO THEM.

PHOENIX HOMES
SINCE 1988
18A BENTLEY AVE
OTTAWA, ON, K2E 6T8

No	REVISION	DATE	BY
2	ADDRESS CITY COMMENTS	APR 14/28	MAB
1	SITE PLAN APPLICATION	NOV 5/25	MAB

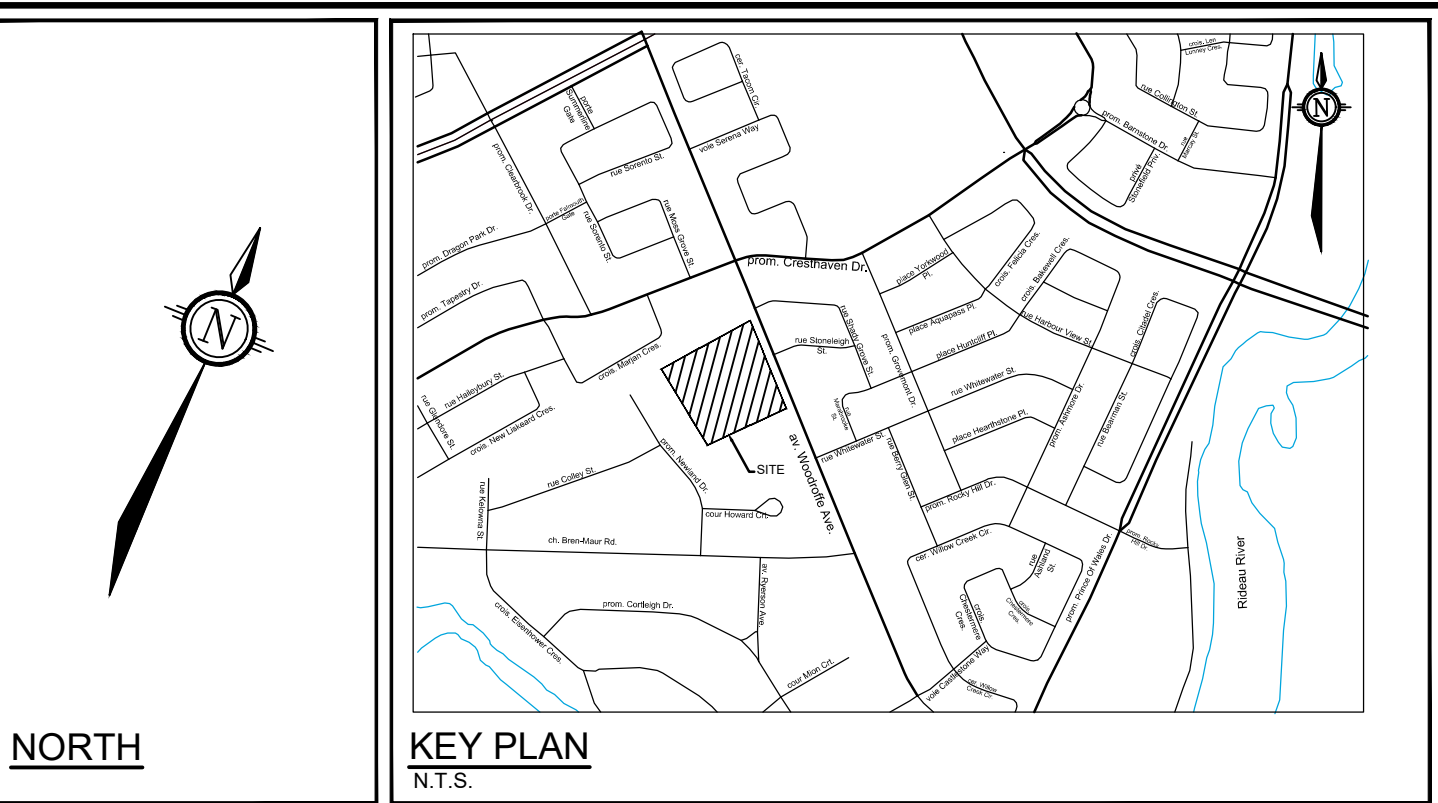
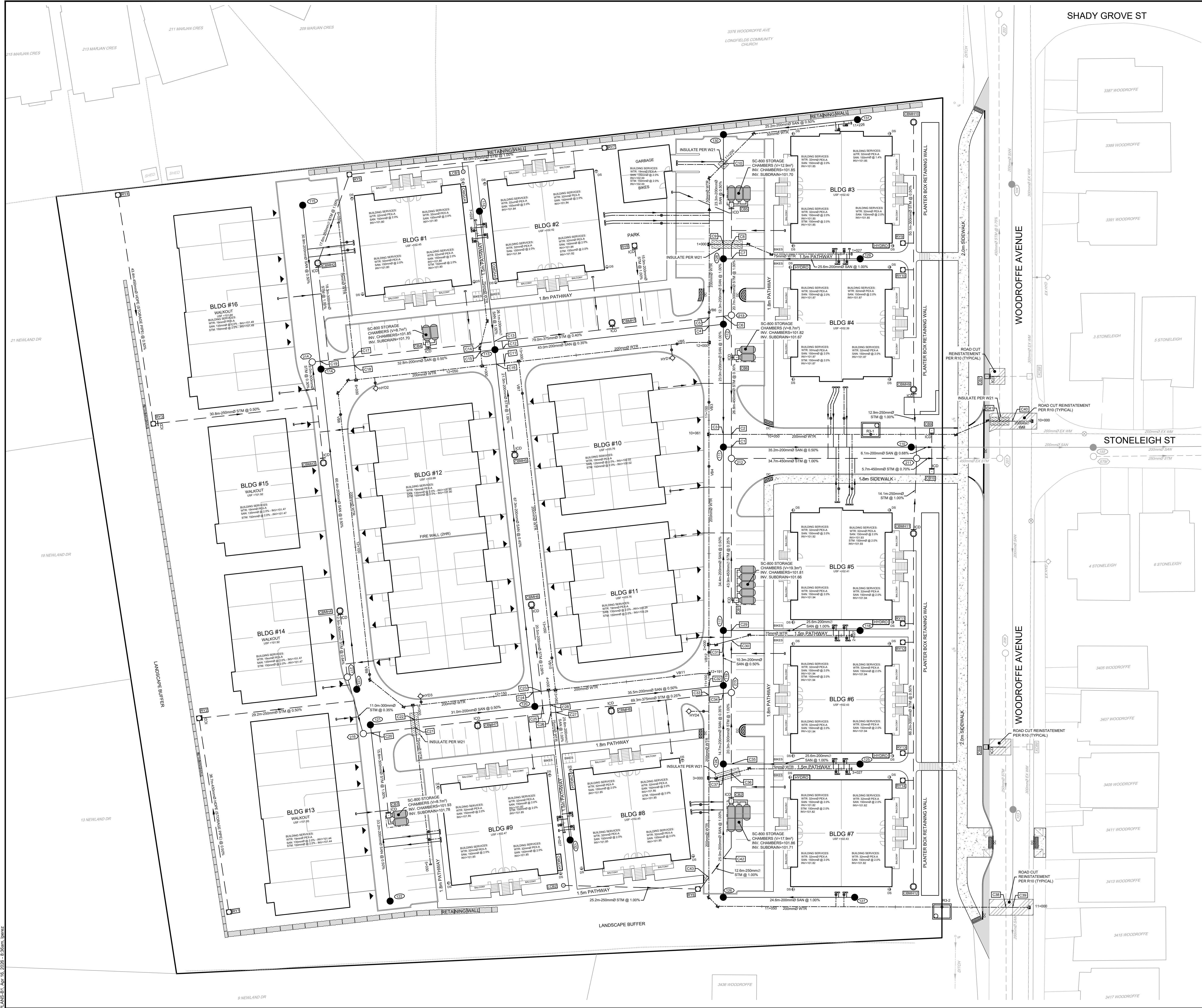


FOR REVIEW ONLY
L.R. WILSON
PROFESSIONAL ENGINEER
M.A. BISSETT
PROFESSIONAL ENGINEER
2025.04.14

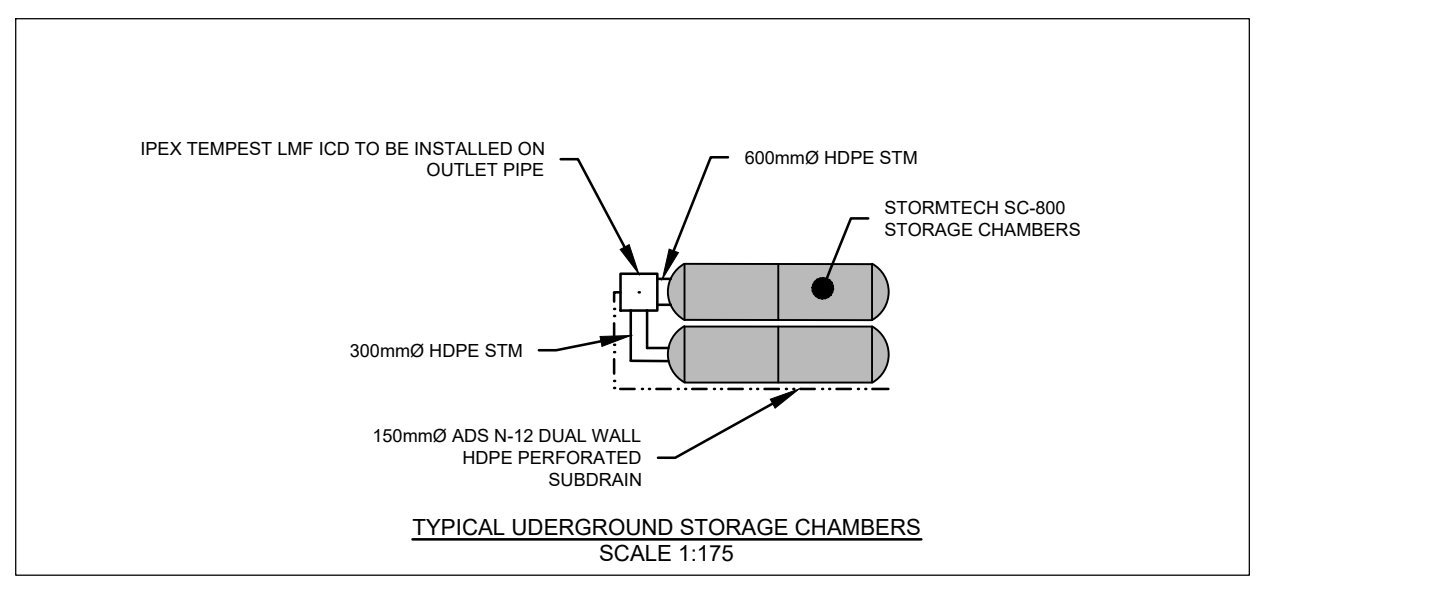
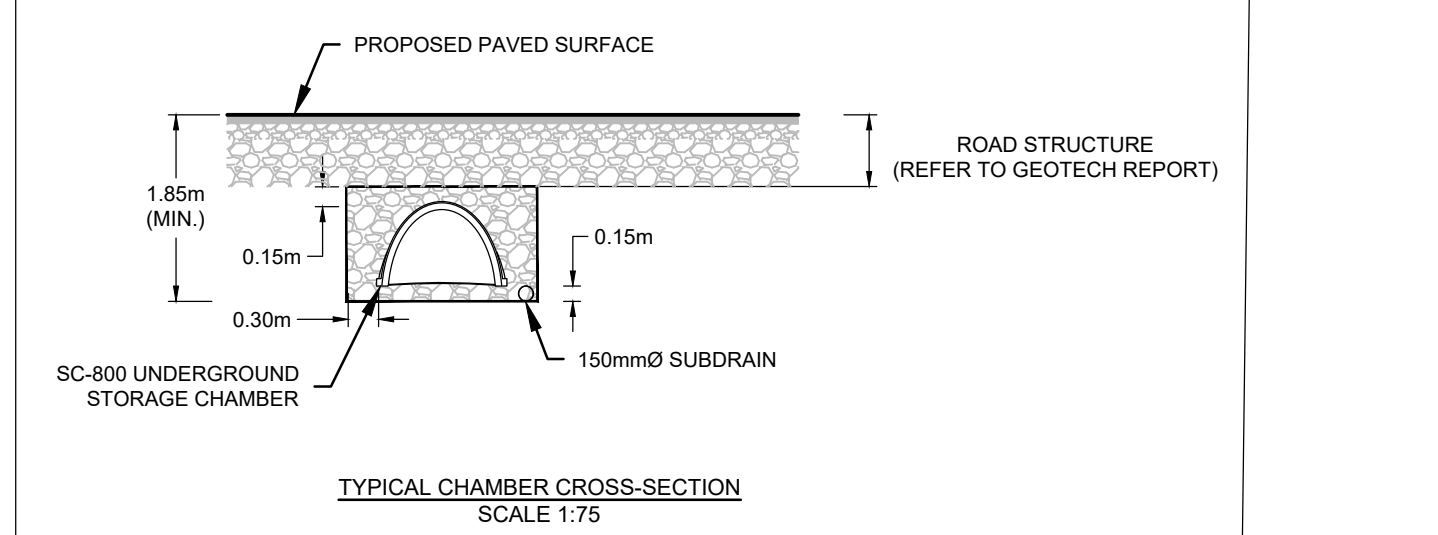
NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

CITY OF OTTAWA
3400 WOODROFFE AVENUE
GRADING PLAN

PROJECT No: 124147
REV # 2
DRAWING No: 124147-GR



- LEGEND**
- PROPOSED SANITARY MANHOLE & SEWER WITH DIRECTION OF FLOW
 - PROPOSED STORM MANHOLE & SEWER WITH DIRECTION OF FLOW
 - PROPOSED STORM CATCHBASIN MANHOLE & SEWER WITH DIRECTION OF FLOW
 - PROPOSED WATERMAIN AND DIAMETER
 - PROPOSED HYDRANT C/W VALVE & LEAD
 - PROPOSED WATERMAIN CAP
 - PROPOSED WATERMAIN BEND AND THRUST BLOCK
 - PROPOSED CATCH BASIN
 - PROPOSED REAR YARD CATCH BASIN
 - PROPOSED SERVICE LATERALS (WATER & SANITARY)
 - EXISTING STORM MANHOLE, SEWER & FLOW DIRECTION
 - EXISTING SAN MANHOLE, SEWER & FLOW DIRECTION
 - EXISTING CATCH BASIN
 - R-3 VALVE CHAMBER(W12) WITH FIRE LINE METER(W32.1)



NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

PHOENIX HOMES
SINCE 1988
18A BENTLEY AVE
OTTAWA, ON, K2E 6T8

No	REVISION	DATE	BY
2	ADDRESS CITY COMMENTS	APR 14/28	MAB
1	SITE PLAN APPLICATION	NOV 5/25	MAB

SCALE
1:300

0 3 6 9 12

DESIGN
LRW

CHECKED
MAB

DRAWN
LPA

CHECKED
MAB

APPROVED
MAB

FOR REVIEW ONLY

PROFESSIONAL ENGINEER
L.R. WILSON
10018005
PROVINCE OF ONTARIO

PROFESSIONAL ENGINEER
M.A. BISSETT
2028.04.14
PROVINCE OF ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

CITY OF OTTAWA
3400 WOODROFFE AVENUE

SERVICING PLAN

PROJECT No: 124147
REV 124147-GP
REV #2
DRAWING No: 124147-GP

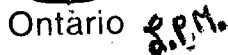
PLAN #124147-GP

U:\2024\124147\CD\CD\124147-GP.dwg PLANS-01, Apr 16, 2025 - 8:36am, lrpw

D07-12-25-0158 & D02-02-25-0090

APPENDIX 4

WATER WELL RECORDS



Ontario **S.P.M.**

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

COUNTY OR DISTRICT: **Carleton** TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: **Nepean** CON., BLOCK, TRACT, SURVEY, ETC.: **2**

OWNER (SURNAME FIRST): **M. Holitzner Ltd.** ADDRESS: **Box 11025 Station "H" Ottawa, Ontario** DATE COMPLETED: DAY **21** MO **07** YR **77**

U **(21)** ZONE **18** EASTING **443860** NORTHING **5012800** RC **4** ELEVATION **0340** RC **4** BASIN CODE **26**

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)					
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
brown	sand	clay & boulders	hard packed	0	7
grey	hardpan	boulders	hard	7	17
grey	limestone		medium hard	17	60
blue	limestone	sandstone	medium soft	60	110
grey	limestone	sandstone	medium hard	110	158
black	limestone	sandstone	medium soft	158	170
grey	limestone		very hard	170	205
grey	limestone			205	300

31 00076280513 00172141373 006021573 01103151885 01582157873 01708151885

32 02052159073 0300215 41 54 65 75 8

41		10		14 15		21	
WATER RECORD							
WATER FOUND AT - FEET		KIND OF WATER					
0200	10-13	☒ FRESH	☐ SALTY	☐ 3	☐ SULPHUR	14	
		☐ 2	☐ SALTY	☐ 4	☐ MINERAL		
	15-18	☐ FRESH	☐ SALTY	☐ 3	☐ SULPHUR	19	
		☐ 2	☐ SALTY	☐ 4	☐ MINERAL		
	20-23	☐ FRESH	☐ SALTY	☐ 3	☐ SULPHUR	24	
		☐ 2	☐ SALTY	☐ 4	☐ MINERAL		
	25-28	☐ FRESH	☐ SALTY	☐ 3	☐ SULPHUR	29	
		☐ 2	☐ SALTY	☐ 4	☐ MINERAL		
	30-33	☐ FRESH	☐ SALTY	☐ 3	☐ SULPHUR	34	
		☐ 2	☐ SALTY	☐ 4	☐ MINERAL		

CASING & OPEN HOLE RECORD				
INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
6 1/4	☒ STEEL	11/8	0	0022
06	☐ GALVANIZED			
	☐ CONCRETE			
6	☒ OPEN HOLE		22	165
06	☐ STEEL	19		0165
5 1/2	☐ GALVANIZED			
	☐ CONCRETE		165	205
	☒ OPEN HOLE			
06	☐ STEEL	26		0205
5 1/2	☐ GALVANIZED			
	☐ CONCRETE		205	280
	☒ OPEN HOLE			

SCREEN	SIZE OF OPENING (SLOT NO.)	31-33	DIAMETER	34-38	LENGTH	39-40
				INCHES	FEET	
	MATERIAL AND TYPE		DEPTH TO TOP OF SCREEN		41-44	FEET

61		PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET		MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER, ETC.
FROM	TO		
10-13	14-17		
18-21	22-25		
26-29	30-33	80	

PUMPING TEST	PUMPING TEST METHOD		10 PUMPING RATE		1-14 DURATION OF PUMPING	
	1 ☒ PUMP	2 ☐ BAILER	0010		GPM	21
					15-16 HOURS	00
					17-18 MINS	
STATIC LEVEL		WATER LEVEL END OF PUMPING	25 WATER LEVELS DURING			
			1 ☒ PUMPING 2 ☐ RECOVERY			
19-21		22-24	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
			26-28	29-31	32-34	35-37
040 FEET		140 FEET	140 FEET	140 FEET	140 FEET	140 FEET
IF FLOWING, GIVE RATE		38-41	PUMP INTAKE SET AT		WATER AT END OF TEST	
		GPM			42	
RECOMMENDED PUMP TYPE			RECOMMENDED PUMP SETTING		RECOMMENDED PUMPING RATE	
☐ SHALLOW ☒ DEEP			150 FEET		43-45 CLEARED PUMPING RATE	
					0005 GPM	
50-53			GPM / FT. SPECIFIC CAPACITY			

FINAL STATUS OF WELL	54 ☒ 1 WATER SUPPLY ☐ 2 OBSERVATION WELL ☐ 3 TEST HOLE ☐ 4 RECHARGE WELL	5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED
WATER USE	55-56 ☒ 1 DOMESTIC ☐ 2 STOCK ☐ 3 IRRIGATION ☐ 4 INDUSTRIAL ☐ OTHER	5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY ☐ 8 COOLING OR AIR CONDITIONING 9 ☐ NOT USED
METHOD OF DRILLING	57 ☒ 1 CABLE TOOL ☐ 2 ROTARY (CONVENTIONAL) ☐ 3 ROTARY (REVERSE) ☐ 4 ROTARY (AIR) ☒ 5 AIR PERCUSSION	0-205 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING 205-300

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW.

COLLEY ST. 400'

LOT 23
PLAN M-165

WOODROFFE AVE. 36'

BREN MUIR RD. 33'

DRILLERS REMARKS:

CONTRACTOR	NAME OF WELL CONTRACTOR		LICENCE NUMBER
	Capital Water Supply Ltd.		1558
	ADDRESS		
	Box 490 Stittsville, Ontario		
	NAME OF DRILLER OR BORER		LICENCE NUMBER
	Jim Moore & W. J. Kavanagh		
	SIGNATURE OF CONTRACTOR	SUBMISSION DATE	
	<i>Jim Moore & W. J. Kavanagh</i>	DAY 22 MO. 7 YR. 7	

OFFICE USE ONLY	DATA SOURCE	58	CONTRACTOR	59-62	DATE RECEIVED	63-68
		1	1558		7 8 0 8 7 7	
	DATE OF INSPECTION	INSPECTOR				
	10/5/79	Ktm.		J.P.P.		
	REMARKS:					P
						WI



Ontario

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

1516506

MUNICIPALITY 15.008

CON. RF

02

COUNTY OR DISTRICT <i>Carleton Place</i>	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE <i>Hepburn</i>	CON., BLOCK, TRACT, SURVEY, ETC. <i>2</i>	LOT <i>012</i>
OWNER (SURNAME FIRST) <i>M. Holizner Ltd.</i>	ADDRESS <i>Box 11025, Station "H"</i>	DATE COMPLETED DAY <i>24</i> MO <i>05</i> YR <i>78</i>	
UTM <i>18</i>	EASTING <i>443860</i>	NORTHING <i>5512760</i>	SECTION <i>4</i>

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
<i>Brown</i>	<i>Grey Clay</i>	<i>Boulders</i>	<i>Packed</i>	<i>0</i>	<i>32</i>
<i>Grey</i>	<i>Limestone</i>		<i>very soft</i>	<i>32</i>	<i>100</i>
<i>Grey</i>	<i>Limestone</i>		<i>med Hard</i>	<i>100</i>	<i>300</i>

31	<i>00326051379</i>	<i>01002159085</i>	<i>0300215723</i>
32			

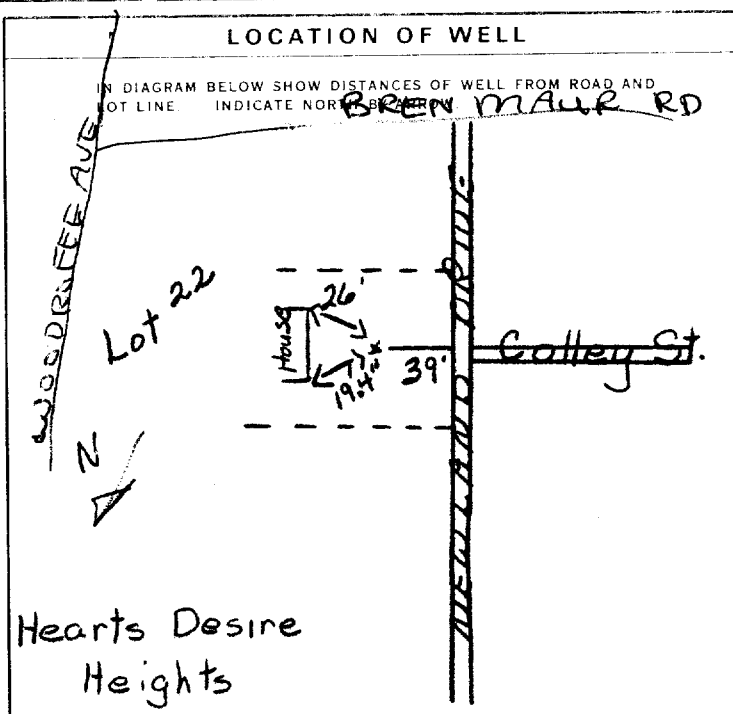
41 WATER RECORD	
WATER FOUND AT - FEET	KIND OF WATER
<i>0245</i>	☒ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
<i>0296</i>	☒ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL

51 CASING & OPEN HOLE RECORD			
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
<i>6 7/8</i>	☒ STEEL	<i>188</i>	<i>0</i>
<i>06</i>	☐ GALVANIZED		<i>0035</i>
<i>06 7/8</i>	☐ CONCRETE		
<i>06 7/8</i>	☐ OPEN HOLE		
<i>06 7/8</i>	☐ STEEL		<i>20-23</i>
<i>06 7/8</i>	☐ GALVANIZED		<i>35</i>
<i>06 7/8</i>	☐ CONCRETE		<i>0250</i>
<i>06 7/8</i>	☐ OPEN HOLE		
<i>06 7/8</i>	☐ STEEL		<i>27-30</i>
<i>06 7/8</i>	☐ GALVANIZED		<i>250</i>
<i>06 7/8</i>	☐ CONCRETE		<i>0300</i>
<i>06 7/8</i>	☐ OPEN HOLE		

SCREEN	SIZE (S) OF OPENING (SLOT NO.)	DIAMETER	LENGTH
	MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN	

61 PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
FROM TO	
<i>10-13</i>	<i>14-17</i>
<i>18-21</i>	<i>22-25</i>
<i>26-29</i>	<i>30-33</i>

71 PUMPING TEST METHOD		PUMPING RATE	DURATION OF PUMPING
☒ PUMP ☐ BAILER		<i>0005</i>	<i>01</i> 15-16 HOURS <i>00</i> 17-18 MINS
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	
<i>015</i>	<i>150</i>	15 MINUTES <i>150</i>	30 MINUTES <i>150</i>
		45 MINUTES <i>150</i>	60 MINUTES <i>150</i>
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST	
		☒ CLEAR ☐ CLOUDY	
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE	
☐ SHALLOW ☒ DEEP		<i>0005</i>	



54 FINAL STATUS OF WELL	☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL	☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED
55-56 WATER USE	☒ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER	☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED
57 METHOD OF DRILLING	☐ CABLE TOOL ☐ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☒ AIR PERCUSSION	☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

CONTRACTOR	NAME OF WELL CONTRACTOR <i>Capital Water Supply Ltd</i>	LICENCE NUMBER <i>1558</i>	DATA SOURCE <i>1</i>	CONTRACTOR <i>1558</i>	DATE RECEIVED <i>160678</i>
	ADDRESS <i>Box 490, Stittsville</i>		DATE OF INSPECTION <i>11/5/79</i>	INSPECTOR <i>A.P.P.</i>	
	NAME OF DRILLER OR BORE <i>S. Miller</i>	LICENCE NUMBER	REMARKS		
	SIGNATURE OF CONTRACTOR <i>K. Zawarag</i>	SUBMISSION DATE DAY <i>25</i> MO <i>5</i> YR <i>78</i>	P WI		



Ministry of the
Environment

Ontario

The Ontario Water Resources Act

31G56

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

1516651

MUNICIPALITY 15.008

CON. RF

02

COUNTY OR DISTRICT Carleton Place	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Pelee	CON. BLOCK, TRACT, SURVEY, ETC. 2	LOT 25-27 012
OWNER (SURNAME FIRST) Holitzner M. Ltd.	ADDRESS Box 11025, Station H Ottawa	DATE COMPLETED DA 02 MO 08 YR 78	
U 18	ZONE 443820	EASTING 5012740	NORTHING 4 0355
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LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Hardpan	sand - boulders		0	18
Grey	limestone		broken	18	22
Grey	limestone		broken	22	160
Grey	limestone	sandstone streak		160	190
Grey	sandstone			190	300

31	09186142813	0.6021571	01902151874	0300218
32				

41 WATER RECORD	
WATER FOUND AT - FEET	KIND OF WATER
10-13	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
15-18	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
20-23	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
25-28	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
30-33	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD			
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
10-13	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	1.188	0 0022
15-18	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE		
20-23	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE		22 0300
25-28	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE		

SCREEN	SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
	MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN	

61 PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
FROM TO	
10-13 14-17	
18-21 22-25	
26-29 30-33 80	

71 PUMPING TEST METHOD	10 PUMPING RATE	11-14 DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILEY	0007 GPM	01 15-16 00 17-18
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING
19-21	22-24	15 MINUTES 26-28 30 MINUTES 29-31 45 MINUTES 32-34 60 MINUTES 35-37
030 FEET	150 FEET	150 FEET 150 FEET 150 FEET 150 FEET
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
	GPM	1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	275 FEET	0005 GPM

LOCATION OF WELL	
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.	
DRILLER'S REMARKS	

54 FINAL STATUS OF WELL	1 ☒ WATER SUPPLY 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 2 ☐ OBSERVATION WELL 6 ☐ ABANDONED, POOR QUALITY 3 ☐ TEST HOLE 7 ☐ UNFINISHED 4 ☐ RECHARGE WELL
55-56 WATER USE	1 ☒ DOMESTIC 5 ☐ COMMERCIAL 2 ☐ STOCK 6 ☐ MUNICIPAL 3 ☐ IRRIGATION 7 ☐ PUBLIC SUPPLY 4 ☐ INDUSTRIAL 8 ☐ COOLING OR AIR CONDITIONING 5 ☐ OTHER 9 ☐ NOT USED
57 METHOD OF DRILLING	1 ☐ CABLE TOOL 6 ☐ BORING 2 ☐ ROTARY (CONVENTIONAL) 7 ☐ DIAMOND 3 ☐ ROTARY (REVERSE) 8 ☐ JETTING 4 ☐ ROTARY (AIR) 9 ☐ DRIVING 5 ☒ AIR PERCUSSION

CONTRACTOR	NAME OF WELL CONTRACTOR CAPITAL WATER SUPPLY	LICENCE NUMBER 1558
	ADDRESS Box 490, Stittville ONTARIO	
	NAME OF DRILLER OR BORER S. Miller	LICENCE NUMBER
	SIGNATURE OF CONTRACTOR W. Kavanagh	SUBMISSION DATE 4 MO 8 YR 78

OFFICE USE ONLY	DATA SOURCE 1	58 CONTRACTOR 1558	59-62 DATE RECEIVED 080978	63-68	80
	DATE OF INSPECTION 10/5/79	INSPECTOR Km J.P.P.			
	REMARKS				

APPENDIX 5

HOMEOWNER LETTER

June 26, 2026
File: PH5238



PATERSON GROUP

Consulting Engineers

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

Attention: **Property Owner**

Subject: **NOTICE
Baseline Water Sampling Program
Proposed Residential Development
3400 Woodroffe Avenue**

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

To whom it may concern,

At the request of DCR Phoenix Group of Companies, Paterson Group (Paterson) is conducting a Baseline Water Sampling Program (BWSP) of select neighbouring properties to the proposed residential development at 3400 Woodroffe Avenue, that are not municipally serviced. The BWSP is meant to be a precautionary measure to document the existing condition of water wells in proximity to the site for the purpose of protecting the property owners should any impacts arise due to construction activities. Should you opt into the BWSP, a questionnaire regarding historical well and water quality information will be shared and a raw water sample from an exterior untreated tap/spigot or pressure tank will be retrieved by a Paterson representative during a scheduled appointment that is convenient to you. The BWSP is **completely voluntary/free** (valued at \$350) and includes a large suite of testing parameters in excess of bacteriological analyses. It generally takes approximately 15 minutes to complete the questionnaire and 15 minutes to collect the water sample. Paterson will provide each participant with a copy of their sample results. Any information obtained during this sampling program will not be released publicly by Paterson, DCR Phoenix Group of Companies or the City of Ottawa.

Paterson hopes that you will contact us as soon as possible to arrange an appointment or notify us that you do not wish to participate in the BWSP. Appointments will be available Monday through Friday, 8 am to 4 pm. The program will be open from **July 6 to July 31, 2026**. To schedule an appointment, sign up by scanning the QR code below, email wellsurvey@patersongroup.ca or call 613-223-7368. For any questions unrelated scheduling, please contact Michel Kearney, P.Geo. at 613-606-5862 or michel.kearney@ottawa.ca.

Best Regards,

Paterson Group Inc.

Zavian Buchanan, E.I.T.

Hydrogeological Department

patersongroup.ca

