



Geotechnical
Engineering

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Hydrogeology

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Materials Testing

Building Science

Archaeological
Studies

Phase I Environmental Site Assessment

Vacant Property
The Meadows – Borrisokane Road
Ottawa, Ontario

Prepared For

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Report: PE0190-3R

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EXECUTIVE SUMMARY

Assessment

A Phase I – Environmental Site Assessment was carried out for a property on Borrisokane Road in the City of Ottawa, Ontario. The purpose of this environmental assessment was to research the past and current use of the subject site and adjacent properties and identify any environmental concerns with the potential to impact the subject property.

Based on a review of historical records, part of the subject property was used as a sand pit in the 1970s. Other parts of the property were vacant or agricultural fields. No specific historical potentially contaminating activities (PCAs) were identified on the Phase I property. Surrounding properties have historically been used for agricultural and mineral aggregate extraction purposes. In a review of the historical records, no specific Potentially Contaminating Activities were identified.

Numerous test holes have been excavated on the property by Paterson Group for environmental and geotechnical investigations. During these investigations, no indications of contamination or fill were observed. Based on this previous work, it does not appear that the previous aggregate extraction operation has had any significant impact on the subject land.

Following the historical review, a site visit was conducted. The subject property currently exists as vacant, tree covered land. No environmental concerns were identified on the subject site at the time of the site visit, although some surficial waste items (including furniture) have been discarded along the trail/gravel road leading onto the western part of the site. A subsequent site visit was completed in December 2018. The ground surface in the area of the former aggregate pit was observed to consist of wetlands with bulrushes along the southern edge of the property, and of topsoil in the central part of the property.

The surrounding land use consisted of aggregate extraction (sand and gravel) land, residential, and vacant properties. No specific PCAs were identified in the Phase I study area. As previously discussed, the Trail Road landfill is situated over 500 m to the southwest. This activity is considered a PCA; however, given its distance and direction from the subject site, and information available with regard to its operations, the landfill is not considered to represent an APEC on the subject property.

Recommendations

Based on the previous industrial use of the property as an aggregate pit, a record of site condition (RSC) will be required in order to change the land use to residential. The past industrial use will require the completion of a Phase II ESA to support the RSC. The Phase II ESA is currently underway.

It is recommended that all discarded/waste items be properly disposed of during the future development of the land.

1.0 INTRODUCTION

At the request of Tamarack (Nepean) Corporation, Paterson Group (Paterson) conducted a Phase I - Environmental Site Assessment (Phase I ESA) of a property on Borrisokane Road, in the City of Ottawa, Ontario. The purpose of this Phase I ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

Paterson was engaged to conduct this Phase I ESA by Ms. Michelle Taggart of Tamarack. Ms. Taggart can be reached by telephone at (613) 739-2919.

This report has been prepared specifically and solely for the above noted project which is described herein. It is a revised version of the original report which was dated March 8, 2018. The purpose of the revision was to include search results that had not been received at the time of the initial report and to address City of Ottawa review comments. It contains all of our findings and results of the environmental conditions at this site.

This Phase I ESA report has been prepared in general accordance with the requirements of Ontario Regulation 153/04 as amended by O.Reg. 269/11 (Environmental Protection Act), and also complies with the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I ESA are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by others, such as local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

2.0 PHASE I PROPERTY INFORMATION

Address:	Part of 3640 Greenbank Road, Ottawa, Ontario.
Legal Description:	Part of Lot 9 and Lot 10, Concession 3, Rideau Front, Geographic Township of Nepean, in the City of Ottawa, Ontario.
Property Identification Number (PIN):	04592-2486; 04592-2488
Location:	The subject site is located on the east side of Borrisokane Road, south of Cambrian Road.
Latitude and Longitude:	45° 14' 39" N, 75° 44' 49" W

Site Description:

Configuration:	Rectangular
Site Area:	13.5 ha (approximate)
Zoning:	DR – development reserve (east side of the property); MR – mineral aggregate reserve zone (west side of the site)
Current Use:	The subject site is vacant and tree covered; some areas have been cleared of vegetation as part of the geotechnical investigation.
Services:	The subject site is situated in a privately serviced area, with the exception of the new residential development to the east. No utilities are anticipated to be present on the property.

3.0 SCOPE OF INVESTIGATION

The scope of work for this Phase I – Environmental Site Assessment was as follows:

- Determine the historical activities on the subject site and study area by conducting a review of readily available records, reports, photographs, plans, mapping, databases and regulatory agencies;
- Investigate the existing conditions present at the subject site and study area by conducting site reconnaissance;
- Conduct interviews with persons knowledgeable of current and historic operations on the subject property, and if warranted, neighbouring properties;
- Present the results of our findings in a comprehensive report in general accordance with the requirements of Ontario Regulation 269/11 amending O.Reg. 153/04 made under the Environmental Protection Act and in compliance with the requirements of CSA Z768-01;
- Provide a preliminary environmental site evaluation based on our findings;
- Provide preliminary remediation recommendations and further investigative work if contamination is suspected or encountered.

4.0 RECORDS REVIEW

4.1 General

Phase I ESA Study Area Determination

A radius of approximately 250 m was determined to be appropriate as a Phase I ESA study area for this assignment, although where deemed appropriate, potential issues related to properties beyond 250 m from the site have been considered. Properties outside the 250 m radius are not considered to have impacted the subject land, based on their significant distance from the site.

First Developed Use Determination

Based on a review of historically available information, the Phase I property appears to have always been vacant, and briefly used for aggregate extraction. The property has never been developed.

National Archives

Fire insurance plans and city directories are not available for the Phase I study area.

Plan of Survey

A plan of survey prepared by Stantec Geomatics Ltd. and dated 2007 and a draft Plan of Subdivision dated 2018, were reviewed as a part of this assessment. The survey plan depicts the subject site in its current configuration.

Previous Engineering Reports

Paterson has conducted several environmental and geotechnical projects on the subject property and in the area of the subject site.

- “Geotechnical Investigation, Proposed Residential Development, The Meadows (Phase 5) Cambrian Road - Ottawa” prepared by Paterson Group and dated March 16, 2018.

This investigation was conducted by Paterson in 2018, following previous investigations in 2004 and 2009. The 2018 investigation included the placement of seven (7) test pits and three (3) boreholes on the subject property; the previous investigations included the placement of thirteen (13) test pits and four (4) boreholes. In all three geotechnical programs, no indications of contamination were noted. Overburden encountered at the boreholes and test pits consisted

primarily of glacial till, sand, silty sand, silty clay, and trace gravel. No fill was identified during the geotechnical investigations. Test hole logs are attached to this report in Appendix 2 with the test hole locations shown on drawing PE0190-3R.

Based on the presence of granular, non-cohesive material on the western side of the property, vibrations from Highway 417 and the Trail Road landfill located to the west are not expected to have any effect on the subject property.

- ❑ “Phase I Environmental Site Assessment, Meadows Subdivision (Curkovic Lands) South of Jock River, Ottawa, Ontario” prepared by Paterson Group and dated December 16, 2009.

The landfill property to the southwest of the subject site was identified as a potential concern in our previous Phase I ESA; however, it should be noted that this Phase I property extended further west, right up to Borrisokane Road (the current Phase I lands commence approximately 250 m to the east of Borrisokane Road). Analytical results of groundwater from a monitoring well (BH3 on Site Plan) on the subject site did not identify any leachate impacts, and interviews with City of Ottawa staff indicated that leachate from the landfill site is not traveling in the direction of the subject site.

- ❑ “Trail Road Landfill Site, Report for the 2015 Monitoring and Operating Program”, prepared by Dillon Consulting and dated May 2016;
- ❑ “Trail Road Landfill Site, Report for the 2016 Monitoring and Operating Program”, prepared by Dillon Consulting and dated May 2017.

The Trail Road Landfill property is located approximately 500 m to the southwest of the subject property. Recent monitoring reports from 2015 and 2016 for landfill leachate were reviewed as part of the current Phase I ESA. Groundwater monitoring wells present along the northern landfill property boundary were tested in 2016 and indicated no leachate impacts. Weak to moderate leachate effects were observed in the shallow sand aquifer in 2015 within the forested area north of the eastern portion of the landfill site and more than 250 m west of the subject land. Furthermore, the presence of a stormwater management pond and drainage ditch directs surface flow (and shallow aquifer seepage) to the north, along Borrisokane Road, and not in the direction of the subject property. Based on the information contained in the Trail Landfill site monitoring reports, the landfill is not considered to pose a concern to the subject property.

Based on the distance of the landfill from the site and the geology and hydrogeology of the area, methane from the landfill is not considered to pose any risk to the subject property. No environmental concerns with respect to the subject

site were identified during the review of previous reports completed for the subject land and adjacent properties.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on February 13, 2018. The subject site and Phase I study area were not listed in the NPRI database.

PCB Inventory

A search of national PCB waste storage sites was conducted. No PCB waste storage sites are located within the Phase I study area.

Ontario Ministry of Environment and Climate Change (MECP) Instruments

A request was submitted to the MECP Freedom of Information office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MECP issued instruments for the site. The response from the MECP identified a Permit to Take Water and a Certificate of Approval for a sewage works in the area of the subject property, to the east, where residential development is underway.

MECP Coal Gasification Plant Inventory

The Ontario Ministry of Environment and Climate Change document titled "Municipal Coal Gasification Plant Site Inventory, 1991" was reviewed to reference the locations of former plants with respect to the site. No coal gasification plants were identified in the Phase I study area

MECP Incident Reports

A request was submitted to the MECP Freedom of Information office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MECP for the site or adjacent properties. The response from the MECP did not identify any incident reports.

MECP Waste Management Records

A request was submitted to the MECP Freedom of Information office for information with respect to waste management records. The response from the MECP did not identify any waste management records.

MECP Submissions

A request was submitted to the MECP Freedom of Information office for information with respect to reports related to environmental conditions for the property. The response from the MECP did not identify any environmental conditions reports.

MECP Brownfields Environmental Site Registry

A search of the MECP Brownfields Environmental Site Registry was conducted as part of this assessment for the site, neighbouring properties and the Phase I study area. No Records of Site Condition (RSCs) were filed for the subject site or properties within the Phase I study area.

MECP Waste Disposal Site Inventory

The Ontario Ministry of Environment and Climate Change document titled "Waste Disposal Site Inventory in Ontario, 1991" was reviewed as part of the historical research. This document includes all recorded active and closed waste disposal sites, industrial manufactured gas plants and coal tar distillation plants in the Province of Ontario. No records were listed for the subject site or for properties within the Phase I study area.

Areas of Natural Significance

A search for areas of natural significance and features within the Phase I study area was conducted on the web site of the Ontario Ministry of Natural Resources and Forestry (MNRF) on February 16, 2018. No areas of natural significance were identified on the subject site or within the Phase I study area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on February 8, 2018 to inquire about current and former underground storage tanks, spills and incidents for the site and neighbouring properties. The response did not identify any records of storage tanks at the subject property or neighbouring properties.

City of Ottawa Landfill Document

The document entitled “Old Landfill Management Strategy, Phase I – Identification of Sites, City of Ottawa”, was reviewed. No landfill sites were identified within the Phase I study area. However, it should be noted that there is an active landfill site over 500 m to the southwest of the subject site.

Based on our review of the City of Ottawa monitoring reports for this landfill, it is not considered to pose an environmental concern to the subject land. Based on its distance from the subject property, and its generally down-wind location with respect to the subject property, noise and odour generated by the landfill are not considered to pose a significant concern to the subject property. It should also be noted that the active portion of the landfill is moving westward away from the subject property.

4.3 Physical Setting Sources

Aerial Photographs

Historical air photos from the National Air Photo Library were reviewed in approximate ten (10) year intervals. The review period dates to the first available air photos for the site. Based on the review, the following observations have been made:

- | | |
|------|---|
| 1959 | The subject property is vacant, and partially tree covered. A road runs through the south part of the site, extending from Greenbank Road to Borrisokane Road (then Cedarview Road). A small part of the site surface near the southern boundary appears to be disturbed and may be an aggregate pit. Surrounding properties are treed to the north and west, and agricultural fields to the east and south. An aggregate pit appears to be present to the southwest. |
| 1966 | A larger area of the property surface has been disturbed and is used as an aggregate quarry. The quarry extends to the south of the subject site as well. No further significant changes have been made to the surrounding land. |
| 1987 | The southern part of the quarry on the subject property appears to have been abandoned. The adjacent property to the south has been further developed as an aggregate pit. |

- 1993 The subject site does not appear to be in use. Some of the previously clear land is tree covered, with some agricultural fields on the eastern side of the site. Highway 416 has been constructed to the west of Cedarview Road / Borrisokane Road. No other significant changes have been made to the surrounding properties.

- 2001 Part of the subject site previously developed as an aggregate site appears to contain water. Some of the formerly agricultural fields in the eastern part of the site are unused and partly tree covered. The property to the south continues to be occupied by a quarry.

- 2017 (City of Ottawa website) The majority of the site is tree covered. Residential developments are present further to the northeast, on roadways including River Mist Road and Cambrian Road.

Laser copies of selected aerial photographs reviewed are included in Appendix 1.

Topographic Maps

Topographic information was obtained from Natural Resources Canada – The Atlas of Canada website. The topographic maps indicate that the elevation of the subject site is approximately 96 m above sea level. The regional topography in the general area of the site slopes downward to the north, towards the Jock River. An illustration of the referenced topographic map is presented on Figure 2 – Topographic Map, appended to this report.

Physiographic Maps

A Physiographic Map was reviewed from the Natural Resources Canada – The Atlas of Canada website, as a part of this assessment. According to the publication and mapping, the site is situated within the St. Lawrence Lowlands, Till Plains (Drumlinized) physiographic region. According to the mapping description provided: “The lowlands are plain-like areas that were all affected by the Pleistocene glaciations and are therefore covered by surficial deposits and other features associated with the ice sheets.” The subject site is in the Central St. Lawrence Lowland, “where the land is rarely more than 150 m above sea level, except for the Monteregion Hills, which consist of intrusive igneous rocks.

Geological Maps

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on this information, bedrock in the area of the site consists of dolomite of the Oxford Formation.

Overburden consists of organic deposits in the historically treed areas, while the central part of the site consists of glaciofluvial deposits with some nearshore marine sediment, and the eastern part of the site consists of offshore marine sediment. Surficial drift thickness is 15 to 25 m (west side) and 10 to 15 m on the east side.

Water Well Records

A search of the MECPs web site for all drilled well records within 250 m of the subject site was conducted on February 13, 2018. Based on the search results, no wells are present on the subject site, and one (1) record with no information was identified in the Phase I study area. No active water supply wells are anticipated to be present in the Phase I study area.

Water Bodies and Areas of Natural Significance

The Jock River is the closest water body, at approximately 1.12 km to the north of the subject site. No creeks, streams, lakes or other water bodies were identified in the Phase I study area. No areas of natural significance were identified within the Phase I study area.

5.0 SITE RECONNAISSANCE

5.1 General Requirements

The initial site assessment was conducted on February 16, 2018. Weather conditions were overcast, with a temperature of approximately -5°C. A second site visit was completed on December 5, 2018. Personnel from the Environmental Department of Paterson Group conducted the site visits. In addition to the site, the uses of neighbouring properties within the Phase I study area were also assessed at the time of the site visits.

5.2 Specific Observations at Phase I Property

Buildings and Structures

The subject site is a vacant lot of land. No buildings or permanent structures exist on the subject property. A depiction of the subject site is shown on Drawing PE0190-3R – Site Plan, in the Figures section of this report.

Site Features

The subject site is not developed with any buildings and exists as vacant, tree covered land with some unmaintained, unpaved access laneways. The site was snow covered at the time of the initial site visit. The ground surface was observed during the second site visit by brushing away the shallow snow cover at multiple locations throughout the property.

The southern portion of the former aggregate extraction operation appeared to be a wetland at the time of the site visit. The central portion was a flat open area at the time of the site visits. No indications of ground surface contamination were noted during the site visits.

Underground Utilities

The subject site has no underground utilities.

Waste Materials

The lands on either side of the access roadways on the site were observed to be occupied by occasional waste items/debris, including: building materials, furniture, and plastic and metal barrels. Waste observed on the property is not considered to be an environmental concern.

Storage Tanks

No storage tanks were present on the subject site at the time of the site visit.

Drains, Pits and Sumps

No drains, pits or sumps were present on the site at the time of the site visit.

Unidentified Substances

No unidentified substances were observed on the site at the time of the site visit.

Hazardous Building Materials

No hazardous building materials were present on the subject site at the time of the site visit.

Phase I Study Area

An inspection of the neighbouring properties was conducted from publicly accessible roadways at the time of the site inspection. Land use adjacent to the subject site was as follows:

- North - Vacant, treed land, followed by Cambrian Road;
- South - Drummond's Costello aggregate pit;
- East - Vacant land in early stage of development, followed by residential dwellings;
- West - Vacant land, followed by Borrisokane Road and Highway 416.

No Potentially Contaminating Activities were identified on the neighbouring properties in the Phase I study area.

The waste disposal portion of the Trail Road landfill is located outside of the Phase I study area, more than 500 m from the subject site. The aggregate pit located to the south is a sand extraction operation (no rock quarrying or blasting activities), and the northern portion (closest to the subject property) appears to be undergoing rehabilitation. A study has already been completed by Paterson to address concerns with respect to noise generated by the aggregate pit and was issued under a separate cover. Aside from noise, the limited activities being carried out on the adjacent pit site are not considered to pose an environmental risk to the subject land.

As discussed in various sections of this report, a substantial amount of information is available for the Trail Road landfill site. Based on the information available, it is our opinion that the current activities at the landfill do not pose an environmental risk to the subsurface environment of the subject land. Furthermore, no significant issues related to landfill-generated dust, noise, or vibrations are anticipated given the distance from the site and predominant wind direction in this region.

Property use within the Phase I study area is presented on Drawing PE0190-4 – Surrounding Land Use Plan.

6.0 REVIEW AND EVALUATION OF INFORMATION

6.1 Land Use History

The subject site appears to have never been developed and currently exists as treed, vacant land.

Potentially Contaminating Activities (PCAs)

Potentially Contaminating Activities (PCAs) were not identified on the subject site or in the Phase I study area.

Areas of Potential Environmental Concern (APECs)

No Areas of Potential Environmental Concern (APECs) were identified on the subject site.

Contaminants of Potential Concern (CPCs)

No contaminants of concern (CPCs) were identified on the Phase I property.

6.2 Conceptual Site Model

Existing Buildings and Structures

The subject site is a vacant lot of land. No buildings or permanent structures exist on the subject property.

Geological and Hydrogeological Setting

The subject site is located in an area of dolomite bedrock with offshore and nearshore marine sediment, and areas of organic deposits, with overburden of 10 to 25 m in depth. Groundwater flow is expected to flow to the north, towards the Jock River.

Water Bodies

The closest major water body is the Jock River, located approximately 1.12 km to the north of the site. There are no water bodies on the subject site.

Areas of Natural Significance

No areas of natural significance were identified within the Phase I study area.

Water Wells

A search of the MECP's web site for all drilled well records within 250 m of the subject site was conducted on February 13, 2018. Based on the search results, no wells are located on the subject site. One well record was identified in the Phase I study area. Approximately 500 m to the east, new developments have received full municipal services.

Neighbouring Land Use

Neighbouring land use in the Phase I study area is currently vacant, residential or aggregate extraction. Neighbouring land use does not pose an environmental concern to the subject site.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of this report, no PCAs were identified on the subject site or in the Phase I study area.

Contaminants of Potential Concern

No CPCs were identified on the subject site.

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Phase I ESA is considered to be sufficient to conclude that there are no APECs on the subject site. The absence of PCAs was confirmed by a variety of independent sources, and as such, the conclusions of this report are not affected by uncertainty which may be present with respect to the individual sources.

7.0 CONCLUSION

A Phase I – Environmental Site Assessment was carried out for a property on Borrisokane Road in the City of Ottawa, Ontario. The purpose of this environmental assessment was to research the past and current use of the subject site and adjacent properties and identify any environmental concerns with the potential to impact the subject property.

Based on a review of historical records, part of the subject property was used as a sand pit in the 1970s. Other parts of the property were vacant or agricultural fields. No specific historical potentially contaminating activities (PCAs) were identified on the Phase I property. Surrounding properties have historically been used for agricultural and mineral aggregate extraction purposes. In a review of the historical records, no specific Potentially Contaminating Activities were identified.

Numerous test holes have been excavated on the property by Paterson Group for environmental and geotechnical investigations. During these investigations, no indications of contamination or fill were observed. Based on this previous work, it does not appear that the previous aggregate extraction operation has had any significant impact on the subject land.

Following the historical review, a site visit was conducted. The subject property currently exists as vacant, tree covered land. No environmental concerns were identified on the subject site at the time of the site visit, although some surficial waste items (including furniture) have been discarded along the trail/gravel road leading onto the western part of the site. A subsequent site visit was completed in December 2018. The ground surface in the area of the former aggregate pit was observed to consist of wetlands with bulrushes along the southern edge of the property, and of topsoil in the central part of the property.

The surrounding land use consisted of aggregate extraction (sand and gravel) land, residential, and vacant properties. No specific PCAs were identified in the Phase I study area. As previously discussed, the Trail Road landfill is situated over 500 m to the southwest. This activity is considered a PCA; however, given its distance and direction from the subject site, and information available with regard to its operations, the landfill is not considered to represent an APEC on the subject property.

Recommendations

Based on the previous industrial use of the property as an aggregate pit, a record of site condition (RSC) will be required in order to change the land use to residential. The past industrial use will require the completion of a Phase II ESA to support the RSC. The Phase II ESA is currently underway.

It is recommended that all discarded/waste items be properly disposed of during the future development of the land.

8.0 STATEMENT OF LIMITATIONS

This Phase I - Environmental Site Assessment report has been prepared in general accordance with O.Reg. 153/04 as amended by O.Reg. 269/11, and meets the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I ESA are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

Should any conditions be encountered at the subject site and/or historical information that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of Tamarack (Nepean) Corporation. Permission and notification from Tamarack and Paterson will be required to release this report to any other party.

Paterson Group Inc.



Anna Graham, M.E.S.



Mark S. D'Arcy, P.Eng., QP_{ESA}



Report Distribution:

- Tamarack (Nepean) Corporation
- Paterson Group Inc.

9.0 REFERENCES

Federal Records

Air photos at the Energy Mines and Resources Air Photo Library.
National Archives.
Maps and photographs (Geological Survey of Canada surficial and subsurface).
Natural Resources Canada – The Atlas of Canada.
Environment Canada, National Pollutant Release Inventory.
PCB Waste Storage Site Inventory.

Provincial Records

MECP Freedom of Information and Privacy Office.
MECP Municipal Coal Gasification Plant Site Inventory, 1991.
MECP document titled “Waste Disposal Site Inventory in Ontario”.
MECP Brownfields Environmental Site Registry.
Office of Technical Standards and Safety Authority, Fuels Safety Branch.
MNRF Areas of Natural Significance.
MECP Water Well Inventory.
Chapman, L.J., and Putnam, D.F., 1984: ‘The Physiography of Southern Ontario, Third Edition’, Ontario Geological Survey Special Volume 2.

Municipal Records

City of Ottawa Document “Old Landfill Management Strategy, Phase I - Identification of Sites”, prepared by Golder Associates, 2004.
The City of Ottawa Historical Land Use Inventory.
Intera Technologies Limited Report “Mapping and Assessment of Former Industrial Sites, City of Ottawa”, 1988.
The City of Ottawa eMap website.

Local Information Sources

Previous Engineering Reports.
Plan of Survey, prepared by Stantec Geomatics Ltd., dated 2007.
Draft Plan of Subdivision, prepared by Stantec Geomatics Ltd., dated 2018.

Public Information Sources

Google Earth.
Google Maps/Street View.

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE0190-3R – SITE PLAN

DRAWING PE0190-4 – SURROUNDING LAND USE PLAN

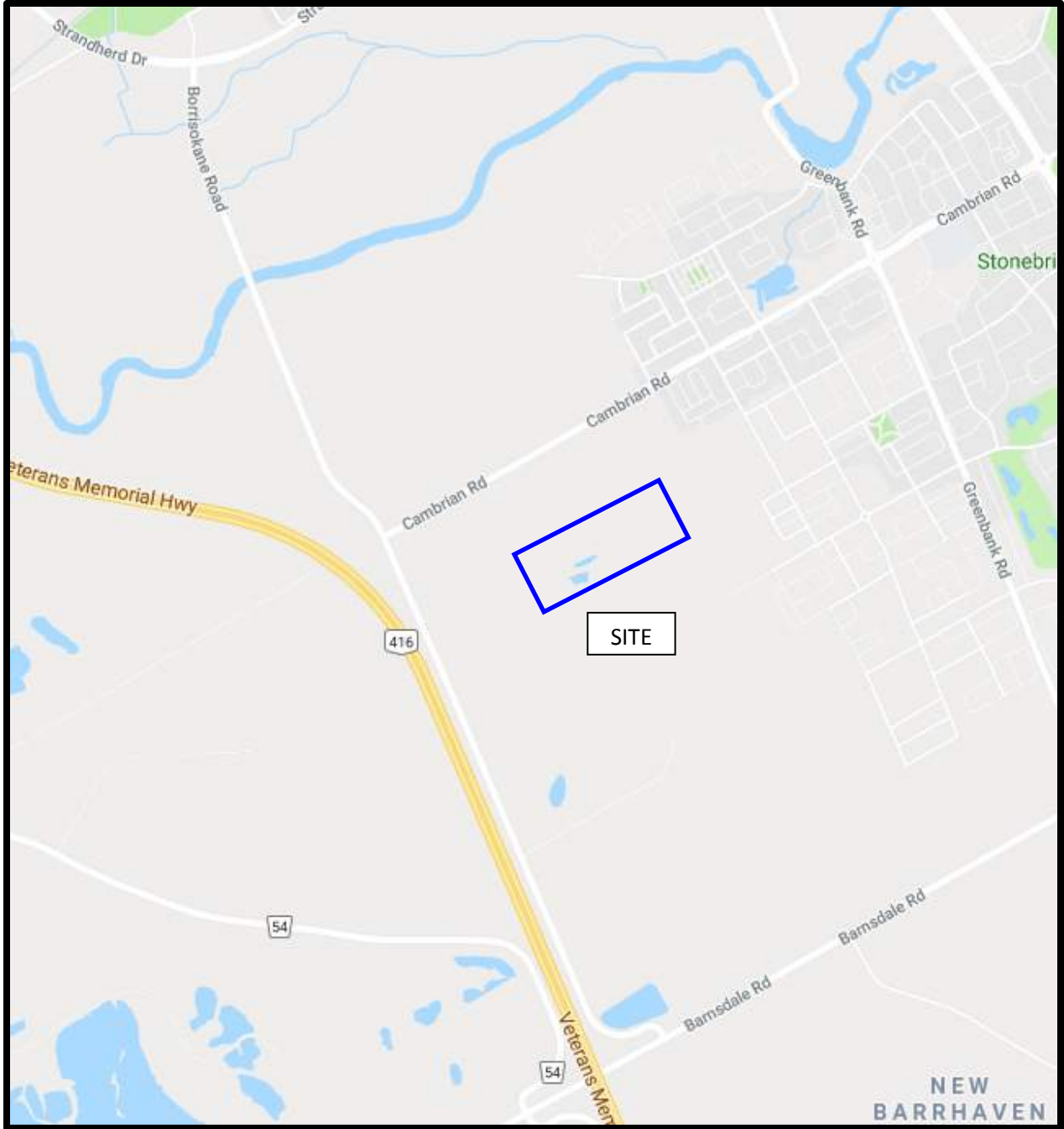


FIGURE 1
KEY PLAN

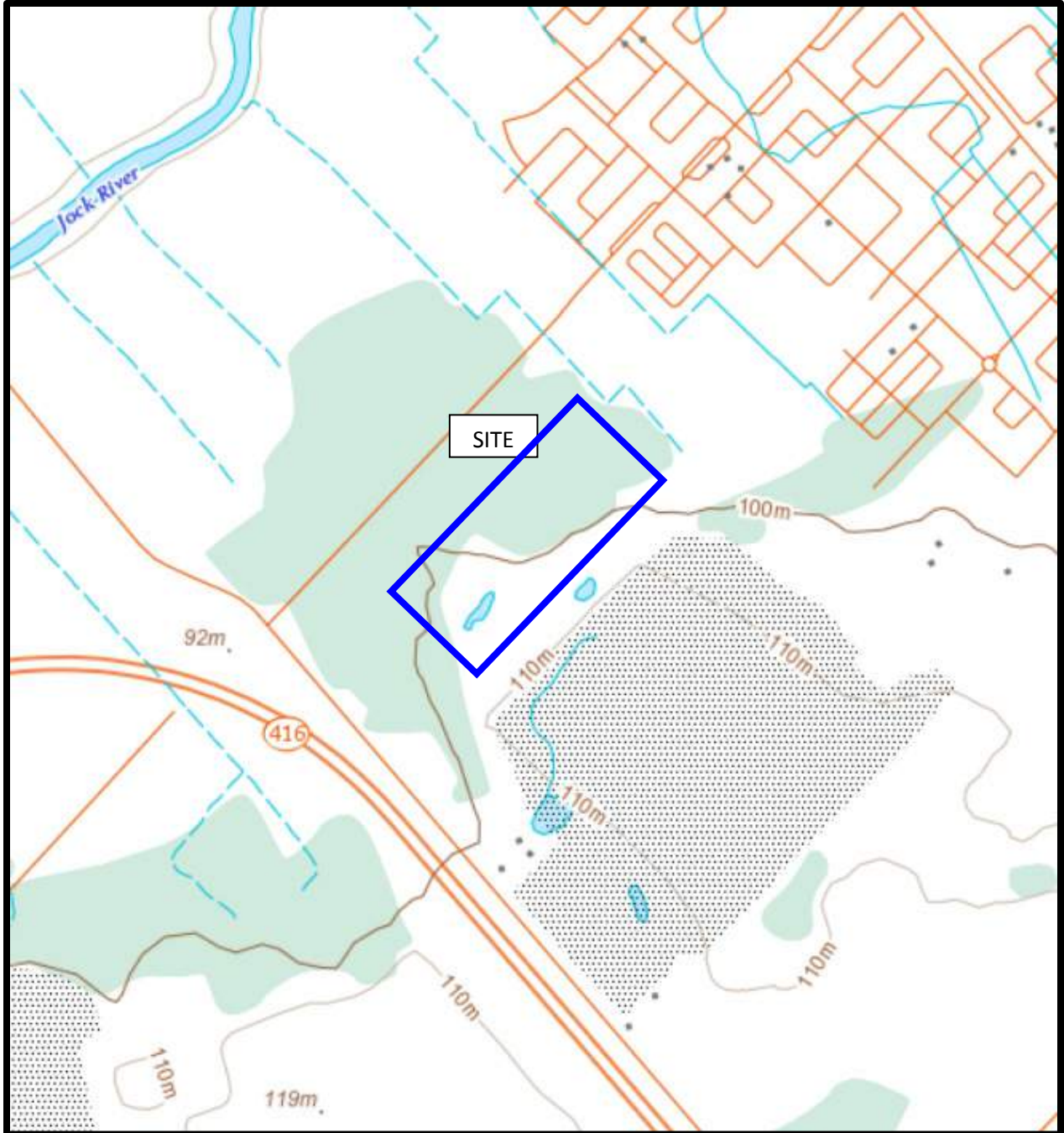








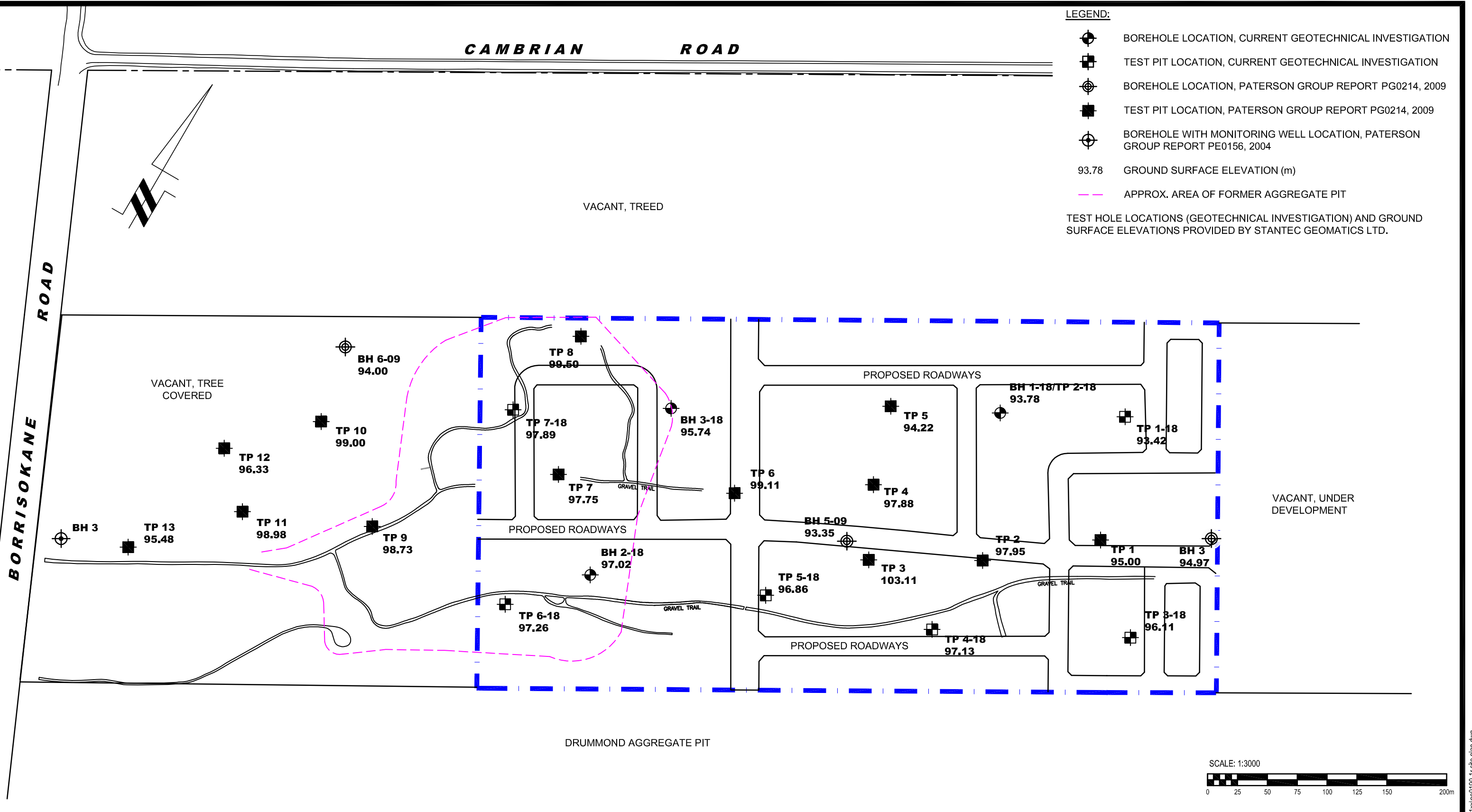
FIGURE 2
TOPOGRAPHIC MAP

CAMBRIAN ROAD

LEGEND:

-  BOREHOLE LOCATION, CURRENT GEOTECHNICAL INVESTIGATION
-  TEST PIT LOCATION, CURRENT GEOTECHNICAL INVESTIGATION
-  BOREHOLE LOCATION, PATERSON GROUP REPORT PG0214, 2009
-  TEST PIT LOCATION, PATERSON GROUP REPORT PG0214, 2009
-  BOREHOLE WITH MONITORING WELL LOCATION, PATERSON GROUP REPORT PE0156, 2004
- 93.78 GROUND SURFACE ELEVATION (m)
-  APPROX. AREA OF FORMER AGGREGATE PIT

TEST HOLE LOCATIONS (GEOTECHNICAL INVESTIGATION) AND GROUND SURFACE ELEVATIONS PROVIDED BY STANTEC GEOMATICS LTD.



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consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
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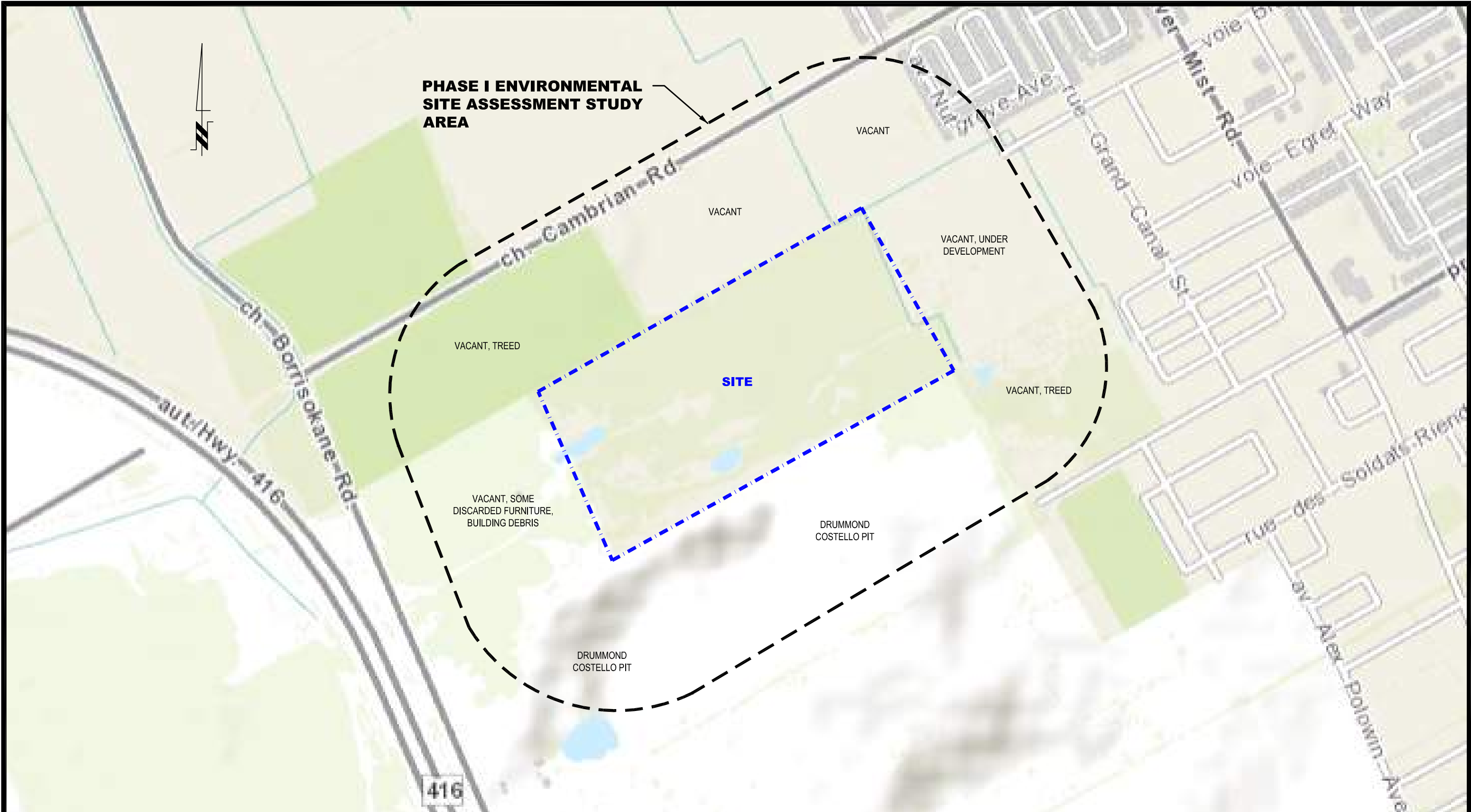
TAMARACK (NEPEAN) CORPORATION
PHASE I ENVIRONMENTAL SITE ASSESSMENT
THE MEADOWS - BORRISOKANE ROAD
 OTTAWA, ONTARIO
SITE PLAN

Scale:	1:3000	Date:	12/2018
Drawn by:	MPG	Report No.:	PE0190-3R
Checked by:	AG	Dwg. No.:	PE0190-3R
Approved by:	MD	Revision No.:	0

p:\autocad drawings\environmental\pe0190-3r\site plan.dwg



**PHASE I ENVIRONMENTAL
SITE ASSESSMENT STUDY
AREA**



patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

OTTAWA, ONTARIO

TAMARACK (NEPEAN) CORPORATION
PHASE I - ENVIRONMENTAL SITE ASSESSMENT
THE MEADOWS - BORRISOKANE ROAD

SURROUNDING LAND USE PLAN

Scale:	1:6000	Date:	02/2018
Drawn by:	AG	Report No.:	PE0190-3
Checked by:	MD	Dwg. No.:	PE0190-4
Approved by:	MSD	Revision No.:	0

APPENDIX 1

PLAN OF SURVEY

DRAFT PLAN OF SUBDIVISION

AERIAL PHOTOGRAPHS

SITE PHOTOGRAPHS

PLAN OF SURVEY OF
PART OF LOT 10
CONCESSION 3 (RIDEAU FRONT)
GEOGRAPHIC TOWNSHIP OF NEPEAN
CITY OF OTTAWA
FORMERLY IN THE CITY OF NEPEAN

STANTEC GEOMATICS LTD.
2007

SCALE 1:2000 METRIC
0 50 100 150 200 250
METRES

METRIC
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

BEARING NOTE
BEARINGS HEREON ARE GRID BEARINGS AND ARE DERIVED FROM N.C.C. CONTROL MONUMENTS No. 19881632 (N5012741.290, E3622515.994) AND No. 19690001 (N5013876.298, E3622050.037) AND ARE REFERRED TO THE CENTRAL MERIDIAN 76°30' WEST LONGITUDE OF ZONE 9 OF THE 3° N.T.M. CO-ORDINATE SYSTEM AND ARE BASED ON THE NORTH AMERICAN DATUM, 1983 ADJUSTMENT.

NOTICE OF APPLICATION
REGISTERED AS
No. OC 680603

I REQUIRE THIS PLAN TO BE
DEPOSITED UNDER THE LAND
TITLES ACT.

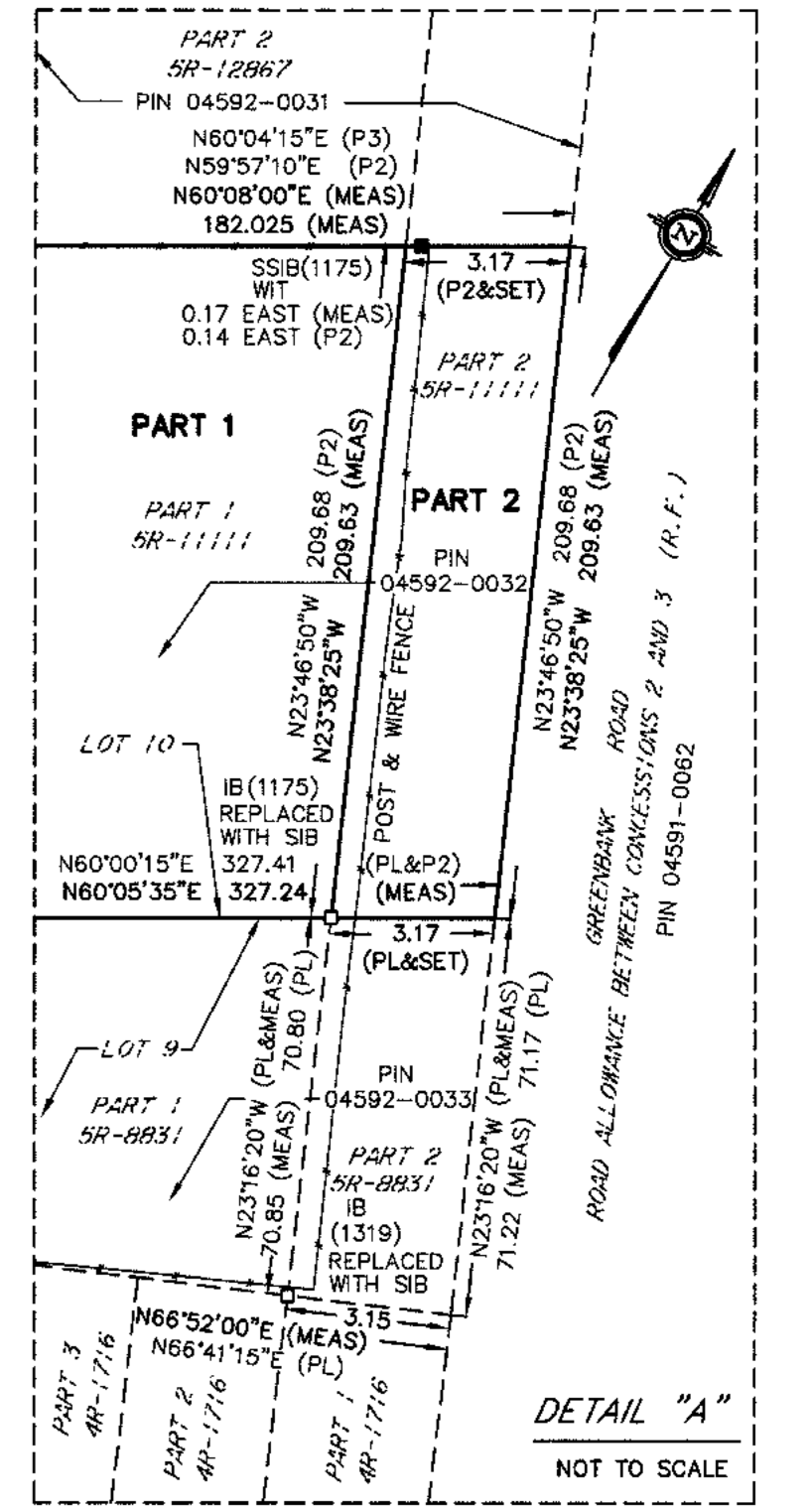
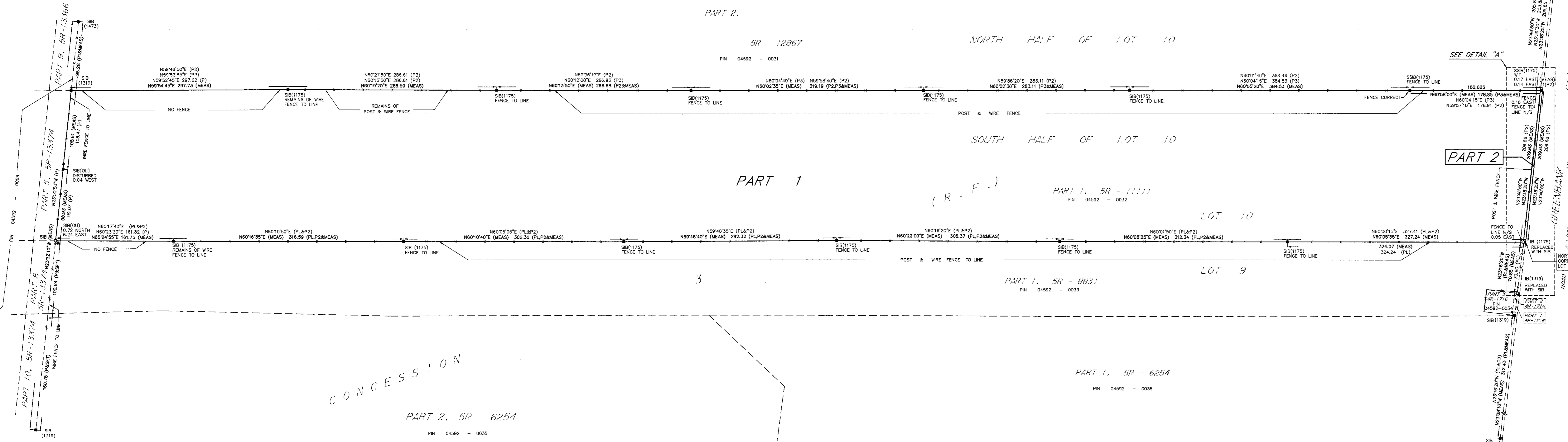
PLAN 4R-21819

RECEIVED AND DEPOSITED
MARCH 6th 2007

Jan 25 2007
D.A.S.
D.A. SIMMONDS
ONTARIO LAND SURVEYOR

MISS "D. TALKOVIC"
LAND REGISTRAR FOR THE
LAND TITLES DIVISION OF
OTTAWA - CARLETON NO. 4

SCHEDULE				
PART	LOT	CONCESSION	PIN	AREA (Ha)
1	10	3 (R.F.)	ALL OF PIN 04592-0032	41.936
2				0.0861



LEGEND & NOTES : (IF APPLICABLE)

■	DENOTES FOUND MONUMENTS	(1473)(50)	DENOTES STANTEC GEOMATICS LTD.
□	DENOTES SET MONUMENTS	OU	DENOTES ORIGIN UNKNOWN
IB	DENOTES IRON BAR	MEAS.	DENOTES MEASURED
SIB	DENOTES SHORT STANDARD IRON BAR	PROP.	DENOTES PROPORTIONED
CC	DENOTES CUT CROSS	PL	DENOTES PLAN SR-8831
N&W	DENOTES NAIL & WASHER	P	DENOTES PLAN SR-13374
WT	DENOTES WITNESS	P1	DENOTES PLAN SR-13368
		P2	DENOTES PLAN SR-1111
		P3	DENOTES PLAN SR-12867
		P4	DENOTES PLAN SR-6254

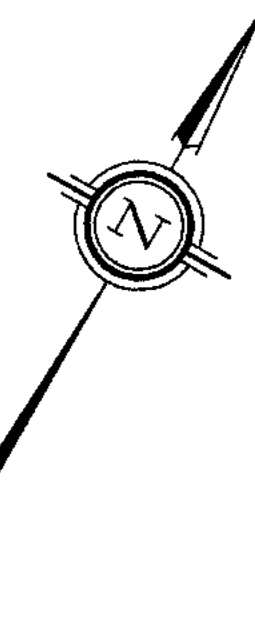
SURVEYOR'S CERTIFICATE:
I HEREBY CERTIFY THAT:
1. THIS PLAN AND SURVEY ARE CORRECT AND IN ACCORDANCE WITH THE SURVEY ACT, SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 19th DAY OF JANUARY, 2007.

DATED: Jan 25/07
D.A. SIMMONDS
ONTARIO LAND SURVEYOR

STANTEC GEOMATICS LTD.
Ontario Land Surveyors
OTTAWA - ONTARIO
(613)722-4420 FAX (613)722-0769
E-Mail: d.a.simmonds@stantec.com
Website: www.stantec.com

Stantec

DRAWN: MZ CHECKED: HR FIELD: SA P.M.: PP JOB NO.: 16160681-114

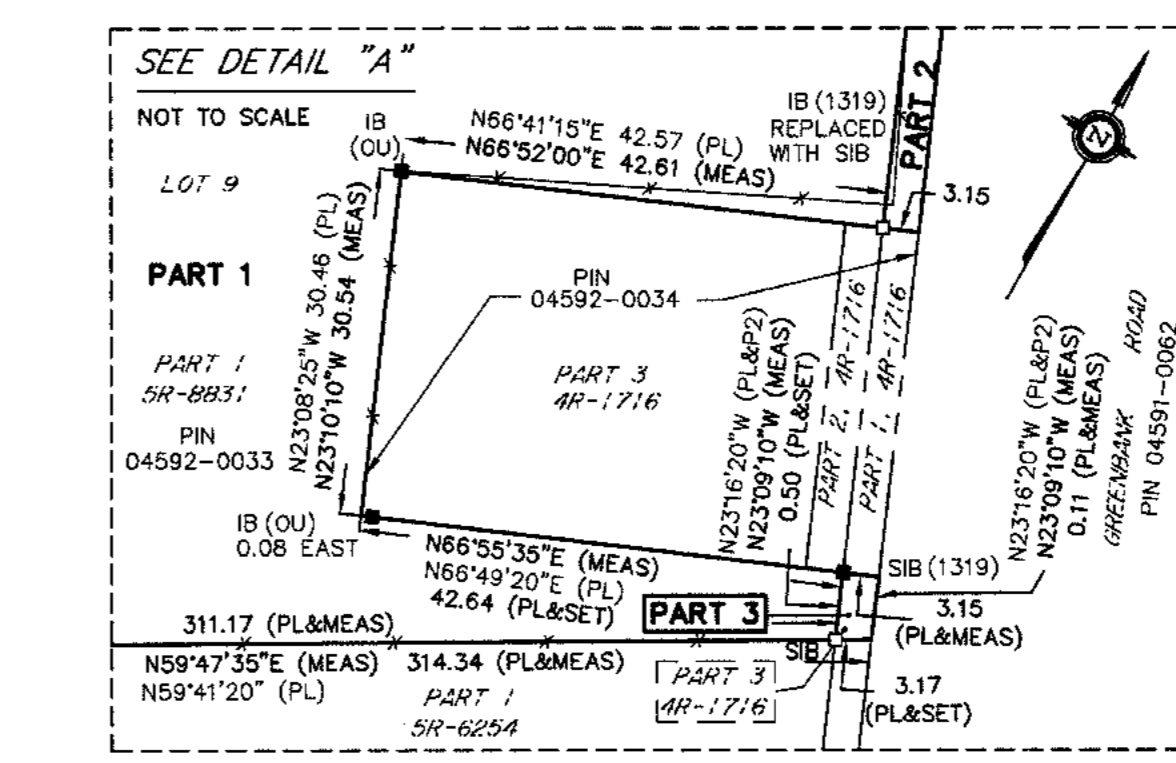


PLAN OF SURVEY OF
 PART OF LOT 9
 CONCESSION 3 (RIDEAU FRONT)
 GEOGRAPHIC TOWNSHIP OF NEPEAN
 CITY OF OTTAWA
 FORMERLY IN THE CITY OF NEPEAN

STANTEC GEOMATICS LTD.
 2007

SCALE 1:2000 METRIC
 0 50 100 150 200 250
 METRES

METRIC
 DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048
BEARING NOTE
 BEARINGS HEREON ARE GRID BEARINGS AND ARE DERIVED FROM N.C.C CONTROL MONUMENTS No. 19881632 (N5012741.290, E362515.994) AND No. 19860061 (N5013876.208, E362059.037) AND ARE REFERRED TO THE CENTRAL MERIDIAN 76°00' WEST LONGITUDE OF ZONE 9 OF THE 3' M.T.M. CO-ORDINATE SYSTEM AND ARE BASED ON THE NORTH AMERICAN DATUM, 1983 ADJUSTMENT.



NOTICE OF APPLICATION
 REGISTERED AS
 No. 04 880599

I REQUIRE THIS PLAN TO BE
 DEPOSITED UNDER THE LAND
 TITLES ACT.

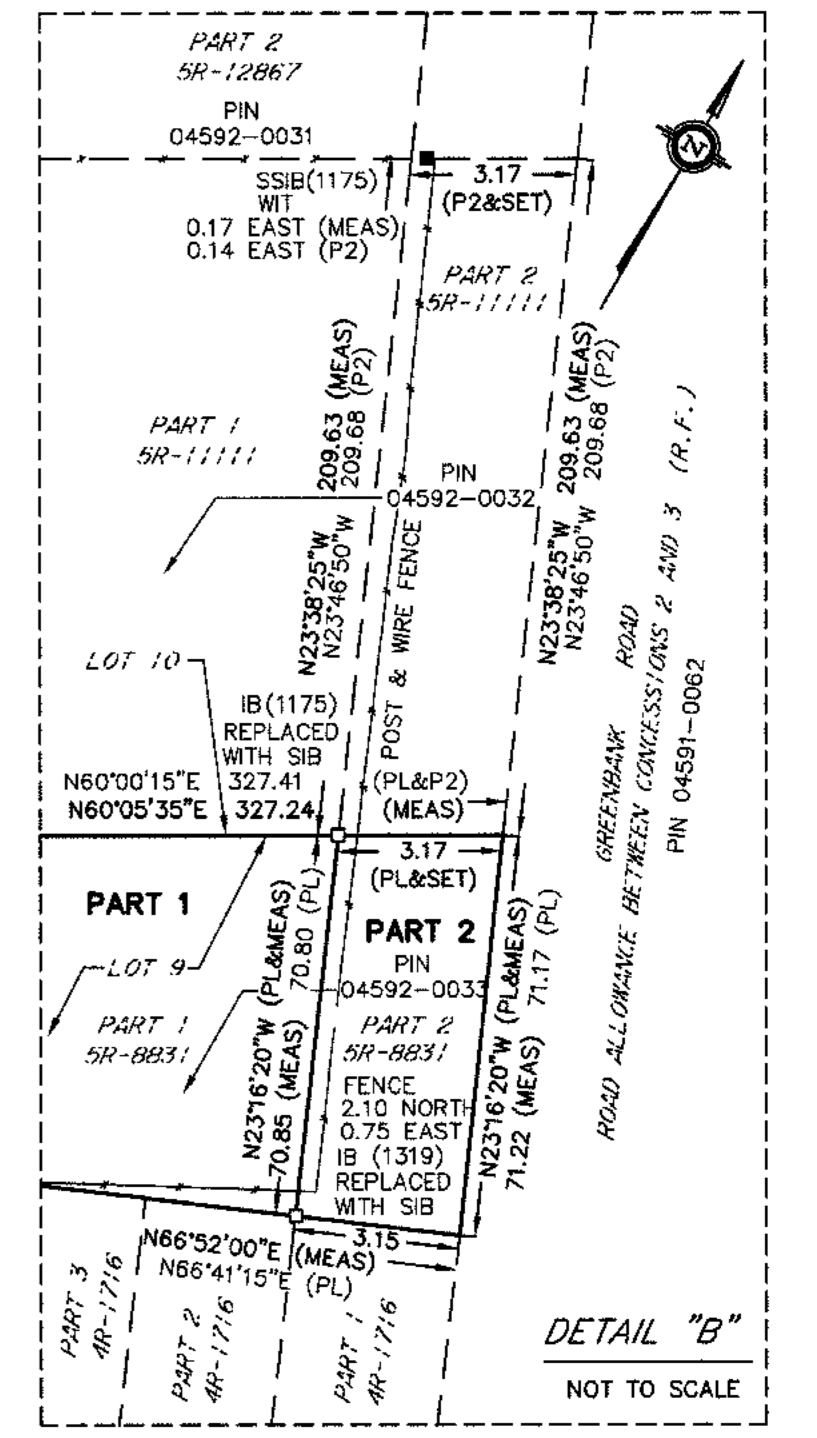
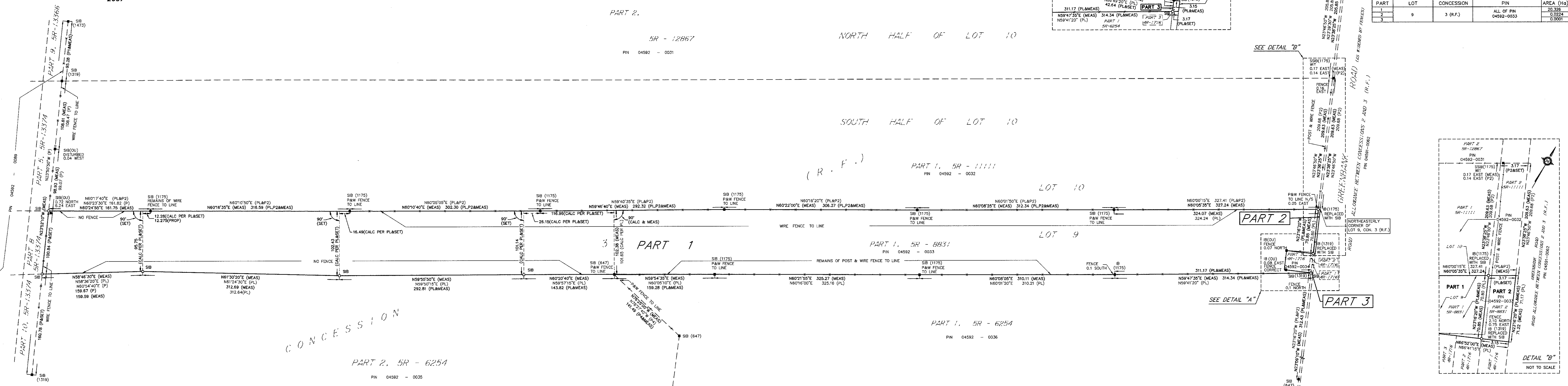
Jan 25 2007

D.A. SIMMONDS
 ONTARIO LAND SURVEYOR

PLAN 4R-21820
 RECEIVED AND DEPOSITED
 MARCH 6th 2007
 D. Tricome
 LAND REGISTRAR FOR THE
 LAND TITLES DIVISION OF
 OTTAWA - CARLETON NO. 4

SCHEDULE

PART	LOT	CONCESSION	PIN	AREA (Ha)
1			ALL OF PIN	20.326
2	9	3 (R.F.)	04592-0033	0.0224
3				0.0001



LEGEND & NOTES : (IF APPLICABLE)

■	DENOTES FOUND MONUMENTS	(1473)(S6)	DENOTES STANTEC GEOMATICS LTD.
□	DENOTES SET MONUMENTS	OL	DENOTES ORIGIN UNKNOWN
IB	DENOTES IRON BAR	MEAS.	DENOTES MEASURED
SIB	DENOTES STANDARD IRON BAR	PROP.	DENOTES PROPORTIONED
SSIB	DENOTES SHORT STANDARD IRON BAR	PL	DENOTES PLAN SR-8831
OC	DENOTES CUT CROSS	P	DENOTES PLAN SR-13374
N&W	DENOTES NAIL & WASHER	P1	DENOTES PLAN SR-13366
WT	DENOTES WITNESS	P2	DENOTES PLAN SR-11111
		P3	DENOTES PLAN SR-12867
		P4	DENOTES PLAN SR-6254

P&W
 1319 DENOTES POST & WIRE FENCE
 1175 DENOTES W. J. WEBSTER
 647 DENOTES H. A. K. SHIPMAN
 447 DENOTES H. R. FARLEY
 CALC DENOTES CALCULATION

SURVEYOR'S CERTIFICATE:
 I HEREBY CERTIFY THAT:
 1. THIS PLAN AND SURVEY ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
 2. THE SURVEY WAS COMPLETED ON THE 19th DAY OF JANUARY 2007.

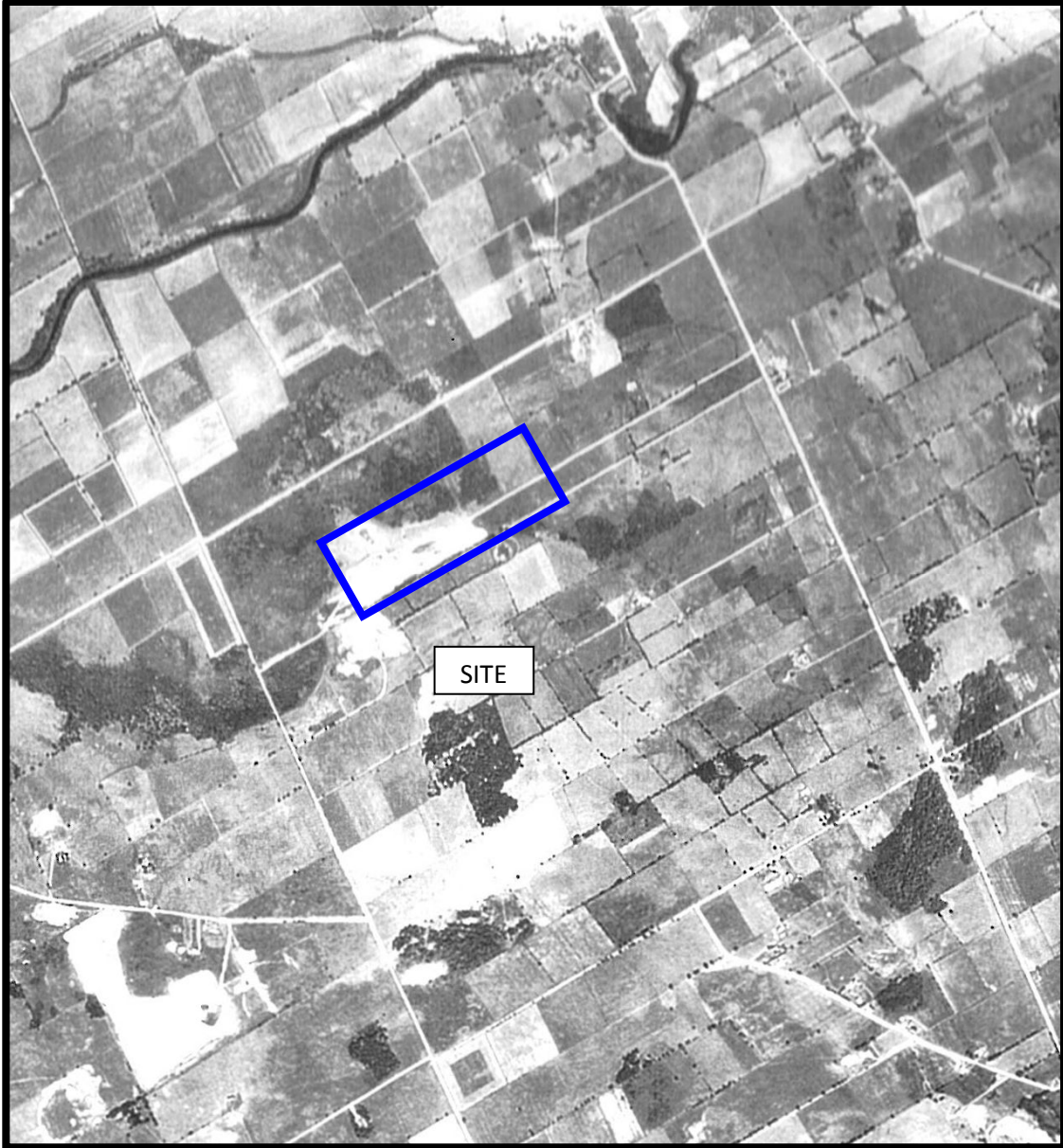
DATED: Jan 15/07
 D.A. SIMMONDS
 ONTARIO LAND SURVEYOR

STANTEC GEOMATICS LTD.
 Ontario Land Surveyors
 OTTAWA - ONTARIO
 (613)722-4420 FAX (613)722-0789
 E-mail: ds@stntec.com
 Website: www.stntec.com

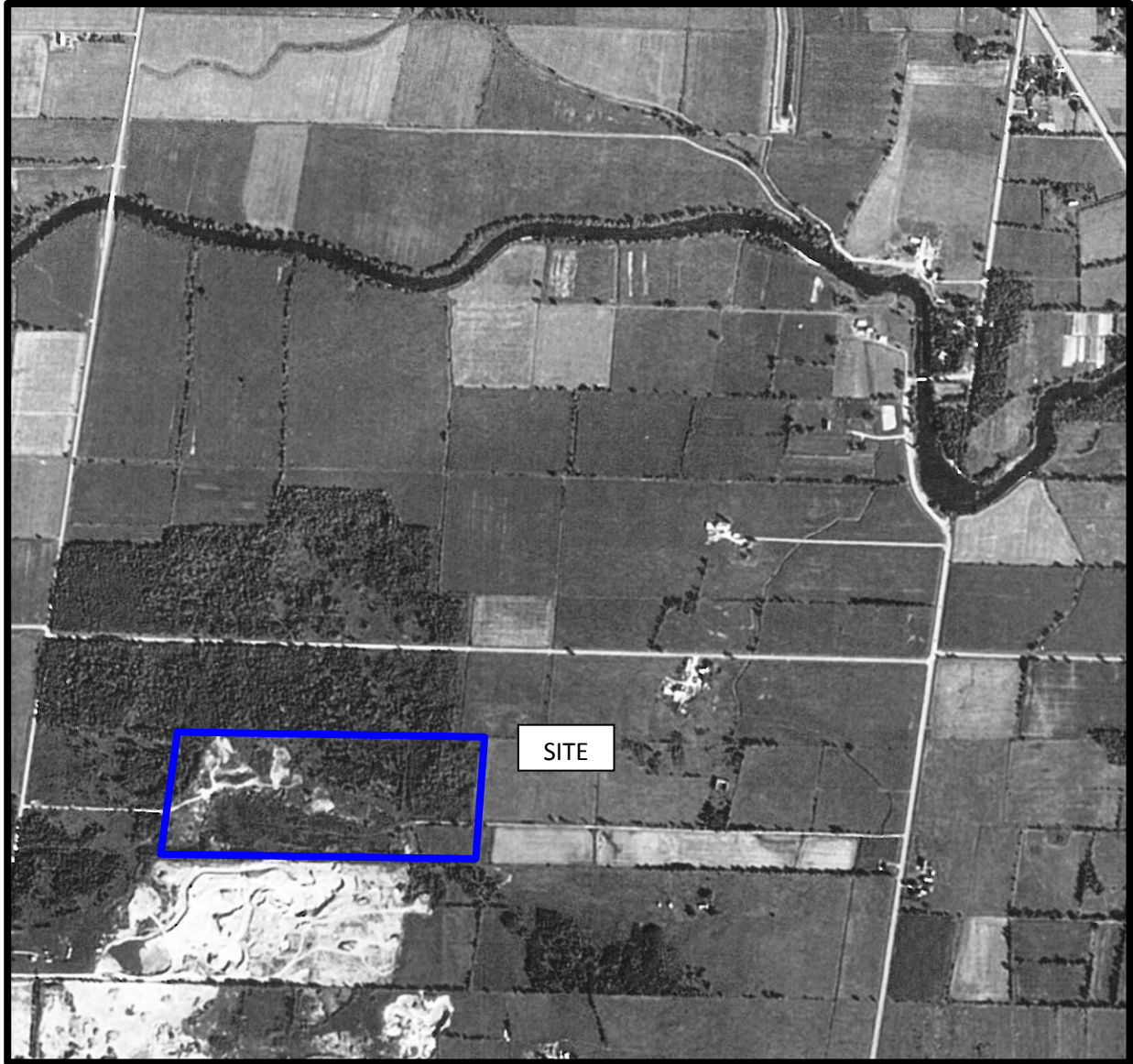
DRAWN: MZ CHECKED: MR FIELD: SM P.M.: FP JOB NO.: 16160881-114
 DRAWING: 16160881V-114_Taggart_GreenBank_Nepean-south.dwg



AERIAL PHOTOGRAPH
1959



AERIAL PHOTOGRAPH
1966



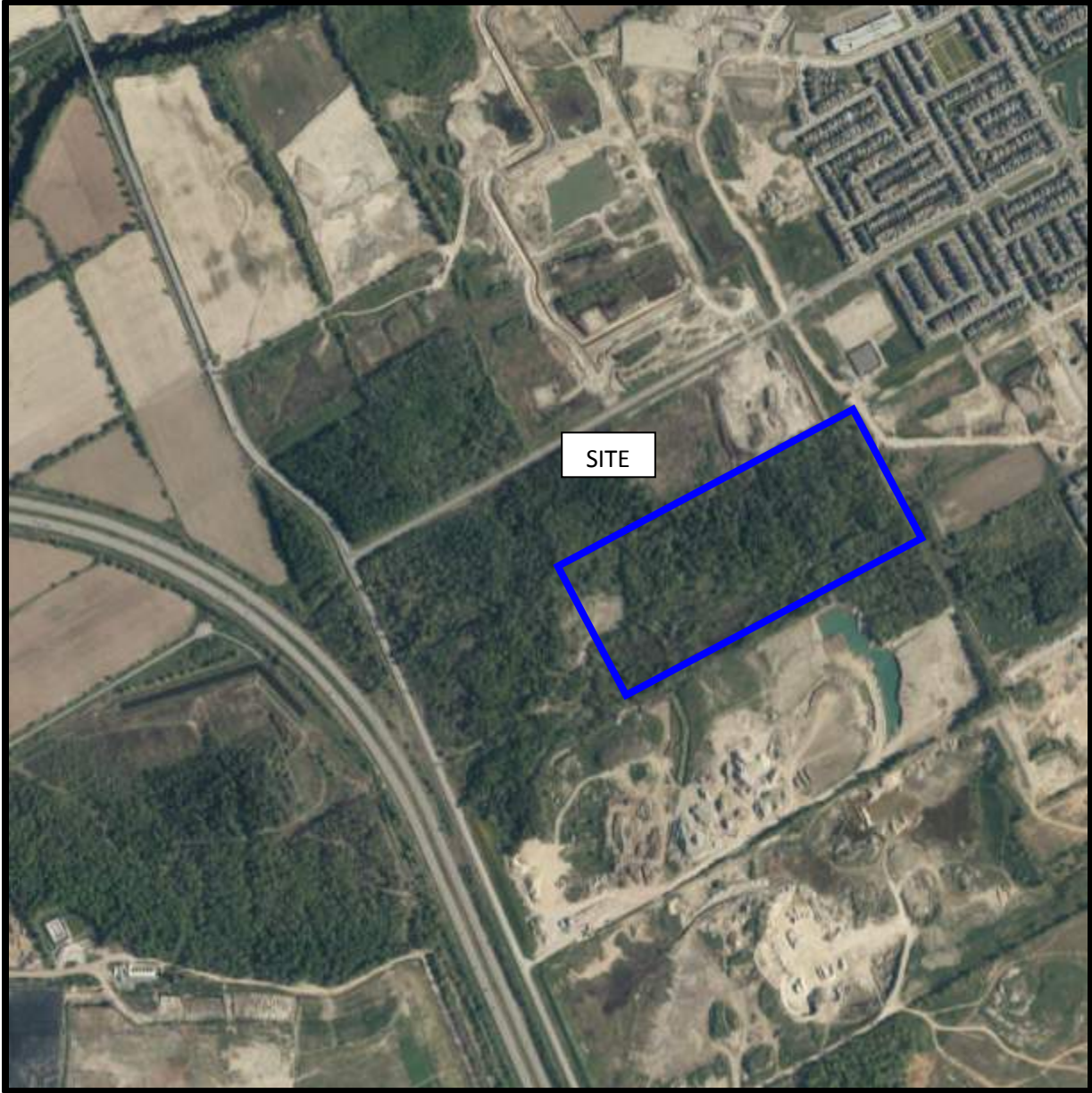
AERIAL PHOTOGRAPH
1987



AERIAL PHOTOGRAPH
1993



AERIAL PHOTOGRAPH
2001



AERIAL PHOTOGRAPH
2017

Site Photographs

PE0190

The Meadows, Borrisokane Road, Ottawa, ON

February 16, 2018



Photograph 1: Access road from Borrisokane Road leading towards the subject property. Looking east.



Photograph 2: Some construction debris, with Costello aggregate pit property behind, near the western boundary of the subject property.

Site Photographs

PE0190

The Meadows, Borrisokane Road, Ottawa, ON

February 16, 2018



Photograph 3: Open space near the western side of the subject property; former aggregate extraction pit.



Photograph 4: Storage container with unknown contents near former aggregate pit.

APPENDIX 2

MECP FREEDOM OF INFORMATION SEARCH RESPONSE

MECP WATER WELL RECORDS

TSSA RESPONSE

TEST PIT AND BOREHOLE LOGS

Ministry of the Environment
and Climate Change

Freedom of Information and
Protection of Privacy Office

12th Floor
40 St. Clair Avenue West
Toronto ON M4V 1M2
Tel: (416) 314-4075
Fax: (416) 314-4285

Ministère de l'Environnement et de
l'Action en matière de changement
climatique

Bureau de l'accès à l'information et
de la protection de la vie privée

12^e étage
40, avenue St. Clair ouest
Toronto ON M4V 1M2
Tél.: (416) 314-4075
Télééc.: (416) 314-4285



March 13, 2018

Anna Graham
Paterson Group Inc.
154 Colonnade Rd
Ottawa, ON K2E 7J5

Dear Anna Graham:

RE: *Freedom of Information and Protection of Privacy Act Request*
Our File #: A-2018-01014, Your Reference #: PE0190

This letter is in response to your request made pursuant to the *Freedom of Information and Protection of Privacy Act* relating to 3640 Greenbank Road, Ottawa.

After a thorough search of the Ministry's Ottawa District Office, Investigations and Enforcement Branch, Environmental Assessment and Permissions Branch, Environmental Monitoring and Reporting Branch, Sector Compliance Branch and Safe Drinking Water Branch, records were located in response to your request. It is my decision to provide full access to the attached information.

In accordance with Section 57 of the *Freedom of Information and Protection of Privacy Act*, detailed below are our charges:

• Search Time 1 hour @ \$30/hour	\$30.00
• Copying 31 pages @ \$0.20/page	\$6.20
• Delivery	3.00
• Total	<u>\$ 39.20</u>
• Deposit Received	- 30.00
• BALANCE WAIVED (NOT REQUIRED)	<u>\$9.20</u>

You may request a review of my decision by contacting the Information and Privacy Commissioner/Ontario, 2 Bloor Street East, Suite 1400, Toronto, ON M4W 1A8 (800-387-0073 or 416-326-3333). Please note that there is a \$25.00 fee and you only have 30 days from receipt of this letter to request a review.

If you have any questions regarding this matter, please contact Aaron Foster at aaron.foster@ontario.ca.

Yours truly,

A handwritten signature in black ink, appearing to read "Janet Dadufalza".

FOR Janet Dadufalza
FOI Manager

Attachments

**CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 2787-8GLRWW
Issue Date: May 18, 2011**

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

Site Location: The Meadows in Half Moon Bay Subdivision Phase 1A, 1B, 2A
Ward 3
3640 Greenbank Road
City of Ottawa, Ontario

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

storm sewers and sanitary sewers to be constructed in the City of Ottawa, as follows:

storm sewers and sanitary sewers on Brambling Way (from Station 0+429 to Station 1+150), Towhee Place (from Station 0+100 to Station 0+388), Egret Way (from Station 0+792 to Station 1+222), Regatta Avenue (from Station 0+100 to Station 0+372), Dunlin Ridge (from Station 0+360 to Station 0+634) and River Mist Road (from Station 0+100 to Station 0+411); and

storm sewers only on Chillow Way (from Station 0+100 to Station 0+140);

all in accordance with the application from Tamarack (Nepean) Corporation, dated **April 5, 2011**, including final plans and specifications prepared by IBI Group.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and,
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant.

4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

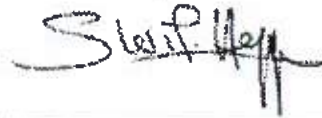
AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 18th day of May, 2011



Sherif Hegazy, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

DF/

c: District Manager, MOE Ottawa District Office
Rick O'Connor, City Clerk & Solicitor, City Manager's Office (File Number D07-16-09-0037)
Jacek Taracha, Senior Infrastructure Approvals Engineer, Development Review, City of Ottawa
Terry Brule, IBI Group

**CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 3980-8HPK59
Issue Date: June 30, 2011**

Tamarack (Nepean) Corporation
3187 Albion Rd S
Ottawa, Ontario
K1V 8Y3

Site Location: Half Moon Bay Subdivision Phase 1A, 1B and 2A
3640 Greenbank Road
City of Ottawa

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

the establishment of interim stormwater management Works to serve the drainage areas including, and upstream of, the Half Moon Bay subdivision, in the City of Ottawa, for the disposal of stormwater runoff from a total catchment area of 103.82 hectares, to provide conveyance and erosion control, discharging to an existing trunk sewer, for all storm events up to and including the 100-year return storm, comprising:

one (1) interim diversion ditch, diverting the flows from the existing Todd Drain located on the Half Moon Bay Subdivision Phase 1A, from south boundary of the Half Moon Bay Subdivision to the north boundary of the Half Moon Bay Subdivision, outletting in to the existing 2.4 metre x 3.0 metre storm sewer located on north property boundary of the Half Moon Bay Subdivision, complete with silt fence, geotextile fabric, straw bale and other erosion and sediment control measures;

all in accordance with the application dated March 12, 2011 and received on March 25, 2011, including final plans and specifications prepared by IBI Group.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

- 1) "Certificate " means this entire Certificate of Approval document, issued in accordance with Section 53 of the *Ontario Water Resources Act*, and includes any schedules;
- 2) "Director " means any *Ministry* employee appointed by the Minister of the Environment pursuant to Section 5 of the *Ontario Water Resources Act*;
- 3) "District Manager " means the District Manager of Ottawa District Office of the Ministry;

- (4) "Ministry " means the Ontario Ministry of Environment;
- (5) "Owner " means Tamarack (Nepean) Corporation, and includes its successors and assignees; and,
- (6) "Interim Works" means the interim stormwater management works, described in this Certificate and that are to be used for short-term purposes only in accordance with this Certificate until otherwise approval for an extension of this period has been granted.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL CONDITIONS

- 1.1 The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Interim Work s is notified of this Certificate and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- 1.2 Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the Interim Work s in accordance with the description given in this Certificate , the application for approval of the Work s and the submitted supporting documents and plans and specifications as listed in this Certificate .
- 1.3 Where there is a conflict between a provision of any submitted document referred to in this Certificate and the Conditions of this Certificate , the Conditions in this Certificate shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.
- 1.4 Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
- 1.5 The requirements of this Certificate are severable. If any requirement of this Certificate, or the application of any requirement of this Certificate to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this Certificate shall not be affected thereby.

2. EXPIRY OF APPROVAL

- 2.1 Approval under this Certificate to the Interim Works shall expire and become null and void on December 31, 2012.

3. CHANGE OF OWNER

The Owner shall notify the District manager and the Director , in writing, of any of the following changes within thirty (30) days of the change occurring:

- (a) change of *Owner* ;
- (b) change of address of the *Owner* ;
- (c) change of partners where the *Owner* is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the *District manager* ; and
- (d) change of name of the corporation where the *Owner* is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the *District manager* .

4. OPERATION AND MAINTENANCE

- 4.1 The *Owner* shall make all necessary investigations, take all necessary steps and obtain all necessary approvals so as to ensure that the physical structure, siting and operations of the stormwater *Work s* do not constitute a safety or health hazard to the general public.
- 4.2 The *Owner* shall ensure that the design storage volumes are maintained at all times.
- 4.3 The *Owner* shall undertake an inspection of the condition of the stormwater management *Work s*, at least once a year, and undertake any necessary cleaning and maintenance to ensure that sediment, debris and excessive decaying vegetation are removed from the above noted stormwater management *Work s* to prevent the excessive build-up of sediment, debris and/or decaying vegetation to avoid reduction of capacity of the *Interim Works*. The *Owner* shall also regularly inspect and clean out the inlet to and outlet from the *Work s* to ensure that these are not obstructed.
- 4.4 The *Owner* shall maintain a logbook to record the results of these inspections and any cleaning and maintenance operations undertaken, and shall make the logbook available for inspection by the Ministry upon request. The logbook shall include, but not necessarily be limited to, the following information:
 - (a) the name of the *Interim Work s*; and
 - (b) the date and results of each inspection, maintenance and cleaning, including an estimate of the quantity of any materials removed.

5. RECORD KEEPING

The *Owner* shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this *Certificate* .

The reasons for the imposition of these terms and conditions are as follows:

- 1. Condition 1 is imposed to ensure that the *Interim Works* are built and operated in the manner in

which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Certificate* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this *Certificate* the existence of this *Certificate*.

2. Condition No. 2 is included to ensure that the *Interim Works* are constructed as planned and designed for interim purposes, as specified in this *Certificate*, and will not become permanent unless so approved by the *Director*.
3. Condition 3 is included to ensure that the Ministry records are kept accurate and current with respect to approved *Interim Work s* and to ensure that subsequent *owners* of the *Interim Works* are made aware of the *Certificate* and continue to operate the *Interim Work s* in compliance with it.
4. Condition 4 is included as regular inspection and necessary removal of sediment and excessive decaying vegetation from this approved *Interim Work s* are required to mitigate the impact of sediment, debris and/or decaying vegetation on the treatment capacity of the *Interim Work s*. It is also required to ensure that adequate storage is maintained in the *Interim Works* at all times as required by the design, and to prevent stormwater impounded in the *Interim Work s* from becoming stagnant. Furthermore, Conditions 4 is included to ensure that the *Interim Work s* are operated and maintained to function as designed.
5. Condition 5 is included to require that all records are retained for a sufficient time period to adequately evaluate the long-term operation and maintenance of the *Works* .

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act , R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and,
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant,
4. The address of the appellant,
5. The Certificate of Approval number,
6. The date of the Certificate of Approval,
7. The name of the Director,
8. The municipality within which the works are located,

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment

Toronto, Ontario
M5G 1E5

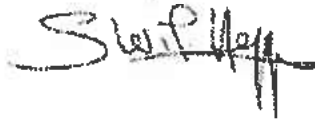
AND

2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 30th day of June, 2011



Sherif Hegazy, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

KH/

c: District Manager, MOE Ottawa District
Terry Brule, IBI Group

ENVIRONMENTAL COMPLIANCE APPROVALNUMBER 5449-9VKJQ6
Issue Date: April 14, 2015Tamarack (Nepean) Corporation
3187 Albion Road South
Ottawa, Ontario
K1V 8Y3Site Location: The Meadows in Half Moon Bay South - Phase 3
3640 Greenbank Road
City of Ottawa

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

sanitary and storm sewers to be constructed in the City of Ottawa, on Egret Way (from Station 0+587 to Station 0+793), Grand Canal (from Station 0+137 to Station 0+358), Goldcrest Ridge (from Station 0+097 to Station 0+345), Jaeger Street (from Station 0+098 to Station 0+455), and Dowitcher Grove (from Station 0+103 to Station 0+137);

all in accordance with the application from Tamarack (Nepean) Corporation, dated January 22, 2015, including final plans and specifications prepared by IBI Group.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and,
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed

The Notice should also include:

3. The name of the appellant,
4. The address of the appellant,
5. The environmental compliance approval number,
6. The date of the environmental compliance approval,
7. The name of the Director, and,
8. The municipality or municipalities within which the project is to be engaged in

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
MSG 1E5

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment and
Climate Change
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 14th day of April, 2015



Edgardo Tovilla, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

DN/

c: District Manager, MOECC Ottawa District Office
M. Rick O'Connor, Clerk, City of Ottawa (File No. D07-16-09-0037P3)
Damien Whittaker, P. Eng., Development Review, City of Ottawa
Linda Carkner, Program Manager, Infrastructure Services, City of Ottawa
Terry Brule, P. Eng., IBI Group

AMENDED ENVIRONMENTAL COMPLIANCE APPROVALNUMBER 1847-9WJRDC
Issue Date: May 19, 2015Tamarack (Nepean) Corporation
3187 Albion Road South
Ottawa, Ontario
K1V 8Y3Site Location: The Meadows in Half Moon Bay South - Phase 3
3640 Greenbank Road
City of Ottawa

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

sanitary and storm sewers to be constructed in the City of Ottawa, on Egret Way (from Station 0+587 to Station 0+793), Grand Canal (from Station 0+137 to Station 0+358), Excursion Way (from Station 0+097 to Station 0+345), Brambling Way (from Station 0+098 to Station 0+455), and Dowitcher Grove (from Station 0+103 to Station 0+137);

all in accordance with the application from Tamarack (Nepean) Corporation, dated January 22, 2015, including final plans and specifications prepared by IBI Group.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 5449-9VKJQ6 issued on April 14, 2015.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant,
4. The address of the appellant,
5. The environmental compliance approval number,
6. The date of the environmental compliance approval,
7. The name of the Director, and,
8. The municipality or municipalities within which the project is to be engaged in

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment and
Climate Change
2 St Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 19th day of May, 2015



Edgardo Tovilla, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

DN/

- c: District Manager, MOECC Ottawa District Office
M. Rick O'Connor, Clerk, City of Ottawa (File No. D07-16-09-0037P3)
Damien Whittaker, P. Eng., Development Review, City of Ottawa
Linda Carkner, Program Manager, Infrastructure Services, City of Ottawa
Terry Brule, P. Eng., IBI Group

PERMIT TO TAKE WATER
Surface and Ground Water
NUMBER 2110-9X3RNE

Pursuant to Section 34.1 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

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

For the water
taking from: Building Excavation Footprint (S1)
Site Servicing Excavation (S2)

Located at: 3640 Greenbank Rd
Ottawa

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

- (a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34.1, OWRA.
- (b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.
- (c) "Ministry" means Ontario Ministry of the Environment and Climate Change.
- (d) "District Office" means the Ottawa District Office.
- (e) "Permit" means this Permit to Take Water No. 2110-9X3RNE including its Schedules, if any, issued in accordance with Section 34.1 of the OWRA.
- (f) "Permit Holder" means Tamarack (Nepean) Corporation.
- (g) "OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O. 40, as amended.

You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. Compliance with Permit

- 1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated March 26, 2015 and signed by Mike Taggart, and all Schedules included in this Permit.
- 1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.
- 1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.
- 1.4 This Permit is not transferable to another person.
- 1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.
- 1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.
- 1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

2. General Conditions and Interpretation

2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act*, R.S.O. 1990, the *Pesticides Act*, R.S.O. 1990, or the *Safe Drinking Water Act*, S. O. 2002.

2.2 Other Approvals

The issuance of, and compliance with this Permit, does not:

(a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the *Ontario Water Resources Act*, and the *Environmental Protection Act*, and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

2.3 Information

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

(a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or

(b) acceptance by the Ministry of the information's completeness or accuracy.

2.4 Rights of Action

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

2.5 Severability

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

2.6 Conflicts

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

3. Water Takings Authorized by This Permit

3.1 Expiry

This Permit expires on **May 31, 2025**. No water shall be taken under authority of this Permit after the expiry date.

3.2 Amounts of Taking Permitted

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

Table A

	Source Name / Description:	Source Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting/ Northing:
1	Building Excavation Footprint (S1)	Pond Dugout	Construction	Dewatering Construction	2,800	24	400,000	210	18 441999 5010765
2	Site Servicing Excavation (S2)	Pond Dugout	Construction	Dewatering Construction	5,000	24	1,200,000	210	18 441999 5010765
						Total Taking:	1,600,000		

4. Monitoring

4.1 The Permit Holder shall maintain a record of all water takings. This record shall include the dates and times of water takings, the rates of taking and an estimated calculation of the total amounts of water taken per day for each day that water is taken under the authorization of this Permit. A separate record shall be maintained for each source. The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request.

5. Impacts of the Water Taking

5.1 Notification

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

5.2 For Surface-Water Takings

The taking of water (including the taking of water into storage and the subsequent or simultaneous withdrawal from storage) shall be carried out in such a manner that streamflow is not stopped and is not reduced to a rate that will cause interference with downstream uses of water or with the natural functions of the stream.

For Groundwater Takings

If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

If permanent interference is caused by the water taking, the Permit Holder shall restore the water supplies of those permanently affected.

5.3 Prevention of Adverse Effects:

The Permit Holder shall ensure the taking of water under authority of this Permit does not result in an adverse effect on area waters.

5.4 Prevention of Structural Adverse Effects:

The Permit Holder shall take all measures necessary to prevent damage to buildings, bridges, structures, roads and/or railway lines that may be impacted either directly or indirectly by this taking.

5.5 Discharge Control Measures for Water that is Discharged to the Natural Environment:

Siltation control measures shall be installed at the discharge site(s) and shall be sufficient to control the volumes. Continuous care shall be taken to properly maintain the siltation control devices.

5.6 The discharge of water shall be controlled in such a way as to avoid erosion and sedimentation in the receiving stream.

5.7 The Permit Holder shall ensure that any water discharged to the natural environment does not result in scouring, erosion or physical alteration of stream channels or banks and that there is no flooding in the receiving area or water body, downstream water bodies, ditches or properties caused or worsened by this discharge.

5.8 The Permit Holder shall not discharge turbid water to any watercourse. Turbid water shall be defined as any discharge water from the excavation or diverted water with a maximum increase of 8 NTUs above the receiving stream's background levels.

5.9 **Discharged Water to the Sanitary or Storm Sewer System:**
The Permit Holder shall ensure that any water that is taken for dewatering purposes and discharged to the City of Ottawa sewer system is in accordance with a City of Ottawa Sewer Use Agreement.

6. **Director May Amend Permit**

The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act*, Section 100 (4).

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.
2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.
3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me, the Environmental Review Tribunal and the Environmental Commissioner, Environmental Bill of Rights, R.S.O. 1993, Chapter 28, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, as amended provides that the Notice requiring a hearing shall state:

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

The Secretary
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto ON
M5G 1E5
Fax: (416) 314-4506
Email:
ERTTribunalsecretary@ontario.ca

AND

The Environmental Commissioner
1075 Bay Street
6th Floor, Suite 605
Toronto, Ontario M5S 2W5

AND

The Director, Section 34.1,
Ministry of the Environment and
Climate Change
1259 Gardiners Rd, PO Box
22032
Kingston, ON
K7P 3J6

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

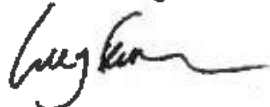
by telephone at (416) 314-4600

by fax at (416) 314-4506

by e-mail at www.ert.gov.on.ca

This instrument is subject to Section 38 of the Environmental Bill of Rights that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek to appeal for 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry, you can determine when the leave to appeal period ends.

Dated at Kingston this 25th day of June, 2015.



Greg Faaren
Director, Section 34.1
Ontario Water Resources Act, R.S.O. 1990

Schedule A

This Schedule "A" forms part of Permit To Take Water 2110-9X3RNE, dated June 25, 2015.

**CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 2787-8GLRWW
Issue Date: May 18, 2011**

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

Site Location: The Meadows in Half Moon Bay Subdivision Phase 1A, 1B, 2A
Ward 3
3640 Greenbank Road
City of Ottawa, Ontario

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

storm sewers and sanitary sewers to be constructed in the City of Ottawa, as follows:

storm sewers and sanitary sewers on Brambling Way (from Station 0+429 to Station 1+150), Towhee Place (from Station 0+100 to Station 0+388), Egret Way (from Station 0+792 to Station 1+222), Regatta Avenue (from Station 0+100 to Station 0+372), Dunlin Ridge (from Station 0+360 to Station 0+634) and River Mist Road (from Station 0+100 to Station 0+411); and

storm sewers only on Chillow Way (from Station 0+100 to Station 0+140);

all in accordance with the application from Tamarack (Nepean) Corporation, dated **April 5, 2011**, including final plans and specifications prepared by IBI Group.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

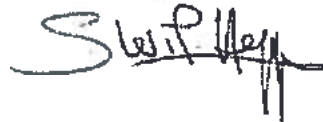
AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 18th day of May, 2011



Sherif Hegazy, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

DF/

- c: District Manager, MOE Ottawa District Office
Rick O'Connor, City Clerk & Solicitor, City Manager's Office (File Number D07-16-09-0037)
Jacek Taracha, Senior Infrastructure Approvals Engineer, Development Review, City of Ottawa
Terry Brule, IBI Group

**CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 3980-8HPK59
Issue Date: June 30, 2011**

Tamarack (Nepean) Corporation
3187 Albion Rd S
Ottawa, Ontario
K1V 8Y3

Site Location: Half Moon Bay Subdivision Phase 1A, 1B and 2A
3640 Greenbank Road
City of Ottawa

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

the establishment of interim stormwater management Works to serve the drainage areas including, and upstream of, the Half Moon Bay subdivision, in the City of Ottawa, for the disposal of stormwater runoff from a total catchment area of 103.82 hectares, to provide conveyance and erosion control, discharging to an existing trunk sewer, for all storm events up to and including the 100-year return storm, comprising;

one (1) interim diversion ditch, diverting the flows from the existing Todd Drain located on the Half Moon Bay Subdivision Phase 1A, from south boundary of the Half Moon Bay Subdivision to the north boundary of the Half Moon Bay Subdivision, outletting in to the existing 2.4 metre x 3.0 metre storm sewer located on north property boundary of the Half Moon Bay Subdivision, complete with silt fence, geotextile fabric, straw bale and other erosion and sediment control measures;

all in accordance with the application dated March 12, 2011 and received on March 25, 2011, including final plans and specifications prepared by IBI Group.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

- 1) "Certificate " means this entire Certificate of Approval document, issued in accordance with Section 53 of the *Ontario Water Resources Act*, and includes any schedules;
- (2) "Director " means any *Ministry* employee appointed by the Minister of the Environment pursuant

to Section 5 of the *Ontario Water Resources Act*;

- (3) "*District Manager*" means the District Manager of Ottawa District Office of the Ministry;
- (4) "*Ministry*" means the Ontario Ministry of Environment;
- (5) "*Owner*" means Tamarack (Nepean) Corporation, and includes its successors and assignees; and,
- (6) "*Interim Works*" means the interim stormwater management works, described in this *Certificate* and that are to be used for short-term purposes only in accordance with this *Certificate* until otherwise approval for an extension of this period has been granted.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL CONDITIONS

- 1.1 The *Owner* shall ensure that any person authorized to carry out *work* on or operate any aspect of the *Interim Works* is notified of this *Certificate* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- 1.2 Except as otherwise provided by these Conditions, the *Owner* shall design, build, install, operate and maintain the *Interim Works* in accordance with the description given in this *Certificate*, the application for approval of the *Works* and the submitted supporting documents and plans and specifications as listed in this *Certificate*.
- 1.3 Where there is a conflict between a provision of any submitted document referred to in this *Certificate* and the Conditions of this *Certificate*, the Conditions in this *Certificate* shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.
- 1.4 Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
- 1.5 The requirements of this *Certificate* are severable. If any requirement of this *Certificate*, or the application of any requirement of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this *Certificate* shall not be affected thereby.

2. EXPIRY OF APPROVAL

- 2.1 Approval under this *Certificate* to the *Interim Works* shall expire and become null and void on December 31, 2012.

3. CHANGE OF OWNER

The *Owner* shall notify the *District manager* and the *Director* , in writing, of any of the following changes within thirty (30) days of the change occurring:

- (a) change of *Owner* ;
- (b) change of address of the *Owner* ;
- (c) change of partners where the *Owner* is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the *District manager* ; and
- (d) change of name of the corporation where the *Owner* is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the *District manager* .

4. OPERATION AND MAINTENANCE

- 4.1 The *Owner* shall make all necessary investigations, take all necessary steps and obtain all necessary approvals so as to ensure that the physical structure, siting and operations of the stormwater *Work s* do not constitute a safety or health hazard to the general public.
- 4.2 The *Owner* shall ensure that the design storage volumes are maintained at all times.
- 4.3 The *Owner* shall undertake an inspection of the condition of the stormwater management *Work s*, at least once a year, and undertake any necessary cleaning and maintenance to ensure that sediment, debris and excessive decaying vegetation are removed from the above noted stormwater management *Work s* to prevent the excessive build-up of sediment, debris and/or decaying vegetation to avoid reduction of capacity of the *Interim Works*. The *Owner* shall also regularly inspect and clean out the inlet to and outlet from the *Work s* to ensure that these are not obstructed.
- 4.4 The *Owner* shall maintain a logbook to record the results of these inspections and any cleaning and maintenance operations undertaken, and shall make the logbook available for inspection by the Ministry upon request. The logbook shall include, but not necessarily be limited to, the following information:
 - (a) the name of the *Interim Work s*; and
 - (b) the date and results of each inspection, maintenance and cleaning, including an estimate of the quantity of any materials removed.

5. RECORD KEEPING

The *Owner* shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this *Certificate* .

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is imposed to ensure that the *Interim Works* are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Certificate* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this *Certificate* the existence of this *Certificate*.
2. Condition No. 2 is included to ensure that the *Interim Works* are constructed as planned and designed for interim purposes, as specified in this *Certificate*, and will not become permanent unless so approved by the *Director*.
3. Condition 3 is included to ensure that the Ministry records are kept accurate and current with respect to approved *Interim Work s* and to ensure that subsequent *owners* of the *Interim Works* are made aware of the *Certificate* and continue to operate the *Interim Work s* in compliance with it.
4. Condition 4 is included as regular inspection and necessary removal of sediment and excessive decaying vegetation from this approved *Interim Work s* are required to mitigate the impact of sediment, debris and/or decaying vegetation on the treatment capacity of the *Interim Work s*. It is also required to ensure that adequate storage is maintained in the *Interim Works* at all times as required by the design, and to prevent stormwater impounded in the *Interim Work s* from becoming stagnant. Furthermore, Conditions 4 is included to ensure that the *Interim Work s* are operated and maintained to function as designed.
5. Condition 5 is included to require that all records are retained for a sufficient time period to adequately evaluate the long-term operation and maintenance of the *Works* .

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act , R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and,
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

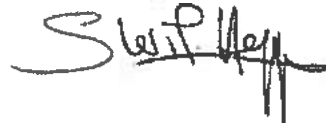
AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 30th day of June, 2011



Sherif Hegazy, P.Eng.
Director
Section 53, *Ontario Water Resources Act*

KH/
c: District Manager, MOE Ottawa District.
Terry Brule, IBI Group

ENVIRONMENTAL COMPLIANCE APPROVALNUMBER 5449-9VKJQ6
Issue Date: April 14, 2015Tamarack (Nepean) Corporation
3187 Albion Road South
Ottawa, Ontario
K1V 8Y3Site Location: The Meadows in Half Moon Bay South - Phase 3
3640 Greenbank Road
City of Ottawa

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

sanitary and storm sewers to be constructed in the City of Ottawa, on Egret Way (from Station 0+587 to Station 0+793), Grand Canal (from Station 0+137 to Station 0+358), Goldcrest Ridge (from Station 0+097 to Station 0+345), Jaeger Street (from Station 0+098 to Station 0+455), and Dowitcher Grove (from Station 0+103 to Station 0+137);

all in accordance with the application from Tamarack (Nepean) Corporation, dated January 22, 2015, including final plans and specifications prepared by IBI Group.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment and
Climate Change
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 14th day of April, 2015



Edgardo Tovilla, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

DN/

c: District Manager, MOECC Ottawa District Office
M. Rick O'Connor, Clerk, City of Ottawa (File No. D07-16-09-0037P3)
Damien Whittaker, P. Eng., Development Review, City of Ottawa
Linda Carkner, Program Manager, Infrastructure Services, City of Ottawa
Terry Brule, P. Eng., IBI Group

AMENDED ENVIRONMENTAL COMPLIANCE APPROVALNUMBER 1847-9WJRDC
Issue Date: May 19, 2015Tamarack (Nepean) Corporation
3187 Albion Road South
Ottawa, Ontario
K1V 8Y3Site Location: The Meadows in Half Moon Bay South - Phase 3
3640 Greenbank Road
City of Ottawa

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

sanitary and storm sewers to be constructed in the City of Ottawa, on Egret Way (from Station 0+587 to Station 0+793), Grand Canal (from Station 0+137 to Station 0+358), Excursion Way (from Station 0+097 to Station 0+345), Brambling Way (from Station 0+098 to Station 0+455), and Dowitcher Grove (from Station 0+103 to Station 0+137);

all in accordance with the application from Tamarack (Nepean) Corporation, dated January 22, 2015, including final plans and specifications prepared by IBI Group.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 5449-9VKJQ6 issued on April 14, 2015.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of
Part II.1 of the Environmental Protection Act
Ministry of the Environment and
Climate Change
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 19th day of May, 2015



Edgardo Tovilla, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

DN/

c: District Manager, MOECC Ottawa District Office
M. Rick O'Connor, Clerk, City of Ottawa (File No. D07-16-09-0037P3)
Damien Whittaker, P. Eng., Development Review, City of Ottawa
Linda Carkner, Program Manager, Infrastructure Services, City of Ottawa
Terry Brule, P. Eng., IBI Group

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Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the [Open Data catalogue](#).

Recommended for you

[How to use a Ministry of the Environment map](#)

[Technical documentation: Metadata record](#)

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Well ID

Well ID Number: 7223434

Well Audit Number: C19501

Well Tag Number: A122943

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	NEPEAN TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 441318.00 Northing: 5010577.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
----------------	----------------------	-----------------	---------------------	------------	----------

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
------------	----------	--	---------------

Method of Construction & Well Use

Method of Construction	Well Use
------------------------	----------

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
-----------------	-----------------------	------------	----------

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
------------------	----------	------------	----------

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7328

Results of Well Yield Testing

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
Duration of Pumping
Final water level
If flowing give rate

Recommended pump depthRecommended pump rateWell ProductionDisinfected?**Draw Down & Recovery**

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water DetailsWater Found at Depth Kind**Hole Diameter**Depth From Depth To Diameter

Audit Number: C19501

Date Well Completed: February 27, 2012

Date Well Record Received by MOE: July 09, 2014

Updated: February 2, 2018

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Tags

- [Environment and energy](#),
- [Drinking water](#),
- [Environment maps](#),
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[Chris Ballard](#)

Minister of the Environment and Climate Change

[Ministry of the Environment and Climate Change](#)

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Anna Graham

From: Public Information Services <publicinformationsservices@tssa.org>
Sent: March-14-18 12:26 PM
To: Anna Graham
Subject: RE: Records search request for 3640 Greenbank

Hello ,

Thank you for your inquiry.

We have no record in our database of any fuel storage tanks at the subject address (addresses).

For a further search in our archives please complete our release of public information form found at https://www.tssa.org/en/about-tssa/release-of-public-information.aspx?_mid_=392 and email the completed form to publicinformationsservices@tssa.org or through mail along with a fee of \$56.50 (including HST) per location. The fee is payable with credit card (Visa or MasterCard) or with a Cheque made payable to TSSA.

Although TSSA believes the information provided pursuant to your request is accurate, please note that TSSA does not warrant this information in any way whatsoever.

Thank you and have a great day,

Sherees

From: Anna Graham [mailto:AGraham@Patersongroup.ca]
Sent: February 8, 2018 4:20 PM
To: Public Information Services <publicinformationsservices@tssa.org>
Subject: Records search request for 3640 Greenbank

Good afternoon,

Could you please complete a search of your records for underground/aboveground storage tanks, historical spills or other incidents/infractions for the following addresses for properties located in the City of Ottawa, ON:

3640 Greenbank Road
3713 Borrisokane Road
3809 Borrisokane Road
4475 Trail Road
3900 Cambrian Road
3831 Cambrian Road
670 Dundonald Drive

Thank you,

Anna Graham, B.Sc., M.E.S.
patersongroup
solution oriented engineering

154 Colonnade Road South
Ottawa, Ontario, K2E 7J5

Tel: (613) 226-7381 Ext. 228

Fax: (613) 226-6344

Email: agraham@patersongroup.ca

This electronic message and any attached documents are intended only for the named recipients. This communication from the Technical Standards and Safety Authority may contain information that is privileged, confidential or otherwise protected from disclosure and it must not be disclosed, copied, forwarded or distributed without authorization. If you have received this message in error, please notify the sender immediately and delete the original message.

DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

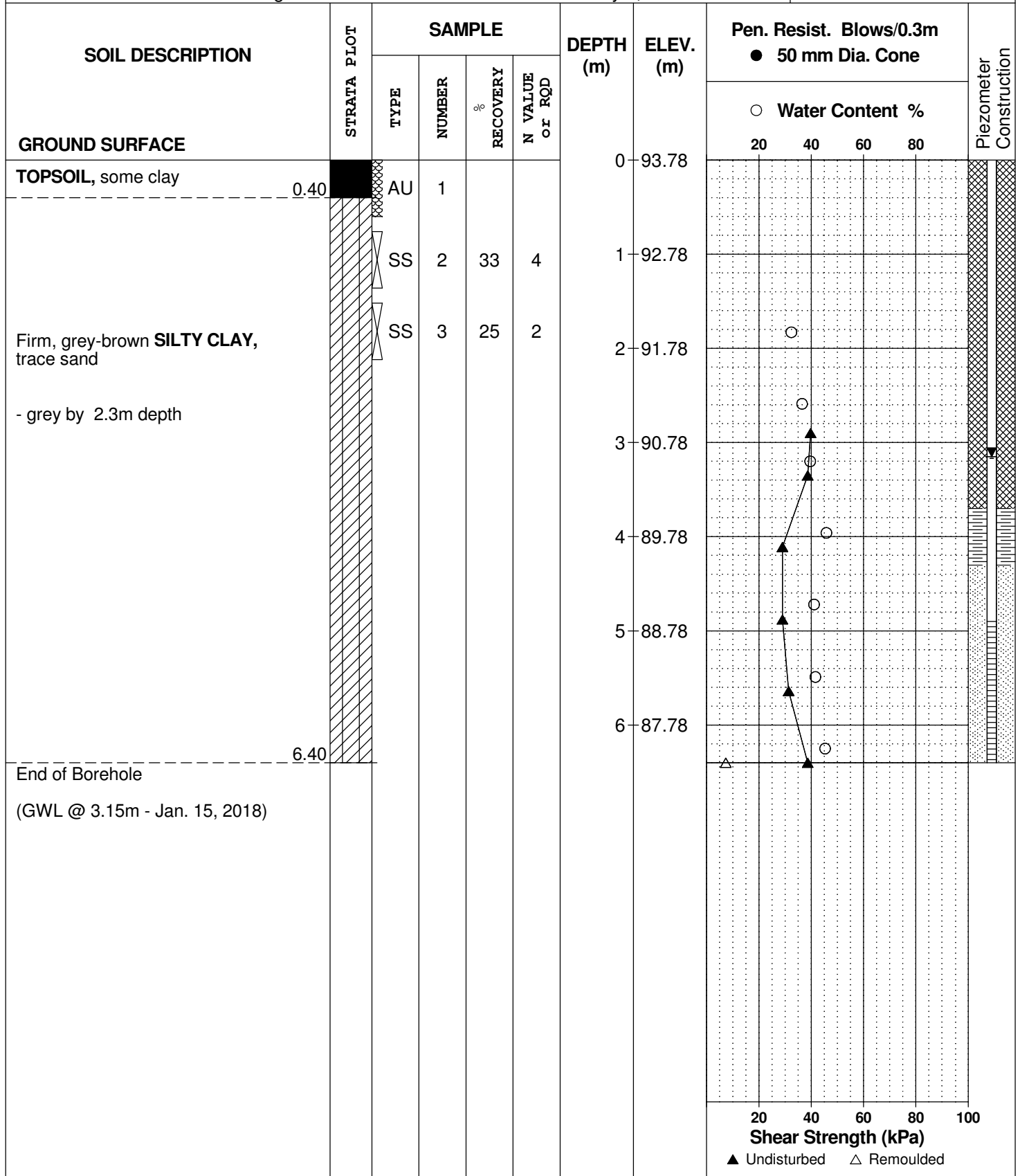
FILE NO. **PG4242**

REMARKS

HOLE NO. **BH 1-18**

BORINGS BY CME 55 Power Auger

DATE January 9, 2018



DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

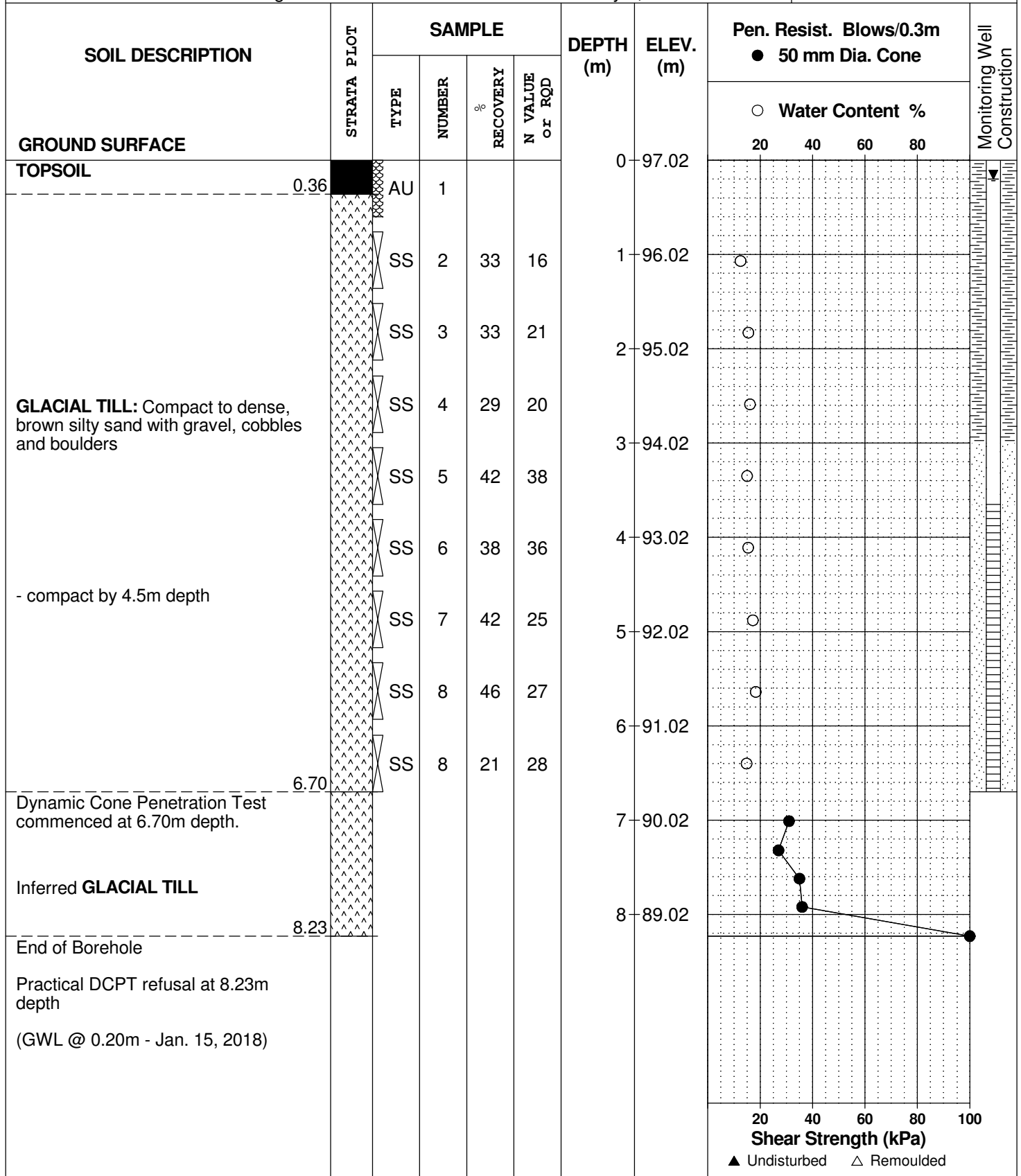
REMARKS

BORINGS BY CME 55 Power Auger

DATE January 9, 2018

FILE NO. **PG4242**

HOLE NO. **BH 2-18**



DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

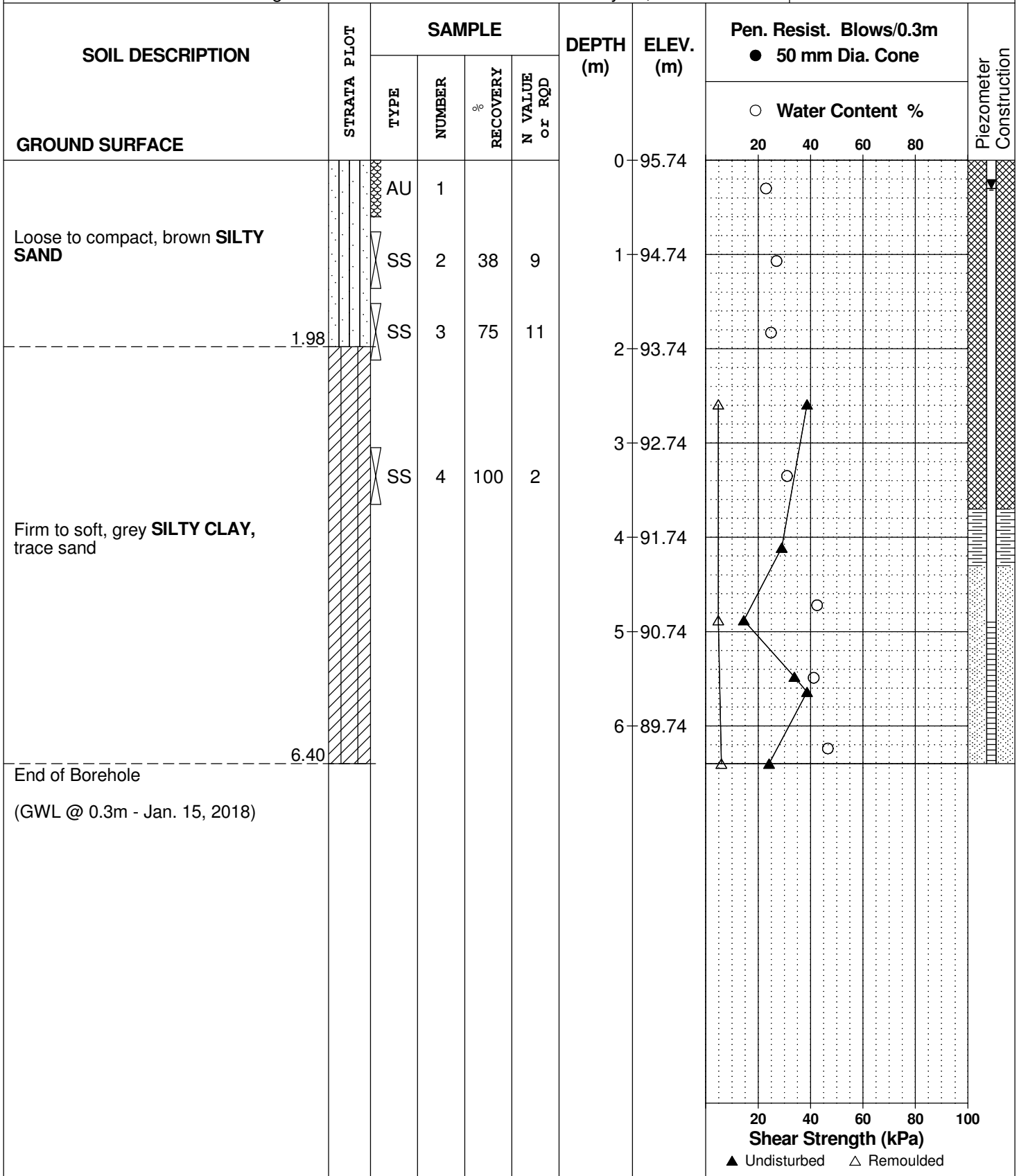
REMARKS

BORINGS BY CME 55 Power Auger

DATE January 10, 2018

FILE NO. **PG4242**

HOLE NO. **BH 3-18**



DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

FILE NO. **PG4242**

REMARKS

HOLE NO. **TP 1-18**

BORINGS BY Backhoe

DATE January 8, 2018

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY	N VALUE or RQD			○ Water Content %					
GROUND SURFACE								20	40	60	80		
TOPSOIL	[REDACTED]	G	1			0	93.42						
Brown SILTY SAND	[REDACTED]	G	2										
Brown CLAYEY SAND with silt - grey by 2.1m depth	[REDACTED]	G	3			1	92.42						
	[REDACTED]	G	4										
	[REDACTED]	G	5			2	91.42						
	[REDACTED]	G	6			3	90.42						
End of Test Pit	[REDACTED]					4	89.42						
(GWL @ 2.1m depth based on field observations)													

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

DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

FILE NO. **PG4242**

REMARKS

HOLE NO. **TP 2-18**

BORINGS BY Backhoe

DATE January 8, 2018

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
GROUND SURFACE								20	40	60	80		
TOPSOIL with clay	[REDACTED]	G	1			0	93.78						
	0.38												
Brown FINE SAND, trace clay	[REDACTED]	G	2			1	92.78						
	1.32												
Grey CLAYEY SAND	[REDACTED]	G	3			2	91.78						
	2.13												
Grey SILTY CLAY with sand	[REDACTED]	G	4			3	90.78						
	4.00												
End of Test Pit						4	89.78						
(GWL @ 1.3m depth based on field observations)													
								20	40	60	80	100	
								Shear Strength (kPa)					
								▲ Undisturbed △ Remoulded					

DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

FILE NO. **PG4242**

REMARKS

HOLE NO. **TP 3-18**

BORINGS BY Backhoe

DATE January 8, 2018

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			20	40	60	80		
GROUND SURFACE						0	96.11						
TOPSOIL	[REDACTED]	G	1										
	0.30												
		G	2										
						1	95.11						
Brown SILTY SAND		G	3										
		G	4										
						2	94.11						
		G	5										
	3.05					3	93.11						∇
Brown CLAYEY SAND	[Hatched Pattern]	G											
	4.00					4	92.11						
End of Test Pit													
(GWL @ 3.0m depth based on field observations)													

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

DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

FILE NO. **PG4242**

REMARKS

HOLE NO. **TP 4-18**

BORINGS BY Backhoe

DATE January 8, 2018

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
GROUND SURFACE								20	40	60	80		
TOPSOIL	0.18	G	1			0	97.13						
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders	1.52	G	2										✓
		G	3			1	96.13						
End of Test Pit (GWL @ 0.3m depth based on field observations)													

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

DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

FILE NO. **PG4242**

REMARKS

HOLE NO. **TP 5-18**

BORINGS BY Backhoe

DATE January 8, 2018

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY	N VALUE or RQD			20	40	60	80		
GROUND SURFACE						0	96.86						
TOPSOIL	0.15												
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders	[Hatched Pattern]	G	1			1	95.86						Piezometer Construction
		G	2			2	94.86						
		G	3			3	93.86						
End of Test Pit	3.35												
(GWL @ 0.6m depth based on field observations)													
								20	40	60	80	100	
								Shear Strength (kPa)					
								▲ Undisturbed △ Remoulded					

DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

FILE NO. **PG4242**

REMARKS

HOLE NO. **TP 6-18**

BORINGS BY Backhoe

DATE January 8, 2018

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			20	40	60	80		
GROUND SURFACE						0	97.26						
TOPSOIL	0.10	G	1										
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders		G	2			1	96.26						▽
		G	3			2	95.26						
		G	4			3	94.26						
						4	93.26						
End of Test Pit	4.00												
(GWL @ 1.2m depth based on field observations)													

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

DATUM Ground surface elevation provided by Stantec Geomatics Ltd.

FILE NO. **PG4242**

REMARKS

HOLE NO. **TP 7-18**

BORINGS BY Backhoe

DATE January 8, 2018

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			20	40	60	80		
GROUND SURFACE						0	97.89						
Brown SILTY SAND	[Strata Plot]	G	1										
		G	2			1	96.89						
		G	3			2	95.89						
		G	4			3	94.89						
Grey SANDY CLAY with silt	[Strata Plot]	G	5			4	93.89						
End of Test Pit													

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

SOIL PROFILE AND TEST DATA

Supplemental Geotechnical Investigation
 Prop. Residential Development-Greenbank Road
 Ottawa, Ontario

DATUM Ground surface elevations provided by Taggart Group of Companies

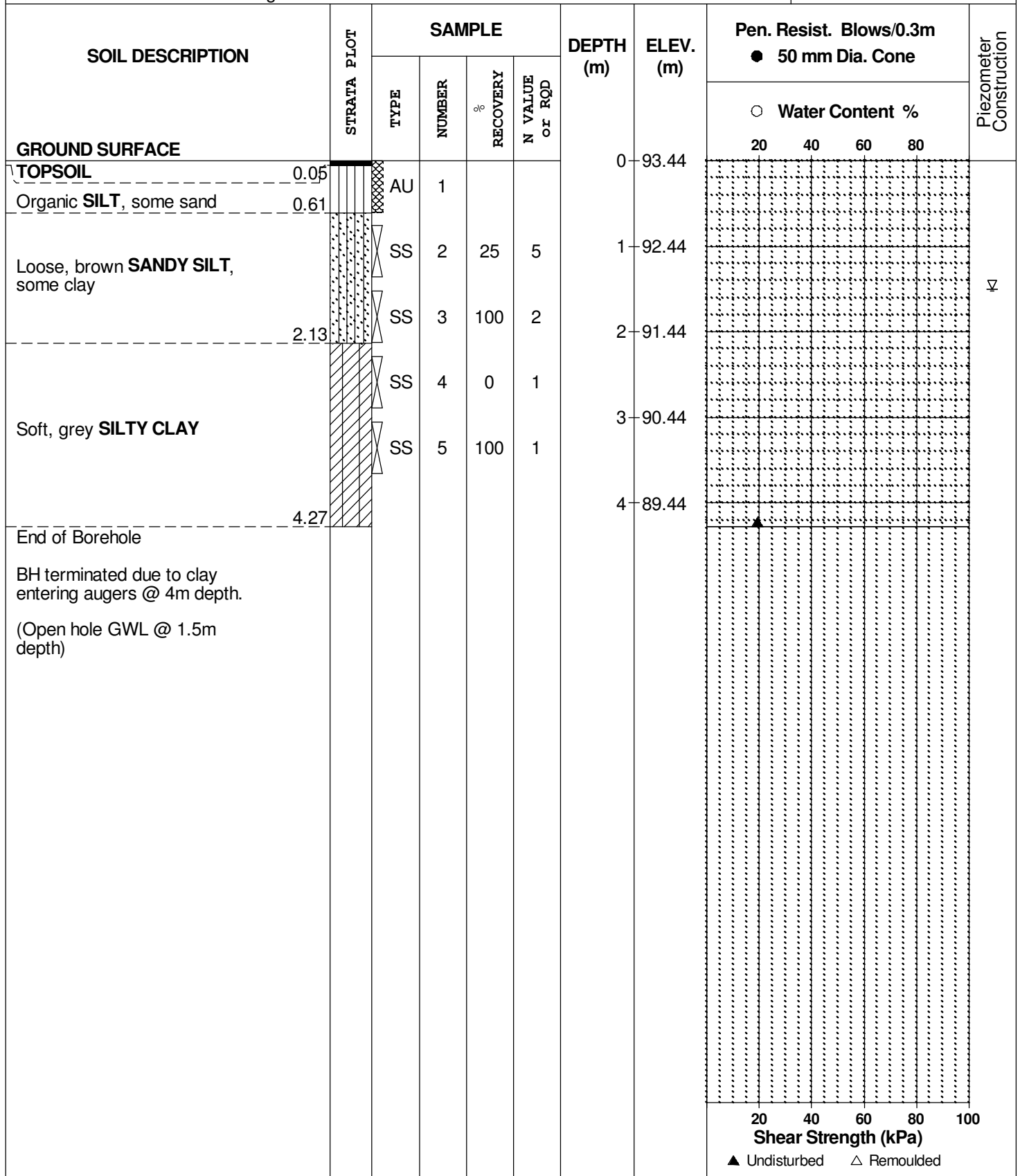
FILE NO. **PG0214**

REMARKS

HOLE NO. **BH 4-09**

BORINGS BY CME 55 Power Auger

DATE 3 Mar 09



DATUM Ground surface elevations provided by Taggart Group of Companies

FILE NO. **PG0214**

REMARKS

HOLE NO. **BH 5-09**

BORINGS BY CME 55 Power Auger

DATE 3 Mar 09

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE						0	93.35					
TOPSOIL Brown SILTY SAND , some gravel	0.08 0.60	AU	1									▽
Loose to compact, grey SAND , some gravel		SS	2	25	9	1	92.35					
		SS	3	33	9	2	91.35					
		SS	4	42	10	3	90.35					
		SS	5	83	12							
End of Borehole (Open hole GWL @ 0.6m depth)	3.66											

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

DATUM Ground surface elevations provided by Taggart Group of Companies

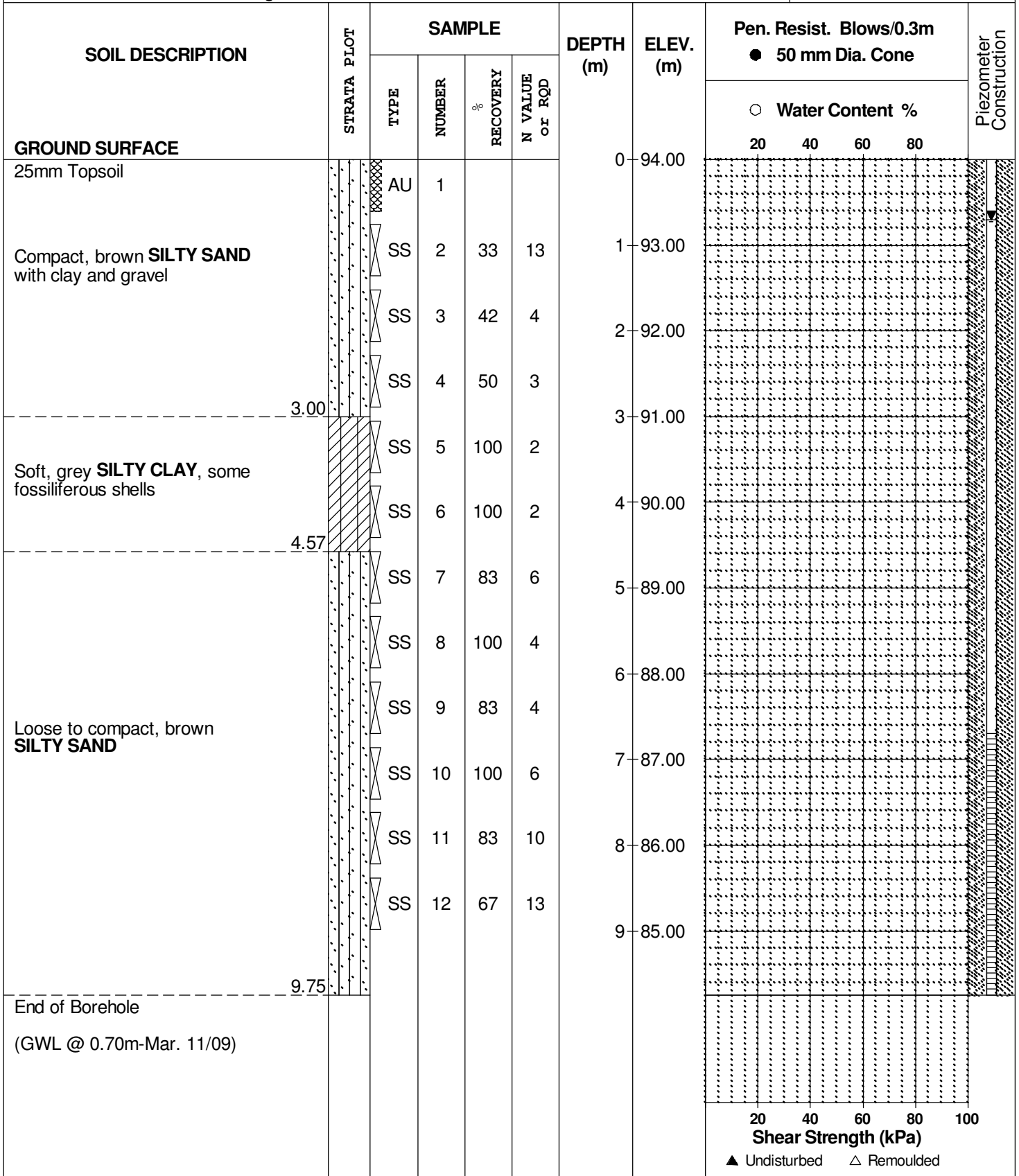
FILE NO. **PG0214**

REMARKS

HOLE NO. **BH 6-09**

BORINGS BY CME 55 Power Auger

DATE 3 Mar 09



SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

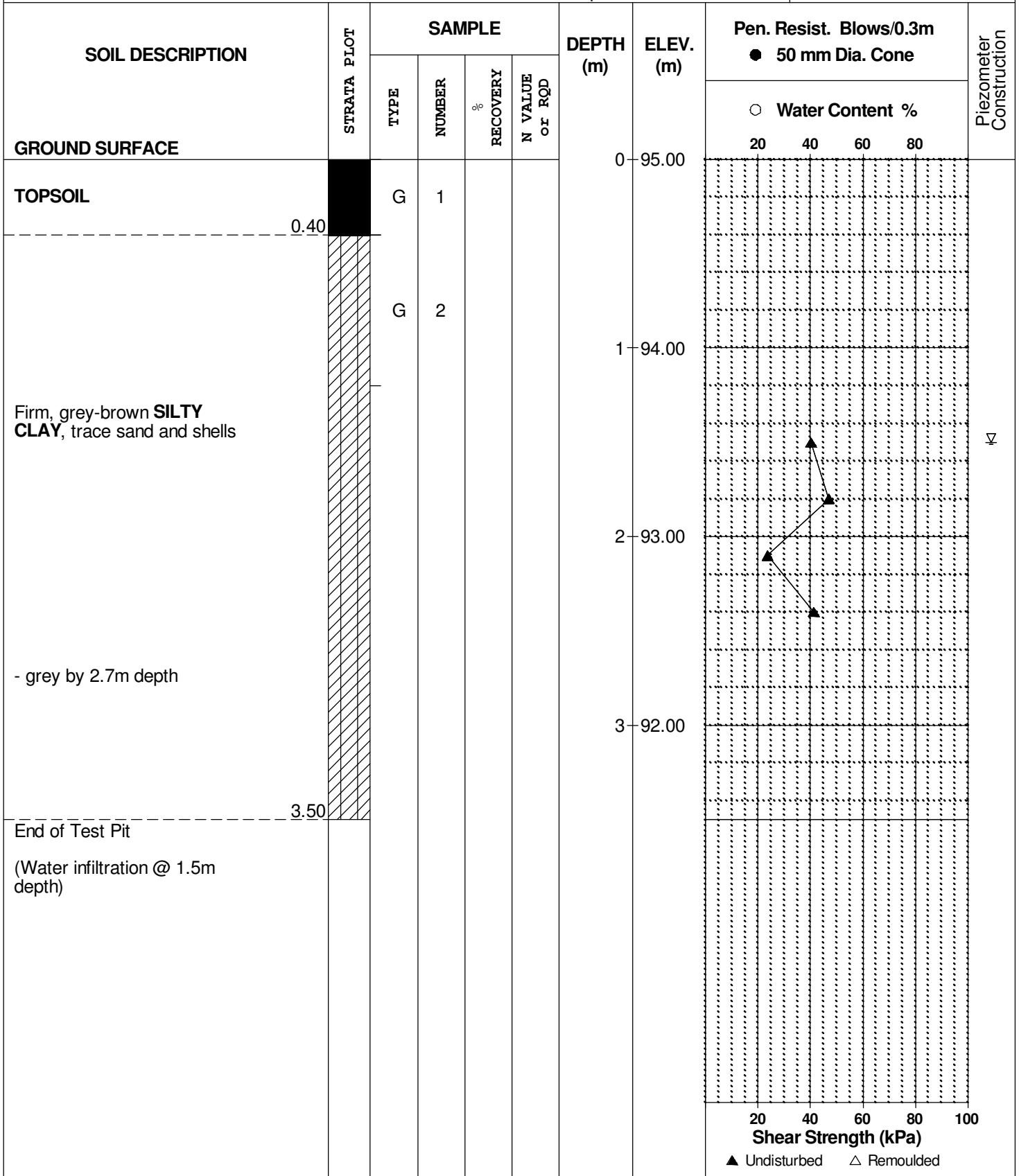
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REMARKS

HOLE NO. **TP 1**

BORINGS BY Backhoe

DATE 28 Apr 04



SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

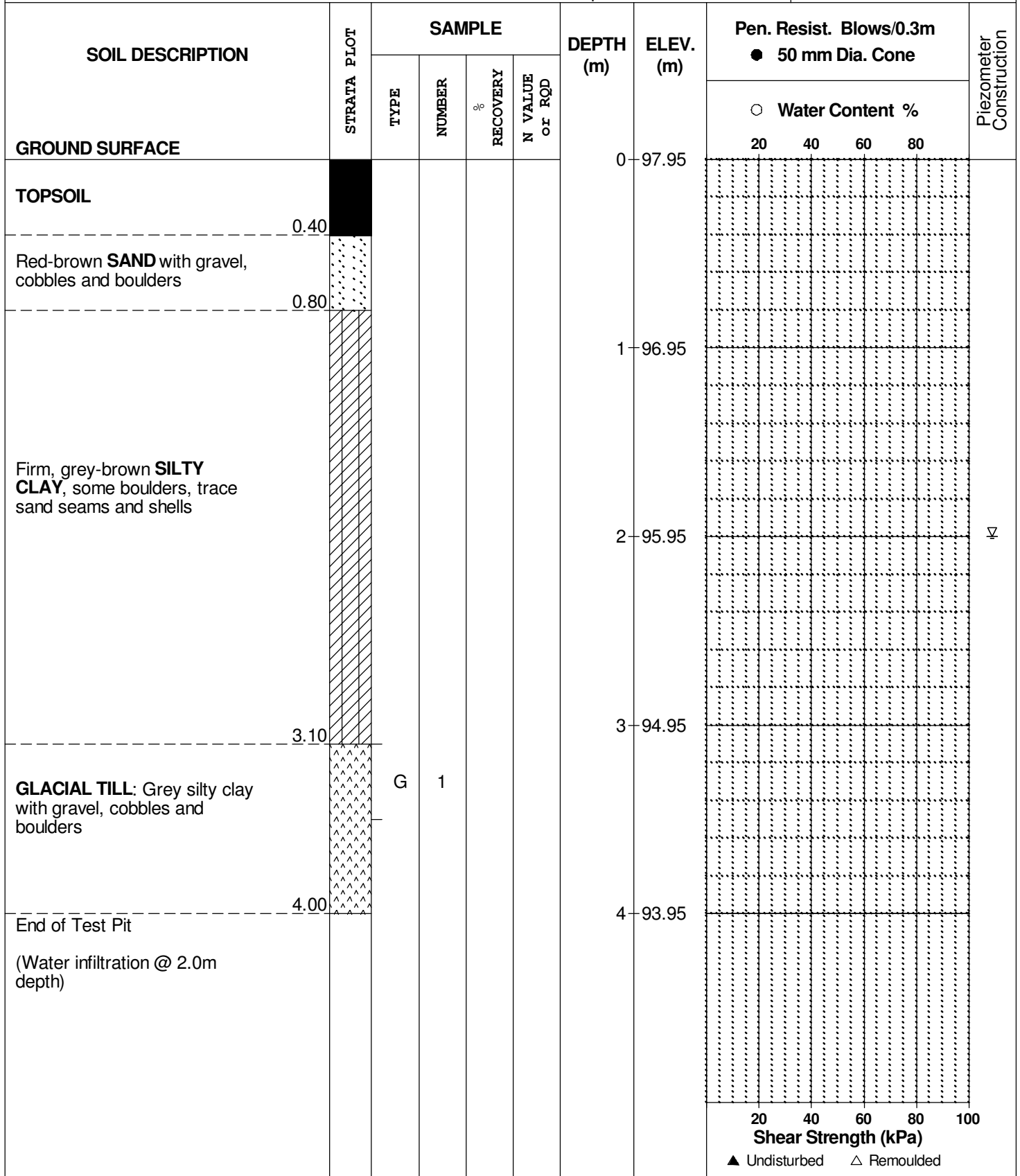
FILE NO. **PG0214**

REMARKS

HOLE NO. **TP 2**

BORINGS BY Backhoe

DATE 28 Apr 04



SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

FILE NO. **PG0214**

REMARKS

HOLE NO. **TP 3**

BORINGS BY Backhoe

DATE 28 Apr 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY	N VALUE or RQD			20	40	60	80		
GROUND SURFACE						0	103.11						
TOPSOIL	0.20												
GLACIAL TILL: Brown sand with gravel, cobbles and boulders	[Hatched Pattern]	G	1			1	102.11						
		G	2			2	101.11						
						3	100.11						
						4	99.11						
End of Test Pit (TP dry upon completion)	4.50												

○ Water Content %
▲ Undisturbed △ Remoulded

20 40 60 80 100
Shear Strength (kPa)

SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

FILE NO. **PG0214**

REMARKS

HOLE NO. **TP 4**

BORINGS BY Backhoe

DATE 28 Apr 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY	N VALUE or RQD			20	40	60	80		
GROUND SURFACE						0	97.88						
TOPSOIL													
Red-brown SAND with gravel													
GLACIAL TILL: Brown sand with gravel, cobbles and boulders		G	1			1	96.88						▽
						2	95.88						
						3	94.88						
						4	93.88						
End of Test Pit (Water infiltration @ 0.5m depth)													

○ Water Content %

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

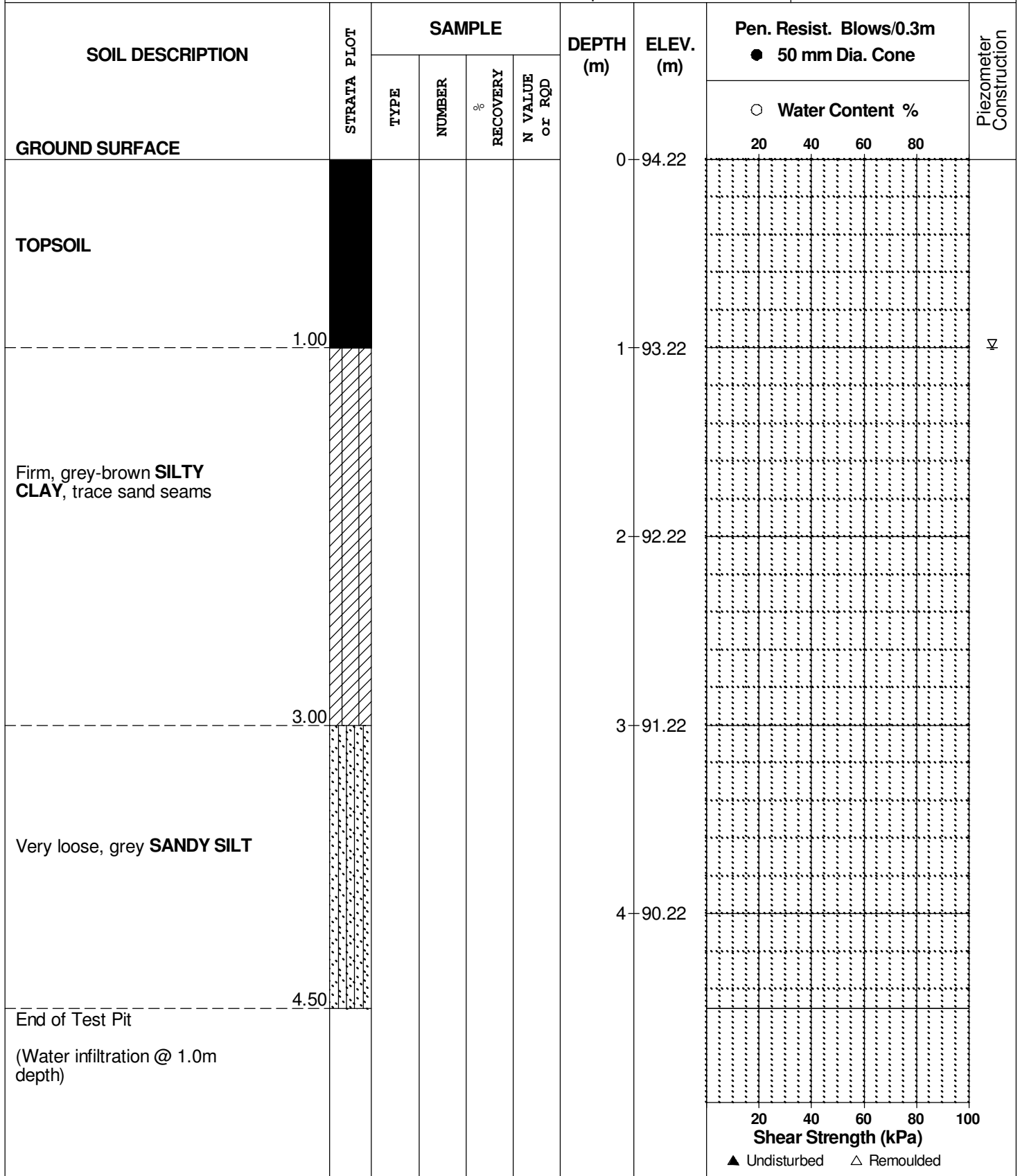
FILE NO. **PG0214**

REMARKS

HOLE NO. **TP 5**

BORINGS BY Backhoe

DATE 28 Apr 04



SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

FILE NO. **PG0214**

REMARKS

HOLE NO. **TP 6**

BORINGS BY Backhoe

DATE 28 Apr 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY	N VALUE or RQD			○ Water Content %				
								20	40	60	80	
GROUND SURFACE						0	99.11					
TOPSOIL	0.10											
Brown medium to coarse SAND	0.50	G	1									
						1	98.11					
		G	2									
						2	97.11					
Firm, grey-brown SILTY CLAY , some sand, trace shells						3	96.11					▽
						4	95.11					
End of Test Pit	4.50											
(Water infiltration @ 3.0m depth)												
								20	40	60	80	100
								Shear Strength (kPa)				
								▲ Undisturbed △ Remoulded				

SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

REMARKS

BORINGS BY Backhoe

DATE 28 Apr 04

FILE NO. **PG0214**

HOLE NO. **TP 7**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY	N VALUE or RQD			20	40	60	80		
GROUND SURFACE						0	97.75						
TOPSOIL	0.30												
Brown medium to coarse SAND, trace gravel	0.30 - 3.00	G	1			1	96.75						∇
End of Test Pit (Water infiltration @ 1.0m depth)	3.00					3	94.75						

○ Water Content %

▲ Undisturbed △ Remoulded

20 40 60 80 100
Shear Strength (kPa)

SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

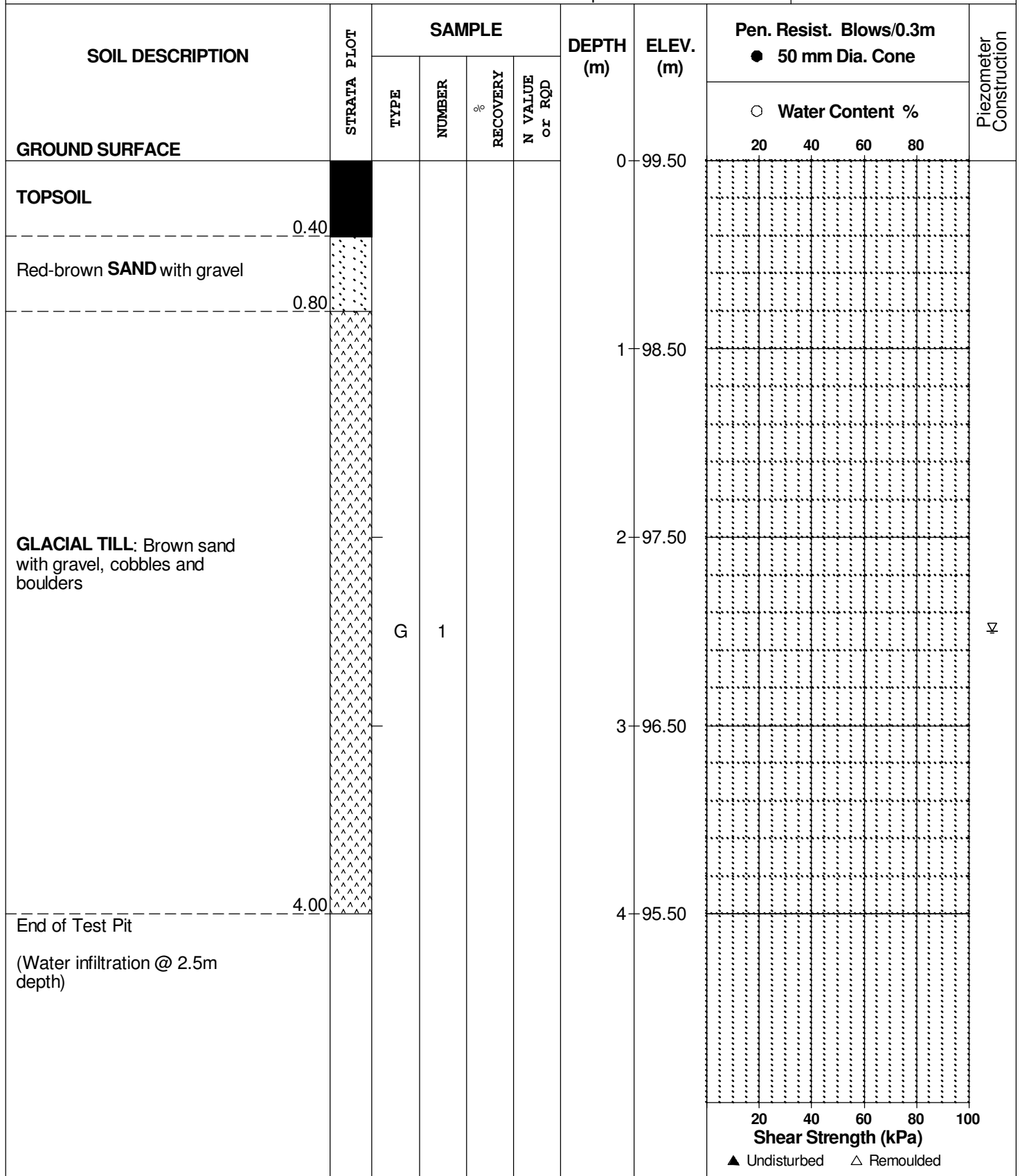
FILE NO. **PG0214**

REMARKS

HOLE NO. **TP 8**

BORINGS BY Backhoe

DATE 28 Apr 04



SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

REMARKS

BORINGS BY Backhoe

DATE 28 Apr 04

FILE NO. **PG0214**

HOLE NO. **TP 9**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction	
		TYPE	NUMBER	RECOVERY	N VALUE or RQD			20	40	60	80		
GROUND SURFACE						0	98.73						
TOPSOIL	0.14												
Brown medium to coarse SAND, trace gravel		G	1			1	97.73						
						2	96.73						
End of Test Pit	3.00					3	95.73						
(Water infiltration @ 2.1m depth)													

○ Water Content %
20 40 60 80
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

REMARKS

BORINGS BY Backhoe

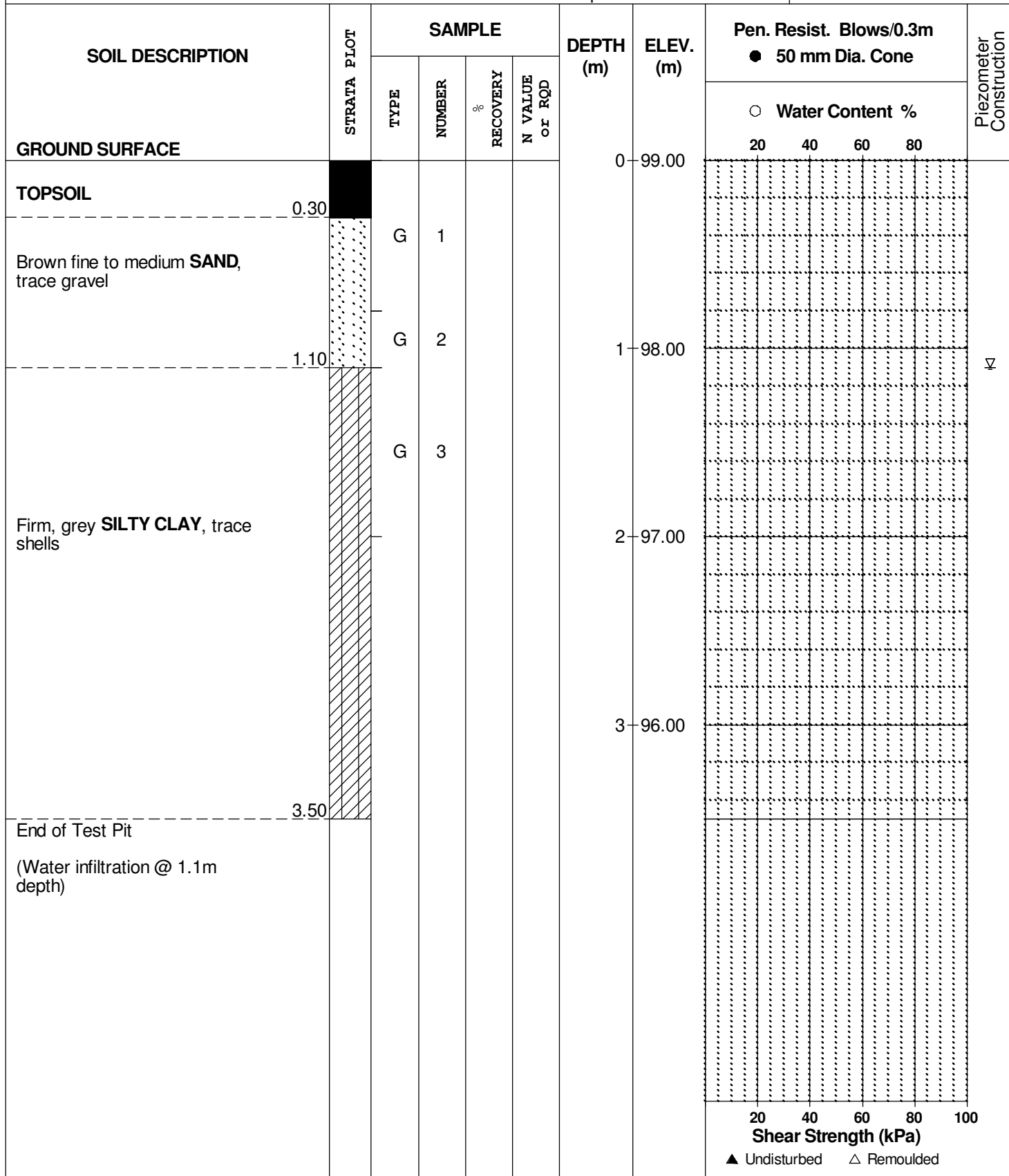
DATE 28 Apr 04

FILE NO.

PG0214

HOLE NO.

TP10



SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

FILE NO. **PG0214**

REMARKS

HOLE NO. **TP11**

BORINGS BY Backhoe

DATE 28 Apr 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Piezometer Construction
		TYPE	NUMBER	RECOVERY	N VALUE or RQD			○ Water Content %				
GROUND SURFACE								20	40	60	80	
TOPSOIL						0	98.98					
Red-brown SAND, some gravel						0.20						
Brown SAND with gravel, cobbles and boulders						0.50						
						1.50						
Brown SAND, some gravel		G	1			2	96.98					▽
						3	95.98					
End of Test Pit (Water infiltration @ 2.5m depth)						3.50						

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

SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

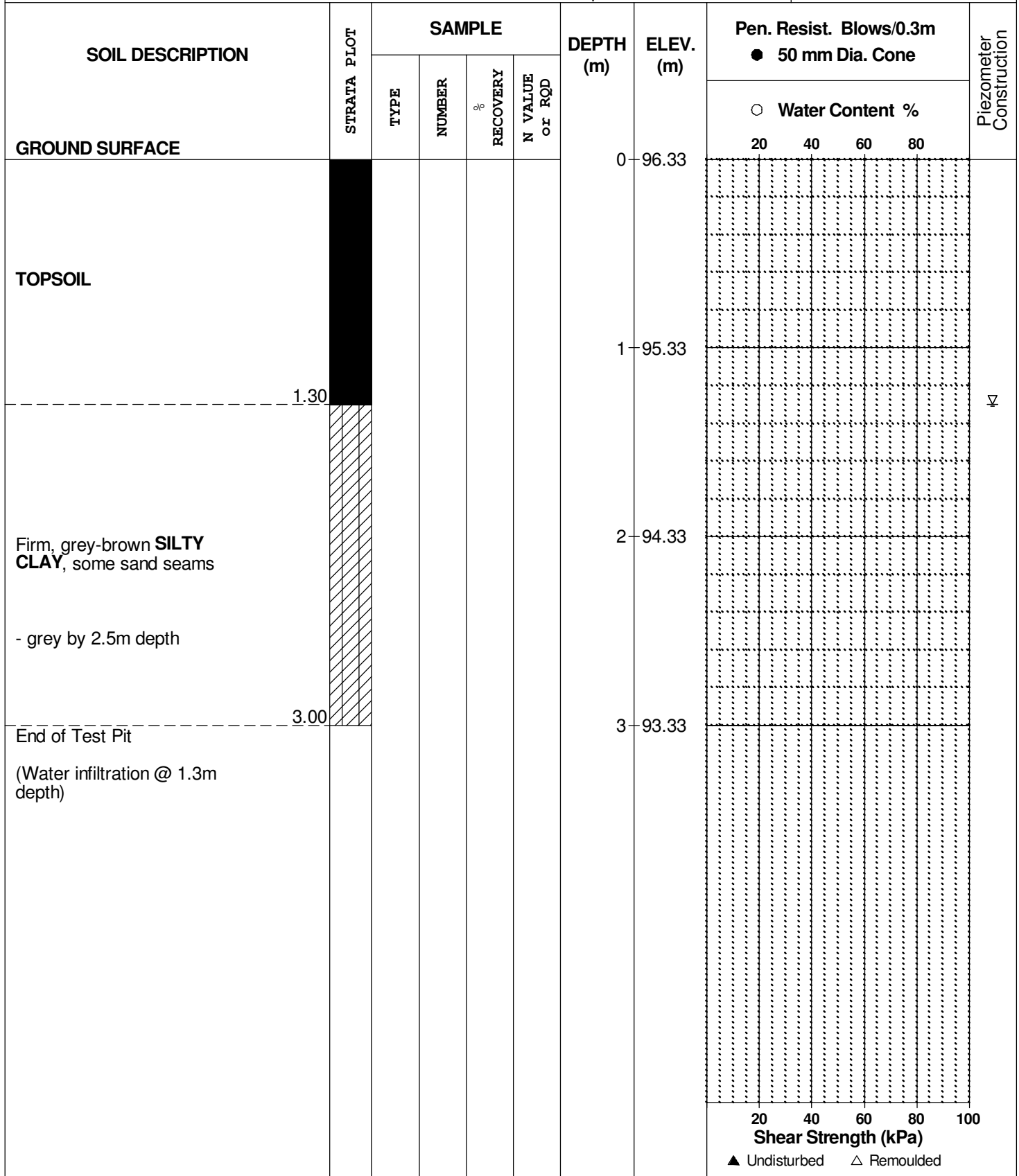
FILE NO. **PG0214**

REMARKS

HOLE NO. **TP12**

BORINGS BY Backhoe

DATE 28 Apr 04



SOIL PROFILE AND TEST DATA

Preliminary Geotechnical Investigation
Part 1, Lot 10 and Part 1, Lot 9, Concession 3
Ottawa (Nepean), Ontario

DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

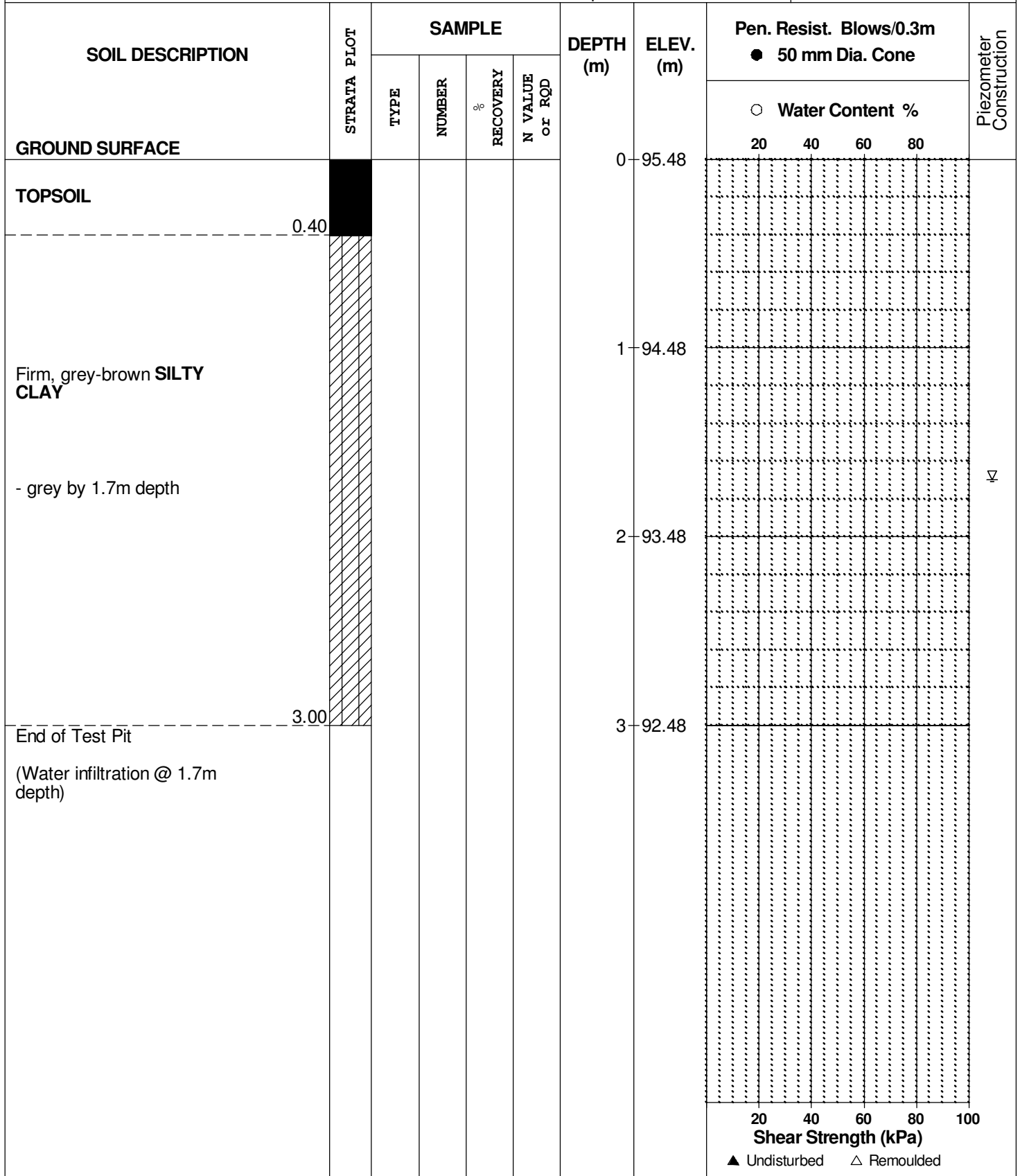
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REMARKS

HOLE NO. **TP13**

BORINGS BY Backhoe

DATE 28 Apr 04



DATUM Ground surface elevations provided by Webster and Simmonds Surveying Ltd.

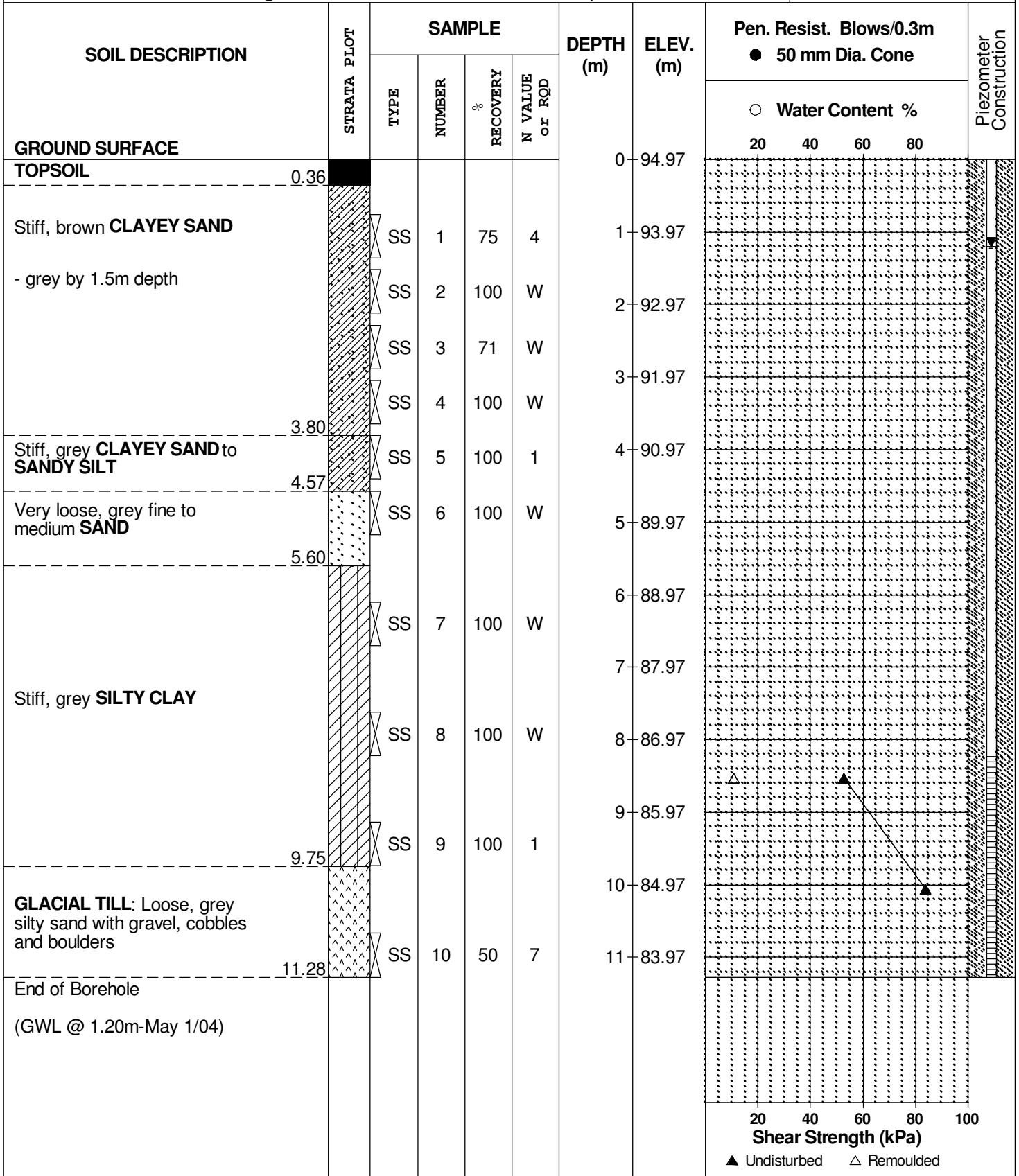
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REMARKS

HOLE NO. **BH 3**

BORINGS BY CME 55 Power Auger

DATE 22 Apr 04



APPENDIX 3

QUALIFICATIONS OF ASSESSORS



POSITION

Environmental Assessor

EDUCATION

McGill University, B.Sc. 2010
Biology and English Literature

Queen`s University, M.E.S. 2012
Environmental Studies

EXPERIENCE

2014 to Present

Paterson Group Inc.
Consulting Engineers
Environmental Assessor

2013 to 2014

Civica Infrastructure Inc.
Municipal Water Resources Engineering - Vaughan
Project Support Coordinator, Project Proposal Writer

PROJECTS

Environmental Impact Statements – various, Ottawa
Phase I Environmental Site Assessments – various, Ottawa
Flood Mapping Project Coordination – Credit Valley Conservation Authority
Manhole Survey Tool Design and Data Processing – City of Markham
Proposal Preparation – Utilities Kingston Inflow and Infiltration Study, City of Peterborough
Drainage Study

Geotechnical
Engineering

Environmental
Engineering

Hydrogeology

Geological
Engineering

Materials Testing

Building Science

Archaeological
Services

POSITION

Associate and Supervisor of the Environmental Division
Senior Environmental/Geotechnical Engineer

EDUCATION

Queen's University, B.A.Sc.Eng, 1991
Geotechnical / Geological Engineering

MEMBERSHIPS

Ottawa Geotechnical Group
Professional Engineers of Ontario

EXPERIENCE

1991 to Present

Paterson Group Inc.

Associate and Senior Environmental/Geotechnical Engineer
Environmental and Geotechnical Division
Supervisor of the Environmental Division

SELECT LIST OF PROJECTS

Mary River Exploration Mine Site - Northern Baffin Island
Agricultural Supply Facilities - Eastern Ontario
Laboratory Facility – Edmonton (Alberta)
Ottawa International Airport - Contaminant Migration Study - Ottawa
Richmond Road Reconstruction - Ottawa
Billings Hurdman Interconnect - Ottawa
Bank Street Reconstruction - Ottawa
Environmental Review – Various Laboratories across Canada - CFIA
Dwyer Hill Training Centre – Ottawa
Nortel Networks Environmental Monitoring - Carling Campus – Ottawa
Remediation Program - Block D Lands – Kingston
Investigation of former landfill sites – City of Ottawa
Record of Site Condition for Railway Lands – North Bay
Commercial Properties – Guelph and Brampton
Brownfields Remediation – Alcan Site - Kingston
Montreal Road Reconstruction - Ottawa
Appleford Street Residential Development - Ottawa
Remediation Program - Ottawa Train Yards
Remediation Program - Bayshore and Heron Gate
Gladstone Avenue Reconstruction – Ottawa
Somerset Avenue West Reconstruction - Ottawa