Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

patersongroup

Phase I Environmental Site Assessment

Vacant Land
Trim Road and Portobello Boulevard
Ottawa, Ontario

Prepared For

Novatech Engineering Consultants Limited

January 20, 2018

Report: PE4111-1

Paterson Group Inc.

Consulting Engineers
154 Colonnade Road South
Ottawa (Nepean), Ontario
Canada, K2E 7J5

Tel: (613) 226-7381
Fax: (613) 226-6344
www.patersongroup.ca

TABLE OF CONTENTS

List of Figures

List of Appendices

EXECUTIVE SUMMARY

Assessment

Paterson Group was retained by Novatech Engineering Consultants Limited and the Regional Group to conduct a Phase I Environmental Site Assessment (ESA) of undeveloped parcels of land along Portobello Boulevard and Provence Avenue, west of Trim 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.

According to the historical research, the subject site was occupied by a farmstead located on Trim Road while the remainder of the land was used for agricultural purposes until 2002. Since 2002, the subject site has remained vacant and undeveloped as the house and farm buildings were demolished. No environmental concerns were identified with respect to the historical use of the subject site, although it appears that there may be remnant building materials (concrete) present in the vicinity of the former house and farm buildings. These remnant building materials are not considered to pose a significant risk to the subject land but should be removed off-site for proper disposal in conjunction with future site development.

Adjacent properties were occupied by farmsteads or were used for agriculture until the development of residential neighbourhoods and schools west of Trim Road and the development of commercial properties west of Trim Road and between Salzburg Drive and Innes Road. Two (2) potentially contaminating activities (PCAs) were identified at the City of Ottawa Trim Road Garage Depot, located within the Phase I-ESA study area, however, these PCAs are not considered to represent areas of potential environmental concern on the subject site.

Following the historical research, a site inspection was conducted of the subject site and Phase I-ESA study area. The subject site is currently undeveloped agricultural and forested land. Neighbouring properties were residential, institutional, vacant or parkland. No additional potentially contaminating activities (PCAs) were identified on the subject or neighbouring sites.

Conclusion

Based on the results of the assessment, **in our opinion, a Phase II Environmental Site Assessment is not required for the property.**

1.0 INTRODUCTION

At the request of Novatech Engineering Consultants Limited, Paterson Group (Paterson) conducted a Phase I Environmental Site Assessment (Phase I ESA) of several undeveloped parcels of land along Portobello Boulevard and Provence Avenue and west of Trim 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 Mr. John Riddell of Novatech Engineering Consultants Limited whose office is located at 240 Michael Cowpland Drive, Suite 200, Ottawa, Ontario. Mr. Riddell can be reached by telephone at (613) 254-9643.

This report has been prepared specifically and solely for the above noted project which is described herein. 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 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:	Not Available.
Legal Description:	Parts of Lot 9, Concession 2, Township of Cumberland, now in the City of Ottawa.
Property Identification Number:	14525-4170, 14564-0003 and 14564-2337.
Location:	The subject site is composed of three parcels of land along Portobello Boulevard and Provence Avenue, bordered by Trim Road to the east, in the City of Ottawa, Ontario. The subject site is shown on Figure 1 - Key Plan following the body of this report.
Latitude and Longitude:	45° 27' 41.97" N, 75° 27' 39.06" W.

Site Description:

Configuration:	Irregular.
Site Area:	38.2 hectares (approximate).
Zoning:	DR – Development Reserved Zone (majority) and EP – Environmental Protection Zone (southwestern portion).
Current Use:	Agricultural land and a small forested area.
Services:	The subject site is located in a municipally serviced area.

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 250m was determined to be appropriate as a Phase I ESA study area for this assignment. Properties outside the 250m radius are not considered to have impacted the subject land, based on their significant distance from the site.

First Developed Use Determination

According to the aerial photographs and documents reviewed, the majority of the land has never been developed and has been used for agriculture, while a small portion has been preserved as a forest. A small portion of the site, along Trim Road, was developed with a farmstead as early as 1950.

Fire Insurance Plans

Fire Insurance Plans (FIPs) are not available for the area of the subject site.

City of Ottawa Street Directories

City of Ottawa street directories are not available for the area of the subject site.

Previous Engineering Reports

The following reports pertaining to the subject site were reviewed as part of this assessment:

- "Geotechnical Investigation, Legault Lands, Trim Road", prepared by Paterson Group, dated November 2017.

Paterson completed a geotechnical investigation at the subject site in November of 2017 and January 2018. During the 2017/18 geotechnical subsurface investigation, no fill material was observed in any of the boreholes located on the subject site. No odours or deleterious materials were identified. As such, no environmental concerns were identified for the subject property at the time.

Based on a review of environmental projects in the area of the subject site completed by Paterson Group, this firm did not identify any issues considered to pose a risk to the subject land.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on January 4, 2018. The subject site and adjacent properties were not listed in the NPRI database. No records of pollutant release were listed in the database for properties located within the Phase I Study Area.

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 (MOECC) Instruments

A request was submitted to the MOECC Freedom of Information office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MOECC issued instruments for the site. At the time of issuance of this report, a response had not been received. A copy of the response will be forwarded to the client, should it contain any pertinent information.

MOECC Coal Gasification Plant Inventory

The Ontario Ministry of Environment 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 within the Phase I study area.

MOECC Incident Reports

A request was submitted to the MOECC Freedom of Information office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MOECC for the site or adjacent properties. At the time of issuance of this report, a response had not been received. A copy of the response will be forwarded to the client, should it contain any pertinent information.

MOECC Waste Management Records

A request was submitted to the MOECC Freedom of Information office for information with respect to waste management records. At the time of issuance of this report, a response had not been received. A copy of the response will be forwarded to the client, should it contain any pertinent information.

MOECC Submissions

A request was submitted to the MOECC Freedom of Information office for information with respect to reports related to environmental conditions have been submitted to the MOECC. At the time of issuance of this report, a response had not been received. A copy of the response will be forwarded to the client, should it contain any pertinent information.

MOECC Brownfields Environmental Site Registry

A search of the MOECC Brownfields Environmental Site Registry was conducted as part of this assessment for the site, neighbouring properties and the general area of the site. No Record of Site Condition (RSC) was found for the subject site or within the Phase I study area.

MOECC Waste Disposal Site Inventory

The Ontario Ministry of Environment 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 former waste disposal sites were identified within the Phase I study area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on January 5, 2017 to inquire about current and former underground storage tanks, spills and incidents for the site and neighbouring properties. At the time of issuance of this report, a response had not been received. A copy of the response will be forwarded to the client, should it contain any pertinent information.

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.

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 back to the first available air photos for the site. Based on the review, the following observations have been made:

1945 The subject site appears mainly vacant or used for agricultural purposes. The eastern perimeter of the subject site is occupied by a farmstead, a barn and several small garages or sheds (adjacent to Trim Road). Agricultural lands surround the subject site and farmsteads are visible along Trim Road. A small forested area is visible in the southwest portion of the subject property.

1952 No significant changes have been made to the subject site or surrounding properties.

1960 No significant changes have been made to the subject site or surrounding properties.

1976 (City of Ottawa website) No significant changes have been made to the subject site or surrounding properties.

1991 (City of Ottawa website) No significant changes have been made to the subject site. Residential dwellings have been developed adjacent to the subject site along Trim Road.

2002 (City of Ottawa website) The structures on the subject site have been demolished. A pile of rubble is visible on the subject site in the former location of the structures. Several residential developments have been constructed north and south of the subject site. Two (2) schools have been constructed north of the subject site. Soil grading (for soccer fields and additional developments) is visible north and west of the subject site, as well as on the east side of

Trim Road. Additional residential dwellings are being constructed north of the subject site, along Portobello Boulevard and Scala Avenue.

2017 (City of Ottawa website) The subject site and neighbouring properties appear as they do today. Residential dwellings have been constructed south (north of Montmère Avenue and east of Provence Avenue) and north (along Scala Avenue) of the subject site. The City of Ottawa's Trim Road Garage Depot is visible further to the northeast, on the east side of Trim Road (2035 Trim Road and 5300 Innes Road.

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

Topographic Maps

Topographic maps were obtained from Natural Resources Canada – The Atlas of Canada website and from the City of Ottawa website. The topographic maps indicate that the regional topography in the general area of the site slopes gently downward towards the northeast. According to the maps, the nearest water body is Cardinal Creek located approximately 1,175m northeast of the subject site. 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. According to this physiographic map, the site is located in the St. Lawrence Lowlands. 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 located in the Central St. Lawrence Lowland, which is generally less than 150 m above sea level.

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 Paleozoic interbedded limestone and shale of the Lindsay Formation. Overburden soils are shown as marine deposits, clay and silt, with a drift thickness on the order of 10 to 15m on the eastern portion of the site and 25 to 50 m on the western portion. Based on

borehole data collected as part of the 2017/18 geotechnical investigation conducted by Paterson, shallow bedrock (depth 0 to 3m) occurs on the southcentral portion of the site (near BH3 and BH3b on Drawing PE4111-1).

Water Well Records

A search of the MOCCE's online water well records database was completed on January 5, 2018, for all drilled wells within 250 m of the subject site. A total of thirty-three (33) well records were retrieved from the database.

Five (5) of the records are for private water wells drilled in the area between 1963 and 1985 for domestic use, while one (1) drinking well was drilled at 2088 Trim Road (north of the subject site) in 2013. Surrounding properties that have been recently developed are currently serviced by the City of Ottawa water system, however, private water wells may still be used by residential dwellings or farmsteads located along Trim Road.

Two (2) monitoring well records drilled for the City of Ottawa in 2010 along Provence Avenue were reviewed. A record of abandonment for unused monitoring wells drilled along Provence Avenue in 2013 was reviewed. During the site visit, four (4) monitoring wells were observed adjacent to the subject site along Provence Avenue. A record of abandonment for unused monitoring wells drilled along Portobello Boulevard in 2013 was also reviewed. It is suspected that these wells were drilled for geotechnical purposes during the construction of Provence Avenue and Portobello Boulevard.

Eighteen (18) monitoring well records were identified for the City of Ottawa Trim Garage Depot. Based on the separation distance of approximately 200m and the inferred down- or cross-gradient location with respect to the subject site, this site is not considered to represent an area of potential environmental concern (APEC) on the subject site.

Based on the volume of well records in the Phase I area, only copies of the water well records along Provence Avenue and Portobello Boulevard are provided in Appendix 2.

Water Bodies and Areas of Natural Significance

Cardinal Creek, which is approximately 1,175m northeast of the subject site, is the closest named water body. No areas of natural significance are known to exist within the Phase I study area. According to data from the Ministry of Natural Resources, an unevaluated wetland is present south of the subject property within the Lalande Conservation Park.

5.0 INTERVIEWS

Engineering Consultant

Mr. John Riddell, a representative of Novatech Engineering, was contacted via email on January 5, 2018, to inquire about the subject property. Mr. Riddell told Paterson that he was not aware of any previous environmental or geotechnical work conducted on the subject site and was not aware of any environmental concerns. Paterson was informed by Mr. Riddell that the subject site is currently owned by 1351219 Ontario Inc. Mr. Riddell told Paterson that the land has primarily been used for farming in the past.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

An initial site assessment was conducted by Paterson during the geotechnical drilling program on November 22-23, 2017, at which time the site photographs were taken. A second site assessment was conducted on January 8, 2018. Weather conditions were cloudy and snowy with a temperature of approximately -13° C. Marek Moroz from the Environmental Department of Paterson Group conducted the site visit. Access was provided to the entire subject site. 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 assessment.

6.2 Specific Observations at Phase I Property

Buildings and Structures

There are no buildings or structures located on the subject site as it is currently undeveloped.

Storage Tanks

No above ground storage tanks (ASTs) or evidence of underground storage tanks (USTs), or evidence of other fuel or chemical storage was observed on the subject site.

Water Source

Surrounding properties that have been recently developed are currently serviced by the City of Ottawa water system. Private water wells may still be used by residential dwellings or farmsteads located along Trim Road.

Unidentified Substances or Fill Material

It is suspected that building debris, currently covered by vegetation, is located in the vicinity of the former house and farm buildings along Trim Road. No other unidentified substances or fill material on the exterior of the subject property at the time of this assessment. These remnant building materials are not considered to pose a significant risk to the subject land.

Groundwater Monitoring Wells

Two (2) monitoring well records drilled for the City of Ottawa in 2010 along Provence Avenue were reviewed. A record of abandonment for unused monitoring wells drilled along Provence Avenue in 2013 was reviewed. During the site visit, four (4) monitoring wells were observed adjacent to the subject site along Provence Avenue. A record of abandonment for unused monitoring wells drilled along Portobello Boulevard in 2013 was also reviewed. It is suspected that these wells were drilled for geotechnical purposes during the construction of Provence Avenue and Portobello Boulevard.

Eighteen (18) monitoring well records were identified for the City of Ottawa Trim Garage Depot. Based on the separation distance of approximately 200m and the inferred down- or cross-gradient location with respect to the subject site, this site is not considered to represent an area of potential environmental concern (APEC) on the subject site.

Based on the volume of well records in the Phase I area, only copies of the water well records along Provence Avenue and Portobello Boulevard are provided in Appendix 2.

Sewage Works

There are no sewage systems on the subject site. Surrounding properties that have been recently developed are currently serviced by the City of Ottawa sewer system. Private sewage systems may still be used by residential dwellings or farmsteads located along Trim Road.

Waste Storage and Disposal

The site does not currently generate any waste.

Railway Lines

There are no railway lines within the Phase I study area.

Ozone Depleting Substances (ODSs)

There were no potential sources of ODSs observed on site during the assessment.

Polychlorinated Biphenyls (PCBs) and Transformer Oil

Several pole-mounted transformers were observed east of the subject site, along Trim Road and several pad mounted transformers were observed along Nantes Street, Provence Avenue and Portobello Boulevard. No signs of leaks or staining were observed on the transformer units or poles at the time of the site visit. No concerns were identified with respect to PCBs or transformer oil on the exterior of the subject site.

Site Features

The subject site is generally flat and undeveloped agriculture land. A small forested ridge with outcropping bedrock is located on the southern portion of the site, north of the Lalande Conservation Park and east of Portobello Boulevard. Drainage consists primarily of infiltration with some sheet flow to catch-basins along adjacent roads. The adjacent properties are generally at grade with the subject site. The site was snow covered at the time of the site visit, however, site photographs were taken by Paterson personnel from the geotechnical department in November, prior to the arrival of snow.

Neighbouring Properties

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 - Residential dwellings and Béatrice-Desloges High School followed by Salzburg Drive, Scala Avenue;
- South - Aquaview Drive, public parks and residential dwellings followed by Arrowgrass Way, Des Sentiers Elementary School and Nantes Street;
- East - Trim Road, Plainridge Crescent and residential dwellings followed by Cumberland United Soccer Club and soccer field;
- West - Provence Avenue and residential dwellings followed by Clemont Crescent and La Découverte Elementary School.

The City of Ottawa Trim Garage Depot, was identified as a potentially contaminating activity (PCA) approximately 200m northeast of the subject site at 2035 Trim Road. Based on aerial photographs, this facility has several above ground storage tanks on the southern portion of the site.

Based on the cross- and/or down- gradient location with respect to the subject site and the separation distance from the subject site (over 200m), the City of Ottawa Trim Garage Depot is not considered to represent an area of potential environmental concern (APECs) on the subject site. No other PCAs were identified in the Phase I study area.

Property use within the Phase I study area is shown on Drawing PE4111-2 - Surrounding Land Use Plan.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Land Use History

The following table indicates the current and past uses of the site as well as any associated potentially contaminating activities dating back to the first developed use of the site (if present).

Table 1 - Land Use History – Vacant Land – Trim Road and Portobello Boulevard

Time Period	Land Use	Potentially Contaminating Activities	Potential Environmental Concerns
1945 (earliest air photo reviewed) - 1952	Vacant/Agricultural (Undeveloped)	None	None
1952 - 2002	Farmstead/Agricultural	None	None
2002 - Present	Vacant/Agricultural (Undeveloped)	None	None

Potentially Contaminating Activities (PCAs)

The following Potentially Contaminating Activity was identified within the Phase I study area:

- Item 28, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Gasoline and Associated Products Storage in Fixed Tanks" - this PCA was identified based on the active fuel oil tank located at 2035 Trim Road (City of Ottawa Trim Garage Depot); 200m northeast of the subject site.
- Item 52, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11: "Storage, maintenance, fuelling and repair of equipment vehicles, and material used to maintain transportation systems." - this PCA was identified based on the active fuel oil tank located at 2035 Trim Road (City of Ottawa Trim Garage Depot); 200m northeast of the subject site.

As previously mentioned, based on the cross- and/or down- gradient location with respect to the subject site and the separation distance from the subject site (over 200m), the City of Ottawa Trim Garage Depot is not considered to represent an area of potential environmental concern (APECs) on the subject site. No other PCAs were identified in the Phase I study area.

Areas of Potential Environmental Concern (APECs)

Two (2) Potentially Contaminating Activities (PCAs) were identified off-site, however, as discussed above, these PCAs are not considered to represent APECs. As a result, there are no areas of potential environmental concern associated with the subject property.

Contaminants of Potential Concern

No Contaminants of Potential Concern (CPCs) were identified, since no APEC's were identified on the Phase I site.

7.2 Conceptual Site Model

Geological and Hydrogeological Setting

Based on information from the Geological Survey of Canada, drift thickness in the area of the subject site is estimated to be on the order of 25 to 50m. Overburden soils are shown as offshore marine sediments. Based on borehole data collected as part of the 2017/18 geotechnical investigation conducted by Paterson, shallow bedrock (depth 0 to 3m) occurs on the southcentral portion of the site (near BH3 and BH3b on Drawing PE4111-1).

Contaminants of Potential Concern

As per Section 7.1 of this report, no Contaminants of Potential Concern (CPCs) were identified on the subject site.

Existing Buildings and Structures

There are no structures on the subject property.

Water Bodies

Cardinal Creek, which is located 1,175m to the northeast of the subject site, is the closest named water body. An unevaluated wetland is present south of the subject property within the Lalande Conservation Park.

Areas of Natural Significance

Based on the City of Ottawa website, the forested portion of the site, located east of Portobello Boulevard and north of Lalande Conservation Park, is listed as an Environmental Protected Zone (EP). The Lalande Conservation Park is located directly south of the subject site (and north of Nantes Street and Des Sentiers School). The MOECC has identified unevaluated wetlands within the Lalande Conservation Park.

Drinking Water Wells

Surrounding properties that have been recently developed are currently serviced by the City of Ottawa water system, however, private water wells may still be used by residential dwellings or farmsteads located along Trim Road.

Neighbouring Land Use

Neighbouring land use in the Phase I study area is mainly parkland, vacant, institutional and residential. Commercial properties are located further to the north at the intersection of Trim Road and Innes Road. As previously mentioned, the City of Ottawa Trim Garage Depot was identified as a property with two (2) PCAs which are not considered to represent areas of potential environmental concern (APECs) on the subject site. No additional concerns were identified with the current neighbouring land use.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of this report, the identified Potentially Contaminating Activities within the Phase I study area are not considered Areas of Potential Environmental Concern.

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 associated with the subject site. The presence of the PCA within the Phase I study area was confirmed by a variety of independent sources consulted as part of this assessment, and as such, the conclusions of this report are not affected by uncertainty which may be present with respect to the individual sources.

8.0 CONCLUSIONS

Assessment

Paterson Group was retained by Novatech Engineering Consultants Limited and the Region Group to conduct a Phase I Environmental Site Assessment (ESA) of undeveloped parcels of land along Portobello Boulevard and Provence Avenue, west of Trim 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.

According to the historical research, the subject site was occupied by a farmstead located on Trim Road while the remainder of the land was used for agricultural purposes until 2002. Since 2002, the subject site has remained vacant and undeveloped as the house and farm buildings were demolished. No environmental concerns were identified with respect to the historical use of the subject site, although it appears that there may be remnant building materials (concrete) present in the vicinity of the former house and farm buildings. These remnant building materials are not considered to pose a significant risk to the subject land but should be removed off-site for proper disposal in conjunction with future site development.

Adjacent properties were occupied by farmsteads or were used for agriculture until the development of residential neighbourhoods and schools west of Trim Road and the development of commercial properties west of Trim Road and between Salzburg Drive and Innes Road. Two (2) potentially contaminating activities (PCAs) were identified at the City of Ottawa Trim Road Garage Depot, located within the Phase I-ESA study area, however, these PCAs are not considered to represent areas of potential environmental concern on the subject site.

Following the historical research, a site inspection was conducted of the subject site and Phase I-ESA study area. The subject site is currently undeveloped agricultural and forested land. Neighbouring properties were residential, institutional, vacant or parkland. No additional potentially contaminating activities (PCAs) were identified on the subject or neighbouring sites.

Conclusion

Based on the results of the assessment, **in our opinion, a Phase II Environmental Site Assessment is not required for the property.**

8.0 STATEMENT OF LIMITATIONS

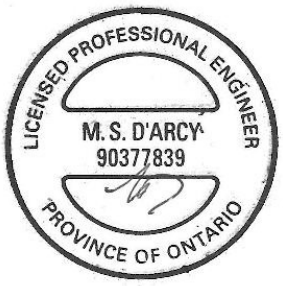
This Phase I - Environmental Site Assessment report has been prepared in general accordance with O.Reg. 153/04 as amended by O.Reg. 269/11, and meets the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection 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 Novatech Engineering Consultants Limited and the Region Group. Permission and notification from the above noted parties and Paterson will be required to release this report to any other party.

Paterson Group Inc.

Marek Moroz, P.Geo.



Mark S. D'Arcy, P.Eng.

Report Distribution:

- Novatech Engineering Consultants Limited (3 copies)
- Regional Group (1 copy)
- Paterson Group (1 copy)

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 mapping).
Natural Resources Canada – The Atlas of Canada.
Environment Canada, National Pollutant Release Inventory.
PCB Waste Storage Site Inventory.

Provincial Records
MOECC Freedom of Information and Privacy Office.
MOECC Municipal Coal Gasification Plant Site Inventory, 1991.
MOECC document titled "Waste Disposal Site Inventory in Ontario".
MOECC Brownfields Environmental Site Registry.
Office of Technical Standards and Safety Authority, Fuels Safety Branch.
MNR Areas of Natural Significance.
MOECC 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.
Intera Technologies Limited Report "Mapping and Assessment of Former Industrial Sites, City of Ottawa", 1988.
The City of Ottawa eMap website.
City of Ottawa Historical Land Use Inventory (HLUI) Database

Local Information Sources
Proposed Grading Master Plan
Personal Interviews.

Public Information Sources
Google Earth.
Google Maps/Street View.

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE4111-1 – SITE PLAN

DRAWING PE4111-2 – SURROUNDING LAND USE PLAN

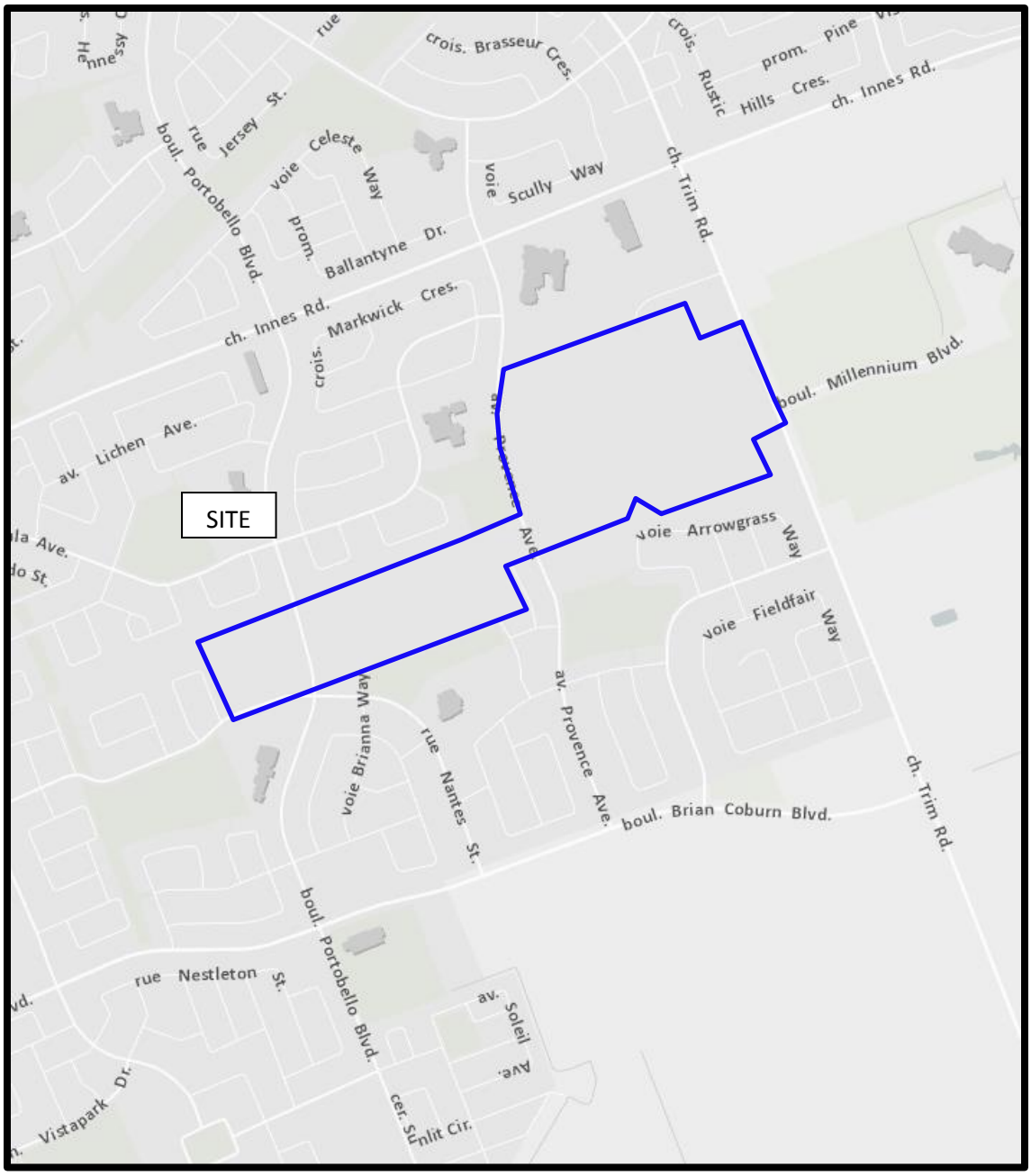


FIGURE 1

KEY PLAN

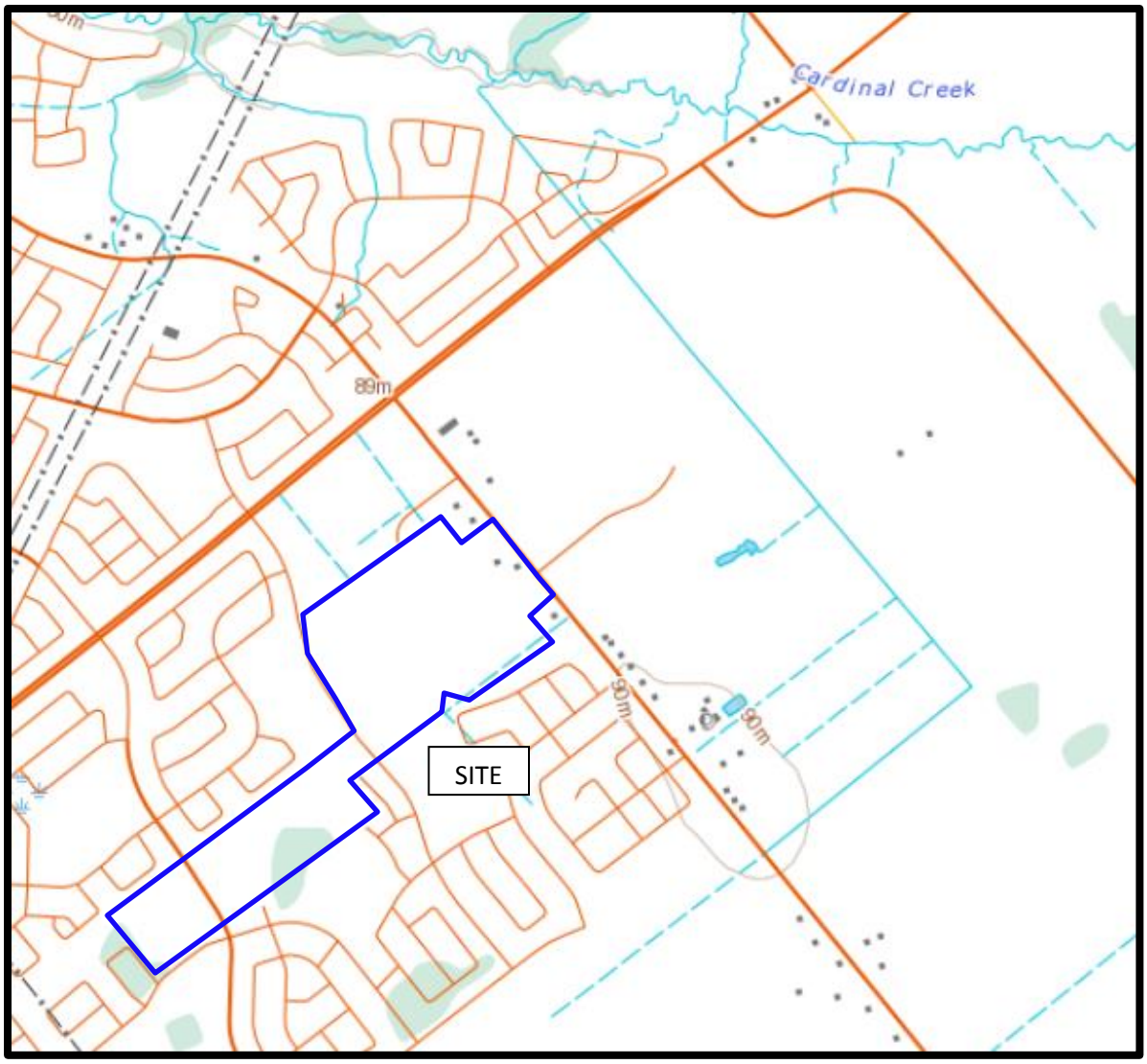
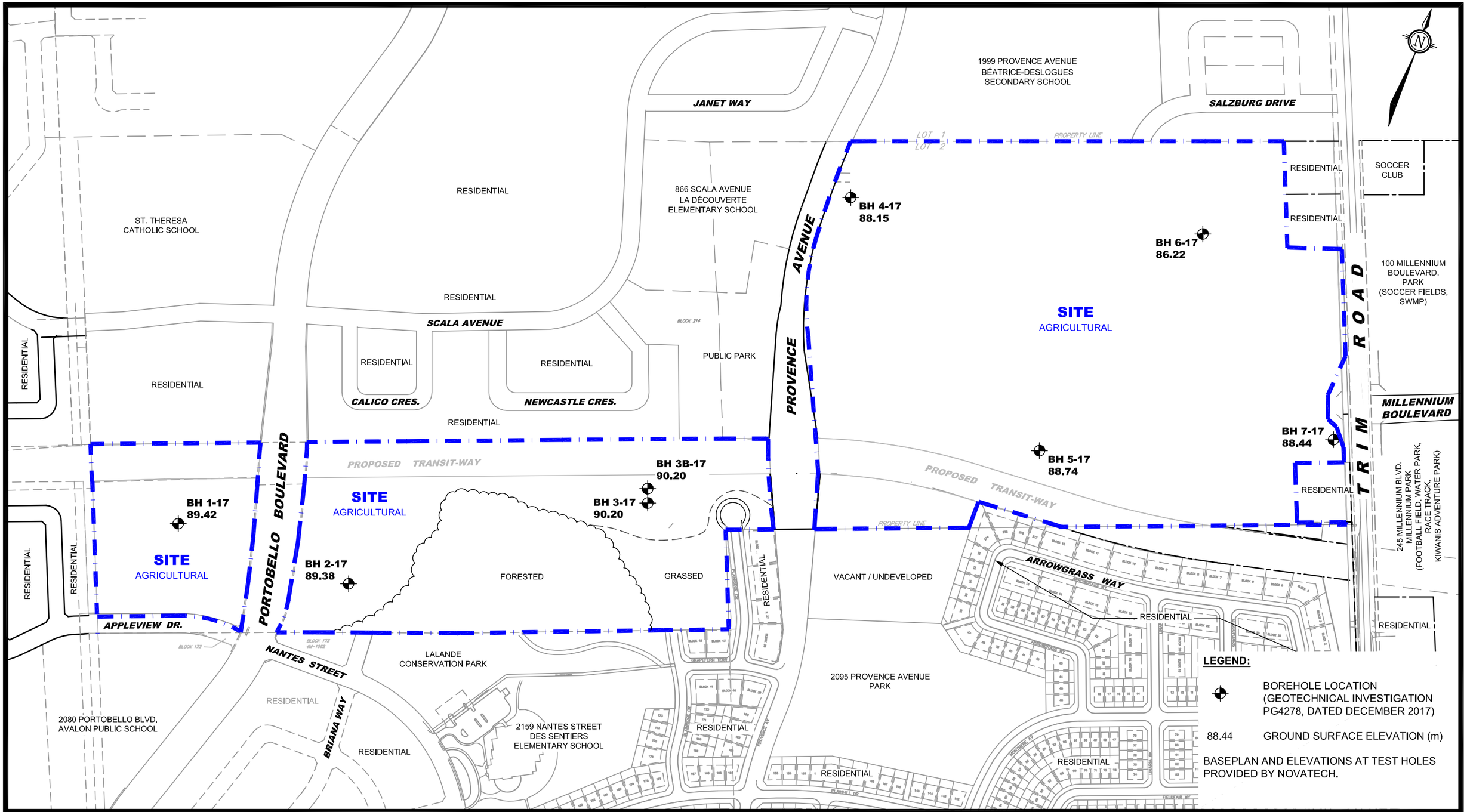


FIGURE 2

TOPOGRAPHIC MAP



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

NO.	REVISIONS	DATE	INITIAL
0			

NOVATECH ENGINEERING

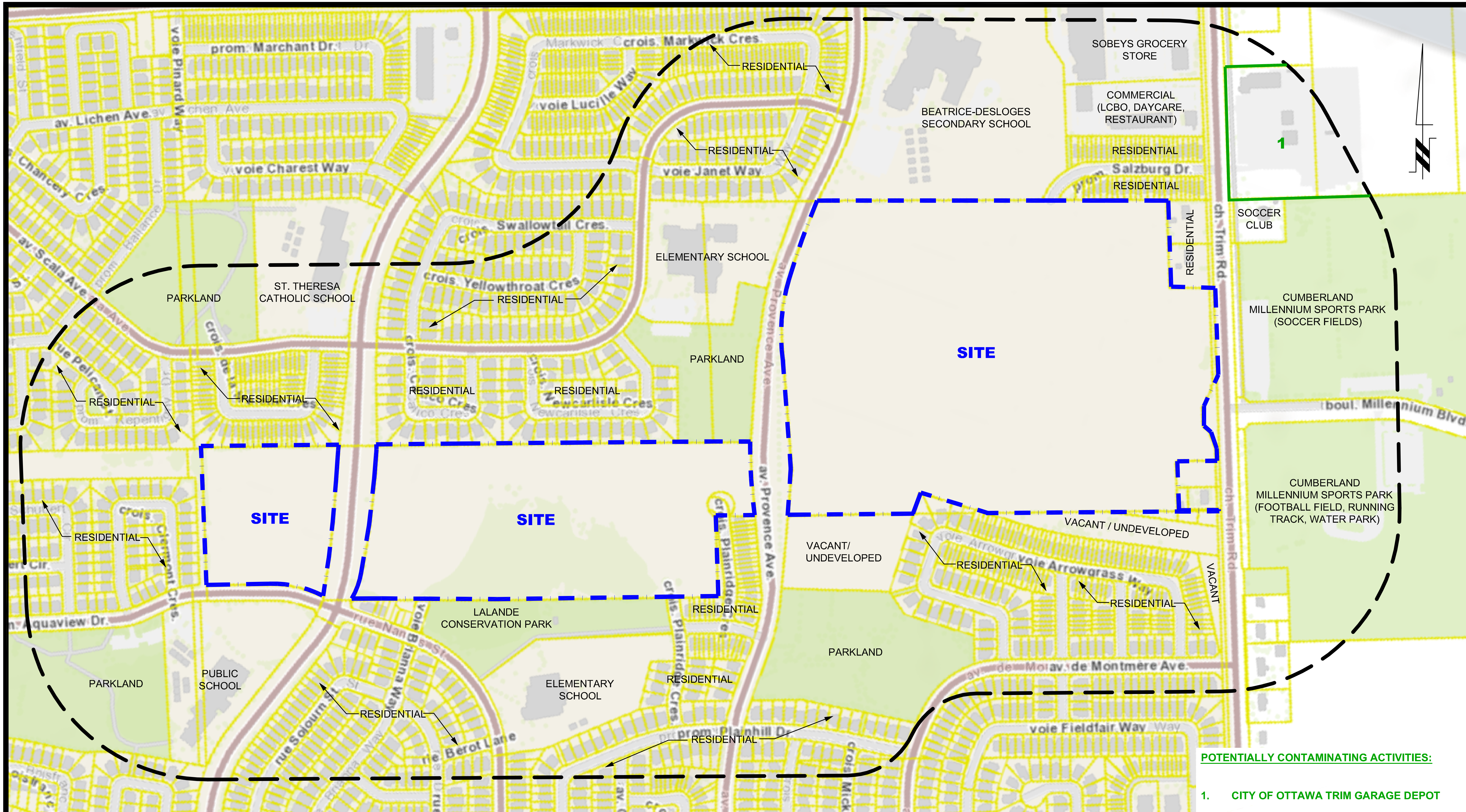
PHASE I - ENVIRONMENTAL SITE ASSESSMENT
TRIM ROAD - LEGAULT LANDS

OTTAWA, ONTARIO

Title: **SITE PLAN**

Scale: 1:4000	Date: 01/2018
Drawn by: RCG	Report No.: PE4111-1
Checked by: MM	Dwg. No.: **PE4111-1**
Approved by: MSD	Revision No.: 0

p:\autocad drawings\environmental\pe41xx\pe4111\pe4111-1(rev).dwg



patersongroup
consulting engineers

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

NO.	REVISIONS	DATE	INITIAL
0			

NOVATECH ENGINEERING

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
TRIM ROAD - LEGAULT LANDS

OTTAWA, ONTARIO

Title:

SURROUNDING LAND USE PLAN

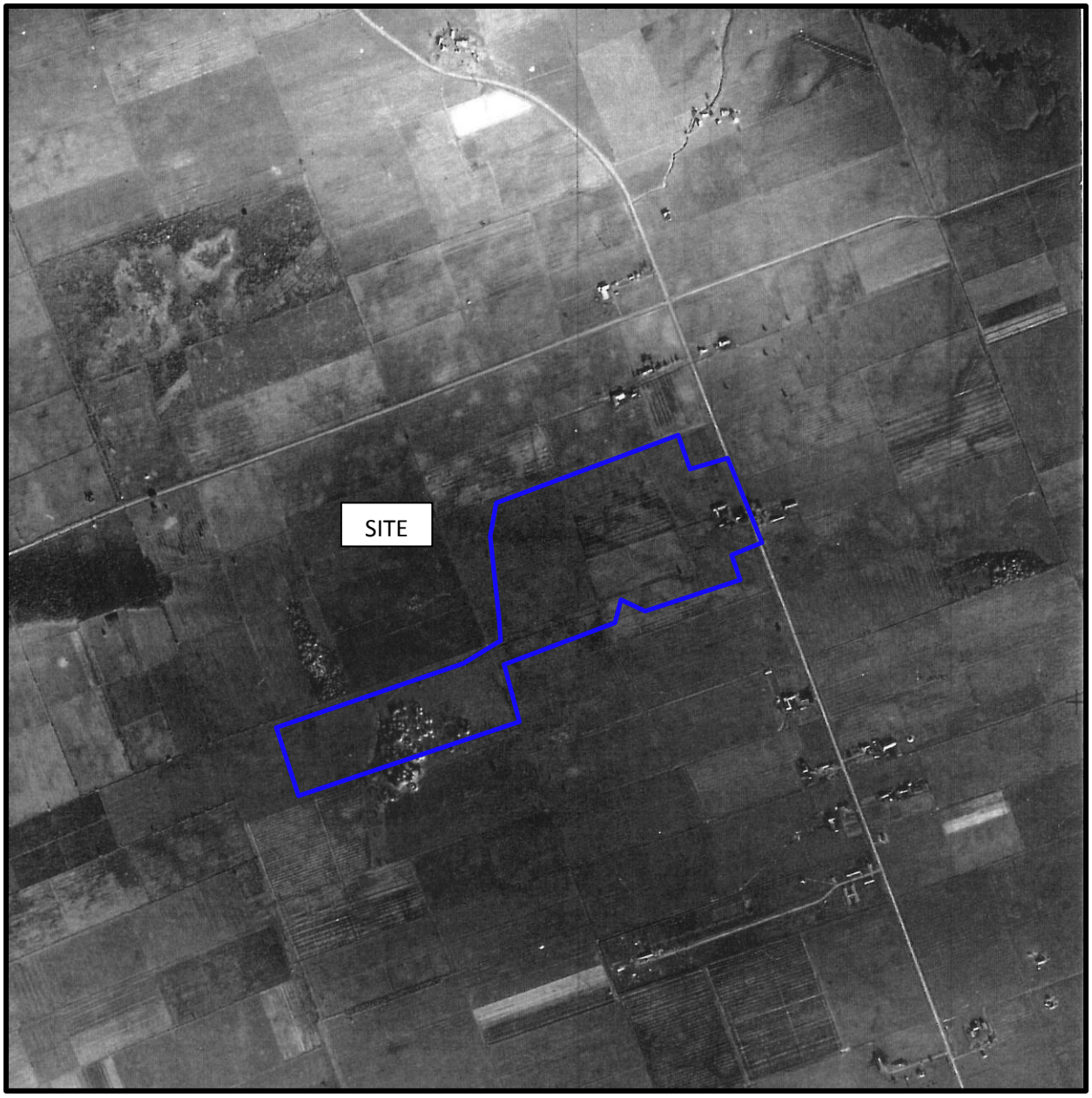
Scale: 1:5000	Date: 01/2018
Drawn by: RCG	Report No.: PE4111-1
Checked by: MM	Dwg. No.: PE4111-2
Approved by: MSD	Revision No.: 0

p:\autocad drawings\environmental\pe41xx\pe4111\pe4111-1(rev).dwg

APPENDIX 1

AERIAL PHOTOGRAPHS

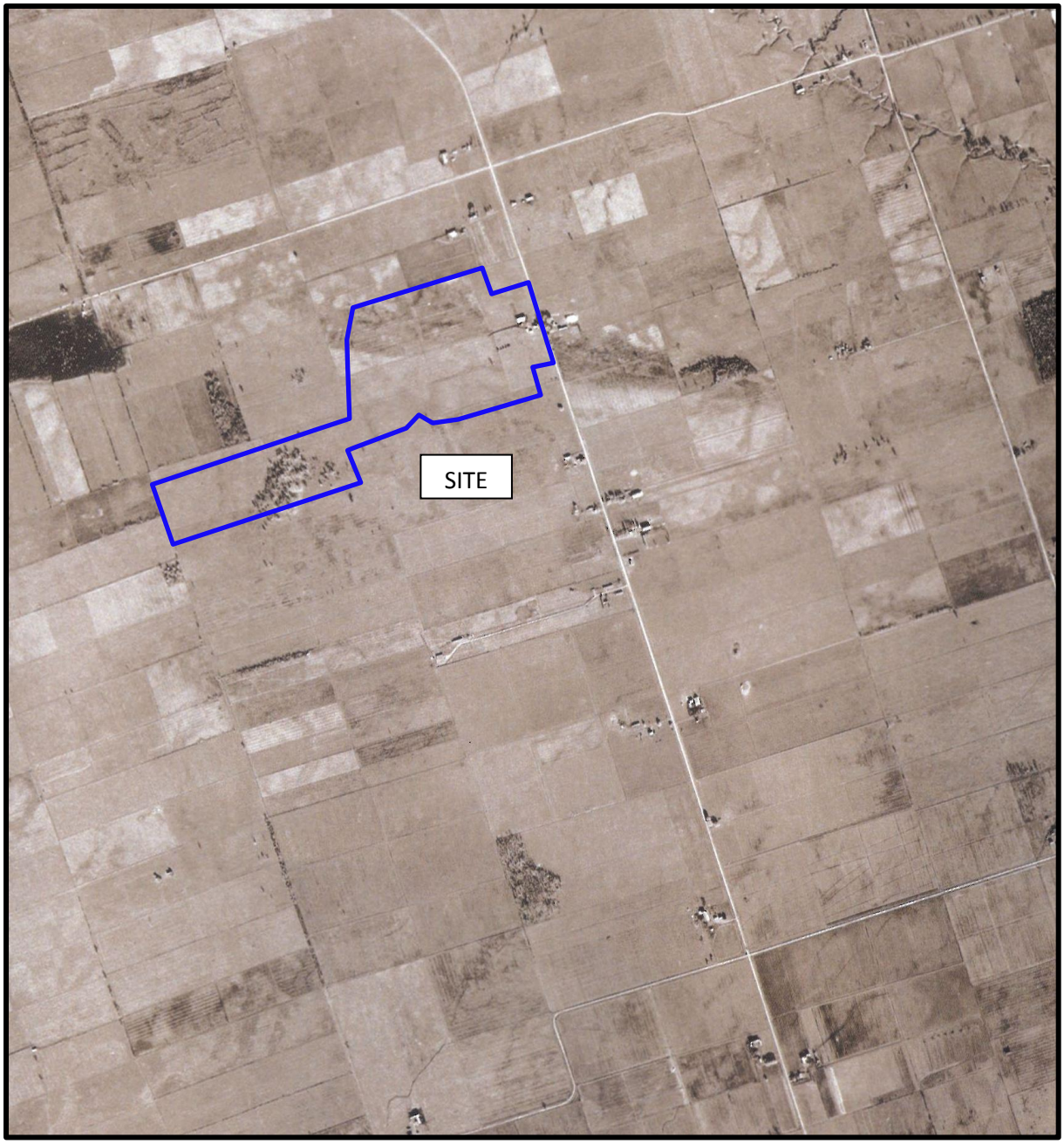
SITE PHOTOGRAPHS



AERIAL PHOTOGRAPH
1945

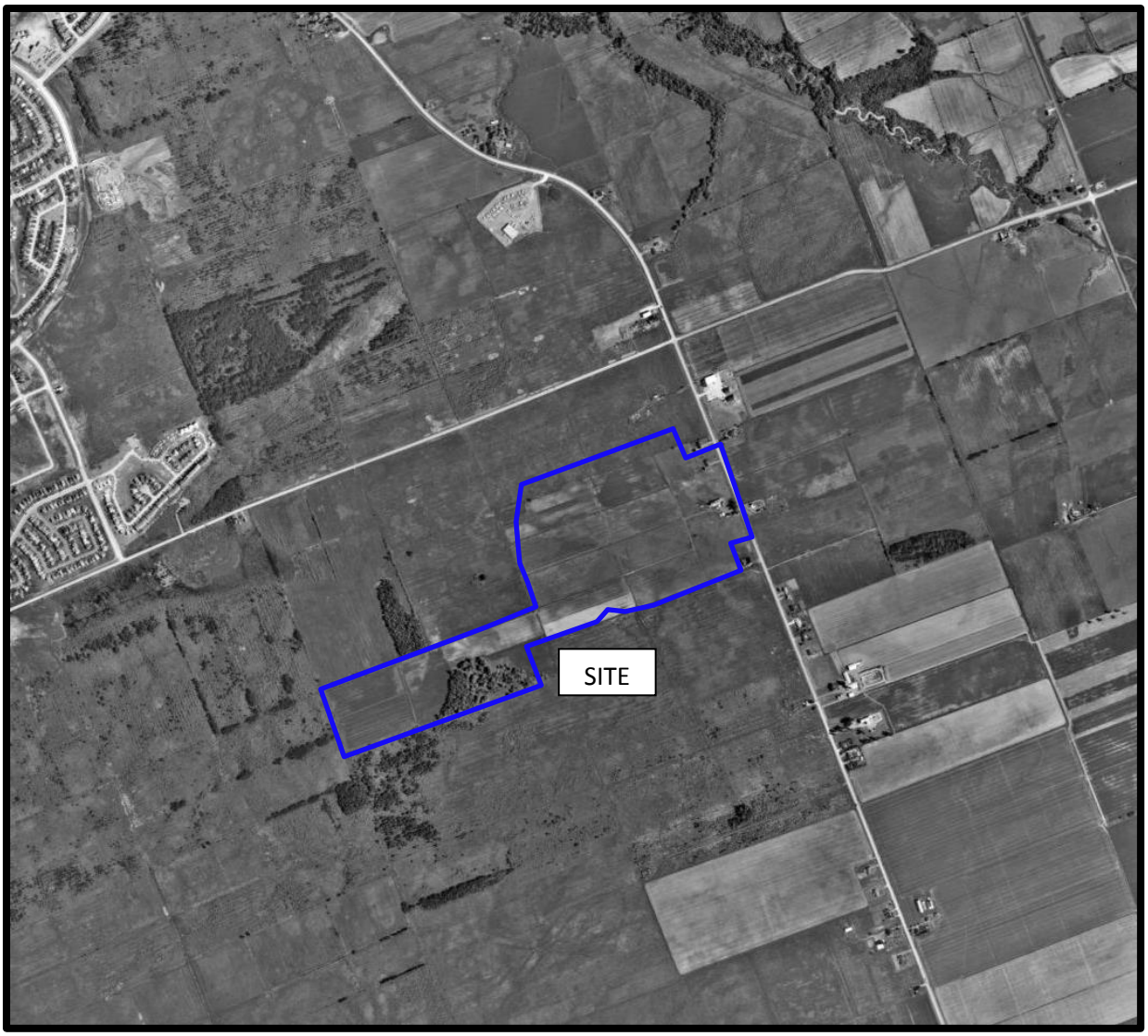
AERIAL PHOTOGRAPH
1952

patersongroup



AERIAL PHOTOGRAPH
1960

AERIAL PHOTOGRAPH
1976



AERIAL PHOTOGRAPH
1991

patersongroup

AERIAL PHOTOGRAPH
2002

patersongroup

AERIAL PHOTOGRAPH
2017

patersongroup

Site Photographs

Photograph 1: View of the southwestern portion of the site, facing east. Photograph depicts an agricultural field, the main land cover on the site.

Photograph 2: View of the forested area with outcropping bedrock on the southwest portion of the subject site, facing north.

Site Photographs

Photograph 3: View of the central portion of the subject site, facing southwest.

Photograph 4: View of eastern portion of the site, adjacent to Trim Road. Photograph taken facing northeast.

APPENDIX 2

MOECC FREEDOM OF INFORMATION SEARCH

TSSA CORRESPONDENCE

MOECC WELL RECORDS

Ontario Ministry of Environment and Energy

Freedom of Information Request

This form is for requesting documents which are in the Ministry's files on environmental concerns related to properties. Please refer to the guide on completion and use of this form. Our fax no. is (416) 314-4285.

Requester Data			For Ministry Use Only	
Name, Company Name, Mailing Address and Email Address of Requester Marek Moroz Paterson Group Inc. 154 Colonnade Road Ottawa, ON K2E 7J5 **Email address:** MMoroz@patersongroup.ca			FOI Request No.	Date Request Received
			Fee Paid ☐ ACCT ☐ CHQ ☐ VISA/MC ☐ CASH	
Telephone/Fax Nos. Tel. 613-226-7381 Fax 613-226-6344	Your Project/Reference No. PE4111	Signature/Print /Name of Requester Marek Moroz	☐ CNR ☐ ER ☐ NOR ☐ SWR ☐ WCR ☐ SAC ☐ IEB ☐ EAA ☐ EMR ☐ SWA	

Request Parameters

Municipal Address / Lot, Concession, Geographic Township **(Municipal address essential for cities, towns or regions)**

Parts of Lot 2; Concession 9, Township of Cumberland, City of Ottawa.
PINs - 1452-54170, 1456-40003, 1456-42337 Map Attached, Undeveloped Land, Considered One Site

Present Property Owner(s) and Date(s) of Ownership

Novatech Engineering

Previous Property Owner(s) and Date(s) of Ownership

N/A

Present/Previous Tenant(s),(if applicable)

N/A

Search Parameters *Files older than 2 years may require $60.00 retrieval cost. There is no guarantee that records responsive to your request will be located.*	**Specify Year(s) Requested**
Environmental concerns (General correspondence, occurrence reports, abatement)	all
Orders	all
Spills	all
Investigations/prosecutions ➤ Owner **AND** tenant information must be provided	all
Waste Generator number/classes	all

Certificates of Approval ➤ Proponent information must be provided

1985 and prior records are searched manually. **Search fees in excess of $300.00** could be incurred, depending on the types and years to be searched. Specify Certificates of Approval number(s) (if known). **If supporting documents are also required, mark SD box** and specify type e.g. maps, plans, reports, etc.

	SD	**Specify Year(s) Requested**
air - *emissions*		1986-present
water - *mains, treatment, ground level, standpipes & elevated storage, pumping stations (local & booster)*		1986-present
sewage - *sanitary, storm, treatment, stormwater, leachate & leachate treatment & sewage pump stations*		1986-present
waste water - *industrial discharges*		1986-present
waste sites - *disposal, landfill sites, transfer stations, processing sites, incinerator* sites		1986-present
waste systems - *PCB destruction, mobile waste processing units, haulers: sewage, non-hazardous & hazardous waste*		1986-present
pesticides - *licenses*		1986-present

A $5.00 non-refundable application fee, payable to the Minister of Finance, is mandatory. The cost of locating on-site and/or preparing any record is $30.00/hour and 20 cents/page for photocopying and you will be contacted for approval for fees in excess of $30.00.

Marek Moroz

From: Marek Moroz
Sent: January-05-18 1:30 PM
To: 'Public Information Services'
Subject: TSSA Records Search, PE4111 - Ottawa, ON

Good afternoon,

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

866 Scala Avenue;
1999 Provence;
5150 Innes Road;
2010, 2035, 2072, 2088, 2170 Trim Road;
2159 Nantes Street;
and 2080 Portobello Boulevard

Thank you very much,

Marek

Marek Moroz P. Geo.

patersongroup
solution oriented engineering
60 years serving our clients

154 Colonnade Road South
Ottawa, Ontario, K2E 7J5
Cell: (613) 229-9822
Tel: (613) 226-7381 Ext. 248
Fax: (613) 226-6344
Email: MMoroz@patersongroup.ca

Ontario | Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* N/A

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☒ Imperial

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	
CITY OF OTTAWA C/o Goldie Mohr Ltd			☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
3862 Moodie Drive	Nepean	Ont	K2J 4A9	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
(NO CIVIC) PROVENCE AVENUE	OTTAWA	2	9

County/District/Municipality	City/Town/Village	Province	Postal Code
OTTAWA - CARLETON	OTTAWA	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83					

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
#1	1x 2" Monitoring Well Abandonment GPS - 18 - 464137 5034511			0'	16'
#2	1x 2" Monitoring Well Abandonment GPS - 18 - 464151 5034502			0'	19'
#3	1x 2" Monitoring Well Abandonment GPS - 18 - 464116 5034497			0'	28'
	*TAG A093470 - Audit Z120333 - Oct 22/10				

Annular Space

	Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
1	16'	3'	3/8 Hole Plug	1 Bag
2	19'	3'	3/8 Hole Plug	1 Bag
3	28'	3'	3/8 Hole Plug	1 1/2 Bag
ALL	3'	0'	BACK FILL (ALL 3 Wells)	

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ___ hrs + ___ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☐ Other, specify

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☐ Test Hole ☐ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To

Status of Well

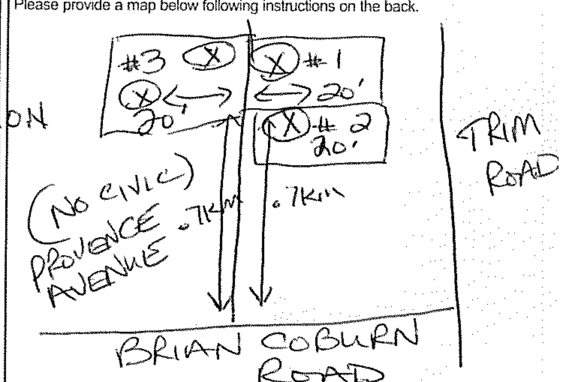
☐ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☒ Abandoned, other, specify ROAD ☐ Other, specify CONSTRUCTION

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Water Details

Water found at Depth	Kind of Water
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
AIR ROCK DRILLING Co LTD	1119

Business Address (Street Number/Name)	Municipality
RR#1	RICHMOND

Province	Postal Code	Business E-mail Address
ONT	K0A 2Z0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
6138382170	Desaulniers Ken

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T 41	[signature]	20130930

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☒ No		20130905

Ministry Use Only

Audit No. Z155212

NOV 12 2013 Received

Ontario — Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)*: N/A

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Measurements recorded in: ☐ Metric ☒ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	CITY OF OTTAWA	c/o Goldie Mohr	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
3862 Moodie Drive	Nepean	Ont	K2J 4A9	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
(NO CIVIC) PROVENCE AVENUE	OTTAWA	1	9

County/District/Municipality	City/Town/Village	Province	Postal Code
OTTAWA - CARLETON	OTTAWA	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	18	423424	5034514		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	6" Drilled well Abandonment			0'	15'

* TAG - A093469 - Audit Z120332 - Oct 22/10.

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* ____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* ____

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	Depth (m/ft) To

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☒ Abandoned, other, *specify* Road Construction
☐ Other, *specify* ____

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter *(cm/in)*

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* ____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping ____ hrs + ____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

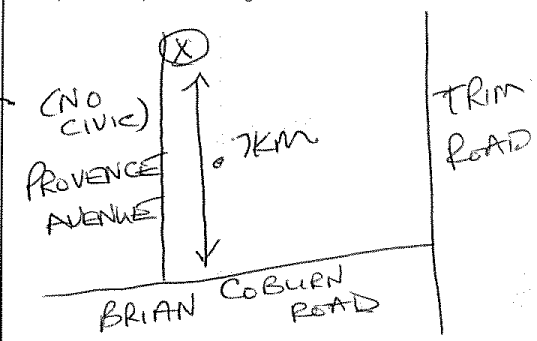
Well production *(l/min / GPM)*

Disinfected? ☒ Yes ☐ No

	Draw Down Time *(min)*	Draw Down Water Level *(m/ft)*	Recovery Time *(min)*	Recovery Water Level *(m/ft)*
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
AIR ROCK DRILLING Co. Ltd	1119

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
R#1	RICHMOND	ONT	K0A 2Z0	

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
6138382170	Desaulniers Ken	7174		2013/09/30

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☒ No	2013/10/05	2013/09/05

Ministry Use Only
Audit No. Z155217
NOV 12 2013

0506E (2007/12) © Queen's Printer for Ontario, 2007

Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. (Place Sticker and/or Print Below): A 093469

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Measurements recorded in: ☑ Metric ☐ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
City of	Ottawa		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
Providence RD	Cumberland	1	9

County/District/Municipality	City/Town/Village	Province	Postal Code
Ottawa	Cumberland	Ontario	K0A 1S0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	18	496413	5034516		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	clay		Soft	0	6
Grey	clay	gravel	Hard	6	7.3
Grey	gravel		packed	7.3	9.14

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
9.14	6.4	Silica Sand	10 Bag
6.4	0	Bentonyte	7 Bag

Method of Construction

☑ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, specify

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
15.55	Steel	.48	4.6	6.7

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
15.55	Stanless Steel	10	6.7	9.14

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: ☐ Fresh ☑ Untested ☐ Other, specify
8	☐	
	☐	☐ Fresh ☐ Untested ☐ Other, specify
	☐	☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	9.14	21.23

Results of Well Yield Testing

After test of well yield, water was:
☑ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft): 9

Pumping rate (l/min / GPM): 272.76

Duration of pumping: 1 hrs + ____ min

Final water level end of pumping (m/ft): 4.48

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft): 9

Recommended pump rate (l/min / GPM): 272.76

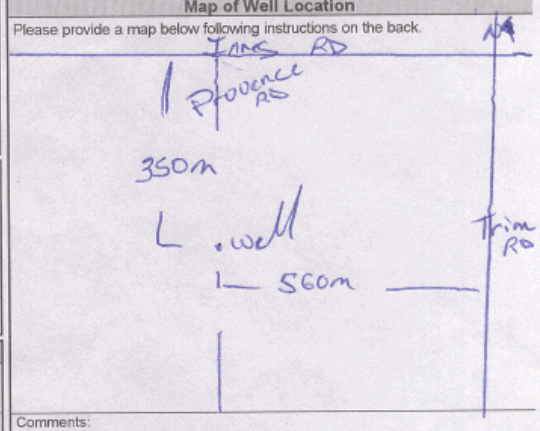
Well production (l/min / GPM)

Disinfected? ☐ Yes ☑ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	4.21		
1	4.44	1	
2	4.45	2	
3	4.45	3	
4	4.45	4	
5	4.46	5	
10	4.46	10	
15	4.46	15	
20	4.46	20	
25	4.47	25	
30	4.47	30	
40	4.48	40	
50	4.48	50	
60	4.48	60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Bourgeois Well Drilling	7417

Business Address (Street Number/Name)	Municipality
151 Montée D'Aoust	Nation

Province	Postal Code	Business E-mail Address
Ontario	K0A 3C0	NA

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
6139875291	Michaël Grenier

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3493		2010 09 22

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☑ No	Y Y Y Y M M D D	2010 M 22

Ministry Use Only

Audit No. z120332

Received OCT 22 2010

0506E (2007/12) © Queen's Printer for Ontario, 2007

Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. (Place Sticker Below): A 093470

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Measurements recorded in: ☑ Metric ☐ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
City of	Ottawa		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
Providence RD	Cumberland	1	9

County/District/Municipality	City/Town/Village	Province	Postal Code
Ottawa	Cumberland	Ontario	K0A 1S0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	464134	5034513		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	clay		soft	0	3.9

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
3.9	2.1	Silica Sand	3 Bag
2.1	0	Bentonyte	

Method of Construction

☑ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, specify

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.08	Plastic	1.48	1.6	2.1

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
5.08	Plastic	#10	2.1	3.9

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From	Hole Diameter Depth To	Hole Diameter (cm/in)
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify	0	3.9	15.55
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify			
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify			

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

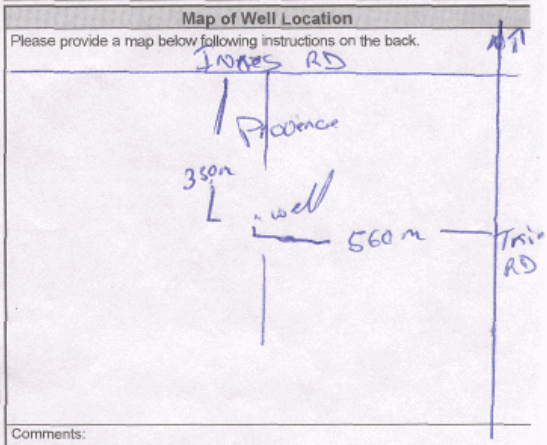
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Bourgeois well Drilling	7417

Business Address (Street Number/Name)	Municipality
3151 Monte D'Innes	Nation

Province	Postal Code	Business E-mail Address
Ontario	K0B 1K0	NA

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
613 987 5291	Michaël Grenier

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3493		2010 09 22

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☑ No		2010 09 22

Ministry Use Only

Audit No. Z120333

Received OCT 22 2010

0506E (2007/12) © Queen's Printer for Ontario, 2007

Ministry's Copy

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

Marek Moroz, P. Geo.

patersongroup

Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

POSITION

Environmental Consultant

EDUCATION

Algonquin College, Graduate Certificate, 2017
Environmental Management and Assessment

University of Ottawa, B.Sc., 2012
Specialization in Geology with Minor in Spanish

EXPERIENCE

2017 to Present:
Paterson Group Inc.
Consulting Engineers
Geotechnical and Environmental Division
Environmental Consultant

2016 to 2017
Geological Survey of Canada
Federal Research Organization in Earth Sciences
Canada Groundwater Program
Physical Scientist

2012 to 2015
KGHM International
International Mining Company
Geologist and Project Manager

Summer of 2012
Alder Resources Ltd.
Junior Mining Company
Exploration Geologist

SELECT LIST OF PROJECTS

Contaminated Soil and Groundwater Sampling – Various Sites – Eastern Ontario
Surcharge and Settlement Surveys – Ottawa, ON.
Remediation Programs – Various Sites – Ottawa, ON.
Regional Groundwater Assessment and Research – Lake Simcoe Region
Geological Compilation and 3D Modelling – Franke Mine, Chile
Resource Investigation and Mineral Exploration - Rosita, Nicaragua

Mark S. D'Arcy, P. Eng.

patersongroup

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