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Phase I-Environmental Site Assessment

20 Mark Avenue
Ottawa, Ontario

Prepared For
Manor Park Management

July 24, 2018

Report: PE4368-1

TABLE OF CONTENTS

List of Figures

List of Appendices

EXECUTIVE SUMMARY

Assessment

A Phase I-Environmental Site Assessment (ESA) was carried out for the property addressed 20 Mark Avenue. The Phase I Property comprises the western portion of a larger residential property addressed 20 through 80 Mark Avenue. The purpose of the Phase I-ESA was to research the past and current use of the site and study area and to identify environmental concerns with the potential to have impacted the subject property.

Based on the available historical information sources, the Phase I Property was never developed. No historical PCAs were identified on the Phase I Property.

Adjacent and neighbouring properties were developed as early as the 1940's, for residential and commercial purposes. A retail fuel outlet has been listed at 1 Montreal Road, immediately adjacent to the southwest of the Phase I Property, since 1940. Based on the 1956 FIP, the retail fuel outlet may have also been occupied by an automotive service garage. Aerial photographs also indicated that this property may have been redeveloped in the 1970's with a larger automotive service garage, which was subsequently demolished at sometime between 1991 and 1999 when the property was redeveloped with the existing retail fuel outlet and kiosk. The retail fuel outlet and possible former automotive service garage are considered to represent APECs on the Phase I Property. Other historical PCAs identified in the Phase I Study Area are not considered to have resulted in APECs on the Phase I Property based on their separation distances with respect to the subject land.

Following the historical review, a site visit was conducted. Based on the findings of the site visit, no on-site PCAs were identified. However, based on the findings of a subsurface investigation conducted prior to the issuance of the Phase I ESA report, potentially impacted fill material is present beneath the Phase I Property and is considered to represent an APEC potentially across the subject land. No other PCAs were identified on the Phase I Property.

At the time of the site visit, the current use of the adjacent and neighbouring properties within the Phase I ESA Study Area were observed from publicly accessible areas. Several off-site PCAs were identified. With the exception of the previously discussed retail fuel outlet at 1 Montreal Road, no off-site PCAs were considered to result in APECs on the Phase I Property.

Conclusion

Based on the findings of the Phase I-ESA, **it is our opinion that a Phase II-ESA is required for the Phase I Property.**

1.0 INTRODUCTION

At the request of Manor Park Management, Paterson Group (Paterson) conducted a Phase I-Environmental Site Assessment (Phase I-ESA) for the property addressed 20 Mark Avenue 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 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. Anand Aggarwal of Manor Park Management. Mr. Aggarwal can be contacted by telephone at 613-745-6881.

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:	20 Mark Avenue, Ottawa, Ontario
Legal Description:	Part of Lot 6, Block 1, Registered Plan 29, Formerly City of Vanier, City of Ottawa
Property Identification Numbers:	04236-0175
Location:	The subject site is located on the south side of Mark Avenue, approximately 35m east of North River Road, in the City of Ottawa. The subject site is shown on Figure 1 - Key Plan following the body of this report.
Latitude and Longitude:	45° 26' 07" N, 75° 40' 11" W

Site Description:

Configuration:	Rectangular (approximate)
Site Area:	815m^2 (approximate)
Zoning:	R1N[627] – Residential 1st Density Zone
Current Use:	The Phase I Property is occupied by a paved parking lot and small landscaped or treed areas along the north, west and south property boundary.
Services:	The Phase I Property 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 250 m was determined to be appropriate as a Phase I ESA study area for this assignment. 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 has never been developed.

Fire Insurance Plans

The 1956 fire insurance plans (FIPs) were reviewed for the Phase I Study Area. According to the FIPs, the Phase I Property was vacant, undeveloped land. No potentially contaminating activities were identified on the Phase I Property from a review of the FIPs.

Adjacent and neighbouring properties within the Phase I Study Area were used for a combination of residential and commercial purposes. The adjacent properties to the west and north, across Mark Avenue, were vacant, undeveloped lands. Properties to the east and north east were occupied by low-rise residential apartment buildings.

Adjacent properties to the south, along the north side of Montreal Road, were occupied by residential dwellings and stores. A gasoline service station and possible automotive service garage, addressed 5 Montreal Road at the time, were situated immediately adjacent to the southeast of the Phase I Property. Based on its proximity to the Phase I Property and the inferred direction of groundwater flow in a northwesterly direction, the retail fuel outlet and possible garage are considered to be potentially contaminating activities (PCAs) representing areas of potential environmental concern (APECs) on the Phase I Property.

Other potentially contaminating activities (PCAs) identified within the Phase I Study Area during the FIP review, include a retail fuel outlet at 4 Montreal Road, a lumber yard at 300 Montgomery Street, a garage denoted as "foam rubber cutting" at 39 Montreal Road, an automotive service garage at 42 Montreal Road, a retail fuel outlet at 120 Montreal Road, and coal storage at W.R. Cummings Feed Mill & Elevators at 115 through 125 Montreal Road. These off-site PCAs are not considered to pose a concern to the Phase I Property based on their separation distances from the subject land. All PCAs are outlined on Drawing PE4368-2 – Surrounding Land Use Plan.

City of Ottawa Street Directories

City directories were reviewed in approximately 10 year intervals from 1920 to 2010. The Phase I property was never listed. Adjacent and neighbouring properties within the Phase I Study Area were first listed in the 1950's as residential dwellings or commercial business (along Montreal Road). The city directory review did not identify any PCAs on the Phase I Property.

Several PCAs were identified on the adjacent and neighbouring properties within the Phase I Study Area. Potentially contaminating activities identified in the city directories are presented in Table 1 and depicted on Drawing PE4368-2 – Surrounding Land Use Plan.

Table 1: Potentially Contaminating Activities
City Directories Review Summary

Address	Listing	Years Listed	Potentially Contaminating Activity	Represents an Area of Potential Environmental Concern
Montreal Road				
1	Various Retail Fuel Outlets	1940 to present	Retail fuel outlet/possible automotive service	Yes
2	Esso Service Station	1970-1980	Retail fuel outlet	No
11	Superior Cleaners	1950	Dry cleaning	No
23	Transformers	2010	Transformers	No
63	Eastview Cleaners	1960	Dry cleaning	No
73	Bernard Mullin Auto Garage	1940	Automotive service	No
90	Automobiles Services de Serrures	2010	Automotive Service	No
101	Yee Top Laundry	1950	Possible dry cleaning activities	No
120	Esso, Texaco	1980, 1990, 2000	Retail fuel outlet	No

Table 1: Potentially Contaminating Activities
City Directories Review Summary

Address	Listing	Years Listed	Potentially Contaminating Activity	Represents an Area of Potential Environmental Concern
Montgomery Street				
299	Automatic Transmission Services McCormick Garage	1970, 1980, 1990, 2000, 2010	Automotive Service	No
Palace Street				
319	Belise Automobile Garage	1960	Automotive Service	No

As noted previously, the retail fuel outlet and potential automotive service garage located at 1 Montreal Road are considered to represent APECs on the Phase I Property. Remaining PCAs listed in Table 1 are not considered to represent a concern to the Phase I Property, based on their separation distances, including the retail fuel outlet at 2 Montreal Road, approximately 50m south of the Phase I Property.

Topographic Plan

A topographic plan, prepared by Fairhall, Moffatt & Woodland Limited and dated October 25, 2017, was reviewed as part of this assessment. The survey plan encompasses a larger parcel of land along the south side of Mark Avenue that includes the Phase I Property as well as apartment buildings addressed 30 through 80 Mark Avenue. The Phase I Property is comprised of the vacant parcel of land adjacent to the west of 30 Mark Avenue and is shown in its current configuration on the topographic plan. A copy of the topographic plan is provided in Appendix 1.

Previous Engineering Reports

The following report was reviewed as part of the Phase I ESA:

- "Phase I – II Environmental Site Assessment, Existing Residential Property, 20 to 80 Mark Avenue and 267 Greensway Avenue, Ottawa, Ontario", prepared by Paterson Group and dated May 28, 2012.

Based on the findings of the Phase I ESA, a Phase II ESA was recommended.

As part of the Phase II ESA, a borehole completed with a monitoring well installation, was placed on the southwestern corner of the subject parcel of land to address potential soil and groundwater impacts from the retail fuel outlet at 1 Montreal Road.

A soil sample was submitted for analytical testing of benzene, toluene, ethylbenzene and xylene (BTEX) and petroleum hydrocarbon parameters (PHCs). Low levels of xylenes and PHC F1 were identified in the soil sample at concentrations well below the selected MOECP standards. The monitoring well was dry at the time of the sampling event and groundwater was therefore not assessed at this time.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on June 28, 2018. The Phase I Property was not listed in the NPRI database. Properties within the Phase I Study Area were not listed in the NPRI.

PCB Inventory

A search of the national PCB waste storage sites was conducted. No PCB waste storage sites were identified within the Phase I Study Area.

Ontario Ministry of Environment, Conservation and Parks (MOECP) Instruments

A request was submitted to the MOECP Freedom of Information office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MOECP issued instruments for the site. A response from the MOECP had not been received at the time this report was issued. Should any pertinent information be provided, it will be forward upon receipt. A copy of the MOECP request is provided in Appendix 2.

MOECP Coal Gasification Plant Inventory

The MOECP document entitled “Municipal Coal Gasification Plan Site Inventory, 1991” was reviewed to reference the locations of former plants with respect to the site. No coal gasification plants were identified on the Phase I Property or within the Phase I Study Area.

MOECP Incident Reports

A request was submitted to the MOECP Freedom of Information office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MOE for the site or adjacent properties. A response from the MOECP had not been received at the time this report was issued. Should any pertinent information be provided, it will be forward upon receipt. A copy of the MOECP request is provided in Appendix 2.

MOECP Waste Management Records

A request was submitted to the MOECP Freedom of Information office for information with respect to waste management records. A response from the MOECP had not been received at the time this report was issued. Should any pertinent information be provided, it will be forward upon receipt. A copy of the MOECP request is provided in Appendix 2.

MOECP Submissions

A request was submitted to the MOECP Freedom of Information office for information with respect to reports related to environmental conditions that have been submitted to the MOECP. A response from the MOECP had not been received at the time this report was issued. Should any pertinent information be provided, it will be forward upon receipt. A copy of the MOECP request is provided in Appendix 2.

MOECP Brownfields Environmental Site Registry

A search of the MOECP Brownfields Environmental Site Registry (ESR) was conducted as part of this assessment for the site, neighbouring properties and the general area of the site. No Records of Site Condition (RSCs) were filed for the Phase I Property. There are no RSCs listed for properties within the Phase I Study Area.

MOECP 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. According to this document, a former landfill identified as Site x1105 was located at Kingsview Park, on the perimeter of the Phase I Study Area, at a distance of approximately 250m northwest of the Phase I Property.

The former landfill was reportedly closed in 1925. Based on the separation distance and downgradient orientation with respect to the subject land, the former landfill is not considered to represent an APEC on the Phase I Property. No other landfill sites were identified within, or in close proximity to the Phase I Study Area.

Areas of Natural Heritage and Significance Interest

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 (MNR) on June 28, 2018. The search did not identify any provincially significant life sciences or earth sciences areas of natural heritage and scientific interest within the Phase I Study Area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on July 24, 2018, to inquire about current and former underground storage tanks, spills and incidents for the site and neighbouring properties. A response had not been received by the TSSA at the time this report was issued. Any pertinent information identified will be forwarded to the client upon receipt. A copy of the TSSA correspondence is provided in Appendix 2.

City of Ottawa Landfill Document

The document entitled “Old Landfill Management Strategy, Phase I-Identification of Sites, City of Ottawa”, was reviewed. As noted above, a former landfill site is present at Kingsview Park, approximately 250m northwest of the Phase I Property and is not considered to represent a concern to the subject land based on its separation distance and downgradient orientation. No other former landfill sites were identified within close proximity to the Phase I Study Area.

City of Ottawa Historical Land Use Inventory (HLUI)

A requisition form was sent to the City of Ottawa to request information from the City’s Historical Land Use Inventory (HLUI 2005) database for the subject property. The City’s response had not been received at the time this report was issued. Any pertinent information will be forwarded to the client upon receipt. A copy of the request form is provided in Appendix 2.

4.3 Physical Setting Sources

Aerial Photographs

Historical air photos from the National Air Photo Library were reviewed in approximate 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:

1928 (City of Ottawa, geoOttawa) The Phase I Property appears to be vacant, undeveloped land. The adjacent properties to the north and east also consist of vacant, undeveloped land. An apparent commercial building is present on the adjacent property to the west. Apparent residential or commercial properties are present along both sides of Montreal Road, to the south of the Phase I Property.

1945 The Phase I Property, adjacent and neighbouring lands appear to remain unchanged from the previous photograph.

1950 The Phase I Property remains unchanged from the previous photograph. The apparent commercial building structure observed in the 1928 aerial on the adjacent property to the west, is no longer present. Residential apartment buildings have been constructed along both sides of Mark Avenue, east of the Phase I Property. No other significant changes appear to have been made to the adjacent and neighbouring properties. It should be noted however, that the aerial photograph is of poor quality.

1965 (City of Ottawa, geoOttawa) No changes have been made to the Phase I Property. An apparent retail fuel outlet or automotive service garage is present immediately southwest of the Phase I Property. Otherwise no significant changes appear to have been made to the adjacent and neighbouring properties.

1976 The Phase I Property may have been appears to remain unchanged since the previous photograph. The adjacent property to the south appears to have been redeveloped with a larger commercial building, possibly an automotive service garage. An apparent residential dwelling has been constructed on the adjacent property to the west of the Phase I Property.

No other significant changes appear to have been made to the adjacent and neighbouring lands.

1985 The Phase I Property remains vacant, undeveloped land, possibly used for parking. Additional residential development appears to have occurred to the north and northwest of the Phase I Property, across Mark Avenue.

1991 (City of Ottawa, geoOttawa) The Phase I Property appears to be used as a parking lot associated with the adjacent apartment building to the east. No significant changes appear to have been made to the adjacent and neighbouring properties.

2002 (City of Ottawa, geoOttawa) No significant changes appear to have been made to the Phase I Property. The properties immediately to the south and southwest of the subject land have been redeveloped; the land to the south of the site is a vacant, paved lot, while a retail fuel outlet is present to the southwest.

2014 (City of Ottawa website) The Phase I Property, adjacent and neighbouring lands remain unchanged from the previous photograph.

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 generally slopes down, towards the Rideau River, the closest body of water to the Phase I Property, located approximately 50m to the west. An illustration of the referenced topographic map is presented on Figure 2 – Topographic Map, appended to this report.

Physiographic Maps

The Ontario Geological Survey publication 'The Physiography of Southern Ontario, Third Edition' was reviewed as a part of this assessment. According to the publication and attached mapping, the site is situated within the Ottawa Valley Clay Plains physiographic region, described as "clay plains interrupted by ridges of rock or sand". Mapping shows the subject site as situated in an area of limestone and till plains.

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, the bedrock in the area of the subject site consists of shale of the Billings Formation. Overburden soils are shown as glacial till, with a drift thickness on the order of 2 to 5 m.

Water Well Records

The online interactive well record mapping system was accessed on June 28, 2018. No well records were identified for the Phase I Property. No records for domestic potable wells were identified for properties within the Phase I Study Area.

A total of 18 monitoring well records were identified for the following properties: 307 Montgomery Street, 42 Montreal Road, 50 Selkirk Street, River Road and Wayling Avenue, North River Road, 90 to 92 Montreal Road and 285 Palace Road. Two additional record well records were identified, however the records do not provide any information. Based on the interactive mapping system, these records are for the properties located at 2 Montreal Road and 25 Montreal Road and were installed in 2014.

Water Bodies and Areas of Natural Significance

No water bodies or areas of natural significance (ANSIs) are present on the Phase I Property. The Rideau River is situated within the Phase I Study Area, at a distance of approximately 50m west of the subject land. No ANSIs are known to exist within the Phase I Study Area.

5.0 INTERVIEWS

Mr. Anand Aggarwall, the current property owner, was interviewed as part of the Phase I ESA. Mr. Aggarwall was unaware of any current or historical potentially contaminating activities on the Phase I Property. Other than the retail fuel adjacent to the south/southwest of the Phase I Property, he is also unaware of any historical or existing potential off-site concerns. The information obtained in these interviews is consistent with site information obtained from other sources and is considered to be valid.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

The site visit was conducted on July 6, 2018, between 12:00 and 1:00 PM. Weather conditions were sunny, with a temperature of approximately 25° C. Personnel from the Environmental Department of Paterson Group conducted the site visit. In addition to the site, the uses of neighbouring properties within the Phase I-ESA study area were also assessed at the time of the site visit, from publicly accessible areas.

6.2 Specific Observations at Phase I Property

Buildings and Structures

There are no buildings or structures on the Phase I Property. The majority of the Phase I Property consists of a paved parking lot, with landscaped areas or trees along the north, west and southern property limits. The Phase I Property is depicted on Drawing PE4368-1 – Site Plan, in the Figures section of this report.

Underground Utilities

The Phase I Property is situated in a municipally serviced area. Underground utilities on the Phase I Property include natural gas, which services the adjacent residential building to the east, as well as buried telephone and cable conduits. Approximate locations of buried services are shown on Drawing PE4368-1 – Site Plan.

Site Features

The Phase I Property is not developed with any building structures. It is a vacant piece of land that exists as part of a larger residential property (addressed 20 through 80 Mark Avenue).

The majority of the subject land is occupied by a paved parking lot, while small areas along the northern, western and southern property limits are treed or landscaped.

Drainage on site consists primarily of sheet drainage to a catch basins located on Mark Avenue, with some possible surficial infiltration in landscaped areas. No standing water or evidence of surficial staining was observed on the exterior of the Phase I Property at the time of the site visit.

No aboveground storage tanks (ASTs) or signs of underground storage tanks (USTs) were observed on the Phase I Property at the time of the site visit.

No other underground structures were noted on the Phase I Property. No wells or private sewage systems were observed onsite, nor are any expected to be present, as the site is located in a municipally-serviced area. Waste is not currently generated on the Phase I Property.

No evidence of recent excavation was observed on the Phase I Property. No evidence of current or former railway or spur lines on the subject land were observed at the time of the site visit. There were no unidentified substances observed on the exterior of the Phase I Property. The above-noted site features are shown on Drawing PE4368-1 - Site Plan.

Fill Material

No obvious signs of fill material were noted at the time of the site visit. Fill material was identified on the Phase I Property during a Phase II ESA which was conducted prior to the issuance of this Phase I ESA report. The fill material generally consisted of dark brown silty sand with gravel, with fragments of brick, mortar, concrete and possible coal. The fill material is considered to represent an APEC on the Phase I Property.

Phase I Study Area

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

- North – Mark Avenue followed by residential;
- South – Commercial (retail fuel outlet at 1 Montreal Road) followed by Montreal Road;
- East – Residential; and
- West – Residential followed by North River Road and the Rideau River.

The retail fuel outlet at 1 Montreal Road is considered to represent an APEC on the Phase I Property. Remaining land use in the vicinity of the Phase I Property is not considered to pose an environmental concern to the Phase I Property. Land use within the Phase I Study Area is shown on Drawing PE4368-2 – Surrounding Land Use Plan in the Figures section of this report, following the text.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Land Use History

The Phase I Property has always been vacant, undeveloped land, until paved for use as a parking lot associated with the residential apartment building adjacent to the east. The Phase I Property was purchased by the current property owner circa 2012, in conjunction with the residential apartment buildings to the east, along both sides of Mark Avenue.

Potentially Contaminating Activities (PCAs) and Areas of Potential Environmental Concern (APECs)

Poor quality fill material was identified on the Phase I Property during a Phase II ESA which was conducted prior to the issuance of the Phase I ESA report. The fill material is considered to have resulted in an APEC on the Phase I Property. Otherwise, no historical or current PCAs were identified on the Phase I Property.

Two historical off-site PCAs were also considered to result in APECs on the Phase I Property. The PCAs and resulting APECs are presented in Table 2 and on Drawing PE4368-1 – Site Plan.

Table 2
Area of Potential Environmental Concern

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern with respect to Phase I Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil, and/or Sediment)
APEC 1	Potentially across the Phase I Area	Item 30 – Importation of Fill Material of Unknown Quality	On-site	PAHs Metals	Soil (Fill Material)
APEC 2	Southwestern portion of the Phase I Property	Item 28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-site	BTEX PHCs (F_1-F_4)	Soil, Groundwater
APEC 3	Southern portion of the Phase I Property	Item 52 – Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Off-site	BTEX PHCs (F_1-F_4)	Soil, Groundwater

Other historical or existing off-site PCAs identified within the Phase I Study Area, were not considered to result in APECs on the subject land based on their separation distances and/or orientations with respect to the Phase I Property.

All historical or existing PCAs identified within the Phase I Study Area are illustrated on Drawing PE4368-2 – Surrounding Land Use Plan in the Figures section of this report, following the text. The PCAs considered to have resulted in APECs are presented in red, while those not considered to have resulted in APECs on the subject land are present in green.

Contaminants of Potential Concern (CPCs)

As noted in Table 2, contaminants of potential concern identified for the groundwater and/or soil beneath the Phase I Property, include the following:

- ❒ benzene, toluene, ethylbenzene and xylenes (BTEX);
- ❒ petroleum hydrocarbons (PCHs, fractions F1-F4);
- ❒ polynuclear aromatic hydrocarbons (PAHs); and
- ❒ Metals.

7.2 Conceptual Site Model

Geological and Hydrogeological Setting

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, the bedrock in the area of the subject site consists of shale of the Billings Formation. Overburden soils are shown as glacial till, with a drift thickness on the order of 2 to 5 m. The findings of the recent (July 2018) subsurface investigation on the Phase I Property confirms the reported geological conditions.

The regional groundwater flow is expected to be towards to the west, towards the Rideau River.

Buildings and Structures

There are no buildings or structures on the Phase I Property. The majority of the Phase I Property consists of a paved parking lot, with landscaped or treed areas along the north, west and southern property limits.

Water Bodies

No water bodies are present on the Phase I Property. The closest water body is the Rideau River, located approximately 50m west of the subject land, within the Phase I ESA Study Area.

Areas of Natural Significance

No areas of natural significance were identified on the Phase I Property or within the Phase I ESA Study Area.

Drinking Water Wells

The MOECP online interactive well record mapping system was accessed on June 28, 2018. No domestic potable well records were identified for the Phase I Property or for any properties within the Phase I Study Area.

Monitoring Well Records

Records of 18 monitoring wells were identified for the following properties: 307 Montgomery Street, 42 Montreal Road, 50 Selkirk Street, River Road and Wayling Avenue, North River Road, 90 to 92 Montreal Road and 285 Palace Road. Two additional records assumed to be monitoring wells were also identified, however the records do not provide any information. Based on the interactive mapping system, these records are for the properties located at 2 Montreal Road and 25 Montreal Road and were installed in 2014.

Neighbouring Land Use

Neighbouring land use in the Phase I Study Area consists of residential and commercial land use.

Potentially Contaminating Activities (PCAs) and Areas of Potential Environmental Concern (APECs)

Existing or historical PCAs that are considered to have resulted in three (3) APECs on the Phase I Property are presented in Table 2 in Section 7.1 of this report. Other historical or existing off-site PCAs identified within the Phase I-ESA study area are presented on Drawing PE4368-2 – Surrounding Land Use Plan. Based on their separation distances and/or orientations with respect to the Phase I Property, these PCAs are not considered to represent APECs on the Phase I Property.

Contaminants of Potential Concern (CPCs)

CPCs associated with the APECs identified on the Phase I Property include BTEX, PHCs, PAHs and metals in the groundwater and/or soil.

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 PCAs on the Phase I Property and within the Phase I Study Area which may have impacted the subject site. The presence 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.

8.0 CONCLUSIONS

Assessment

A Phase I-Environmental Site Assessment (ESA) was carried out for the property addressed 20 Mark Avenue. The Phase I Property comprises the western portion of a larger residential property addressed 20 through 80 Mark Avenue. The purpose of the Phase I-ESA was to research the past and current use of the site and study area and to identify environmental concerns with the potential to have impacted the subject property.

Based on the available historical information sources, the Phase I Property was never developed. No historical PCAs were identified on the Phase I Property.

Adjacent and neighbouring properties were developed as early as the 1940's, for residential and commercial purposes. A retail fuel outlet has been listed at 1 Montreal Road, immediately adjacent to the southwest of the Phase I Property, since 1940. Based on the 1956 FIP, the retail fuel outlet may have also been occupied by an automotive service garage. Aerial photographs also indicated that this property may have been redeveloped in the 1970's with a larger automotive service garage, which was subsequently demolished at sometime between 1991 and 1999 when the property was redeveloped with the existing retail fuel outlet and kiosk. The retail fuel outlet and possible former automotive service garage are considered to represent APECs on the Phase I Property. Other historical PCAs identified in the Phase I Study Area are not considered to have resulted in APECs on the Phase I Property based on their separation distances with respect to the subject land.

Following the historical review, a site visit was conducted. Based on the findings of the site visit, no on-site PCAs were identified. However, based on the findings of a subsurface investigation conducted prior to the issuance of the Phase I ESA report, potentially impacted fill material is present beneath the Phase I Property and is considered to represent an APEC potentially across the subject land. No other PCAs were identified on the Phase I Property.

At the time of the site visit, the current use of the adjacent and neighbouring properties within the Phase I ESA Study Area were observed from publicly accessible areas. Several off-site PCAs were identified. With the exception of the previously discussed retail fuel outlet at 1 Montreal Road, no off-site PCAs were considered to result in APECs on the Phase I Property.

Conclusion

Based on the findings of the Phase I-ESA, **it is our opinion that a Phase II-ESA is required for the Phase I Property.**

9.0 STATEMENT OF LIMITATIONS

This Phase I-Environmental Site Assessment (ESA) 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 Manor Park Management. Permission and notification from Manor Park Management and Paterson will be required to release this report to any other party.

Paterson Group Inc.

Karyn Munch, P.Eng., QP$_{ESA}$

Mark S. D'Arcy, P.Eng., QP$_{ESA}$

Report Distribution:

- ❒ Manor Park Management
- ❒ Paterson Group

10.0 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
MOECP Freedom of Information and Privacy Office.
MOECP Municipal Coal Gasification Plant Site Inventory, 1991.
MOECP document titled “Waste Disposal Site Inventory in Ontario”.
MOECP Brownfields Environmental Site Registry.
Office of Technical Standards and Safety Authority, Fuels Safety Branch.
MNR Areas of Natural Significance.
MOECP Water Well Inventory.

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.

Local Information Sources
Topographic Plan, prepared by Fairhall, Moffett and Woodland (2009)
Previous Engineering Reports.
Personal Interviews.

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

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE4368-1 – SITE PLAN

DRAWING PE4368-2 – SURROUNDING LAND USE PLAN

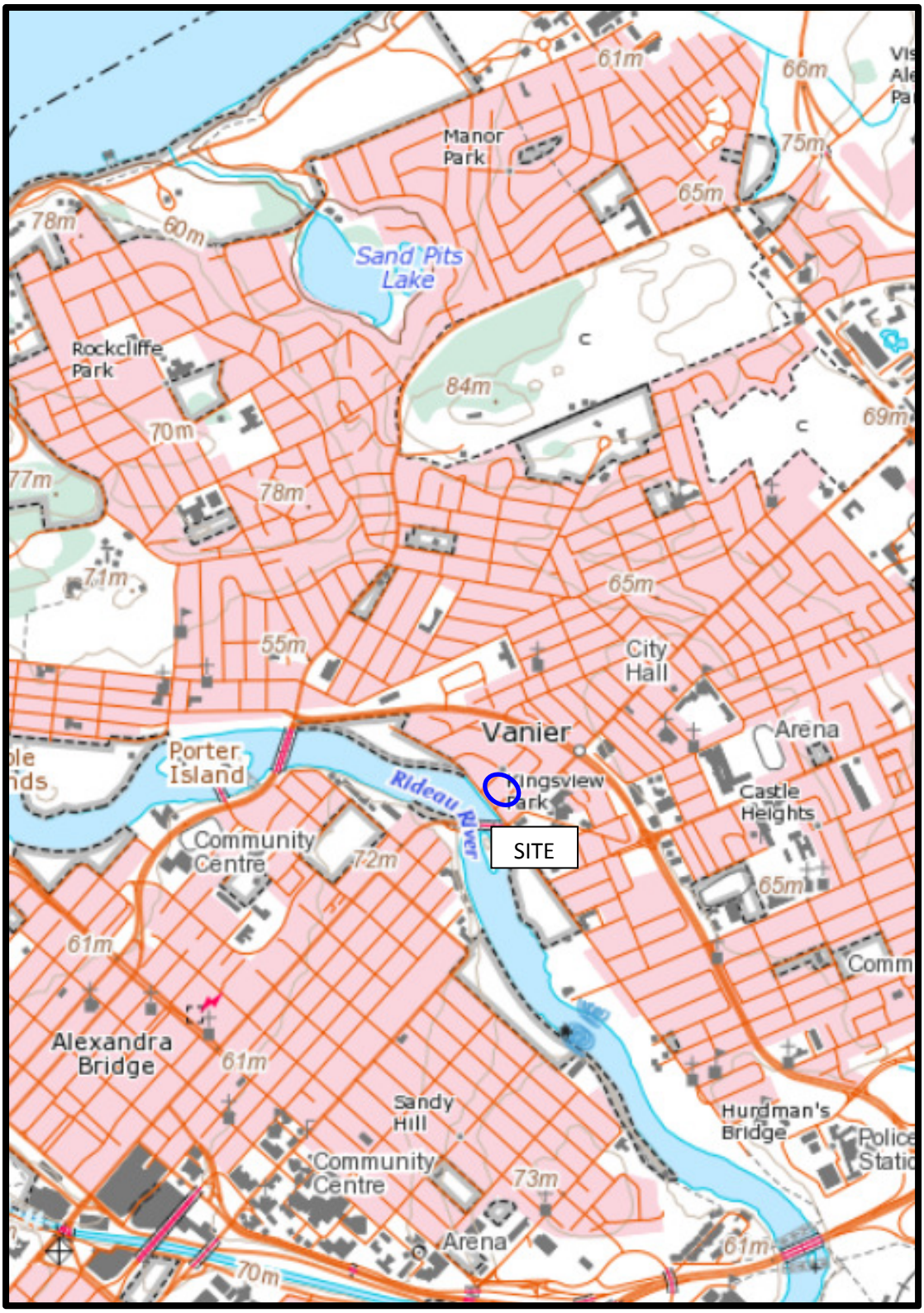


FIGURE 2

TOPOGRAPHIC MAP

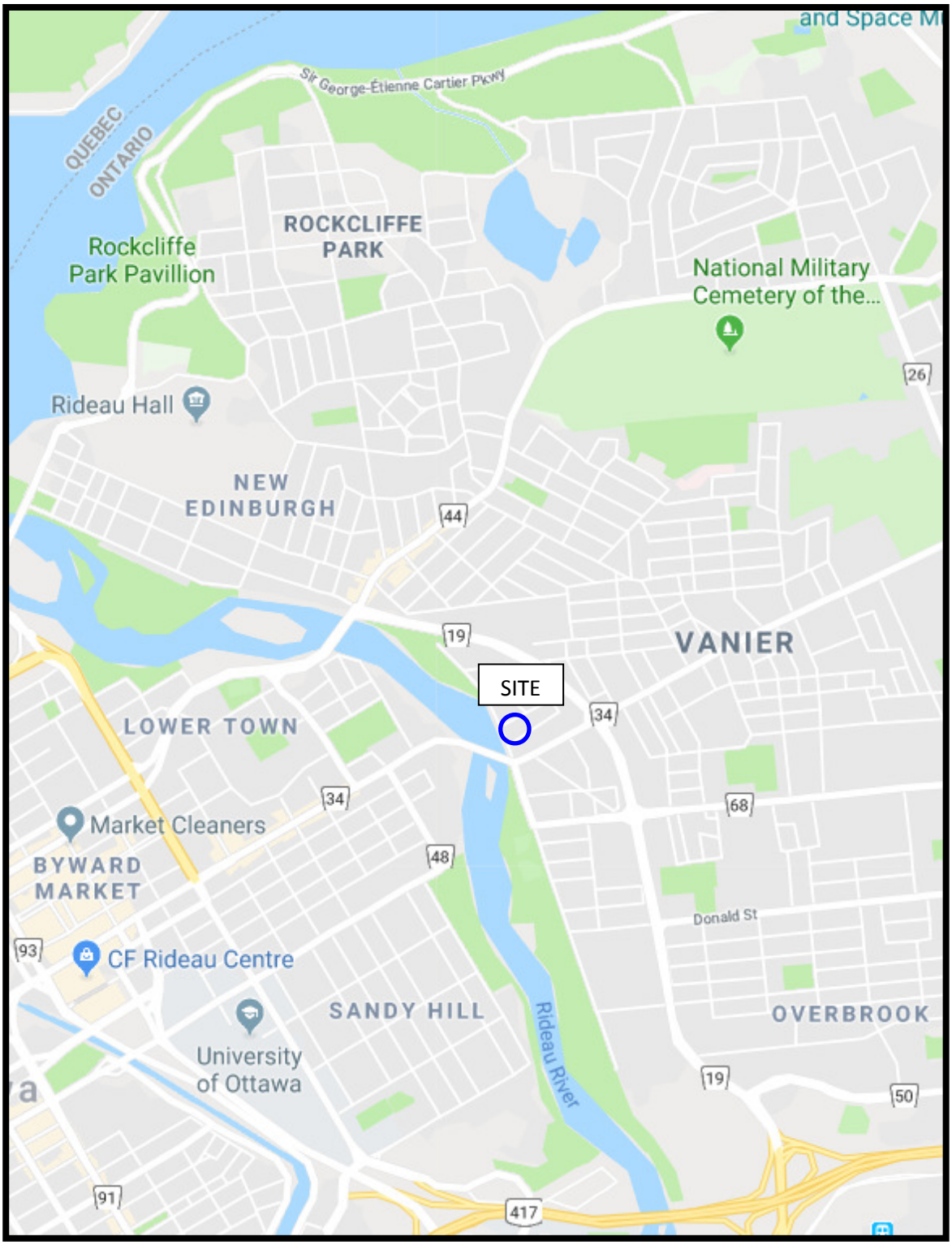


FIGURE 1

KEY PLAN

#261 NORTH RIVER ROAD
RESIDENTIAL

#9 MARK AVENUE
RESIDENTIAL

#19 MARK AVENUE
RESIDENTIAL

#29 MARK AVENUE
RESIDENTIAL

MARK AVENUE

RIVER ROAD

NORTH

#2 MARK AVENUE
RESIDENTIAL DWELLING

1

#20 MARK AVENUE
ASPHALTIC CONCRETE
PARKING LOT

2, 3

BH 6

TREED

TREED

BELL SERVICE

GAS SERVICE

ROGERS SERVICE

LINE OF SPATIAL SEPARATION

#30 MARK AVENUE
RESIDENTIAL
APARMENT BUILDING

#1 MONTREAL ROAD
RETAIL FUEL OUTLET
(KIOSK)

APPROX. LOCATION
OF UNDERGROUND
STORAGE TANK NEST

PUMP ISLAND
CANOPY

PARKING LOT

#25 MONTREAL ROAD
RESIDENTIAL

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN:

1. **RESULTING FROM FILL MATERIAL OF UNKNOWN QUALITY**
2. **RESULTING FROM EXISTING RETAIL FUEL OUTLET ADJACENT PROPERTY TO SOUTH**
3. **RESULTING FROM FORMER POSSIBLE AUTOMOTIVE SERVICE GARAGE ON ADJACENT PROPERTY TO SOUTH.**

LEGEND:

BOREHOLE WITH MONITORING WELL
LOCATION, PATERSON GROUP REPORT
PE2618, 2012

patersongroup
consulting engineers

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

NO.	REVISIONS	DATE	INITIAL
0			

MANOR PARK MANAGEMENT

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
20 MARK AVENUE

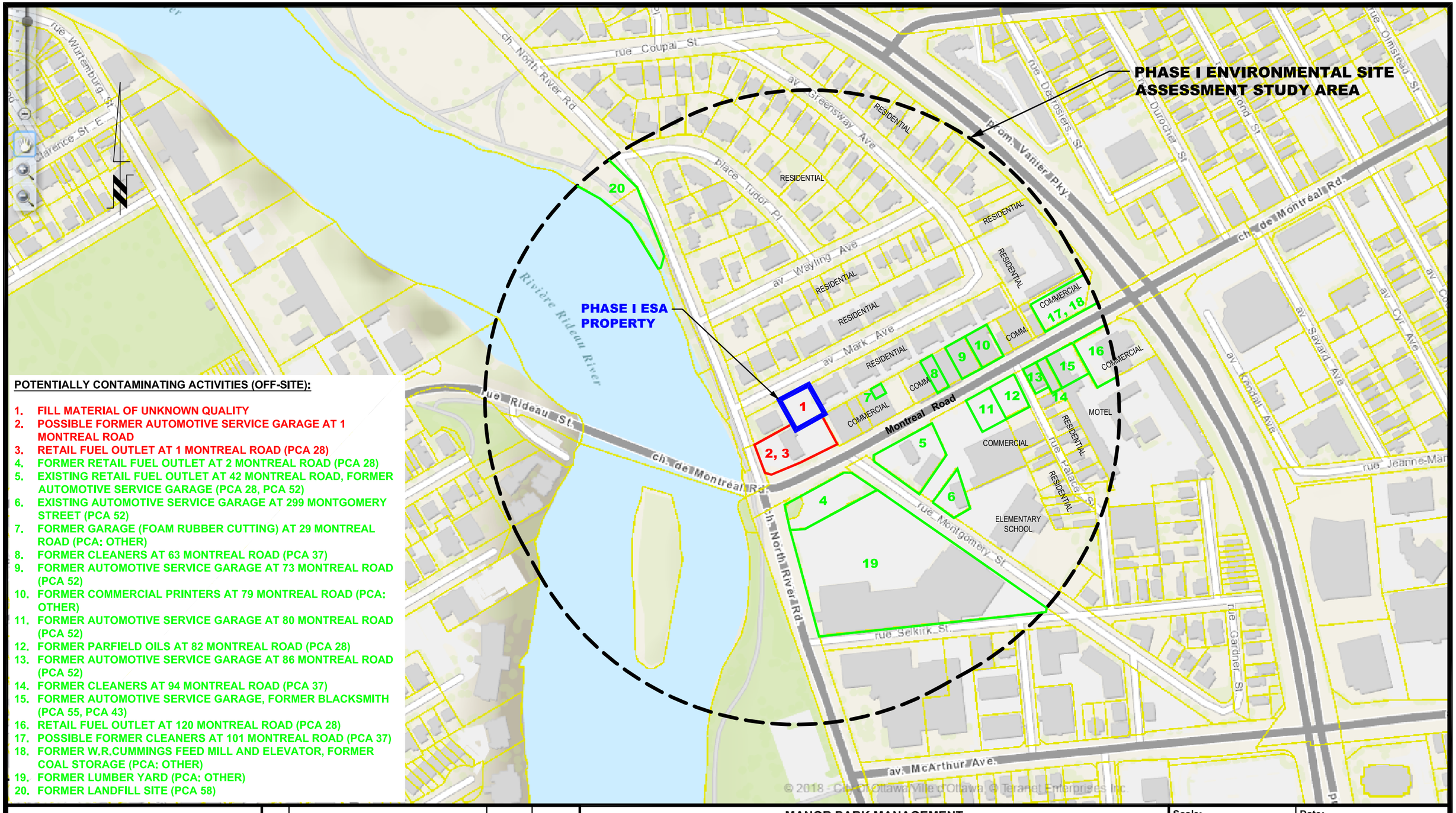
OTTAWA, ONTARIO

Title:

SITE PLAN

Scale: 1:300	**Date:** 07/2018
Drawn by: MPG	**Report No.:** PE4368-1
Checked by: KM	**Dwg. No.:** PE4368-1
Approved by: MSD	**Revision No.:** 0

p:\autocad drawings\environmental\pe43xx\pe4368\pe4368-1 site plan.dwg



POTENTIALLY CONTAMINATING ACTIVITIES (OFF-SITE):

1. FILL MATERIAL OF UNKNOWN QUALITY
2. POSSIBLE FORMER AUTOMOTIVE SERVICE GARAGE AT 1 MONTREAL ROAD
3. RETAIL FUEL OUTLET AT 1 MONTREAL ROAD (PCA 28)
4. FORMER RETAIL FUEL OUTLET AT 2 MONTREAL ROAD (PCA 28)
5. EXISTING RETAIL FUEL OUTLET AT 42 MONTREAL ROAD, FORMER AUTOMOTIVE SERVICE GARAGE (PCA 28, PCA 52)
6. EXISTING AUTOMOTIVE SERVICE GARAGE AT 299 MONTGOMERY STREET (PCA 52)
7. FORMER GARAGE (FOAM RUBBER CUTTING) AT 29 MONTREAL ROAD (PCA: OTHER)
8. FORMER CLEANERS AT 63 MONTREAL ROAD (PCA 37)
9. FORMER AUTOMOTIVE SERVICE GARAGE AT 73 MONTREAL ROAD (PCA 52)
10. FORMER COMMERCIAL PRINTERS AT 79 MONTREAL ROAD (PCA: OTHER)
11. FORMER AUTOMOTIVE SERVICE GARAGE AT 80 MONTREAL ROAD (PCA 52)
12. FORMER PARFIELD OILS AT 82 MONTREAL ROAD (PCA 28)
13. FORMER AUTOMOTIVE SERVICE GARAGE AT 86 MONTREAL ROAD (PCA 52)
14. FORMER CLEANERS AT 94 MONTREAL ROAD (PCA 37)
15. FORMER AUTOMOTIVE SERVICE GARAGE, FORMER BLACKSMITH (PCA 55, PCA 43)
16. RETAIL FUEL OUTLET AT 120 MONTREAL ROAD (PCA 28)
17. POSSIBLE FORMER CLEANERS AT 101 MONTREAL ROAD (PCA 37)
18. FORMER W.R.CUMMINGS FEED MILL AND ELEVATOR, FORMER COAL STORAGE (PCA: OTHER)
19. FORMER LUMBER YARD (PCA: OTHER)
20. FORMER LANDFILL SITE (PCA 58)

patersongroup
consulting engineers

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

NO.	REVISIONS	DATE	INITIAL
0			

MANOR PARK MANAGEMENT

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
20 MARK AVENUE

OTTAWA, ONTARIO

Title:

SURROUNDING LAND USE PLAN

Scale: 1:3000	Date: 07/2018
Drawn by: RCG	Report No.: PE4368-1
Checked by: KM	Dwg. No.: PE4368-2
Approved by: MSD	Revision No.: 0

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APPENDIX 1

TOPOGRAPHIC PLAN OF SURVEY

AERIAL PHOTOGRAPHS

SITE PHOTOGRAPHS

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

TOPOGRAPHIC PLAN OF
PART OF LOTS 5 & 6
(BLOCK 1)
REGISTERED PLAN 29
FORMERLY CITY OF VANIER
Now CITY OF OTTAWA

SCALE 1 : 250

0 5 10 20 25 metres

FAIRHALL, MOFFATT & WOODLAND LIMITED
ONTARIO LAND SURVEYORS

ELEVATION NOTES

1. ELEVATIONS SHOWN HEREON ARE REFERRED TO GEODETIC DATUM (CGVD28).
2. ELEVATIONS FOR MANHOLE COVERS AND CATCH BASINS HAVE TO BE INDEPENDENTLY CONFIRMED BEFORE THEY CAN BE ACCEPTED FOR FINAL DESIGN OR CONSTRUCTION PURPOSES.
3. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED AND THAT THEIR RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON THIS DRAWING.

UTILITY NOTES

1. THIS DRAWING CANNOT BE ACCEPTED AS ACKNOWLEDGING ALL OF THE UNDERGROUND UTILITIES AND IT WILL BE THE RESPONSIBILITY OF THE USER TO CONTACT THE RESPECTIVE UTILITY AUTHORITIES FOR CONFIRMATION OR LOCATION.
2. UNDERGROUND UTILITIES, AS REPORTED ON THIS DRAWING, ARE NOT BASED ON AN ACTUAL 'FIELD LOCATE' BY THE RESPECTIVE UTILITY AGENCIES BUT HAVE BEEN COMPILED FROM DATA OBTAINED FROM THE FOLLOWING SOURCE:
   a) CITY OF OTTAWA PUBLIC UTILITIES REGISTRY
3. BEFORE ANY WORK INVOLVING PROBING, EXCAVATING, ETC., A FIELD LOCATION OF UNDERGROUND PLANT BY THE PERTINENT UTILITY AUTHORITY IS MANDATORY.

NOTES

1. BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE SOUTHERLY LIMIT OF MARK AVENUE AS SHOWN ON PLAN 5R-5840 HAVING A BEARING OF N 61°43'20" E.
2. INFORMATION SHOWN ON THIS PLAN TAKEN FROM PLAN OF SURVEY BY FAIRHALL, MOFFATT & WOODLAND LIMITED, O.L.S. DATED NOV. 02, 2011 (REF. 16(a)-296 GR).
3. SURVEY COMPLETED ON OCTOBER 25, 2017.

LEGEND

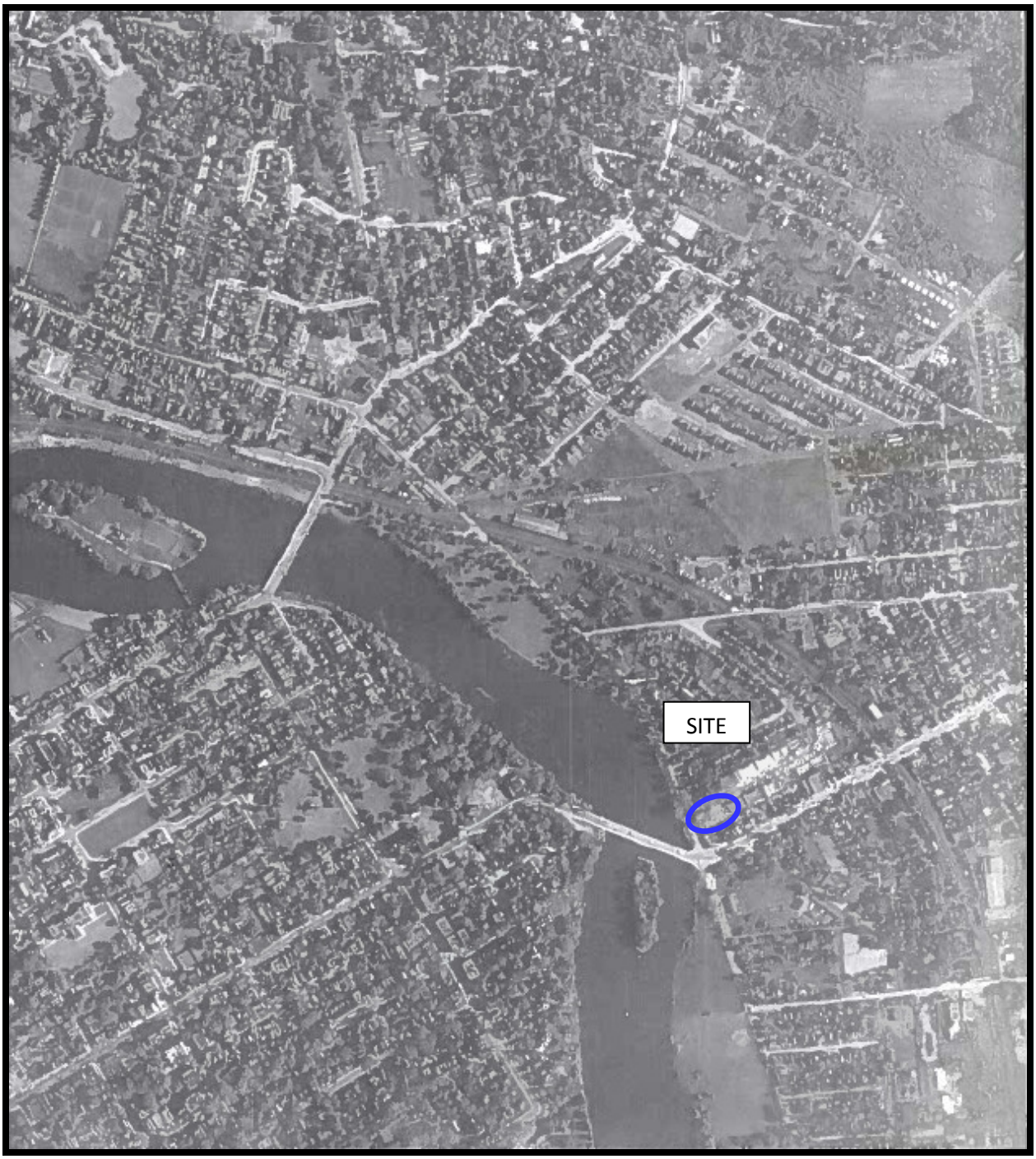
EXP. – EXPROPRIATION	☼ – CONIFEROUS TREE
DIA – DIAMETER	✿ – DECIDUOUS TREE
INV – INVERT	—W— – WATERMAIN
PIN – PROPERTY IDENTIFIER NUMBER	-·-·- – OVERHEAD UTILITY WIRES
BLDG – BUILDING	—UH— – UNDERGROUND HYDRO
(T) – TOP OF WALL	—UB— – UNDERGROUND BELL
CB ▥ – CATCH BASIN	—G— – GAS MAIN
MH ○ – MANHOLE	—ST— – STORM SEWER
LS ◉ – LAMP STANDARD	—SL— – STREET LIGHT
UP ⊗ – UTILITY POLE	—S— – SANITARY SEWER
FH ◇ – FIRE HYDRANT	═══ – CURB
WV ⋈ – WATER VALVE	
BP ⊠ – BELL PEDESTAL	
← – GUY WIRE AND ANCHOR	
• – BOLLARD	
▲ – SIGN	

THIS IS NOT A VALID COPY UNLESS EMBOSSED WITH SEAL

Fairhall Moffatt & Woodland
LIMITED
ONTARIO LAND SURVEYORS
OTTAWA
Surveying and Land Information Services
100–600 TERRY FOX DRIVE, KANATA, ONTARIO K2L 4B6
TEL: (613) 591–2580 FAX: (613) 591–1495
www.fmw.on.ca

JOB No.	X37000
E 369878, N 5033027	
REFERENCE No.	16 (c) – 29 GR
S:\JOBS\X37000\DWGS 2017–11–02	TP370X.DWG (nj)

AERIAL PHOTOGRAPH
1945

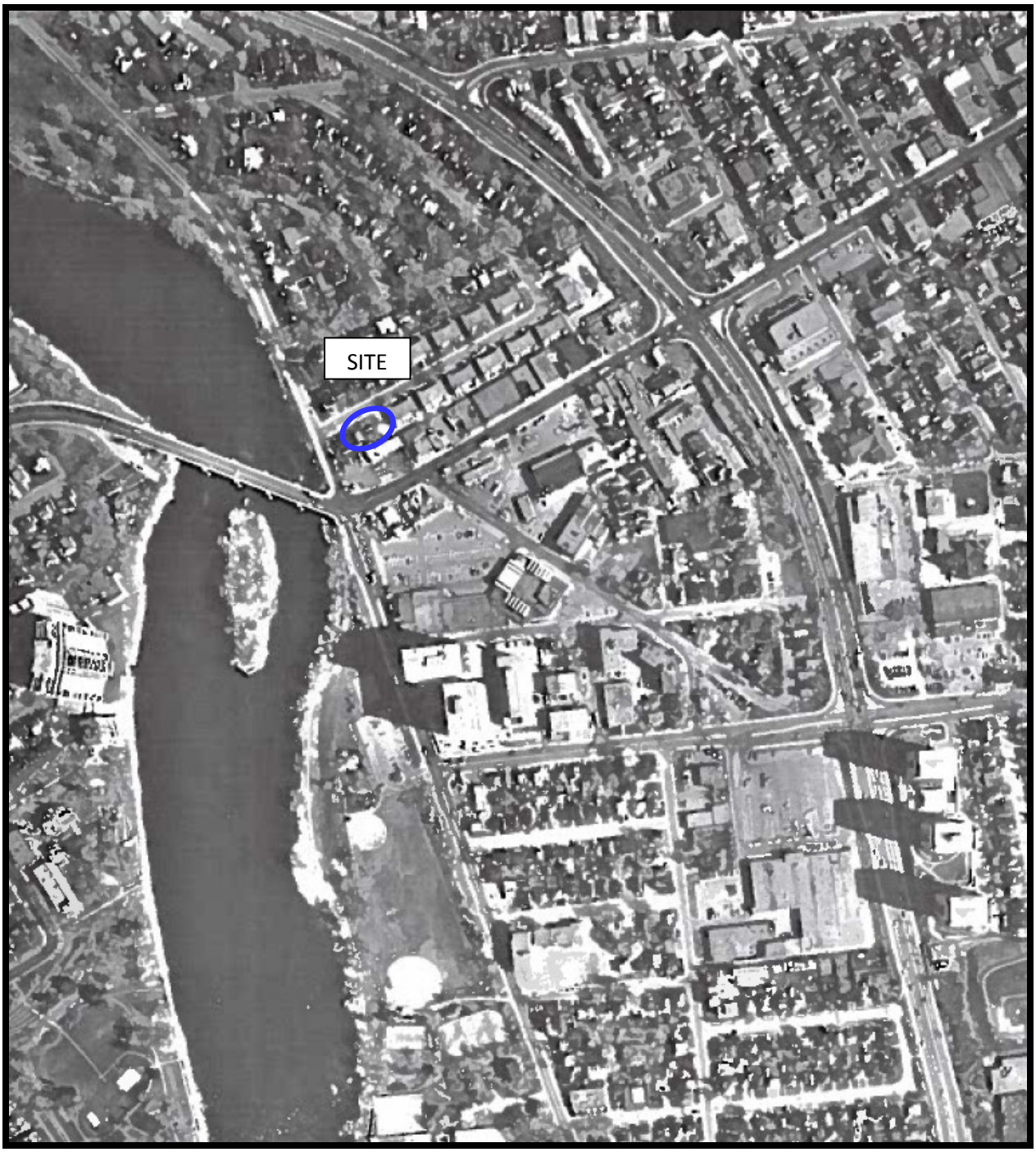


AERIAL PHOTOGRAPH
1950

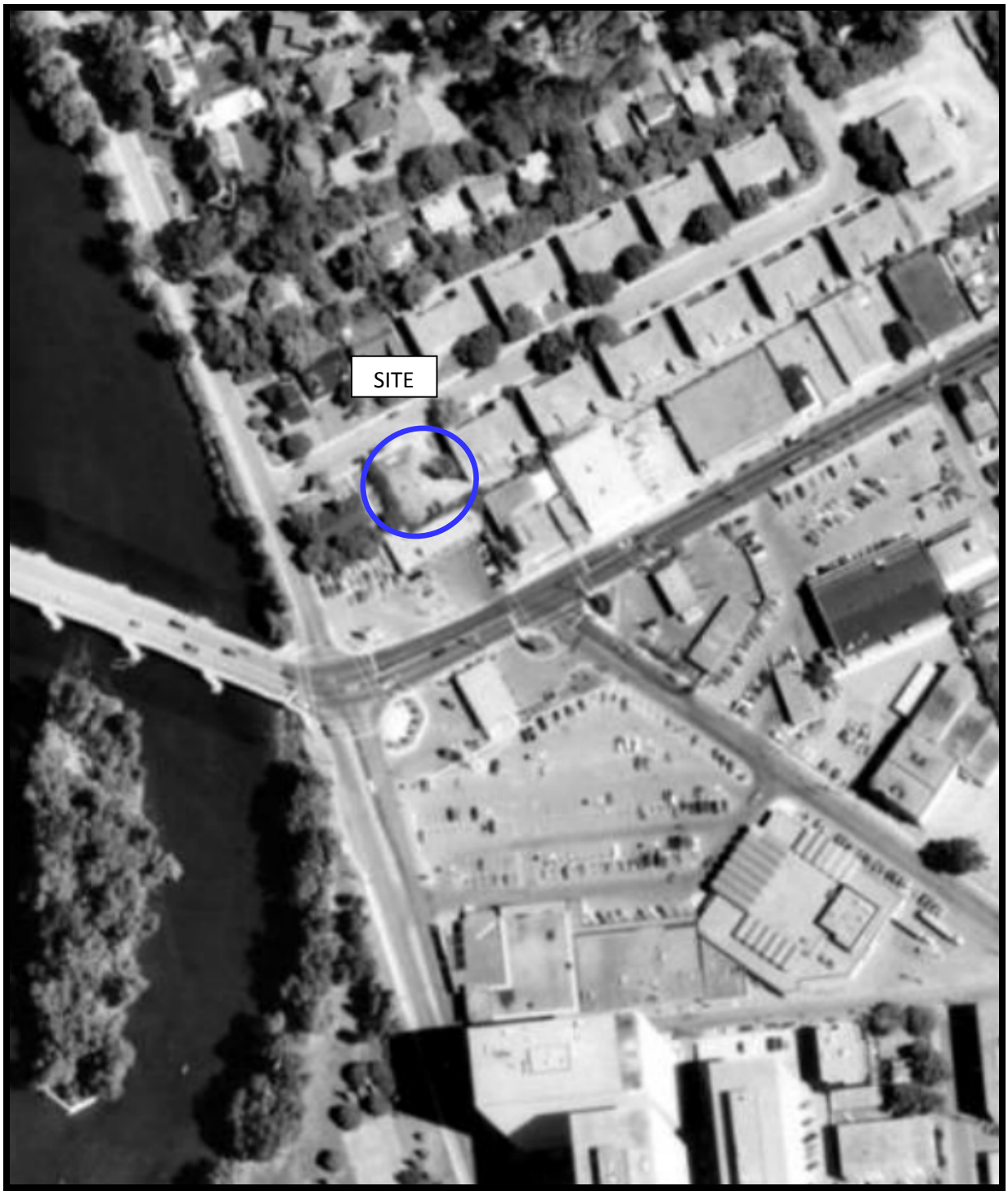
patersongroup

AERIAL PHOTOGRAPH
1976

patersongroup



AERIAL PHOTOGRAPH
1985

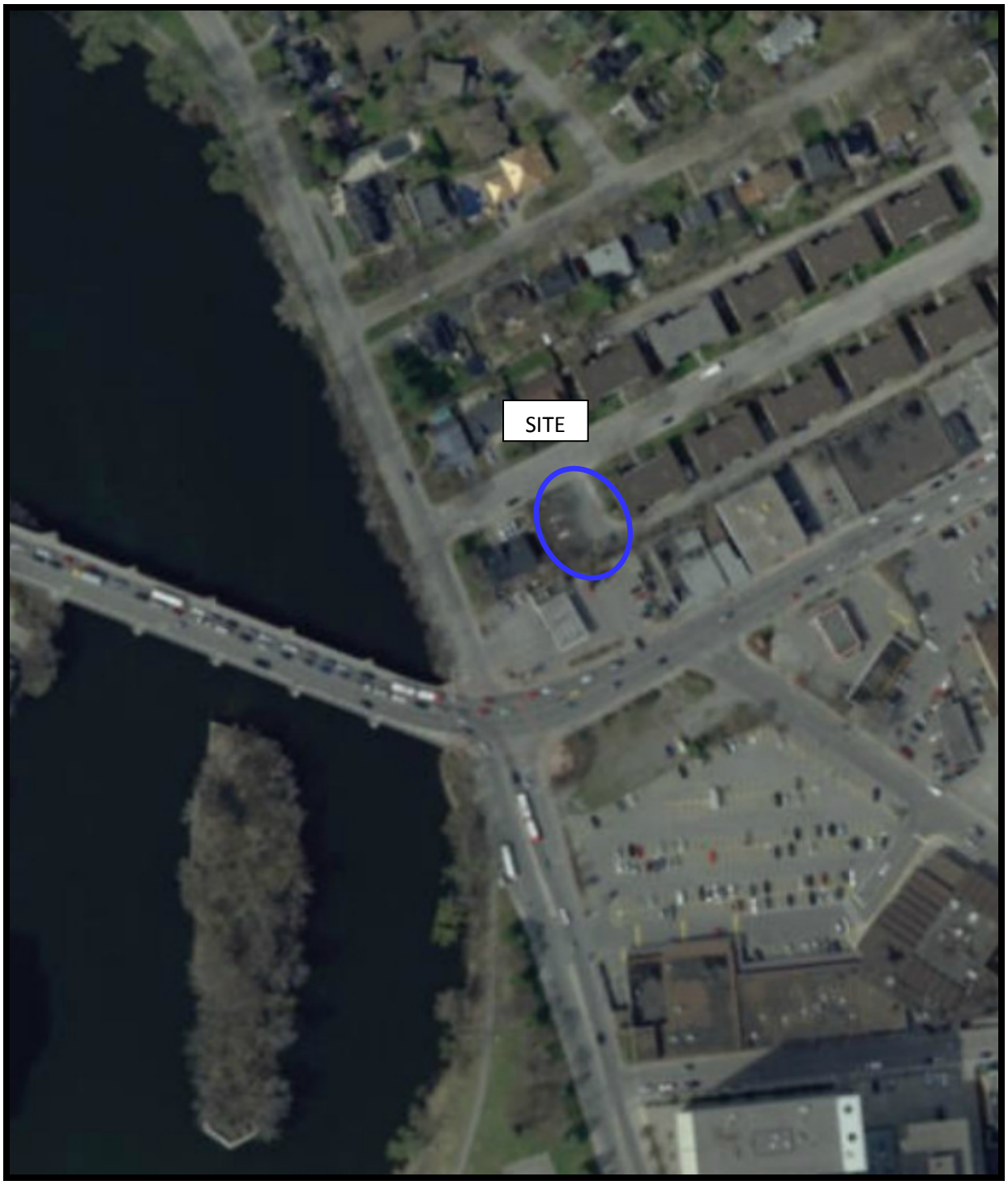


AERIAL PHOTOGRAPH
1991

patersongroup

AERIAL PHOTOGRAPH
2002

patersongroup



AERIAL PHOTOGRAPH
2014

patersongroup

Site Photographs

PE4368 | 20 Mark Avenue – Ottawa, ON | July 6, 2018

Photograph 1: Photograph illustrates southwestern portion of the Phase I Property, facing southwest. Photograph illustrates a portion of the retail fuel outlet kiosk adjacent to the southwest.

Photograph 2: View of northeastern portion of the Phase I Property, facing north. Photograph illustrates residential land use adjacent to the east.

Photograph 3: View of northwestern portion of Phase I Property. Photograph illustrates residential land use to the north across Mark Avenue.

Photograph 4: View of commercial building adjacent to the southeast, facing southeast.

Photograph 5: View of residential property adjacent to the west, facing southwest.

Photograph 6: View of underground fuel tank nest on retail fuel outlet property adjacent to the southwest of the Phase I Property, facing northeast.

APPENDIX 2

MOECP FREEDOM OF INFORMATION

MOECP WELL RECORDS

CITY OF OTTAWA HLUI

TSSA CORRESPONDENCE

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 Karyn Munch Paterson Group Inc. 154 Colonnade Road Ottawa, ON K2E 7J5 **Email address:** amenyhart@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. PE4368	Signature/Print /Name of Requester Karyn Munch	☐ 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)**

20 Mark Avenue, Ottawa, Ontario

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

Manor Park Management (2012)

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

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

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.

Well ID

Well ID Number: 7236606
Well Audit Number: *Z191601*
Well Tag Number: *A147952*

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

Well Location

Address of Well Location	307 MONTGOMERY STREET
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Ottawa
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 447768.00 Northing: 5031241.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
	----			0 m	.25 m
BRWN	FILL	SAND	GRVL	.25 m	1.45 m
BRWN	TILL	SAND	GRVL	1.45 m	6 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
.9 m	3.9 m	BENTONITE	

Method of Construction & Well Use

Method of Construction	Well Use
H.S.A.	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
5.08 cm	PLASTIC	0 m	4.5 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
5.86 cm	PLASTIC	4.5 m	6 m

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 depth	
Recommended pump rate	
Well Production	
Disinfected?	

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 Details

Water Found at Depth	Kind
5.8 m	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 m	6 m	20.3 cm

Audit Number: Z191601

Date Well Completed: May 17, 2013

Date Well Record Received by MOE: January 29, 2015

Updated: June 28, 2018
RateRate

UTM | 1 | 8 | Z | 4 4 7 6 2 0 | E
| 5 0 3 1 0 4 0 | N
Elev. | 9 | R | 0 1 8 5 |
Basin | 2 5 | | |

132

ONTARIO

15 No 7802

The Well Drillers Act
Department of Mines, Province of Ontario

Water Well Record

[redacted] ~~Township, Village, Town~~ or City Ottawa
[redacted] Town or City)
[redacted] s Churchill ... Billings Bridge
Date Completed ... (day) (month) (year) Cost of Well (excluding pump)

Pipe and Casing Record		Pumping Test	
Casing diameter(s)	6	Date	
Length(s) of casing(s)	22	Static level	14
Type of screen		Pumping level	25
Length of screen		Pumping rate	
Distance from top of screen to ground level		Duration of test	
Is well a gravel-wall type?		Distance from cylinder or bowls to ground level	

Water Record

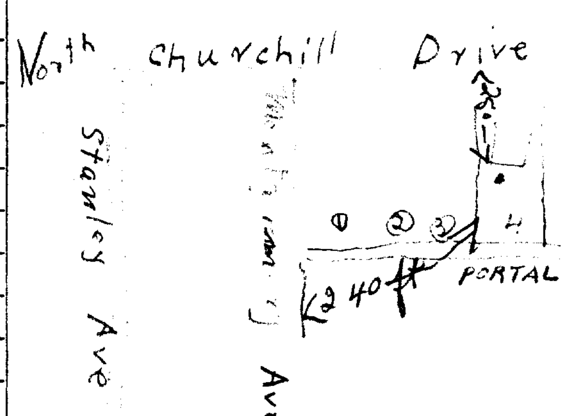
		Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
Kind (fresh or mineral)	fresh			
Quality (hard, soft, contains iron, sulphur, etc.)	medium			
Appearance (clear, cloudy, coloured)	clear		little	
For what purpose(s) is the water to be used?		85	Mineral	71
	house		they	
How far is well from possible source of contamination?			say	
What is the source of contamination?				
Enclose a copy of any mineral analysis that has been made of water				

Well Log

Overburden and Bedrock Record	From	To
	0 ft.	....ft.
Black loam	1	3
Soft dark shale	3	96

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Situation: Is well on upland, in valley, or on hillside?
Drilling Firm Gordon Mulligan
Address Westboro RR 1
Name of Driller John Mumphrey Address 703 Gilmour St
Date Licence Number
Signature of Licensee

FORM 5

CSS.S8
Alta Vista Dr.

Ontario — Ministry of the Environment

Well Tag A011967 (per below)

A011967

Well Record

Regulation 903 Ontario Water Resources Act

Instructions for Completing Form

- For use in the **Province of Ontario** only. This document is a permanent **legal** document. Please retain for future reference.
- All Sections **must** be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

MUN | CON | LOT

[redacted]

Address of Well Location (County/District/Municipality): 42 MONTREAL RD. | Township: City of Ottawa. | Lot | Concession

RR#/Street Number/Name: 42 Montreal Road. | City/Town/Village: OTTAWA | Site/Compartment/Block/Tract etc.

GPS Reading: NAD 83 | Zone 18 | Easting 447703 | Northing 5031290 | Unit Make/Model | Mode of Operation: ☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To (Metres)
			5 Monitoring Wells as a Cluster - See Attached Typical B.H. Log.		

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	4 m	200 mm
4 m	7.5 m	100 mm
Typical		

Water Record

Water found at ___ Metres / Kind of Water

- ___ m: ☐ Fresh ☐ Sulphur ☐ Gas ☑ Salty ☐ Minerals ☐ Other:
- ___ m: ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
- ___ m: ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:

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

Chlorinated ☐ Yes ☑ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To (Metres)
Casing				
50 mm	☐ Steel ☐ Fibreglass ☑ Plastic ☐ Concrete ☐ Galvanized	Schedule #40		
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam 65 mm	☐ Steel ☐ Fibreglass ☑ Plastic ☐ Concrete ☐ Galvanized	Slot No. #10		
No Casing or Screen				
	☐ Open hole			

Test of Well Yield

Pumping test method	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ___ hrs + ___ min	2		2	
Final water level end of pumping ___ metres	3		3	
Recommended pump type. ☐ Shallow ☐ Deep	4		4	
Recommended pump depth. ___ metres	5		5	
Recommended pump rate. (litres/min)	10		10	
	15		15	
If flowing give rate - (litres/min)	20		20	
	25		25	
If pumping discontinued, give reason.	30		30	
	40		40	
	50		50	
	60		60	

Plugging and Sealing Record

☑ Annular space ☐ Abandonment

Depth set at - Metres From	Depth set at - Metres To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
		See B.H. Log and Installation	

Method of Construction

☐ Cable Tool ☐ Rotary (air) ☑ Diamond ☐ Digging
☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other
☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

☐ Domestic ☐ Industrial ☐ Public Supply ☑ Other Sampling
☐ Stock ☐ Commercial ☐ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☐ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)
☑ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information

Name of Well Contractor: DOWNING ESTATE DRILLING | Well Contractor's Licence No.: 1844

Business Address (street name, number, city etc.): 410 PRINCIPALE GRENVILLE-SUR-LA-ROUGE QC J0V1B0

Name of Well Technician (last name, first name): DOWNING, BRUCE | Well Technician's Licence No.: T2173

Signature of Technician/Contractor: X [signature] | Date Submitted YYYY MM DD: 04 12 23

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.

SEE ATTACHED SITE PLAN

Audit No. Z 20827 | Date Well Completed YYYY MM DD: 04 11 26

Was the well owner's information package delivered? ☑ Yes ☐ No | Date Delivered YYYY MM DD: 04 12 23

Ministry Use Only

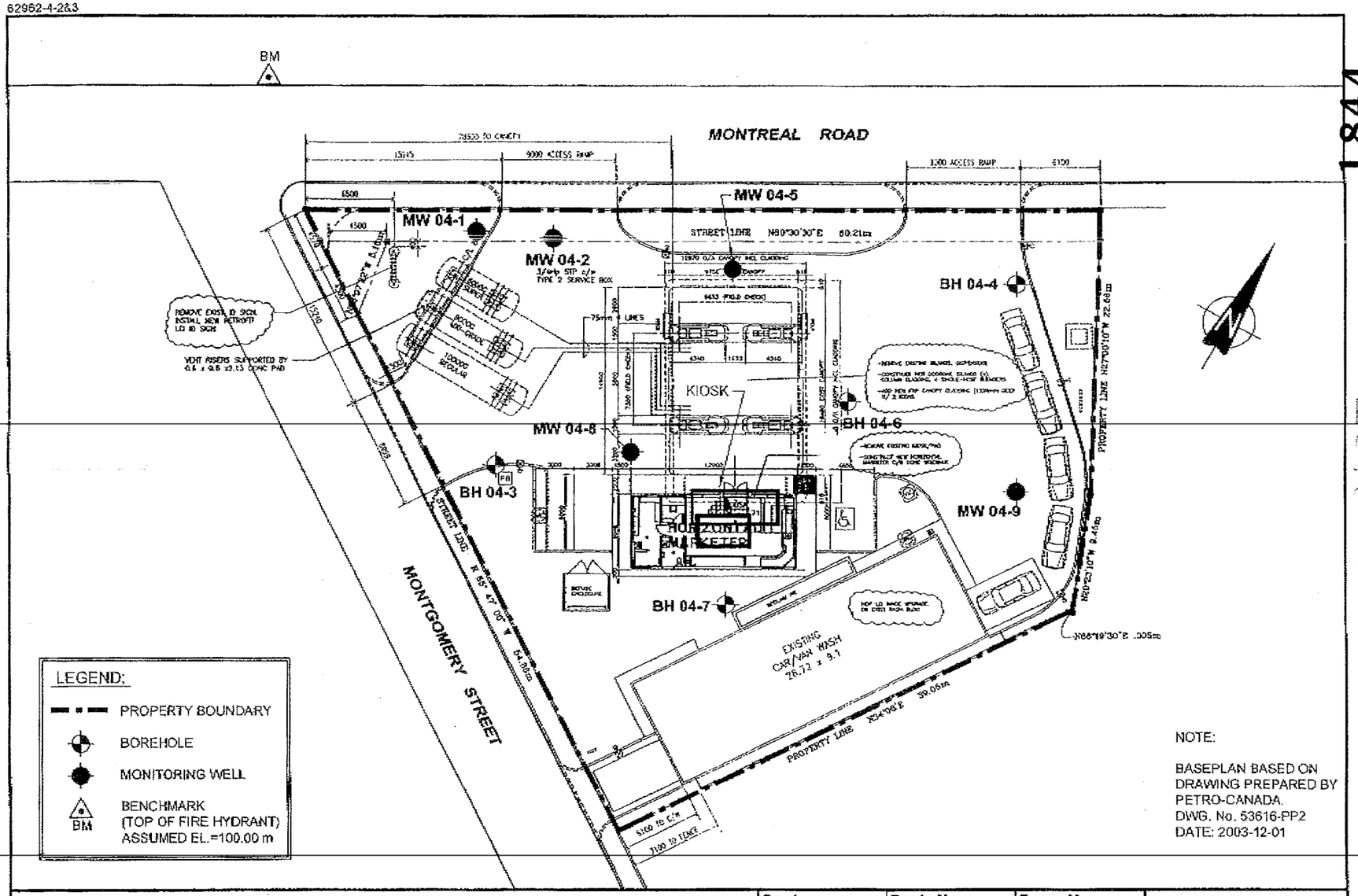
Data Source | Contractor: 1844

Date Received YYYY MM DD: JAN 21 2005 | Date of Inspection YYYY MM DD

Remarks | Well Record Number

62962-4-2&3

1844



PETRO-CANADA

PHASE II ENVIRONMENTAL SITE ASSESSMENT
42 MONTREAL ROAD AT MONTGOMERY STREET
SITE PLAN

OTTAWA, ONTARIO

Scale:	Proj. No.:	Dwg. No.:
1:400	ONO62962-4	2
Date:	Dwn. by:	Appd.:
04/12/09	GBB	

Jacques Whitford

Ontario Ministry of the Environment

Well Tag No. for Master Well (Place Sticker and/or Print Below)
A 068537
A068537

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 2

[redacted]

Address of Well Location (Street Number/Name, RR): 785 Palace Road
Township: Ottawa
Lot:
Concession:
County/District/Municipality: Ottawa.
City/Town/Village: Ottawa
Province: Ontario
Postal Code:
UTM Coordinates NAD 83 Zone: 18 Easting: 447841 Northing: 5031364
GPS Unit Make: Garmin
Model: Etrex
Mode of Operation: ☐ Differentiated, specify ☐ Undifferentiated ☑ Averaged

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	Depth (Metres) To
brown	Sand + Gravel	trace silt		0	2.5
Clay	Silty clay	sand + gravel		2.5	3.0

MW#3

Hole Details

Depth (Metres) From	Depth (Metres) To	Diameter (Centimetres)
0	3.0	20

Water Use

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

Method of Construction

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

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, *specify*
☐ Alteration (Construction) ☐ Abandoned, other, *specify*

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	Depth (Metres) To
5.1	PVC	Sched 40	0	1.5

No Casing and Screen Used

Open Hole ☐ Yes ☑ No

Static Water Level Test

[ ][ ] Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres): 5.8
Slot No.: 10

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	Depth Set at (Metres) To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	1.0	Bentonite	30 kgs

Water Details

Water found at Depth [ ][ ] Metres ☐ Gas — Kind of Water ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Water found at Depth [ ][ ] Metres ☐ Gas — Kind of Water ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Water found at Depth [ ][ ] Metres ☐ Gas — Kind of Water ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☑ No If no, provide reason: Monitoring Well
Date Master Well Completed (yyyy/mm/dd): 2008/06/19

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster: 2
Please indicate Number of Cluster Well Information Log Sheets Submitted: 1
Total Wells on this Property: Unknown

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.
☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

[redacted]

Well Contractor and Well Technician Information

Business Name of Well Contractor: George Downing Estate Drilling
Well Contractor's Licence No.: 1144
Business Address (Street No./Name, number, RR): 410 Rue Principale
Municipality: Grenville Sur La Rouge
Province: QC
Postal Code: J0V 1B0
Business E-mail Address: downing@xplornet.com
Business Telephone No. (inc. area code): 1 819 242 6469
Name of Well Technician (Last Name, First Name): Downing, Bruce
Well Technician's Licence No.: 2173
Signature of Technician: Bruce Downing
Date Submitted (yyyy/mm/dd): 2008/07/03

Ministry Use Only

Audit No.: M 01053
Well Contractor No.:
Date Received (yyyy/mm/dd): AUG 11 2008
Date of Inspection (yyyy/mm/dd):
Remarks:

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Ontario | Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.)
A 068537
A068537.

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

[redacted]

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
285 Palace Road.				

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
Ottawa.	Ontario		Garmin	Etrex	☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify:

Consent to release additional information to the Director upon request

Signature of Technician/Contractor	Date (yyyy/mm/dd)
[signature]	2008/07/03

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
MW #4	18	447849	5031343	4.5	20	HSA	PVC	1.5	1.5	4.5	Bentonite				2008/06/19

Date 1st Well in Cluster Constructed (yyyy/mm/dd)	Date Last Well in Cluster Constructed (yyyy/mm/dd)
2008/06/19	2008/06/19.

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
George Downing Estate Drilling Ltd	410 Rue Principale	Grenville Sur La Rouge	QC.

Postal Code	Business Telephone No. (inc. area code)	Well Contractor's Licence No.	Business E-mail Address
J0V 1B0	819 242 6469	1 8 4 4	downing@xplornet.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted (yyyy/mm/dd)	Signature of Technician
Bruce Downing	2 1 7 3	2008/07/03	[signature]

Ministry Use Only

Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)
AUG 11 2008	

Audit No.	Remarks
C 03052	MO 1053

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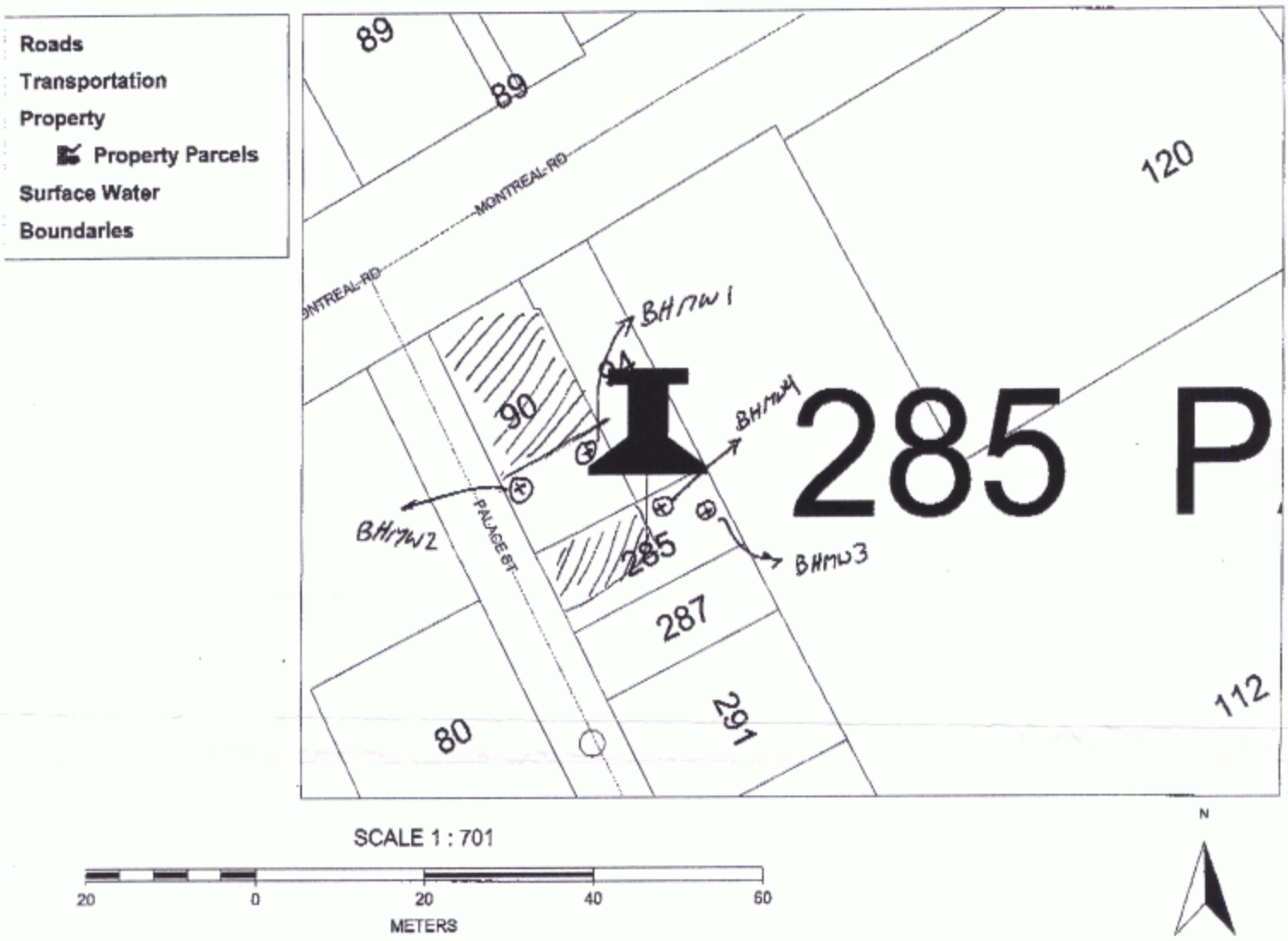
Ottawa



M01053

C03052

C-1844

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Place Sticker and/or Print Below)*
A 068526
A068526

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

[redacted]

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
90-92 Montreal Road			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Ottawa	Ontario	

UTM Coordinates: NAD 83 | Zone 18 | Easting 447838 | Northing 5031348 | GPS Unit Make: Garin | Model: Etrex

Mode of Operation: ☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	To
Brown	Sand + Gravel			0	1.0
Grey	Clay + Silt	Sand + gravel		1.0	4.0
Grey	Fractured Bedrock			4.0	5.0

Hole Details

BHMW#1

Depth (Metres) From	To	Diameter (Centimetres)
0	5.0	20

Water Use

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

Method of Construction

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

Status of Well

☑ Test Hole ☐ Replacement Well ☐ Dewatering Well ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Other, *specify* ☐ Abandoned, other, *specify*

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	To
5.1	PVC	Sched 40	0	2.0

No Casing and Screen Used

Open Hole ☐ Yes ☑ No

Static Water Level Test

Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres): 5.8 | Slot No.: 10

Water Details

Water found at Depth	Kind of Water
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0.1	1.5	Bentonite	40 Kgs

Disinfected ☐ Yes ☑ No If no, provide reason: Monitoring Well

Date Master Well Completed (yyyy/mm/dd): 2008/06/19

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster: 2

Please indicate Number of Cluster Well Information Log Sheets Submitted: 1

Total Wells on this Property: unknown

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.

☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

[redacted]

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
George Downing Estate Drilling	1844

Business Address (Street No./Name, number, RR)	Municipality
410 Rue Principale	Granville Sur La Rouge

Province	Postal Code	Business E-mail Address
QC	J0V 1B0	downing@xplornet.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
8192426449	Downing, Bruce

Well Technician's Licence No.	Signature of Technician	Date Submitted *(yyyy/mm/dd)*
2173	[signature]	2008/07/03

Ministry Use Only

Audit No.	Well Contractor No.
M 01052	

Date Received *(yyyy/mm/dd)*	Date of Inspection *(yyyy/mm/dd)*
AUG 21 2008	

Remarks

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Ontario Ministry of the Environment

Well Tag N[illegible] ell Tag No.)
A 068526
A068526

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

[redacted]

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
90-92 Montreal Road				

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
Ottawa	Ontario		GARMIN	Etrex	☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify:

Signature of Technician/Contractor	Date (yyyy/mm/dd)
[signature]	2008/07/03

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
MW #2	18	447783	5031344	4.0	20	HSA	PVC	1.5	1.5	4.0	Bentonite				2008/06/19

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
George Downing Estate Drilling Ltd	410 Rue Principale	Grenville Sur La Rouge	QC

Postal Code	Business Telephone No. (inc. area code)	Well Contractor's Licence No.	Business E-mail Address
J0V 1B0	819 242 6469	1814	downeng@xplornet.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted (yyyy/mm/dd)	Signature of Technician
Bruce Downing	2173	2008/07/03	[signature]

Date 1st Well in Cluster Constructed (yyyy/mm/dd)	Date Last Well in Cluster Constructed (yyyy/mm/dd)
2008/06/19	2008/06/19

Ministry Use Only

Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)
AUG 21 2008	

Audit No.	Remarks
C 03051	M01052

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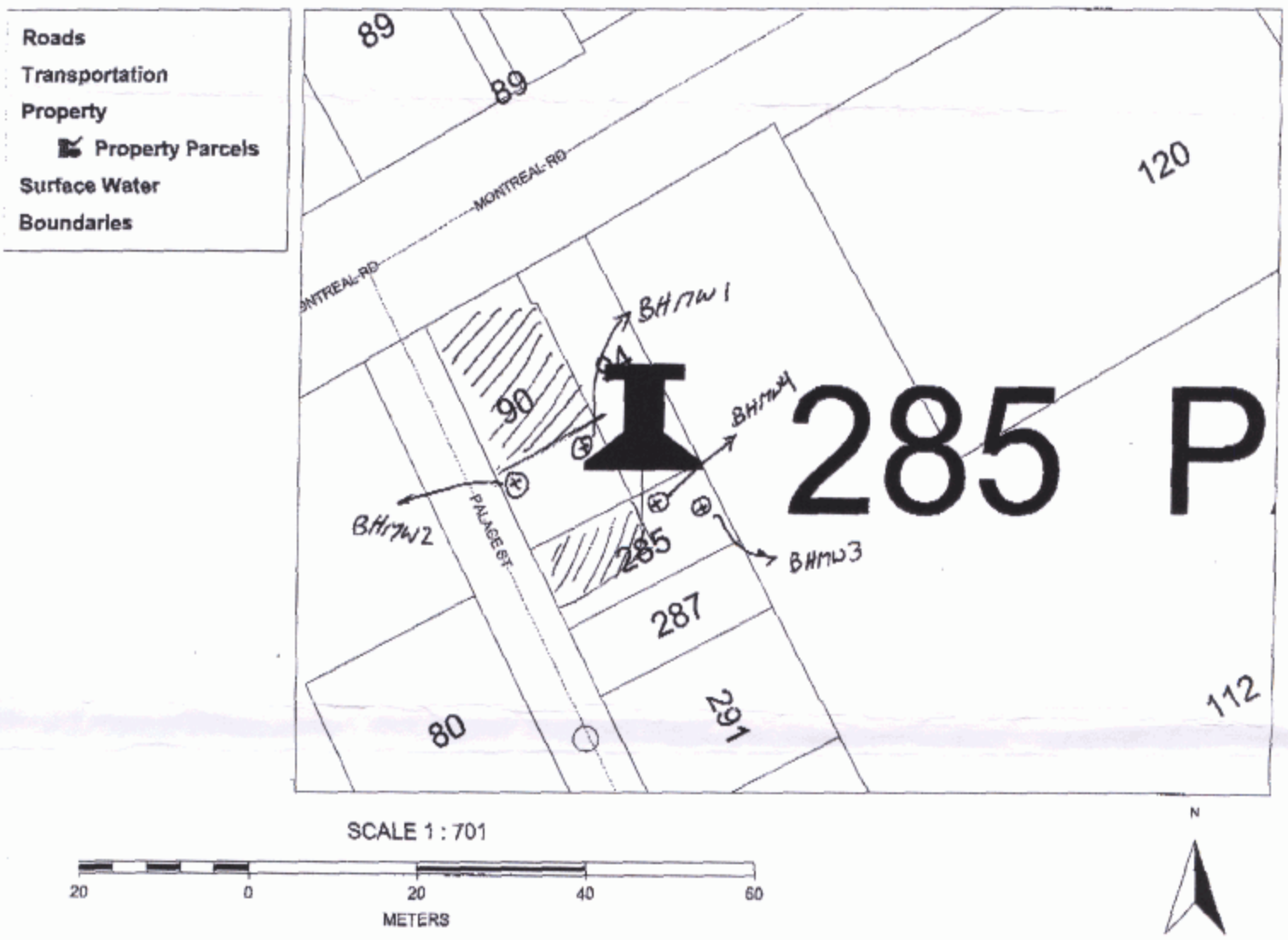
Ottawa



AUG 2 1 2008

M01052
C03051

C-1844

Ontario — Ministry of the Environment

S-12809

Well Record

Regulation 903 Ontario Water Resources Act

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

Tag#: A133517 A133517

Page _____ of _____

Measurements recorded in: ☒ Metric ☐ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	Suncor Energy Products	[redacted]	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
3275 Rebecca st.	Oakville	ON	L6L6N5	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
42 Menhel Rd.			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	447305	5031319		

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
BLK	Asphalt.		Hard.	0	.31
Grey	Gravel.	Sand	Loose.	.31	1.22
Brown	Fine Sand.		Loose, Wet.	1.22	2.74
Grey	Silt	gravel	Hard, Layered.	2.74	6.1
BLK	SHALE		Fractured.	6.1	8.53

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	.31	Flushmount/Concrete	
.31	6.71	3/8" Holeplug.	
6.71	8.53	Soil.	

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
3.45	plastic	.356	0	7.01

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.21	plastic	10	7.01	8.53

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	6.71	11.43
6.71	8.53	5.71

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)*

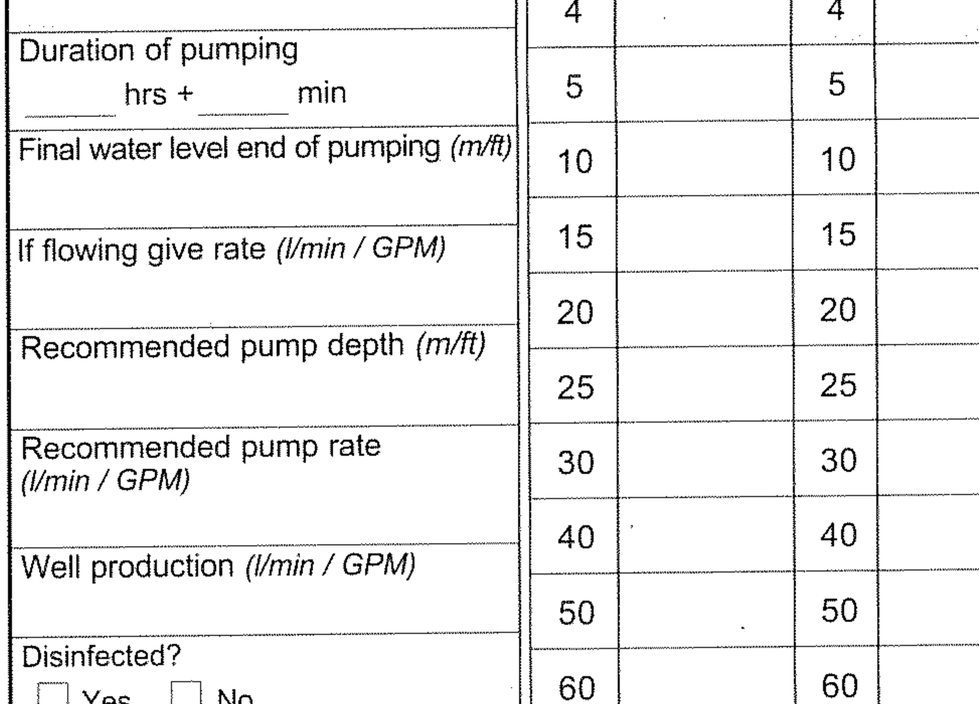
Well production *(l/min / GPM)*

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.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
2-147 west Beaver creek Rd.	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B1C6	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9057649304	Beath, Brian

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3616		2012/07/20

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2012/07/16

Ministry Use Only

Audit No. Z152894

Received 2012

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Ministry's Copy

Well ID

Well ID Number: 7236606
Well Audit Number: *Z191601*
Well Tag Number: *A147952*

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

Well Location

Address of Well Location	307 MONTGOMERY STREET
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Ottawa
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 447768.00 Northing: 5031241.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
	----			0 m	.25 m
BRWN	FILL	SAND	GRVL	.25 m	1.45 m
BRWN	TILL	SAND	GRVL	1.45 m	6 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
.9 m	3.9 m	BENTONITE	

Method of Construction & Well Use

Method of Construction	Well Use
H.S.A.	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
5.08 cm	PLASTIC	0 m	4.5 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
5.86 cm	PLASTIC	4.5 m	6 m

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 depth	
Recommended pump rate	
Well Production	
Disinfected?	

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 Details

Water Found at Depth	Kind
5.8 m	Untested

Hole Diameter

Depth From	Depth To	Diameter
0 m	6 m	20.3 cm

Audit Number: Z191601

Date Well Completed: May 17, 2013

Date Well Record Received by MOE: January 29, 2015

Updated: June 28, 2018
RateRate

Well ID

Well ID Number: 7241411
Well Audit Number: *C26583*
Well Tag Number: *A156850*

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

Well Location

Address of Well Location	
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 447618.00 Northing: 5031230.00
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: 1844

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 depth	
Recommended pump rate	
Well Production	
Disinfected?	

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 Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C26583

Date Well Completed: October 08, 2014

Date Well Record Received by MOE: May 11, 2015

Updated: June 28, 2018
RateRate
Sharefacebook twitter Print
Tags

- Environment and energy,
- Drinking water,

Well ID

Well ID Number: 7240449
Well Audit Number: *C23834*
Well Tag Number: *A156884*

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

Well Location

Address of Well Location	
Township	OTTAWA CITY
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 447660.00 Northing: 5031303.00
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: 1844

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 depth	
Recommended pump rate	
Well Production	
Disinfected?	

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 Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter

Audit Number: C23834

Date Well Completed: May 16, 2014

Date Well Record Received by MOE: April 23, 2015

Updated: June 28, 2018
RateRate
Sharefacebook twitter Print
Tags

- Environment and energy,
- Drinking water,

Well ID

Well ID Number: 7218032
Well Audit Number: *Z179982*
Well Tag Number: *A157820*

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

Well Location

Address of Well Location	50 SELKIRK ST.
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	OTTAWA
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 447824.00 Northing: 5031131.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
GREY	FILL	GRVL	LOOS	0 m	.61 m
BRWN	FSND		SOFT	.61 m	2.14 m
BRWN	FSND		SOFT	2.14 m	3.68 m
BLCK	CLAY	GRVL	HARD	3.68 m	4.57 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE/FLUSHMOUNT	
.31 m	1.22 m	BENTONITE	
1.22 m	4.57 m	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	Monitoring and Test Hole

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
4.03 cm	PLASTIC	0 m	1.5 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
4.82 cm	PLASTIC	1.5 m	4.57 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

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 depth	
Recommended pump rate	
Well Production	
Disinfected?	

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 Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 m	4.57 m	8.25 cm

Audit Number: Z179982

Date Well Completed: February 20, 2014

Date Well Record Received by MOE: March 20, 2014

Updated: June 28, 2018
RateRate

Well ID

Well ID Number: 7256736
Well Audit Number: *Z209035*
Well Tag Number: *A173870*

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

Well Location

Address of Well Location	RIVER RD AND WAYLING AVE
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Ottawa
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 447514.00 Northing: 5031483.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	FILL		SOFT	0 m	2.44 m
BLCK	TILL	FOSS	CLAY	2.44 m	5.18 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE	
.31 m	3.35 m	HOLEPLUG	
3.35 m	5.18 m	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	
DIAMOND	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
5.2 cm	PLASTIC	0 m	3.66 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
6.03 cm	PLASTIC	3.66 m	5.18 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

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 depth	
Recommended pump rate	
Well Production	
Disinfected?	

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 Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 m	5.18 m	16.84 cm

Audit Number: Z209035

Date Well Completed: November 25, 2015

Date Well Record Received by MOE: January 21, 2016

Updated: June 28, 2018
RateRate

Well ID

Well ID Number: 7256739
Well Audit Number: *Z209034*
Well Tag Number: *A173873*

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

Well Location

Address of Well Location	N RIVER RD
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Ottawa
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 447580.00 Northing: 5031317.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BLCK	FILL		SOFT	0 m	2.44 m
BLCK	SILT	CLAY	WBRG	2.44 m	4.88 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE	
.31 m	3.1 m	HOLEPLUG	
3.1 m	4.88 m	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Rotary (Convent.)	
DIAMOND	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
5.2 cm	PLASTIC	0 m	3.35 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
6.03 cm	PLASTIC	3.35 m	4.88 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

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 depth	
Recommended pump rate	
Well Production	
Disinfected?	

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 Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 m	4.88 m	15.84 cm

Audit Number: Z209034

Date Well Completed: November 26, 2015

Date Well Record Received by MOE: January 21, 2016

Updated: June 28, 2018
RateRate

Well ID

Well ID Number: 7283536
Well Audit Number: *Z232157*
Well Tag Number: *A204033*

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

Well Location

Address of Well Location	42 MONTREAL RD
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Ottawa
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 447723.00 Northing: 5031307.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
	TILL			0 m	7.62 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
3.05 m	3.95 m	BENTONITE	

Method of Construction & Well Use

Method of Construction	Well Use
H.S.A.	
	Monitoring

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
5.08 cm	PLASTIC	0 m	4.57 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
5.89 cm	PLASTIC	4.57 m	7.62 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 1844

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 depth	
Recommended pump rate	
Well Production	
Disinfected?	

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 Details

Water Found at Depth	Kind
6.7 m	Untested

Hole Diameter

Depth From	Depth To	Diameter
		20.3 cm

Audit Number: Z232157

Date Well Completed: November 15, 2016

Date Well Record Received by MOE: March 20, 2017

Updated: June 28, 2018
RateRate
Sharefacebook twitter Print
Tags

- Environment and energy,
- Drinking water,

Office Use Only		
Application Number:	Ward Number:	Application Received: (dd/mm/yyyy):
Client Service Centre Staff:	Fee Received:	$

Historic Land Use Inventory

Application Form

Notice of Public Record

All information and materials required in support of your application shall be made available to the public, as indicated by Section 1.0.1 of *The Planning Act*, R.S.O. 1990, C.P.13.

Municipal Freedom of Information and Protection Act

Personal information on this form is collected under the authority the *Planning Act*, RSO 1990, c. P. 13 and will be used to process this application. Questions about this collection may be directed by mail to Manager, Business Support Services, Planning Infrastructure and Economic Development Department, 110 Laurier Avenue West, Ottawa, K1P 1J1, or by phone at (613) 580-2424, ext. 24075

Background Information

***Site Address or Location:** 20 Mark Avenue, Ottawa

** Mandatory Field*

Applicant/Agent Information:

Name: Paterson Group

Mailing Address: 154 Colonnade Road S

Telephone: 613-226-7381 Email Address: kmunch@patersongroup.ca

Registered Property Owner Information: ☐ Same as above

Name: Manor Park Management

Mailing Address: 231 Brittany Drive, Suite D Ottawa, ON

Telephone: 613-745-6881 Email Address:

Site Details

Part of PIN 04236-0175

Legal Description and PIN: Part of Lot 6 (Block 1) Registered Plan 29 Formerly City of Vanier, Now City of Ottawa

What is the land currently used for? parking lot

Lot frontage: 28 m Lot depth: 29 m Lot area: 812 m² (approx)

OR Lot area: (irregular lot) m²

Does the site have Full Municipal Services: ○ Yes ✓ No

in municipally serviced area

Required Fees

Please don't hesitate to visit the Historic Land Use Inventory website more information. Fees must be paid in full at the time of application submission.

Planning Fee $102.00

Submittal Requirements

The following are required to be submitted with this application:

1. **Consent to Disclose Information:** Consultants and other third parties may make requests for information on behalf of an individual or corporation. However, if the requester is not the owner of the property, **the requester must provide the City of Ottawa with a 'consent to disclose information' letter, signed by the property owner.** This will authorize the City of Ottawa to release any relevant information about the property or its owner(s) to the requester. Consent for disclosure is required in the event that personal information or proprietary company information is found concerning the property and its owner. All consents must clearly indicate the name of the property owner as well as the name of the requester, and must be signed and dated.

2. **Disclaimer:** Requesters must read and understand the conditions included in the attached disclaimer and submit a signed disclaimer to the City of Ottawa's Planning, Infrastructure and Economic Development Department. This disclaimer is related to the Historic Land Use Inventory and must be received by the City of Ottawa, signed and dated by the requestor, before the process can begin.

3. A site plan or key plan of the property, its location and particular features.

4. Any significant dates or time frames that you would like researched.

Disclaimer
For use with HLUI Database

CITY OF OTTAWA ("the City") is the owner of the Historical Land Use Inventory ("HLUI"), a database of information on the type and location of land uses within the geographic area of Ottawa, which had or have the potential to cause contamination in soil, groundwater or surface water.

The City, in providing information from the HLUI, to Paterson Group ("the Requester") does so only under the following conditions and understanding:

1. The HLUI may contain erroneous information given that such records and sources of information may be flawed. Changes in municipal addresses over time may have introduced error in such records and sources of information. The City is not responsible for any errors or omissions in the HLUI and reserves the right to change and update the HLUI without further notice. The City does not, however, make any commitment to update the HLUI. Accordingly, all information from the HLUI is provided on an "as is" basis with no representation or warranty by the City with respect to the information's accuracy or exhaustiveness in responding to the request.

2. City staff will perform a search of the HLUI based on the information given by the Requester. City staff will make every effort to be accurate, however, the City does not provide an assurance, guarantee, warranty, representation (express or implied), as to the availability, accuracy, completeness or currency of information which will be provided to the Requester. The HLUI in no way confirms the presence or absence of contamination or pollution of any kind. The information provided by the City to the Requester is provided on the assumption that it will not be relied upon by any person whatsoever. The City denies all liability to any such persons attempting to rely on any information provided from the HLUI database.

3. The City, its employees, servants, agents, boards, officials or contractors take no responsibility for any actions, claims, losses, liability, judgments, demands, expenses, costs, damages or harm suffered by any person whatsoever including negligence in compiling or disseminating information in the HLUI.

4. Copyright is reserved to the City.

5. Any use of the information provided from the HLUI which a third party makes, or any reliance on or decisions to be based on it, are the responsibilities of such third parties. The City, its employees, servants, agents, boards, officials or contractors accept no responsibility for any damages, if any, suffered by a third party as a result of decisions made as a result of an information search of the HLUI.

6. Any use of this service by the Requestor indicates an acknowledgement, acceptance and limits of this disclaimer.

7. All information collected under this request and all records provided in response to this request are subject to the provisions of the Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M.56, as amended.

Signed: K Munch

Dated (dd/mm/yyyy): 24/07/2018

Per: Karyn Munch
(Please print name)

Title: Project Manager

Company: Paterson Group Inc.

patersongroup

Consulting Engineers

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

Geotechnical Engineering
Environmental Engineering
Hydrogeology
Geological Engineering
Materials Testing
Building Science
Archaeological Services

www.patersongroup.ca

July 24, 2017
File: PE4368-HLUI

City of Ottawa
110 Laurier Avenue W
Ottawa, Ontario
K1P 1J1

Subject: **Authorization Letter, HLUI Search**
Phase I-Environmental Site Assessment
20 Mark Avenue
Ottawa, Ontario

Dear Sir or Madame,

Please consider this letter as confirmation that Paterson Group has been retained to conduct a Phase I-Environmental Site Assessment at the aforementioned property.

With this letter, the property owner authorizes the City of Ottawa and other regulatory bodies to release, to Paterson Group, information requested for the purpose of completing an environmental assessment of the property.

Name of Company/Property Owner: 1479151 Ontario Inc.

Name of Representative ANAND AGGARWAL

Authorization of Representative

Date 25 July 2018 President

Karyn Munch

From: Karyn Munch
Sent: July-24-18 1:23 PM
To: publicinformationservices@tssa.org
Subject: Records Search Request (PE4368)

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 in the City of Ottawa:

2, 9, 19, 20, 29, 30 Mark Avenue
1, 25, 27, 29 Montreal Road

Thank-you very much for your time.

Best Regards,

Karyn Munch, P.Eng.

patersongroup
solution oriented engineering

154 Colonnade Road South
Ottawa, Ontario, K2E 7J5
Tel: (613) 226-7381 Ext. 217
Fax: (613) 226-6344
Email: kmunch@patersongroup.ca

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

Karyn Munch, P.ENG.

patersongroup

Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

POSITION

Intermediate Environmental Engineer

EDUCATION

Carleton University, B.Eng. 2002
Environmental Engineering

MEMBERSHIPS AND AWARDS

Professional Engineers of Ontario
Ottawa Geotechnical Society

EXPERIENCE

2011-present
Paterson Group Inc.
Consulting Engineers
Geotechnical and Environmental Division
Intermediate Engineer

2009-2010
Department of Indian and Northern Affairs
Contaminated Sites Division
Environment Officer (PC-02)

2003 to 2009
Paterson Group Inc.
Consulting Engineers
Geotechnical and Environmental Division
Intermediate Engineer

2002 to 2003
Dessau Soprin Inc.
Consulting Engineers
Environmental Division
Junior Engineer

SELECT LIST OF PROJECTS

Billings-Hurdman Interconnect Watermain - Ottawa
Telus Building Remediation - Ottawa
Block D Lands Remediation and Redevelopment – Kingston
Gladstone Avenue Reconstruction - Ottawa
Lees Avenue Coal Tar Site - City of Ottawa
Nortel Networks Environmental Monitoring Program
3W Zone Feedermain – Ottawa
Bank Street Reconstruction – Ottawa
Lees Avenue Remediation Program – Ottawa
Colonnade Road North Development – Ottawa
Montreal Road Reconstruction – Ottawa
Designated Substance Surveys – Residential and Commercial Sites - Ottawa
Phase I & II Environmental Site Assessments – Residential, Commercial and Industrial Sites – Ottawa (CSA Z768-01 and O.Reg 269/11)
Brownfields Applications and Records of Site Condition – Residential and Commercial Redevelopment

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