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# Phase I Environmental Site Assessment

180 Metcalfe Street
Ottawa, Ontario

Prepared For

Jadco Group

August 2, 2018

Report: PE4280-3

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# EXECUTIVE SUMMARY

## Assessment

Paterson Group was retained by the Jadco Group to conduct a Phase I Environmental Site Assessment (Phase I-ESA) of 180 Metcalfe Street, in the City of Ottawa, Ontario. The purpose of this Phase I – Environmental Site Assessment was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject properties.

Based on historical searches, the property was first developed in 1928 with the present day building. The property appeared to have been occupied by residential dwelling prior to that.

Surrounding properties historically consisted of commercial, residential and institutional properties. Several potentially contaminating activities were identified within the Phase I-ESA study area. None of these potentially contaminating activities were considered to represent areas of potential environmental concern for the subject site.

Following the historical review, a site visit was conducted. The site is currently occupied by a six storey office building. The remainder of the property is occupied by a surface parking lot, and a small booth used by the parking lot attendant. Neighbouring properties are occupied by residential, commercial or institutional buildings. No off-site PCAs resulting in APECs on the subject site were identified.

## Recommendations

As per the recommendations included in our Phase II-ESA, a soil remediation program will be required as part of site redevelopment activities.

Prior to site redevelopment, the monitoring wells should be abandoned according to Ontario Regulation 903. Until redevelopment, the wells should be kept intact in the event that further groundwater sampling is required.

# 1.0 INTRODUCTION

At the request of the Jadco Group, Paterson Group (Paterson) conducted a Phase I Environmental Site Assessment (Phase I ESA) for 180 Metcalfe Street, in the City of Ottawa, Ontario. The purpose of this Phase I ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

Paterson was engaged to conduct this Phase I ESA by Mr. Andre Doudak. Jadco Group's offices are located at 345 Samson Boulevard, Suite 100, Laval, Quebec. Mr. Doudak can be reached by phone 450-681-7000.

This report has been prepared specifically and solely for the above noted project which is described herein. It contains all our findings and results of the environmental conditions at this site.

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

# 2.0 PHASE I PROPERTY INFORMATION

| | |
|---|---|
| Address: | 180 Metcalfe Street, Ottawa, Ontario. |
| Legal Description: | Lots 47, 48 and 49, South Nepean Street, Registered Plan 2996, in the City of Ottawa. |
| Property Identification Number: | 04115-0258. |
| Location: | The subject site is located in the southwest corner of the Metcalfe Street and Nepean Street intersection, in Ottawa, Ontario. |
| Latitude and Longitude: | 45° 25' 07" N, 75° 41' 38" W; |

**Site Description:**

| | |
|---|---|
| Configuration: | Rectangular. |
| Site Area: | 1,827 $m^2$ (based on survey plan). |
| Zoning: | R5B, residential. |
| Current Use: | The subject site is currently occupied by six storey office building an a surface parking lot. |
| Services: | The subject site is located in a municipally serviced area. |

# 3.0 SCOPE OF INVESTIGATION

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

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

# 4.0 RECORDS REVIEW

## 4.1 General

### Phase I-ESA Study Area Determination

A radius of approximately 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 Cultural Heritage Impact Assessment, prepared by Robertson Martin Architects in 2014, the subject building, known as the Medical Arts building, was constructed in 1928, however, the subject property was occupied by a residential dwelling prior to that, constructed as early as 1901. The first developed use of the subject site is considered to be 1901.

### Fire Insurance Plans

Fire Insurance Plans from 1901, 1922, 1955 and 1963 were reviewed for the area of the subject site and surrounding properties.

In 1901, the subject property was occupied by two residential dwellings and storage sheds. Surrounding properties were primarily residential or institutional. No environmental concerns were noted.

In 1922, no changes were made to the subject property, with the exception of the removal of some storage sheds. No significant changes were made to surrounding properties.

In 1955 the subject property was occupied by the Medical Arts Building in the eastern portion of the subject site, and a parking lot on the western portion of the site. Surrounding properties are predominantly residential. A printers is listed at 86 Gloucester Street, approximately 80 m to the north, northwest. The printers is considered to be a Potentially Contaminating Activity, however due to the separation distance from the subject site, it is not considered to have created an APEC on the subject site.

No changes were made to the subject site in the 1963 FIP, however, a boiler is clearly shown in the western wing of the building. No significant changes have been made to the subject site.

No environmental concerns were noted in a search of the above fire insurance plans.

### City of Ottawa Street Directories

City directories at the National Archives were reviewed in approximate 10 year intervals from 1900 to 2010 as part of the Phase I ESA. The directories indicated that the subject site has been occupied by offices. The directories did not identify any PCAs at the subject site however, several Potentially Contaminating Activities were identified within the Phase I study area. A summary of Potentially Contaminating Activities in the Phase I study area is provided in the table below.

**Table 1: City Directories – Potentially Contaminating Activities in Phase I Study Area**

| Address | Listed Activity (years listed) | Distance / Orientation from site | APEC (Y/N) |
|---|---|---|---|
| 160 Elgin Street | Cleaners – Hillary Cleaners (2011), Parker Clean Laundry and Cleaning (1981-1992) | 130 m east | N |
| 161 Elgin Street | Cleaners – Bee-Clean Inc. (2011) | 130 m east | N |
| 224 Elgin Street | Parker's Cleaners and Dryers (1961-1966) | 200 m southeast | N |
| 125 Elgin Street | Chinese laundry (1911) | 220 m east | N |
| 196 Elgin Street | Lynch Bernard J. Service Station (1966-1971); Hiscox & Ferguson Service Station (1941-1955) | 150 m east | N |
| 170 Elgin Street | Elgin Service Station (1955-1961); Champlain Oil Products ltd. Service station(1950-1955); La Grave Service Station (1950) | 170 m northeast | N |
| Corner of Nepean on South Side | Champlain Oil products ltd. Service station (1931) | 180 m east | N |
| 99 Metcalfe Street | Brown's Cleaners (2000/2001) | 230 m north | N |
| 170 Metcalfe Street | Sunny Cleaners and Alterations (2010) | 17 m north | N |
| 170 Metcalfe Street | Hillary Cleaning (2000/2001) | 17 m north | N |

| Table 1: City Directories – Potentially Contaminating Activities in Phase I Study Area | | | |
|---|---|---|---|
| **Address** | **Listed Activity (years listed)** | **Distance / Orientation from site** | **APEC (Y/N)** |
| 154 O'Connor Street | Shell Canada Products (2010) Bytown Towing/AutoCare Ltd/Shell Canada Products (1984-2000); O'Connor Service centre ( 1970); Parker Robert L Service Station (1950-1960); Theriault Gerald Service Station (1950); Ayearst Bruce Service Station (1940) | 130 m west | N |
| 133 O'Connor | Lloyd's Service Station (1950); McKee Regd Auto Service Station (1940) | 200 m northwest | N |
| 15 Gloucester Street | Dick's Garage (1959) | 180 m northeast | N |
| 114 Gloucester Street | Kent Hand Laundry (1969-1988) | 95 m west | N |
| 174 Gloucester Street | Cash Cleaners/ Dry Cleaning (1988-1989) | 230 m west | N |
| 100 Gloucester Street | EAS Illustrations printing (1979) | 55 m north | N |
| 86 Gloucester Street | Lo-Mor Printers Ltd (1959-1969) | 50 m west | N |
| 171-175 Nepean Street | EAS Illustrations and printers Ltd (1988-1989); Lowe-Martin Co Ltd printers (1916-1957) | 230 m west | N |
| 146 Nepean Street | Mousou's Deluxe Dry Cleaning (1949-1959) | 171 m southwest | N |
| 82-88 Slater Street | Ottawa Hydro Electric Sub Station (1950-1982) | 230 m north | N |
| 92 Slater Street | Ottawa Hydro Electric Sub Station (1921-1930) | 230 m north | N |
| 94 Slater Street | Shepard Service Auto Garage (1940); Allard`s Garage (1930) | 230 m north | N |
| 141 Laurier Avenue West | Laurier Cleaners and Custom Tailoring (2010) | 205 northeast | N |
| 227 Laurier Avenue West | Center City Cleaners (1992) | 190 m north | N |
| 235 Laurier Avenue West | Esquire Cleaners (1969) | 190 m north | N |

Several dry cleaners, gas stations, automotive service garages and printing operations were identified as Potentially Contaminating Activities in the Phase I study area. However, based on the separation distance and/or down-gradient or cross-gradient location of these properties with respect to the subject site, these properties are not considered to represent Areas of Potential Environmental Concern.

### Property Ownership

Based on a chain of title included in a past report (Exp, 2013) the subject property was most recently owned by Toth Equity Limited.

### Plan of Survey

A topographical plan dated November 4, 2013, prepared by Annis, O'Sullivan, Vollebekk Ltd., was reviewed as part of this Phase I-ESA. The subject property is shown as Lots 47, 48 and 49 (South Nepean Street), of Registered Plan 2996, in the City of Ottawa. A copy of the Plan of Survey is provided in Appendix 1.

## 4.2 Environmental Source Information

### Environment and Climate Change Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on June 6, 2018. The subject site was not listed in the NPRI database. No records of pollutant release were listed in the database for properties located within the Phase I Study Area.

### PCB Inventory

A search of national PCB waste storage sites was conducted. No PCB waste storage sites were identified on the subject site. One storage site was identified approximately 160 m south of the subject site at 225 Metcalfe Street. Based on the separation distance from the subject site, the PCB storage site is not considered to pose an environmental concern.

### Ontario Ministry of Environment (MOECC) Instruments

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

A copy of the response will be forwarded to the client, should it contain any pertinent information.

**MOECC Coal Gasification Plant Inventory**

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

**MOECC Incident Reports**

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

Note that a search was conducted in 2013 for the Phase I-ESA prepared by exp. Results of this search indicated that a generator number was created for the property in 1996. It is unclear in the report what occurred on the property.

**MOECC Waste Management Records**

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

Note that a search was conducted in 2013 for the Phase I-ESA prepared by exp. Two waste registration documents were included in the search. The first, dating from 1991, included photographic fixer and developer containing silver, associated with an imaging consultant and a second, dating from 1995, pertaining to pathological waste from a medical laboratory. Neither of these are considered to have created APECs on the subject site.

**MOECC Submissions**

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

### MOECC Brownfields Environmental Site Registry

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

### MOECC Waste Disposal Site Inventory744

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

### Areas of Natural Significance Interest (ANSI)

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 6, 2018. The search did not reveal any natural features or areas of natural significance within the Phase I study area.

### Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on June 6, 2018 to inquire about current and former underground storage tanks, spills and incidents for the site and neighbouring properties. No records were found within the TSSA database. A copy of the TSSA response has been included in the Appendix.

### City of Ottawa Landfill Document

The document entitled “Old Landfill Management Strategy, Phase I – Identification of Sites, City of Ottawa”, was reviewed. No former waste disposal sites were located within the Phase I study area.

### City of Ottawa Historical Land Use Inventory

A search of the City’s Historical Land Use Inventory (HLUI 2005) database for the subject property was conducted as part of the Exp Phase I-ESA conducted in 2013. Paterson reviewed the HLUI search results.

Five entries were listed under the subject property. These included a motion picture laboratory and video production facility, a cleaning contractor's office, medical laboratory, a publisher/printer, and a photography studio.

The activities listed on the subject site are not considered to pose a concern to the subject site.

Activities identified on adjacent properties are located within office buildings to the east, northeast and north of the subject site. Among the activities listed were dry cleaners located in the building to the north across Nepean Street, and the building to the north east. Based on our knowledge of the study area, these dry cleaner activities are considered to be drop-off locations, and not cleaning facilities. Furthermore, the off-site activities are located cross-gradient and down-gradient from the subject site (based on groundwater flow directions calculated as part of Paterson's Phase II-ESA).

**Previous Engineering Reports**

Paterson has conducted several studies on the subject site, as well as the surrounding properties.

In 1998, Paterson prepared a Phase II-ESA on the subject site, which identified the presence of impacted soil resulting from an abandoned buried oil tank on the property. Later that year, Paterson supervised the removal of the buried tank and approximately 107 metric tonnes of impacted soil.

Recently, Paterson prepared a Phase II-ESA on the subject property, which consisted of the placement of five boreholes, three of which were instrumented with groundwater monitoring wells. One borehole/monitoring well was placed within the former remedial excavation and buried tank area, while the others were placed for general coverage.

Based on analytical testing conducted as part of the recent Phase II-ESA, impacted fill material was identified within the parking lot area. No impacts were identified in the groundwater, and no impacts were noted in the soil/groundwater in the area of the former tank. As a result, the former buried tank is only considered to be a potentially contaminating activity, and not an area of potential environmental concern.

Paterson also recently completed a Designated Substance Survey on the subject building, which identified the presence of asbestos containing pipe insulation. Other materials, such as the plaster and parging walls and ceilings, were not found

to be asbestos containing. Several of the common paint colours (notably beige and off-white) were found to contain elevated lead concentrations.

## 4.3 Physical Setting Sources

### Aerial Photographs

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

1928 The subject site is occurred by two residential dwellings. Surrounding properties appear to be occupied by residential dwellings.

1950 The present-day building can be seen on the subject site. The remainder of the property appears to be used for surface parking. No significant changes appear to have been made to the surrounding properties.

1969 No changes have been made to the subject site. Several large buildings (offices or apartments) have been constructed on surrounding properties to the north and south, and further to the east and west.

1978 No changes have been made to the subject site. The property to the east is now vacant and used as surface parking. The property to the northeast has been developed with two office buildings.

1984 No significant changes appear to have been made to the subject property or surrounding sites.

1990 No significant changes appear to have been made to the subject property or surrounding sites.

2011 (City of Ottawa Website) No significant changes appear to have been made to the subject property or surrounding properties with the exception of the property to the east, which appears to be undergoing preliminary site redevelopment activities.

2017 (City of Ottawa Website) No significant changes have been made to the subject site. The property to the east has been redeveloped with a building covering half of that city block.

A building on the property to the north has been demolished and construction activities can be observed.

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. The topographic maps indicate that the subject site slopes downward slightly to the east, and slopes downward further to the north. No environmental concerns were identified on the topographic mapping. An illustration of the referenced topographic map is present on Figure 2 - Topographic Map following the body of this report.

**Physiographic Maps**

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

**Geological Maps**

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on the information from NRCAN, bedrock in the area of the site consists of shale of the Billings formation. Based on the maps, the thickness of overburden ranges from 10 to 25 m. Overburden consists of offshore marine sediments.

**Water Well Records**

A search of the MOECC's web site for all drilled well records within 250 m of the subject site was conducted on June 6, 2018. The search identified nineteen records in the study area, however several records were related to common properties, resulting in a total of 6 records. Two well records were identified on the subject site. These two wells were drilled on April 12, 2014, and represent monitoring wells installed by Exp in 2014 during their geotechnical investigation. The remaining well records pertained to wells located to the east, one to the south, and a cluster to the west.

The monitoring well records have been attached in Appendix 2, with the exception of the well records on the subject site, as they are only digital entries.

**Water Bodies and Areas of Natural Significance**

There are no waterbodies, areas of natural and scientific interest on the subject property or within the study area.

# 5.0 INTERVIEWS

**Property Owner Representative**

The property's maintenance staff was interviewed during a site visit conducted on the property. Paterson was informed about the tank which had been removed several years earlier. The staff indicated that the building is equipped with two cable operated elevators, however only one remains in use. Reportedly, many of the fluorescent lights have been retrofit with newer fluorescent units as part of a government grant program, however some older fixtures may still exist in unused parts of the building.

# 6.0 SITE RECONNAISSANCE

## 6.1 General Requirements

The site assessment was conducted on May 25, 2018. Weather conditions were sunny, with a temperature of approximately 25 °C. Mr. Adrian Menyhart 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 study area were also assessed at the time of the site assessment.

## 6.2 Specific Observations at the Phase I Property

**Buildings and Structures**

The subject site is occupied by a six storey office building. Half of the building is occupied by a fitness studio and offices while the other half is vacant. Since the site is also used as a paid parking lot, a small attendant's booth is located along Nepean Street.

The building, constructed in 1928, is brick clad, with a flat roof, constructed on a concrete foundation.

The building is heated by a natural gas fired boiler, located in the basement. A hydro vault (inaccessible) and a former incinerator were located in the basement

**Site Features**

The subject site is primarily occupied by the subject building or paved with asphaltic concrete. Very limited amounts of vegetation (grass and trees) occupy the site. Adjacent properties are approximately at grade with respect to the subject site. Site drainage consists of runoff towards catch basin along Nepean Street to the north and Metcalfe Street to the east.

**Below Ground Structures**

No below ground structures were found at the time of the site visit, aside from utilities (natural gas, sewer and water) and previously described building basement.

**Potable Water Source**

The subject property and neighbouring sites are municipally serviced.

**Potential Environmental Concerns**

- **Groundwater Monitoring Wells**

  Currently, three groundwater monitoring wells are located on the subject property. These were installed in April 2018 as part of a Phase II-ESA conducted by Paterson. Three additional monitoring wells, installed in 2014 by Exp, are reportedly present on the property however were not observed during the site visit.

- **Underground Utilities**

  Underground utilities were located as part of the Phase II-ESA. A natural gas main runs across the subject property, along the north property line and parallel to Nepean Street. A gas service branches from the main and enters the rear of the subject building. Buried telephone lines also travel along the north property line. A second telephone conduit travels along the west property line to a utility box in the southwest corner of the property. Municipal water service enters the property from the eastern side of the site.

- **Ground Surface**

The ground surface across the majority of the property consists primarily of asphaltic concrete. A small grassy area is located in the northeast corner of the property, and some trees are located along the south property line. The vegetation did not appear to be stressed or discoloured. No significant signs of staining were noted on the paved surfaces.

- **Railway Lines**

  No railway lines were observed on the subject site or within the Phase I ESA study area.

- **Polychlorinated Biphenyls (PCBs) and Transformer Oil**

  No transformers or potential sources of PCBs were noted during the Phase I-ESA site visit, with the exception of older fluorescent light ballasts observed in the basement of the building. The ballasts would not have caused an environment concern on the subject site.

- **Unidentified Substances**

  There were no unidentified substances on the exterior of the subject property at the time of this assessment.

- **Waste Storage and Disposal**

  The site currently generates non-hazardous waste and recyclable materials. Waste is stored in bins at the back of the building and collected on a regular basis.

**Interior Assessment**

A general assessment of the building interior is as follows:

- The floors consisted predominantly concrete and terrazzo.
- The walls and ceilings consisted of lathe and plaster.
- Lighting throughout the building was observed to be predominantly provided by fluorescent fixtures.

Heat is provided via a central natural gas fired boiler located in the basement. There is no central air conditioning in the building; cooling is provided by individual window mounted units. A sump pit is located in the boiler room, however no water was noted at the time.

### Potentially Hazardous Building Products

❑ **Ozone Depleting Substances (ODSs)**

Refrigerators, fire extinguishers and air conditioning units may be potential sources of ozone depleting substances (ODSs) on site. These appliances should be regularly serviced and maintained by certified contractors.

❑ **Potentially Hazardous Building Materials and Designated Substances**

A designated substance survey was conducted in May 2018. Asbestos-containing pipe fitting insulation was identified in the building, as well as lead-containing paints.

### Other Potential Environmental Concerns

❑ **Storage Tanks**

No signs of aboveground or underground fuel storage tanks were noted at the time of the site visit.

❑ **Wastewater Drainage**

Wastewater drainage from the building is expected to drain into the City of Ottawa sewer system.

### Neighbouring Properties

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

- ❑ North - Nepean Street followed by residential tower (under construction) and residential tower with ground floor commercial.
- ❑ South - Residential apartment building followed by Lisgar Street.
- ❑ East - Metcalfe Street followed by residential condominium building;
- ❑ West - Residential apartment buildings.

No PCAs were identified on the subject site or adjacent properties during the site visit. Property use within the Phase I study area is shown on Drawing PE4280-7 - Surrounding Land Use Plan.

# 7.0 REVIEW AND EVALUATION OF INFORMATION

## 7.1 Land Use History

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

**Table 2: Land Use History**

| Time Period | Land Use | Potentially Contaminating Activities | Areas of Potential Environmental Concern |
|---|---|---|---|
| Prior to 1928 | Residential | None | None |
| 1928 – Present | Commercial (offices) | None | None |

### Potentially Contaminating Activities (PCAs)

A total of 26 Potentially Contaminating Activities (PCAs) outside of the subject property but within the Phase I study area were identified, however, all of these PCAs are located downgradient from the subject site, and/or located at a significant distance from the property. As a result, none of the off-site PCAs are considered to have created APECs on the subject site.

Two PCAs were identified on the subject property; the former underground fuel oil tank location, and the presence of poor quality fill material. The poor quality fill is considered to have created an APEC across the parking lot of the site.

No soil or groundwater impacts were noted in the borehole located within the former underground fuel oil tank location during the recent Phase II-ESA, and therefore it is not considered to have resulted in the creation of an APEC on the subject site. It does however remain a potentially contaminating activity.

### Areas of Potential Environmental Concern (APEC)

**Table 3: Areas 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) |
|---|---|---|---|---|---|
| 180 Metcalfe Street | Below parking lot | Importation of Fill Material of Unknown Quality Item 30, Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11. | On-Site | Metals | Soil |

### Contaminants of Potential Concern (CPC)

- Metals – Lead and mercury were identified above the site standard in the soil fill beneath the parking lot at the subject site during the Phase II-ESA.

## 7.2 Conceptual Site Model

### Geological and Hydrogeological Setting

Based on borehole information collected during the Phase II-ESA, site conditions consist primarily of fill material, over glacial till and black shale. Shale bedrock was confirmed at depths ranging between 12.9 and 15.3 m below grade.

### Contaminants of Potential Concern

Contaminants of concern are metals in the fill.

### Existing Buildings and Structures

The subject site is occupied by a six storey office building. A small structure located in the parking lot serves as a parking lot attendant's booth.

### Water Bodies

There are no waterbodies on the subject property or within the study area.

### Areas of Natural Significance

There are no areas of natural and scientific interest on the subject property or within the study area

### Drinking Water Wells

No drinking water wells were identified in the study area.

### Neighbouring Land Use

Neighbouring land use in the Phase I study area consists of commercial, residential and institutional. Land use is shown on Drawing PE4280-7 Surrounding Land Use Plan.

### Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of this report, the only APEC on the subject site is related to the presence of poor quality fill in the parking lot area. The former buried tank location was considered to be an APEC during the Phase II-ESA conducted by Paterson in May 2018, however based on findings of that report, no impacts were encountered, and as such, the former tank location is no longer considered to be an APEC.

### 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 areas of potential environmental concern on the subject site which have the potential to have impacted the subject site. The presence of potentially contaminating activities 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

Paterson Group was retained by the Jadco Group to conduct a Phase I Environmental Site Assessment (Phase I-ESA) of 180 Metcalfe Street, in the City of Ottawa, Ontario. The purpose of this Phase I – Environmental Site Assessment was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject properties.

Based on historical searches, the property was first developed as early as 1901 with the present day building, however the present-day building was constructed in 1928. The property appeared to have been occupied by residential dwelling prior to that.

Surrounding properties historically consisted of commercial, residential and institutional properties. Several potentially contaminating activities were identified within the Phase I-ESA study area. None of these potentially contaminating activities were considered to represent areas of potential environmental concern for the subject site.

Following the historical review, a site visit was conducted. The site is currently occupied by a six storey office building. The remainder of the property is occupied by a surface parking lot, and a small booth used by the parking lot attendant. Neighbouring properties are occupied by residential, commercial or institutional buildings. No off-site PCAs resulting in APECs on the subject site were identified.

## Recommendations

As per the recommendations included in our Phase II-ESA, a soil remediation program will be required as part of site redevelopment activities, to address the impacted fill.

Prior to, or in conjunction with, site redevelopment, the monitoring wells should be abandoned according to Ontario Regulation 903. Until redevelopment, the wells should be kept intact in the event that further groundwater sampling is required.

# 9.0 STATEMENT OF LIMITATIONS

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

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

This report was prepared for the sole use of Jadco Group. Permission and notification from the above noted party and Paterson will be required to release this report to any other party.

**Paterson Group Inc.**

Adrian Merryhart, P.Eng.


Mark S. D'Arcy, P.Eng.

**Report Distribution:**

- Jadco Group (5 copies)
- Paterson Group (1 copy)

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

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

**Local Information Sources**
Plan of Survey - Annis, O’Sullivan, Vollebekk Ltd., 2013.
“Phase I Environmental Site Assessment, 180 Metcalfe Street, Ottawa, Ontario” prepared by exp Services Inc., December 19, 2013.
Personal Interviews.

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

# FIGURES

**FIGURE 1 – KEY PLAN**

**FIGURE 2 – TOPOGRAPHIC MAP**

**DRAWING PE4280-6 – SITE PLAN**

**DRAWING PE4280-7 – SURROUNDING LAND USE PLAN**

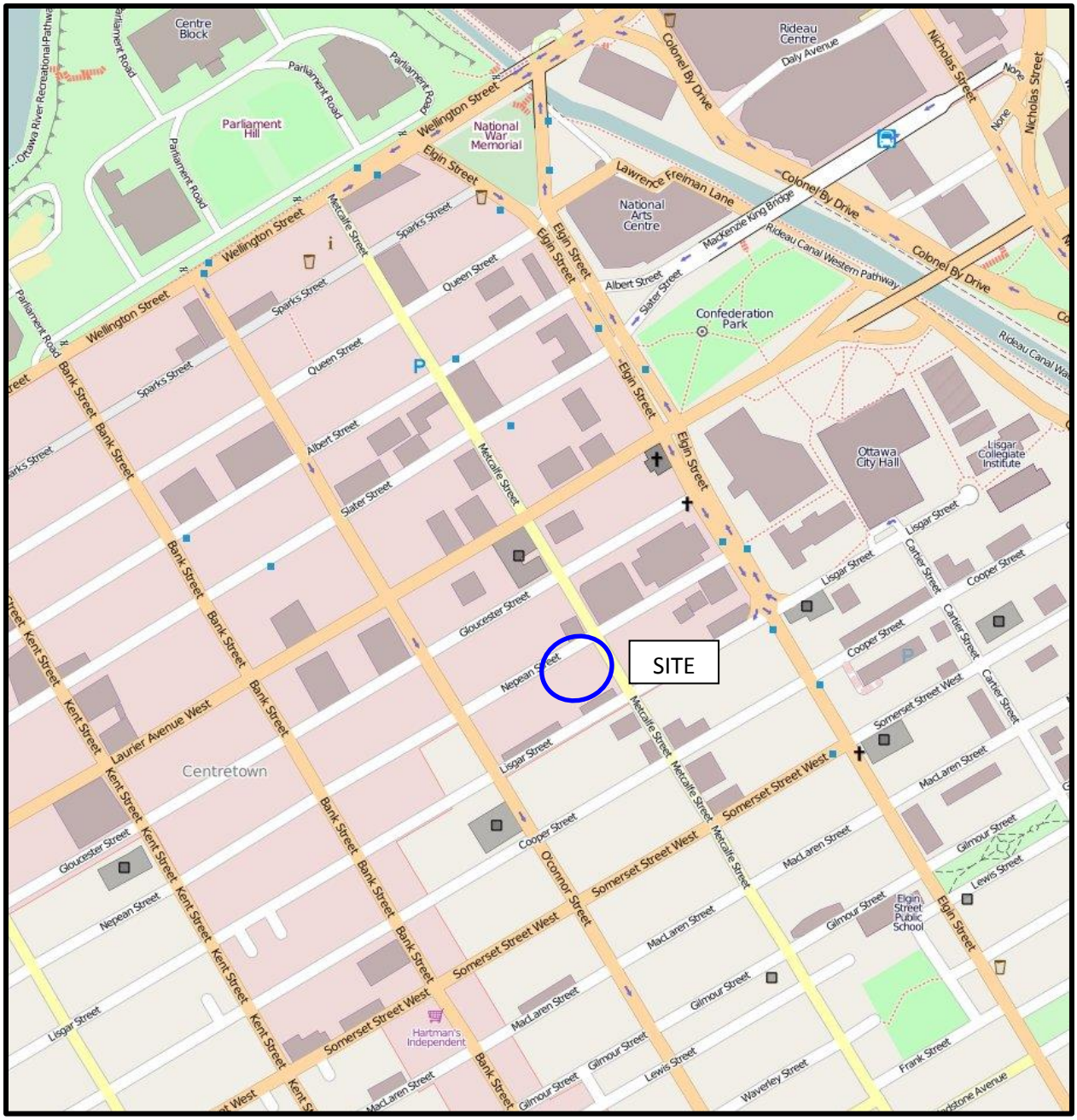



FIGURE 1

# KEY PLAN

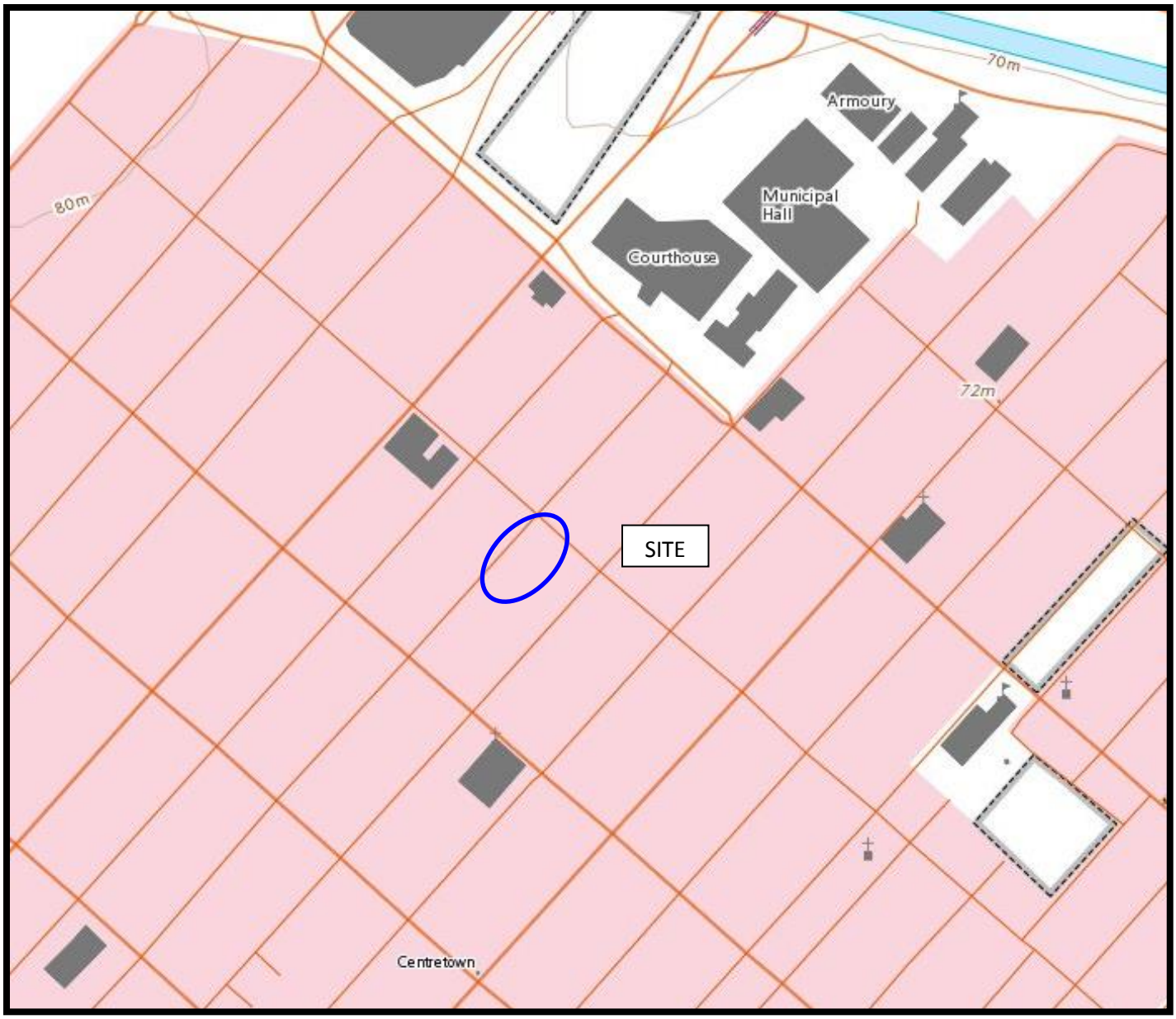
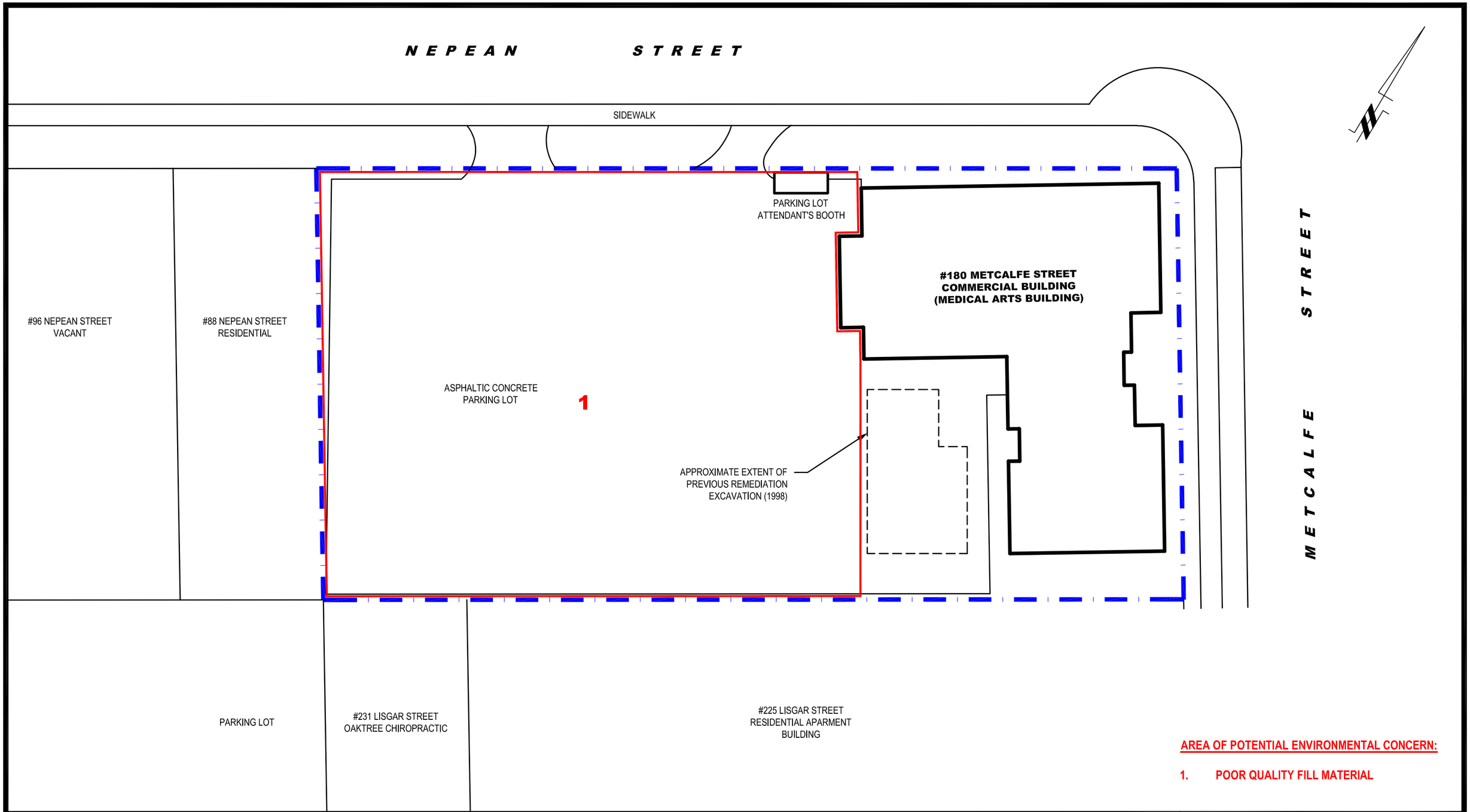



FIGURE 2

# TOPOGRAPHIC MAP




**AREA OF POTENTIAL ENVIRONMENTAL CONCERN:**

1. POOR QUALITY FILL MATERIAL


**patersongroup**
consulting engineers

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


| NO. | REVISIONS | DATE | INITIAL |
|---|---|---|---|
| 0 | | | |

JADCO GROUP

**PHASE I - ENVIRONMENTAL SITE ASSESSMENT**
**180 METCALFE STREET**

OTTAWA, ONTARIO

Title: **SITE PLAN**

| | |
|---|---|
| Scale: 1:250 | Date: 05/2018 |
| Drawn by: MPG | Report No.: PE4280-3 |
| Checked by: MB | Dwg. No.: PE4280-6 |
| Approved by: CDS | Revision No.: 0 |

p:\autocad drawings\environmental\pe42xx\pe4280\pe4280 phase ii.dwg


**patersongroup**
consulting engineers

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

| NO. | REVISIONS | DATE | INITIAL |
|---|---|---|---|
| | | | |

JADCO GROUP

# PHASE I - ENVIRONMENTAL SITE ASSESSMENT
# 180 METCALFE STREET

OTTAWA, ONTARIO

Title:

## SURROUNDING LAND USE PLAN

| | |
|---|---|
| Scale: 1:3000 | Date: 06/2018 |
| Drawn by: RCG | Report No.: PE4280-3 |
| Checked by: AM | Drawing No.: PE4280-7 |
| Approved by: CDS | Revision No.: |

p:\autocad drawings\environmental\pe4280\pe4280-7 slup.dwg

# APPENDIX 1

## SURVEY PLAN

## AERIAL PHOTOGRAPHS

*TOPOGRAPHICAL PLAN OF*

# LOTS 47, 48, 49
# (South Nepean Street)
# REGISTERED PLAN 2996
# CITY OF OTTAWA

Prepared by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 100

4 3 2 1 0 2 4 Metres

Metric

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

Nov 4 2013
Date

E.H. Herweyer O.L.S.

## Notes & Legend

| | | |
|---|---|---|
| Denotes | | |
| FH | - | Fire Hydrant |
| OHW | - | Overhead Wires |
| PO-W | - | Wooden Pole |
| AN | - | Anchor |
| HR | - | Hand Rail |
| MF | - | Metal Fence |
| BF | - | Board Fence |
| RW | - | Retaining Wall |
| CRW | - | Concrete Retaining Wall |
| +65.00 | - | Location of Elevations |
| +65.00* | - | Top of Wall Elevation |
| C/L | - | Centreline |
| | - | Property Line |

Bearings are Grid.

SITE AREA = 1827 m²

BOUNDARY INFORMATION COMPILED FROM SURVEY RECORDS.

JOB BENCHMARK
TOP OF SPINDLE
ELEV=72.04

NEPEAN STREET
PIN 04115 - 0172

N 58° 59' 40" E

60.51

60.50

SOUTH NEPEAN STREET LOTS

LOT 46 LOT 47 LOT 48 LOT 49

No. 88 No. 231 No. 180 Metcalfe Street
6 Storey Brick & Stone Building
(Stone Noted)

METCALFE STREET
(FORMERLY MOBERLY STREET)
(BY LAW 18321)
PIN 04115 - 0175

2996

REGISTERED PLAN

NORTH LISGAR STREET LOTS

PIN 04115 - 0257
PIN 04115 - 0260
PIN 04115 - 0261
PIN 04115 - 0258
PIN 04115 - 0262

Interlock 0.07 West
MF 0.3 South 0.24 East
Interlock
MF
Interlock 0.05 West
MF 0.13 East
(Brick) 0.02 West
MF 0.01 East
(Brick) 0.03 West
MF 0.04 West ± to Line North/South
MF 0.01 North
Brick 0.07 South
Brick Line
OHW Elev=74.6±
OHW Elev=75.0±
BF 0.4 South
BF 0.5 South
MF 0.04 North
OHW Elev=75.5±
MF 0.16 North
MF 0.01 North
Brick 0.08 north
Concrete 0.01 north
Stacey
CRW 0.15 South (North Face Noted)
CRW 0.11 South (North Face Noted)
CRW 0.11 North (North Face Noted)
CRW 0.13 North (North Face Noted)
Corner 0.47 South
Corner 0.65 South
Corner 1.11 West
CRW 0.32 West (East Face Noted)
Corner 1.08 West
CRW 0.28 East (East Face Noted)
CRW 0.02 East (East Face Noted)
Step ± to Line
Step 0.02 West
CRW 0.03 West (East Face Noted)
CRW 0.33 West (East Face Noted)
Corner 1.05 West
Corner 2.78 North
Corner 1.08 West
Finished Floor Elev=72.41
Finished Floor Elev=72.40
Top of Parapet Elev=93.69
Top of Parapet Elev=93.42
Concrete Step & Landing
Wooden Ramp
Bottom Cut Stone Window Well
Bottom Cut Stones
Window Well
Vent
FIRE ESCAPE
Edge of Asphalt
Underground Parking
Concrete Curb Noted
Centreline of Multiple Wires
PO-W
OHW
AN
HR
CRW
0.53
1.08
30.20
1.70
36.26 (Brick)
36.28 (Brick)
71.00
71.05
71.10
71.14
71.19
71.22

## ELEVATION NOTES

1. Elevations shown are referred to geodetic datum.
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

## UTILITY NOTES

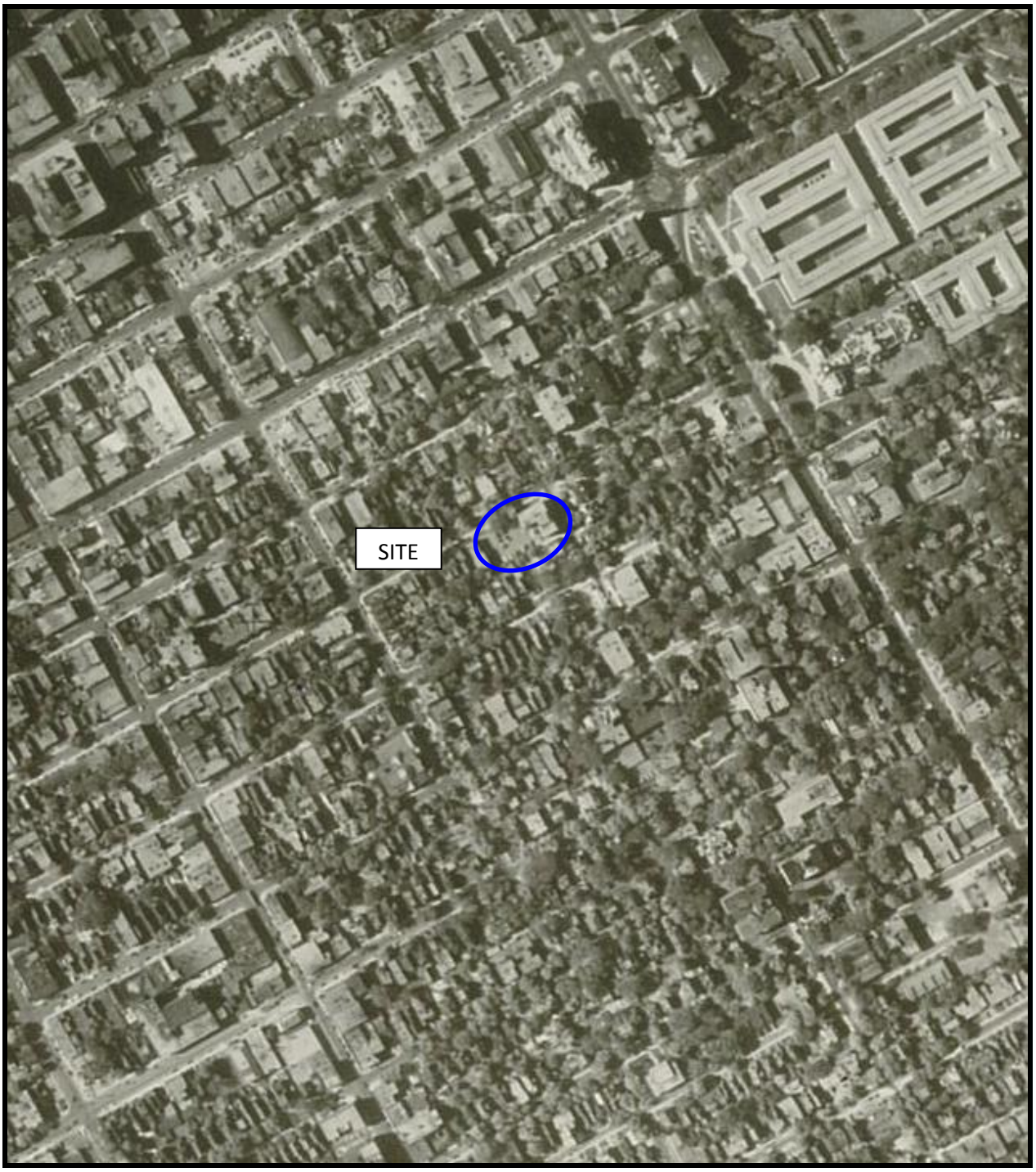
1. Utilities were not located.
2. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.



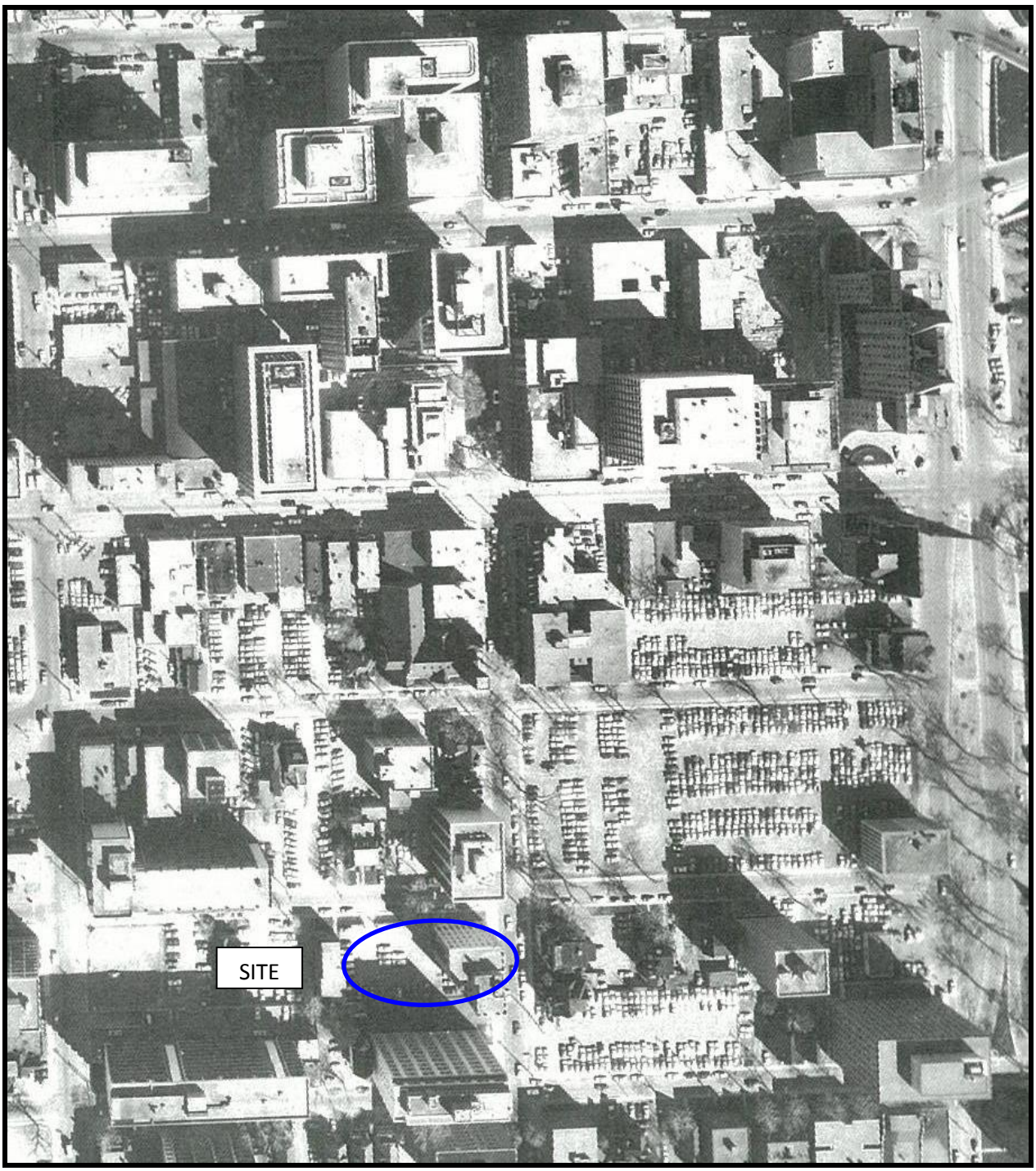
ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
14 Concourse Gate, Suite 500
Nepean, Ont. K2E 7S6
Phone: (613) 727-0850 / Fax: (613) 727-1079
Email: Nepean@aovltd.com
Ontario Land Surveyors

Job No. 14297-13B TothEquityLimited Lts47-49 PL2996 T F | SF/dc


AERIAL PHOTOGRAPH
1928



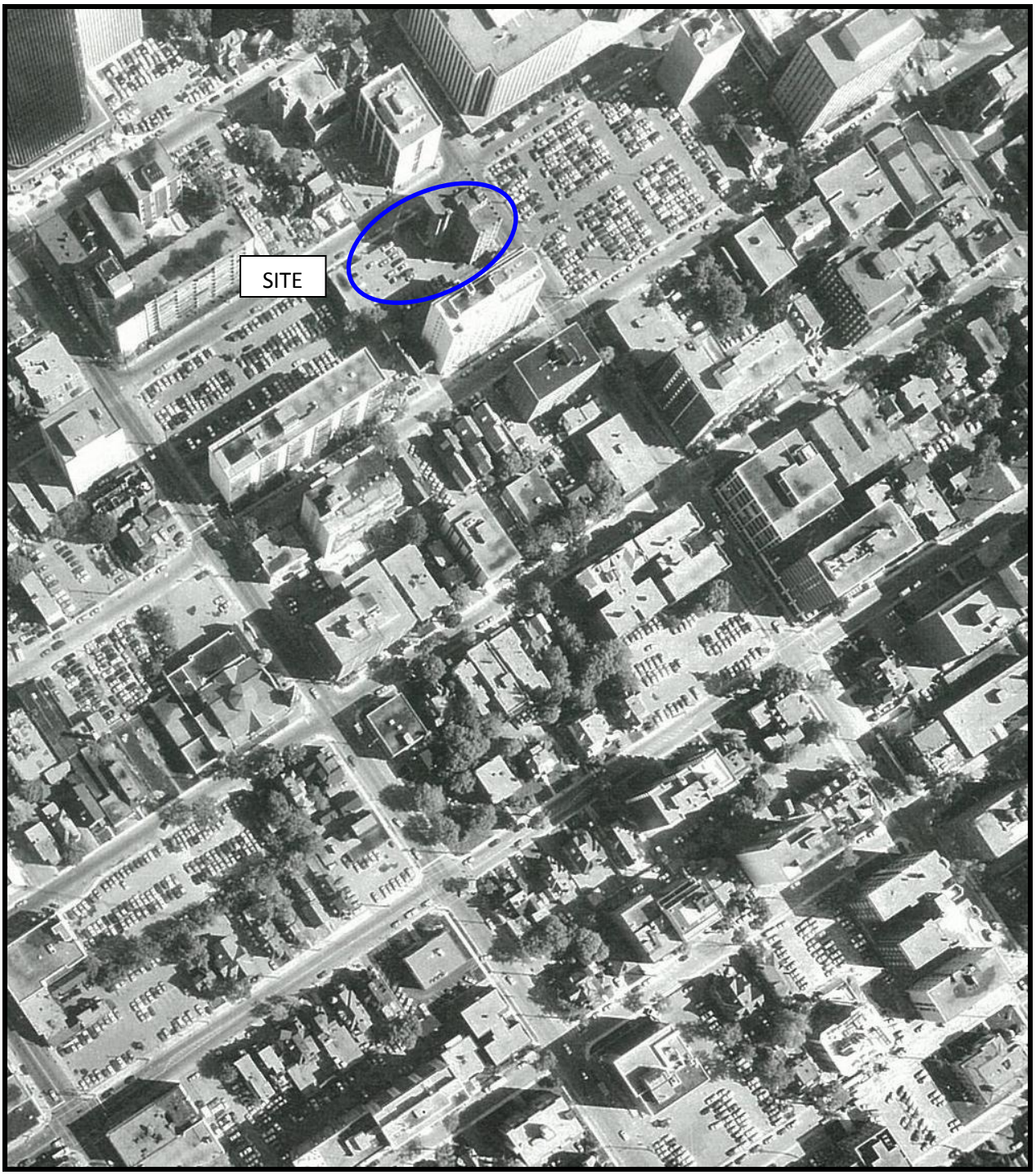

AERIAL PHOTOGRAPH
1950




AERIAL PHOTOGRAPH
1969


AERIAL PHOTOGRAPH
1978

patersongroup




AERIAL PHOTOGRAPH
1984


AERIAL PHOTOGRAPH
1990

# APPENDIX 2

**MOECC FREEDOM OF INFORMATION SEARCH**

**WATER WELL RECORDS**

**TSSA CORRESPONDENCE**

**CITY OF OTTAWA HLUI SEARCH**

**Ministry of the Environment and Climate Change**

Freedom of Information and Protection of Privacy Office

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

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

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

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

Ontario

June 21, 2018

Adrian Menyhart
Paterson Group Inc
154 Colonnade Road
Ottawa, ON K2E 7J5

Dear Adrian Menyhart:

RE: ***Freedom of Information and Protection of Privacy Act* Request**
**Our File # A-2018-04163, Your Reference PE42800**

The Ministry is in receipt of your request made pursuant to the *Freedom of Information and Protection of Privacy Act* and has received your payment in the amount of $5.00 (non-refundable application fee).

**The search is being conducted on the following: 180 Metclafe Street, Ottawa. If there is any discrepancy please contact us immediately.**

You may expect a reply or additional communication as your request is processed. For your information, the Ministry charges for search, copying and preparation time.

If you have any questions regarding this matter, please contact Jennifer Lee at 416-327-3058 or jennifer.lee7@ontario.ca.

Yours truly,

ORIGINAL SIGNED BY

Janet Dadufalza
FOI Manager

Ontario Ministry of the Environment

**Well Tag No. for Master Well** *(Place Sticker and/or Print Below)*
**A 074581** MW#4

# Master Well Record for Cluster Well Construction

*Regulation 903 Ontario Water Resources Act*

Page 1 of 3

## Master Well Owner's and Land Owner's Information

| First Name | Last Name | E-mail Address |
|---|---|---|
| | Broccolini Construction Inc. | |

| Mailing Address (Street Number/Name, RR) | Municipality | Province | Postal Code | Telephone No. (inc. area code) |
|---|---|---|---|---|
| 126 York St Suite 300 | Ottawa | ON | K1N5T5 | 6132414076 |

## Location and Construction of the Master Well in the Cluster

| Address of Well Location (Street Number/Name, RR) | Township | Lot | Concession |
|---|---|---|---|
| 150 Slater Street | | | |

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

| UTM Coordinates | Zone | Easting | Northing | GPS Unit Make | Model | Mode of Operation |
|---|---|---|---|---|---|---|
| NAD 83 | 18 | 445411 | 5029884 | Garmin | Etrex | ☐ Differentiated, specify ☑ Averaged ☐ Undifferentiated |

## 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 |
|---|---|---|---|---|---|
| | Asphaltic concrete slab. | | | 0 | 0.15 |
| Grey Brown | Silty sand, gravel | asphaltic concrete | | 0.15 | 1.75 |
| Grey Brown | Silty clay | | very stiff | 1.75 | 2.62 |
| Grey Brown | Silty sand | trace clay | loose to compact | 2.62 | 5.94 |
| Dk Grey | Silty sand | trace clay | shale fragments | 5.94 | 7.32 |
| Black | Shale Bedrock | some grey limestone | | 7.32 | 30.76 |

## Hole Details

| Depth (Metres) From | Depth (Metres) To | Diameter (Centimetres) |
|---|---|---|
| 0 | 7.3 | 20 |
| 7.3 | 30.7 | 10 |

## 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 | 30.4 |

## No Casing and Screen Used

Open Hole ☐ Yes ☑ No

## Static Water Level Test

Metres

## Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

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

## Water Details

| Water found at Depth | Kind of Water |
|---|---|
| NO 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 | Depth Set at (Metres) To | Type of Sealant Used (Material and Type) | Volume Used (Cubic Metres) |
|---|---|---|---|
| 0 | 30.4 | Bentonite grout | 300 kgs. |

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

Date Master Well Completed (yyyy/mm/dd): 2008/08/12

## 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 | Please indicate Number of Cluster Well Information Log Sheets Submitted |
|---|---|
| 6 | |
| Total Wells on this Property | |
| unknown | 1 |

## 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**

Sig [redacted]

## Well Contractor and Well Technician Information

| Business Name of Well Contractor | Well Contractor's Licence No. |
|---|---|
| George Downing Estate Drilling | 1814 |

| Business Address (Street No./Name, number, RR) | Municipality |
|---|---|
| 10 Rue Principale | Grenville-sur-la-Rouge |

| Province | Postal Code | Business E-mail Address |
|---|---|---|
| Qc | J0V1B0 | downing@xplornet.com |

| Telephone No. (inc. area code) | Name of Well Technician (Last Name, First Name) |
|---|---|
| 1924264669 | Downing, Bruce |

| Technician's Licence No. | Signature of Technician | Date Submitted (yyyy/mm/dd) |
|---|---|---|
| 1173 | | 2008/09/29 |

| Audit No. | Well Contractor No. |
|---|---|
| M 02881 | |
| **Date Received (yyyy/mm/dd)** | **Date of Inspection (yyyy/mm/dd)** |
| APR 0 8 2009 | |
| **Remarks** | |

(11/2006) Ministry's Copy 

Ontario — Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.): **A 074581** A074581

# Cluster Well Information for Cluster Well Construction

*Regulation 903 Ontario Water Resources Act*

Page 1 of 1

## Property Owner's Information

| First Name | Last Name | Mailing Address (Street No./Name, RR) | Municipality |
|---|---|---|---|
| Broccolini Construction Inc. | | 126 York Street Suite 300 | Ottawa |

| Province | Postal Code | E-mail Address | Telephone No. (inc. area code) |
|---|---|---|---|
| ON | K1N5T5 | | 6132440076 |

[redacted]

## Cluster Well Information

| Address of Well Location (Street Number/Name, RR) | Lot | Concession | Township | County/District/Municipality |
|---|---|---|---|---|
| 150 Slater Street | | | | |

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

upon request

| Signature of Technician/Contractor | Date (yyyy/mm/dd) |
|---|---|
| | 2008/09/29 |

| 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 #1 | 18 | 445446 | 5029827 | 11.69 | 20/10 | HSA/DIA | PVC | 11.0 | 11.0 | 11.6 | Bentonite | 7.0 | | | 2008/08/11 |
| MW #2 | 18 | 445444 | 5029914 | 12.29 | 20/10 | " " | | 10.5 | 10.5 | 12.29 | | 6.0 | | | 2008/08/11 |
| MW #3 | 18 | 445417 | 5029884 | 7.04 | 20 | HSA | | 5.5 | 5.5 | 7.0 | | | | | 2008/08/12 |
| MW #5 | 18 | 445024 | 5030033 | 12.32 | 20/10 | HSA/DIA | | 11.3 | 11.3 | 12.3 | | 7.0 | | | 2008/08/12 |
| MW #7 | 18 | 445456 | 5029774 | 12.19 | 20/10 | HSA/DIA | | 8.0 | 8.0 | 9.0 | | 7.0 | | | 2008/08/14 |

## Well Contractor and Well Technician Information

| Business Name of Well Contractor | Business Address (Street Number/Name, RR) | Municipality | Province |
|---|---|---|---|
| George Downing Estate Drilling | 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 |
|---|---|---|---|
| J0V1B0 | 8192426469 | 1844 | 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 | 2173 | 2008/09/29 | |

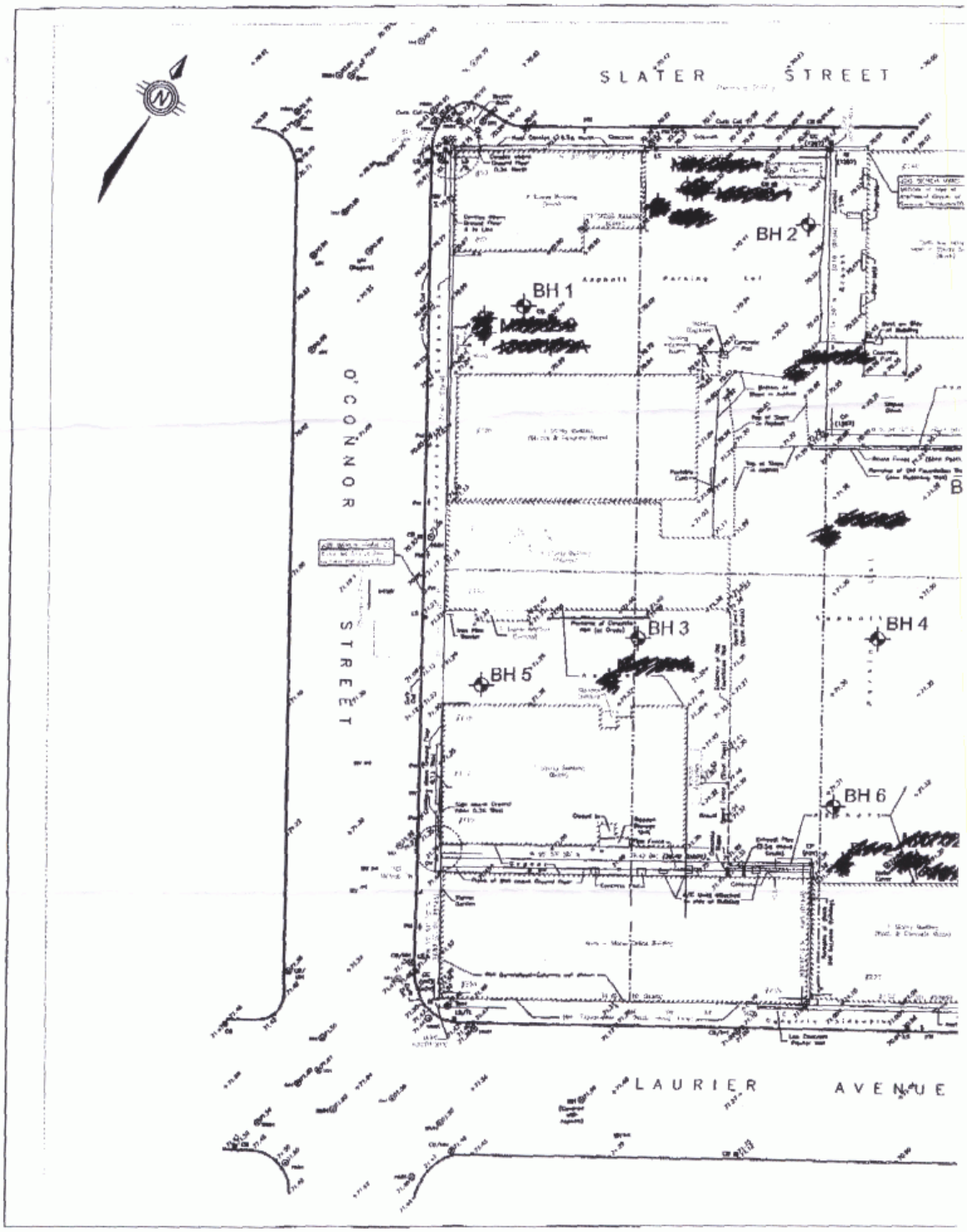
| Date 1st Well in Cluster Constructed (yyyy/mm/dd) | Date Last Well in Cluster Constructed (yyyy/mm/dd) |
|---|---|
| 2008/08/11 | 2008/08/14 |

**Ministry Use Only**

| Date Received (yyyy/mm/dd) | Date Inspected (yyyy/mm/dd) |
|---|---|
| APR 08 2009 | |
| Audit No. C 01978 | Remarks mo2881 |

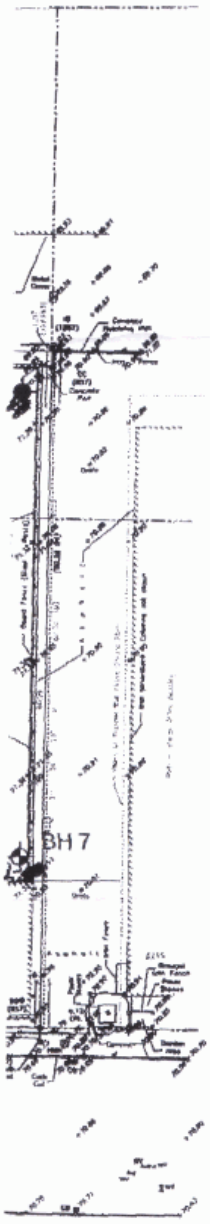
1991 (11/2006)

Ministry's Copy




APR 0 8 2009

C-1844 M02881 C01978




LEGEND

| | |
|---|---|
| BH 1 | APPROXIMATE BOREHOLE LOCATION IN PLAN, CURRENT INVESTIGATION BY HOULE CHEVRIER ENGINEERS LTD. |
| BH-2 | APPROXIMATE BOREHOLE LOCATION IN PLAN, PREVIOUS INVESTIGATION BY FONDEX. |
| MW 02-1<br>BH 02-4 | APPROXIMATE MONITORING WELL AND BOREHOLE LOCATION IN PLAN, PREVIOUS INVESTIGATION BY JACQUES WHITFORD ENVIRONMENTAL LIMITED. |

| | | | |
|---|---|---|---|
| Client: BROCCOLINI | | Location: 150 SLATER STREET OTTAWA, ON | Revision: 0 |
| Drawn by: D.J.R | Approved by: A.F.C | Project No.: 08-386 | Scale: 1:500 |
| Houle Chevrier Engineering | | Title: SITE PLAN | |
| | | Date: August 2008 | FIGURE 2 |





C-1849 M02881 c01978

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Place Sticker and/or Print Below)*: **A 074637** MW-9

# Master Well Record for Cluster Well Construction

*Regulation 903 Ontario Water Resources Act*

Page 1 of 2

## Master Well Owner's and Land Owner's Information

| First Name | Last Name | E-mail Address |
|---|---|---|
| Shell Canada Products | | |

| Mailing Address (Street Number/Name, RR) | Municipality | Province | Postal Code | Telephone No. *(inc. area code)* |
|---|---|---|---|---|
| 90 Sheppard Ave. Ste 600 | Toronto | ON | M2N1G4J2 | 416122771111 |

## Location and Construction of the Master Well in the Cluster

| Address of Well Location (Street Number/Name, RR) | Township | Lot | Concession |
|---|---|---|---|
| 154 O'Connor Street | | | |

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

| UTM Coordinates | Zone | Easting | Northing | GPS Unit Make | Model | Mode of Operation |
|---|---|---|---|---|---|---|
| NAD 83 | 18 | 445141815 | 5012916047 | Garmin | Etrex | ☐ 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 | Depth (Metres) To |
|---|---|---|---|---|---|
| | Asphalt surface | | | 0 | 0.1 |
| Grey | Sand + Gravel Fill | | moist | 0.1 | 0.4 |
| Brown | Sand Fill | | | 0.4 | 0.5 |
| Brown/Black | Sandy clay fill | | moist | 0.5 | 1.5 |
| Grey | Silty clay | some sand fractured | | 1.5 | 4.8 |
| Black/Brown | unconsolidated shale | | | 4.8 | 6.1 |

## Hole Details

| Depth (Metres) From | Depth (Metres) To | Diameter (Centimetres) |
|---|---|---|
| 0 | 4.8 | 20 |
| 4.8 | 6.1 | 10 |
| | | |
| | | |

## 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* Geoprobe
☐ 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 |
|---|---|---|---|---|
| 3.2 | ~~Aluminum~~ PVC | ~~Sched~~ 40 | 0 | 3.0 |

## No Casing and Screen Used

Open Hole ☐ Yes ☑ ~~No~~

## Static Water Level Test

>6.8 Metres

## Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ ~~Plastic~~

| Outside Diameter (Centimetres) | Slot No. |
|---|---|
| 3.8 | 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 | 2.4 | Bentonite | 40 kgs |

## 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 |

| Disinfected ☐ Yes ☑ ~~No~~ If no, provide reason: | Date Master Well Completed (yyyy/mm/dd) |
|---|---|
| Monitoring well | 2009/07/25 |

## 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 | Please indicate Number of Cluster Well Information Log Sheets Submitted |
|---|---|
| 7 | 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)

[redacted]

## Well Contractor and Well Technician Information

| Business Name of Well Contractor | Well Contractor's Licence No. |
|---|---|
| George Downing Estate Drilling Ltd | 11814 |

| Business Address (Street No./Name, number, RR) | Municipality |
|---|---|
| 410 Rue Principale | Grenville Sur la Rouge |

| Province | Postal Code | Business E-mail Address |
|---|---|---|
| QC | J0V1B0 | downing@hawk.igs.net |

| Bus. Telephone No. *(inc. area code)* | Name of Well Technician (Last Name, First Name) |
|---|---|
| 8119124176499 | Downing, Bruce |

| Well Technician's Licence No. | Signature of Technician | Date Submitted (yyyy/mm/dd) |
|---|---|---|
| 21713 | [signature] | 2009/09/17 |

## Ministry Use Only

| Audit No. | Well Contractor No. |
|---|---|
| M 04512 | |
| Date Received (yyyy/mm/dd) OCT 07 2009 | Date of Inspection (yyyy/mm/dd) |
| Remarks | |

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Print Well Tag No.)*
**A 074637** A074637

# Cluster Well Information for Cluster Well Construction

*Regulation 903 Ontario Water Resources Act*

Page 1 of 1

## Property Owner's Information

| First Name | Last Name | Mailing Address (Street No./Name, RR) | Municipality |
|---|---|---|---|
| Shell Canada Products | | 90 Sheppard Ave. Ste 600 | Toronto |

| Province | Postal Code | E-mail Address | Telephone No. (inc. area code) |
|---|---|---|---|
| ONTARIO | M2N6Y2 | | 4162727111 |

[redacted]

upon request

## Cluster Well Information

| Address of Well Location (Street Number/Name, RR) | Lot | Concession | Township | County/District/Municipality |
|---|---|---|---|---|
| 154 O'Connor Street | | | | |

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

| Signature of Technician/Contractor | Date *(yyyy/mm/dd)* |
|---|---|
| Bruce Downing | 2009/09/17 |

| 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 3 | 18 | 445151 | 5029653 | 6.8 | 20/10 | Geoprobe | PVC | 3.8 | 3.8 | 6.8 | Bentonite | | | | 2009/07/25 |
| MW 5 | 18 | 445135 | 5029677 | 6.1 | | | | 3.0 | 3.0 | 6.1 | | | | | 2009/07/24 |
| MW 6 | 18 | 445149 | 5029651 | 6.1 | | | | 3.0 | 3.0 | 6.1 | | | | | 2009/07/24 |
| MW 7 | 18 | 445149 | 5029465 | 6.1 | | | | 3.0 | 3.0 | 6.1 | | | | | 2009/07/24 |
| MW 8 | 18 | 445149 | 5029642 | 5.9 | | | | 3.0 | 3.0 | 5.9 | | | | | 2009/07/25 |
| MW 10 | 18 | 445150 | 5029626 | 6.7 | | | | 3.7 | 3.7 | 6.7 | | | | | 2009/07/25 |

## 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 |
|---|---|---|---|
| J0V1B0 | 8199242644 69 | 1814 | downing@hawk.igs.net |

| Name of Well Technician (First Name, Last Name) | Well Technician's Licence No. | Date Submitted *(yyyy/mm/dd)* | Signature of Technician |
|---|---|---|---|
| Bruce Downing | 2173 | 2009/09/17 | Bruce Downing |

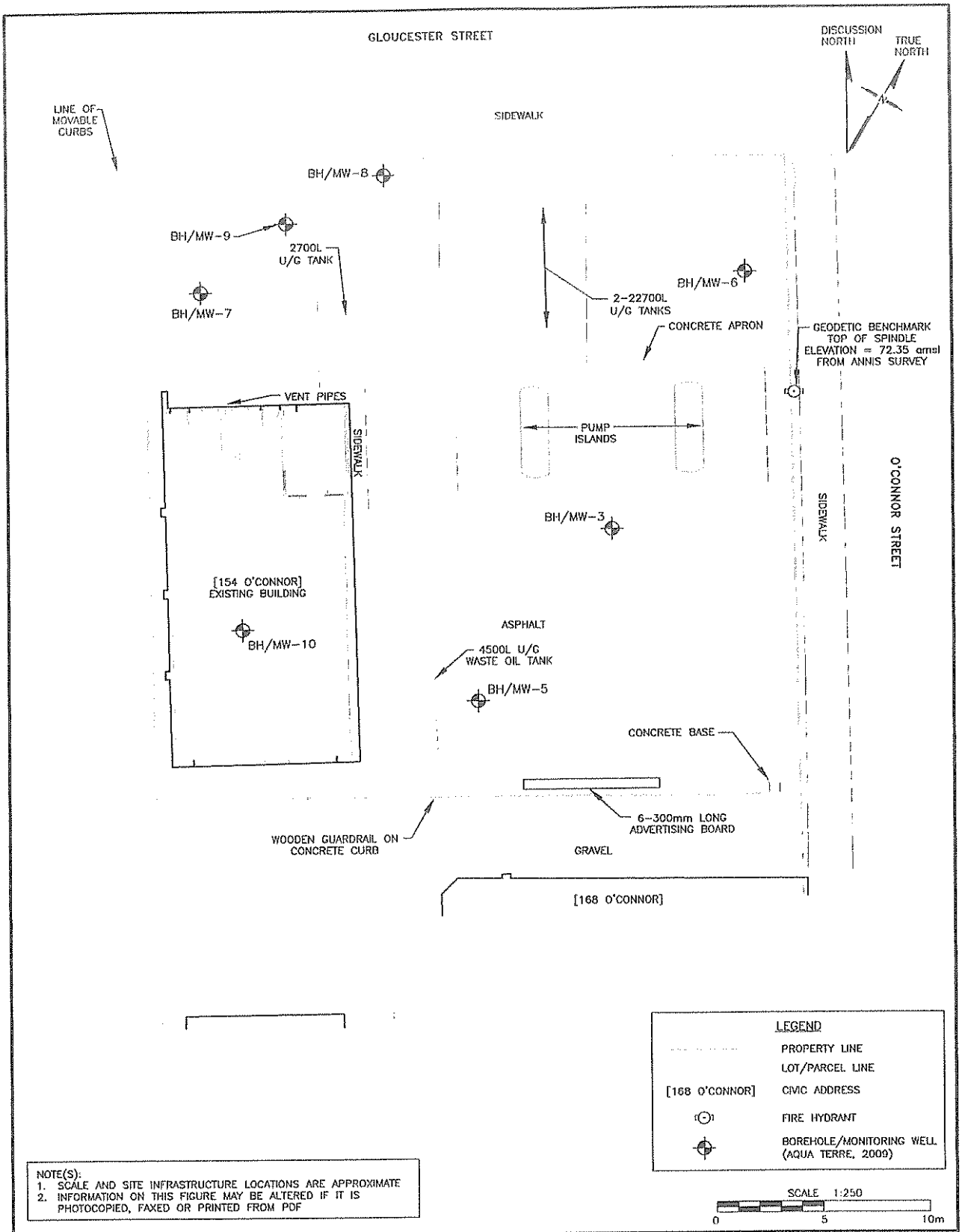
| Date 1st Well in Cluster Constructed *(yyyy/mm/dd)* | Date Last Well in Cluster Constructed *(yyyy/mm/dd)* |
|---|---|
| 2009/07/24 | 2009/07/25 |

**Ministry Use Only**

| Date Received *(yyyy/mm/dd)* | Date Inspected *(yyyy/mm/dd)* |
|---|---|
| OCT 01 2009 | |
| Audit No. c 05217 | Remarks mo45127 |

1991 (11/2006)

Ministry's Copy




| | | | |
|---|---|---|---|
| Client/Location: SHELL 154 O'CONNOR STREET OTTAWA, ONTARIO | | Title: MONITORING WELL LOCATIONS | |
| Project No: 09515 | Filename: 09515-WWR-1.DWG | Date: SEPTEMBER 2009 | Dwg No: FIGURE 1 |
| Drawn: EM | Verified: TT | Project Manager: CB | |

C-1844 M04512 C05217

Ontario — Ministry of the Environment

**Well Tag No. for Master Well** *(Place Sticker and/or Print Below)*: 2 M.W. abandonments under Tag A074637 (5 Remaining wells)

# Master Well Record for Cluster Well Construction

*Regulation 903 Ontario Water Resources Act*

Page 1 of 2

## Master Well Owner's and Land Owner's Information

| First Name | Last Name | E-mail Address |
|---|---|---|
| Shell Canada Products | | |

| Mailing Address (Street Number/Name, RR) | Municipality | Province | Postal Code | Telephone No. (inc. area code) |
|---|---|---|---|---|
| 90 Sheppard Ave East Suite 1600 | Toronto | ON | M2N6Y2 | 4166227711 |

## Location and Construction of the Master Well in the Cluster

| Address of Well Location (Street Number/Name, RR) | Township | Lot | Concession |
|---|---|---|---|
| 154 O'Connor Street | | | |

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

| UTM Coordinates | Zone | Easting | Northing | GPS Unit Make | Model | Mode of Operation |
|---|---|---|---|---|---|---|
| NAD 83 | 18 | 445063 | 5029676 | GARMIN | Etrex | ☐ 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 | Depth (Metres) To |
|---|---|---|---|---|---|
| | MW 5 and MW 10 abandonned under Tag A074637 (MW #10) Remove casing + screen; back fill borehole from 6.7 M below surface to surface with aqua guard cement as Per ONT MOE Reg 903 Tag remains affixed to MW #9. | | | | |

## Hole Details

| Depth (Metres) From | Depth (Metres) To | Diameter (Centimetres) |
|---|---|---|
| 0 | 6.7 | 20/10 |

## 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
☐ 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 M.W.

## No Casing and Screen Used

Open Hole ☐ Yes ☑ No

## Static Water Level Test

Metres

## Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☐ Plastic

| Outside Diameter (Centimetres) | Slot No. |
|---|---|
| | |

## Construction Details

| Inside Diameter (Centimetres) | Material (steel, plastic, fibreglass, concrete, galvanized) | Wall Thickness | Depth (Metres) From | Depth (Metres) To |
|---|---|---|---|---|
| | | | | |

## 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 | Depth Set at (Metres) To | Type of Sealant Used (Material and Type) | Volume Used (Cubic Metres) |
|---|---|---|---|
| 0 | 6.7 | Aqua guard Cement | 40 Kgs |

Disinfected ☐ Yes ☑ No If no, provide reason:

Date Master Well Completed (yyyy/mm/dd): 2009/12/09

## 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 | Please indicate Number of Cluster Well Information Log Sheets Submitted |
|---|---|
| 2 | |
| Total Wells on this Property: unknown | 1 |

## 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** [redacted]

## Well Contractor and Well Technician Information

| Business Name of Well Contractor | Well Contractor's Licence No. |
|---|---|
| George Downing Estate Drilling Ltd | 1814 |

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

| Province | Postal Code | Business E-mail Address |
|---|---|---|
| QC | J0V1B0 | downing@hawk.igs.net |

| Bus. Telephone No. (inc. area code) | Name of Well Technician (Last Name, First Name) |
|---|---|
| 8192426469 | Downing, Bruce |

| Well Technician's Licence No. | Signature of Technician | Date Submitted (yyyy/mm/dd) |
|---|---|---|
| | Bruce Downing | 2009/12/01 |

## Ministry Use Only

| Audit No. | Well Contractor No. |
|---|---|
| M 05531 | |

| Date Received (yyyy/mm/dd) | Date of Inspection (yyyy/mm/dd) |
|---|---|
| JAN 07 2010 | |

Remarks

1992 (11/2006)

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Ontario Ministry of the Environment

**Well Tag No. for Master Well** *(Print Well Tag No.)*
2 M.W. abandonments under Tag A074637 (5 remaining wells)

# Cluster Well Information for Cluster Well Construction

*Regulation 903 Ontario Water Resources Act*

Page 1 of 1

## Property Owner's Information

| First Name | Last Name | Mailing Address (Street No./Name, RR) | Municipality |
|---|---|---|---|
| Shell Canada Products | | 90 Sheppard Ave. East Suite 600 | Toronto |

| Province | Postal Code | E-mail Address | Telephone No. (inc. area code) |
|---|---|---|---|
| ON | M2N 6Y2 | | 4162277111 |

## Cluster Well Information

| Address of Well Location (Street Number/Name, RR) | Lot | Concession | Township | County/District/Municipality |
|---|---|---|---|---|
| 154 O'Conner Street | | | | |

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

[redacted]

| Signature of Technician/Contractor | Date (yyyy/mm/dd) |
|---|---|
| Bruce Downing | 2009/12/01 |

| 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 #5 | 18 | 445513 | 5029627 | 6.1 | 20/10 | | | | | | | | Aquaguard cement | | 2009/11/09. |

## 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 | 8192426469 | 1844 | downing@hawk.igs.net |

| Name of Well Technician (First Name, Last Name) | Well Technician's Licence No. | Date Submitted (yyyy/mm/dd) | Signature of Technician |
|---|---|---|---|
| Bruce Downing | 2173 | 2009/12/01 | Bruce Downing |

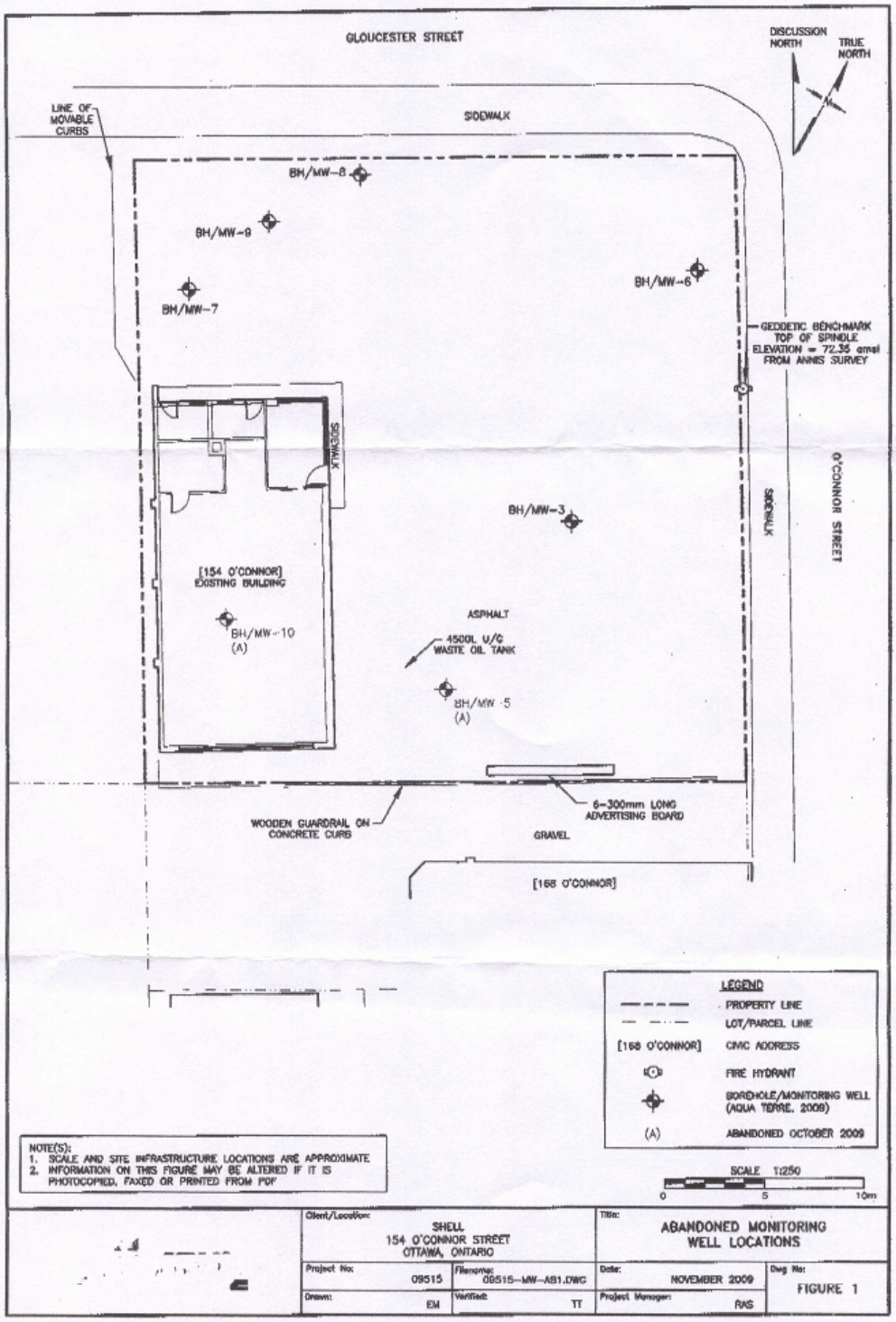
| Date 1st Well in Cluster Constructed (yyyy/mm/dd) | Date Last Well in Cluster Constructed (yyyy/mm/dd) |
|---|---|
| 2009/11/09. | 2009/11/09 |

**Ministry Use Only**

| Date Received (yyyy/mm/dd) | Date Inspected (yyyy/mm/dd) |
|---|---|
| JAN 07 2010 | |
| **Audit No.** | **Remarks** |
| C06149 | M05531 |

1991 (11/2006)

Ministry's Copy




C-1844
M05531
C6149

JAN 0 7 2010

Ontario Ministry of the Environment

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

**A 083149**

MW 09-23

# Master Well Record for Cluster Well Construction

*Regulation 903 Ontario Water Resources Act*

Page 1 of 2

## Master Well Owner's and Land Owner's Information

| First Name | Last Name | E-mail Address |
|---|---|---|
| Shell Canada Products Ltd. | | |

| Mailing Address (Street Number/Name, RR) | Municipality | Province | Postal Code | Telephone No. (inc. area code) |
|---|---|---|---|---|
| 90 Sheppard Ave. East Suite 600 | Toronto | ON | M2N6Y2 | 4164383862 |

## Location and Construction of the Master Well in the Cluster

| Address of Well Location (Street Number/Name, RR) | Township | Lot | Concession |
|---|---|---|---|
| 154 O'Connor Street | | 41 & Part of 2 | Lot D - Con C |

| County/District/Municipality | City/Town/Village | Province | Postal Code |
|---|---|---|---|
| | Ottawa | Ontario | K2P1T5 |

| UTM Coordinates | Zone | Easting | Northing | GPS Unit Make | Model | Mode of Operation |
|---|---|---|---|---|---|---|
| NAD 83 | 18 | 445498 | 5029689 | Garmin | Etrex | ☐ 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 | Depth (Metres) To |
|---|---|---|---|---|---|
| Dk Brown | Sand Fill | | Moist | 0 | 0.6 |
| " " | Sand + Gravel Fill | | " | 0.6 | 1.2 |
| Brown/Grey | Silty Clay | | " | 1.2 | 3.0 |
| Grey | Clay | | Wet | 3.0 | 4.3 |
| " | Clayey Silt | | | 4.3 | 5.5 |
| " | Sandy clay | | | 5.5 | 6.0 |
| Brown/Grey | Shale | | Dry | 6.0 | 11.3 |

## Hole Details

| Depth (Metres) From | Depth (Metres) To | Diameter (Centimetres) |
|---|---|---|
| 0 | 6.0 | 20 |
| 6.0 | 11.3 | 10 |

## 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
☐ Rotary (Air) ☐ Driving HSA

## 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 | Aluminum flushmount PVC Riser | Sched 40 | 0 | 8.3 |

## No Casing and Screen Used

Open Hole ☐ Yes ☑ No

## Static Water Level Test

Metres

## Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

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

## Annular Space/Abandonment Sealing Record

| Depth Set at (Metres) From | To | Type of Sealant Used (Material and Type) | Volume Used (Cubic Metres) |
|---|---|---|---|
| 0.5 | 7.0 | Bentonite | 120 kgs |

## 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 |

| Disinfected | If no, provide reason: | Date Master Well Completed (yyyy/mm/dd) |
|---|---|---|
| ☐ Yes ☑ No | Monitoring well | 2009/12/17 |

## 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 | Please indicate Number of Cluster Well Information Log Sheets Submitted |
|---|---|
| 6 | 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 Ltd | 1814 |

| Business Address (Street No./Name, number, RR) | Municipality |
|---|---|
| 410 rue Principale | Grenville Sur La Rouge |

| Province | Postal Code | Business E-mail Address |
|---|---|---|
| QC | J0V1B0 | downing@hawk.iqs.net |

| Bus. Telephone No. (inc. area code) | Name of Well Technician (Last Name, First Name) |
|---|---|
| 8192426469 | Downing, Bruce |

| Well Technician's Licence No. | Signature of Technician | Date Submitted (yyyy/mm/dd) |
|---|---|---|
| 2173 | [signature] | 2010/01/19 |

| Audit No. | Well Contractor No. |
|---|---|
| M 05547 | |
| **Date Received (yyyy/mm/dd)** | **Date of Inspection (yyyy/mm/dd)** |
| FEB 02 2010 | |
| **Remarks** | |

1992 (11/2006)

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Ontario Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.) **A 083149** A083149

# Cluster Well Information for Cluster Well Construction

*Regulation 903 Ontario Water Resources Act*

Page 1 of 1

## Property Owner's Information

| First Name | Last Name | Mailing Address (Street No./Name, RR) | Municipality |
|---|---|---|---|
| Shell Canada Products Ltd. | | 90 Sheppard Avenue Suite 600 | Toronto |

| Province | Postal Code | E-mail Address | Telephone No. (inc. area code) |
|---|---|---|---|
| ONTARIO | | | 4164383862 |

[redacted]

upon request

Signature of Technician/Contractor: Bruce Downing — Date (yyyy/mm/dd): 2010/01/19

## Cluster Well Information

| Address of Well Location (Street Number/Name, RR) | Lot | Concession | Township | County/District/Municipality |
|---|---|---|---|---|
| 154 O'Connor Street | 41 & Part 2 | | | |

| City/Town/Village | Province | Postal Code | GPS Unit Make | Model | Unit Mode of Operation | |
|---|---|---|---|---|---|---|
| Ottawa | Ontario | K2P1T5 | Garmin | Etrex | ☐ Differentiated, specify: | ☐ Undifferentiated ☑ Averaged |

| 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 20 | 18 | 445147 | 5029689 | 10.7 | 20/10 | HSA/AP | PVC | 7.7 | 7.7 | 10.7 | Bentonite | 7.7 | | | 2009/12/21 |
| MW 22 | 18 | 445149 | 5029702 | 10.7 | | | | | | | | | | | 2009/12/16 |
| MW 24 | 18 | 445108 | 5029678 | 10.7 | | | | | | | | | | | 2009/12/18 |
| MW 26 | 18 | 445050 | 5029625 | 10.7 | | | | | | | | | | | 2009/12/18 |
| MW 27 | 18 | 445048 | 5029688 | 10.7 | | | | | | | | | | | 2009/12/21 |

## 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 | Granville Sur la Rouge | Qc. |

| Postal Code | Business Telephone No. (inc. area code) | Well Contractor's Licence No. | Business E-mail Address |
|---|---|---|---|
| J0V1B0 | 8192426469 | 1844 | downing@hawk.igs.net |

| Name of Well Technician (First Name, Last Name) | Well Technician's Licence No. | Date Submitted (yyyy/mm/dd) | Signature of Technician |
|---|---|---|---|
| Bruce Downing | 2173 | 2010/12/19 | Bruce Downing |

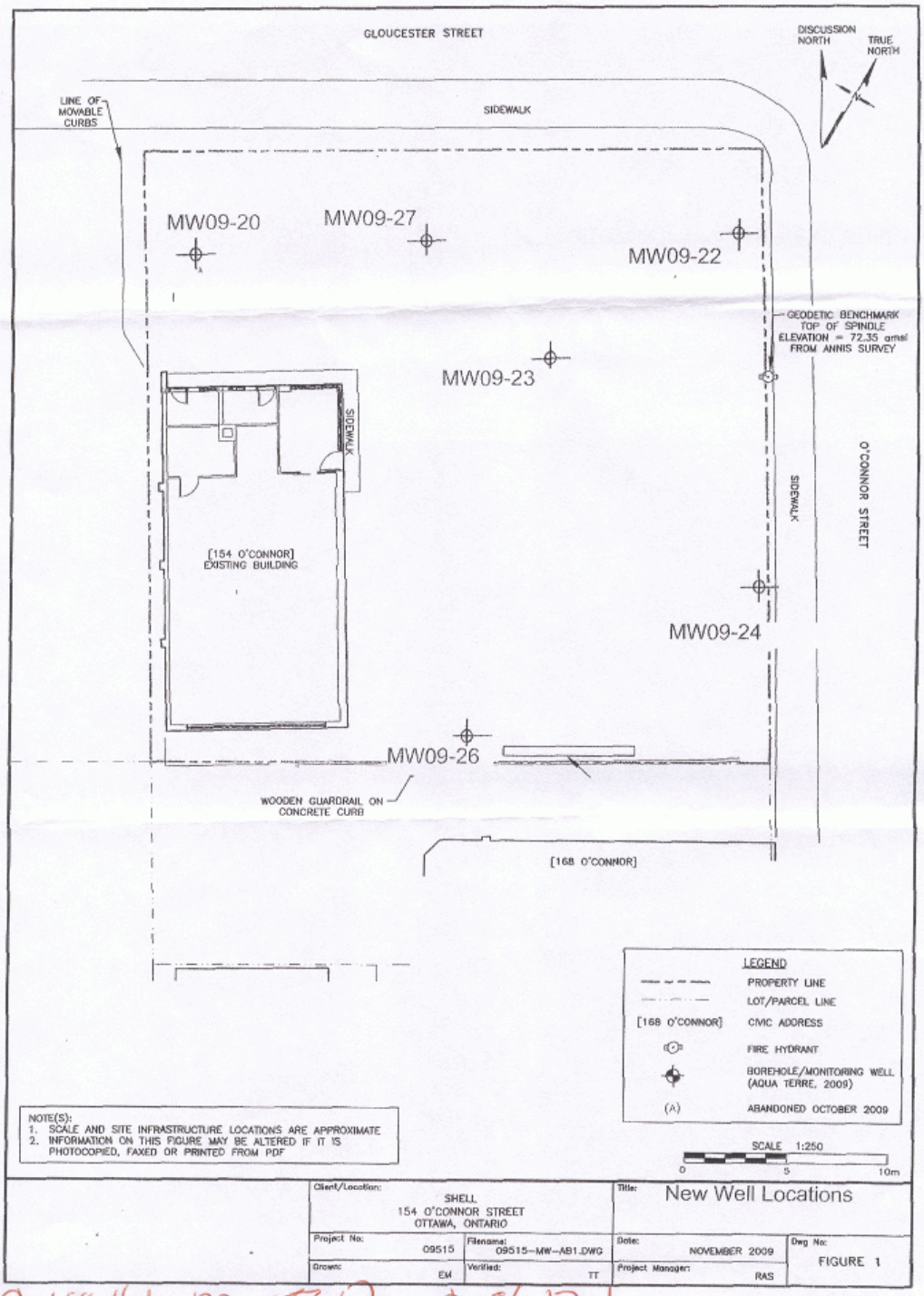
| Date 1st Well in Cluster Constructed (yyyy/mm/dd) | Date Last Well in Cluster Constructed (yyyy/mm/dd) |
|---|---|
| 2009/12/16 | 2009/12/21 |

**Ministry Use Only**

| Date Received (yyyy/mm/dd) | Date Inspected (yyyy/mm/dd) |
|---|---|
| FEB 02 2010 | |
| Audit No. c 06171 | Remarks M05547 |

1991 (11/2006)

Ministry's Copy




C-1844 m0547 c0617

FEB 0 2 2010

Ontario — Ministry of the Environment

Measurements recorded in: [X] Metric [ ] Imperial

Well Tag No. A 140221 — **Tag#: A140221**

# Well Record

*Regulation 903 Ontario Water Resources Act*

Page _____ of _____

## Well Owner's Information

| First Name | Last Name / Organization | E-mail Address | [ ] Well Constructed by Well Owner |
|---|---|---|---|
| Claridge Homes Inc. | (Metcalfe Tower 1) | N/A | |

| Mailing Address (Street Number/Name) | Municipality | Province | Postal Code | Telephone No. (inc. area code) |
|---|---|---|---|---|
| 2001-210 Gladstone Ave. | Ottawa | On. | K2P0Y6 | 6132336030 |

## Well Location

| Address of Well Location (Street Number/Name) | Township | Lot | Concession |
|---|---|---|---|
| Lisgar Street | Former Nepean | D | C Rideau Front |

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

| UTM Coordinates | Zone | Easting | Northing | Municipal Plan and Sublot Number | Other |
|---|---|---|---|---|---|
| NAD 83 | 18 | 445804 | 5029720 | | |

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

| General Colour | Most Common Material | Other Materials | General Description | Depth (m/ft) From | Depth (m/ft) To |
|---|---|---|---|---|---|
| Brown | Silt | ~~Sand~~ Stone | Hard | 0 | 2.8 |
| Grey | clay | Silt | Soft | 2.8 | 21.7 |
| Grey | gravel | Sand, Stone | packed | 21.7 | 22.5 |
| Grey | limestone | | layered | 22.5 | 25.6 |

## Annular Space

| Depth Set at (m/ft) From | Depth Set at (m/ft) To | Type of Sealant Used (Material and Type) | Volume Placed ($m^3$/$ft^3$) |
|---|---|---|---|
| 0 | 22.5 | Bentonyte grout and cement | .6 $m^3$ |

## Method of Construction

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

## Well Use

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

## Construction Record - Casing

| Inside Diameter (cm/in) | Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) | Wall Thickness (cm/in) | Depth (m/ft) From | Depth (m/ft) To |
|---|---|---|---|---|
| 15.55 | steel | .48 | 0 | 22.5 |
| 15.55 | Open Hole | | 22.5 | 25.6 |

## Construction Record - Screen

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

## Status of Well

[ ] Water Supply
[ ] Replacement Well
[ ] Test Hole
[X] 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 | Kind of Water | Hole Diameter Depth From | Hole Diameter Depth To | Hole Diameter (cm/in) |
|---|---|---|---|---|
| 24 (m/ft) [ ] Gas [ ] Other, specify | [ ] Fresh [X] Untested | 0 | 22.5 | 24.8 |
| (m/ft) [ ] Gas [ ] Other, specify | [ ] Fresh [ ] Untested | 22.5 | 25.6 | 15.55 |
| (m/ft) [ ] Gas [ ] Other, specify | [ ] Fresh [ ] Untested | | | |

## Results of Well Yield Testing

After test of well yield, water was:
[X] 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)

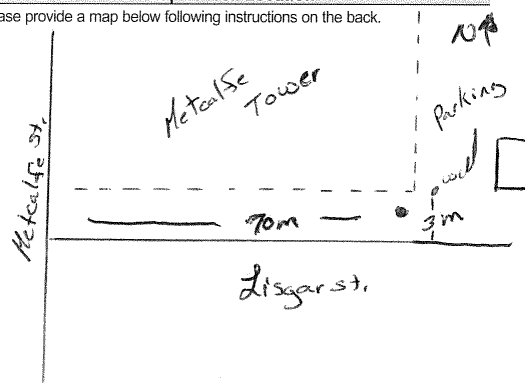
Disinfected? [ ] Yes [ ] No

| | 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 | |

N/A

## 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. |
|---|---|
| Bowmans Well Drilling Ltd. | 7417 |

| Business Address (Street Number/Name) | Municipality |
|---|---|
| 151 Montee D'Aoust | Nation |

| Province | Postal Code | Business E-mail Address |
|---|---|---|
| On | K0A3C0 | N/A |

| Bus. Telephone No. (inc. area code) | Name of Well Technician (Last Name, First Name) |
|---|---|
| 6139875291 | GENIER, MICHAEL |

| Well Technician's Licence No. | Signature of Technician and/or Contractor | Date Submitted |
|---|---|---|
| 3493 | | 2012/12/24 |

| Well owner's information package delivered | Date Package Delivered | Ministry Use Only |
|---|---|---|
| [X] Yes [ ] No | 2012/12/14 | Audit No. Z160870 |
| | Date Work Completed 2012/12/14 | Received JAN 04 2013 |

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☐ Imperial

**Well Tag No.** *(Place Sticker and/or Print Below)* A152336

# Well Record

***Regulation 903 Ontario Water Resources Act***

Page 1 of 1

## Well Owner's Information

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

| Mailing Address (Street Number/Name) | Municipality | Province | Postal Code | Telephone No. *(inc. area code)* |
|---|---|---|---|---|
| 110 Lawrence Ave West | Ottawa | ON | K1P 1J1 | 613 5802424 |

## Well Location

| Address of Well Location (Street Number/Name) | Township | Lot | Concession |
|---|---|---|---|
| | | | |

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

| UTM Coordinates | Zone | Easting | Northing | Municipal Plan and Sublot Number | Other |
|---|---|---|---|---|---|
| NAD 83 | 18 | 445795 | 5029519 | | |

## 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 |
|---|---|---|---|---|---|
| BH 103 | Quick Grout | + Cement | | 57m | 0 |

## Annular Space

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

## Method of Construction

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

## Well Use

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

## Construction Record - Casing

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

## Construction Record - Screen

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

## Status of Well

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

## Water Details

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

## Hole Diameter

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

## Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

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

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

Recommended pump depth *(m/ft)*

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

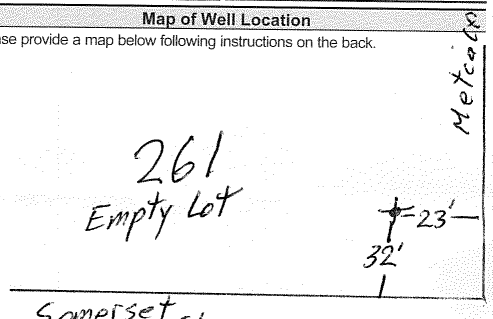
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

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

## Map of Well Location

Please provide a map below following instructions on the back.




Comments:

## Well Contractor and Well Technician Information

| Business Name of Well Contractor | Well Contractor's Licence No. |
|---|---|
| Marathon Drilling Co Ltd | 6894 |

| Business Address (Street Number/Name) | Municipality |
|---|---|
| 6847 Hwy 6 | OTT |

| Province | Postal Code | Business E-mail Address |
|---|---|---|
| ON | K4P 1A2 | |

| Bus. Telephone No. *(inc. area code)* | Name of Well Technician (Last Name, First Name) |
|---|---|
| 6138220571 | Wright Terry |

| Well Technician's Licence No. | Signature of Technician and/or Contractor | Date Submitted |
|---|---|---|
| 0715 | | 20130913 |

| Well owner's information package delivered | Date Package Delivered | Date Work Completed |
|---|---|---|
| ☐ Yes ☐ No | Y Y Y Y M M D D | Y Y Y Y M M D D |

**Ministry Use Only**

Audit No. Z096855

Received NOV 14 2013

0506E (12/2007)

Ministry's Copy

## Adrian Menyhart

**From:** Public Information Services <publicinformationservices@tssa.org>
**Sent:** June-06-18 6:10 PM
**To:** Adrian Menyhart
**Subject:** RE: Records Search Request - 180 Metcalfe Street - No Record Found

**No Records Found**

Hello,

Thank you for your request for confirmation of public information.

- We confirm that there are **no fuel storage tanks records** in our database at the subject address(es).

For copies of documents, please complete the Release of Public Information form, found at https://www.tssa.org/en/about-tssa/resources/Release-of-Records-form--Jan-2018Final.pdf and email the completed form to publicinformationservices@tssa.org or through mail along with the appropriate fee. TSSA's fee schedule can be found at: https://www.tssa.org/en/about-tssa/resources/Documents/Public-Information-Fee-Schedule_Jan_2018.pdf. Fees are payable with a credit card (Visa or MasterCard) or by a cheque made payable to TSSA.

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

Kind regards,

Connie

---

**From:** Adrian Menyhart <AMenyhart@Patersongroup.ca>
**Sent:** June 6, 2018 2:51 PM
**To:** Public Information Services <publicinformationservices@tssa.org>
**Subject:** Records Search Request - 180 Metcalfe Street

Good Afternoon,

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

180 Metcalfe Street
193 Metcalfe Street
225 Lisgar Street
170 Metcalfe Street
88 Nepean Street
171 O'Connor Street
231 Lisgar Stret
160 Elgin Street
257 Lisgar Street
201 Metcalfe Street

Best Regards,

Adrian Menyhart, P.Eng.
**patersongroup**
**solution oriented engineering**

154 Colonnade Road South
Ottawa, Ontario, K2E 7J5
Tel: (613) 226-7381 Ext. 208
Fax: (613) 226-6344
Email: amenyhart@patersongroup.ca

File Number: C10-01-13-0282

December 5, 2014

Jenevieve Allan
EXP Services Inc.
2650 Queensview Drive, Unit 100
Ottawa, ON
K2B 8H6

*Sent via email [Jenevieve.Allan@exp.com]*

Dear Ms. Allan,

**Re: Information Request**
**180 Metcalfe Street, Ottawa, Ontario ("Subject Property")**

**Internal Department Circulation**

The Planning and Growth Management Department has the following information in response to your request for information regarding the Subject Property:

- No information was returned on the Subject Property from Departmental circulation.

**Search of Historical Land Use Inventory**

**This acknowledges receipt of the signed Disclaimer regarding your request for information from the City's Historical Land Use Inventory (HLUI 2005) database for the Subject Property.**

A search of the HLUI database revealed the following information:

- There are five activities associated with the Subject Property: Activity Number 11157, 13702, 2598, 2841, 5573.

The HLUI database was also searched for activity associated with properties located within 50m of the Subject Property. The search revealed the following:

- There are 15 activities associated with properties located within 50m of the Subject Property: Activity Number 6574, 13265, 14967, 8475, 7957, 1126, 13449, 14895, 1536, 3961, 5414, 6821, 6904, 7649, 9166.

Please note that Activity Numbers 8475 and 7957 have a PIN Certainty of "2". This identifier acknowledges that there is some uncertainty about the exact location of the land use activity and that the activity may or may not have been located on the Subject Property or on certain properties within 50m of the Subject Property. All database entries with a PIN Certainty of "2" require independent verification as to their precise location.

A site map has been included to show the location of the Subject Property as well as the location of all the activities noted above, including the HLUI database's location of the Activity Numbers with a PIN Certainty of "2".

**Please note, as per the HLUI Disclaimer, that the information contained in the HLUI database has been compiled from publicly available records and other sources of information. The HLUI may contain erroneous information given that the records used as sources of information may be flawed. For instance, changes in municipal addresses over time may introduce error. Accordingly, all information from the HLUI database 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.**

**Furthermore, the HLUI database and the results of this search in no way confirm the presence or absence of contamination or pollution of any kind. This information is provided on the assumption that it will not be relied upon by any person for any purpose whatsoever. The City of Ottawa denies all liability to any persons attempting to rely on any information provided from the HLUI database.**

**Please note that in responding to your request, the City of Ottawa does not guarantee or comment on the environmental condition of the Subject Property. You may wish to contact the Ontario Ministry of Environment for additional information.**

If you have any further questions or comments, please contact John Bernier at 613-580-2424 ext. 14743 or HLUI@ottawa.ca

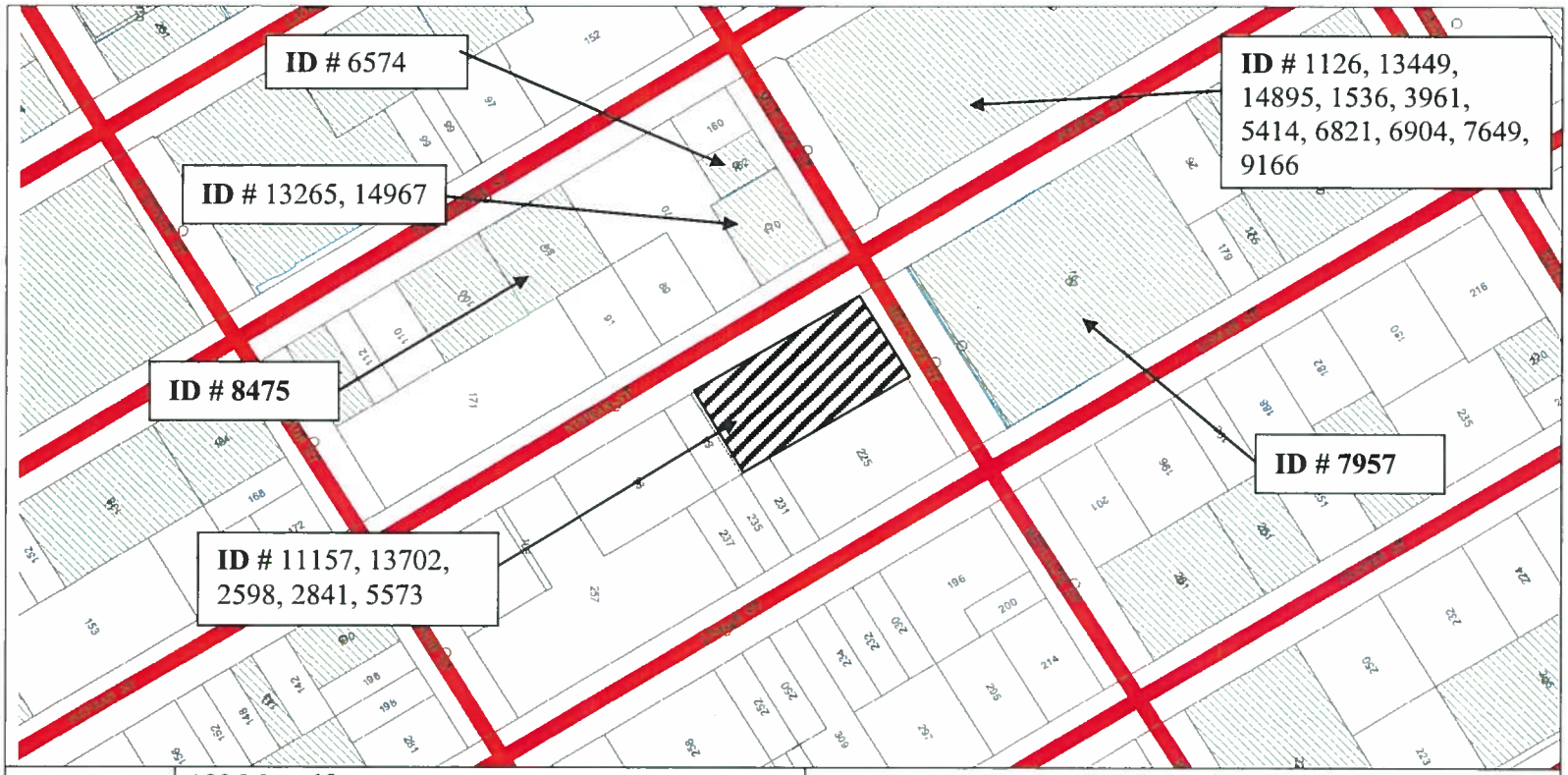
Sincerely,

David Wise, MUP, MCIP, RPP
Program Manager
Development Review (Suburban Services) - West
Planning and Growth Management Department

DW/JB

Attach: 21

cc: File no. C10-01-13-0282




Scale 1: n/a

180 Metcalfe
Ottawa, ON
File # C10-01-13-0282
John Bernier

Ottawa

ID# = Activity Identification Number

= Subject Site

Overview

CITY OF OTTAWA

HLUI ID: __679EDP

AREA (Square Metres): 911.142

Report: RPTC_OT_DEV0122

Run On: 19 Nov 2013 at: 08:47:56

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150152 | Y | N |

Activity ID: 8475

Multiple PINS: Y

PIN Certainty: 2

Previous Activity ID(s) : 828

Related PINS: 041150151

Name: LO-MOR PRINTERS

Address: 86 GLOUCESTER STREET, OTTAWA

Facility Type: Commercial Printing Industries

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1: S.1958, S.1961, S.1964-65, S.1970/71, M.1949, M.1957, M.1958, M.1961, M.1963, M.1964, M.1970, M.1971,

HL References 2:

HL References 3:

| NAICS | SIC |
|---|---|
| 323119 | 281 |
| 323116 | 281 |
| 323115 | 281 |
| 323114 | 281 |

| Company Name | Year of Operation |
|---|---|
| Lo-Mor Printers | c. 1956-1971 |

CITY OF OTTAWA

HLUI ID: __670H3D

AREA (Square Metres): 721.864

Report: RPTC_OT_DEV0122

Run On: 19 Nov 2013 at: 08:48:35

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150171 | Y | Y |

**Activity ID:** 13265 **Multiple PINS:** N

**PIN Certainty:** 1 **Previous Activity ID(s) :**

**Related PINS:** 041150171

**Name:** SUNNY CLEANERS & ALTERATIONS

**Address:** 170 METCALFE STREET, OTTAWA

**Facility Type:** Laundries and Cleaners

**Comments 1:**

**Comments 2:**

**Generator Number:**

**Storage Tanks:**

**HL References 1:**

**HL References 2:**

**HL References 3:** 2001 Employment Survey

| NAICS | SIC |
|---|---|
| 812320 | 0 |

| Company Name | Year of Operation |
|---|---|
| SUNNY CLEANERS & ALTERATIONS | c. 2001 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150171 | Y | Y |

Activity ID: 14967
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) : 3064
Related PINS: 041150171

Name: XEROX OF CANADA LIMITED
Address: 170 METCALFE STREET, OTTAWA
Facility Type: Commercial Printing Industries
Comments 1: Unit 100 - 101
Comments 2:
Generator Number:
Storage Tanks:
HL References 1: M.1960, M.1970, M.1980
HL References 2:
HL References 3:

| NAICS | SIC |
|---|---|
| 323114 | 281 |
| 323116 | 281 |
| 323119 | 281 |
| 323115 | 281 |

| Company Name | Year of Operation |
|---|---|
| Xerox of Canada Ltd. | c. 1970 |

CITY OF OTTAWA

HLUI ID: __679BKJ

AREA (Square Metres): 282.481

Report: RPTC_OT_DEV0122

Run On: 19 Nov 2013 at: 08:49:07

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 2005 | 041150155 | N | N |

Activity ID: 6574 Multiple PINS: N

PIN Certainty: 1 Previous Activity ID(s) :

Related PINS: 041150155

Name: HARRINGTON COMPUTER SERVICES

Address: 164 METCALFE STREET, OTTAWA

Facility Type: Electrical and Electronic Machinery, Equipment and Supplies, Wholesale

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

HL References 2:

HL References 3: 2001 Employment Survey

| NAICS | SIC |
|---|---|
| 811210 | 0 |

| Company Name | Year of Operation |
|---|---|
| HARRINGTON COMPUTER SERVICES | c. 2001 |

CITY OF OTTAWA

HLUI ID: __679GVH

AREA (Square Metres): 8875.803

Report: RPTC_OT_DEV0122

Run On: 19 Nov 2013 at: 08:49:27

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

Activity ID: 1126

Multiple PINS: N

PIN Certainty: 1

Previous Activity ID(s) :

Related PINS: 041150156

Name: ALLEN MAINTENANCE

Address: 160 ELGIN STREET, OTTAWA

Facility Type: Service Industries Incidental to Air Transport

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

HL References 2:

HL References 3: 2001 Employment Survey

| NAICS | SIC |
|---|---|
| 561722 | 0 |

| Company Name | Year of Operation |
|---|---|
| ALLEN MAINTENANCE | c. 2001 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

**Activity ID:** 13449 **Multiple PINS:** N

**PIN Certainty:** 1 **Previous Activity ID(s) :** 2704

**Related PINS:** 041150156

**Name:** XEROX BUSINESS SERVICES
**Address:** 160 ELGIN STREET, OTTAWA
**Facility Type:** Commercial Printing Industries
**Comments 1:** BELL CANADA BUILDING, ROOM 97
**Comments 2:**
**Generator Number:** ON0191809
**Storage Tanks:**
**HL References 1:** M.1960, M.1970, M.1980
**HL References 2:**
**HL References 3:** 2000 PID

| NAICS | SIC |
|---|---|
| 323114 | 281 |
| 323116 | 0 |
| 323115 | 281 |
| 323115 | 0 |
| 323116 | 281 |
| 323119 | 281 |
| 323119 | 0 |

| Company Name | Year of Operation |
|---|---|
| XEROX BUSINESS SERVICES | c. 2003 |
| The Printery | c. 1980 |
| XEROX BUSINESS SERVICES | c. 2000 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

Activity ID: 14895
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) :
Related PINS: 041150156

Name: ZOOM AIRLINES
Address: 160 ELGIN STREET,
Facility Type: Air Transport Industries
Comments 1:
Comments 2:
Generator Number:
Storage Tanks:
HL References 1:
HL References 2:
HL References 3: 2005 Select Phone

| NAICS | SIC |
|---|---|
| 481110 | 0 |

| Company Name | Year of Operation |
|---|---|
| ZOOM AIRLINES | c 2005 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

**Activity ID:** 1536 **Multiple PINS:** N

**PIN Certainty:** 1 **Previous Activity ID(s) :**

**Related PINS:** 041150156

**Name:** BELL CANADA
**Address:** 160 ELGIN STREET, OTTAWA
**Facility Type:** Telecommunication Carriers Industry
**Comments 1:**
**Comments 2:**
**Generator Number:** ON0473815
**Storage Tanks:**
**HL References 1:**
**HL References 2:**
**HL References 3:** 2000 PID

| NAICS | SIC |
|---|---|
| 517310 | 0 |
| 517910 | 0 |
| 517210 | 0 |
| 517410 | 0 |
| 517110 | 0 |

| Company Name | Year of Operation |
|---|---|
| BELL CANADA | c. 2000 |
| BELL CANADA | c. 2001 |
| BELL CANADA | c. 2003 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

Activity ID: 3961
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) :
Related PINS: 041150156
Name: DECIMA PUBLISHING
Address: 160 ELGIN STREET,
Facility Type: Combined Publishing and Printing Industries
Comments 1: #1800
Comments 2:
Generator Number:
Storage Tanks:
HL References 1:
HL References 2:
HL References 3: 2005 Select Phone

| NAICS | SIC |
|---|---|
| 511120 | 0 |

| Company Name | Year of Operation |
|---|---|
| DECIMA PUBLISHING | c. 2005 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

Activity ID: 5414
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) :
Related PINS: 041150156
Name: G R JEWELLERS
Address: 160 ELGIN STREET, OTTAWA
Facility Type: Jewellery Stores and Watch and Jewellery Repair Shops
Comments 1:
Comments 2:
Generator Number:
Storage Tanks:
HL References 1:
HL References 2:
HL References 3: 2001 Employment Survey

| NAICS | SIC |
|---|---|
| 448310 | 0 |

| Company Name | Year of Operation |
|---|---|
| G R JEWELLERS | c. 2001 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

Activity ID: 6821
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) : 2702
Related PINS: 041150156

Name: HILLARY CLEANERS
Address: 160 ELGIN STREET, OTTAWA
Facility Type: Laundries and Cleaners
Comments 1:
Comments 2:
Generator Number:
Storage Tanks:
HL References 1: M.1960, M.1970, M.1980, SC98
HL References 2:
HL References 3: 2001 Employment Survey

| NAICS | SIC |
|---|---|
| 812320 | 972 |
| 812330 | 972 |
| 561740 | 972 |
| 812320 | 0 |
| 812310 | 972 |

| Company Name | Year of Operation |
|---|---|
| Parker Cleaners | c. 1980-1998 |
| HILLARY CLEANERS | c. 2001 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

Activity ID: 6904
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) : 566
Related PINS: 041150156

Name: HUGUELET'S SERVICE STATION
Address: 170 ELGIN STREET, OTTAWA
Facility Type: Gasoline Service Stations
Comments 1: No tanks appear on the FIPs for 1948 and 1956 but name still says gasoline.
Comments 2:
Generator Number:
Storage Tanks:
HL References 1: FIP1948-123-217, FIP1956-123/2-217, FIP1922-37-217 vol1, M.1900, M.1910, M.1920, M.1930, M.1940, M.1949, M.1950, M.1957, M.1960, M.1970, M.1980
HL References 2:
HL References 3:

| NAICS | SIC |
|---|---|
| 811119 | 635 |
| 811121 | 635 |
| 447110 | 633 |
| 811112 | 635 |
| 811199 | 633 |
| 447190 | 633 |

| Company Name | Year of Operation |
|---|---|
| Huguelet's Service Station | c. 1948 |
| Elgin Service Station | c. 1960 |
| Champlain Oil Products Ltd | c. 1950 |
| La Grave Service Station | c. 1950 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

Activity ID: 7649
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) : 5221
Related PINS: 041150156

Name: SOOTER'S PHOTOGRAPHY
Address: 160 ELGIN STREET,
Facility Type: Platemaking, Typesetting and Bindery Industry
Comments 1: #106
Comments 2:
Generator Number:
Storage Tanks:
HL References 1: SC98
HL References 2:
HL References 3: 2005 Select Phone

| NAICS | SIC |
|---|---|
| 812921 | 282 |
| 812922 | 0 |
| 323120 | 282 |
| 812921 | 0 |

| Company Name | Year of Operation |
|---|---|
| KARA FOTO 1 HOUR LAB | c. 2001 |
| SOOTER'S PHOTOGRAPHY | c. 2005 |
| Kara Foto 1 Hour Lab. | c. 1998 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150156 | Y | Y |

Activity ID: 9166
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) :
Related PINS: 041150156

Name: MEDIA ACTION
Address: 160 ELGIN STREET, OTTAWA
Facility Type: Motion Picture Laboratories and Video Production Facilities
Comments 1:
Comments 2:
Generator Number:
Storage Tanks:
HL References 1:
HL References 2:
HL References 3: 2001 Employment Survey

| NAICS | SIC |
|---|---|
| 512110 | 0 |

| Company Name | Year of Operation |
|---|---|
| MEDIA ACTION | c. 2001 |

CITY OF OTTAWA

HLUI ID: __679GJN

AREA (Square Metres): 4947.781

Report: RPTC_OT_DEV0122

Run On: 19 Nov 2013 at: 08:51:05

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150263 | Y | N |

Activity ID: 7957 Multiple PINS: N

PIN Certainty: 2 Previous Activity ID(s) : 5556

Related PINS: 041150263

Name: KOPP LABORATORIES LIMITED

Address: 184 METCALFE STREET, OTTAWA

Facility Type: Medical and Other Health Laboratories

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1: M.1960, M.1970, M.1980

HL References 2:

HL References 3:

| NAICS | SIC |
|---|---|
| 621990 | 868 |
| 621510 | 868 |

| Company Name | Year of Operation |
|---|---|
| Kopp Laboratories Ltd | c. 1960 |

CITY OF OTTAWA

HLUI ID: __679FVQ

AREA (Square Metres): 1821.781

Report: RPTC_OT_DEV0122

Run On: 19 Nov 2013 at: 08:46:16

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150258 | Y | Y |

**Activity ID:** 11157 **Multiple PINS:** N

**PIN Certainty:** 1 **Previous Activity ID(s) :**

**Related PINS:** 041150258

**Name:** POST PLUS

**Address:** 180 METCALFE STREET, OTTAWA

**Facility Type:** Motion Picture Laboratories and Video Production Facilities

**Comments 1:**

**Comments 2:**

**Generator Number:**

**Storage Tanks:**

**HL References 1:**

**HL References 2:**

**HL References 3:** 2001 Employment Survey

| NAICS | SIC |
|---|---|
| 512110 | 0 |

| Company Name | Year of Operation |
|---|---|
| POST PLUS | c. 2001 |
| TELEVISION FACTORY THE | c. 2001 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150258 | Y | Y |

Activity ID: 13702
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) :
Related PINS: 041150258

Name: TIDY KLEAN
Address: 180 METCALFE STREET, OTTAWA
Facility Type: Service Industries Incidental to Air Transport
Comments 1:
Comments 2:
Generator Number:
Storage Tanks:
HL References 1:
HL References 2:
HL References 3: 2001 Employment Survey

| NAICS | SIC |
|---|---|
| 561722 | 0 |

| Company Name | Year of Operation |
|---|---|
| TIDY KLEAN | c. 2001 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150258 | Y | Y |

Activity ID: 2598
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) : 5162
Related PINS: 041150258

Name: CANADIAN MEDICAL LABORATORIES LIMITED
Address: 180 METCALFE STREET, OTTAWA
Facility Type: Medical and Other Health Laboratories
Comments 1: STE. 402
Comments 2:
Generator Number: ON0245133
Storage Tanks:
HL References 1: SC98
HL References 2:
HL References 3: 2000 PID

| NAICS | SIC |
|---|---|
| 621510 | 0 |
| 621990 | 868 |
| 621510 | 868 |

| Company Name | Year of Operation |
|---|---|
| CANADIAN MEDICAL LABORATORIES LIMITED | c. 2000 |
| Canadian Medical Laboratories Ltd. | c. 1998 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150258 | Y | Y |

Activity ID: 2841
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) :
Related PINS: 041150258
Name: CARSWELL GOVERNMENT SALES
Address: 180 METCALFE STREET,
Facility Type: Combined Publishing and Printing Industries
Comments 1:
Comments 2:
Generator Number:
Storage Tanks:
HL References 1:
HL References 2:
HL References 3: 2005 Select Phone

| NAICS | SIC |
|---|---|
| 512230 | 0 |
| 511130 | 0 |

| Company Name | Year of Operation |
|---|---|
| CARSWELL GOVERNMENT SALES | c. 2005 |

| Study Year | PIN | Multi-NAIC | Multiple Activities |
|---|---|---|---|
| 1998 | 041150258 | Y | Y |

Activity ID: 5573
Multiple PINS: N
PIN Certainty: 1
Previous Activity ID(s) :
Related PINS: 041150258
Name: GALLERY E PHOTOGRAPHY STUDIO
Address: 180 METCALFE STREET, OTTAWA
Facility Type: Photographers
Comments 1:
Comments 2:
Generator Number:
Storage Tanks:
HL References 1:
HL References 2:
HL References 3: 2001 Employment Survey

| NAICS | SIC |
|---|---|
| 541920 | 0 |

| Company Name | Year of Operation |
|---|---|
| GALLERY E PHOTOGRAPHY STUDIO | c. 2001 |

# APPENDIX 3

## QUALIFICATIONS OF ASSESSORS

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solution oriented engineering

# Adrian Menyhart, B.Eng/ing./P.Eng.

Adrian received his Bachelor's of Engineering from Carleton University in 2011, with a specialization in environmental engineering. During the summers of 2009 through 2011, Adrian worked for the Canadian Food Inspection Agency as an Inspector within the Ottawa region. During Adrian's summer experience he would gain invaluable experience with time management, relations with other government departments as well as the general public and data and information collection. Upon completion of Adrian's summer employment with Canadian Food Inspection Agency in 2011, Adrian started his career as a junior environmental specialist at Paterson within the Environmental Division under the guidance of Mark D'Arcy and other senior personnel. During his time at Paterson, Adrian has accumulated extensive experience with Phase I and Phase II environmental site assessments, remediation inspections, environmental monitoring and field procedures. Being fluently bilingual in English and French, Adrian has experience working in both Ontario and Quebec, and is currently pursuing membership with governing engineering bodies in both provinces. Adrian's work experience has provided an opportunity to gain valuable knowledge about the environment industry, which has lead to his advancement within the Paterson office and ability to be a contributor to the Environmental Divisions success.

**EDUCATION**
B.Eng. 2011, Environmental Engineering, Carleton University, Ottawa, ON

**LICENCE/ PROFESSIONAL AFFILIATIONS**
Ordre des Ingénieurs du Québec
Professional Engineers of Ontario
Ottawa Geotechnical Group

**YEARS OF EXPERIENCE**
With Paterson: 5

With other Firms: 1

**OFFICE LOCATION**
Paterson's Ottawa Office

**SELECT LIST OF PROJECTS**

- Ottawa Heart Institute Construction, Ottawa, ON (project manager) – Conducted air sampling for parameters such as particulate matter, lead, mould and asbestos
- Ottawa Arts Gallery Expansion, Ottawa, ON (remediation supervisor) – Provided guidance in the segregation of soils on the site, managing contaminated and clean materials, providing daily correspondence with the client.
- Rideau Centre Expansion, Ottawa, ON (remediation supervisor) – Provided guidance in the segregation of soils on the site, managing contaminated and clean materials.
- Tweedsmuir and Carling Avenue water and sewer main rehabilitation, Ottawa, ON (remediation supervisor) – Provided guidance for the management of contaminated materials within the sewer and water main excavations.
- Conducted numerous designated substance surveys and asbestos surveys throughout Ontario and Quebec, collecting representative samples of potential asbestos containing materials and preparing comprehensive reports.
- Conducted numerous air sampling programs, collecting samples for environmental parameters such as asbestos, lead and mould, and preparing reports.
- Conducted Phase I and II Environmental Site Assessments across Ontario and Quebec
- Groundwater Monitoring and Sampling

## PROFESSIONAL EXPERIENCE

September 2011 to present, **Environmental Engineer, Paterson Group Inc.,** Ottawa, Ontario

- Provide on-site environmental expertise for remediation projects including Ottawa Arts Gallery, Rideau Centre Expansion and Tall Ships Landing, among various small scale remediation project within the greater Ottawa area.
- Coordinate field programs and prepare reports for Phase I and II projects across Ontario and Quebec.
- Oversee environmental investigations for drilling and test pitting on numerous proposed utility installations, residential and commercial developments.
- Conduct designated substance surveys in Ontario and Quebec.
- Coordinate air sampling programs for various environmental parameters, comparing results with regulatory standards and other guidelines.
- Problem solving to help advance or maintain project schedules.
- Complete environmental reports with recommendations for environmental concerns.
- Liaising with contractors, consultants and government officials.
- Provide cost estimates for environment field programs and construction costs.

June to September from 2009 to 2011, **Inspector, Canadian Food Inspection Agency,** Ottawa, Ontario

- Conducted the trapping program for the Emerald Ash Borer across Eastern Ontario.
- Assisted in the preparation and training of other inspectors for the trapping program.
- Conducted inspections for restricted wood products at various campgrounds.
- Assisted other inspectors in inspecting shipments of wood products from other countries, in certain cases, seizing and disposing of items.
- Compiling data and preparing reports.

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# Mark S. D'Arcy, P.Eng., $QP_{ESA}$
## Senior Environmental/Geotechnical Engineer

After receiving his Bachelors of Applied Science from Queen's University in 1991 in Geological Engineering, Mark joined Paterson Group Inc. During the first 10 years of Mark's career, he was heavily involved in all aspects of field work, including drilling boreholes, excavating test pits, conducting phase I site inspections, environmental sampling and analysis and inspection of environmental remediations. During Mark's field experience, he gained invaluable field and office experience, which would prepare Mark to become the Environmental Division Manager. Mark's field experience ranges from Phase I Environmental Site Assessments (ESAs) to on-site soil and groundwater remediations, as well as, environmental/geotechnical borehole investigations. Mark's field experience has provided extensive knowledge of subsurface conditions, contractor relations and project management. These skills would provide Mark with the ability to understand a variety of situations, which has lead Paterson to an extremely successful Environmental Department. Mark became the Environmental Manager in 2006, which consisted of two engineers and two field technicians. Mark has been an integral part in growing the Environmental Division, which now consists of nine engineers and three field technicians. Mark is the Senior Project Manager for a wide variety of environmental projects within the Eastern Ontario area including Phase I ESAs, Phase II ESAs, remediations for filing Records of Site Condition in the Ontario Ministry of the Environment and Climate Change (MOECC) Environmental Site Registry, Brownfield Applications and Landfill Monitoring Programs. As the Senior Project Manager, Mark is responsible for directing project personnel, final report review and overall project success. Mark has proven leadership and ability to manage small to large scale projects within the allotted time and budget.

**EDUCATION**
B.A.Sc. 1991, Geological Engineering, Queen's University, Kingston, ON

**LICENCE/ PROFESSIONAL AFFILIATIONS**
Professional Engineers of Ontario

ESA Qualified Person with MOECC

Ottawa Geotechnical Group

Consulting Engineers of Ontario

**YEARS OF EXPERIENCE**
With Paterson: 26

**OFFICE LOCATION**
154 Colonnade Road South, Nepean, Ontario, K2E 7J5

**SELECT LIST OF PROJECTS**
- 222 Beechwood Avenue, Ottawa, Ontario ( Senior Project Manager for Phase I ESA, Phase II ESA, Phase III ESA, Environmental Remediation)
- 409 MacKay Street, Ottawa, Ontario ( Senior Project Manager for Phase I ESA, Phase II ESA, Phase III ESA, Environmental Remediation)
- Art's Court Redevelopment, Ottawa, Ontario ( Senior Project Manager for Phase I ESA, Phase II ESA, Phase III ESA, Environmental Remediation)
- Visitor Welcome Centre, Phase II and Phase III, Parliament Hill, Ottawa, Ontario (Senior Project Manager for Environmental Remediation)
- Mattawa Landfill, Mattawa, Ontario ( Senior Project Manager, Annual Water Quality Monitoring report)
- Multi-Phase Redevelopment of the Ottawa Train Yards, Ottawa, Ontario (Senior Project Manager)
- Rideau Centre Expansion, Ottawa, Ontario( Senior Project Manager for Phase I ESA, Phase II ESA, Phase III ESA, Environmental Remediation)
- 26 Stanley Avenue, Ottawa, Ontario, Phase I ESA, Phase II ESA (Senior Project Manager)
- Riverview Development – Kingston, Ontario, Phase I ESA, Phase II ESA, and filing of an RSC in the MOECC Environmental Site Registry (Senior Project Manager)
- Monitoring Landfills for River Valley, Kipling and Lavagine (Senior Project Manager)

## PROFESSIONAL EXPERIENCE

May 2001 to present, **Manager of Environmental Division, Paterson Group Inc.,**
Ottawa, Ontario

- Manage all aspects of the environmental division (management of personnel, budgeting, invoicing, scheduling, business development, reporting, marketing, and fieldwork).
- Review day to day operations within the environmental division.
- Design, perform, and lead Phase I, II and Phase III ESAs, Remediation's, Brownfield Applications and Record of Site conditions, fieldwork surveys, excavation, monitoring, laboratory analysis, and interpretation.
- Write, present, and publish reports with methodology and laboratory analysis results, along with recommendations for environmental findings.
- Responsible for ensuring projects meet Ministry of Environment and Climate Change Standards and Guidelines.
- Building and fostering relationships with clients, stakeholders, and Ministry officials.
- Supervise and continuous training of staff in environmental methods (environmental sampling techniques, technical expertise and guidance).
- Applied due diligence in ensuring the health and safety of staff and the public in field locations.

1991 to 2001, **Geotechnical and Environmental Engineer, Paterson Group Inc.,** Ottawa, Ontario

- Provide on-site geotechnical and environmental expertise to various clients.
- Oversee geotechnical and environmental investigations for drilling and test pitting on numerous proposed utility installations, residential and commercial developments.
- Problem solving to help advance or maintain project schedules.
- Complete environmental reports with recommendations to meet environmental standards set by MOE and CCME standards.
- Conduct site inspections, bearing medium evaluations, bearing surface inspections, concrete testing and field density testing.
- Liaising with contractors, consultants and government officials.
- Provide cost estimates for geotechnical and environmental field programs and construction costs.
- Review RFI's, submittals, monthly progress reports and other various construction related work.