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Phase I Environmental Site Assessment

2390 and 2410 Stevenage Drive
Ottawa, Ontario

Prepared For

Sysco Corporation

August 7, 2018

Report: PE4373-1

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EXECUTIVE SUMMARY

Assessment

Paterson Group was retained by Sysco Corporation to conduct a Phase I – Environmental Site Assessment (ESA) for the Phase I Property addressed 2390 and 2410 Stevenage Drive, in the City of Ottawa, Ontario. The purpose of this environmental assessment was to research the past and current use of the Phase I Property and Study Area and to identify any environmental concerns with the potential to impact the subject property.

Based on a review of available historical sources, the subject property and neighbouring properties were originally developed in the early 1970's and 1980's for industrial purposes. Historical research indicated that both on-site establishments have been in operations since 1980's.

Several PCAs were identified, however two (2) are considered a potential environmental concern to the Phase I Property. One on-site PCA, Thermo King (trucking repair shop) is considered to result in an APEC and has been operating since 1994. An off-site PCA considered to result in an APEC on the Phase I Property included a metal fabrication facility, which has been operating since 2000. Other off-site PCAs were not considered to represent APECs on the Phase I Property based on their separation distances and/or orientations with respect to the subject land.

Following the historical review, a site visit was conducted. Previously identified PCAs were found on the Phase I Property at the time of the site visit as well as two off-site PCAs (commercial trucking companies – Penske and Ryder), located approximately 20 m north of the Phase I Property. Based on the orientation, down gradient from the subject site, both PCAs were not considered to represent an APEC on the Phase I Property.

Recommendations

Based on the findings of the Phase I ESA, **it is our opinion that a Phase II Environmental Site Assessment is required for the property**.

1.0 INTRODUCTION

At the request of Sysco Corporation, Paterson Group (Paterson) conducted a Phase I - Environmental Site Assessment (Phase I ESA) for the properties addressed 2390 Stevenage Drive and 2410 Stevenage Drive, in the City of Ottawa, Ontario. The purpose of this Phase I ESA was to research the past and current use of the subject properties and study area of 250 meters to identify any environmental concerns with the potential to have impacted the subject property. The subject properties are also referred to as the Phase I Property in this report.

Paterson was engaged to conduct this Phase I ESA by Florin Stanescu of Sysco Corporation. Mr. Stanescu can be reached by telephone at (616) 977-4515.

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, 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:	2390 Stevenage Drive and 2410 Stevenage Drive, in Ottawa, Ontario.
Property Identification Numbers (PINs):	04165-0559, 04165-1035, 04165-0558, 041651037
Location:	The Phase I Property is situated on the south side of Stevenage Drive, in the City of Ottawa.
Latitude and Longitude:	45° 22' 49" N, 75° 36' 25" W

Site Description:

Configuration:	Irregular
Site Area:	11.7 hectares (approximate)
Zoning:	IH – Heavy Industrial
Current Use:	The Phase I Property is currently occupied by one industrial building on each parcel of land.
Services:	The subject site is situated in a municipally serviced area.

3.0 SCOPE OF INVESTIGATION

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

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

4.0 RECORDS REVIEW

4.1 General

Phase I-ESA Study Area Determination

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

First Developed Use Determination

Based on a review of historically available information, the Phase I Property was first developed for commercial / industrial purposes as early as 1974.

Fire Insurance Plans

Fire insurance plans (FIPs) providing coverage of the Phase I Property and Study area were not available.

City of Ottawa Street Directories

City directories for the Phase I Property and properties within the Phase I Study Area were reviewed at the National Archives, in approximate 10 year intervals, from 1970 through 2011.

The Phase I Property addressed 2390 and 2410 Stevenage Drive were first listed in 1981/1982 as Tannis Trading Incorporated, and Faguy Truck Repair in 1992, respectively. The current city listings at these addresses are Tannis Food Distributors (2390 Stevenage Drive) and Thermo King (2410 Stevenage Drive). Thermo King operates as a transportation refrigeration maintenance and repair garage. Thermo King is identified as a potentially contaminating activity (PCA) and represents an area of potential environmental concern (APEC) on the Phase I Property.

The neighbouring properties were listed primarily as industrial properties in 1974. Five PCAs have been identified on and off site. A list of these PCAs that represent APECs are also provided in Table 1. One off-site PCA, Russel Metals, located to the immediate east of the subject property was identified as an APEC to the Phase I Property.

Table 1: City Directories – PCAs identified in the Phase I Study Area				
Address	**Listed Activity**	**Years Listed**	**Approximate Distance / Orientation from Site**	**APEC (Y / N)**
Stevenage Drive				
2410	Faguy Truck Repair & Thermo King	1992-1994 1994-present	on Phase I Property	Y
2420	Russel Metals	2000-present	5 m E	Y
2450	Harper Detroit Diesel Engines Repair	1992-2001	100 m NE	N
2350	Ivan's radiator service; Raven's Chemicals	1981-1992 2000-2001	60 m W	N
2320	Harper Detroit Diesel Ltd. (Transmission Repair)	1975-1992	100 m W	N

Other off-site PCAs identified through the City Directory review are not considered to represent APECs on the Phase I Property based on their separation distances and/or orientations (cross-gradient) with respect to the Phase I Property. On and off-site PCAs are presented on Drawing PE4373-2 – Surrounding Land Use Plan in Appendix 2.

Previous Engineering Reports

Paterson has conducted several environmental and geotechnical investigations in the vicinity of the Phase I Property.

The following report was reviewed prior to conducting this assessment:

- "Phase I - Environmental Site Assessment, Vacant, Undeveloped Land Stevenage Drive, Ottawa, Ontario," prepared by Paterson Group, dated August 11, 2014.

A Phase I - Environmental Site Assessment was carried out for vacant parcels of the southern portion of the subject property, addressed 2200 and 2420 Stevenage Drive. Based on the Phase I report, the only environmental concern was the apparent encroachment in the northeast corner of the property by the adjacent business Russel Metals (2420 Stevenage Drive). A Phase II ESA was not recommended for the vacant property.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on July 24, 2018. The Phase I Property 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 on July 24, 2018. No PCB waste storage sites were identified on the Phase I Property or Study Area.

MOECC 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 1 km of the Phase I Property.

Ontario Ministry of Environment and Climate Change (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. A response from the MOECC had not been received at the time this report was issued. Pertinent information will be forwarded to the client upon receipt. A copy of the request form is provided in Appendix 2.

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. A response from the MOECC had not been received at the time this report was issued. Pertinent information will be forwarded to the client upon receipt. A copy of the request form is provided in Appendix 2.

MOECC Waste Management Records

A request was submitted to the MOECC Freedom of Information office for information with respect to waste management records. Applicable information of current and historical waste storage locations, waste generators and waste receivers pursuant to Ontario Regulation 347 was considered in this review.

A response from the MOECC had not been received at the time this report was issued. Pertinent information will be forwarded to the client upon receipt. A copy of the request form is provided in Appendix 2.

MOECC Submissions

A request was submitted to the MOECC Freedom of Information office for information with respect to reports related to environmental conditions that have been submitted to the MOECC. A response from the MOECC had not been received at the time this report was issued. Pertinent information will be forwarded to the client upon receipt. A copy of the request form is provided in Appendix 2.

MOECC Brownfields Environmental Site Registry

A search of the MOECC Brownfields Environmental Site Registry was conducted for the properties within the Phase I Study Area. No Records of Site Condition (RSCs) have been filed for the Phase I Property or for any properties within a 250m radius.

MOECC Waste Disposal Site Inventory

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

Areas of Natural Significance (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 July 11, 2018. The search did not reveal any natural features or ANSIs on the Phase I Property or within the Phase I ESA study area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on July 11, 2018 to inquire about current and former underground storage tanks, spills and incidents for the site and neighbouring properties. Two (2) records were listed in the TSSA registry for the adjacent property to the east at 2420 Stevenage Drive (Russel Metals). A full TSSA service report has been requested for the above noted property. A copy of the TSSA correspondence is included in Appendix 2.

City of Ottawa Landfill Document

The document entitled "Old Landfill Management Strategy, Phase I – Identification of Sites, City of Ottawa", was reviewed. Based on this document, there are no former landfills within the Phase I ESA Study Area.

Former Industrial Sites

The report entitled "Mapping and Assessment of Former Industrial Sites, City of Ottawa" was reviewed. The Phase I Properties or study area were not listed in the database of former industrial sites

City of Ottawa Historical Land Use Inventory (HLUI)

A requisition form was sent to the City of Ottawa to request information from the City's Historical Land Use Inventory (HLUI 2005) database for the subject property. A response had not been received at the time this report was issued. A copy of the HLUI request form is provided in Appendix 2.

4.3 Physical Setting Sources

Aerial Photographs

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

1946 The Phase I Property appears to be undeveloped parcels of land used for agriculture. Neighbouring land use appears as agriculture with some farmsteads.

1958 No significant changes are apparent to the Phase I properties or surrounding lands.

1965 The Phase I Property and surrounding lands appear unchanged from the previous photograph.

1976 The Phase I properties and surrounding lands appear to have been partially developed. A new roadway providing access to the subject properties is noticeable along with a warehouse on the northwest corner of the property and smaller buildings (along the east side of the property. Some of the immediately adjacent properties are also developed with what appear to be buildings used for industrial purposes. The surrounding lands appear to be under pre-construction phase with visible ground disturbance.

1983 No significant changes are apparent to the Phase I properties or surrounding lands.

1995 The Phase I properties and surrounding land have significantly changed. An addition has been added to the warehouse on the Phase I property. The lands to the north and west of the subject properties have been developed with new industrial/commercial buildings. New roadways and a residential subdivision is also apparent south of the subject properties, as well as an industrial area east of the subject properties.

2005 Two (2) new additions have been made to the warehouse on the Phase I properties. The building density and new roadways are noticeable in the surrounding land.

2015 The Phase I Property and surrounding lands appear unchanged from the previous photograph. The Phase I property and surrounding land is depicted as is today.

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

Topographic Maps

Topographic information was obtained from Natural Resources Canada – The Atlas of Canada website. The topographic maps indicate that the elevation of the Phase I Property is approximately 79 m above sea level.

The regional topography in the general area of the Phase I Property slopes downward to the northwest, towards the Ottawa River. An illustration of the referenced topographic map is presented on Figure 2 – Topographic Map, appended to this report.

Physiographic Maps

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

Geological Maps

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on this information, bedrock in the area of the site consists of shale of the Carlsbad Formation. Overburden thickness across the Phase I Property ranged from 5 to 15 meters and consisted of offshore marine deposits of clay and silt.

Water Well Records

Well records for all drilled wells within the Phase I Study Area were obtained from the MOECC website. Based on the results of the well records search, there are seventeen (17) well records within the 250 m study area. Six (6) monitoring well records were identified on the Phase I Property (2390 and 2410 Stevenage Drive).

A total of eleven (11) monitoring well and well abandonment records were obtained for the following properties within the Phase I Study Area: 2450 Stevenage Drive (3 abandoned wells and 2 monitoring wells); 2320 Stevenage Drive (5 monitoring wells); and, 2373 Stevenage Drive (1 monitoring well).

Water Bodies and Areas of Natural Significance

The McEwan Creek is the closest water body, at approximately 170 m northeast of the Phase I Property. No other water bodies were identified in the Phase I study area. No areas of natural significance were identified within the Phase I study area.

5.0 INTERVIEW

Mr. Paul Laurin with Tannis Food Distributors (Tannis) was interviewed at the time of the visit. Mr. Laurin indicated that to his knowledge there are no potential environmental concerns with respect to the current use of the Phase I Property and surrounding area.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

The site assessment was conducted on August 1, 2018. Weather conditions were overcast, with a temperature of approximately +32°C. Personnel from the Environmental Department of Paterson Group conducted the site visit. In addition to the site, the uses of neighbouring properties within the Phase I study area were also assessed at the time of the site visit.

6.2 Specific Observations at Phase I Property

Buildings and Structures

The Phase I Property was occupied by two (2) buildings, located at 2390 Stevenage Drive (Tannis) and 2410 Stevenage Drive (Thermo King).

The Tannis building is two (2) storey warehouse fronting onto Stevenage Drive. The building was constructed in the early 1970's, with two additions, one extending the length of main building (late 1980's to early 1990's), and the other east section of the current building (between 1995 – 1999). The building is constructed with a slab on grade foundation and finished with beige metal siding and metal roof. The building is heated with several natural gas suspended furnaces (warehouse use). The HVAC system (office use) is located on the roof, at the south end of the building.

Thermo King operates as a transportation repair garage. The building was constructed in the early 1970's. The building is constructed with a slab on grade foundation and is finished with beige and white metal siding and metal roof. The building is heated with several natural gas suspended furnaces. A compressor was located on the west side of the garage.

Site Features

The Tannis building occupies a small portion of the property. The north portion of the property, fronting onto Stevenage Drive is a grassed, treed area. The remaining parts of the property are paved parking areas. Eight (8) loading docks are located on the west side of the building, as well as a garbage compactor.

The Thermo King building occupies a fifth of the property. The north portion of the property, fronting onto Stevenage Drive is a grassed, treed area. The remaining parts of the property are paved parking areas.

Both properties are municipally serviced; water and sewer enter both buildings from Stevenage Drive.

The site topography of the Phase I Property is relatively flat and at grade with the surrounding roadways which slopes downwards towards the adjacent property to the south. The regional topography generally slopes downward to the south towards the McEwan Creek, and regional groundwater is anticipated to flow to the north-northwest, toward the Ottawa River.

Water drainage for the subject site occurs primarily by sheet-flow to catch basins on the Phase I Property and along adjacent streets, and infiltration on the undeveloped land. Ponded water was not observed at either location at the time of the site visit.

Potential Environmental Concerns

- **Groundwater Monitoring Wells**

  One groundwater monitoring well was identified on the Phase I Property (Tannis). Well records identified six (6) monitoring wells on the Phase I Property. A total of eleven (11) monitoring well and well abandonment wells were also identified within the Phase I Study Area.

  The monitoring well records on the Phase I Property and study area have been attached in Appendix 2.

- **Underground Utilities**

  Underground utilities present on the Phase I Property include natural gas, private water and sewer (from Stevenage Drive).

- **Ground Surface**

  The ground surface across the property consisted of an asphaltic concrete parking lot and grassed land (southern portion of property). There are landscaped areas fronting Stevenage Drive. The ground surface area at Tannis appeared free of stains. Thermo King, however showed signs of staining on the south side of the garage where waste is kept. No signs of stressed vegetation were observed on the Phase I Property.

- **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**

  One pole mounted transformer was observed on the eastern perimeter of the subject site. At the time of assessment, no leaks, staining/discolouration or dead grass beneath the electrical equipment was observed.

  One pad mounted transformer was located off-site on the adjacent property to the west. At the time of assessment, no leaks, staining/discolouration or dead grass beneath the electrical equipment was observed on the concrete pad.

  The transformers are not considered to be an environmental concern at this time inspection.

- **Unidentified Substances**

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

- **Waste Storage and Disposal**

  Waste produced at Tannis consists mostly of commercial packing waste from food products and recyclables. Waste produced at Thermo King comprised of engine oils, solvents and other industrial fluids, as well as used and cannisters and metal drums. Waste produced from both sites are collected by a contractor licenced for these works on a regular basis.

- **Fuel and Chemical Storage**

  No signs of underground storage tanks (USTs) or above ground storage tanks (ASTs) were observed on the exterior of either sites at the time of the assessment. 20 L propane tanks were observed to be stored on the south side of the garage. Used jerry cans were also observed next the propane tanks.

Interior Assessment

A general assessment of 2390 Stevenage Drive (Tannis) is as follows:

- ❒ The floors consisted of vinyl times, ceramic times, and carpet in the offices, and concrete throughout the warehouse.
- ❒ The walls consisted of drywall in the office, and concrete and cinder blocks (warehouse).
- ❒ The ceilings consisted of 2 by 4 ceiling tiles (offices) and steel and metal roof (warehouse).
- ❒ Lighting throughout the building was observed to be a mix of incandescent and fluorescent fixtures.

Heating in the warehouse is provided via a natural gas suspended furnace and electric base board heater. The roof mounted HVAC system is used to heat and cool the office space in the warehouse.

A general assessment of 2410 Stevenage Drive (Thermo King) is as follows:

- ❒ The floors consisted of ceramic tiles (lobby) and concrete (garage).
- ❒ The walls consisted of drywall (lobby) and concrete and cinder block (garage).
- ❒ The ceilings consisted of plastered drywall.
- ❒ Lighting throughout the building was observed to be a mix of incandescent and fluorescent fixtures.

Heating in the garage is provided via a natural gas suspended furnace. The office is cooled with a central air unit – the compressor is located on the west side of the building (exterior).

Potentially Hazardous Building Products

- ❑ **Ozone Depleting Substances (ODSs)**

  Refrigerators, coolers, freezers, 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**

  Based on the age of the subject structures (early 1970's) lead-containing paints, polychlorinated biphenyl (PCB)-containing ballasts and asbestos containing materials (ACMs) may be present within the subject structures. Two (2) dry transformers were observed inside Tannis.

  Suspected ACMs within the subject structures include: vinyl floor tiles, drywall jointing compound and ceiling tiles. Potential ACMs were observed to be in good condition on both sites.

  Painted surfaces were observed to be in good condition at the time of the site visit.

Other Potential Environmental Concerns

- **Storage Tanks**

  No underground fuel storage tanks (USTs) or vent and fill pipes were observed on the Phase I Property. One aboveground oil storage tank (AST) was identified inside the garage at Thermo King. The AST is used to store of spent engine oil. Some staining was observed below the tank. Both buildings have always been heated using natural gas.

- **Wastewater Drainage**

  No wastewater drains were observed. Two (2) concrete catchment basins were observed at the garage (Thermo King); one adjacent to the AST and the other 2.5 m away. The catchment basins are emptied yearly by a licensed contractor. No floor drains were observed throughout either subject building.

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 - Stevenage Drive, followed by a transportation company;
- South - Residential subdivision;
- East - Russel Metals, followed by a transportation engine repair garage;
- West - Window and door manufacturing company, followed by an eatery and print shop.

Land use within the Phase I Study Area is primarily used for light to medium industrial purposes. Five (5) PCAs were identified within the Phase I study area and are presented in Table 2.

Table 2: PCAs identified in the Phase I Study Area

Address	Listed Activity	Years Listed	Approximate Distance / Orientation from Site	APEC (Y / N)
Stevenage Drive				
2410	Thermo King & truck repair	1992-present	on Phase I Property	Y
2420	Russel Metals	2000-present	5 m E	Y
2450	Wajax Power Systems	2012-present	100 m NE	N
2323	Penske	2008-present	50 m NW	N
2390	Ryder	2000-present	25 m N	N

Three (3) of the five (5) PCAs are not considered an environmental concern to the subject site due to separation distance and/or location cross/down gradient from the subject property. The other two (2) PCAs are identified to represent APECs on the Phase I Property, these being Thermo King and Russel Metals, addressed 2410 and 2420 Stevenage Drive, respectively. Russel Metals is adjacent to the immediate east of the subject property. Surrounding land use within the Phase I Study Area is presented on Drawing PE4373-2 – Surrounding Land Use Plan. PCAs that represent APECs to the Phase I Property are shown on Drawing PE4373-1 – Site Plan.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Land Use History

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

Table 3: Land Use History

Time Period	Land Use	Potentially Contaminating Activities	Areas of Potential Environmental Concern
2390 Stevenage Drive			
Prior to 1966	Undeveloped (possibly agricultural)	None	None
early 1970's-present	Warehouse (Tannis)	None	None
2410 Stevenage Drive			
Prior to 1966	Undeveloped (possibly agricultural)	None	None
early 1970's-present	Unlisted	None	None
1992-1994	Faguy Truck Repair	Yes	Yes
1994-present	Thermo King	Yes	Yes

Potentially Contaminating Activities (PCAs)

The following identifies PCAs on the Phase I Property and Study Area, as per Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11, and applicable item number:

- ❒ Item 8: "Chemical Manufacturing and Processing and Bulk Storage" – this PCA was identified at Raven's Chemicals (2350 Stevenage Drive);
- ❒ Item 10: "Commercial Autobody Shops" – this PCA was identified at Ivan's Auto Shop (2350 Stevenage Drive);
- ❒ Item 11: "Commercial Trucking and Container Terminals" – this PCA was identified at Ryder and Penske (2323 and 2393 Stevenage Drive);
- ❒ Item 28: "Gasoline and Associated Products Storage in Fixed Tanks" – this PCA was identified at Russel Metals (2420 Stevenage Drive);

- Items 34: "Metal Fabrication" – these PCAs were identified at Russel Metals (2420 Stevenage Drive);
- Item 43: "Plastics (include Fibreglass) Manufacturing and Processing" – this PCA was identified at Allied Plastics (2295 Stevenage Drive);
- Item 52: "Storage, maintenance, fuelling and repair of equipment, vehicles, and materials used to maintain transportation systems" – this PCA was identified at Thermo King, Wajax Power Systems, Harper Detroit Diesel Transmission Repair Shop (2410, 2450 and 2320 Stevenage Drive, respectively).

Table 4: PCAs identified in the Phase I Study Area

Address	Listed Activity	Years Listed	Approximate Distance / Orientation from Site	APEC (Y / N)
Stevenage Drive				
2410	Thermo King & truck repair	1992-present	on Phase I Property	Y
2420	Russel Metals	2000-present	5 m E	Y
2450	Wajax Power Systems	2012-present	100 m NE	N
2350	Ivan's auto repair; Raven's chemical	1981-1992; 2000-2001	50 m W	N
2320	Former Diesel Transmission shop	1975-1992	115 m W	N
2295	Allied Plastics	1992	250 m W	N
2323	Penske	2008-present	50 m NW	N
2390	Ryder	2000-present	25 m N	N

On-site and off-site PCAs that are considered to represent Areas of Potential Environmental Concern (APECs) on the Phase I Property are further discussed in the following section. These PCAs are depicted in red on Drawing PE4373-2 – Surrounding Land use Plan.

Based on their separation distances, orientations with respect to the Phase I Property and/or information contained in the MOECC Environmental Site Registry,

the remaining off-site PCAs noted above are not considered to represent APECs on the subject land. These PCAs are depicted in green on Drawing PE4373-2 – Surrounding Land use Plan.

Areas of Potential Environmental Concern (APEC)

Based on the length of operation and location of the PCAs with respect to the Phase I Property, resulting APECs as well as the associated contaminants of potential concern (CPCs) and potentially impacted media are presented in the Table 5.

Table 5: Areas of Potential Environmental Concern (APEC)

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern with respect to Phase I Property	Potentially Contaminating Activity, as per Table 2, O.Reg. 153/04 as amended by O.Reg. 269/11	Location of PCA (on-site or off-site)	Contaminants of Potential Concern (CPCs)	Media Potentially Impacted (Groundwater, Soil, and/or Sediment)
2410 Stevenage Drive	North east portion of the Phase I Property	Item 52 – Storage, maintenance, fuelling and repair of equipment, vehicles, and materials used to maintain transportation systems	On-Site	BTEX, PHCs, VOCs	Soil and groundwater
2420 Stevenage Drive	Adjacent to the immediate east of subject property	Item 28 – Gasoline and Associated Products Storage in Fixed Tanks; Items 34: Metal Fabrication	Off-site	BTEX, PHCs, VOCs	Soil and groundwater

Contaminants of Potential Concern (CPC)

Based on the past and current uses of the subject site, the following Contaminants of Potential Concern (CPCs) have been identified in the soil and/or groundwater:

- ❒ Benzene, ethylbenzene, toluene and xylenes (BTEX);
- ❒ Petroleum hydrocarbons fractions (PHCs, F1-F4);
- ❒ Volatile organic compounds (VOCs); and

7.2 Conceptual Site Model

Geological and Hydrogeological Setting

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on this information, bedrock in the area of the site consists of shale of the Carlsbad Formation. Overburden thickness across the Phase I Property ranged from 5 to 15 meters and consisted of offshore marine deposits of clay and silt.

The regional topography slopes down to the south east, however the topography in the immediate vicinity of the Phase I Property slopes down to the south towards McEwan Creek. The regional groundwater flow is anticipated to flow to the north-northwest, toward the Ottawa River.

Contaminants of Potential Concern

The CPCs identified for the soil and/or groundwater beneath the Phase I Property include BTEX, VOCs and PHCs.

Existing Buildings and Structures

The Phase I Property is occupied by two (2) slab-on-grade building structures; one large, 2-storey warehouse building on 2390 Stevenage Drive and a garage on 2410 Stevenage Drive.

Water Bodies

The closest body of water to the Phase I Property within the Phase I Study Area is the McEwan Creek, 20 meters.

Areas of Natural Significance

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

Drinking Water Wells

No drinking water wells are located on the Phase I Property or within the Phase I Study Area.

Groundwater Monitoring Wells

Two (2) monitoring wells were observed on the Phase I Property at the time of the site visit.

Well records for all drilled wells within the Phase I Study Area were obtained from the MOECC website. Based on the results of the well records search, there are a total of seventeen (17) well records within the 250 m study area. Six (6) monitoring well records were identified on the Phase I Property (2390 and 2410 Stevenage Drive). Eleven (11) monitoring well and well abandonment records were obtained for the following properties within the Phase I Study Area: 2450 Stevenage Drive (3 abandoned wells and 2 monitoring wells); 2320 Stevenage Drive (5 monitoring wells); and, 2373 Stevenage Drive (1 monitoring well).

Fill Material

No evidence of fill material was observed at the time of the site visit.

Neighbouring Land Use

Neighbouring land use in the Phase I study area is primarily light to medium industrial use with occasional commercial (restaurants). Land use is shown on Drawing PE4373-2 - Surrounding Land Use Plan.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Table 4 in Section 7.1, one (1) on-site PCA and seven (7) off-site PCAs have resulted in two (2) APECs on the Phase I Property.

Additional historical PCAs were identified within the Phase I Study Area, however these activities were not considered to represent APECs on the Phase I Property based on their respective separation distances and/or orientations with respect to the Phase I Property, in combination with the extensive development of the neighbouring properties and information contained in our files.

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 resulting from historical uses of the site and neighbouring properties. The presence of potentially contaminating activities was confirmed by a variety of independent sources. 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 Sysco Corporation to conduct a Phase I – Environmental Site Assessment (ESA) for the Phase I Property addressed 2390 and 2410 Stevenage Drive, in the City of Ottawa, Ontario. The purpose of this environmental assessment was to research the past and current use of the Phase I Property and Study Area and to identify any environmental concerns with the potential to impact the subject property.

Based on a review of available historical sources, the subject property and neighbouring properties were originally developed in the early 1970's and 1980's for industrial purposes. Historical research indicated that both on-site establishments have been in operations since 1980's.

Several PCAs were identified, however two (2) are considered a potential environmental concern to the Phase I Property. One on-site PCA, Thermo King (trucking repair shop) is considered to result in an APEC and has been operating since 1994. An off-site PCA considered to result in an APEC on the Phase I Property included a metal fabrication facility, which has been operating since 2000. Other off-site PCAs were not considered to represent APECs on the Phase I Property based on their separation distances and/or orientations with respect to the subject land.

Following the historical review, a site visit was conducted. Previously identified PCAs were found on the Phase I Property at the time of the site visit as well as two off-site PCAs (commercial trucking companies – Penske and Ryder), located approximately 20 m north of the Phase I Property. Based on the orientation, down gradient from the subject site, both PCAs were not considered to represent an APEC on the Phase I Property.

Recommendations

Based on the findings of the Phase I ESA, **it is our opinion that a Phase II Environmental Site Assessment is required for the property**.

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.

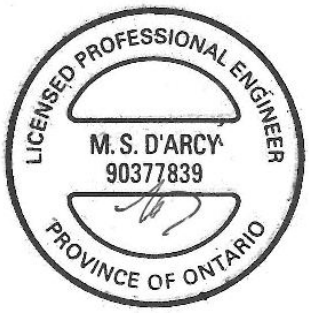
Should any conditions be encountered at the subject site and/or historical information that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

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

Paterson Group Inc.

Mandy Witteman, MASc. EIT

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



Report Distribution:

- ❑ Sysco Corporation
- ❑ Paterson Group

10.0 REFERENCES

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

Provincial Records
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.

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

Local Information Sources
Chain of Title obtained through Read Abstracts Limited, July 2018.
Draft Plan of Survey prepared by Annis, O’Sullivan, Vollebeek Ltd.
Personal Interviews.
Previous Engineering Reports.

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

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE4373-1 – SITE PLAN

DRAWING PE4373-2 – SURROUNDING LAND USE PLAN

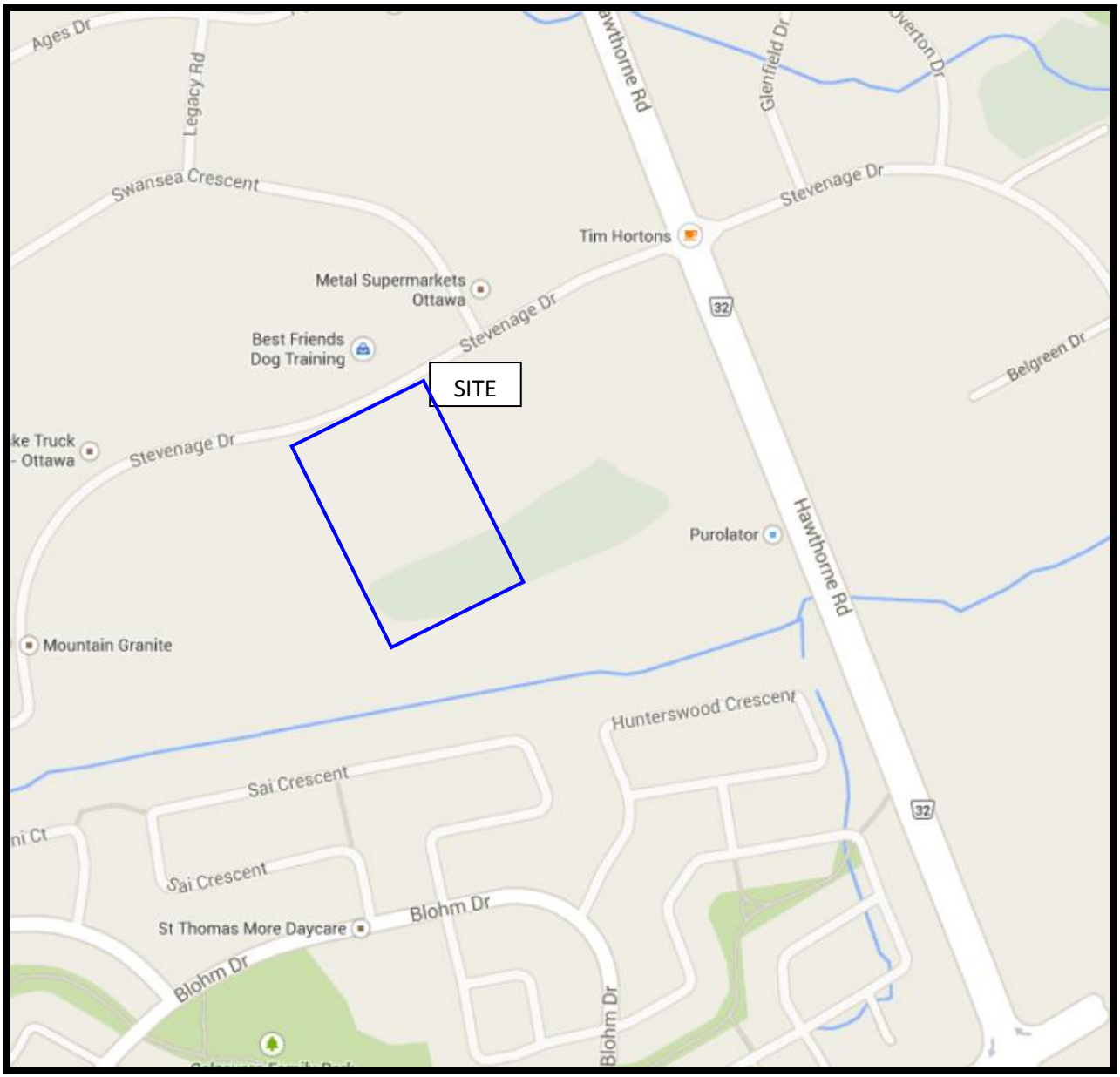


FIGURE 1

KEY PLAN

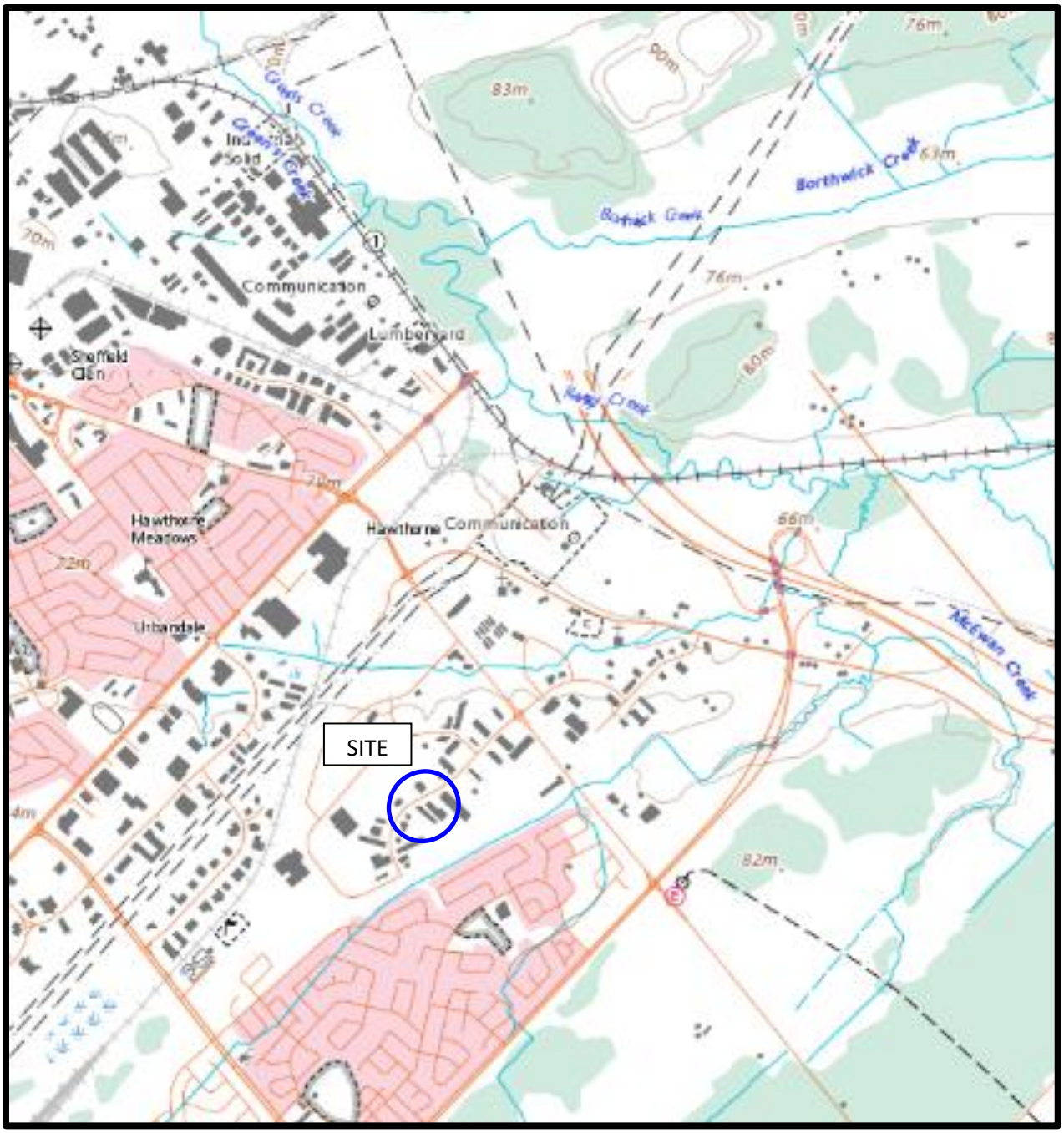
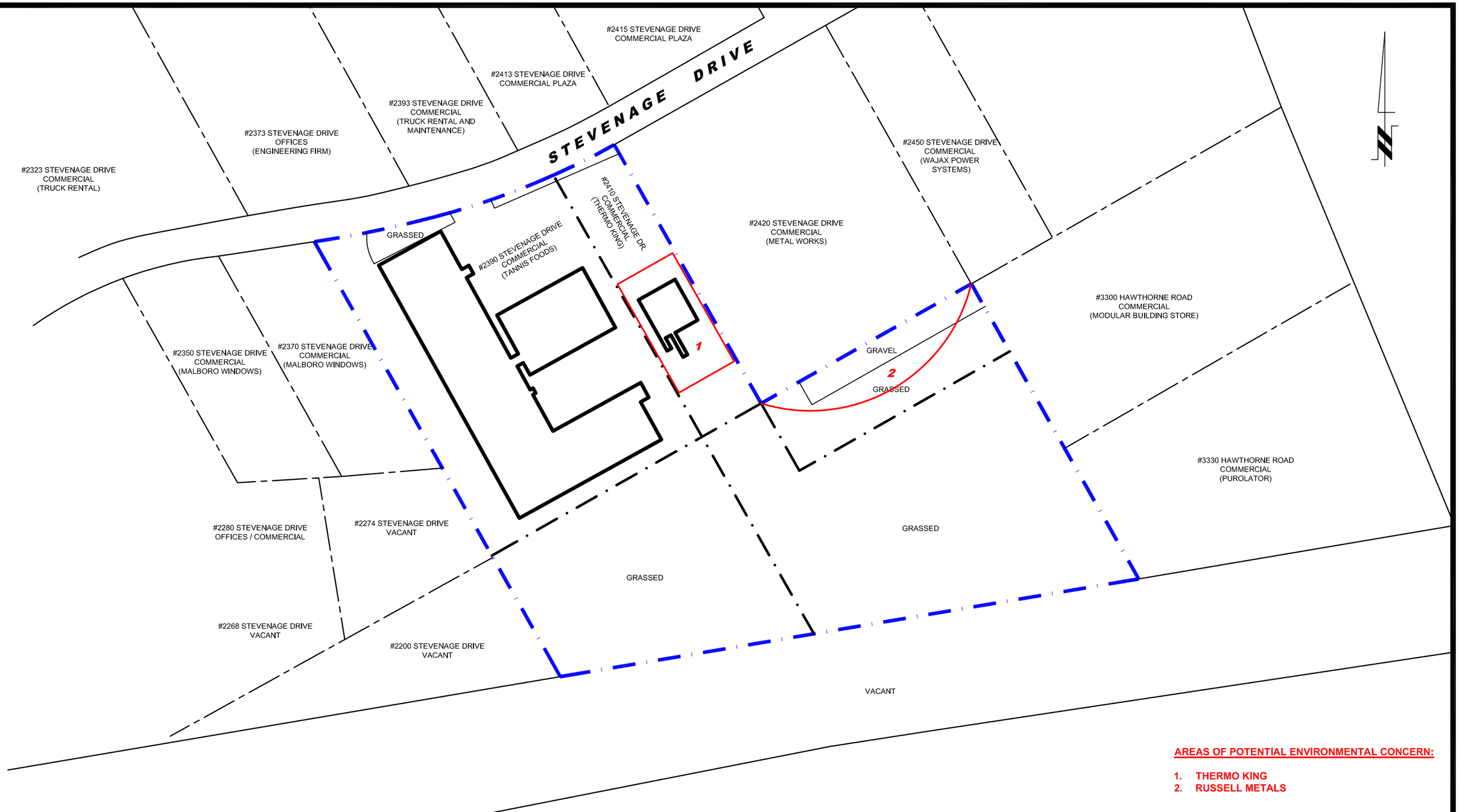


FIGURE 2

TOPOGRAPHIC MAP



AREAS OF POTENTIAL ENVIRONMENTAL CONCERN:

1. THERMO KING
2. RUSSELL METALS

patersongroup
consulting engineers

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

NO.	REVISIONS	DATE	INITIAL
0			

SYSCO CORP.

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
2390 AND 2410 STEVENAGE DRIVE

OTTAWA, ONTARIO

Title:

SITE PLAN

Scale: 1:2000	Date: 08/2018
Drawn by: RCG	Report No.: PE4373-1
Checked by: MW	Dwg. No.: PE4373-1
Approved by: MSD	Revision No.: 0

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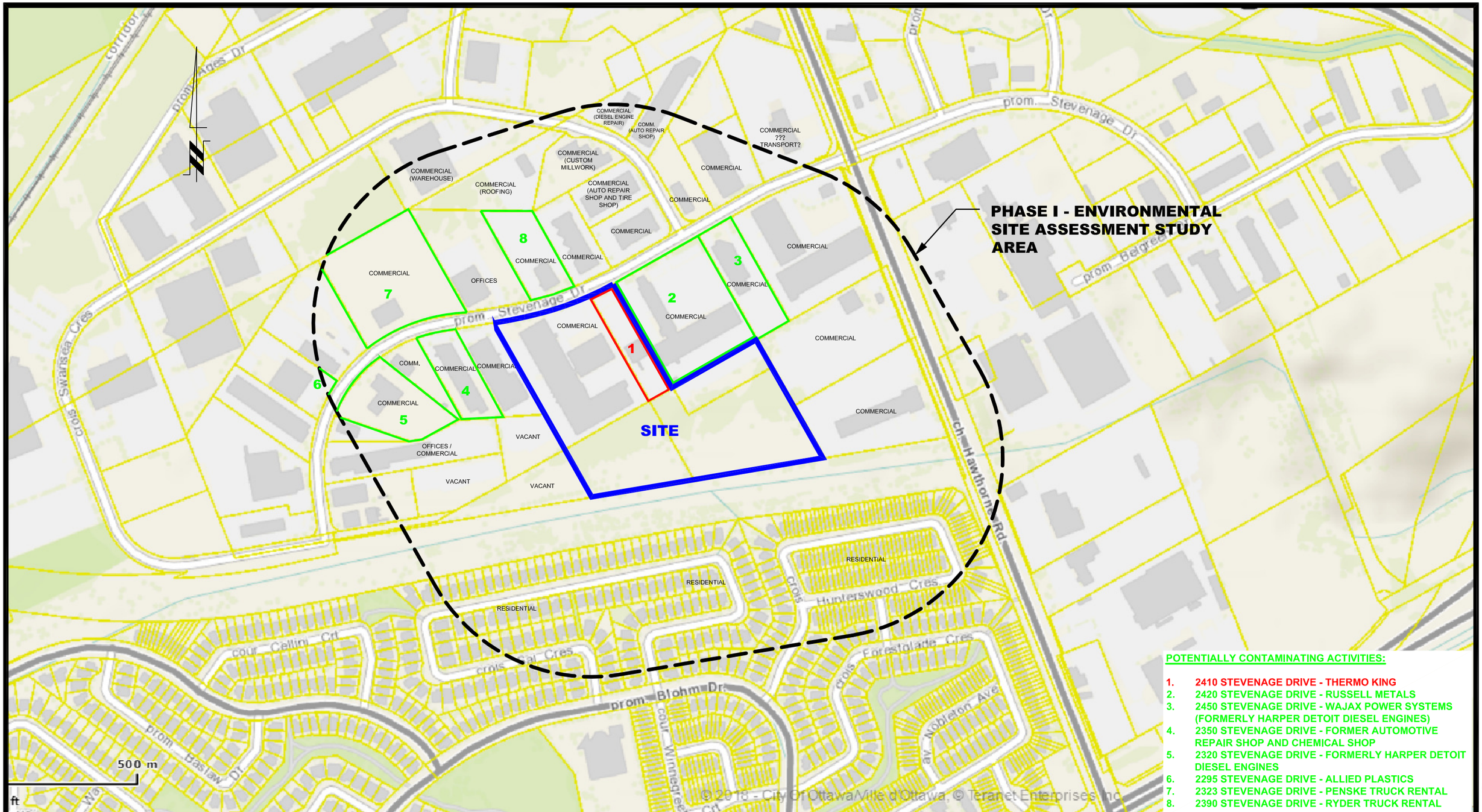

POTENTIALLY CONTAMINATING ACTIVITIES:

1. 2410 STEVENAGE DRIVE - THERMO KING
2. 2420 STEVENAGE DRIVE - RUSSELL METALS
3. 2450 STEVENAGE DRIVE - WAJAX POWER SYSTEMS (FORMERLY HARPER DETOIT DIESEL ENGINES)
4. 2350 STEVENAGE DRIVE - FORMER AUTOMOTIVE REPAIR SHOP AND CHEMICAL SHOP
5. 2320 STEVENAGE DRIVE - FORMERLY HARPER DETOIT DIESEL ENGINES
6. 2295 STEVENAGE DRIVE - ALLIED PLASTICS
7. 2323 STEVENAGE DRIVE - PENSKE TRUCK RENTAL
8. 2390 STEVENAGE DRIVE - RYDER TRUCK RENTAL

patersongroup
consulting engineers

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

NO.	REVISIONS	DATE	INITIAL
0			

SYSCO CORP.

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
2390 AND 2410 STEVENAGE DRIVE

OTTAWA, ONTARIO

Title:

SURROUNDING LAND USE PLAN

Scale: 1:5000	Date: 08/2018
Drawn by: RCG	Report No.: PE4373-1
Checked by: MW	Dwg. No.: PE4373-2
Approved by: MSD	Revision No.: 0

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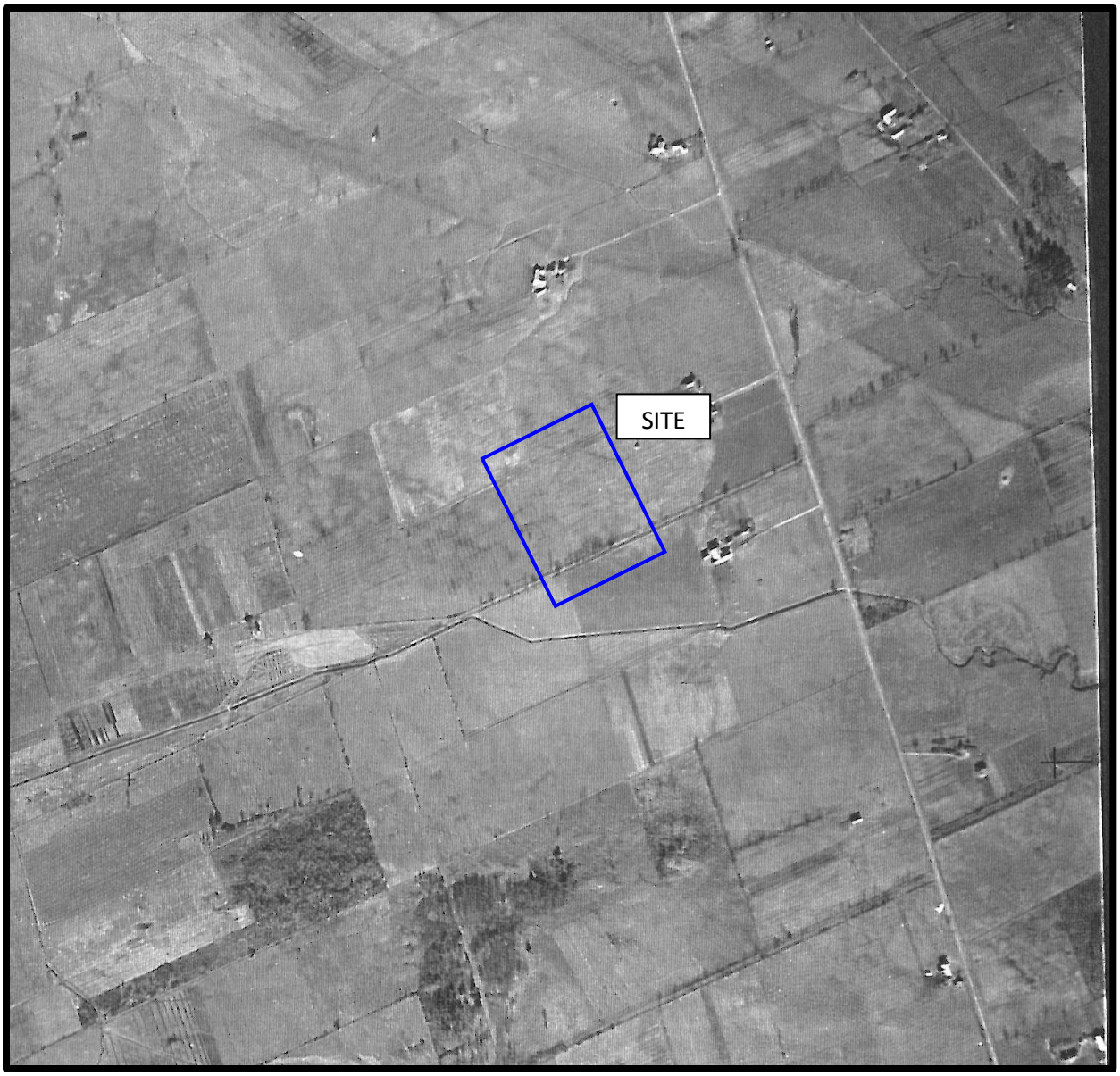
APPENDIX 1

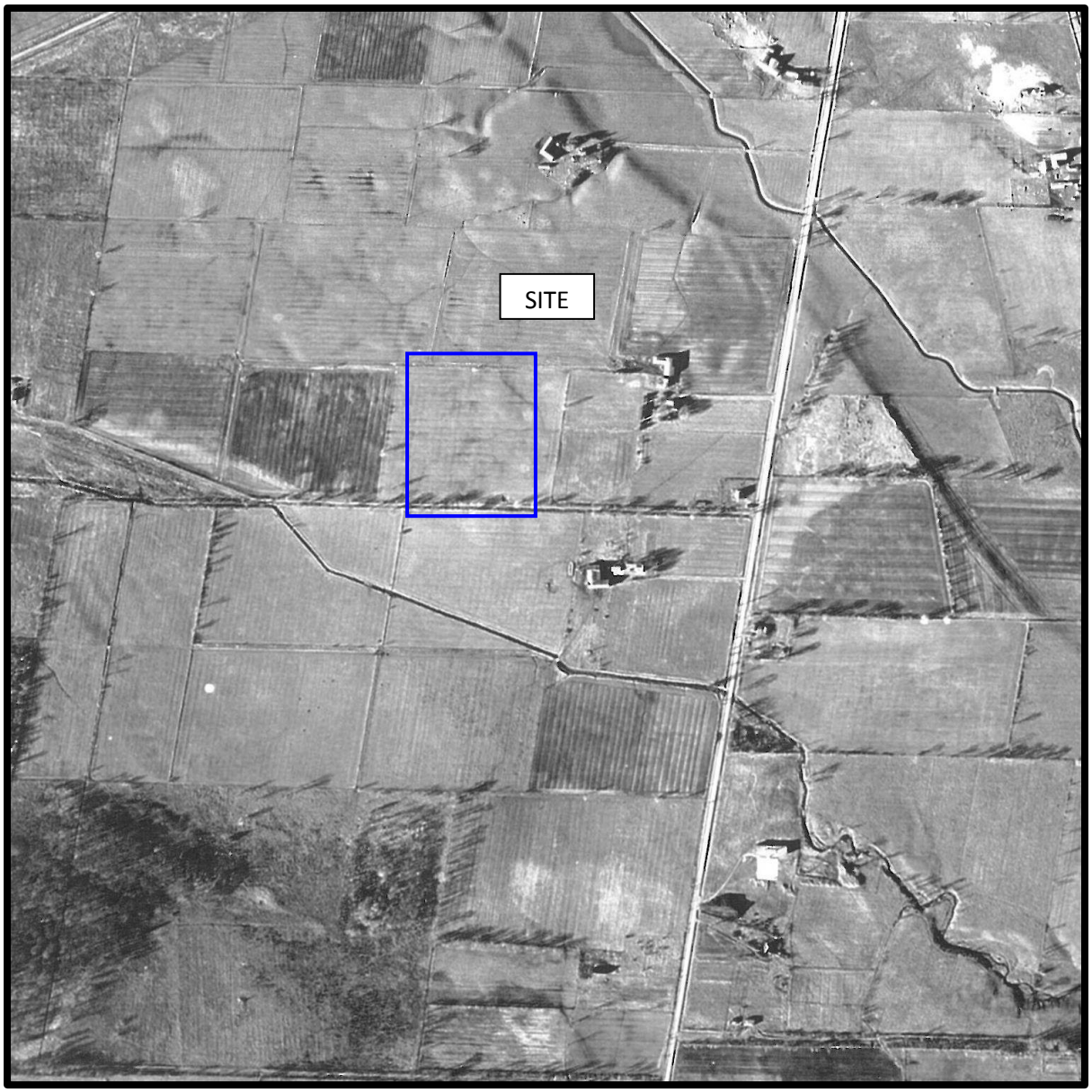
AERIAL PHOTOGRAPHS

SITE PHOTOGRAPHS



AERIAL PHOTOGRAPH
1946

patersongroup



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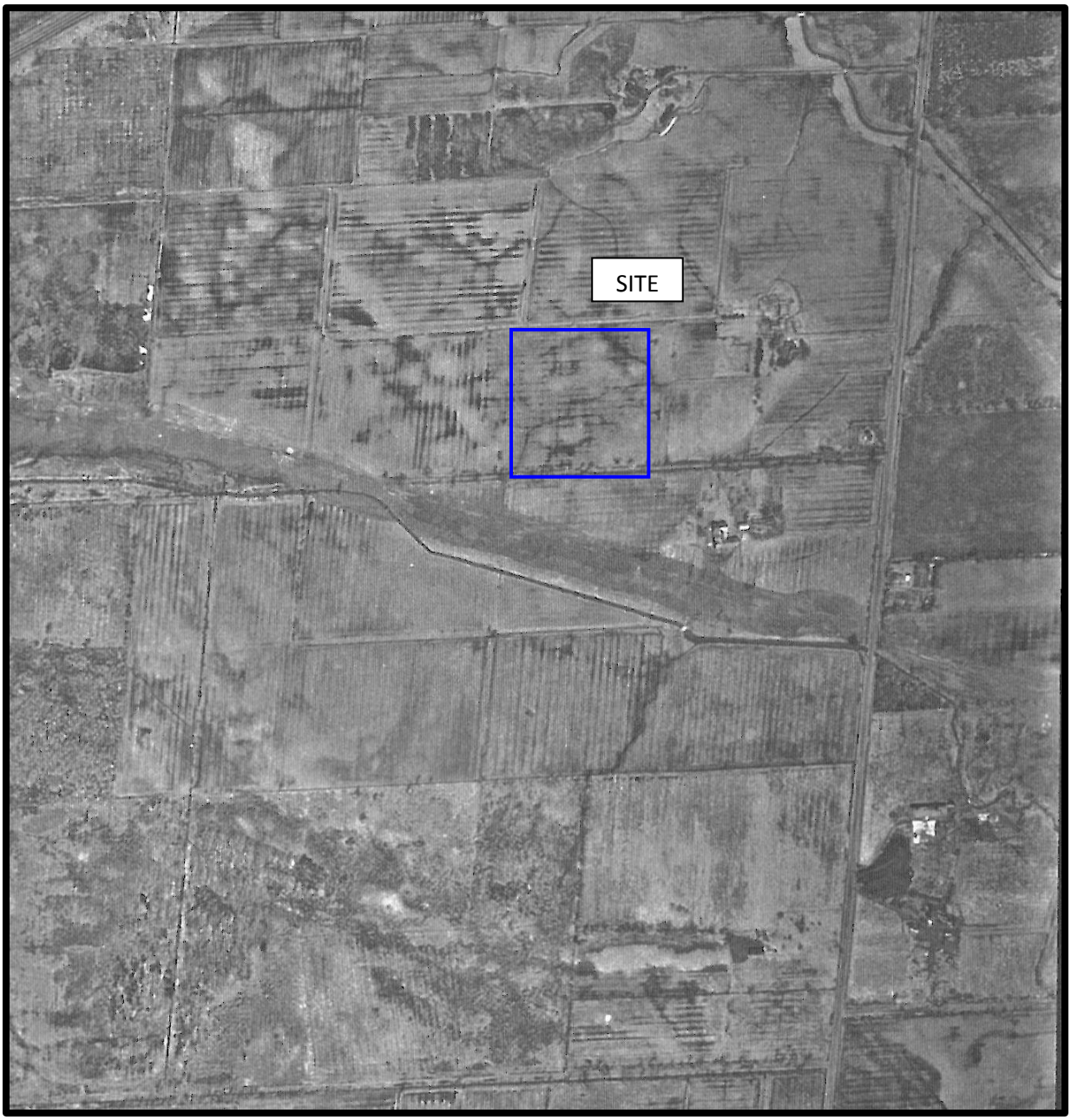
1958

patersongroup



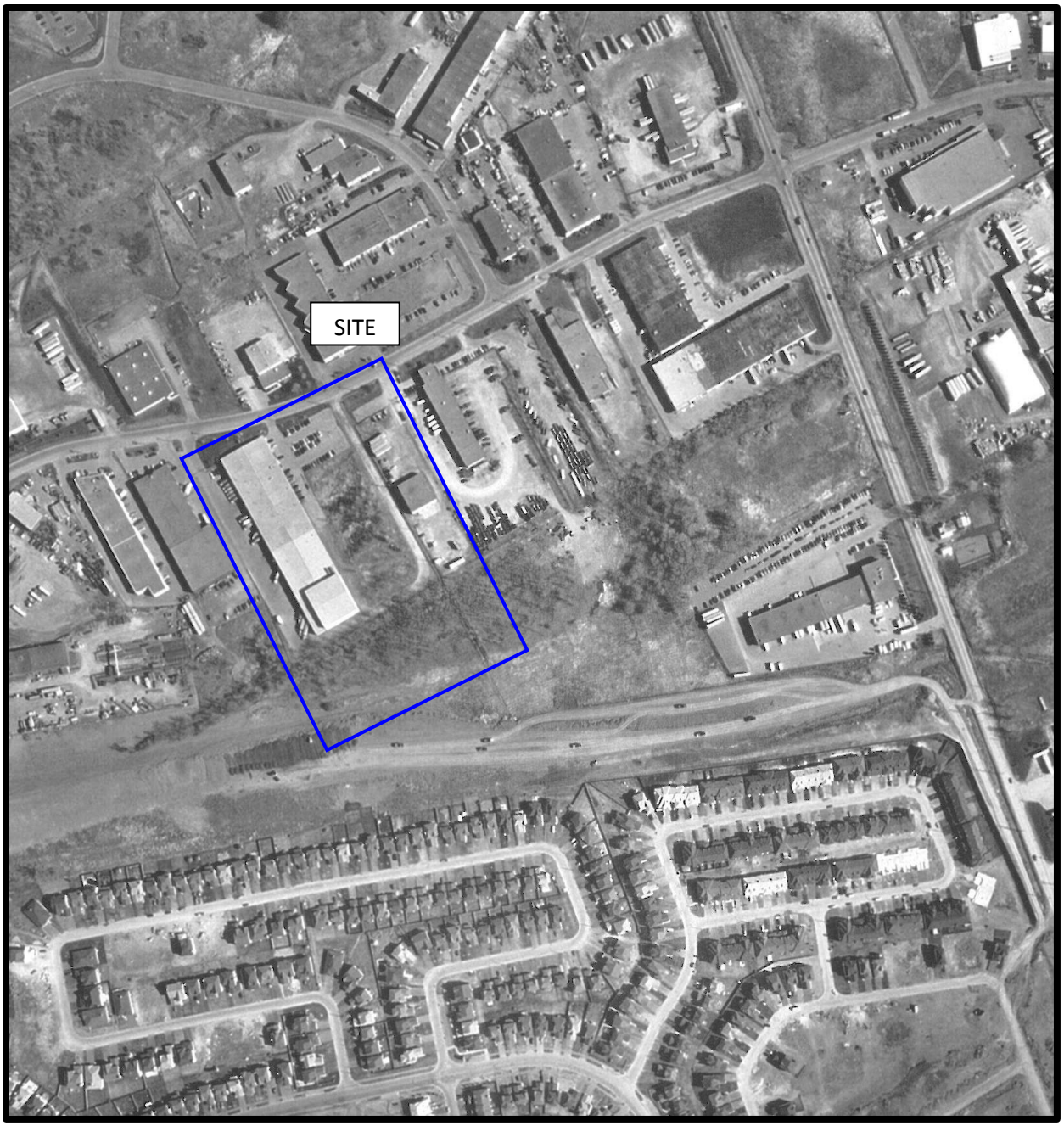
AERIAL PHOTOGRAPH
1965

patersongroup

AERIAL PHOTOGRAPH
1976

AERIAL PHOTOGRAPH
1983

patersongroup



AERIAL PHOTOGRAPH
1995

patersongroup

AERIAL PHOTOGRAPH
2005

patersongroup

AERIAL PHOTOGRAPH
2015

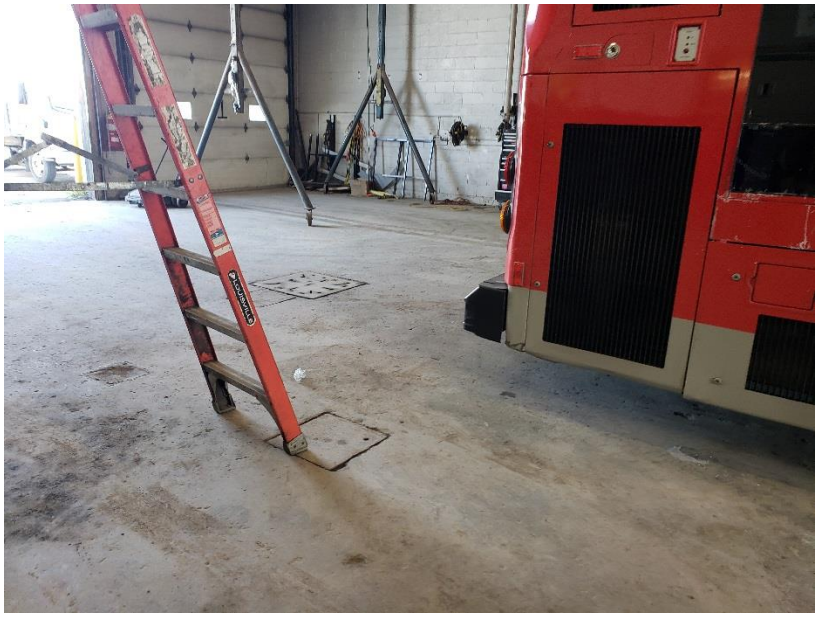
patersongroup

Site Photographs

PE4373 2390 Stevenage Drive, Ottawa, ON August 8, 2018

Photograph 1: Above ground used oil storage tank inside the Thermo King service bay.

Photograph 2: View of waste collection bins at the south of the Thermo King subject property.



Photograph 3: View of the interior catch basins of the Thermo King service bay.

Photograph 4: View of the west facing façade of the Thermo King subject building. Air condition serves the office area and the vent pipes are presumed to serve the service bay catch basins.

Photograph 5: View of the pole-mounted transformer to the west of the Thermo King subject property.

Photograph 6: View of the western loading bay of the Tannis subject building. Also depicted is the garbage compactor and the waste collection bins.

Photograph 6: View of the above ground transformer situated to the north west of the tennis subject building. This transformer was noted to be on the neighboring property.

Photograph 8: View of the compressors serving the refrigeration and freezer units of the Tannis subject building.

APPENDIX 2

MOECC FREEDOM OF INFORMATION RESPONSE

CITY OF OTTAWA HLUI SEARCH RESULTS

TSSA CORRESPONDENCE

MOECC WELL RECORDS

Ontario Ministry of Environment and Energy

Freedom of Information Request

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

Requester Data

Name, Company Name, Mailing Address and Email Address of Requester

Mandy Witteman
Paterson Group Inc.
154 Colonnade Road
Ottawa, ON K2E 7J5
Email address: mwitteman@patersongroup.ca

Telephone/Fax Nos.
Tel. 613-226-7381
Fax 613-226-6344

Your Project/Reference No.
PE4373

Signature/Print /Name of Requester
Mandy Witteman

For Ministry Use Only

FOI Request No.

Date Request Received

Fee Paid
☐ ACCT ☐ CHQ ☒ VISA/MC ☐ CASH

☐ CNR ☐ ER ☐ NOR ☐ SWR ☐ WCR
☐ SAC ☐ IEB ☐ EAA ☐ EMR ☐ SWA

Request Parameters

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

2390 Stevenage Drive, Ottawa ON.

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

SYSCO Corporation

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

Unknown (Tannis Trading Inc)

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

Search Parameters

Files older than 2 years may require $60.00 retrieval cost. There is no guarantee that records responsive to your request will be located.

	Specify Year(s) Requested
Environmental concerns (General correspondence, occurrence reports, abatement)	all
Orders	all
Spills	all
Investigations/prosecutions ➤ Owner AND tenant information must be provided	all
Waste Generator number/classes	all

Certificates of Approval ➤ Proponent information must be provided

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

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

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

patersongroup

Consulting Engineers

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

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

www.patersongroup.ca

July 24, 2018
File: PE4373-HLUI

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

Subject: **Authorization Letter, HLUI Search**
Phase I-Environmental Site Assessment
2390 Stevenage Drive
Ottawa, Ontario

Dear Sir or Madame,

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

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

Name of Company/Property Owner: Sysco Tannis

Name of Representative Heather Mrochuk - President

Authorization of Representative H Mrochuk

Date July 26/18

Mandy Witteman

From: Public Information Services <publicinformationservices@tssa.org>
Sent: July-09-18 4:05 PM
To: Mandy Witteman
Subject: RE: Records Search Request PE4373

Records Found

Hello,

Thank you for your request for confirmation of public information.

- We confirm that there are **fuel storage tanks records** in our database at the subject address(es) noted below.

Inst Number	Context	Address	City	Province	Postal Code
9299002	FS PRIVATE FUEL OUTLET - SELF SERVE	2420 STEVENAGE DR	OTTAWA	ON	K1G 3W3
9893311	FS PROPANE REFILL CNTR - CYLR FILL	2330 STEVENAGE DR	OTTAWA	ON	K1G 3W3
11428712	FS PROPANE TANK	2330 STEVENAGE DR	OTTAWA	ON	K1G 3W3
10907555	FS LIQUID FUEL TANK	2420 STEVENAGE DR	OTTAWA	ON	K1G 3W3

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: Mandy Witteman <MWitteman@Patersongroup.ca>
Sent: July 9, 2018 2:07 PM
To: Public Information Services <publicinformationservices@tssa.org>
Subject: Records Search Request PE4373

Good Afternoon,

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

Stevenage Dr #: 2390, 2350, 2370, 2330, 2410, 2420, 2373, 2393, 2413, 2415

Thank you very much.

Ontario Ministry of the Environment

A 080420 (Sticker and/or Print Below)

A080420

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

6297 Page 1 of 3

Master Well Owner's and Land Owner's Information

First Name	Last Name	E-mail Address
Canadian Stebbins	Engineering & Mfg. Co Limited	

Mailing Address (Street Number/Name, RR)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
2373 Stevenage Dr.	Ottawa	ON	K1G3W1	6137372800

Location and Construction of the Master Well in the Cluster

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
2373 Stevenage Dr.			

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	452378	5025379	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	To
Blk	Top soil		soft, dry	0	.31
Brn	clay	silt	soft, dry	.31	2.74
Gry	clay	silt	soft, wet	2.74	3.66
Gry	clay	silt	soft, saturated	3.66	4.57

Hole Details

Depth (Metres) From	To	Diameter (Centimetres)
0	4.88	20.32

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 Direct Push

Status of Well

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

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.
4.21	10

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	To
3.45	PVC Riser	.356	0	1.5 ~~1.22~~
	PVC Screen		1.5 ~~1.22~~	4.57

Water Details

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

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	.31	Concrete / flushmount	
.31	1.22	Benseal	
1.22	4.57	Sand	
4.57	4.88	Benseal	

Disinfected ☐ Yes ☐ No If no, provide reason:

Date Master Well Completed (yyyy/mm/dd): 2009/04/14

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
4	1
Total Wells on this Property: 4	

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.
Strata Soil Sampling Inc.	7241

Business Address (Street No./Name, number, RR)	Municipality
147-2 West Beaver Creek Road	Richmond Hill

Province	Postal Code	Business E-mail Address
Ontario	L4B 1C6	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905-764-9304	Mike Brown

Well Technician's Licence No.	Signature of Technician	Date Submitted (yyyy/mm/dd)
T-2977	BB, 1796	2009/04/28

Audit No.	Well Contractor No.
M 03875	
Date Received (yyyy/mm/dd)	**Date of Inspection (yyyy/mm/dd)**
MAY 07 2009	

Remarks

1992 (11/2006)

Ministry's Copy

© Queen's Printer for Ontario, 2006

Ontario Ministry of the Environment

Well A 080420 (Well Tag No.)
A080420

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

6297 Page 2 of 3

Property Owner's Information

First Name	Last Name	Mailing Address (Street No./Name, RR)	Municipality
CANADIAN STEBBINS	ENGINEERING + MFG. CO. LTD.	2373 STEVENAGE ROAD	OTTAWA.

Province	Postal Code	E-mail Address	Telephone No. (inc. area code)
ON	K1G3W1		6137372800

[redacted]

Cluster Well Information

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

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

Signature of Technician/Contractor	Date (yyyy/mm/dd)

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)
2	18	452329	5025432	4.57	20.32	H.S. AUGER	PVC	1.5	1.5	4.57	BENTONITE				09/04/13
3	18	452288	5025480	4.57	20.32	H.S. AUGER	PVC	1.5	1.5	4.57	BENTONITE				09/04/13
4	18	452373	5025496	4.57	20.32	H.S. AUGER	PVC	1.5	1.5	4.57	BENTONITE				09/04/13

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
Strata Soil Sampling Inc.	147-2 West Beaver Creek Road	Richmond Hill	Ontario

Postal Code	Business Telephone No. (inc. area code)	Well Contractor's Licence No.	Business E-mail Address
L4B 1C6	905-764-9304	7241	wrecords@stratasoil.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted (yyyy/mm/dd)	Signature of Technician
Mike Browne	T-2977	2009/04/28	

Date 1st Well in Cluster Constructed (yyyy/mm/dd)	Date Last Well in Cluster Constructed (yyyy/mm/dd)
09/04/13	09/04/13

Ministry Use Only

Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)
MAY 07 2009	
Audit No.	**Remarks**
c05039	m03875

EP1756

1991 (11/2006)

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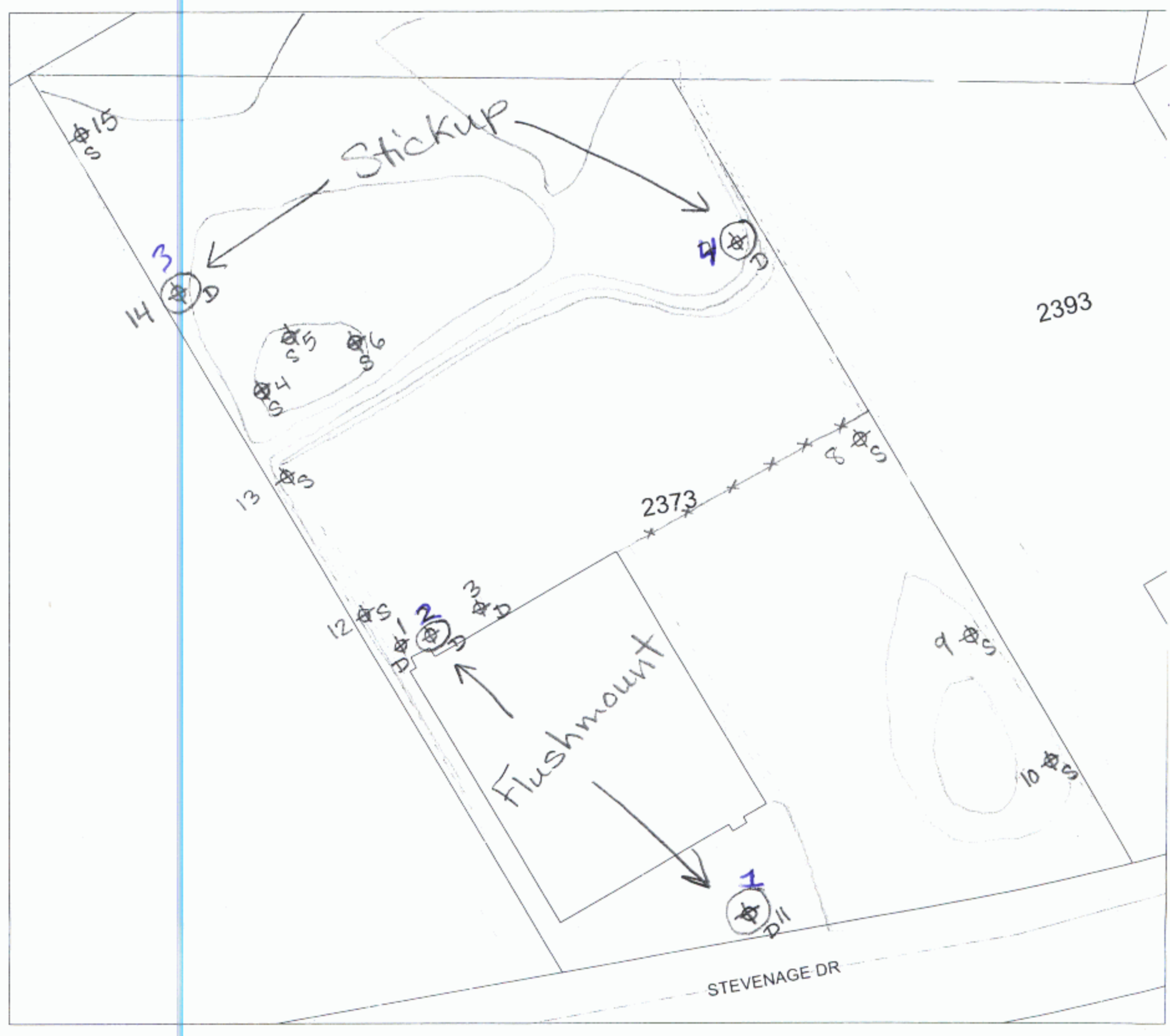
Ottawa

6297
Pg 3 of 3

- Topographic Mapping
- Roads
- Transportation
- Property
  - Property Parcels
- Surface Water
- Boundaries



SCALE 1 : 1,149

20 0 20 40 60
METERS

S/D BH (Shallow/Deep)
BH/MW

C-7241
M03875
C05039

MAY 0 7 2009

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below): A111539

A111539

Well Record

Regulation 903 Ontario Water Resources Act

8485 Page 2 of 3

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2450 Stevenage Rd			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452740	5025339		

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
Brn	Gravel	Sand	soft, dry	0	1.22
Gry	Clay	Silt	soft, dry	1.22	4.27
Gry	clay	silt	soft, wet	4.27	7.01

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	.31	Concrete /flushmount	
.31	3.66	Benseal	
3.66	7.01	Sand	

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	

Method of Construction

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

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
4.03	PVC	.368	0	3.96

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PVC	10	3.96	7.01

Status of Well

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

Water Details

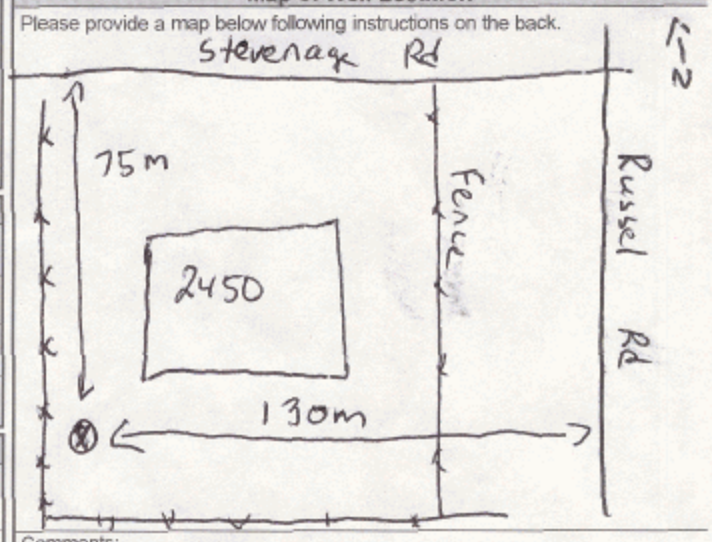
Water found at Depth (m/ft)	Kind of Water	
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*	
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*	
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	7.01	8.25

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: Strata Soil Sampling

Well Contractor's Licence No.: 7241

Business Address (Street Number/Name): 147-2 West Beaver Creek Road

Municipality: Richmond Hill

Province: Ontario

Postal Code: L4B1C6

Business E-mail Address: Wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*: 9057649304

Name of Well Technician (Last Name, First Name): Beatty Brian

Well Technician's Licence No.: 3616

Signature of Technician and/or Contractor:

Date Submitted: 2011/04/12

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2011/04/12

Ministry Use Only

Audit No. Z126347

Received MAY 05 2011

Ministry's Copy

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below): A111540 — A111540

Well Record

Regulation 903 Ontario Water Resources Act

8485 Page 3 of 3

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2450 Stevenage Rd			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452748	5025412		

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
Brn	Gravel	Sand	Soft, dry	0	1.22
Brn	Gravel	/	Soft, Saturated	1.22	4.27
Gry	Clay		Soft, wet	4.27	7.01

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	.31	Concrete / flushmount	
.31	3.66	Benseal	
3.66	7.01	Sand	

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	

Method of Construction

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

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
4.03	PVC	.368	0	3.96

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PVC	10	3.96	7.01

Status of Well

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

Water Details

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

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

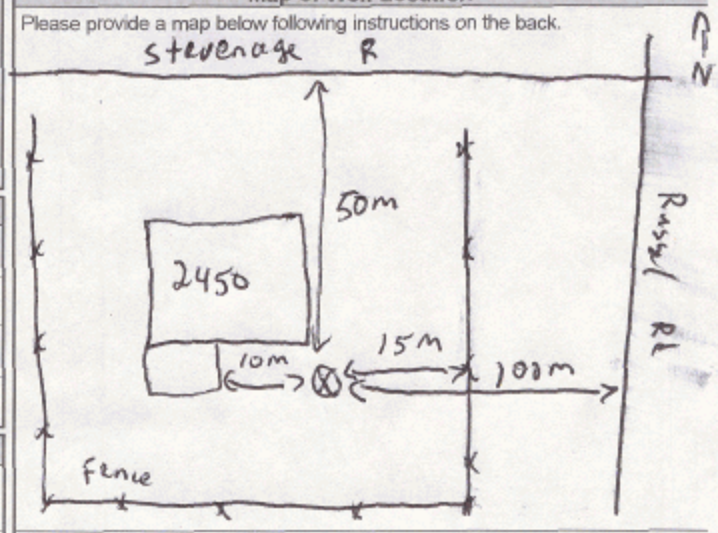
Water found at Depth (m/ft) ☐ Gas — Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	7.01	8.25

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: Strata Soil Sampling

Well Contractor's Licence No.: 7241

Business Address (Street Number/Name): 147-2 West Beaver Creek Road

Municipality: Richmond Hill

Province: Ontario

Postal Code: L4B1C6

Business E-mail Address: wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*: 9057649364

Name of Well Technician (Last Name, First Name): Beatty Brian

Well Technician's Licence No.: 3616

Signature of Technician and/or Contractor

Date Submitted: 2011 04 12

Well owner's information package delivered: ☐ Yes ☐ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2011 04 12

Ministry Use Only

Audit No. Z126346

Received: MAY 05 2011

Ministry's Copy

Ontario

Ministry of the Environment

Measurements recorded in: ☒ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A111538

Well Record

Regulation 903 Ontario Water Resources Act

8897 Page 2 of 3

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2450 Stevenage drive			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452788	5025392		

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
			Asphalt	0	.31
			20% Bentonite Grout.	.31	6.86

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	1.83	Bensal	
1.83	6.86	Grout slurry	

Method of Construction

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

Well Use

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

Construction Record - Casing

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

Construction Record - Screen

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

Status of Well

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

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	.31	20.32
.31	6.86	4.82

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

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

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

Recommended pump depth *(m/ft)*

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

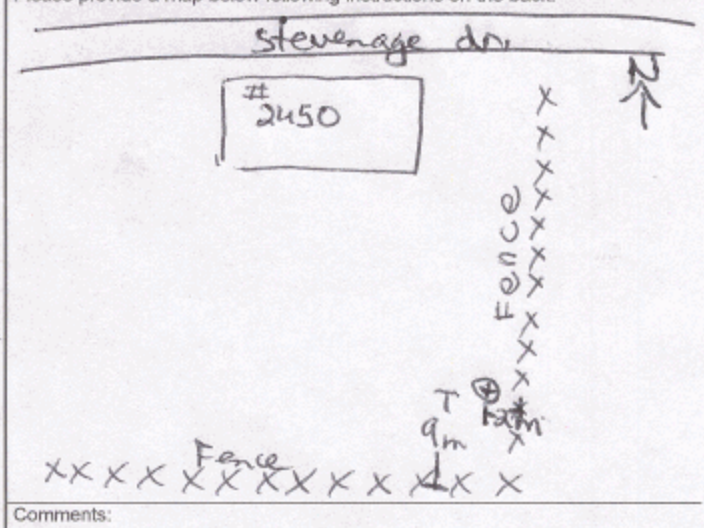
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata soil Sampling	7241

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

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

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

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3616		20080807

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	Y Y Y Y M M D D	20110804

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Audit No. z131971

Received AUG 23 2011

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Ontario — Ministry of the Environment

Measurements recorded in: [X] Metric [ ] Imperial

Well Tag No. (Place Sticker and/or Print Below): A111539

Well Record

Regulation 903 Ontario Water Resources Act

3897

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2450 Stevenage drive			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452740	5025414		

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
			asphalt	0	.31
			20% Bentonite Grout	.31	6.71

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)		Volume Placed (m³/ft³)
0	1.83	Bensenl		
1.83	6.71	Grout	Slurry	

Method of Construction

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

Well Use

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

Construction Record - Casing

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

Construction Record - Screen

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

Status of Well

[ ] Water Supply
[ ] Replacement Well
[ ] Test Hole
[ ] Recharge Well
[ ] Dewatering Well
[ ] Observation and/or Monitoring Hole
[ ] Alteration (Construction)
[ ] Abandoned, Insufficient Supply
[ ] Abandoned, Poor Water Quality
[X] Abandoned, other, specify test Hole.
[ ] Other, specify

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	.31	20.32
.31	6.71	4.82

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

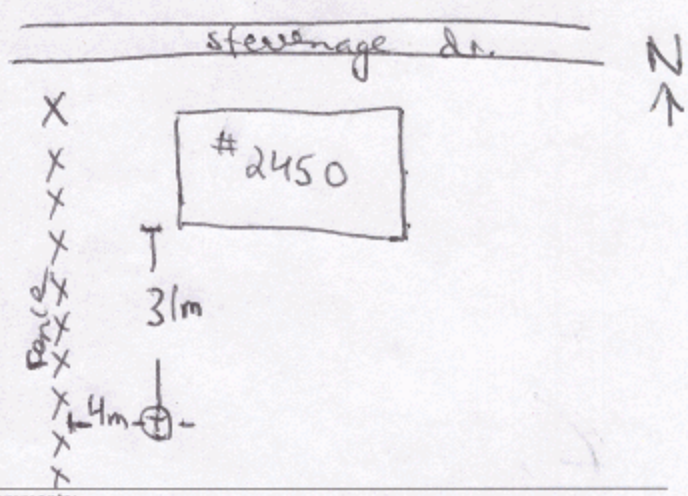
Well production (l/min / GPM)

Disinfected? [ ] Yes [ ] No

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

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: Strata Soil Sampling
Well Contractor's Licence No.: 7241
Business Address (Street Number/Name): 147-2 west Beaver Creek Rd
Municipality: Richmond Hill
Province: ontario
Postal Code: L4B1C6
Business E-mail Address: wrecords@stratasoil.com
Bus. Telephone No. (inc. area code): 9057649304
Name of Well Technician (Last Name, First Name): Beatty Brian
Well Technician's Licence No.: 3616
Signature of Technician and/or Contractor:
Date Submitted: 2011 08 02

Well owner's information package delivered: [ ] Yes [ ] No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2011 08 04

Ministry Use Only

Audit No. Z131970

Received AUG 23 2011

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Ontario — Ministry of the Environment

Measurements recorded in: [X] Metric [ ] Imperial

Well Tag No. (Place Sticker and/or Print Below): A111540

Well Record

Regulation 903 Ontario Water Resources Act

8897 Page 3 of 3

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2450 Stevenage drive.			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452747	5025416		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
			asphalt	0	0.31
			20% Bentonite Grout	0.31	7.01

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	1.83	Benseal	
1.83	7.01	Grout slurry	

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ___ hrs + ___ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? [ ] Yes [ ] No

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

Method of Construction

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

Well Use

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

Construction Record - Casing

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

Construction Record - Screen

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

Status of Well

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

Water Details

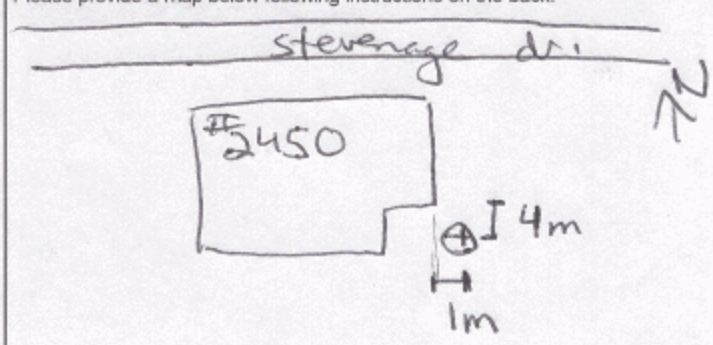
Water found at Depth (m/ft)	Kind of Water	
	[ ] Fresh [X] Untested [ ] Gas [ ] Other, specify	
	[ ] Fresh [ ] Untested [ ] Gas [ ] Other, specify	
	[ ] Fresh [ ] Untested [ ] Gas [ ] Other, specify	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	.31	20.32
.31	7.01	4.82

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7241

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

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

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

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3616		2008/07/08

Well owner's information package delivered	Date Package Delivered	Date Work Completed
[ ] Yes [ ] No	YYYY MM DD	2011/08/04

Ministry Use Only

Audit No. Z131973

Received AUG 23 2011

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Ministry's Copy

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Measurements recorded in: [X] Metric [ ] Imperial

Well Tag No. (Place Sticker and/or Print Below)
Tag#: A126599 A126599

S-12308

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	
	TANNIS FOOD DISTRIBUTORS		[ ] Well Constructed by Well Owner

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
2390 STEVENAGE DRIVE	OTTAWA	ONTARIO	K1G3W3	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2390 STEVENAGE DRIVE			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452466	5025387		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
BRN	Sand	Gravel	Loose	0	.91
BRN	Clay	Sand	hard	.91	3.96
GRY	Clay			3.96	4.57
GRY	Clay			4.57	5.79

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	Concrete / Flushmount	
.31	2.13	Benseal	
2.13	5.79	Sand	

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? [ ] Yes [ ] No

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

Method of Construction

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

Well Use

[ ] Public [ ] Commercial [ ] Not used
[ ] Domestic [ ] Municipal [ ] Dewatering
[ ] Livestock [X] 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	To
5.20	PVC	.390	0	2.74

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
6.03	PVC	10	2.74	5.79

Status of Well

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

Water Details

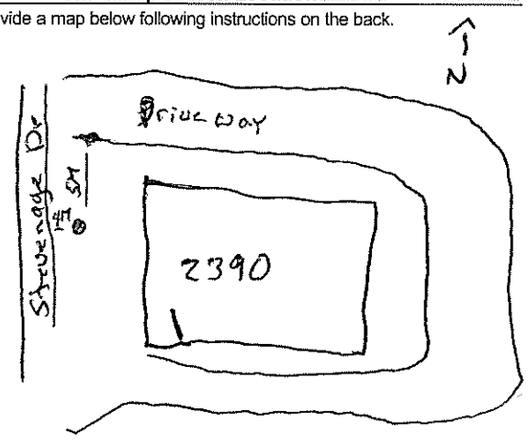
Water found at Depth (m/ft)	Kind of Water: [ ] Fresh [ ] Untested [ ] Gas [ ] Other, specify
Water found at Depth (m/ft)	Kind of Water: [ ] Fresh [ ] Untested [ ] Gas [ ] Other, specify
Water found at Depth (m/ft)	Kind of Water: [ ] Fresh [ ] Untested [ ] Gas [ ] Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	5.79	11.43

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7211

Business Address (Street Number/Name)	Municipality
147-2 W. Beaver Creek	Richmond Hill

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

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9055764 9304	Beatty, Brian

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3616		2012/03/19

Well owner's information package delivered	Date Package Delivered	Date Work Completed
[ ] Yes [ ] No	YYYY MM DD	2012/03/16

Ministry Use Only

Audit No. Z147125

Received MAY 10 2012

Ontario — Ministry of the Environment

Measurements recorded in: ☒ Metric ☐ Imperi

Well Tag No. (Place Sticker and/or Print Below)
Tag#: A126600 A126600

S-12308

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
	TANNIS FOOD DISTRIBUTOR		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
2390 Stevenage Dr	Ottawa	ON	K1G3W3	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2390 Stevenage Dr			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452529	5025365		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
BRN	Sand	Gravel	Loose	0	.91
BRN	Clay	Sand	Hard	.91	3.96
GRY	Clay		Hard	3.95	4.57
GRY	Clay		Soft	4.57	6.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	Concrete / Flushmount	
.31	2.44	Bensecal	
2.44	6.1	Sand	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
5.20	PVC	.390	0	3.1

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
6.03	PVC	10	3.1	6.1

Status of Well

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

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	6.1	11.43

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

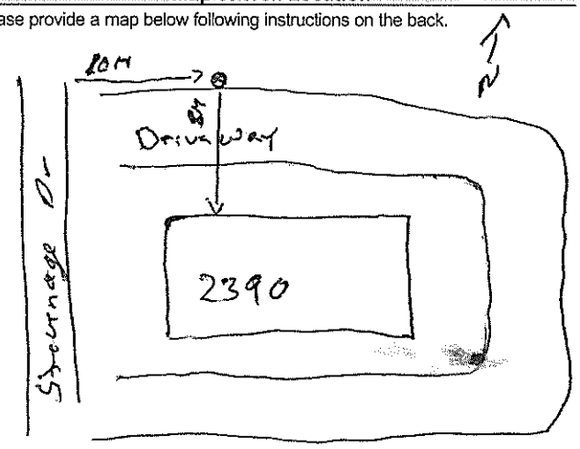
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7124

Business Address (Street Number/Name)	Municipality
147-2 W. Beaver Creek	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B1L6	wrecords@stratasoil.com

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

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3161		2012/03/19

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	YYYY MM DD	2012/03/16

Ministry Use Only

Audit No. Z147126

MAY 10 2012 Received

Ontario — Ministry of the Environment

Measurements recorded in: ☒ Metric ☐ Imper

Well Tag No. (Place Sticker and/or Print Below)
Tag#: A132407 A132407

S-12308

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
	Tannis Food Distributor		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
2390 Steverage Dr	Ottawa	ON	K1G3W3	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2390 Steverage Dr			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452579	5025284		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
BRN	Sand	Gravel	Loose	0	.91
BRN	Clay	Sand	hard	.91	3.96
GRY	Clay		hard	3.96	4.57
GRY	Clay			4.57	5.79

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	Concrete/Flushmount	
.31	2.13	Bensenal	
2.13	5.79	Sand	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
5.20	PVC	.390	0	2.74

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
6.03	PVC	10	2.74	5.79

Status of Well

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

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	5.79	11.43

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

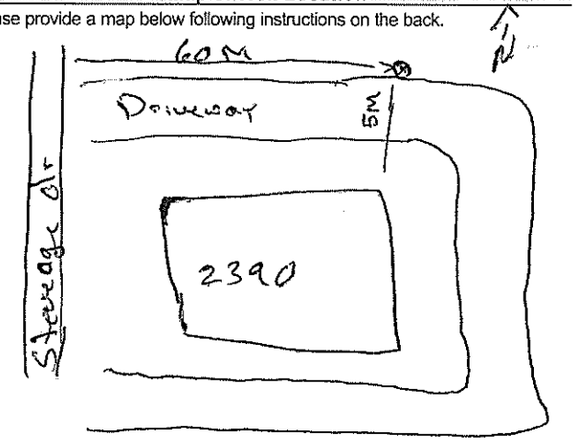
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata soil sampling	7241

Business Address (Street Number/Name)	Municipality
147-2 W. Beaver creek	Richmond hill

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

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

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3616		2012/03/19

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	YYYY MM DD	2012/03/16

Ministry Use Only

Audit No. Z147127

Received

Ontario — Ministry of the Environment

Measurements recorded in: ☒ Metric ☐ Imp...

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

Tag#: A132408 A132408

5-12308

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
Tannis	Food Distributor		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
2390 Steverage dr	Ottawa	ON	K1G3W3	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2390 Steverage dr			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452579	5025283		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
BRN	Sand	Gravel	Loose	0	.91
BRN	Clay		Hard	.91	3.96
GRY	Clay		Hard	3.96	4.57
GRY	Clay		Soft	4.57	5.79

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	.31	Concrete / Flushmount	
.31	2.13	Benseal	
2.13	5.79	Sand	

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

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

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
5.20	PVC	.390	0	2.74

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
6.03	PVC	10	2.74	5.79

Status of Well

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

Water Details

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

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

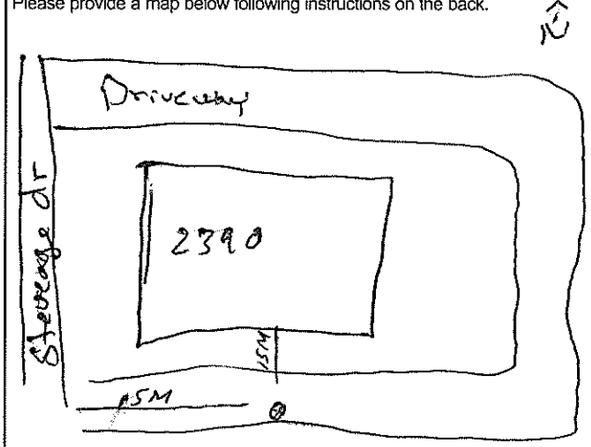
Water found at Depth (m/ft) ☐ Gas — Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	5.79	11.43

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7241

Business Address (Street Number/Name)	Municipality
147-2 W. Beaver creek	Richmond hill

Province	Postal Code	Business E-mail Address
ON	L4B1L6	wrecords@stratasoil.com

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

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3616		2012 03 19

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	Y Y Y Y M M D D	2012 03 16

Ministry Use Only

Audit No. Z147128

Received MAY 10 2012

Ontario — Ministry of the Environment

Measurements recorded in: ☒ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below)
Tag#: A133592 A133592

S-12686

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2410 Stevenage Dr	0		

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452539	5025365		

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
BRN	Top Soil		Loose, dry	0	.61
GRY	Clay Silt		~~Firm~~ Soft, dry	.61	2.74
GRY	Clay		Soft, moist	2.74	4.57
GRY	Clay		Soft, wet	4.57	6.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	.31	Concrete/Flushmount	
.31	2.74	Benseal	
2.74	6.1	Sand	

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

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

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

Recommended pump depth *(m/ft)*

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

Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

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

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.20	Plastic	.390	0	3.1

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.03	Plastic	10	3.1	6.1

Status of Well

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

Map of Well Location

Please provide a map below following instructions on the back.

MW 1

See Map

Comments:

Water Details

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

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

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	6.1	10.92

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
147-2 West Beaver Creek Road	Richmond Hill

Province	Postal Code	Business E-mail Address
Ontario	L4B 1C6	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
905-764-9304	Beath, Brian

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3616		2012 06 15

PW 2262

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☒ No	Y Y Y Y M M D D	2012 06 13

Ministry Use Only

Audit No. Z146519

AUG 09 2012

Received

Ontario — Ministry of the Environment

Measurements recorded in: [X] Metric [ ] Impe

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

Tag#: A133593 A133593

S-12686

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2410 Stevenage dr			

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	452602	5025303		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
BRN	Gravel	Sand	Loose, dry	0	.91
GRY	Clay	Sand	Soft, dry	.91	3.1
GRY	Clay		Soft, moist	3.1	4.57
				4.57	6.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	.31	Concrete / Flushmount	
.31	2.74	Bensed	
2.74	6.1	Sand	

Method of Construction

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

Well Use

[ ] Public [ ] Commercial [ ] Not used
[ ] Domestic [ ] Municipal [ ] Dewatering
[ ] Livestock [X] 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	To
5.20	Plastic	.390	0	3.1

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
6.03	Plastic	10	3.1	6.1

Status of Well

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

Water Details

Water found at Depth (m/ft) [ ] Gas — Kind of Water: [ ] Fresh [ ] Untested [ ] Other, specify ____

Water found at Depth (m/ft) [ ] Gas — Kind of Water: [ ] Fresh [ ] Untested [ ] Other, specify ____

Water found at Depth (m/ft) [ ] Gas — Kind of Water: [ ] Fresh [ ] Untested [ ] Other, specify ____

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	6.1	10.92

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? [ ] Yes [ ] No

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

Map of Well Location

Please provide a map below following instructions on the back.

MW 2

See Map

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor: Strata Drilling Group

Well Contractor's Licence No.: 7241

Business Address (Street Number/Name): 147-2 W. Beaver creek

Municipality: Richmondhill

Province: ON

Postal Code: L4B1C6

Business E-mail Address: wrecords@stratasoil.com

Bus.Telephone No. (inc. area code): 9057649304

Name of Well Technician (Last Name, First Name): Beatty Brian

Well Technician's Licence No.: 3616

Signature of Technician and/or Contractor:

Date Submitted: 2012/06/15

Well owner's information package delivered: [ ] Yes [ ] No

Date Package Delivered: YYYY MM DD

Date Work Completed: 2012/06/13

Ministry Use Only

Audit No. Z145270

Received AUG 09 2012

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PH2262

Ministry's Copy

Well ID Number: 7211957
Well Audit Number: *Z177990*
Well Tag Number: *A154118*

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

Well Location

Address of Well Location	2320 STEVENAGE DR
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	OTTAWA
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 452303.00 Northing: 5025252.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
GREY	GRVL	LOOS	DRY	0 m	.61 m
BRWN	CLAY	SLTY	SOFT	.61 m	3.1 m
BRWN	CLAY	SLTY	SOFT	3.1 m	4.57 m
GREY	CLAY	SLTY	SOFT	4.57 m	5.79 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE	
.31 m	2.44 m	BENTONITE	
2.44 m	5.79 m	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
4.03 cm	PLASTIC	0 m	2.74 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
4.82 cm	PLASTIC	2.74 m	5.79 m

Well ID Number: 7211958
Well Audit Number: *Z177988*
Well Tag Number: *A154028*

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

Well Location

Address of Well Location	2320 STEVENAGE DR
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	OTTAWA
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 452324.00 Northing: 5025231.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND	GRVL	LOOS	0 m	.61 m
BRWN	CLAY	SLTY	SOFT	.61 m	3.1 m
BRWN	CLAY	SLTY	SOFT	3.1 m	4.57 m
GREY	CLAY	SLTY	SOFT	4.57 m	6.1 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE	
.31 m	2.74 m	BENTONITE	
2.74 m	6.1 m	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
4.03 cm	PLASTIC	0 m	3.1 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
4.82 cm	PLASTIC	3.1 m	6.1 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was	CLOUDY
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	

Draw Down & Recovery

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

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 m	6.1 m	8.25 cm

Audit Number: Z177988

Date Well Completed: October 30, 2013

Date Well Record Received by MOE: November 28, 2013

Well ID Number: 7211959
Well Audit Number: *Z177987*
Well Tag Number: *A154143*

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

Well Location

Address of Well Location	2320 STEVENAGE DR
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	OTTAWA
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 452262.00 Northing: 5025164.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SAND	GRVL	LOOS	0 m	.61 m
BRWN	CLAY	SLTY	SOFT	.61 m	3.1 m
BRWN	CLAY	SLTY	SOFT	3.1 m	4.57 m
GREY	CLAY	SLTY	SOFT	4.57 m	6.1 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE	
.31 m	2.74 m	BENTONITE	
2.74 m	6.1 m	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
4.03 cm	PLASTIC	0 m	3.1 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
4.82 cm	PLASTIC	3.1 m	6.1 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	

Draw Down & Recovery

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

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 m	6.1 m	8.25 cm

Audit Number: Z177987

Date Well Completed: October 30, 2013

Date Well Record Received by MOE: November 28, 2013

Well ID Number: 7211960
Well Audit Number: *Z177999*
Well Tag Number: *A154127*

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

Well Location

Address of Well Location	2320 STEVENAGE DR
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	OTTAWA
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 452251.00 Northing: 5025260.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	FILL	LOOS	DRY	0 m	.61 m
BRWN	CLAY	SLTY	SOFT	.61 m	3.1 m
BRWN	CLAY	SLTY	SOFT	3.1 m	4.57 m
GREY	CLAY	SLTY	SOFT	4.57 m	6.1 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE	
.31 m	2.74 m	BENTONITE	
2.74 m	6.1 m	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
4.03 cm	PLASTIC	0 m	3.1 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
4.82 cm	PLASTIC	3.1 m	6.1 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	

Draw Down & Recovery

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

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 m	6.1 m	8.25 cm

Audit Number: Z177999

Date Well Completed: October 31, 2013

Date Well Record Received by MOE: November 28, 2013

Well ID Number: 7211961
Well Audit Number: *Z177989*
Well Tag Number: *A154287*

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

Well Location

Address of Well Location	2320 STEVENAGE DR
Township	GLOUCESTER TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	OTTAWA
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 452324.00 Northing: 5025131.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	FILL	LOOS	DRY	0 m	.61 m
BRWN	CLAY	SLTY	SOFT	.61 m	3.1 m
BRWN	CLAY	SLTY	SOFT	3.1 m	4.57 m
GREY	CLAY	SLTY	SOFT	4.57 m	6.1 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE	
.31 m	2.74 m	BENTONITE	
2.74 m	6.1 m	SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Direct Push	
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
4.03 cm	PLASTIC	0 m	3.1 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
4.82 cm	PLASTIC	3.1 m	6.1 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	

Draw Down & Recovery

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

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
0 m	6.1 m	8.25 cm

Audit Number: Z177989

Date Well Completed: October 30, 2013

Date Well Record Received by MOE: November 28, 2013

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

Mandy Witteman, E.I.T.

patersongroup

Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

POSITION

Environmental Engineer

EDUCATION

Carleton University, M.A.Sc., 2013
Carleton University, B.Eng., 2008
Environmental Engineering

MEMBERSHIPS & AWARDS

Alberta Professional Engineers and Geoscience Association
NSERC Industry R&D Scholarship

EXPERIENCE

2018 – Present
Paterson Group Inc.
Consulting Engineers
Geotechnical and Environmental Division
Environmental Engineer

2014 – 2015
Thurber Engineering Limited
Oil Sand Tailings Group
Tailings Engineer

2014 – 2013
Carleton University
Department of Civil & Environmental Engineering Division
Research Engineer

2013 - 2009
Carleton University
Department of Civil & Environmental Engineering Division
Research Assistant and Teachers Assistant

2008 – 2009
SLR Consulting Limited
Contaminated Sites
Junior Environmental Engineer

Mark S. D'Arcy, P. Eng.

patersongroup

Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

POSITION

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

EDUCATION

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

MEMBERSHIPS

Ottawa Geotechnical Group
Professional Engineers of Ontario

EXPERIENCE

1991 to Present
Paterson Group Inc.
Associate and Senior Environmental/Geotechnical Engineer
Environmental and Geotechnical Division
Supervisor of the Environmental Division

SELECT LIST OF PROJECTS

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