

## **Appendix F**    **PHASE ONE AND LIMITED PHASE TWO ENVIRONMENTAL SITE ASSESSMENT**



**GeoPro Consulting Limited**

Geotechnical-Hydrogeology-Environmental-Materials-Inspection

## **Phase One and Limited Phase Two Environmental Site Assessment**

**Living Arts Drive Extension, Rathburn Road West  
to Centre View Drive, Mississauga, Ontario**

**Prepared For:**

**Stantec Consulting Limited**



**GeoPro Project No.: 17-1798E**

**Report Date: November 20, 2017**

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## **1.0 EXECUTIVE SUMMARY**

GeoPro Consulting Limited (GeoPro) was retained by Stantec Consulting Limited (Stantec) (the Client) on behalf of the City of Mississauga (the City) to conduct a Phase One and Limited Phase Two Environmental Site Assessment (Phase One and Two ESA) for the proposed extension of Living Arts Drive from Rathburn Road West to Centre View Drive (Project), in the City of Mississauga, Ontario (Project Area or Site).

The Site is located east of the intersection of Confederation Parkway and Highway 403, in the City of Mississauga, and consists of sections of asphalt-paved parking areas and driveways.

The Phase One ESA was completed as part of the Municipal Class Environmental Assessment and for a preliminary design for the proposed extension of Living Arts Drive. The purposes of the Phase One ESA were to identify Potentially Contaminating Activities (PCAs) within the Project Area and on the neighbouring properties located wholly or partly within 250 m radius of the Project Area (Study Area) and to identify Areas with Potential Environmental Concern (APECs) within the Project Area which may have the potential to affect the proposed construction works.

It is understood that the Project may involve an acquisition of part of the property identified as a Cineplex Cinema (Cineplex Property) located at 309 Rathburn Road West, Mississauga, Ontario. The Limited Phase Two ESA was conducted for due diligence purposes to determine if subsurface soil contamination is present in association with importation of fill material of unknown quality and with the application of de-icing salt on and near the Project Area.

### **Phase One ESA Summary**

Based on the data search and review, site visit and interview, the Phase One ESA has identified the following.

- On-site and off-site PCAs were identified, which are associated with the following activities or records.
  - Likely importation and placement of fill materials;
  - Operation of transformers;
  - Storage of de-icing salt; and
  - Records of spills and waste generators.

In addition, application of de-icing salt products on the roadways and parking lots would also be a concern to the Site.

- One (1) APEC was considered to be present in the Project Area, which is associated with the on-site PCA related to importation of fill materials of unknown quality and with the application of de-icing salt on and near the Project Area.

- Based on the Phase One ESA findings, a Phase Two ESA, consisting of a soil and/or groundwater sampling and chemical testing program, was recommended to be conducted to determine if there is any impact in the identified APECs.

### **Limited Phase Two ESA Summary**

At the request of the Client, the Limited Phase Two ESA was conducted to assess the soil quality in the fill materials placed in the roadway of the property at 309 Rathburn Road West within the Project Area (Phase Two Property).

A total of three (3) boreholes (BH7 to BH9) were drilled for soil sampling and testing. Two (2) boreholes (BH7 and BH9) were completed with installation of monitoring wells. Soil samples collected from the advanced boreholes (BH7, BH8 and BH9) were submitted for chemical analysis for the parameters including petroleum hydrocarbon fractions F1 to F4 (PHCs F1 to F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), metals and inorganics.

The analytical results were compared with the Ministry of Environment and Climate Change (MOECC) "Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act", dated April 15, 2011 under O. Reg. 153/04 (amended), Table 1: Full Depth Background Site Condition Standards for coarse textured soils and residential / parkland / institutional / industrial / commercial / community (R/P/I/I/C/C) property use (MOECC Table 1 Standards).

- The soil stratigraphy at the Site was generally comprised of fill materials underlain by native soils, and then by probable shale. The fill materials were encountered below the surficial asphalt pavement structure (asphalt concrete and granular base/subbase), extending to the depth of about 0.9 m below ground surface (mBGS), and generally consisted of sandy silt and trace to some clay, trace gravel, containing shale fragments. Wood fragment was noted at BH8. The native soils generally consisted of cohesive soils of clayey silt, clayey silt till and clayey silt till/shale complex. Probable shale was encountered at the depths ranging from 1.4 mBGS to 4.0 mBGS.
- The static groundwater levels were measured in Monitoring Well BH7 at about 1.2 mBGS, while Monitoring Well BH9 was dry. Based on the findings of the Phase One ESA, groundwater was inferred to flow in a southwesterly direction.
- No visual or olfactory evidence of contamination was observed at the time of the field sampling.
- Based on the analytical results for the analyzed soil samples, all measured concentrations for metals, PHCs F1 to F4, VOCs and PAHs met the MOECC Table 1 Standards. Exceedances of the MOECC Table 1 Standards were found for electrical conductivity (EC) and sodium adsorption ratio (SAR) in all the analyzed samples taken from fill materials.

## **Conclusions and Recommendations**

Based on the findings of the Phase One ESA and Limited Phase Two ESA, it could be concluded as follows:

- No evidence of contamination with PHCs F1 – F4, VOCs, PAHs or metals was found in the fill materials encountered in the Phase Two Property.
- Impacts due to EC and SAR on the fill material and/or shallow soil in the Phase Two Property would be anticipated, and are inferred to be related to the application of de-icing salt on and near the Phase Two Property.
- It should be noted that the Phase Two Property will be acquired for road development and will continue to be used as a roadway. Based on O. Reg. 153/04 section 48 (3) and R.R.O. 1990, Regulation 339, Section 2, the elevated EC and SAR concentrations would be exempt from an exceedance because the Phase Two Property could be considered as a highway and use of de-icing salt is made for the purpose of keeping the highway safe for traffic. Therefore, the impacts due to EC and SAR will not be an environmental issue.

## **2.0 INTRODUCTION**

GeoPro Consulting Limited (GeoPro) was retained by Stantec Consulting Limited (Stantec) (the Client) on behalf of the City of Mississauga (the City) to conduct a Phase One and Limited Phase Two Environmental Site Assessment (Phase One and Two ESA) for the proposed extension of Living Arts Drive from Rathburn Road West to Centre View Drive (Project), in the City of Mississauga, Ontario (Project Area or Site). The approximate site location is shown on Drawing No. 1.

The Site is located east of the intersection of Confederation Parkway and Highway 403, in the City of Mississauga, and consists of sections of asphalt paved parking areas and driveway.

The Phase One ESA was completed as part of the Municipal Class Environmental Assessment and for a preliminary design for the proposed extension of Living Arts Drive. The purposes of the Phase One ESA were to identify Potentially Contaminating Activities (PCAs) within the Project Area and on the neighbouring properties located wholly or partly within 250 m radius of the Project Area (Study Area) and to identify Areas with Potential Environmental Concern (APECs) within the Project Area which may have the potential to affect the proposed construction works.

It is understood that the Project may involve an acquisition of part of the property identified as a Cineplex Cinema (Cineplex Property) located at 309 Rathburn Road West, Mississauga, Ontario. The Limited Phase Two ESA was conducted for due diligence purposes to determine if subsurface soil contamination is present in association with importation of fill material of unknown quality and with the application of de-icing salt on and near the Project Area.

## **3.0 PHASE ONE ESA**

### **3.1 Project Area Information**

The Project Area or the Site was demarcated by the Client, and is nearly a rectangular-shaped parcel of land covering a section of Rathburn Road West, a section of Centre View Drive and a parcel of land between Rathburn Road West and Centre View Drive. As shown on Drawing No. 2, the Project Area is comprised of the following main properties:

- Sections of roadways, including Centre View Drive, Rathburn Road West and Living Arts Drive, which appear to be the City's ownership.
- Northeast corner of 4220 Living Arts Drive and northwest corner of 300 Rathburn Road West, which appear to be the City's ownership and a private property, respectively.
- A portion including roadway and parking lots between Centre View Drive and Rathburn Road West, which is identified as the Cineplex Property located at 309 Rathburn Road West.

## **3.2 Scope of Investigation**

The general scope of work for this Phase One ESA consisted of the following tasks:

- Environmental Risk Information Services (ERIS) database search and review of the Site and the properties within the Study Area;
- Interpretation of available aerial photographs, geological and topographic maps, federal and municipal heritage plans, and water well records;
- Site reconnaissance of the Project Area and Study Area;
- An evaluation of the collected information; and
- Preparation of this Phase One ESA report.

## **3.3 Records Review**

### **3.3.1 General**

#### *3.3.1.1 Study Area Determination*

The Study Area includes the Project Area and all other properties wholly or partly located within a 250 m radius from the boundary of the Project Area. Based on a review of the available historical information and site observations, GeoPro did not note any significant potentially contaminating properties beyond 250 m from the Project Area. Therefore, the properties within the Study Area were subject to the Phase One ESA and our review of historical records. The limits of the Project Area and Study Area are presented on Drawings No. 1 to No. 3.

#### *3.3.1.2 Fire Insurance Plan*

A review of the Catalogue of Canadian Fire Insurance Plan (FIP) was conducted at the Toronto reference Library. No FIP information was available for the properties within the Study Area.

### **3.3.2 Environmental Source Information**

#### *3.3.2.1 Environmental Database Search*

A records and regulatory agency databases review was completed through a database search carried out by Environmental Risk Information Services (ERIS). The ERIS report includes a search of federal, provincial and private database records for the Project Area and the surrounding properties within 250 m from the Project Area. A copy of the ERIS report is provided in Appendix A.

The results of the ERIS search and the associated potential environmental concerns to the Project Area are summarized in the following table.

Database	Records		Pertinent Information/Comments
	Project Area	Study Area	
Borehole (BORE)	0	2	Records for boreholes do not represent potential environmental concerns to the Project Area.
Certificates of Approval (CA)	0	2	Two (2) CA records were related to air emission and municipal sewages, which do not represent potential environmental concerns to the Project Area.
ERIS Historical Searches (EHS)	0	1	One (1) historical search was conducted at 309 Rathburn Road West within the Study Area and do not represent environmental concerns to the Project Area.
Ontario Regulation 347 Waste Generators Summary (GEN)	0	2	Two (2) records at 4180 Duke of York Blvd Health Centre associated with Sheridan College within the Study Area were listed as waste generators, which may be considered as a potentially contaminating activity (PCA).
Technical Standards and Safety Authority (TSSA) Incidents (INC)	0	1	One (1) record related to a fire incident was identified at 4188 Living Arts Drive, which may not represent an environmental concern to the Project Area considering the distance and downgradient location.
TSSA Pipeline Incidents (PINC)	1	2	One (1) record related to natural gas pipeline incident was identified on-site in 2015 at the intersection of Living Arts Drive and Rathburn Road West. Two (2) off-site records were identified to be related to natural gas pipeline incidents at 299 Rathburn Road West and 65 Square One Drive. Given that the incidents were related to natural gas, a volatile material, environmental concerns may not be considered to the Project Area.

Database	Records		Pertinent Information/Comments
	Project Area	Study Area	
Ontario Spills (SPL)	1	5	<p>One (1) natural gas spill, associated with Enbridge Gas Distribution Inc., was identified on-site at southwest corner of Living Arts Drive and Rathburn Road West, which however may not be considered as environmental concerns to the Project Area because of the properties of natural gas.</p> <p>Five (5) off-site records related to coolant and paint spill, ethylene glycol spill, furnace oil spill and transformer oil spill were identified within the Study Area as follows:</p> <ul style="list-style-type: none"> <li>Two (2) records were identified at Rathburn Road and Duke of York Blvd for 25 L coolant spill and 20 L paint spill, respectively. These two records do not present environmental concerns to the Project Area based on the spill quantities, the location and distance (166 m hydraulically trans-gradient to the Project Area).</li> <li>One (1) record was identified at the intersection of Rathburn Road and Duke of York Blvd for 40 L ethylene glycol (antifreeze) spill. This record does not present any environmental concern based on the location and distance (168.7 m hydraulically trans-gradient to the Project Area).</li> <li>One (1) record was identified at 335 Rathburn Road West for furnace oil spill reported on October 28, 2009, which may indicate the presence of fuel tank or a PCA.</li> <li>One (1) record was identified at 209 Rathburn Road West for lands spills of 122 L non-PCB transformer oil to concrete &amp; vault, which</li> </ul>

Database	Records		Pertinent Information/Comments
	Project Area	Study Area	
			may indicate the presence of transformers or a PCA.
Water Well Information System (WWIS)	0	1	One (1) WWIS record was identified. However, the WWIS record does not represent potential environmental concerns to the Project Area.
Total	2	16	

### 3.3.2.2 Summary of Regulatory Records Review

Regulatory records review included the Ministry of Environment and Climate Change (MOECC)'s Freedom of Information (FOI) search and Technical Standards & Safety Authority (TSSA) record search. A summary of the regulatory records review is provided in the following table.

Source	Findings
MOECC FOI Search	<p>A request for documented environmental concerns and citations pertaining to the property at 309 Rathburn Road West was forwarded to the MOECC FOI and Protection of Privacy Office on May 25, 2017. A response dated June 22, 2017 from The MOECC was received. A copy of the correspondence is attached in Appendix B.</p> <p>The results of MOECC FOI data search indicated that a Certificate of Approval was issued for the property at 309 Rathburn Road West in 1996. The record is related to (municipal) sewage, and would not be considered as potential environmental concerns to the Project Area.</p>
TSSA Record Search	<p>The TSSA was contacted for records of storage tanks pertaining to the property at 309 Rathburn Road West on May 25, 2017. A reply from the TSSA indicated that no records of fuel storage tanks were identified within the searched property. The correspondence with the TSSA is included in Appendix B.</p>

### 3.3.3 Physical Setting Sources

#### 3.3.3.1 Aerial Photographs

Aerial photographs were examined for a visual chronology of previous land uses on the Project Area and the properties within the Study Area. Aerial photographs for the years 1954, 1966, 1975, 1980, 1985, 1989, 1997, 2002, 2007 and 2016 were obtained from the Mississauga Interactive Map. Copies of the aerial photographs are included in Figures No. 1 to No. 10. A summary of the observed features in the aerial photographs are presented in the following table.

Year	Project Area	Study Area
1954	The Project Area appears to be vacant or used for agricultural purposes. A creek appears to cross the west corner of the Project Area.	Vacant or agricultural lands. Wooded areas are observed to the north and west of the Project Area. No development is noted.
1966	Similar to the 1954 Photograph.	Similar to the 1954 Photograph. The creek that crosses the Project Area is observed to flow from the northwest to the south of the Study Area.
1975	Similar to the 1966 Photograph.	Similar to the 1966 Photograph. Development with roadways is observed at the east edge of the Study Area.
1980	Similar to the 1975 Photograph.	Similar to the 1975 Photograph.
1985	Similar to the 1980 Photograph.	Highway 403 can be seen in the northwest portion of the Study Area.
1989	Rathburn Road West is observed at southeast edge of the Project Area.	The roadways of Rathburn Road West and Duke of York Blvd are noted. Developments of residential buildings and commercial parking lot can be seen within the Study Area.
1997	Centre View Drive is noted at the northwest edge of the Project Area. Development of Cineplex Cinema at 309 Rathburn Road West and its surrounding access roads and parking lots is observed.	Major development is noted on the northwest side of Rathburn Road West. Duke of York Blvd is extended from Rathburn Road West to connect Centre View Drive. Two high-rise buildings are noted at the south edge of the Study Area.
2002	The property at Cineplex Cinema is fully developed. Living Arts Drive can be seen at the southeast edge of the Project Area.	The parking lots to the west/southwest of the Project Area are developed. The roadway of Living Arts Drive is developed in the vacant area east/southeast of Rathburn Road West.

Year	Project Area	Study Area
2007	Similar to 2002 Photograph.	Part of Confederation Parkway is constructed at the south edge of the Study Area. A high-rise building is noted at the west of the intersection of Rathburn Road West and Confederation Parkway.
2016	Similar to the 2007 Photograph	<p>The construction of confederation Parkway is completed extending northwest with a bridge crossing Highway 403. Developments with new roadway and high-rise buildings are noted in the former vacant area east of Rathburn Road West.</p> <p>The property to the southeast of the Site was developed with a building and parking lots (identified as Sheridan College). However, the property to the south of the Site remains vacant or as wooded lands.</p>

Notable observations based on the aerial photographs suggest that most parts of the Project Area and Study Area were either vacant or agricultural lands prior to 1985. After 1985, the Project and Study Area were mainly developed for a mix of uses (i.e. residential, community and commercial). Development of the Cineplex Cinema was first observed in 1997.

### 3.3.3.2 Geology, Hydrology, and Topography

Source	<p>The Physiography Map of Southern Ontario prepared by the Ontario Department of Mines and Northern Affairs</p> <p>The Map of Quaternary Geology of Ontario (Map 2556, scale 1:1000000)</p> <p>Bedrock Geology of Ontario by Ontario Geological Survey</p> <p>The Canada Atlas – Toporama</p>
Geology	<p>The Project Area and Study Area are located within the physiographical region of the South Slope in an area comprised of Drumlinized Till Plains.</p> <p>The Project Area and Study Area are underlain by Halton Till deposits which predominantly consist of silt to silty clay matrix, high in matrix carbonate content and poor in clast.</p>

	The Project Area and Study Area are underlain by the Upper Ordovician Georgian Bay Formation consisting of shale, limestone, dolostone, and siltstone. The depth of the bedrock is approximately 7 m below ground surface (mBGS).
Hydrology	<p>The Project Area and majority of the Study Area are located within the Lake Ontario Shoreline East Subwatershed (presented in Appendix C), which belongs to Credit River Watershed. A small portion of the Study Area is located in the Norval to Port Credit Subwatershed.</p> <p>A tributary of Cooksville Creek flows across the west corner of the Project Area, and joins the main stream of Cooksville Creek, approximately 1.3 km northeast of the Project Area, which then drains into Lake Ontario approximately 7.0 km southeast of the Project Area.</p> <p>The shallow groundwater at the Site would be controlled by the local topography and the distribution of the tributary of Cooksville Creek, and was expected to flow southeasterly.</p>
Topography	As shown in Figure 11, the topography of the Project Area and Study Area is relatively flat and slopes towards the Cooksville Creek in the northeast, with the elevations changing from approximately 160 m above sea level (mASL) to 180 mASL within the Study Area.

#### 3.3.3.3 Fill material

As the Project Area is located in a fully developed or paved area and consists of roadways, driveways, parking lot and part of a building, grading and fill placement at the Site may have occurred during the initial development activities. The environmental quality of the fill materials was not known, which may be an environmental concern to the Project Area.

#### 3.3.3.4 Water Bodies and Areas of Natural Significance

To assess the presence of water bodies and areas of natural significance, a natural heritage map (presented in Appendix D) was generated from the database of the Ministry of Natural Resources and Forestry. Based on the above data review, no area of natural heritage & scientific interest ("ANSI") is located within the Project Area and Study Area. A piece of wooded land is located in the south corner of the Site. A stream or a tributary could be identified flowing southeastwards across the northwest end of the Project Area and Study Area. However, during the site visit, no open watercourse was noted.

The Project Area is located neither within the Niagara Escarpment area nor within the Oak Ridges Moraine Conservation Area.

#### 3.3.3.5 Water Well Records

Water well records maintained by the MOECC were searched and reviewed. No water well record was identified on the Project Area, but three (3) water well records (Well #7247756, #7272689 and #7272690)

were identified within the Study Area for monitoring wells or for unknown well use. However, no water supply wells were noted. A copy of the water well records is included in Appendix E.

Based on the information included in the water well records, the water wells were mainly constructed in the bedrock, and the groundwater levels are not available from the MOECC water well records obtained. The soil stratigraphy was noted to be composed of silt, sand and gravel. Bedrock was encountered as shale at the depth of about 3 m below grade.

It should be noted that during the site visit, no water well was seen on the Project Area. As the project Area and its neighbouring properties are located in an urban area, each property is expected to be serviced by municipal water.

Based on the MOECC Interactive Source Water Protection Map, the Project Area is not located within any wellhead protection area.

### **3.4 Interview**

An interview questionnaire form regarding the operation of the Cineplex Cinema property at 309 Rathburn Road West was delivered to Mr. John Haylock, Operations Manager, Square One Shopping Centre, Oxford Group. However, no response was obtained at the time of preparing this report.

During the site visit carried out by GeoPro Engineer guided by Mr. Haylock, no worthwhile **information on the Site was provided for this assessment.**

### **3.5 Site Reconnaissance**

#### **3.5.1 General Requirements**

A visual site visit was conducted on May 29, 2017 by Mr. Yu Li (former colleague) and Ms. Hannah Lei of GeoPro through observing the publicly and readily accessible areas of the Project Area and Study Area. A follow-up site visit of Cineplex Cinema was conducted on June 8, 2017 by Mr. Yu Li of GeoPro.

At the time of site reconnaissance on May 29, 2017, the weather was sunny with temperature of around 19°C, and the site reconnaissance took approximately 3.5 hours in total, while on June 9, 2017 the weather was sunny with temperature of around 20 °C and the site reconnaissance took approximately 0.5 hour.

During the site visit, observations of the Project Area included the Cineplex Cinema, part of Living Arts Drive, Rathburn Road West and Centre View Drive, and the section between Centre View Drive and Rathburn Road West (outside of the Cineplex Cinema). The inside of Cineplex Cinema building was visited.

The Study Area was noted to be occupied by a combination of residential, commercial, community, mixed land uses, and undeveloped and/or wooded lands.

No open watercourses or standing water were found within the Project Area during the site reconnaissance. Instead, water was noted flowing out of a concrete box culvert and into a storm sewer

drain located southeast side of Centre View Drive and in the northwest part of the Project Area. A dry ditch, likely the previous creek channel, was noted in the vacant wooded area on the northwest side of Square One Drive. In addition, a storm water drain was observed at the east corner of the wooded land.

During the site reconnaissance, the following features were observed, which may have environmental concerns or may be considered as PCAs.

- A salt storage shed was noted in the parking lot area located at the west corner of the Cineplex Cinema property at 309 Rathburn Road West.
- Transformers mounted on concrete pads were noted at the following locations.
  - Both sides of Rathburn Road West on the northeast side of the intersection of Rathburn Road West and Confederation Parkway
  - East of the intersection of Rathburn Road West and Living Arts Drive (within the Project Area)
  - North of the intersection of Living Arts Drive and Square One Drive
  - Near the southern property boundary in the northeastern portion of the property at 309 Rathburn Road West

No other potential or actual contamination was identified during the site reconnaissance. The features observed during the site reconnaissance are shown on Drawing No. 2.

Specific observations of the Project Area and the Cineplex Cinema building are summarized as follows.

### 3.5.2 Specific Observations of the Project Area

#### 3.5.2.1 Buildings or Structures

The Cineplex Cinema building is partially located within the Project Area, as shown on Drawings No. 2 and No. 3. At the time of the site visit, the Cineplex Cinema building is a two-storey commercial building. The main entrance of the Cineplex Cinema building is located at the south of the Cinema building. The building was completed in 1997.

#### 3.5.2.2 Below Grade Structures

No below grade structures (i.e. basement) were noted within the Project Area during the site reconnaissance.

#### 3.5.2.3 Storage Tanks

No evidence of above ground and/or underground storage tank was observed during the site reconnaissance. No back-up generator and associated fuel tank was noted during the site reconnaissance.

#### 3.5.2.4 *Water Sources*

The Cineplex Cinema building was serviced with municipal water. No other water sources were found within the Project Area.

#### 3.5.2.5 *Underground Utilities*

It is anticipated that utilities for natural gas, telephone, electrical, sanitary sewer and watermain would be present to connect to the Cineplex Cinema building. However, the locations of these underground utilities were unknown at the time of the completion of this report.

#### 3.5.2.6 *Watercourses, Ditches and Standing Water*

No watercourses, ditches or standing water were observed within the Project Area during the site reconnaissance. However, water was noted flowing out of a concrete box culvert and into a storm sewer drain located in the north part of the Project Area.

#### 3.5.2.7 *Heating and Cooling Systems*

The Cineplex Cinema building was heated with rooftop natural gas-fired forced air heating units and cooled using central air conditioners on the roof of the Cinema building.

#### 3.5.2.8 *Drains, Pits, Sumps and Lagoons*

No drains, pits, sumps or lagoons were noted within the Project Area during the site reconnaissance.

#### 3.5.2.9 *Sewage Works*

The Project Area is serviced by municipal sewer systems. No sewage works were noted.

#### 3.5.2.10 *Rail Spurs*

No rail spur was observed on the Site during the site reconnaissance.

#### 3.5.2.11 *Spills and Staining*

A minor staining was noted on the concrete pad of the transformer located at the east corner of the Site.

#### 3.5.2.12 *Stressed Vegetation*

No stressed vegetation was noted within the Project Area during the site reconnaissance.

#### 3.5.2.13 *Fill Material*

The Project Area was noted to consist of roadways, driveways and parking lots, and building structures. Fill materials may have been used in the initial site development.

#### 3.5.2.14 Chemicals/Raw Materials Use and Storage

No chemicals/raw materials were noted within the Cineplex Cinema building during the site reconnaissance.

#### 3.5.2.15 Waste and Refuse Management

The solid waste generated from the Cineplex Cinema building is collected by the local municipality.

#### 3.5.2.16 Designated Substances and Other Special Attention Items

No inspection of designated substances and other special attention items was conducted during the site reconnaissance.

Based on the age and the current conditions of the Cineplex Cinema building, it is unlikely that the designated substances (i.e. lead-based paints, asbestos) were used in the building materials.

#### 3.5.2.17 Air Emissions

There were no sources of air emissions observed within the Project Area or the Cineplex Cinema building during the site reconnaissance.

#### 3.5.2.18 Enhanced Investigation Property

Based on O. Reg. 153/04, as amended, a property requires an enhanced investigation if the property is used, or has ever been used, in whole or in part of the following uses:

- Any industrial use;
- Garage;
- A bulk liquid dispensing facility, including a gasoline outlet; or
- For the operation of dry cleaning equipment.

Based on the historical information review and on the site reconnaissance, it is GeoPro's opinion that the Project Area is not considered as an enhanced investigation property.

#### 3.5.2.19 Potentially Contaminating Activities

No current PCAs within the Project Area were identified during the site reconnaissance.

### 3.6 Review and Evaluation of Information

#### 3.6.1 Current and Past Uses

Based on the review of the historical information, the Project Area was either vacant or agricultural prior to 1985. The building of the Cineplex Cinema was observed to be constructed in 1997, and most parts of the Project Area have been used as parking lots or roadways since development.

#### 3.6.2 PCAs

Based on the information obtained, PCAs have been identified on the Project Area and in the Study Area, and are summarized in the following table and shown on Drawing No. 3.

Location, Distance and Direction from the Site	Operations or Activity Identified (Source)	PCA Number	PCA Contributing to Environmental Concern
<b>Project Area</b>			
Parking lots, driveways, part of building On site – 0 m	Fill materials used during the site development (as per data review and site visit)	PCA #30: Importation of fill material of unknown quality	Yes. Based on the observations during the site visit and with no additional information available regarding the origins or quality of the fill materials, it is likely that the importation of fill materials to the subject site would contribute to an environmental concern or impact on the Project Area.
East of intersection of Rathburn Road West and Living Arts Drive On-site – 0 m	Use of transformer	PCA #55: Transformer Manufacturing, Processing and Use	No. During the site visit, minor staining was observed on the concrete pad. However, considering the size of the noted transformer, use of transformer oil would be in a very limited amount. Moreover, based on the historical aerial photographs, the

Location, Distance and Direction from the Site	Operations or Activity Identified (Source)	PCA Number	PCA Contributing to Environmental Concern
			<p>transformer should be installed after 1989 when the adjacent properties were developed. Based on Enersource Hydro Mississauga (Enersource), this transformer was built in early 2000. It is known that manufacturing, processing, importing and offering for sales of PCBs have been prohibited in Canada since 1977.</p> <p>Therefore, no PCBs would be anticipated to be used in the transformer oil.</p> <p>Based on the above, there should be no environmental concern on the Project Area.</p>
<b>Study Area</b>			
West corner of 309 Rathburn Road West Off-Site – about 60 m southwest of Project Area	A salt storage shed was noted in the parking lot area of the Cineplex Cinema's property during site visit.	PCA #4: Antifreeze and De-icing Manufacturing and Bulk Storage	No. This activity would not be considered as an environmental concern to the Project Area based on its trans-gradient location, distance and the inferred groundwater flow direction.
4180 Duke of York Boulevard Off-site - about 200 m east of Project Area	Records of waste generator: pathological wastes, pharmaceuticals and	PCA #58: Waste Disposal and Waste Management, including thermal	No. This activity would not be considered as an environmental concern to the Project Area

Location, Distance and Direction from the Site	Operations or Activity Identified (Source)	PCA Number	PCA Contributing to Environmental Concern
	waste oils/sludges (as per ERIS report)	treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	based on its downgradient location, the inferred groundwater flow direction and the distance.
335 Rathburn Road West	Record of furnace oil spill, indicating presence of fuel oil storage tank (as per ERIS report)	PCA #28: Gasoline and Associated Products Storage in Fixed Tanks	No. The record does not present an environmental concern based on the location and distance (about 200 m hydraulically trans-gradient to the Project Area).
209 Rathburn Road West	Record of spills of 122 L non-PCB transformer oil to concrete & vault, indicating use of transformer	PCA #55: Transformer Manufacturing, Processing and Use	No. This record does not present an environmental concern to the Project Area based on the location and distance (about 230 m hydraulically trans-gradient to the Project Area).
Multiple Locations: 1) Two (2) at northeast side of intersection of Rathburn Road West and Confederation Parkway; 2) One (1) at north of intersection of Square One Drive and Living Arts Drive;	Presence of transformer mounted on concrete pad	PCA #55: Transformer Manufacturing, Processing and Use	No. The operations of the identified transformers do not present environmental concerns to the Project Area based on the location and distance (minimum 100 m from the Project Area, and hydraulically trans-gradient or downgradient to the Project Area).

Location, Distance and Direction from the Site	Operations or Activity Identified (Source)	PCA Number	PCA Contributing to Environmental Concern
<p>3) One (1) near southern property boundary in the east property corner at 309 Rathburn Road West;</p> <p>4) One (1) in the north of intersection of Duke of York Boulevard and Rathburn Road West (near 209 Rathburn Road West)</p>			

Note: PCA numbers are in accordance with Table 2, Schedule D of O. Reg. 153/04.

Considering that the Site is partly comprised of roadways and parking lots, seasonal use of de-icing salt materials is anticipated. Increased concentrations of the parameters including electrical conductivity (EC) and sodium adsorption ratio (SAR) in soil and/or sodium and chloride in groundwater would be expected in the areas where de-icing salts are applied.

All other properties within the Study Area (including residential, commercial and community properties) were considered to have low risk for potential environmental impacts to the Project Area.

### 3.6.3 APECs

Based on the Phase One ESA completed by GeoPro, PCAs were identified on the Project Area and on the Study Area. Further analysis of the PCAs indicated that APEC would be considered to be present in the Project Area, which is summarized in the following table and shown on Drawing No. 3.

APEC	Location of APEC in the Project Area	Associated PCA / Activity	Location of PCA	Contaminants of Potential Concern	Media Affected
APEC-A	Paved Areas Across the Project Area	PCA #30: Importation of fill material of unknown quality	Across the Project Area in the paved areas (roadways, driveways, parking lots and/or building area)	PHCs F1 to F4, VOCs, PAHs, and M&I	Soil and/or groundwater
		Use of de-icing salt in paved areas		EC, SAR, Sodium and Chloride	

Note: M&I – Metals and Inorganics  
 PHCs F1 to F4 – Petroleum Hydrocarbon fractions F1 to F4  
 PAHs – Polycyclic Aromatic Hydrocarbons  
 VOCs – Volatile Organic Compounds  
 EC – Electrical Conductivity  
 SAR – Sodium Adsorption Ratio

### 3.7 Phase One ESA Conclusions and Recommendations

Based on the data search and review, site visit and interview, the Phase One ESA has identified the following.

- On-site and off-site PCAs were identified, which are associated with the following activities or records.
  - Likely importation and placement of fill materials;
  - Operation of transformers;
  - Storage of de-icing salt; and
  - Records of spills and waste generators.

In addition, application of de-icing salt products on the roadways and parking lots would also be a concern to the Site.

- One (1) APEC was considered to be present in the Project Area, which is associated with the on-site PCA related to importation of fill materials of unknown quality, and with the application of de-icing salt on and near the Project Area.

Based on the findings of the Phase One ESA, GeoPro would recommend that a Limited Phase Two ESA be conducted to ascertain if impacts are present in the APEC identified on the Project Area.

## **4.0 LIMITED PHASE TWO ESA**

As requested by the Client, a Limited Phase Two ESA was carried out along the existing private roadway on the Cineplex Cinema's property located at 309 Rathburn Road West, Mississauga, Ontario. The Limited Phase Two ESA was focused on assessment of soil quality of the encountered fill materials.

### **4.1 Phase Two Property Description**

The Phase Two Property is part of the Cineplex Cinema's property and is a section roadway between Centre View Drive and Rathburn Road West at 309 Rathburn Road West, Mississauga, Ontario (Phase Two Property). The approximate area of the Phase Two Property is shown on Drawing No. 4.

### **4.2 Current and Proposed Future Use**

The Phase Two Property is currently used as a roadway on a private property. It is understood that the Phase Two Property would be acquired by the City for the proposed road extension development.

### **4.3 Applicable Site Condition Standard**

In general, the applicable environmental quality standards depend on the site location, land use, soil texture and source of potable water at the investigation site. The Ontario Ministry of Environment and Climate (MOECC) "Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act", dated April 15, 2011 under O. Reg. 153/04 (amended) was applied for the Phase Two Property.

The specific standards were selected based on the following information:

- The Phase Two Property is currently used as a roadway for a commercial property, and would not change its property use as a roadway after the development.
- As probable shale was encountered within 2.0 m below ground surface (mBGS) during borehole drilling, the Phase Two Property may be considered to be a shallow soil property.
- No open water body is located on or within 30 m of the Phase Two Property.
- The Phase Two Property and its neighbouring properties within 250 m are expected to be serviced by municipal water source. Groundwater is not used for potable purposes.
- Based on observation, native soils on the Phase Two Property mainly consisted of fine textured soils, and coarse textured soils were noted in the fill materials (granular base/subbase).
- The pH values for the soils analyzed for the Site are between 5 and 9.

Based on the above information and for a more conservative evaluation, Table 1: Full Depth Background Site Condition Standards for coarse textured soils and residential / parkland / institutional / industrial / commercial / community (R/P/I/I/C/C) property use (MOECC Table 1 Standards) have been selected for assessing the environmental conditions at the Phase Two Property.

#### **4.4 Previous Environmental Investigations**

No reports related to the environmental assessment of the Phase Two Property were available or provided by the Client. However, Limited Phase Two ESA was undertaken based on the findings and conclusions of the Phase One ESA completed by GeoPro. A geotechnical investigation was concurrently conducted by GeoPro in the Project Area. The results of geotechnical investigation were summarized in a separate report.

#### **4.5 Scope of Investigation**

##### **4.5.1 Overview of Site Investigation**

The Phase Two Property was completed consisting of the following scope of work:

- Located the underground and overhead utilities;
- Advanced three (3) boreholes (BH7 to BH9) for soil sampling and testing (note: BH7 and BH9 were completed as monitoring wells);
- Conducted soil sampling, screening and selection for chemical analyses;
- Submitted the collected soil samples to an accredited laboratory for analyses of one or more of the following parameters: PHCs F1 to F4, VOCs, PAHs, metals and inorganics;
- Reviewed and assessed the analytical results for the analyzed samples; and
- Prepared this Limited Phase Two ESA report presenting the findings of the Limited Phase Two ESA investigation.

It should be noted that BH7, BH8 and BH9 were completed for the purpose of both Phase Two ESA and geotechnical investigation.

##### **4.5.2 Media Investigated**

The Limited Phase Two ESA was focused on assessment of soil quality. No groundwater or surface water samples were collected analyzed. Soil samples collected from three (3) boreholes BH7, BH8 and BH9 were analyzed and assessed.

##### **4.5.3 Impediments**

There were no impediments encountered during the course of conducting the fieldwork.

#### **4.6 Investigation Method**

The field work for this Limited Phase Two ESA investigation was carried out on October 6, 2017. A total of three (3) boreholes (BH7 to BH9) were drilled for soil sampling, and two (2) monitoring wells were installed within Boreholes BH7 and BH9 for groundwater monitoring. Soil samples were collected from three (3) boreholes (BH7, BH8 and BH9), and were submitted for chemical analysis in a laboratory accredited by The Canadian Association for Laboratory Accreditation (CALA). The approximate borehole and monitoring well locations are shown on Drawing No. 4.

Prior to the borehole drilling, the underground utilities were located and marked out in the field by the representatives of the major utilities companies contacted through Ontario One Call and a private locator.

#### 4.6.1 Drilling

The boreholes were advanced using a truck-mounted drill rig. The boreholes were completed at depths of about 1.9 mBGS at BH7, 3.1 mBGS at BH8 and 3.3 mBGS at BH9, respectively. Soil samples were retrieved with a 51 mm (2-inch) O.D. split-barrel (split spoon) sampler driven with a hammer weighing 624 N and dropping 760 mm (30-inch) in accordance with the Standard Penetration Test method.

The fieldwork for this investigation was monitored by a GeoPro engineering staff who also determined the approximate borehole locations in the field, logged the boreholes and cared for the recovered samples.

#### 4.6.2 Soil Sampling

The drilling contractor pre-cleaned a set of solid stem augers and tools prior to arriving on-site. The split spoon sampler was decontaminated prior to and in between taking samples by scrubbing with a wire brush and washing in a solution of Alconox soap. The sampler was then rinsed with distilled water.

Representative samples of the overburden were recovered at regular depth intervals from the boreholes BH7, BH8 and BH9. The soil samples taken from boreholes were labeled as SS (i.e., split-spoon sample). Observations of visible foreign materials and odours were recorded during the sampling operations on borehole field logs. During each sampling event, new disposable gloves were used to avoid cross-contamination between the samples. Each soil sample was split into two parts. One part was placed into sealable plastic bags for subsequent soil vapour measurements (soil screening), and the other part was placed in laboratory-prepared glass jars, and/or vials with methanol and was used for analysis of PHC F1 and VOCs. The sample jars and vials were kept and stored in coolers with ice.

Soil samples collected during this investigation were stored at low temperatures and brought to GeoPro's laboratory for detailed visual examination before selecting the analytical protocols.

Details of the visual observation, including interpreted stratigraphy, soil classification, standard penetration test N values (if any), and groundwater conditions are presented on the Borehole Logs included in Appendix G.

#### 4.6.3 Soil: Field Screening Measurements

As a preliminary screening, the soil headspace vapour concentrations were measured using an RKI Eagle II equipped with a flame ionization detector (FID) for combustible gas concentrations, and a photoionization detector (PID) for volatile organic compound concentrations. The RKI Eagle II was periodically calibrated to hexane for FID, and to isobutylene for PID.

There are no regulatory criteria for soil and/or wellhead vapours; however, vapours are often used as a field screening tool to identify petroleum hydrocarbon and/or VOC impacted soils.

#### 4.6.4 Groundwater: Monitoring Well Installation and Monitoring

For the purpose of geotechnical investigation, monitoring wells were installed in two (2) advanced boreholes (BH7 and BH9). The casing was screened with 50 mm diameter Schedule 40 PVC pipe extended out as a riser. The annular space of the borehole around the screen was backfilled with clean filter sand pack (up to 0.5 m above the top of the well screen). A bentonite seal was installed from the top of the sand pack to 0.3 mBGS. The monitoring wells were installed to allow for groundwater level measurement. Each of the monitoring wells was capped with a flush-mounted protective casing.

Groundwater monitoring for groundwater levels in Monitoring Wells BH7 and BH9 was conducted on October 13, 2017 and October 18, 2017.

#### 4.6.5 Analytical Testing

Soil samples, taken from fill materials in the boreholes, were selected and delivered to AGAT Laboratories (AGAT) for the chemical analyses outlined below.

##### Soil Samples

- Three (3) soil samples were analyzed for metals and inorganics;
- Three (3) soil samples were analyzed for PAHs;
- Three (3) soil samples were analyzed for PHC F1 to F4; and
- Three (3) soil samples were analyzed for VOCs.

#### 4.6.6 Quality Assurance and Quality Control Measures

The Phase Two ESA was carried out generally following the applicable guideline for conducting the Phase Two ESA investigation.

Soil sampling was performed by GeoPro staff with experience in intrusive field investigation techniques, under the guidance of the Qualified Person (QP<sub>ESA</sub>). All the soil samples were collected, handled and analyzed in general accordance with O. Reg. 153/04 (amended). The field observations were made and documented in accordance with the generally accepted sampling and handling procedures used by the environmental consulting industry. All sample containers, preservatives and labels were supplied by the laboratory. The samples were stored and kept in coolers with ice to maintain their temperature below 10°C for transportation to the laboratory.

The samples were submitted to a certified laboratory which applies the accepted analytical methods and QA/QC procedures in sample testing.

## 4.7 Results Review and Evaluation

### 4.7.1 Stratigraphy

As shown on the Borehole Logs in Appendix G, the soil stratigraphy at the Site was generally comprised of fill materials underlain by native soils, and then by probable shale. The fill materials were encountered below the surficial asphalt pavement structure (asphalt concrete and granular base/subbase), extending to the depth of about 0.9 mBGS, and generally consisted of sandy silt and trace to some clay, trace gravel, containing shale fragments. Wood fragment was noted at BH8 at the depths ranging from about 0.7 to 0.9 mBGS. The native soils generally consisted of cohesive soils of clayey silt, clayey silt till and clayey silt till/shale complex. Probable shale was encountered at the depths ranging from 1.4 to 4.0 mBGS.

### 4.7.2 Groundwater: Elevation and Flow Direction

Groundwater levels were measured in the monitoring wells using an interface probe on October 13, 2017 and October 18, 2017. The static groundwater levels in Monitoring Well BH7 were measured to be 1.15 and 1.17 mBGS, respectively. Monitoring Well BH9 was dry on both October 13 and October 18, 2017.

Groundwater flow direction could not be determined based on the groundwater levels obtained from only one (1) monitoring well. Based on the Phase One ESA, groundwater was inferred to flow southeasterly.

### 4.7.3 Soil: Field Screening

No petroleum hydrocarbon-like odour or staining was noted in the retrieved soil samples or during the borehole drilling.

Headspace vapour measurements were conducted for all the split spoon soil samples for combustible gas concentrations (FID readings) and for volatile organic compounds (PID readings). All the FID readings and PID readings were “non-detected”.

### 4.7.4 Soil Quality

A summary of the soil samples analyzed in this investigation is provided in the table below. A copy of The Certificate of Analysis for soil samples is included in Appendix H.

Borehole	Soil Sample ID	Depth (mBGS)	Analyzed Parameters
BH7	BH7 SS2	0.8 to 0.9	M&I, PAHs, PHCs, VOCs
BH8	BH8 SS2	0.8 to 0.9	M&I, PAHs, PHCs, VOCs
BH9	BH9 SS2+SS3	0.8 to 1.2	M&I, PAHs, PHCs, VOCs

The soil analytical results were compared with the MOECC Table 1 Standards, which are discussed below.

### **Metals and Inorganics**

Three (3) soil samples taken from BH7 to BH9 were analyzed for metals and inorganics. Based on the results of soil sample analysis included in Appendix H, the pH values ranged from 7.61 to 7.76, within the range of 5 to 9, and no exceedance of MOECC Table 1 Standards was noted for metals analyzed in the soil samples. However, exceedances of the MOECC Table 1 Standards were found for EC and SAR in all the analyzed soil samples. The exceedances are presented in the following table.

Soil Sample ID	Depth (mBGS)	Parameter	Unit	MOECC Table 1 Standards	Detected Value
BH7 SS2	0.8 to 0.9	EC	mS/cm	0.57	<b>1.57</b>
		SAR	N/A	2.4	<b>7.13</b>
BH8 SS2	0.8 to 0.9	EC	mS/cm	0.57	<b>0.975</b>
		SAR	N/A	2.4	<b>7.14</b>
BH9 SS2+SS3	0.8 to 1.2	EC	mS/cm	0.57	<b>0.599</b>
		SAR	N/A	2.4	<b>4.57</b>

Note:

1. mS/cm = milli siemens per centimeter
2. Bold and shaded value exceeding the MOECC Table 1 Standards.

### **Polycyclic Aromatic Hydrocarbons**

Three (3) soil samples taken from Boreholes BH7, BH8 and BH9 were analyzed for PAHs. Based on the results of soil sample analysis included in Appendix H, no exceedances of the applicable MOECC Table 1 Standards were found for PAHs in the analyzed soil samples.

### **Petroleum Hydrocarbons Fractions F1 to F4**

Three (3) soil samples taken from Boreholes BH7, BH8 and BH9 were analyzed for PHCs F1 to F4. Based on the results of soil sample analysis included in Appendix H, no exceedances of the applicable MOECC Table 1 Standards were found for PHCs in the analyzed soil samples.

### **Volatile Organic Compounds**

Three (3) soil samples taken from Boreholes BH7, BH8 and BH9 were analyzed for VOCs. Based on the results of soil sample analysis included in Appendix H, no exceedances of the applicable MOECC Table 1 Standards were found for VOCs in the analyzed soil samples.

## **4.8 Summary of Limited Phase Two ESA**

Based on the site background information, field investigation data and laboratory test results presented above, the following conclusions could be made for the Phase Two Property.

- The soil stratigraphy at the Site was generally comprised of fill materials underlain by native soils, and then by probable shale. The fill materials were encountered below the surficial asphalt pavement structure (asphalt concrete and granular base/subbase), extending to the depth of about 0.9 m below ground surface (mBGS), and generally consisted of sandy silt and trace to some clay, trace gravel, containing shale fragments. Wood fragment was noted at BH8. The native soils generally consisted of cohesive soils of clayey silt, clayey silt till and clayey silt till/shale complex. Probable shale was encountered at the depths ranging from 1.4 mBGS to 4.0 mBGS.
- The static groundwater levels were measured in Monitoring Well BH7 at about 1.2 mBGS, while Monitoring Well BH9 was dry. Based on the findings of the Phase One ESA, groundwater was inferred to flow in a southwesterly direction.
- No visual or olfactory evidence of contamination was observed at the time of the field sampling.
- Based on the analytical results for the analyzed soil samples, all measured concentrations for metals, PHCs F1 to F4, VOCs and PAHs met the MOECC Table 1 Standards. Exceedances of the MOECC Table 1 Standards were found for electrical conductivity (EC) and sodium adsorption ratio (SAR) in all the analyzed samples taken from fill materials.

## **5.0 CONCLUSIONS AND RECOMMENDATIONS**

Based on the findings of the Phase One ESA and Limited Phase Two ESA, it could be concluded as follows:

- No evidence of contamination with PHCs F1 – F4, VOCs, PAHs or metals was found in the fill materials encountered in the Phase Two Property.
- Impacts due to EC and SAR on the fill material and/or shallow soil in the Phase Two Property would be anticipated, and are inferred to be related to the application of de-icing salt on and near the Phase Two Property.
- It should be noted that the Phase Two Property will be acquired for road development and will continue to be used as a roadway. Based on O. Reg. 153/04 section 48 (3) and R.R.O. 1990, Regulation 339, Section 2, the elevated EC and SAR concentrations would be exempt from an exceedance because the Phase Two Property could be considered as a highway and use of de-icing salt is made for the purpose of keeping the highway safe for traffic. Therefore, the impacts due to EC and SAR will not be an environmental issue.

## **6.0 LIMITATIONS**

GeoPro has performed this Phase One and Limited Phase Two ESA in accordance with local generally accepted professional practices and procedures at the time of the assessment within the scope of Phase One and Phase Two Environmental Site Assessments under O. Reg. 153/04. As such, the assessment update does not include any sampling or testing for potential contaminants such as asbestos, PCBs, radon gas, or airborne pollutants, etc. Occupancy use, codes, rules, and procedures change rapidly with time in

the environmental engineering field and the reader is advised to update the findings and recommendations on a regular basis. The report herein comprises a statement of professional opinion based on visual observation only and the reader is advised that visual observation is not effective in determining all conditions that affect environmental compliance. These services are not subject to any express or implied warranties and none should be inferred. This report was prepared for the account of the Client. The material in this report reflects GeoPro's judgment in light of the information available to it at the time of preparation. Any use, which a Third Party not noted above makes of this report, or any reliance on decisions to be made based on it, are the responsibility of such Third Parties. GeoPro accepts no responsibility for damages, if any, suffered by any Third Party as a result of decisions made or actions based on this report.

## **7.0 SIGNATURE**

This report was conducted and supervised by Bujing Guan, who is a Qualified Person with the MOECC as defined under Ontario Regulation 153/04.

GeoPro Consulting Limited is a consulting firm which offers a comprehensive range of professional engineering services including geotechnical, geo-environmental, hydrogeological, material testing and inspection services for clients in various sectors including land development, government, institutional, commercial/retail, contractors and other professionals (engineers, architects, planners, lawyers, etc.).

Hannah Lei is a Junior Environmental Project Coordinator with GeoPro. Ms. Lei has a Master of Applied Science Degree in Environmental Engineering from Queen's University. She has been trained and involved in conducting Phase One and Two ESAs since 2017.

Bujing Guan is an environmental specialist and senior contaminant hydrogeologist with GeoPro. Mr. Guan has a Bachelor of Engineering Degree in Hydrogeology and Geotechnical Engineering from Chengdu University of Technology, Chengdu, China. He also has a Master of Applied Science Degree in Environmental Engineering from The University of Toronto. He has been a registered Professional Geoscientist with The Association of Professional Scientists of Ontario since 2007. He has conducted and managed numerous geo-environmental and hydrogeological investigation projects including Phase One and Two ESAs, site remediation, groundwater investigation, monitoring and PTTW application in Ontario and Alberta. He also has overseas experience in conducting investigations on water supply assessment, mineral deposit investigation, engineering site characterization.

We trust that the information contained in this report is complete within our terms of reference. If you have any questions or require further information, please do not hesitate to contact our office.

Sincerely,

**GeoPro Consulting Limited**

Geotechnical - Hydrogeology - Environmental - Materials Testing - Inspection

**Hannah Lei, M.A.Sc.**  
**Junior Project Coordinator**



**Bujing Guan, M. A.Sc., P.Geo., QP<sub>ESA</sub>**  
**Senior Hydrogeologist/Environmental Specialist**

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17. Ontario Regulation 153/04, as amended by O. Reg. 511/09, Ministry of Environment and Climate Change (MOECC)
18. *"Guidance on Sampling and Analytical Methods for Use at Contaminated Site in Ontario"*, May 1996, Revised December 1996, as amended by O. Reg. 511/09, Ministry of Environment and Climate Change (MOECC)
19. *"Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act"* (EPA), April 15, 2011, Ministry of Environment and Climate Change (MOECC)

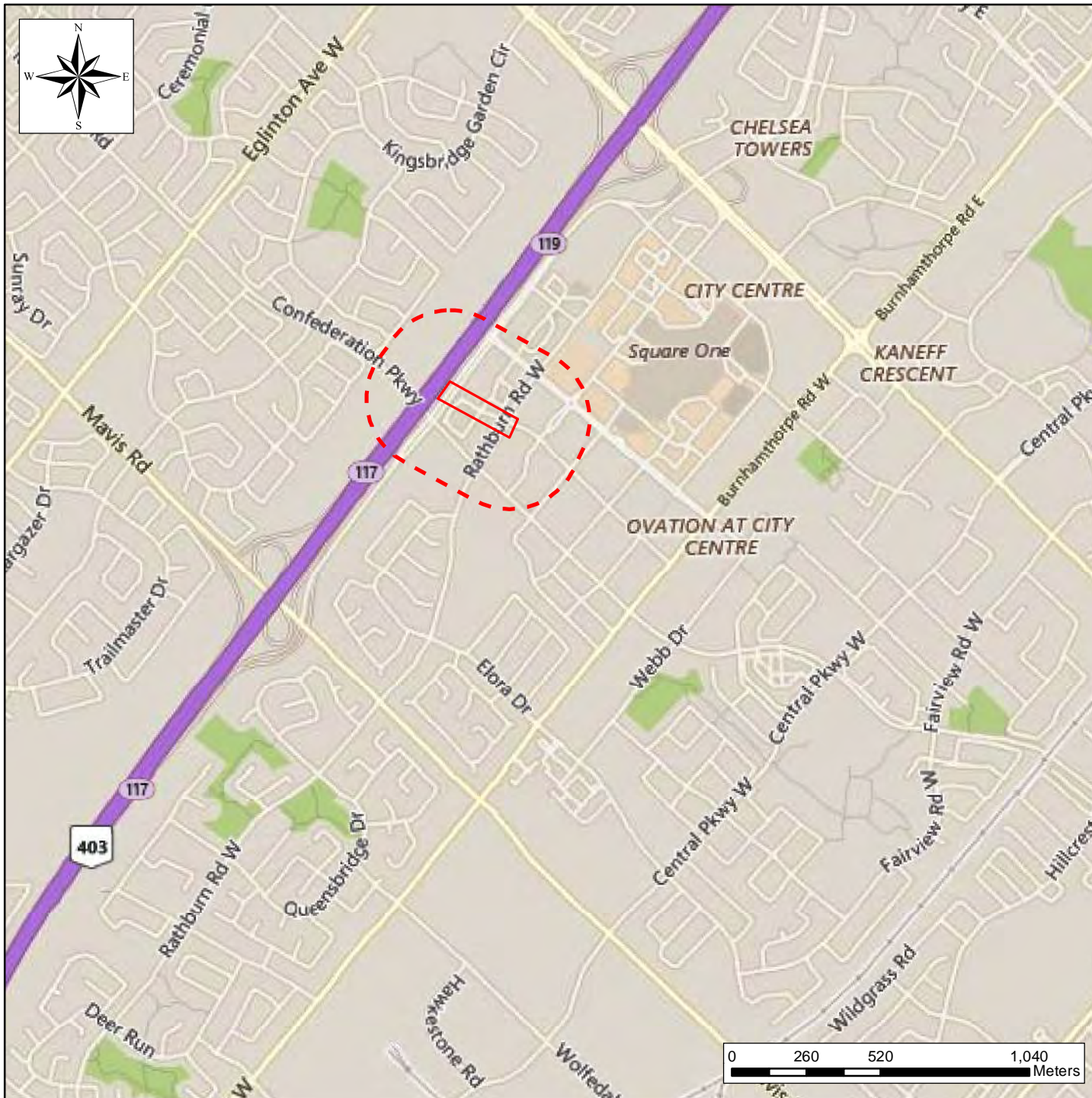


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## **DRAWINGS**



## Legend

- Project Area/Site
- Study Area

Map Source:  
Bing Maps projected in NAD83 UTM Zone 17N

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

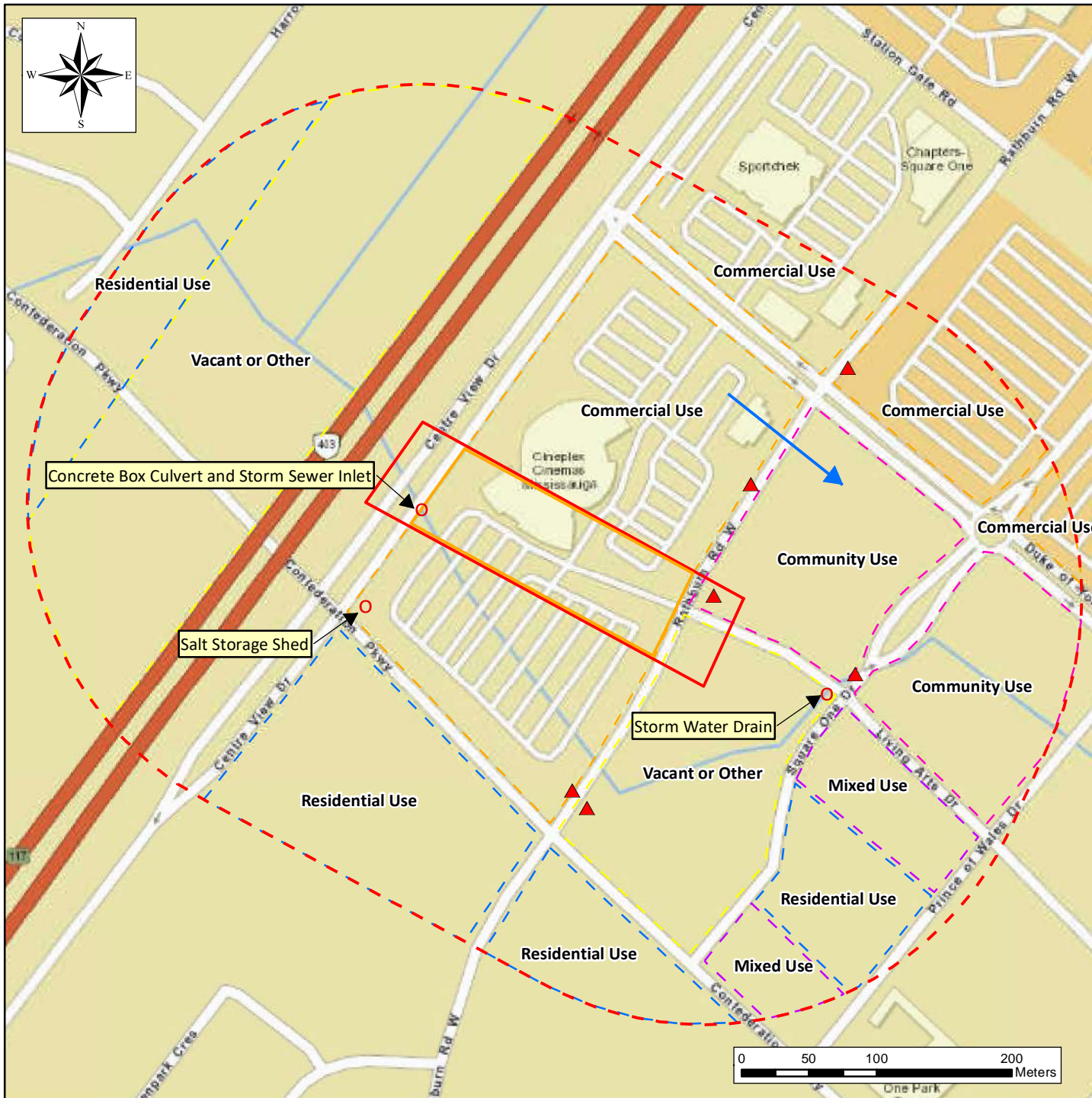
Drawing No.: 1

Title: Site Location Plan

Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario



**GeoPro Consulting Limited**



### Legend

- Project Area/Site
- Study Area
- Cineplex Property (at 309 Rathburn Road West)
- ▲ Transformers
- ➔ Inferred Groundwater Flow Direction

Map Source:  
ArcGIS Basemap projected in NAD83 UTM Zone 17N

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

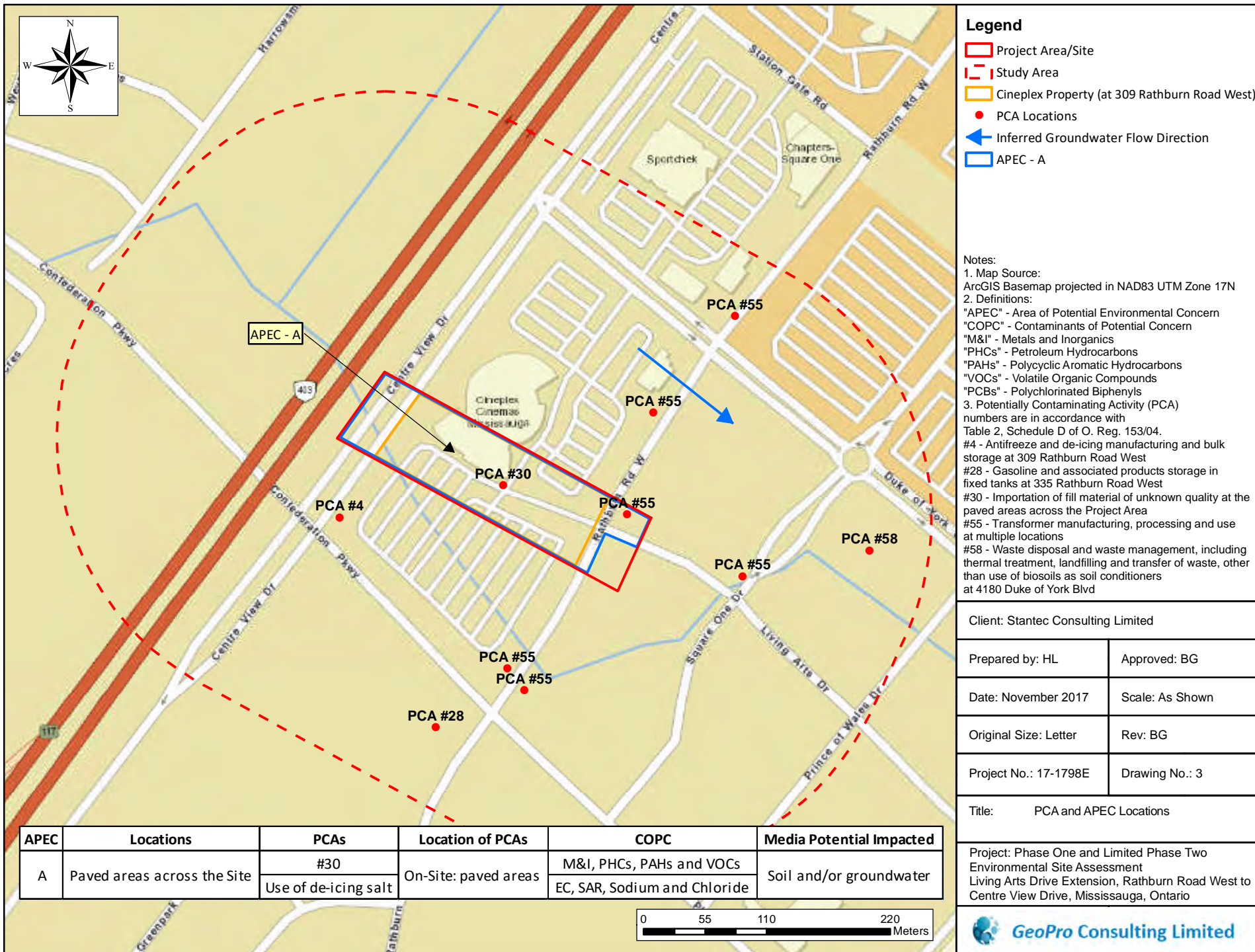
Rev: BG

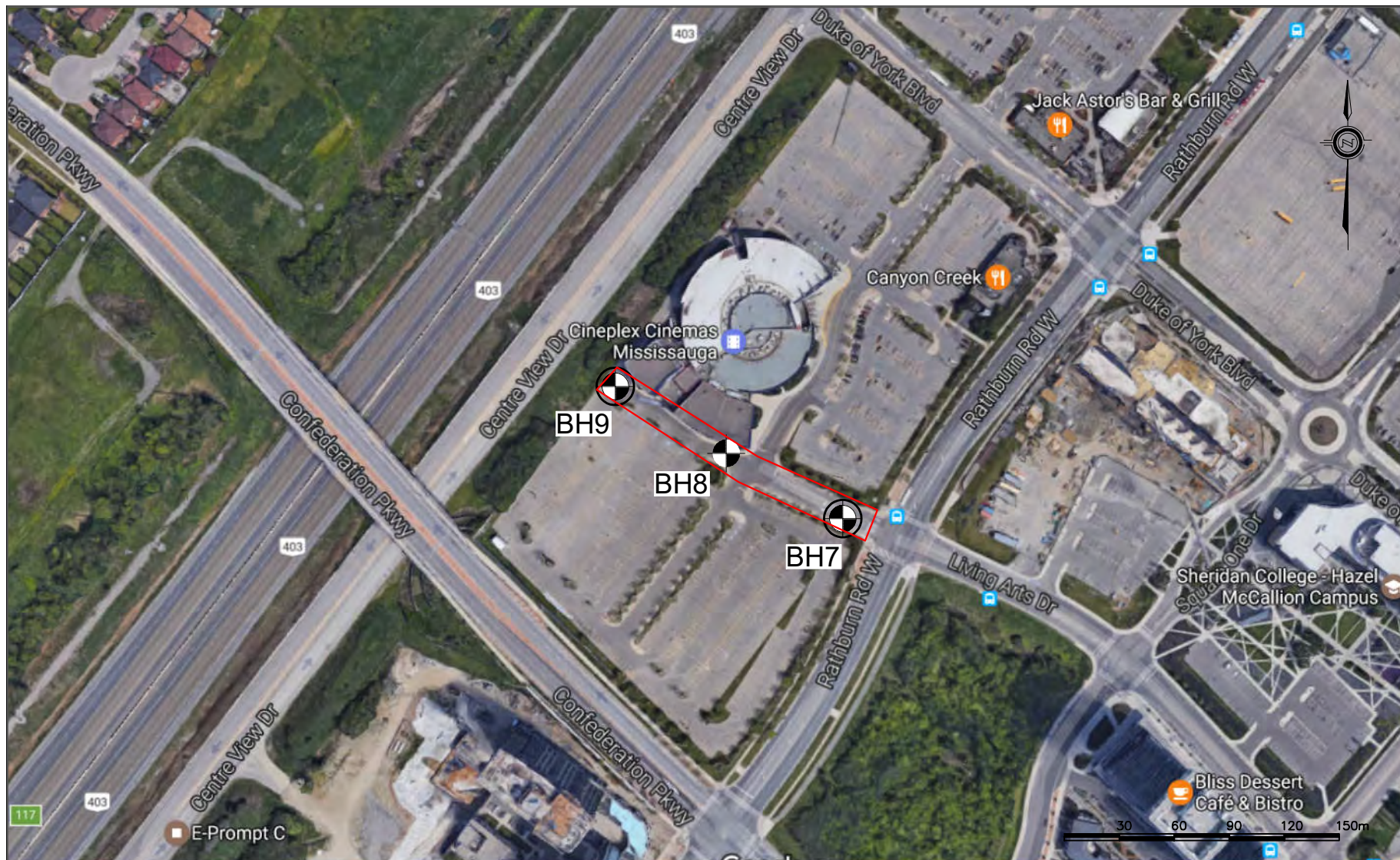
Project No.: 17-1798E

Drawing No.: 2

Title: Project Area and Surrounding Land Use  
and Observed Features

Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario





<b>Legend:</b>  Phase Two Property (309 Rathburn Road West) Borehole Location Monitoring Well Location	Client: <b>Stantec Consulting Limited</b>		Project No.: <b>17-1798E</b>	Drawing No.: <b>4</b>
	Drawn: <b>HL</b>	Approved: <b>BG</b>	Title: <b>Borehole and Monitoring Well Location Plan</b>	
	Date: <b>November 2017</b>	Scale: <b>As shown</b>	Project: <b>Phase One and Limited Phase Two Environmental Site Assessment Living Arts Drive Extension, Rathburn Road West to Centre View Drive Mississauga, Ontario</b>	
	Original Size: <b>Letter</b>	Rev: <b>BG</b>	<b>GeoPro Consulting Limited</b>	

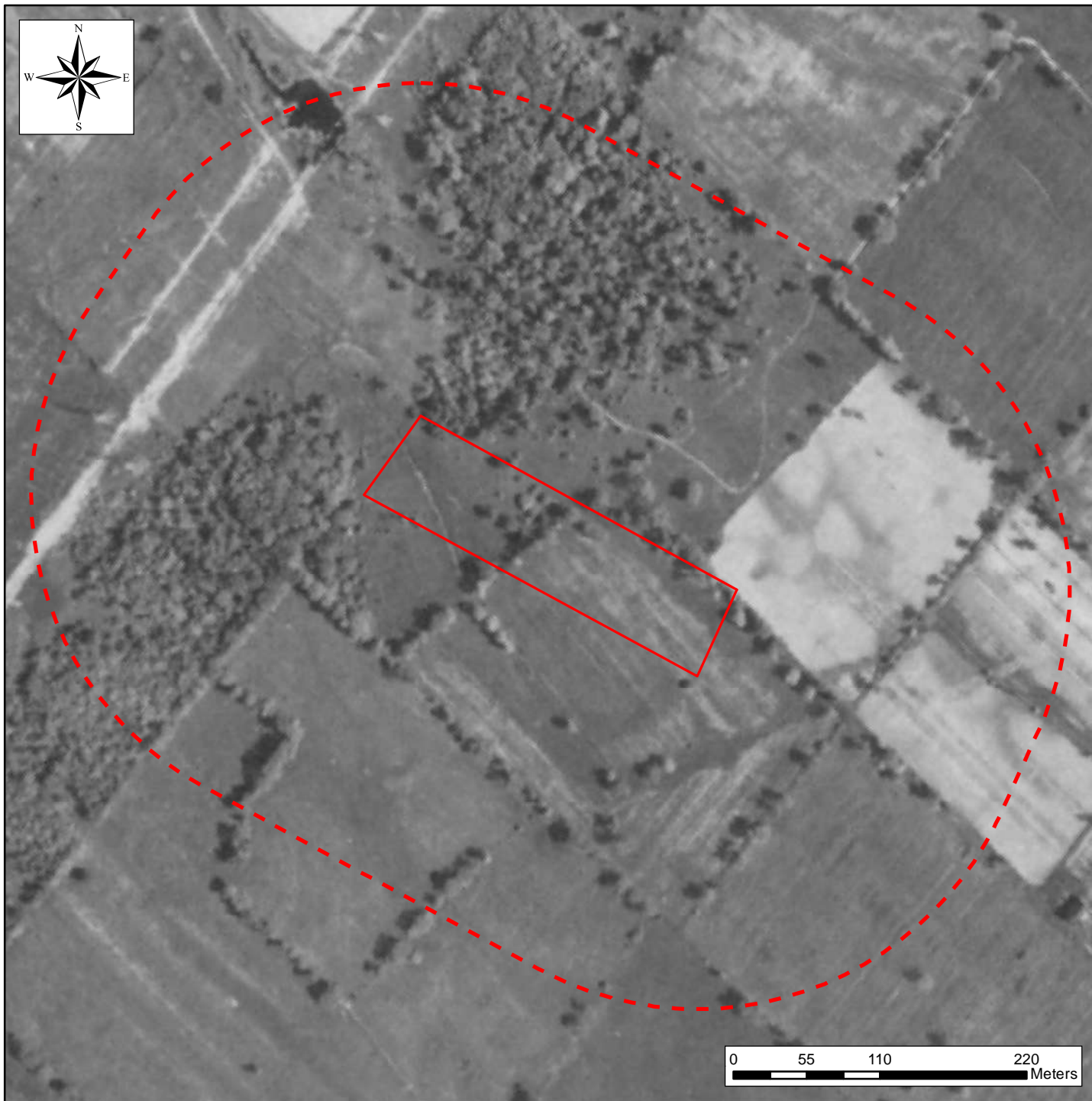


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## FIGURES



## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

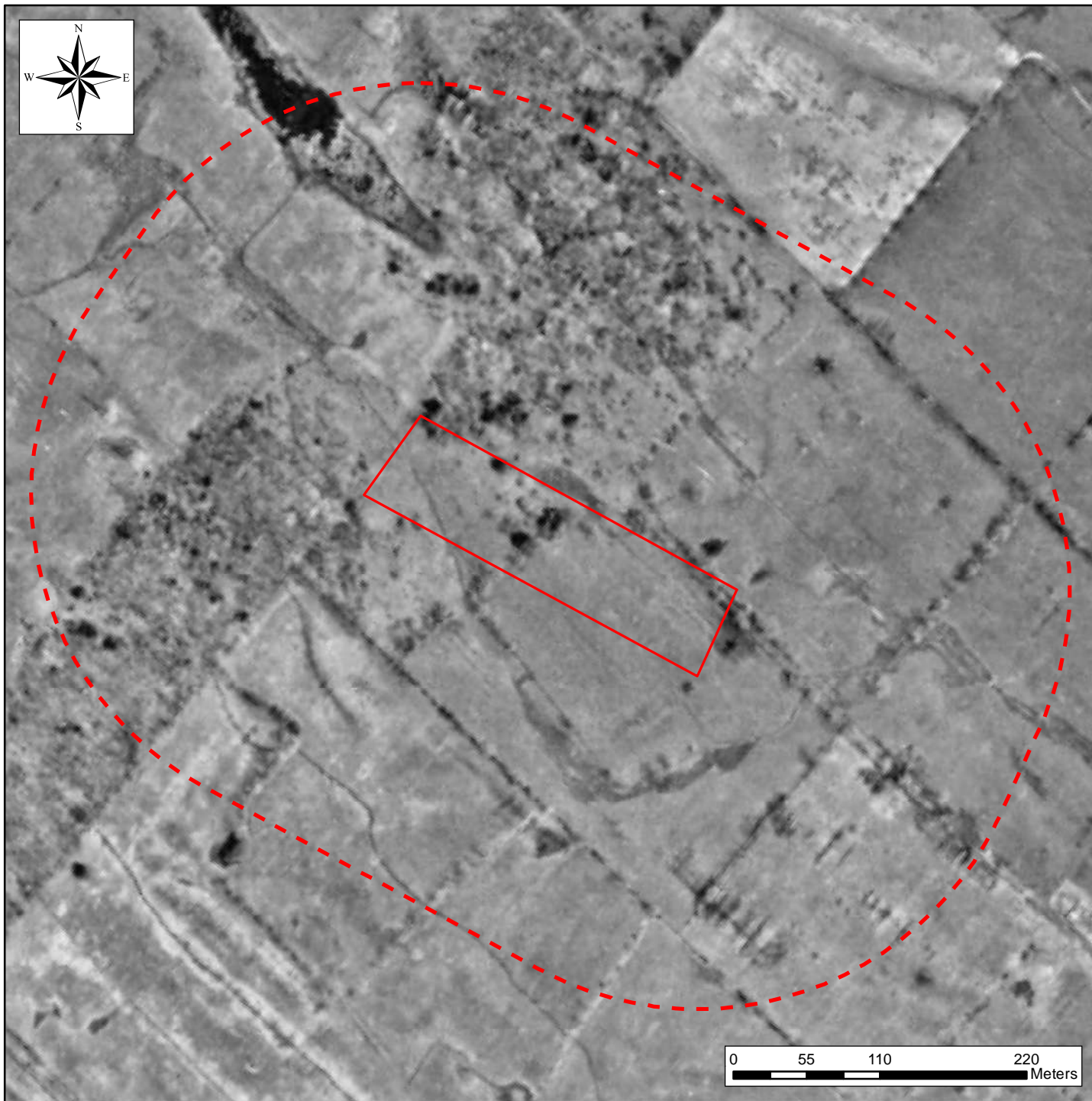
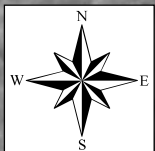
Figure No.: 1

Title: Aerial Photograph - 1954



Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario

0 55 110 220  
Meters

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## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

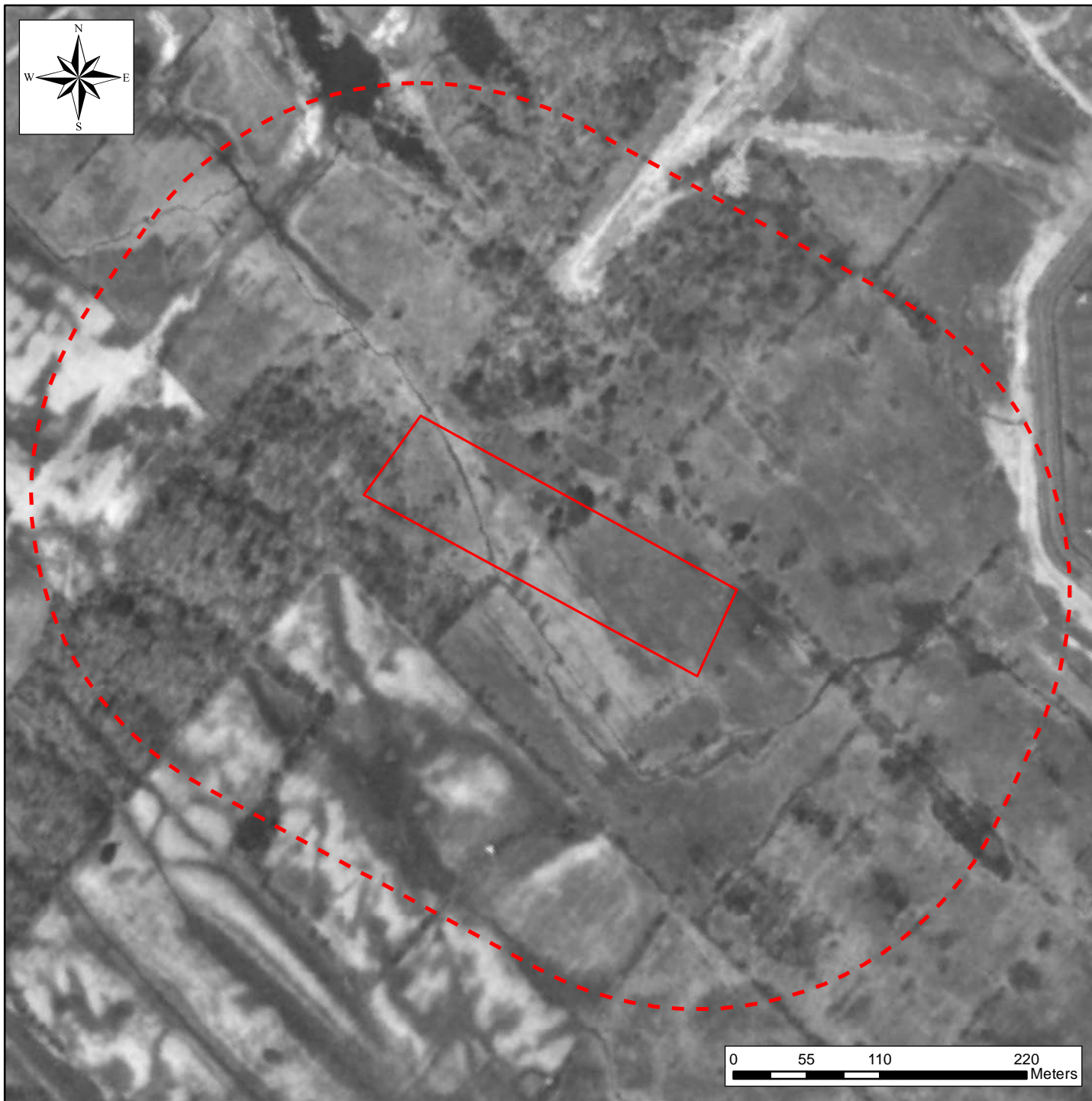
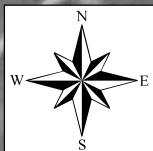
Figure No.: 2

Title: Aerial Photograph - 1966


Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario



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## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

Figure No.: 3

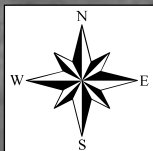
Title: Aerial Photograph - 1975

Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario


0 55 110 220  
Meters



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## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

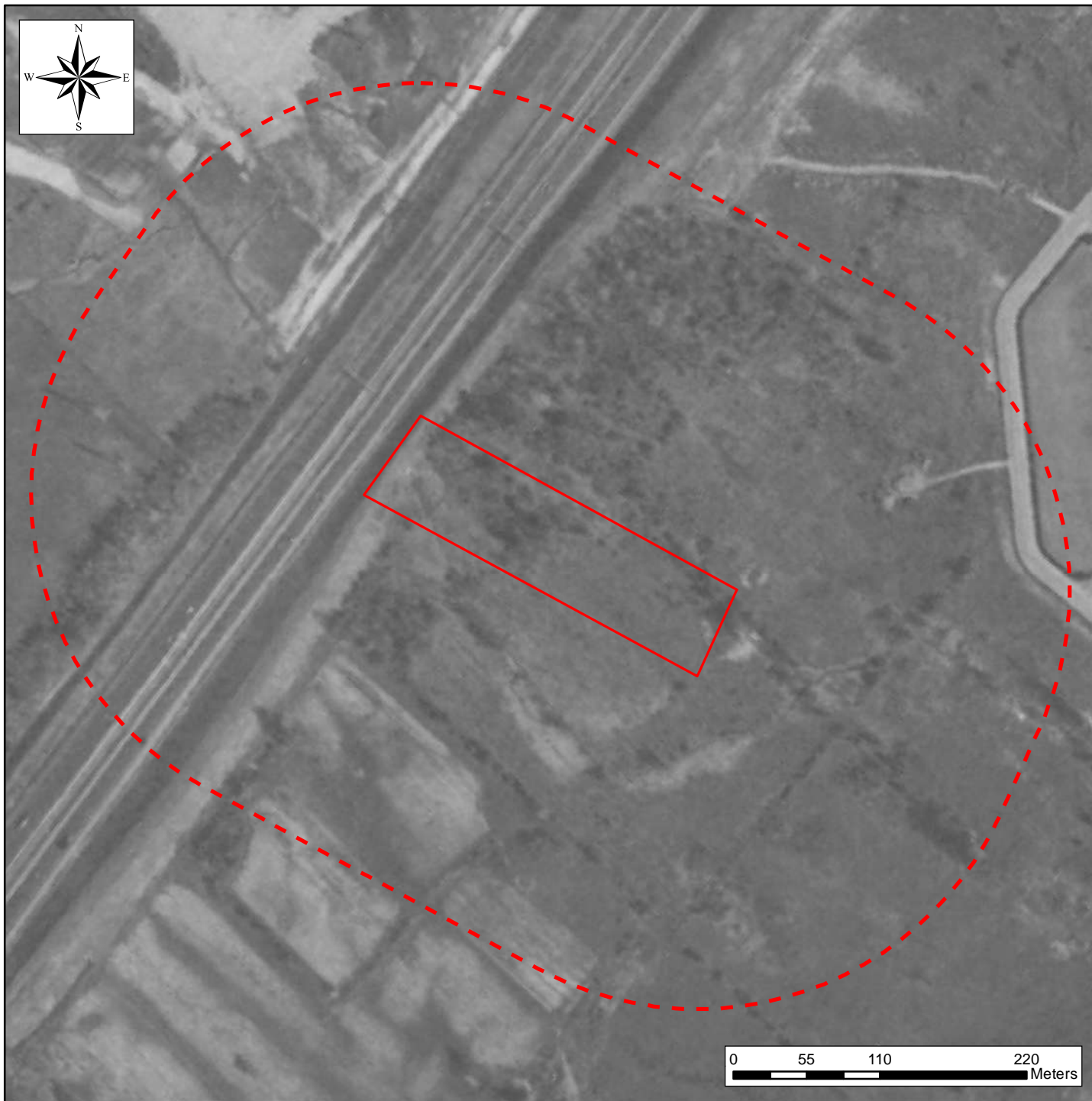
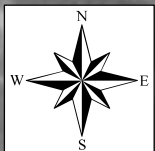
Figure No.: 4

Title: Aerial Photograph - 1980


Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario



0 55 110 220  
Meters



## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

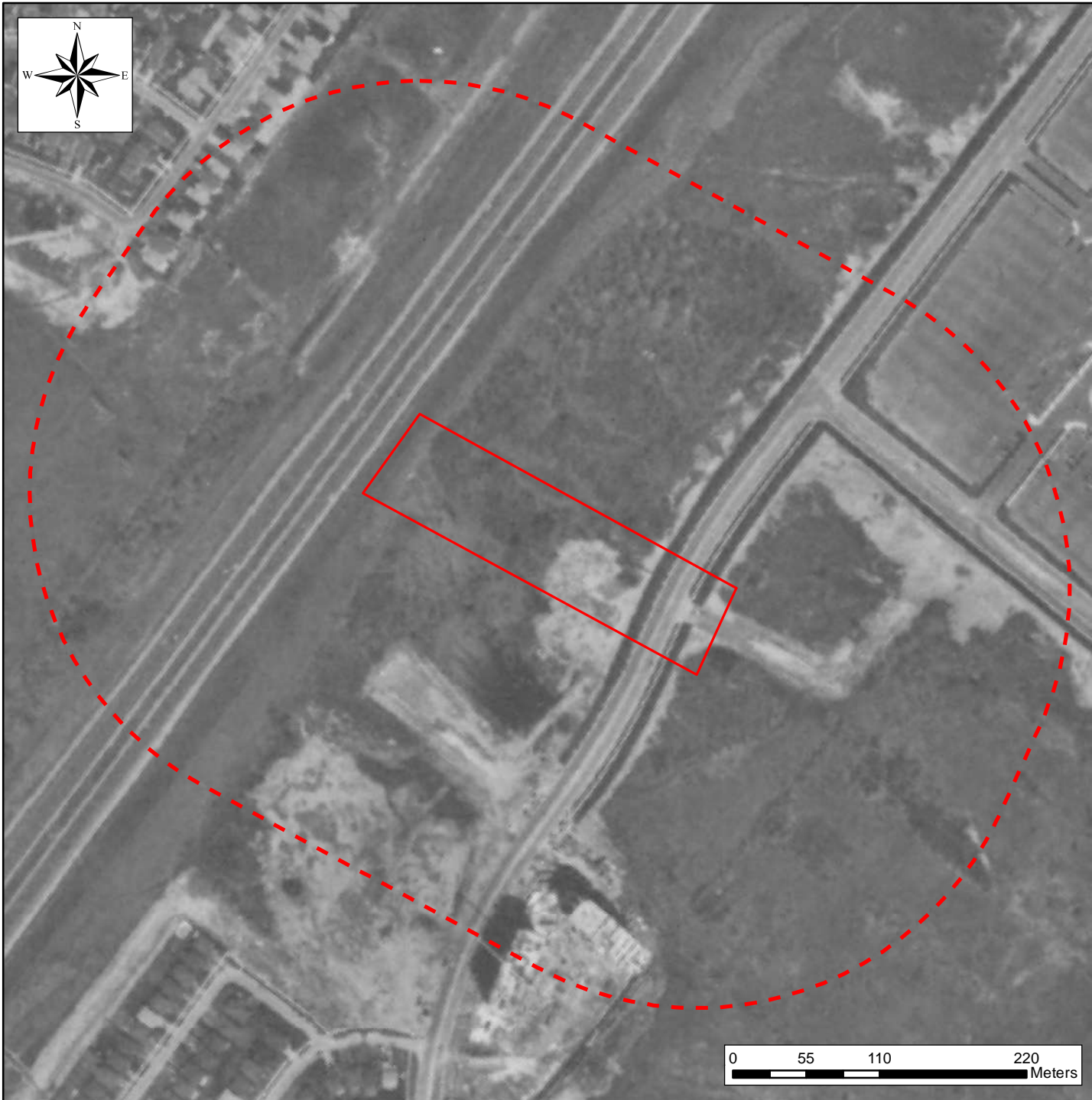
Figure No.: 5

Title: Aerial Photograph - 1985



Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario

0 55 110 220  
Meters

 **GeoPro Consulting Limited**



## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

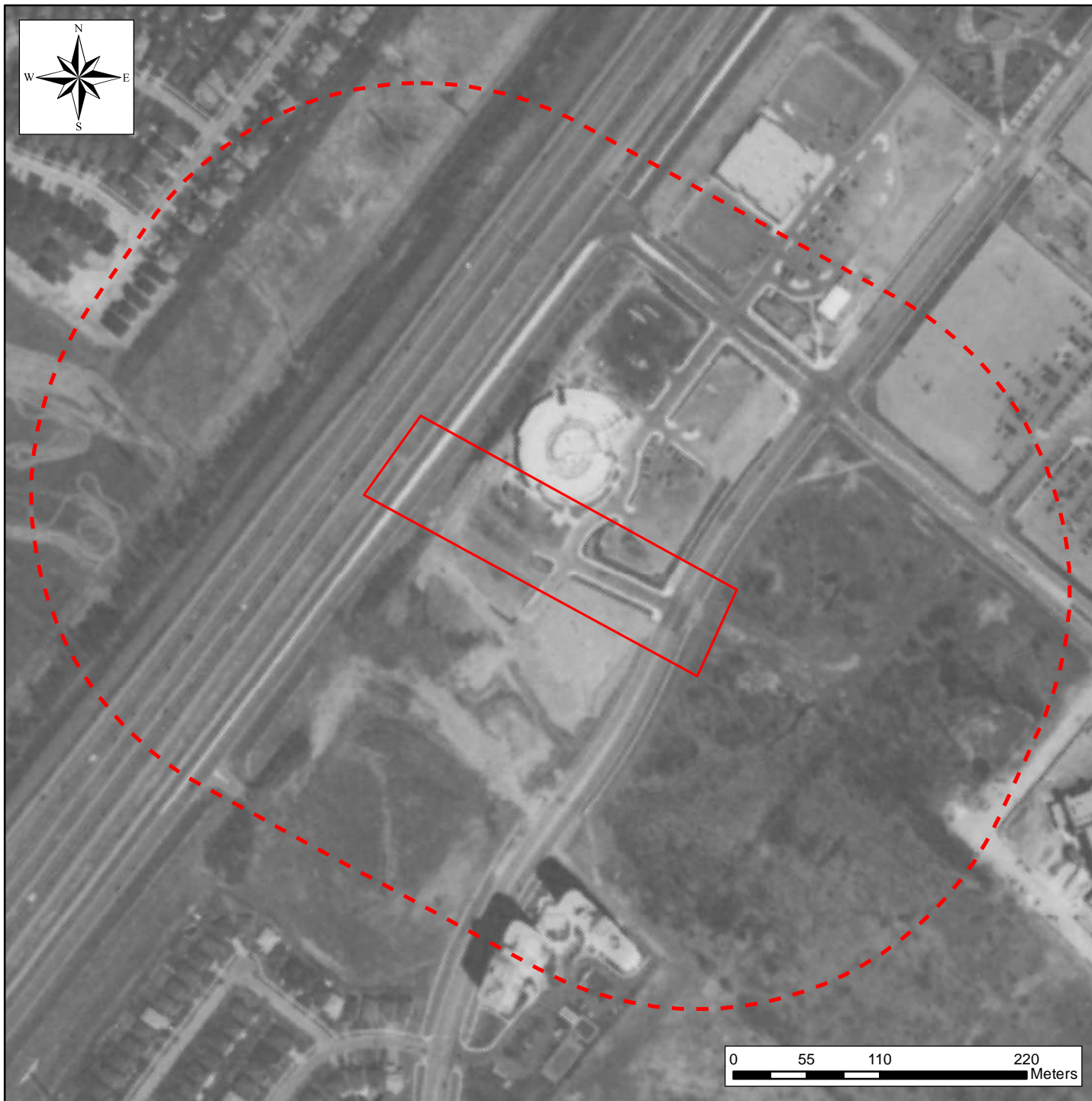
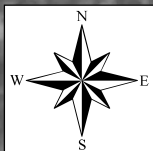
Figure No.: 6

Title: Aerial Photograph - 1989



Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario



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## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

Figure No.: 7

Title: Aerial Photograph - 1997



Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario

0 55 110 220  
Meters

 **GeoPro Consulting Limited**



## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

Figure No.: 8



Title: Aerial Photograph - 2002

Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario

 **GeoPro Consulting Limited**



## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

Figure No.: 9



Title: Aerial Photograph - 2007

Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario

 **GeoPro Consulting Limited**



## Legend

-  Project Area
-  Study Area

Map Source:  
Mississauga Interactive Map

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

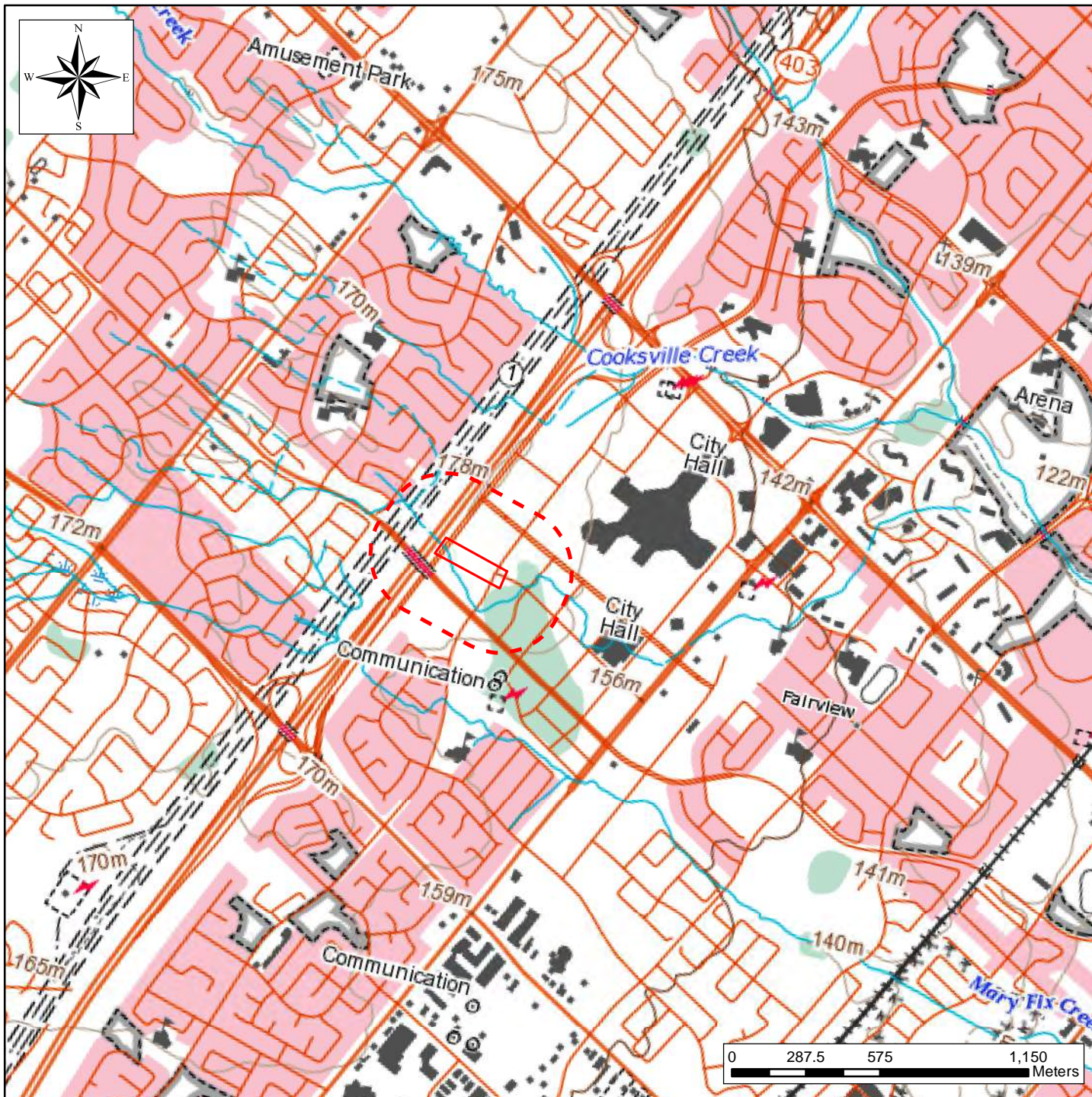
Project No.: 17-1798E

Figure No.: 10

Title: Aerial Photograph - 2016

Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario

 **GeoPro Consulting Limited**



## Legend

- Project Area
- Study Area

Map Source:  
Atlas of Canada - Toporama

Client: Stantec Consulting Limited

Prepared by: HL

Approved: BG

Date: November 2017

Scale: As Shown

Original Size: Letter

Rev: BG

Project No.: 17-1798E

Figure No.: 11

Title: Topographical Map

Project: Phase One and Limited Phase Two  
Environmental Site Assessment  
Living Arts Drive Extension, Rathburn Road West to  
Centre View Drive, Mississauga, Ontario

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## **APPENDIX A**



# DATABASE REPORT

**Project Property:** *Living Arts Drive Extension  
n/a  
Mississauga ON*

**Project No:**

**Report Type:** *Quote - Custom-Build Your Own Report*

**Order No:** *20170518165*

**Requested by:** *GeoPro Consulting Limited*

**Date Completed:** *May 26, 2017*

**Environmental Risk  
Information Services**  
A division of Glacier Media Inc.  
P: 1.866.517.5204  
E: [info@erisinfo.com](mailto:info@erisinfo.com)  
**[www.erisinfo.com](http://www.erisinfo.com)**

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# Executive Summary

## **Property Information:**

**Project Property:** *Living Arts Drive Extension  
n/a Mississauga ON*

**Project No:**

## **Order Information:**

**Order No:** *20170518165*  
**Date Requested:** *May 18, 2017*  
**Requested by:** *GeoPro Consulting Limited*  
**Report Type:** *Quote - Custom-Build Your Own Report*

## **Additional Products:**

## Executive Summary: Report Summary

<b>Database</b>	<b>Name</b>	<b>Searched</b>	<b>Project Property</b>	<b>Boundary to 0.25km</b>	<b>Total</b>
AAGR	Abandoned Aggregate Inventory	Y	0	0	0
AGR	Aggregate Inventory	Y	0	0	0
AMIS	Abandoned Mine Information System	Y	0	0	0
ANDR	Anderson's Waste Disposal Sites	Y	0	0	0
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
BORE	Borehole	Y	0	2	2
CA	Certificates of Approval	Y	0	2	2
CFOT	Commercial Fuel Oil Tanks	Y	0	0	0
CHEM	Chemical Register	Y	0	0	0
CNG	Compressed Natural Gas Stations	Y	0	0	0
COAL	Inventory of Coal Gasification Plants and Coal Tar Sites	Y	0	0	0
CONV	Compliance and Convictions	Y	0	0	0
CPU	Certificates of Property Use	Y	0	0	0
DRL	Drill Hole Database	Y	0	0	0
EASR	Environmental Activity and Sector Registry	Y	0	0	0
EBR	Environmental Registry	Y	0	0	0
ECA	Environmental Compliance Approval	Y	0	0	0
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	0	1	1
EIIS	Environmental Issues Inventory System	Y	0	0	0
EMHE	Emergency Management Historical Event	Y	0	0	0
EXP	List of TSSA Expired Facilities	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	0
FOFT	Fisheries & Oceans Fuel Tanks	Y	0	0	0
FST	Fuel Storage Tank	Y	0	0	0
FSTH	Fuel Storage Tank - Historic	Y	0	0	0
GEN	Ontario Regulation 347 Waste Generators Summary	Y	0	2	2
GHG	Greenhouse Gas Emissions from Large Facilities	Y	0	0	0
HINC	TSSA Historic Incidents	Y	0	0	0
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0
INC	TSSA Incidents	Y	0	1	1
LIMO	Landfill Inventory Management Ontario	Y	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0
MNR	Mineral Occurrences	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0

<b>Database</b>	<b>Name</b>	<b>Searched</b>	<b>Project Property</b>	<b>Boundary to 0.25km</b>	<b>Total</b>
NCPL	Non-Compliance Reports	Y	0	0	0
NDFT	National Defense & Canadian Forces Fuel Tanks	Y	0	0	0
NDSP	National Defense & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEBI	National Energy Board Pipeline Incidents	Y	0	0	0
NEBW	National Energy Board Wells	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	0	0
NPRI	National Pollutant Release Inventory	Y	0	0	0
OGW	Oil and Gas Wells	Y	0	0	0
OOGW	Ontario Oil and Gas Wells	Y	0	0	0
OPCB	Inventory of PCB Storage Sites	Y	0	0	0
ORD	Orders	Y	0	0	0
PAP	Canadian Pulp and Paper	Y	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PES	Pesticide Register	Y	0	0	0
PINC	TSSA Pipeline Incidents	Y	1	2	3
PRT	Private and Retail Fuel Storage Tanks	Y	0	0	0
PTTW	Permit to Take Water	Y	0	0	0
REC	Ontario Regulation 347 Waste Receivers Summary	Y	0	0	0
RSC	Record of Site Condition	Y	0	0	0
RST	Retail Fuel Storage Tanks	Y	0	0	0
SCT	Scott's Manufacturing Directory	Y	0	0	0
SPL	Ontario Spills	Y	1	5	6
SRDS	Wastewater Discharger Registration Database	Y	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0
VAR	TSSA Variances for Abandonment of Underground Storage Tanks	Y	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	0	0
WWIS	Water Well Information System	Y	0	1	1
<b>Total:</b>			2	16	18

## Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist (m)</i>	<i>Elev diff (m)</i>	<i>Page Number</i>
<a href="#"><u>1</u></a>	SPL	Enbridge Gas Distribution Inc.	SW Corner of Living Arts Drive and Rathburn West Mississauga ON	-/0.0	18.15	<a href="#"><u>14</u></a>
<a href="#"><u>2</u></a>	PINC		LIVING ARTS DRIVE AND RATHBURN WEST, MISSISSAUGA ON	-/0.0	18.45	<a href="#"><u>14</u></a>

## Executive Summary: Site Report Summary - Surrounding Properties

<b>Map Key</b>	<b>DB</b>	<b>Company/Site Name</b>	<b>Address</b>	<b>Dir/Dist (m)</b>	<b>Elev Diff (m)</b>	<b>Page Number</b>
<a href="#">3</a>	CA	HAMMERSON PROPERTIES INC.	299,309,319&329 RATHBURN RD.W. MISSISSAUGA CITY ON	SE/0.7	15.38	<a href="#">15</a>
<a href="#">4</a>	EHS		309 Rathburn Rd. W Mississauga ON L5B 4C1	N/50.8	0.62	<a href="#">15</a>
<a href="#">5</a>	WWIS		ON	E/87.5	20.06	<a href="#">15</a>
<a href="#">6</a>	PINC		299 Rathburn Road, Mississauga ON	NE/128.3	17.80	<a href="#">16</a>
<a href="#">7</a>	PINC		65 SQUARE ONE DRIVE, MISSISSAUGA ON	E/157.2	-10.67	<a href="#">16</a>
<a href="#">8</a>	SPL	Mississauga Transit Authority<UNOFFICIAL>	Rathburn Rd. @ Duke of York Blvd. Mississauga ON	ENE/166.0	18.96	<a href="#">17</a>
<a href="#">8</a>	SPL		RATHBURN RD. AND DUKE OF YORK RD.<UNOFFICIAL> Mississauga ON	ENE/166.0	18.96	<a href="#">17</a>
<a href="#">9</a>	SPL		Intersection of Rathburn Rd. and Duke of York Blvd. Mississauga ON	ENE/168.7	18.96	<a href="#">17</a>
<a href="#">10</a>	BORE		ON	WNW/192.6	-9.47	<a href="#">18</a>
<a href="#">10</a>	BORE		ON	WNW/192.6	-9.47	<a href="#">18</a>
<a href="#">11</a>	SPL		335 Rathburn Road West Mississauga ON L5B 0C8	SSW/222.5	13.19	<a href="#">18</a>
<a href="#">12</a>	INC		4188 LIVING ARTS DRIVE, MISSISSAUGA ON	SE/225.9	16.12	<a href="#">19</a>
<a href="#">13</a>	SPL	Enersource Hydro Mississauga Inc.	209 Rathburn Road West Mississauga ON	NE/228.7	15.48	<a href="#">20</a>
<a href="#">14</a>	CA	The Sheridan College Institute of Technology and Advanced Learning	4180 Duke of York Blvd Mississauga ON L5B 0G5	E/237.0	11.86	<a href="#">20</a>
<a href="#">14</a>	GEN	Sheridan College	4180 Duke of York Blvd Health Centre Mississauga ON	E/237.0	11.86	<a href="#">20</a>
<a href="#">14</a>	GEN	Sheridan College	4180 Duke of York Blvd Health Centre Mississauga ON L5B 0G5	E/237.0	11.86	<a href="#">21</a>

## Executive Summary: Summary By Data Source

### **BORE - Borehole**

A search of the BORE database, dated 1875-Jul 2014 has found that there are 2 BORE site(s) within approximately 0.25 kilometers of the project property.

<b><u>Site</u></b>	<b><u>Address</u></b>	<b><u>Distance (m)</u></b>	<b><u>Map Key</u></b>
	ON	192.6	<a href="#"><u>10</u></a>
	ON	192.6	<a href="#"><u>10</u></a>

### **CA - Certificates of Approval**

A search of the CA database, dated 1985-Oct 30, 2011\* has found that there are 2 CA site(s) within approximately 0.25 kilometers of the project property.

<b><u>Site</u></b>	<b><u>Address</u></b>	<b><u>Distance (m)</u></b>	<b><u>Map Key</u></b>
HAMMERSON PROPERTIES INC.	299,309,319&329 RATHBURN RD.W. MISSISSAUGA CITY ON	0.7	<a href="#"><u>3</u></a>
The Sheridan College Institute of Technology and Advanced Learning	4180 Duke of York Blvd Mississauga ON L5B 0G5	237.0	<a href="#"><u>14</u></a>

### **EHS - ERIS Historical Searches**

A search of the EHS database, dated 1999-Aug 2016 has found that there are 1 EHS site(s) within approximately 0.25 kilometers of the project property.

<b><u>Site</u></b>	<b><u>Address</u></b>	<b><u>Distance (m)</u></b>	<b><u>Map Key</u></b>
	309 Rathburn Rd. W Mississauga ON L5B 4C1	50.8	<a href="#"><u>4</u></a>

### **GEN - Ontario Regulation 347 Waste Generators Summary**

A search of the GEN database, dated 1986-Sep 2016 has found that there are 2 GEN site(s) within approximately 0.25 kilometers of the project property.

<b><u>Site</u></b>	<b><u>Address</u></b>	<b><u>Distance (m)</u></b>	<b><u>Map Key</u></b>
Sheridan College	4180 Duke of York Blvd Health Centre Mississauga ON	237.0	<a href="#"><u>14</u></a>
Sheridan College	4180 Duke of York Blvd Health Centre Mississauga ON L5B 0G5	237.0	<a href="#"><u>14</u></a>

## **INC - TSSA Incidents**

A search of the INC database, dated Feb 28, 2017 has found that there are 1 INC site(s) within approximately 0.25 kilometers of the project property.

<b><u>Site</u></b>	<b><u>Address</u></b>	<b><u>Distance (m)</u></b>	<b><u>Map Key</u></b>
	4188 LIVING ARTS DRIVE, MISSISSAUGA ON	225.9	<a href="#"><u>12</u></a>

## **PINC - TSSA Pipeline Incidents**

A search of the PINC database, dated Feb 28, 2017 has found that there are 3 PINC site(s) within approximately 0.25 kilometers of the project property.

<b><u>Site</u></b>	<b><u>Address</u></b>	<b><u>Distance (m)</u></b>	<b><u>Map Key</u></b>
	LIVING ARTS DRIVE AND RATHBURN WEST, MISSISSAUGA ON	0.0	<a href="#"><u>2</u></a>
	299 Rathburn Road, Mississauga ON	128.3	<a href="#"><u>6</u></a>
	65 SQUARE ONE DRIVE, MISSISSAUGA ON	157.2	<a href="#"><u>7</u></a>

## **SPL - Ontario Spills**

A search of the SPL database, dated 1988-Dec 2016 has found that there are 6 SPL site(s) within approximately 0.25 kilometers of the project property.

<b><u>Site</u></b>	<b><u>Address</u></b>	<b><u>Distance (m)</u></b>	<b><u>Map Key</u></b>
Enbridge Gas Distribution Inc.	SW Corner of Living Arts Drive and Rathburn West Mississauga ON	0.0	<a href="#"><u>1</u></a>
	RATHBURN RD. AND DUKE OF YORK RD.<UNOFFICIAL> Mississauga ON	166.0	<a href="#"><u>8</u></a>
Mississauga Transit Authority<UNOFFICIAL>	Rathburn Rd. @ Duke of York Blvd. Mississauga ON	166.0	<a href="#"><u>8</u></a>
	Intersection of Rathburn Rd. and Duke of York Blvd. Mississauga ON	168.7	<a href="#"><u>9</u></a>
	335 Rathburn Road West Mississauga ON L5B 0C8	222.5	<a href="#"><u>11</u></a>
Enersource Hydro Mississauga Inc.	209 Rathburn Road West Mississauga ON	228.7	<a href="#"><u>13</u></a>

## **WWIS - Water Well Information System**

A search of the WWIS database, dated Jun 30, 2016 has found that there are 1 WWIS site(s) within approximately 0.25 kilometers of the project property.

**Site**

**Address**

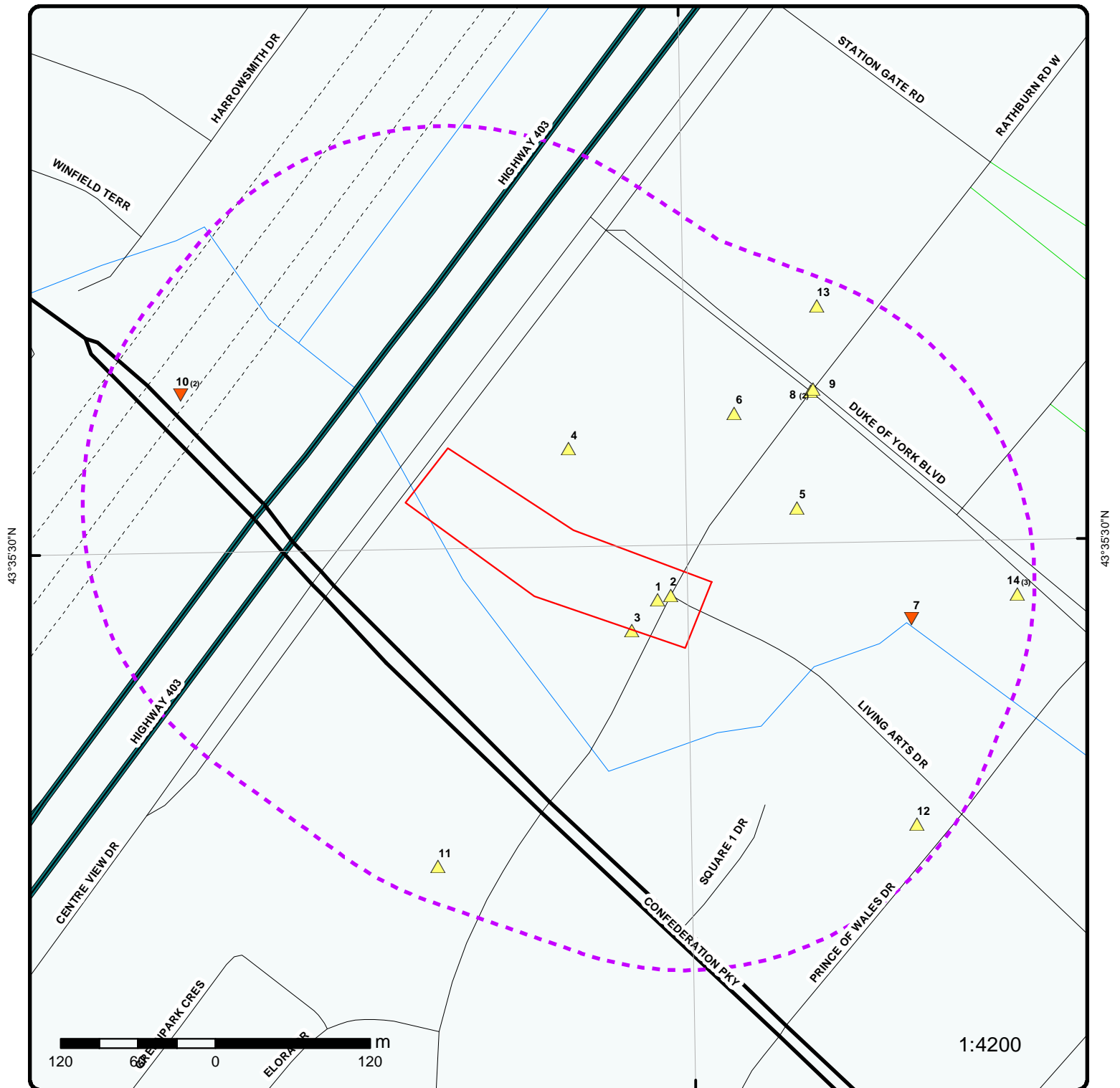
**Distance (m)**

**Map Key**

ON

87.5

[5](#)



## Map : 0.25 Kilometer Radius

Order No: 20170518165

Address: n/a, Mississauga, ON

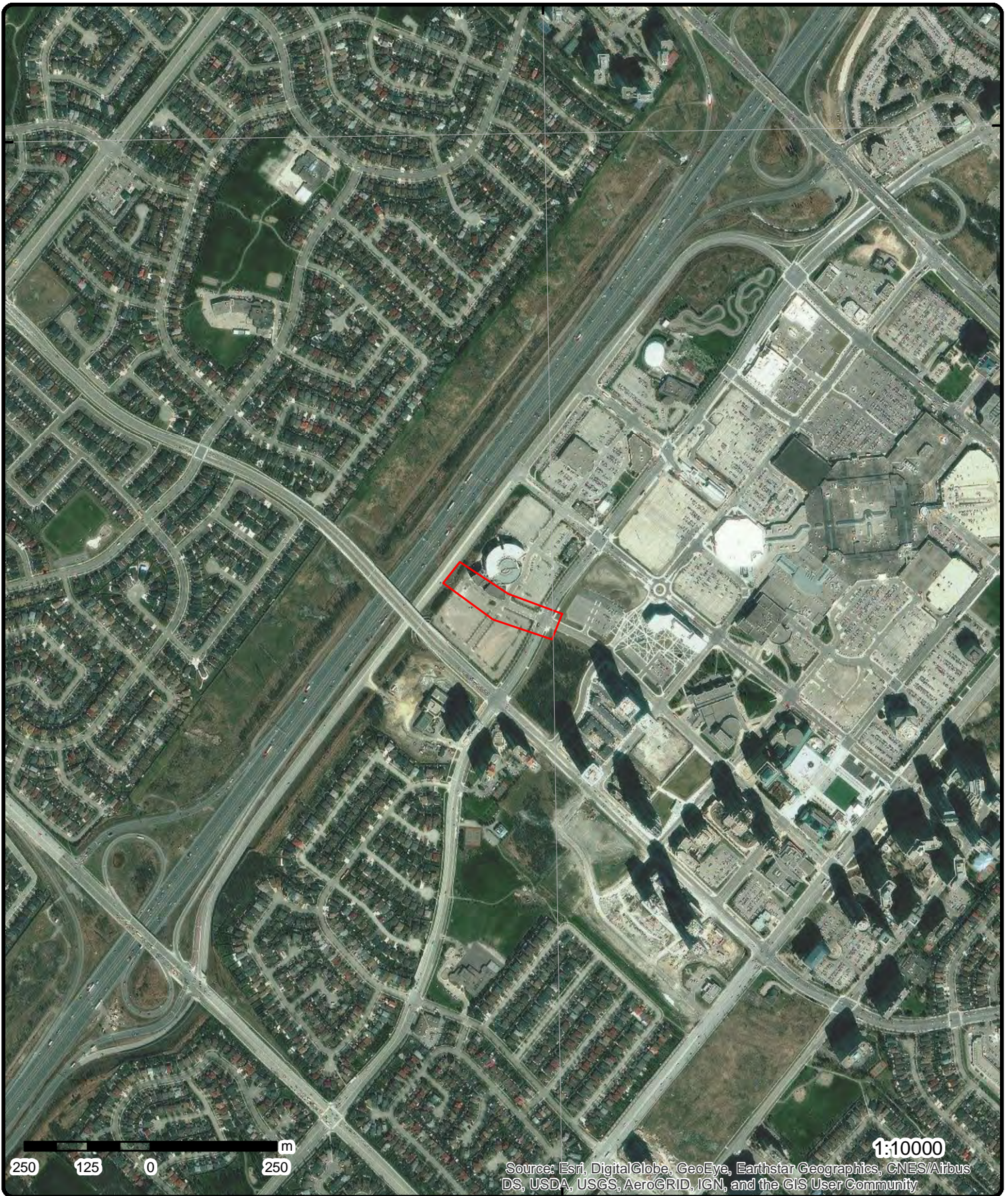


Project Property	Expressway	Industrial and Resource - Regions	National Park
Buffer Outline	Principal Highway	Main Line	Provincial or Territorial Park
Eris Sites with Higher Elevation	Secondary Highway	Sidetrack	Other Park
Eris Sites with Same Elevation	Major Road	Transit Line	Golf Course or Driving Range
Eris Sites with Lower Elevation	Local road	Abandoned Line	Park or Sports Field
Eris Sites with Unknown Elevation	Trail		Other Recreation Area
	Proposed Road		
	Ferry Route/Ice Road		

79°39'W

43°36'N

43°36'N



**Aerial**

**Address: n/a, Mississauga, ON**

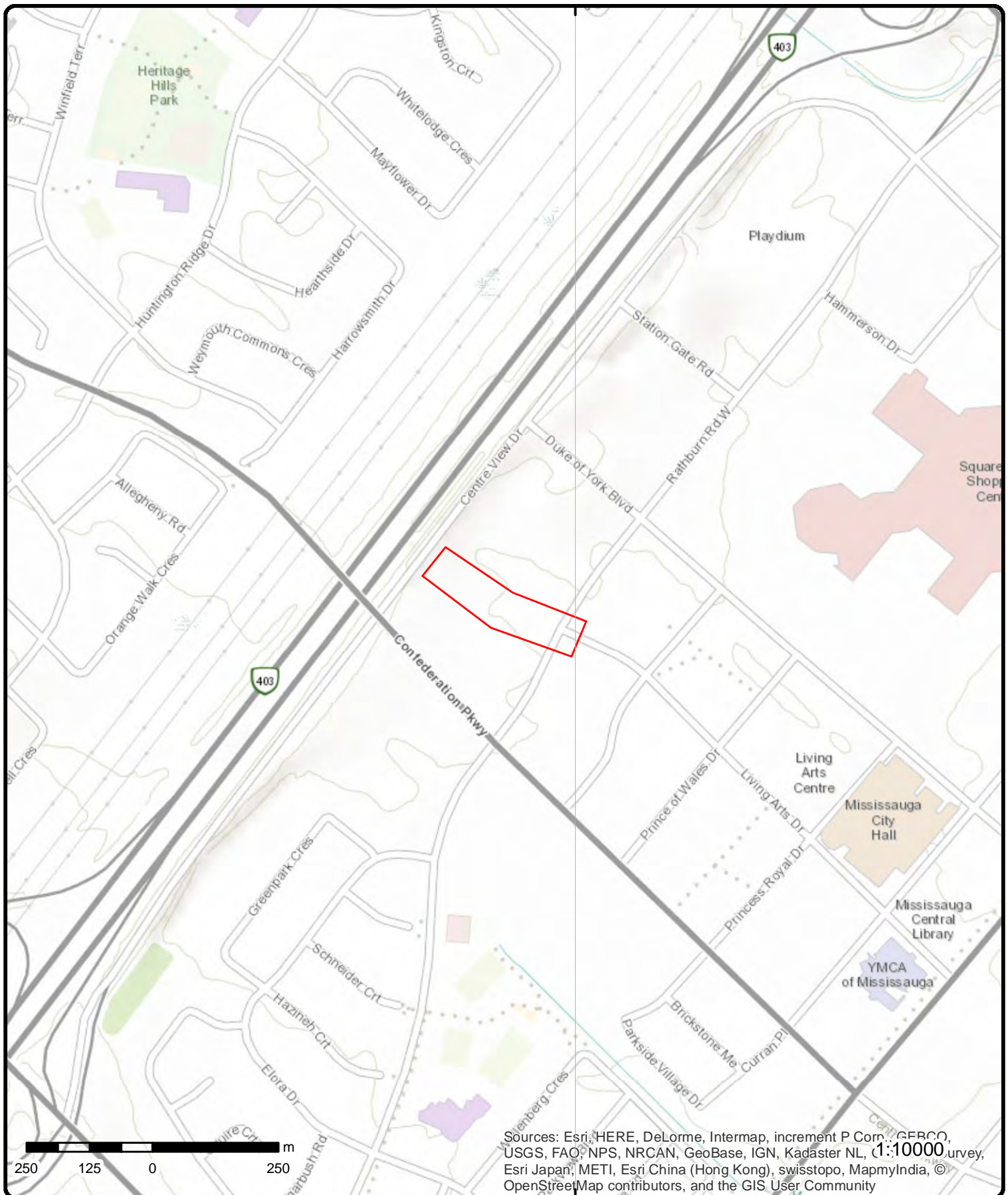
**Source:** ESRI World Imagery

Order No: 20170518165

**ERIS**  
ENVIRONMENTAL RISK INFORMATION SERVICES



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# Topographic Map

**Address:** n/a, Mississauga, ON

**Source:** ESRI World Topographic Map

Order No: 20170518165



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# Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
<a href="#">1</a>	1 of 1	-/0.0	160.0	Enbridge Gas Distribution Inc. SW Corner of Living Arts Drive and Rathburn West Mississauga ON	SPL
<b>Ref No:</b> 3262-9YPV92 <b>Contaminant Code:</b> 35 <b>Contaminant Name:</b> NATURAL GAS (METHANE) <b>Contaminant Quantity:</b> 0 other - see incident description <b>Incident Cause:</b> <b>Incident Dt:</b> 7/23/2015 <b>Incident Reason:</b> Operator/Human Error <b>Incident Summary:</b> TSSA FSB: 4 inch plastic main dmg; made safe <b>MOE Reported Dt:</b> 7/23/2015 <b>Environmental Impact:</b> <b>Nature of Impact:</b> <b>Receiving Medium:</b> <b>SAC Action Class:</b> TSSA - Fuel Safety Branch - Hydrocarbon Fuel Release/Spill <b>Sector Source Type:</b> Unknown / N/A <b>Receiving Environment:</b> <b>Incident Event:</b> <b>Site Municipality:</b> Mississauga					
<a href="#">2</a>	1 of 1	-/0.0	160.3	LIVING ARTS DRIVE AND RATHBURN WEST, MISSISSAUGA ON	PINC
<b>Incident ID:</b> <b>Incident No:</b> 1688556 <b>Type:</b> FS-Pipeline Incident <b>Status Code:</b> Pipeline Damage Reason Est <b>Fuel Occurrence Tp:</b> <b>Fuel Type:</b> <b>Tank Status:</b> RC Established <b>Task No:</b> 5679344 <b>Spills Action Centre:</b> <b>Method Details:</b> E-mail <b>Fuel Category:</b> Natural Gas <b>Date of Occurrence:</b> <b>Occurrence Start Date:</b> 2015/07/27 <b>Operation Type:</b> <b>Pipeline Type:</b> <b>Regulator Type:</b> <b>Summary:</b> LIVING ARTS DRIVE AND RATHBURN WEST, MISSISSAUGA - PIPELINE HIT - 4" <b>Reported By:</b> Blake Frost - ENBRIDGE <b>Affiliation:</b> <b>Occurrence Desc:</b> <b>Damage Reason:</b> Excavation practices not sufficient <b>Notes:</b>					
<b>Health Impact:</b> <b>Environment Impact:</b> <b>Property Damage:</b> Yes <b>Service Interrupt:</b> <b>Enforce Policy:</b> Yes <b>Public Relation:</b> <b>Pipeline System:</b> <b>Depth:</b> <b>Pipe Material:</b> <b>PSIG:</b> <b>Attribute Category:</b> FS-Perform P-line Inc Invest <b>Regulator Location:</b>					

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
<a href="#">3</a>	1 of 1	SE/0.7	157.3	HAMMERSON PROPERTIES INC. 299,309,319&329 RATHBURN RD.W. MISSISSAUGA CITY ON	CA
Certificate #:		3-0746-96-			
Application Year:		96			
Issue Date:		7/9/1996			
Approval Type:		Municipal sewage			
Status:		Approved			
Application Type:					
Client Name::					
Client Address::					
Client City::					
Client Postal Code::					
Project Description::					
Contaminants::					
Emission Control::					
<a href="#">4</a>	1 of 1	N/50.8	142.5	309 Rathburn Rd. W Mississauga ON L5B 4C1	EHS
Postal Code:					
City:					
Address2:					
Address1:					
Provstate:					
Order No.:		20050331012			
Addit. Info Ordered::					
Report Date:		4/1/2005			
Report Type:					
Search Radius (km):		0.25			
<a href="#">5</a>	1 of 1	E/87.5	161.9	ON	WWIS
Well ID:		7247756		Lot:	
Construction Date::				Concession:	
Primary Water Use::				Concession Name:	
Sec. Water Use::				Easting NAD83::	
Final Well Status::				Northing NAD83::	
Specific Capacity::				Zone::	
Municipality:		MISSISSAUGA CITY		UTM Reliability::	
County:		PEEL			
Bore Hole Information					
--		--			
Bore Hole ID:		1005667244			
DP2BR:					
Code OB:					
Code OB Description:					
Open Hole:					
Date Completed:		16-JAN-14			
Remarks:					
Zone:		17			
East 83:		609057			
North 83:		4827436			
UTMRC:		4			
UTMRC Description:		margin of error : 30 m - 100 m			
Location Method:		wwr			
Org CS:		UTM83			
Elevation:					
Elevrc:					

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
<b>Elevrc Description:</b> <b>Location Source Date:</b> <b>Source Revision Comment:</b> <b>Improvement Location Source:</b> <b>Improvement Location Method:</b> <b>Supplier Comment:</b> <b>Spatial Status:</b> -- --					
<u>6</u>	1 of 1	NE/128.3	159.7	299 Rathburn Road, Mississauga ON	PINC
<b>Incident ID:</b> 2652788 <b>Incident No:</b> 496474 <b>Type:</b> FS-Pipeline Incident <b>Status Code:</b> Pipeline Damage Reason Est <b>Fuel Occurrence Tp:</b> Pipeline Strike <b>Fuel Type:</b> Natural Gas <b>Tank Status:</b> RC Established <b>Task No:</b> 3156980 <b>Spills Action Centre:</b> <b>Method Details:</b> E-mail <b>Fuel Category:</b> Natural Gas <b>Date of Occurrence:</b> 9/3/2010 0:00 <b>Occurrence Start Date:</b> 2010/12/09 <b>Operation Type:</b> Construction Site (including excavation) <b>Pipeline Type:</b> Service / Riser Distribution Pipeline <b>Regulator Type:</b> Service Regulator (up to 60 psi intake) <b>Summary:</b> 299 Rathburn Road, Mississauga - 1" Pipeline Hit <b>Reported By:</b> Eric Jorgensen - Enbridge <b>Affiliation:</b> Industry Stakeholder (Licensee/Registration/Certificate Holder, Facility Owner, etc.) <b>Occurrence Desc:</b> <b>Damage Reason:</b> Excavation practices not sufficient <b>Notes:</b>		<b>Health Impact:</b> No <b>Environment Impact:</b> No <b>Property Damage:</b> Yes <b>Service Interrupt:</b> Yes <b>Enforce Policy:</b> Yes <b>Public Relation:</b> No <b>Pipeline System:</b> <b>Depth:</b> <b>Pipe Material:</b> Steel <b>PSIG:</b> 45 <b>Attribute Category:</b> FS-Perform P-line Inc Invest <b>Regulator Location:</b> Outside			
<u>7</u>	1 of 1	E/157.2	131.2	65 SQUARE ONE DRIVE, MISSISSAUGA ON	PINC
<b>Incident ID:</b> 2683068 <b>Incident No:</b> 526666 <b>Type:</b> FS-Pipeline Incident <b>Status Code:</b> Pipeline Damage Reason Est <b>Fuel Occurrence Tp:</b> Pipeline Strike <b>Fuel Type:</b> Natural Gas <b>Tank Status:</b> RC Established <b>Task No:</b> 3217969 <b>Spills Action Centre:</b> N/A <b>Method Details:</b> E-mail <b>Fuel Category:</b> Natural Gas <b>Date of Occurrence:</b> 10/20/2010 0:00 <b>Occurrence Start Date:</b> 2011/02/02 <b>Operation Type:</b> Commercial (e.g. restaurant, business unit, etc) <b>Pipeline Type:</b> Service / Riser Distribution Pipeline <b>Regulator Type:</b> Service Regulator (up to 60 psi intake) <b>Summary:</b> 65 SQUARE ONE DRIVE, MISSISSAUGA - 1" PIPELINE HIT <b>Reported By:</b> JEFFREY BRUCE - ENBRIDGE GAS DISTRIBUTION INC. <b>Affiliation:</b> Industry Stakeholder (Licensee/Registration/Certificate Holder, Facility Owner, etc.) <b>Occurrence Desc:</b> gas line damage <b>Damage Reason:</b> Excavation practices not sufficient <b>Notes:</b> unable to confirm exact pressure		<b>Health Impact:</b> No <b>Environment Impact:</b> No <b>Property Damage:</b> No <b>Service Interrupt:</b> No <b>Enforce Policy:</b> Yes <b>Public Relation:</b> No <b>Pipeline System:</b> <b>Depth:</b> 24 <b>Pipe Material:</b> Plastic <b>PSIG:</b> 60 <b>Attribute Category:</b> FS-Perform P-line Inc Invest <b>Regulator Location:</b> Outside			

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
<a href="#"><u>8</u></a>	1 of 2	<b>ENE/166.0</b>	<b>160.8</b>	<b>Mississauga Transit Authority&lt;UNOFFICIAL&gt; Rathburn Rd. @ Duke of York Blvd. Mississauga ON</b>	<b>SPL</b>
<b>Ref No:</b> <b>Contaminant Code:</b> <b>Contaminant Name:</b> <b>Contaminant Quantity:</b> <b>Incident Cause:</b> <b>Incident Dt:</b> <b>Incident Reason:</b> <b>Incident Summary:</b> <b>MOE Reported Dt:</b> <b>Environmental Impact:</b> <b>Nature of Impact:</b> <b>Receiving Medium:</b> <b>SAC Action Class:</b> <b>Sector Source Type:</b> <b>Receiving Environment:</b> <b>Incident Event:</b> <b>Site Municipality:</b>		1358-5S82XN 27 COOLANT (N.O.S.) 25 L Other Discharges 10/10/2003 Equipment Failure Mississauga Transit, 25 L antifreeze to c/b 10/10/2003 Not Anticipated  Water Spills Other  Mississauga			
<a href="#"><u>8</u></a>	2 of 2	<b>ENE/166.0</b>	<b>160.8</b>	<b>RATHBURN RD. AND DUKE OF YORK RD.&lt;UNOFFICIAL&gt; Mississauga ON</b>	<b>SPL</b>
<b>Ref No:</b> <b>Contaminant Code:</b> <b>Contaminant Name:</b> <b>Contaminant Quantity:</b> <b>Incident Cause:</b> <b>Incident Dt:</b> <b>Incident Reason:</b> <b>Incident Summary:</b> <b>MOE Reported Dt:</b> <b>Environmental Impact:</b> <b>Nature of Impact:</b> <b>Receiving Medium:</b> <b>SAC Action Class:</b> <b>Sector Source Type:</b> <b>Receiving Environment:</b> <b>Incident Event:</b> <b>Site Municipality:</b>		4017-5XYPSPD 27 PAINT OR PAINT RELATED N.O.S. 20 L Other Discharges 4/12/2004 Error- Operator error Ukn source, 20 L ukn material to catch basin, Peel 4/12/2004 Possible Soil Contamination Land Spill to Land Other Motor Vehicle  Mississauga			
<a href="#"><u>9</u></a>	1 of 1	<b>ENE/168.7</b>	<b>160.8</b>	<b>Intersection of Rathburn Rd. and Duke of York Blvd. Mississauga ON</b>	<b>SPL</b>
<b>Ref No:</b> <b>Contaminant Code:</b> <b>Contaminant Name:</b> <b>Contaminant Quantity:</b> <b>Incident Cause:</b> <b>Incident Dt:</b> <b>Incident Reason:</b> <b>Incident Summary:</b> <b>MOE Reported Dt:</b> <b>Environmental Impact:</b> <b>Nature of Impact:</b>		0746-A2KQ6K 24 ETHYLENE GLYCOL (ANTIFREEZE) 40 L  9/21/2015 Equipment Failure Mississauga Transit: 40 L antifreeze to road, cb 9/21/2015			

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
<b>Receiving Medium:</b> <b>SAC Action Class:</b> Land Spills <b>Sector Source Type:</b> Miscellaneous Communal <b>Receiving Environment:</b> <b>Incident Event:</b> <b>Site Municipality:</b> Mississauga					
<a href="#">10</a>	1 of 2	WNW/192.6	132.4	ON	BORE
<b>Borehole ID:</b> 638911 <b>Use:</b> Geotechnical/Geological Investigation <b>Drill Method::</b> Power auger <b>Easting::</b> 608580 <b>Location Accuracy::</b> <b>Elev. Reliability Note::</b> <b>Total Depth m::</b> 2.9 <b>Township::</b> <b>Lot::</b> <b>Completion Date::</b> JAN-1967 <b>Primary Water Use::</b> Not Used					
<b>Type:</b> Borehole <b>Status::</b> <b>UTM Zone::</b> 17 <b>Northing::</b> 4827523 <b>Orig. Ground Elev m::</b> 164 <b>DEM Ground Elev m::</b> 163 <b>Primary Name::</b> <b>Concession::</b> <b>Municipality:</b> <b>Static Water Level::</b> -999.9 <b>Sec. Water Use::</b>					
<b>--Details--</b> <b>Stratum ID:</b> 218486365 <b>Bottom Depth(m):</b> 2.9					
<b>Top Depth(m):</b> 0.0 <b>Stratum Desc:</b> SILT,CLAY,GRAVEL, BOULDERS. BROWN, GLACIAL, HARD, AGE GLACIAL. 013 00000045					
<a href="#">10</a>	2 of 2	WNW/192.6	132.4	ON	BORE
<b>Borehole ID:</b> 638910 <b>Use:</b> Geotechnical/Geological Investigation <b>Drill Method::</b> Power auger <b>Easting::</b> 608580 <b>Location Accuracy::</b> <b>Elev. Reliability Note::</b> <b>Total Depth m::</b> 2.6 <b>Township::</b> <b>Lot::</b> <b>Completion Date::</b> JAN-1967 <b>Primary Water Use::</b> Not Used					
<b>Type:</b> Borehole <b>Status::</b> <b>UTM Zone::</b> 17 <b>Northing::</b> 4827523 <b>Orig. Ground Elev m::</b> 164 <b>DEM Ground Elev m::</b> 163 <b>Primary Name::</b> <b>Concession::</b> <b>Municipality:</b> <b>Static Water Level::</b> -999.9 <b>Sec. Water Use::</b>					
<b>--Details--</b> <b>Stratum ID:</b> 218486364 <b>Bottom Depth(m):</b> 2.6					
<b>Top Depth(m):</b> 0.0 <b>Stratum Desc:</b> SILT,CLAY,BOULDERS. BROWN, GLACIAL, HARD, AGE GLACIAL. 013 00000045RD					
<a href="#">11</a>	1 of 1	SSW/222.5	155.1	335 Rathburn Road West Mississauga ON L5B 0C8	SPL
<b>Ref No:</b> 2657-7X9JWB <b>Contaminant Code:</b> 13 <b>Contaminant Name:</b> FURNACE OIL <b>Contaminant Quantity:</b> <b>Incident Cause:</b> <b>Incident Dt:</b> <b>Incident Reason:</b>					

19 [erisinfo.com](http://erisinfo.com) | Environmental Risk Information Services Order No: 20170518165

20 [erisinfo.com](http://erisinfo.com) | Environmental Risk Information Services Order No: 20170518165

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
<b>--Details--</b>					
<b>Waste Code:</b>		312			
<b>Waste Description:</b>		Pathological wastes			
<a href="#">14</a>	3 of 3	E/237.0	153.7	Sheridan College 4180 Duke of York Blvd Health Centre Mississauga ON L5B 0G5	GEN
<b>PO Box Num:</b>					
<b>Status:</b>					
Registered					
<b>Country:</b>					
Canada					
<b>Generator #:</b>					
ON5793416					
<b>Approval Yrs::</b>					
As of Sep 2016					
<b>SIC Code:</b>					
<b>SIC Description:</b>					
<b>--Details--</b>					
<b>Waste Code:</b>		261 P			
<b>Waste Description:</b>		Pharmaceuticals			
<b>Waste Code:</b>		251 L			
<b>Waste Description:</b>		Waste oils/sludges (petroleum based)			
<b>Waste Code:</b>		312 P			
<b>Waste Description:</b>		Pathological wastes			

# Unplottable Summary

Total: **32** Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
AAGR		Lot 17 Con 2	Peel ON	
CA	World Class Developments Limited	Square One Dr between Living Arts Drive and Duke of York Boulevard, Block 28, 43	Mississauga ON	
CA	OMERS Realty Management Corporation and 1331430 Ontario Inc.	Square One Dr from City Centre Drive to Hurontario Street	Mississauga ON	
CA	HAMMERSON CANADA INC.	RATHBURN RD.	MISSISSAUGA CITY ON	
CA	HAMMERSON CANADA INC.	RATHBURN RD.	MISSISSAUGA CITY ON	
CA	The Sheridan College of Applied Arts and Technology	Prince of Wales Dr	Mississauga ON	
CA	MISSISSAUGA CITY	PRINCE OF WALES DR.	MISSISSAUGA CITY ON	
CA		Living Arts Drive	Mississauga ON	
CA		Living Arts Drive	Mississauga ON	
CA	THE MATTHEWS GROUP LIMITED	RATHBURN RD. WOOD SUBD. PH II	MISSISSAUGA CITY ON	
CA	THE MATTHEWS GROUP LTD.	RATHBURN RD. WOODS SUBD. PH.11	MISSISSAUGA CITY ON	
CA	THE KEE GROUP HERITAGE HILLS I PH. II	HARROWSMITH DR.	MISSISSAUGA CITY ON	
CA	THE KEE GROUP HERITAGE HILL I PH. II	HARROWSMITH DR.	MISSISSAUGA CITY ON	
CA	MISSISSAUGA CITY	DUKE OF YORK BLVD.	MISSISSAUGA CITY ON	
CA	The Regional Municipality of Peel	Confederation Parkway (from Rathburn Road to Burnhamthorpe Road West)	Mississauga ON	
CA	The Corporation of the City of Mississauga	Confederation Parkway	Mississauga ON	

CA	The Corporation of the City of Mississauga	Confederation Parkway	Mississauga ON
CA	MATTHEWS GROUP LIMITED	CONFEDERATION PARKWAY	MISSISSAUGA CITY ON
CA	MATTHEWS GROUP LIMITED	CONFEDERATION PARKWAY	MISSISSAUGA CITY ON
CA	Shelltown Construction Ltd.	Part of Lot 19, Concession 2, N.D.S.	Mississauga ON
CA	Daniels CCW Corporation	Part of Lot 18, Concession 2, N.D.S.	Mississauga ON
CA	The Corporation of the City of Mississauga	Square One Drive Ref. Plan 43R-31917	Mississauga ON
CA	YATTON DEVELOPMENTS LTD.	PT.LOT 19/CONC.2,YATTON VILL.	PEEL TWP. ON
CA	HAMMERSON CANADA INC.	RATHBURN RD.	MISSISSAUGA CITY ON
EBR	Acorn Packaging Inc	Lot 19	City of Mississauga ON
ECA	Mattamy (Mount Pleasant) Limited	Part of Lot 17	Regional Municipality of Peel ON
EHS		Living Arts Drive	Mississauga ON
EHS		Square One Dr	Mississauga ON
PTTW	Wallenstein Feed and Supply	Lot 18	Township of Peel ON
SPL	TRANSPORT TRUCK	HWY 403 ON SOUTHSIDE OF HWY 10 DRAINAGE DITCH ON HWY 10 TRANSPORT TRUCK (CARGO)	MISSISSAUGA CITY ON
SPL	Transport Company - Bruce R Smith Ltd.<UNOFFICIAL>	GRASSY MEDIAN BETWEEN EAST AND WESTBOUND LANES OF HWY 403<UNOFFICIAL>	Mississauga ON
WWIS		lot 19 con 2	YATTON ON

# Unplottable Report

---

**Site:** Lot 17 Con 2 Peel ON

**Database:**  
AAGR

**Type:**  
**Region/County:** Wellington  
**Township:** Peel  
**Concession::** 2  
**Lot::** 17  
**Size (ha)::**  
**Landuse::**  
**Comments::** naturally rehabilitated

---

**Site:** World Class Developments Limited  
Square One Dr between Living Arts Drive and Duke of York Boulevard, Block 28, 43 Mississauga ON

**Database:**  
CA

**Certificate #:** 4292-7DDRYG  
**Application Year:** 2008  
**Issue Date:** 4/8/2008  
**Approval Type:** Municipal and Private Sewage Works  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** OMERS Realty Management Corporation and 1331430 Ontario Inc.  
Square One Dr from City Centre Drive to Hurontario Street Mississauga ON

**Database:**  
CA

**Certificate #:** 8894-74APZT  
**Application Year:** 2007  
**Issue Date:** 6/25/2007  
**Approval Type:** Municipal and Private Sewage Works  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** HAMMERSON CANADA INC.  
RATHBURN RD. MISSISSAUGA CITY ON

**Database:**  
CA

**Certificate #:** 7-1011-86-  
**Application Year:** 86  
**Issue Date:** 8/29/1986  
**Approval Type:** Municipal water  
**Status:** Approved  
**Application Type:**

Client Name::  
Client Address::  
Client City::  
Client Postal Code::  
Project Description::  
Contaminants::  
Emission Control::

---

**Site:** HAMMERSON CANADA INC.  
RATHBURN RD. MISSISSAUGA CITY ON

**Database:**  
CA

Certificate #: 3-1264-86-  
Application Year: 86  
Issue Date: 8/29/1986  
Approval Type: Municipal sewage  
Status: Approved  
Application Type:  
Client Name::  
Client Address::  
Client City::  
Client Postal Code::  
Project Description::  
Contaminants::  
Emission Control::

---

**Site:** The Sheridan College of Applied Arts and Technology  
Prince of Wales Dr Mississauga ON

**Database:**  
CA

Certificate #: 6828-7ZVM65  
Application Year: 2010  
Issue Date: 1/21/2010  
Approval Type: Municipal and Private Sewage Works  
Status: Approved  
Application Type:  
Client Name::  
Client Address::  
Client City::  
Client Postal Code::  
Project Description::  
Contaminants::  
Emission Control::

---

**Site:** MISSISSAUGA CITY  
PRINCE OF WALES DR. MISSISSAUGA CITY ON

**Database:**  
CA

Certificate #: 7-0947-95-  
Application Year: 95  
Issue Date: 9/28/1995  
Approval Type: Municipal water  
Status: Approved  
Application Type:  
Client Name::  
Client Address::  
Client City::  
Client Postal Code::  
Project Description::  
Contaminants::  
Emission Control::

---

**Site:** Living Arts Drive Mississauga ON

**Database:**  
CA

**Certificate #:** 3265-52SKND  
**Application Year:** 01  
**Issue Date:** 9/27/01  
**Approval Type:** Municipal & Private water  
**Status:** Approved  
**Application Type:** New Certificate of Approval  
**Client Name::** The Corporation of the Regional Municipality of Peel  
**Client Address::** 10 Peel Centre Drive, Fourth Floor  
**Client City::** Brampton  
**Client Postal Code::** L6T 4B9  
**Project Description::** Construction of Watermains on Living Arts Drive  
**Contaminants::**  
**Emission Control::**

---

**Site:** *Living Arts Drive Mississauga ON*

**Database:**  
*CA*

**Certificate #:** 5979-52SKRV  
**Application Year:** 01  
**Issue Date:** 9/27/01  
**Approval Type:** Municipal & Private sewage  
**Status:** Approved  
**Application Type:** New Certificate of Approval  
**Client Name::** The Corporation of the Regional Municipality of Peel  
**Client Address::** 10 Peel Centre Drive, Fourth Floor  
**Client City::** Brampton  
**Client Postal Code::** L6T 4B9  
**Project Description::** Construction of Sanitary and Storm Sewers for Living Arts Drive Extension  
**Contaminants::**  
**Emission Control::**

---

**Site:** *THE MATTHEWS GROUP LIMITED  
RATHBURN RD. WOOD SUBD. PH II MISSISSAUGA CITY ON*

**Database:**  
*CA*

**Certificate #:** 7-0382-86-  
**Application Year:** 86  
**Issue Date:** 5/28/1986  
**Approval Type:** Municipal water  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** *THE MATTHEWS GROUP LTD.  
RATHBURN RD. WOODS SUBD. PH.11 MISSISSAUGA CITY ON*

**Database:**  
*CA*

**Certificate #:** 3-0532-86-  
**Application Year:** 86  
**Issue Date:** 5/28/1986  
**Approval Type:** Municipal sewage  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** THE KEE GROUP HERITAGE HILLS I PH. II  
HARROWSMITH DR. MISSISSAUGA CITY ON

**Database:**  
CA

**Certificate #:** 7-0907-88-  
**Application Year:** 88  
**Issue Date:** 6/28/1988  
**Approval Type:** Municipal water  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** THE KEE GROUP HERITAGE HILL I PH. II  
HARROWSMITH DR. MISSISSAUGA CITY ON

**Database:**  
CA

**Certificate #:** 3-1054-88-  
**Application Year:** 88  
**Issue Date:** 6/28/1988  
**Approval Type:** Municipal sewage  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** MISSISSAUGA CITY  
DUKE OF YORK BLVD. MISSISSAUGA CITY ON

**Database:**  
CA

**Certificate #:** 3-1636-88-  
**Application Year:** 88  
**Issue Date:** 9/1/1988  
**Approval Type:** Municipal sewage  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** The Regional Municipality of Peel  
Confederation Parkway (from Rathburn Road to Burnhamthorpe Road West) Mississauga ON

**Database:**  
CA

**Certificate #:** 2176-6EWPC2  
**Application Year:** 2005  
**Issue Date:** 8/4/2005  
**Approval Type:** Municipal and Private Sewage Works  
**Status:** Approved  
**Application Type:**  
**Client Name::**

Client Address::  
Client City::  
Client Postal Code::  
Project Description::  
Contaminants::  
Emission Control::

---

**Site:**    *The Corporation of the City of Mississauga  
Confederation Parkway   Mississauga ON*

**Database:**  
*CA*

**Certificate #:**                    0205-6ZAS2S  
**Application Year:**            2007  
**Issue Date:**                    3/25/2007  
**Approval Type:**                Municipal and Private Sewage Works  
**Status:**                            Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:**    *The Corporation of the City of Mississauga  
Confederation Parkway   Mississauga ON*

**Database:**  
*CA*

**Certificate #:**                    9005-6FEK7P  
**Application Year:**            2005  
**Issue Date:**                    8/22/2005  
**Approval Type:**                Municipal and Private Sewage Works  
**Status:**                            Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:**    *MATTHEWS GROUP LIMITED  
CONFEDERATION PARKWAY   MISSISSAUGA CITY ON*

**Database:**  
*CA*

**Certificate #:**                    3-0171-86-  
**Application Year:**            86  
**Issue Date:**                    5/2/1986  
**Approval Type:**                Municipal sewage  
**Status:**                            Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:**    *MATTHEWS GROUP LIMITED  
CONFEDERATION PARKWAY   MISSISSAUGA CITY ON*

**Database:**  
*CA*

**Certificate #:**                    7-0120-86-

**Application Year:** 86  
**Issue Date:** 5/2/1986  
**Approval Type:** Municipal water  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** **Shelltown Construction Ltd.**  
**Part of Lot 19, Concession 2, N.D.S. Mississauga ON**

**Database:**  
**CA**

**Certificate #:** 1440-63TLC9  
**Application Year:** 2004  
**Issue Date:** 8/13/2004  
**Approval Type:** Municipal and Private Sewage Works  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** **Daniels CCW Corporation**  
**Part of Lot 18, Concession 2, N.D.S. Mississauga ON**

**Database:**  
**CA**

**Certificate #:** 6905-6HARS5  
**Application Year:** 2005  
**Issue Date:** 11/2/2005  
**Approval Type:** Municipal and Private Sewage Works  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** **The Corporation of the City of Mississauga**  
**Square One Drive Ref. Plan 43R-31917 Mississauga ON**

**Database:**  
**CA**

**Certificate #:** 6967-8BCRKU  
**Application Year:** 2010  
**Issue Date:** 11/25/2010  
**Approval Type:** Municipal and Private Sewage Works  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** YATTON DEVELOPMENTS LTD.  
PT.LOT 19/CONC.2,YATTON VILL. PEEL TWP. ON

**Database:**  
CA

**Certificate #:** 3-1027-94-  
**Application Year:** 94  
**Issue Date:** 10/7/1994  
**Approval Type:** Municipal sewage  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

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**Site:** HAMMERSON CANADA INC.  
RATHBURN RD. MISSISSAUGA CITY ON

**Database:**  
CA

**Certificate #:** 3-1919-87-  
**Application Year:** 87  
**Issue Date:** 11/2/1987  
**Approval Type:** Municipal sewage  
**Status:** Approved  
**Application Type:**  
**Client Name::**  
**Client Address::**  
**Client City::**  
**Client Postal Code::**  
**Project Description::**  
**Contaminants::**  
**Emission Control::**

---

**Site:** Acorn Packaging Inc  
Lot 19 City of Mississauga ON

**Database:**  
EBR

**Company Name:**  
**Year:** 1999  
**Notice Type:** Instrument  
**EBR Registry No.:** IA9E0077  
**Instrument Type:** EPA s. 9 - Approval for discharge into the natural environment other than water (i.e. Air)  
**Proposal Date:** 1/20/99  
**Ministry Ref. No.:**  
**Location:** City of Mississauga  
**Proponent Address:** Acorn Packaging Inc.2333-2 Millrace Court,Mississauga, Ontario, L5N 1W2  
**Notice Date:**

---

**Site:** Mattamy (Mount Pleasant) Limited  
Part of Lot 17 Regional Municipality of Peel ON

**Database:**  
ECA

**Approval No:** 8689-A47SWJ  
**Project Type:** Municipal and Private Sewage Works  
**Date:** 2015-11-23  
**Status:** Approved  
**Longitude:**  
**Latitude:**  
**Record Type:** ECA  
**PDF URL:** <https://www.accessenvironment.ene.gov.on.ca/instruments/0415-A3XQVF-14.pdf>  
**Full Address:** Part of Lot 17, Concession 2, W.H.S. City of Brampton, Regional Municipality of Peel, Ontario

**Site:**  
**Living Arts Drive Mississauga ON**

**Database:**  
**EHS**

**Postal Code:**  
**City:**  
**Address2:**  
**Address1:**  
**Provstate:**  
**Order No.:** 20020508007  
**Addit. Info Ordered::** Fire Insur. Maps and/or Site Plans and/or Inspection Reports  
**Report Date:** 5/17/02  
**Report Type:** Complete Report  
**Search Radius (km):** 0.35

**Site:**  
**Square One Dr Mississauga ON**

**Database:**  
**EHS**

**Postal Code:**  
**City:**  
**Address2:**  
**Address1:**  
**Provstate:**  
**Order No.:** 20100317003  
**Addit. Info Ordered::**  
**Report Date:** 3/25/2010  
**Report Type:** Custom Report  
**Search Radius (km):** 0.25

**Site:**  
**Wallenstein Feed and Supply  
Lot 18 Township of Peel ON**

**Database:**  
**PTTW**

**Year:** 2000  
**EBR Registry No.:** IA00E0028  
**Ministry Reference Number:**  
**Notice Type:** Instrument  
**Instrument Type:** OWRA s. 34 - Permit to take water  
**Proposal Date:**  
**Location:** Township of Peel  
**Proponent Address:** Wallenstein Feed and Supply P.O. Box 22, Wallenstein, Ontario, N0B 2S0  
**Notice Date:**

**Site:**  
**TRANSPORT TRUCK  
HWY 403 ON SOUTHSIDE OF HWY 10 DRAINAGE DITCH ON HWY 10 TRANSPORT TRUCK (CARGO)  
MISSISSAUGA CITY ON**

**Database:**  
**SPL**

**Ref No:** 169640  
**Contaminant Code:**  
**Contaminant Name:**  
**Contaminant Quantity:**  
**Incident Cause:** BLADDER FAILURE  
**Incident Dt:** 6/30/1999  
**Incident Reason:** OTHER  
**Incident Summary:** G.M.P TRUCKING-SPILL OF 500-1000 L MINERAL OIL TO HWY AND DITCH.CLEANING  
**MOE Reported Dt:** 6/30/1999  
**Environmental Impact:** POSSIBLE  
**Nature of Impact:** Soil contamination  
**Receiving Medium:** LAND  
**SAC Action Class:**  
**Sector Source Type:**  
**Receiving Environment:**  
**Incident Event:**  
**Site Municipality:** 21102

**Site:** Transport Company - Bruce R Smith Ltd.<UNOFFICIAL>  
GRASSY MEDIAN BETWEEN EAST AND WESTBOUND LANES OF HWY 403<UNOFFICIAL> Mississauga ON

**Database:**  
SPL

**Ref No:** 6037-67R9HZ  
**Contaminant Code:** 13  
**Contaminant Name:** DIESEL FUEL  
**Contaminant Quantity:** 120 L  
**Incident Cause:** Other Transport Accident  
**Incident Dt:** 12/17/2004  
**Incident Reason:** Unknown - Reason not determined  
**Incident Summary:** MVA: 120 L DSL to median of Hwy. 403, contained  
**MOE Reported Dt:** 12/17/2004  
**Environmental Impact:** Possible  
**Nature of Impact:** Soil Contamination  
**Receiving Medium:** Land  
**SAC Action Class:** Spill to Highway (Accident)  
**Sector Source Type:** Transport Truck  
**Receiving Environment:**  
**Incident Event:**  
**Site Municipality:** Mississauga

**Site:** lot 19 con 2 YATTON ON

**Database:**  
WWIS

<b>Well ID:</b>	6714987	<b>Lot:</b>	019
<b>Construction Date::</b>		<b>Concession:</b>	02
<b>Primary Water Use::</b>	Domestic	<b>Concession Name:</b>	CON
<b>Sec. Water Use::</b>		<b>Easting NAD83::</b>	
<b>Final Well Status::</b>	Water Supply	<b>Northing NAD83::</b>	
<b>Specific Capacity::</b>		<b>Zone::</b>	
<b>Municipality:</b>	PEEL TOWNSHIP	<b>UTM Reliability::</b>	
<b>County:</b>	WELLINGTON		

**Bore Hole Information**

-- --  
**Bore Hole ID:** 11179624  
**DP2BR:**  
**Code OB:** o  
**Code OB Description:** Overburden  
**Open Hole:**  
**Date Completed:** 01-JUL-04  
**Remarks:**  
**Zone:**  
**East 83:**  
**North 83:**  
**UTMRC:** 9  
**UTMRC Description:** unknown UTM  
**Location Method:** na  
**Org CS:**  
**Elevation:**  
**Elevrc:**  
**Elevrc Description:**  
**Location Source Date:**  
**Source Revision Comment:**  
**Improvement Location Source:**  
**Improvement Location Method:**  
**Supplier Comment:**  
**Spatial Status:**  
-- --  
**Overburden and Bedrock Materials Interval**  
-- --  
**Formation ID:** 932990303  
**Layer:** 1  
**General Color:** BROWN  
**Most Common Material:** CLAY

**Other Materials:**  
**Other Materials:**  
**Formation Top Depth:** 0  
**Formation End Depth:** 4  
**Formation End Depth UOM:** ft  
 --  
**Formation ID:** 932990304  
**Layer:** 2  
**General Color:** BROWN  
**Most Common Material:** CLAY  
**Other Materials:**  
**Other Materials:**  
**Formation Top Depth:** 4  
**Formation End Depth:** 45  
**Formation End Depth UOM:** ft  
 --  
**Formation ID:** 932990305  
**Layer:** 3  
**General Color:** GREY  
**Most Common Material:** CLAY  
**Other Materials:** HARDPAN  
**Other Materials:**  
**Formation Top Depth:** 45  
**Formation End Depth:** 76  
**Formation End Depth UOM:** ft  
 --  
**Formation ID:** 932990306  
**Layer:** 4  
**General Color:** BROWN  
**Most Common Material:** MEDIUM GRAVEL  
**Other Materials:**  
**Other Materials:**  
**Formation Top Depth:** 76  
**Formation End Depth:** 89  
**Formation End Depth UOM:** ft  
 --  
**Annular Space/Abandonment**  
**Sealing Record**  
 --  
**Plug ID:** 933262661  
**Layer:** 1  
**Plug From:** 0  
**Plug To:** 80  
**Plug Depth UOM:** ft  
 --  
**Method of Construction & Well**  
**Use**  
 --  
**Method Construction ID:** 966714987  
**Method Construction Code:** 2  
**Method Construction:** Rotary (Convent.)  
**Other Method Construction:**  
 --  
**Pipe Information**  
 --  
**Pipe ID:** 11188143  
**Casing Number:** 1  
**Comment:**  
**Alt Name:**  
 --  
**Construction Record - Casing**  
 --  
**Casing ID:** 930852815  
**Layer:** 1  
**Open Hole or Material:** STEEL  
**Depth From:** 2  
**Depth To:** 85  
**Casing Diameter:** 6.25  
**Casing Diameter UOM:** inch

<b>Casing Depth UOM:</b>	ft
--	--
--	--
<b>Construction Record - Screen</b>	
--	--
<b>Screen ID:</b>	933410995
<b>Layer:</b>	1
<b>Slot:</b>	30
<b>Screen Top Depth:</b>	85
<b>Screen End Depth:</b>	89
<b>Screen Material:</b>	
<b>Screen Depth UOM:</b>	ft
<b>Screen Diameter UOM:</b>	inch
<b>Screen Diameter:</b>	6.625
--	--
<b>Well Yield Testing</b>	
--	--
<b>Pump Test ID:</b>	11194547
<b>Pump Set At:</b>	70
<b>Static Level:</b>	40
<b>Final Level After Pumping:</b>	70
<b>Recommended Pump Depth:</b>	70
<b>Pumping Rate:</b>	50
<b>Flowing Rate:</b>	
<b>Recommended Pump Rate:</b>	25
<b>Levels UOM:</b>	ft
<b>Rate UOM:</b>	GPM
<b>Water State After Test Code:</b>	1
<b>Water State After Test:</b>	CLEAR
<b>Pumping Test Method:</b>	2
<b>Pumping Duration HR:</b>	2
<b>Pumping Duration MIN:</b>	30
<b>Flowing:</b>	
--	--
<b>Draw Down &amp; Recovery</b>	
--	--
<b>Pump Test Detail ID:</b>	11198819
<b>Pump Test ID:</b>	11194547
<b>Test Type:</b>	Draw Down
<b>Test Duration:</b>	1
<b>Test Level:</b>	70
<b>Test Level UOM:</b>	ft
--	--
<b>Pump Test Detail ID:</b>	11198820
<b>Pump Test ID:</b>	11194547
<b>Test Type:</b>	Recovery
<b>Test Duration:</b>	1
<b>Test Level:</b>	42
<b>Test Level UOM:</b>	ft
--	--
<b>Pump Test Detail ID:</b>	11198821
<b>Pump Test ID:</b>	11194547
<b>Test Type:</b>	Recovery
<b>Test Duration:</b>	2
<b>Test Level:</b>	41
<b>Test Level UOM:</b>	ft
--	--
<b>Pump Test Detail ID:</b>	11198822
<b>Pump Test ID:</b>	11194547
<b>Test Type:</b>	Recovery
<b>Test Duration:</b>	3
<b>Test Level:</b>	40
<b>Test Level UOM:</b>	ft
--	--
<b>Pump Test Detail ID:</b>	11198823
<b>Pump Test ID:</b>	11194547
<b>Test Type:</b>	Draw Down
<b>Test Duration:</b>	60
<b>Test Level:</b>	70

<b>Test Level UOM:</b>	ft
--	--
--	--
<b>Water Details</b>	
--	--
<b>Water ID:</b>	934057137
<b>Layer:</b>	1
<b>Kind Code:</b>	1
<b>Kind:</b>	FRESH
<b>Water Found Depth:</b>	85
<b>Water Found Depth UOM:</b>	ft
--	--
<b>Hole Diameter</b>	
--	--
<b>Hole ID:</b>	11313986
<b>Diameter:</b>	8.75
<b>Depth From:</b>	0
<b>Depth To:</b>	89
<b>Hole Depth UOM:</b>	ft
<b>Hole Diameter UOM:</b>	inch
--	--
--	--

## Appendix: Database Descriptions

*Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. **Note:** Databases denoted with " \* " indicates that the database will no longer be updated. See the individual database description for more information.*

### **Abandoned Aggregate Inventory:**

Provincial [AAGR](#)

The MAAP Program maintains a database of abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.\*

**Government Publication Date: Sept 2002\***

### **Aggregate Inventory:**

Provincial [AGR](#)

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

**Government Publication Date: Up to Sep 2016**

### **Abandoned Mine Information System:**

Provincial [AMIS](#)

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

**Government Publication Date: 1800-Nov 2016**

### **Anderson's Waste Disposal Sites:**

Private [ANDR](#)

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

**Government Publication Date: 1860s-Present**

### **Automobile Wrecking & Supplies:**

Private [AUWR](#)

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

**Government Publication Date: 1999 - Oct 2016**

### **Borehole:**

Provincial [BORE](#)

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

**Government Publication Date: 1875-Jul 2014**

### **Certificates of Approval:**

Provincial [CA](#)

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

**Government Publication Date: 1985-Oct 30, 2011\***

**Commercial Fuel Oil Tanks:**

Provincial

CFOT

Since May 2002, Ontario developed a new act where it became mandatory for fuel oil tanks to be registered with Technical Standards & Safety Authority (TSSA). This data would include all commercial underground fuel oil tanks in Ontario with fields such as location, registration number, tank material, age of tank and tank size.

**Government Publication Date:** Feb 28, 2017

**Chemical Register:**

Private

CHEM

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

**Government Publication Date:** 1999 - Oct 2016

**Compressed Natural Gas Stations:**

Private

CNG

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

**Government Publication Date:** Dec 31, 2012

**Inventory of Coal Gasification Plants and Coal Tar Sites:**

Provincial

COAL

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.\*

**Government Publication Date:** Apr 1987 and Nov 1988\*

**Compliance and Convictions:**

Provincial

CONV

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

**Government Publication Date:** 1989-Mar 2017

**Certificates of Property Use:**

Provincial

CPU

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

**Government Publication Date:** 1994-Apr 2017

**Drill Hole Database:**

Provincial

DRL

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

**Government Publication Date:** 1886-Aug 2015

**Environmental Activity and Sector Registry:**

Provincial

EASR

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

**Government Publication Date:** Oct 2011-Mar 2017

**Environmental Registry:**

Provincial

EBR

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

**Government Publication Date:** 1994-Apr 2017

**Environmental Compliance Approval:**

Provincial

ECA

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For certificates of approval prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

**Government Publication Date: Oct 2011-Mar 2017**

**Environmental Effects Monitoring:**

Federal

EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

**Government Publication Date: 1992-2007\***

**ERIS Historical Searches:**

Private

EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

**Government Publication Date: 1999-Aug 2016**

**Environmental Issues Inventory System:**

Federal

EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

**Government Publication Date: 1992-2001\***

**Emergency Management Historical Event:**

Provincial

EMHE

The Emergency Management Historical Event data class will store the locations of historical occurrences of emergency events. Events captured will include those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under the Emergency Management and Civil Protection Act as well as events where MNR provided requested emergency response assistance. Many of these events will have involved community evacuations, significant structural loss, and/or involvement of MNR emergency response staff. These events fall into one of ten (10) type categories: Dam Failure; Drought / Low Water; Erosion; Flood; Forest Fire; Soil and Bedrock Instability; Petroleum Resource Center Event, EMO Requested Assistance, Continuity of Operations Event, Other Requested Assistance.

**Government Publication Date: May 31, 2014**

**List of TSSA Expired Facilities:**

Provincial

EXP

List of facilities with removed tanks which were once registered with the Fuels Safety Program of the Technical Standards and Safety Authority (TSSA). Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc. Tanks which have been removed automatically fall under the expired facilities inventory held by TSSA.

**Government Publication Date: Feb 28, 2017**

**Federal Convictions:**

Federal

FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

**Government Publication Date: 1988-Jun 2007\***

**Contaminated Sites on Federal Land:**

Federal

FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

**Government Publication Date: June 2000-Aug 2016**

**Fisheries & Oceans Fuel Tanks:**

Federal

FOFT

Fisheries & Oceans Canada maintains an inventory of aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

**Government Publication Date: 1964-Sept 2003**

**Fuel Storage Tank:**

Provincial

FST

The Technical Standards & Safety Authority (TSSA), under the Technical Standards & Safety Act of 2000 maintains a database of registered private and retail fuel storage tanks in Ontario with fields such as location, tank status, license date, tank type, tank capacity, fuel type, installation year and facility type.

**Government Publication Date: Feb 28, 2017**

**Fuel Storage Tank - Historic:**

Provincial

FSTH

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

**Government Publication Date: Pre-Jan 2010\***

**Ontario Regulation 347 Waste Generators Summary:**

Provincial

GEN

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

**Government Publication Date: 1986-Sep 2016**

**Greenhouse Gas Emissions from Large Facilities:**

Federal

GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO<sub>2</sub> eq).

**Government Publication Date: 2013-Dec 2015**

**TSSA Historic Incidents:**

Provincial

HINC

This database will cover all incidences recorded by TSSA with their older system, before they moved to their new management system. TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. The TSSA works to protect the public, the environment and property from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from pipelines, diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

**Government Publication Date: 2006-June 2009\***

**Indian & Northern Affairs Fuel Tanks:**

Federal

IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

**Government Publication Date: 1950-Aug 2003\***

**TSSA Incidents:**

Provincial

INC

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Includes incidents from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

**Government Publication Date: Feb 28, 2017**

**Landfill Inventory Management Ontario:**

Provincial

LIMO

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the ministry compiles new and updated information. The inventory will include small and large landfills. Additionally, each year the ministry will request operators of the larger landfills complete a landfill data collection form that will be used to update LIMO and will include the following information from the previous operating year. This will include additional information such as estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills will include information such as site owner, site location and certificate of approval # and status.

**Government Publication Date: Dec 31, 2013**

**Canadian Mine Locations:**

Private

MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

**Government Publication Date: 1998-2009\***

**Mineral Occurrences:**

Provincial

MNR

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the plan metric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

**Government Publication Date: 1846-Feb 2017**

**National Analysis of Trends in Emergencies System (NATES):**

Federal

NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

**Government Publication Date: 1974-1994\***

**Non-Compliance Reports:**

Provincial

NCPL

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

**Government Publication Date: Dec 31, 2014**

**National Defense & Canadian Forces Fuel Tanks:**

Federal

NDFT

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

**Government Publication Date: Up to May 2001\***

**National Defense & Canadian Forces Spills:**

Federal

NDSP

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

**Government Publication Date: Mar 1999-Aug 2010**

**National Defence & Canadian Forces Waste Disposal Sites:**

Federal

NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

**Government Publication Date: 2001-Apr 2007\***

**National Energy Board Pipeline Incidents:**

Federal

NEBI

Locations of pipeline incidents from 2008 to present, made available by the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

**Government Publication Date: 2008 - Dec 2016**

**National Energy Board Wells:**

Federal

NEBW

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

**Government Publication Date: 1920-Feb 2003\***

**National Environmental Emergencies System (NEES):**

Federal

NEES

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

**Government Publication Date: 1974-2003\*****National PCB Inventory:**

Federal

NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

**Government Publication Date: 1988-2008\*****National Pollutant Release Inventory:**

Federal

NPRI

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

**Government Publication Date: 1993-2014****Oil and Gas Wells:**

Private

OGW

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at [www.nickles.com](http://www.nickles.com).

**Government Publication Date: 1988-Jan 2017****Ontario Oil and Gas Wells:**

Provincial

OOGW

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, and well cap date, license No., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record.

**Government Publication Date: 1800-Oct 2016****Inventory of PCB Storage Sites:**

Provincial

OPCB

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

**Government Publication Date: 1987-Oct 2004; 2012-Dec 2013****Orders:**

Provincial

ORD

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

**Government Publication Date: 1994-Apr 2017****Canadian Pulp and Paper:**

Private

PAP

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

**Government Publication Date: 1999, 2002, 2004, 2005, 2009****Parks Canada Fuel Storage Tanks:**

Federal

PCFT

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

**Government Publication Date: 1920-Jan 2005\***

**Pesticide Register:**

Provincial PES

The Ontario Ministry of the Environment and Climate Change maintains a database of licensed operators and vendors of registered pesticides.

**Government Publication Date: 1988-Oct 2016**

**TSSA Pipeline Incidents:**

Provincial PINC

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. This database will include spills, strike and leaks from recorded by the TSSA.

**Government Publication Date: Feb 28, 2017**

**Private and Retail Fuel Storage Tanks:**

Provincial PRT

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

**Government Publication Date: 1989-1996\***

**Permit to Take Water:**

Provincial PTTW

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all PTTW's on the registry such as OWRA s. 34 - Permit to take water.

**Government Publication Date: 1994-Apr 2017**

**Ontario Regulation 347 Waste Receivers Summary:**

Provincial REC

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

**Government Publication Date: 1986-2013**

**Record of Site Condition:**

Provincial RSC

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.

RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

**Government Publication Date: 1997-Sept 2001, Oct 2004-Apr 2017**

**Retail Fuel Storage Tanks:**

Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

**Government Publication Date: 1999 - Oct 2016**

**Scott's Manufacturing Directory:**

Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

**Government Publication Date: 1992-Mar 2011\***

**Ontario Spills:**

Provincial SPL

This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

**Government Publication Date: 1988-Dec 2016**

**Wastewater Discharger Registration Database:**

Provincial

SRDS

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS).

**Government Publication Date: 1990-2014**

**Anderson's Storage Tanks:**

Private

TANK

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

**Government Publication Date: 1915-1953\***

**Transport Canada Fuel Storage Tanks:**

Federal

TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

**Government Publication Date: 1970-Jan 2015**

**TSSA Variances for Abandonment of Underground Storage Tanks:**

Provincial

VAR

List of variances granted for abandoned tanks. Under the Technical Standards and Safety Authority (TSSA) Liquid Fuels Handling Code and Fuel Oil Code, all underground storage tanks must be removed within two years of disuse. If removal of a tank is not feasible, an application may be sought for a variance from this code requirement.

**Government Publication Date: Feb 28, 2017**

**Waste Disposal Sites - MOE CA Inventory:**

Provincial

WDS

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERI's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

**Government Publication Date: 1970-Mar 2017**

**Waste Disposal Sites - MOE 1991 Historical Approval Inventory:**

Provincial

WDSH

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERI's Private Source Database section, by the CA number.

**Government Publication Date: Up to Oct 1990\***

**Water Well Information System:**

Provincial

WWIS

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

**Government Publication Date: Jun 30, 2016**

# Definitions

**Database Descriptions:** This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

**Detail Report:** This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

**Distance:** The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

**Direction:** The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

**Elevation:** The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

**Executive Summary:** This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

**Map Key:** The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

**Unplottables:** These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.



GeoPro Consulting Limited

Geotechnical-Hydrogeology-Environmental-Materials-Inspection

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## **APPENDIX B**

Ministry of the Environment  
and Climate Change

Freedom of Information and  
Protection of Privacy Office

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

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

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

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



June 22, 2017

Hannah Lei  
GeoPro Consulting Ltd  
40 Vogell Rd  
Richmond Hill, ON L4B 3N6

Dear Hannah Lei:

**RE: *Freedom of Information and Protection of Privacy Act Request***  
**Our File #: A-2017-03684, Your Reference #: 17-1798GH**

This letter is in response to your request made pursuant to the *Freedom of Information and Protection of Privacy Act* relating to 309 Rathburn Rd W, Mississauga.

After a thorough search of the Ministry's Halton-Peel District Office, Investigations and Enforcement Branch, Environmental Monitoring and Reporting Branch, Sector Compliance Branch and Safe Drinking Water Branch, records were located in response to your request. It is my decision to provide full access to the attached information. Pages and portions of pages that are not responsive to the scope of this request have been removed and are marked as N/R.

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

• Search Time 1 hour @ \$30/hour	\$ 30.00
• Copying 9 pages @ \$0.20/page	\$ 1.80
• Delivery	\$ 3.00
• <b>Total</b>	<b>\$ 34.80</b>
• Deposit Received	- \$ 30.00
• <b>BALANCE WAIVED (NOT REQUIRED)</b>	<b>\$ 4.80</b>

To conduct a search through the files of the Environmental Approvals Branch requires an additional 8 hours. If you would like us to search for Environmental Compliance Approvals/Certificates of Approval at the Environmental Approvals Branch (EAB), please forward to me at the above address payment by money order or cheque (made payable to the "Minister of Finance (FOI)") or by credit card in the amount of \$240.00. Please note that there is no guarantee any records will be located responsive to your request. Credit card forms are available on the Ministry's website <http://www.ontario.ca/environment-and-energy/freedom-information-request-form-credit-card-form>. Please note, a request for records must usually be answered within 30 calendar days, however Section 27 allows for time extensions under certain circumstances. If you choose to have the search conducted at the Environmental Approvals Branch, the time for answering your request will be extended for an additional 30 days.

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

If you have any questions regarding this matter, please contact Michael Kolaric at 416-327-3036.

Yours truly,

A handwritten signature in blue ink, appearing to read "Janet", with a stylized flourish extending from the end.Handwritten initials "JD" in blue ink, positioned to the left of the name.

Janet Dadufalza  
FOI Manager

Attachments



Ministry of  
Environment  
and Energy

Ministère de  
l'Environnement  
et de l'Énergie

SI-HP-MS-RA-230

*f/b*  
CERTIFICATE OF APPROVAL  
SEWAGE  
NUMBER 3-0746-96-006  
Page 1 of 4

s.N/R

Hammerson Properties Inc.  
55 City Centre Drive  
Suite #1000  
Mississauga, Ontario  
L3B 1M3

ONTARIO MINISTRY  
OF THE ENVIRONMENT

JUL 22 1996

CENTRAL REGION  
OAKVILLE OFFICE

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

*of:*

a private stormwater management facility and appurtenances to service proposed commercial building at 309, Rathburn Road West, in the City of Mississauga, in the Regional Municipality of Peel, in conjunction with Project No. C-205407, consisting of;

roof top and parking lot storage ponds with a combined maximum storage of 801 cubic metres at a maximum ponding depth of 0.3m controlled by 75mm diameter orifices in catchbasin manhole 23, catchbasin 22, and catchbasin 7; 80mm diameter orifices in catchbasin manhole 25, and catchbasin 4, 90 diameter orifice in catchbasin manhole 28, 120mm diameter orifices in catchbasin manhole 9, to attenuate the 5 year storm post development peak run-off from a total 8.19 hectare drainage area to 2 year storm pre-development levels discharging to the municipal storm sewer on Rathburn Road West at a maximum controlled release rate of 165 litres per second.

All in accordance with a report entitled "Hammerson Properties Inc. Construction of Municipal Services West Block of Rathburn Lands, Storm Water Management Report" revised December 18, 1995 prepared by Totten Sims Hubicki Associates, Consulting Engineers.

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

#### TERMS AND CONDITIONS

1. For the purposes of this Certificate of Approval:

- (a) "Director" means any Ministry employee appointed by the Minister pursuant to section 5 of the *Ontario Water Resources Act*;
- (b) "Ministry" means the Ontario Ministry of Environment and Energy;
- (c) "Owner" means Hammerson Properties Inc. and includes its successors and assignees;
- (d) "Operating Authority" means Hammerson Properties Inc. and includes its successors and assignees;
- (e) "District Manager" means the District Manager of the Halton Peel Office of the Ministry of Environment and Energy's Central Region;

000001



Ministry of  
Environment  
and Energy

Ministère de  
l'Environnement  
et de l'Énergie

CERTIFICATE OF APPROVAL  
SEWAGE  
NUMBER 3-0746-96-006  
Page 2 of 4

(f) "Works" means the facility described in the Owner's application, the Certificate and in the supporting documentation referred to herein, to the extent approved by this certificate;

2. The approval granted by this Certificate is based upon a review of the proposed works in the context of its effect on the environment, its process performance and principles of sanitary engineering.

The review did not include a consideration of the architectural, mechanical or structural components of the works except to the extent necessary to review the works as set out in the above paragraph.

3. The owner shall ensure that, at all times, the works and related equipment and appurtenances which are installed or used to achieve compliance with this Certificate are properly operated and maintained and meet with the operation and maintenance requirements of the municipality.
4. This Certificate is conditional upon the owner making all necessary investigations, taking all necessary steps and obtaining all necessary approvals so as to ensure that the physical structure, siting and operations of the stormwater works do not constitute a safety or health hazard to the general public.
5. The Owner shall ensure that sediment is removed from the above noted stormwater management works at such a frequency as to prevent the excessive buildup and potential overflow of sediment into the receiving watercourse.

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

1. Condition No. 1 is included to define the terms used in this Certificate of Approval.
2. Condition No. 2 is included to make the owner, subsequent owners, successors, assignees, and any third parties relying upon the certificate, aware that the review conducted by this Ministry and the approval granted as a result is limited in scope and should not be relied upon as an approval of the stipulated design aspects of the works.
3. Condition No. 3 is included to ensure that the works will be operated, maintained, funded, staffed and equipped in a manner enabling compliance with the terms and conditions of this Certificate, such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented.



Ministry of  
Environment  
and Energy

Ministère de  
l'Environnement  
et de l'Énergie

CERTIFICATE OF APPROVAL  
SEWAGE  
NUMBER 3-0746-96-006  
Page 3 of 4

4. Condition No. 4 is imposed because it is not in the public interest for the Director to approve facilities which, by reason of potential health and safety hazards do not generally comply with legal standards or approval requirements falling outside the purview of this Ministry.
5. Condition No. 5 is included as regular removal of sediment from the approved stormwater management works is required to mitigate the impact of sediment on the downstream receiving watercourse. It is also required to ensure that adequate storage is maintained in the stormwater management facilities at all times as required by the design.

*In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter O.40, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act, provides that the Notice requiring the hearing shall state:*

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

*The Notice should also include:*

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

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

*This Notice must be served upon:*

The Secretary,  
Environmental Appeal Board,  
112 St. Clair Avenue West,  
Suite 502,  
Toronto, Ontario.  
M4V 1N3.

AND

The Director,  
Section 53, Ontario Water Resources Act,  
Ministry of Environment and Energy,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2



Ministry of  
Environment  
and Energy

Ministère de  
l'Environnement  
et de l'Énergie

**CERTIFICATE OF APPROVAL**  
**SEWAGE**  
**NUMBER 3-0746-96-006**  
**Page 4 of 4**

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

**DATED AT TORONTO this 9th**

*day of*

**July 1996**

THIS IS A TRUE COPY OF THE  
ORIGINAL FILED

*July 4/96*

**M. Dhalla, P. Eng.**

**Director**

**Section 53**

**Ontario Water Resources Act**

(Signed)

HS/pm

cc: -Mr. T. Julian, Clerk, City of Mississauga  
-Ms. B.J. Zeran, Clerk, R.M. of Peel  
-Supervisor, Approvals & Pesticides Management, MOEE C Region ✓  
-Totten Sims Hubicki Associates

**Pages 5 to / à 6  
are not relevant  
sont non pertinentes**



June 18, 1996  
File: C-205407

Ministry of Environment & Energy  
Environmental Approvals Branch  
250 Davisville Avenue  
3rd Floor  
Toronto, Ontario  
M4S 1H2

Attention: M. Dhalla, P.Eng.  
Director

s.N/R

Re: Private on Site Storm Water Management System  
309, Rathburn Road West  
City of Mississauga

We are enclosing an application form, draft certificate, and drawings for the construction of a private on site storm water management system at the above location.

The storm water management system design has been reviewed by the City of Mississauga and conforms to The Ministry of Environment and Energy, and The Urban Drainage Design Guidelines and the City of Mississauga design standards. We, therefore, recommend approval of the application.

A copy of the application has been forwarded to the M.O.E.E., Halton-Peel District Office, for their information.

Yours truly

A handwritten signature in dark ink, appearing to read 'J.P. Amodeo'.

J.P. Amodeo, P.Eng.  
Acting Director  
Engineering & Construction Division

Handwritten initials 'AMCG/rw' inside a circular stamp.

AMCG/rw

Enc.

c.c.: Totten Sims Hubicki Associates  
M.O.E.E., Halton-Peel District Office  
City of Mississauga

**CERTIFICATE OF APPROVAL**

**MUNICIPAL SEWAGE  
NUMBER 3-  
Page 1 of 4**

Hammerson Properties Inc.  
55 City Centre Drive  
Suite #1000  
Mississauga, Ontario  
L3B 1M3

s.N/R

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

a private stormwater management facility and appurtenances to service proposed commercial building at [REDACTED] 309, [REDACTED] Rathburn Road West, in the City of Mississauga, in the Regional Municipality of Peel in conjunction with project number C-205407, consisting of;

roof top and parking lot storage ponds with a combined maximum storage of 801 cubic meters at a maximum ponding depth of 0,3m controlled by 75mm diameter orifices in catchbasin manhole 23, catchbasin 22, and catchbasin 7; 80mm diameter orifices in catchbasin manhole 25, and catchbasin 4; 90mm diameter orifice in catchbasin manhole 28, 120mm diameter orifice in catchbasin manhole 9, to attenuate the 5 year storm post development peak run-off from a total drainage 8.19 hectare drainage area to 2 year storm pre-development levels discharging to the municipal storm sewer on Rathburn Road West at existing a maximum controlled release rate of 165 litres per second.

All in accordance with a report entitled, "Hammerson Properties Inc, Construction of Municipal Services West Block Of Rathburn Lands, Storm Water Management Report" revised December 18, 1995 prepared by Totten Sims Hubicki Associates, Engineers, Architects and planners.

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

TERMS AND CONDITIONS

1. For the purposes of this Certificate of Approval:
  - a) "Director" means any Ministry employee appointed by the Minister pursuant to section 5 of the Ontario Water Resources Act;
  - b) "Ministry" means the Ontario Ministry of Environment and Energy;
  - c) "Owner" means Hammerson Properties Inc. and includes its successors and assignees;
  - d) "Operating Authority" means Hammerson Properties Inc. and includes its successors and assignees;
  - e) "District Manager" means the District Manager of the Halton Peel Office of the Ministry of Environment and Energy's Central Region;
  - f) "works" means the facility described in the Owner's application, the Certification and in the supporting documentation referred to herein, to the extent approved by this Certificate.
2. The approval granted by this Certificate is based upon a review of the proposed works in the context of its effect on the environment, its process performance and principles of sanitary engineering.

The review did not include a consideration of the architectural, mechanical or structural components of the works except to the extent necessary to review the works as set out in the above paragraph.
3. The Owner shall ensure, that, at all times, the works and related equipment and appurtenances which are installed or used to achieve compliance with this Certificate are properly operated and maintained and meet with the operation and maintenance requirements of the Municipality.
4. This Certificate is conditional upon the owner making all necessary investigations, taking all necessary steps and obtaining all necessary approvals so as to ensure that the physical structure, siting and operations of the stormwater works do not constitute a safety or health hazard to the general public.
5. The Owner shall ensure that sediment is removed from the above noted stormwater management works at such a frequency as to prevent the excessive build-up and potential overflow of sediment into the receiving watercourse.

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

1. Condition No. 1 is included to define the terms used in this Certificate of Approval.
2. Condition No. 2 is included to make the owner, subsequent owners, successors, assignees, and any third parties relying upon the certificate, aware that the review conducted by this Ministry and the approval granted as a result is limited in scope and should not be relied upon as an approval of the stipulated design aspects of the works.
3. Condition No. 3 is included to ensure that the works will be operated, maintained, funded, staffed and equipped in a manner enabling compliance with the terms and conditions of this Certificate, such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented.
4. Condition No. 4 is imposed because it is not in the public interest for the Director to approve facilities which, by reason of potential health and safety hazards do not generally comply with legal standards or approval requirements falling outside the purview of this Ministry.
5. Condition No. 5 is included as a regular removal of sediment from the approved stormwater management works is required to mitigate the impact of sediment on the downstream receiving watercourse. It is also required to ensure that adequate storage is maintained in the stormwater management facilities at all times as required by the design.

*You may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:*

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

*The Notice should also include:*

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

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

This Notice must be served upon:

The Secretary,  
Environmental Appeal Board,  
112 St. Clair Avenue West,  
Suite 502, AND  
Toronto, Ontario.  
M4V 1N3

The Director,  
Section 53, Ontario Water Resources Act,  
Ministry of the Environment,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

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

*DATED AT TORONTO this      day of*

Donald Carr, P. Eng.  
Supervisor  
Section 53  
Ontario Water Resources Act

/bvs

c.c.

## Hannah L

---

**From:** Ruchi Chohan on behalf of Public Information Services  
**Sent:** May-31-17 12:58 PM  
**To:** Hannah L  
**Subject:** RE: TSSA database search for 309 Rathburn Road West, Mississauga, Ontario

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hello Hannah,

Thank you for your inquiry.

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

For a further search in our archives please submit your request in writing to Public Information Services via e-mail ([publicinformationsservices@tssa.org](mailto:publicinformationsservices@tssa.org)) or through mail along with a fee of \$56.50 (including HST) per location. The fee is payable with credit card (Visa or MasterCard) or with a Cheque made payable to TSSA.

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

Thank and have a great day!

Ruchi

---

**From:** Hannah L [mailto:[hannahl@geoproconsulting.ca](mailto:hannahl@geoproconsulting.ca)]  
**Sent:** Thursday, May 25, 2017 2:29 PM  
**To:** Public Information Services <[publicinformationsservices@tssa.org](mailto:publicinformationsservices@tssa.org)>  
**Cc:** [yli@geoproconsulting.ca](mailto:yli@geoproconsulting.ca); [bguan@geoproconsulting.ca](mailto:bguan@geoproconsulting.ca)  
**Subject:** TSSA database search for 309 Rathburn Road West, Mississauga, Ontario

Good afternoon,

Can you please conduct a search for any record for 309 Rathburn Road West, Mississauga, Ontario?

Kind Regards,

Hannah Lei, M.A.Sc.  
GeoPro Consulting Limited

T: (905)-237-8336 C: (647)-937-3350  
[hannahl@geoproconsulting.ca](mailto:hannahl@geoproconsulting.ca)  
40 Vogell Road, Unit 23-24, Richmond Hill, Ontario, Canada L4B 3N6  
**Professional, Proficient, Proactive**

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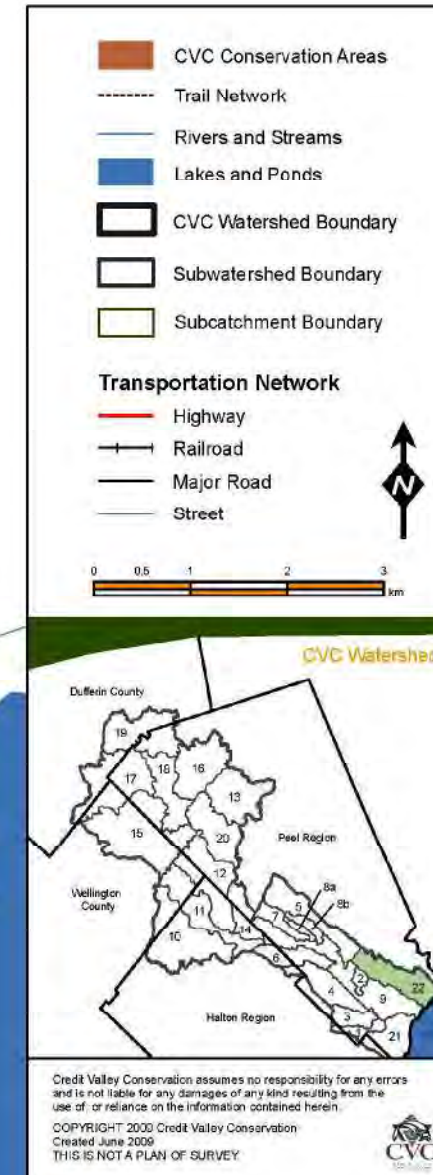
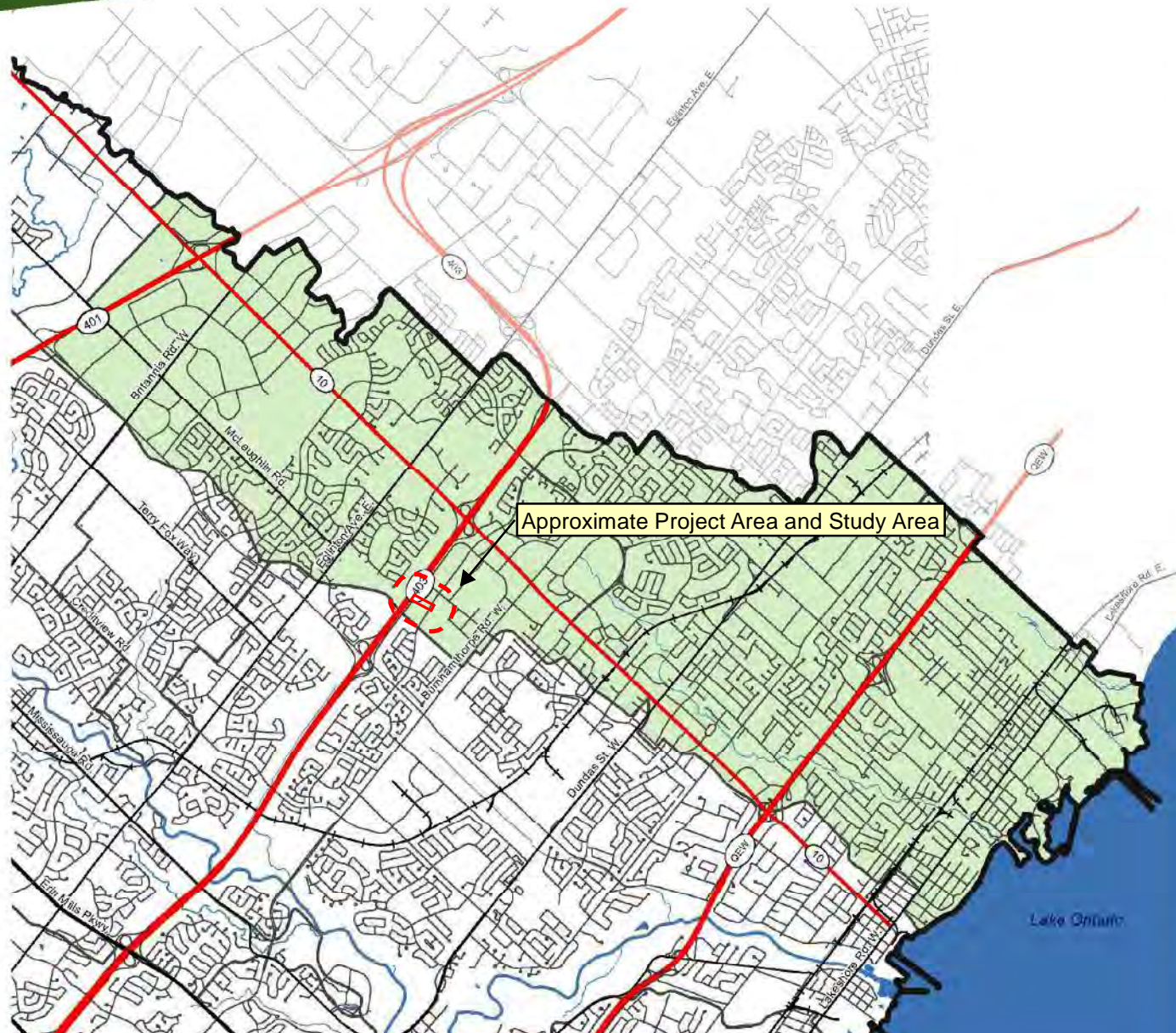
GeoPro Consulting Limited

Geotechnical-Hydrogeology-Environmental-Materials-Inspection

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## APPENDIX C

## 22 - Lake Ontario Shoreline East Subwatershed



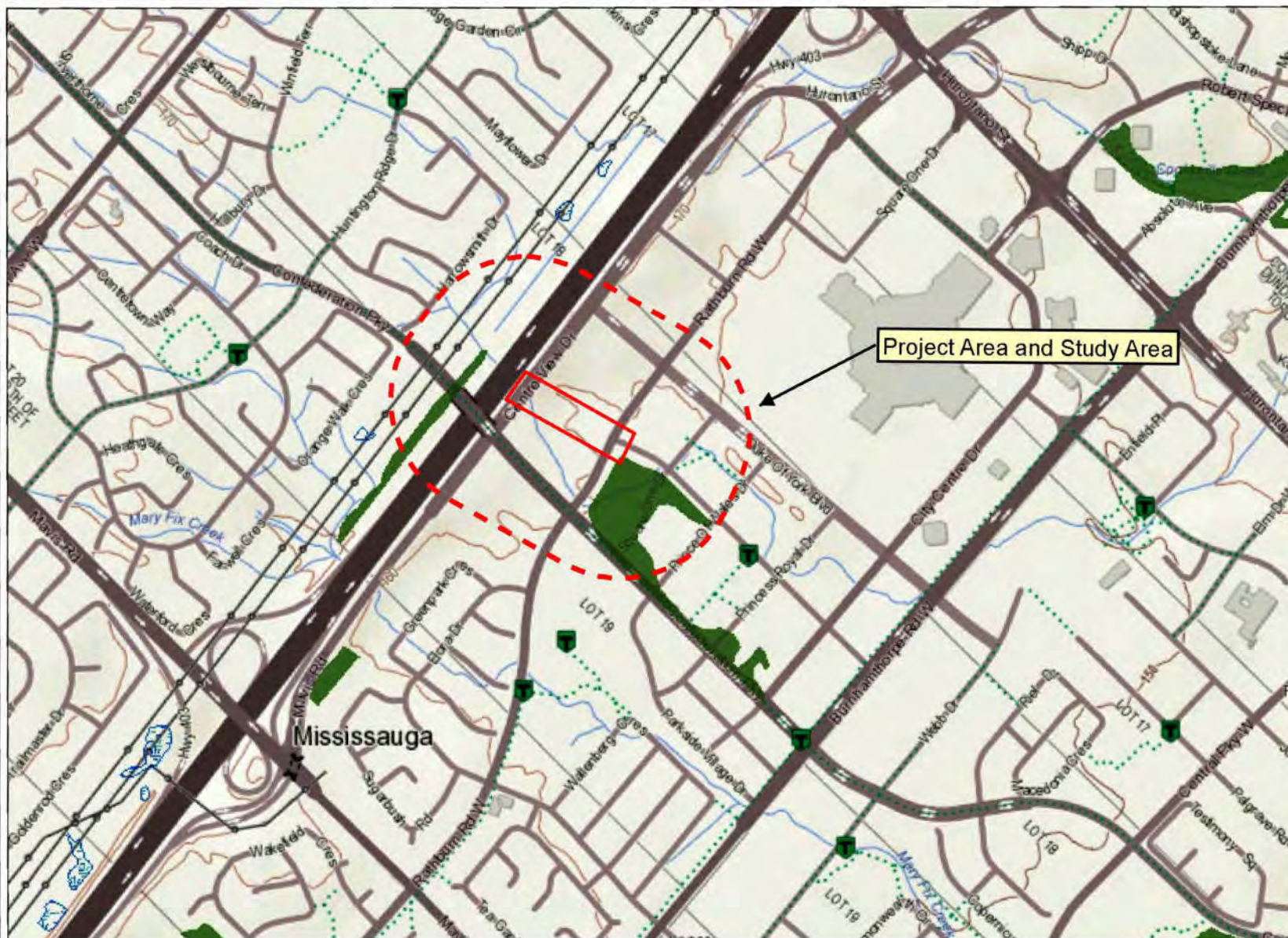


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## **APPENDIX D**



### Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion
- Wetland
  - Provincially Significant Wetland Evaluated
  - Non-Provincially Significant Wetland Evaluated
  - Unevaluated Wetland
- Area of Natural Heritage & Scientific Interest (ANSI)
  - Provincially Significant Life Science ANSI
  - Provincially Significant Earth Science ANSI
- Greenbelt Plan
  - Boundary
  - River Valley Connections
- Land Use Designations
  - Protected Countryside
  - Towns and Villages
  - Hamlets
  - Urban River Valley
  - Specialty Crop Area
- Niagara Escarpment Plan (NEP)
  - Boundary
  - Parks and Open Space System
- Land Use Designations
  - Escarpment Natural Area
  - Escarpment Protection Area
  - Escarpment Rural Area
  - Mineral Resource Extraction Area
  - Escarpment Recreation Area
  - Urban Area
  - Minor Urban Centre
- Oak Ridges Moraine Conservation Plan (ORM)
  - Boundary
  - Land Use Designations
    - Natural Core Area
    - Natural Linkage Area
    - Countryside Area
    - Rural Settlement
    - Palgrave Estates Residential Community
    - Settlement Area

0.9 0 0.46 0.9 Kilometers

Scale: 1 : 18,055



This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources and Forestry (OMNRF) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

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Geotechnical-Hydrogeology-Environmental-Materials-Inspection

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## **APPENDIX E**

## Well Computer Print Out Data as of May 25 2017

Page: 1 / 2

TOWNSHIP CONCESSION (LOT)	UTM <sup>1</sup>	DATE <sup>2</sup> CNTR <sup>3</sup>	CASING DIA <sup>4</sup>	WATER <sup>5,6</sup> DETAIL	STAT LVL/PUMP LVL <sup>7</sup> RATE <sup>8</sup> /TIME HR:MIN	WATER USE <sup>9</sup>	SCREEN INFO <sup>10</sup>	WELL # (AUDIT#) WELL TAG # STATE <sup>12</sup> DEPTHS TO WHICH FORMATIONS EXTEND <sup>5,11</sup>
MISSISSAUGA CITY ( )	17 609386 4827632 W	2012/03 7472	01			MO	18 10	7185910 (Z151858) A132745 GREY FILL CLAY PCKD 0010 GREY SHLE HARD 0028
MISSISSAUGA CITY ( )	17 609353 4827613 W	2012/03 7472	01			MO	18 10	7185911 (Z151857) A132744 GREY FILL CLAY PCKD 0010 GREY SHLE HARD 0028
MISSISSAUGA CITY ( )	17 609370 4827584 W	2012/03 7472	01			MO	18 10	7185912 (Z151856) A132743 GREY FILL CLAY PCKD 0010 GREY SHLE HARD 0028
MISSISSAUGA CITY ( )	17 609057 4827436 W	2014/01 7215						7247756 (C24703) A152077 P
MISSISSAUGA CITY ( )	17 609316 4826914 W	2016/11 7238						7277239 (C29895) A213497 P
MISSISSAUGA CITY ( )	17 609371 4827276 W	2017/04 6607						7286067 (Z248228) A217763 P
MISSISSAUGA CITY ( )	17 609358 4827314 W	2016/08 7472	02			MO	55 10	7272689 (Z239863) A210390 BRWN SILT SAND GRVL 0008 GREY SHLE WTHD 0010 GREY SHLE 0065
MISSISSAUGA CITY ( )	17 609091 4827535 W	2016/08 7472	02			MO	55 10	7272690 (Z239861) A210391 BRWN SILT SAND GRVL 0008 GREY SHLE WTHD 0010 GREY SHLE 0065
MISSISSAUGA CITY ( )	17 609043 4827541 W	2016/11 7472						7279604 (Z244762) A214683 P
MISSISSAUGA CITY ( )	17 609277 4827819 W	2017/03 6607						7284677 (Z248229) A224340 P
MISSISSAUGA CITY ( )	17 609305 4826903 W	2016/09 7383						7281724 (Z231827) A212144 P

## Notes:

1. UTM in Zone, Easting, Northing and Datum is NAD83; L: UTM estimated from Centroid of Lot; W: UTM not from Lot Centroid
2. Date Work Completed
3. Well Contractor Licence Number
4. Casing diameter in inches
5. Unit of Depth in Feet
6. See Table 4 for Meaning of Code
7. STAT LVL: Static Water Level in Feet ; PUMP LVL: Water Level After Pumping in Feet
8. Pump Test Rate in GPM, Pump Test Duration in Hour : Minutes
9. See Table 3 for Meaning of Code
10. Screen Depth and Length in feet
11. See Table 1 and 2 for Meaning of Code
12. A: Abandonment; P: Partial Data Entry Only

1. Core Material and Descriptive terms											
Code	Description	...	Code	Description	...	Code	Description	...	Code	Description	...
BLDR	BOULDERS		FCRD	FRACTURED		IRFM	IRON FORMATION		PORS	POROUS	
BSLT	BASALT		FGRD	FINE-GRAINED		LIMY	LIMY		PRDG	PREVIOUSLY DUG	
CGRD	COARSE-GRAINED		FGVL	FINE GRAVEL		LMSN	LIMESTONE		PRDR	PREV. DRILLED	
CGVL	COARSE GRAVEL		FILL	FILL		LOAM	TOPSOIL		QRTZ	QUARTZITE	
CHRT	CHERT		FLDS	FELDSPAR		LOOS	LOOSE		QSND	QUICKSAND	
CLAY	CLAY		FLNT	FLINT		LTCL	LIGHT-COLOURED		QTZ	QUARTZ	
CLN	CLEAN		FOSS	FOSILIFEROUS		LYRD	LAYERED		ROCK	ROCK	
CLYY	CLAYEY		FSND	FINE SAND		MARL	MARL		SAND	SAND	
CMTD	CEMENTED		GNIS	GNEISS		MGRD	MEDIUM-GRAINED		SHLE	SHALE	
CONG	CONGLOMERATE		GRNT	GRANITE		MGVL	MEDIUM GRAVEL		SHLY	SHALY	
CRYS	CRYSTALLINE		GRSN	GREENSTONE		MRBL	MARBLE		SHRP	SHARP	
CSND	COARSE SAND		GRVL	GRAVEL		MSND	MEDIUM SAND		SHST	SCHIST	
DKCL	DARK-COLOURED		GRWK	GREYWACKE		MUCK	MUCK		SILT	SILT	
DLMT	DOLOMITE		GVLY	GRAVELLY		OBDN	OVERBURDEN		SLTE	SLATE	
DNSE	DENSE		GYPS	GYP SUM		PCKD	PACKED		SLTY	SILTY	
DRTY	DIRTY		HARD	HARD		PEAT	PEAT		SNDS	SANDSTONE	
DRY	DRY		HPAN	HARDPAN		PGVL	PEA GRAVEL		SNDY	SANDY	

2. Core Color	
Code	Description
WHIT	WHITE
GREY	GREY
BLUE	BLUE
GREN	GREEN
YLLW	YELLOW
BRWN	BROWN
RED	RED
BLCK	BLACK
BLGY	BLUE-GREY

3. Water Use			
Code	Description	Code	Description
DO	Domestic	OT	Other
ST	Livestock	TH	Test Hole
IR	Irrigation	DE	Dewatering
IN	Industrial	MO	Monitoring
CO	Commercial	MT	Monitoring & Test Hole
MN	Municipal		
PS	Public		
AC	Cooling And A/C		
NU	Not Used		

4. Water Detail			
Code	Description	Code	Description
FR	Fresh	GS	Gas
SA	Salty	IR	Iron
SU	Sulphur		
MN	Mineral		
UK	Unknown		

7247756: Water well records within the Study Area



GeoPro Consulting Limited

Geotechnical-Hydrogeology-Environmental-Materials-Inspection

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## **APPENDIX F**

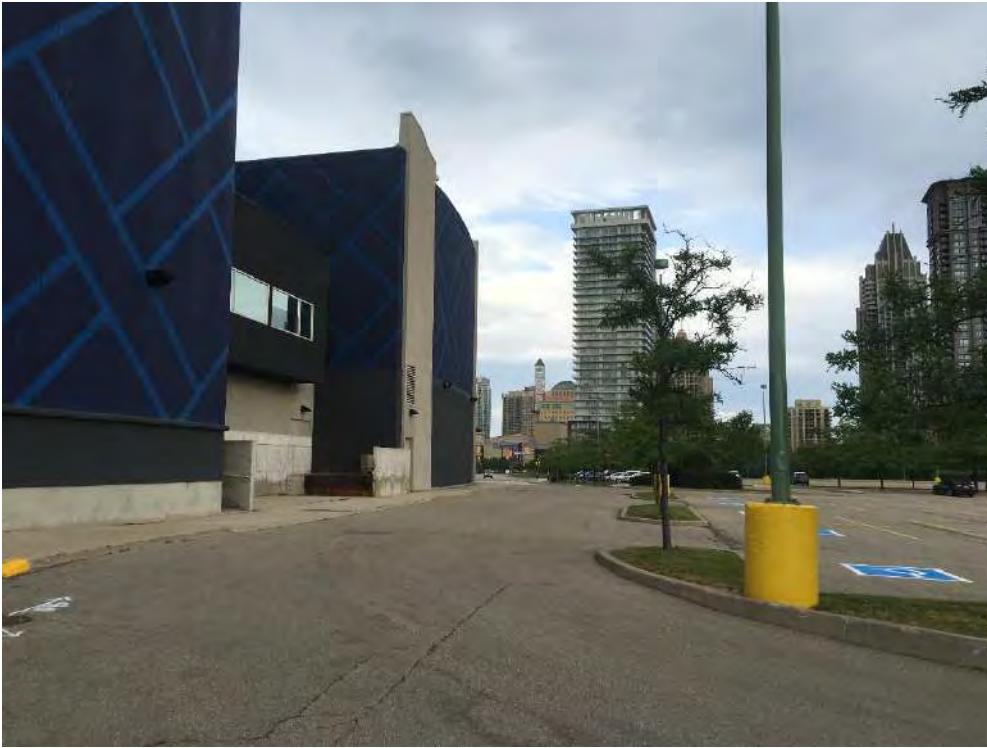


Photo 1 - View of the Site on the Property at 309 Rathburn Road West (looking southeast near the property boundary).



Photo 2 - View of the Cineplex Cinema at 309 Rathburn Road West (looking northwest from Duke of York Boulevard).



Photo 3 - View of the electrical room within the Cineplex Cinema Building



Photo 4 - View of the rooftop HVAC units (looking southeast)



Photo 5 - View of the parking lot southwest of the Cineplex Cinema at 309 Rathburn Road West (looking northwest)



Photo 6 - View of a culvert outlet and a storm drain inlet into a storm sewer located in the northwest portion of the Site



Photo 7 - View of the back of Cineplex Cinema building (looking southwest). Enclosed storage area, and garbage bins/containers were noted.



Photo 8 - View of a transformer located on Site at the corner of intersection of Rathburn Road West and Living Arts Drive (looking southeast)



Photo 9 - View of a salt storage shed at the west corner of the property at 309 Rathburn Road West (looking northwest).



Photo 10 - View of Sheridan College at 4180 Duke of York Boulevard (looking south).



Photo 11 - View of Sheridan College at 4226 Living Arts Drive (looking northeast).



Photo 12 - View of the vacant/wooded land located south of the intersection of Rathburn Road West and Living Arts Drive at 4220 Living Arts Drive (looking south)



Photo 13 - View of the inlet to the storm sewer for surface water/runoff from the vacant/wooded area at 4220 Living Arts Drive. The inlet is located at the west corner of intersection of Living Arts Drive and Square One Drive



Photo 14 - View of the mixed use high-rise building at Square One and Confederation Parkway (looking southeast)



Photo 15 - View of high-rise residential buildings located south of the intersection of Confederation Parkway and Rathburn Road West (looking south).



GeoPro Consulting Limited

Geotechnical-Hydrogeology-Environmental-Materials-Inspection

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## **APPENDIX G**



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## Enclosure 1A: Notes on Sample Descriptions

1. Each soil stratum is described according to the *Modified Unified Soil Classification System*. The compactness condition of cohesionless soils (SPT) and the consistency of cohesive soils (undrained shear strength) are defined according to Canadian Foundation Engineering Manual, 4<sup>th</sup> Edition. Different soil classification systems may be used by others. Please note that a description of the soil strata is based on visual and tactile examination of the samples augmented with field and laboratory test results, such as a grain size analysis and/or Atterberg Limits testing. Visual classification is not sufficiently accurate to provide exact grain sizing or precise differentiation between size classification systems.
2. Fill: Where fill is designated on the borehole log it is defined as indicated by the sample recovered during the boring process. The reader is cautioned that fills are heterogeneous in nature and variable in density or degree of compaction. The borehole description may therefore not be applicable as a general description of site fill materials. All fills should be expected to contain obstruction such as wood, large concrete pieces or subsurface basements, floors, tanks, etc., none of these may have been encountered in the boreholes. Since boreholes cannot accurately define the contents of the fill, test pits are recommended to provide supplementary information. Despite the use of test pits, the heterogeneous nature of fill will leave some ambiguity as to the exact composition of the fill. Most fills contain pockets, seams, or layers of organically contaminated soil. This organic material can result in the generation of methane gas and/or significant ongoing and future settlements. Fill at this site may have been monitored for the presence of methane gas and, if so, the results are given on the borehole logs. The monitoring process does not indicate the volume of gas that can be potentially generated nor does it pinpoint the source of the gas. These readings are to advise of the presence of gas only, and a detailed study is recommended for sites where any explosive gas/methane is detected. Some fill material may be contaminated by toxic/hazardous waste that renders it unacceptable for deposition in any but designated land fill sites; unless specifically stated the fill on this site has not been tested for contaminants that may be considered toxic or hazardous. This testing and a potential hazard study can be undertaken if requested. In most residential/commercial areas undergoing reconstruction, buried oil tanks are common and are generally not detected in a conventional preliminary geotechnical site investigation.
3. Till: The term till on the borehole logs indicates that the material originates from a geological process associated with glaciation. Because of this geological process the till must be considered heterogeneous in composition and as such may contain pockets and/or seams of material such as sand, gravel, silt or clay. Till often contains cobbles (60 to 200 mm) or boulders (over 200 mm). Contractors may therefore encounter cobbles and boulders during excavation, even if they are not indicated by the borings. It should be appreciated that normal sampling equipment cannot differentiate the size or type of any obstruction. Because of the horizontal and vertical variability of till, the sample description may be applicable to a very limited zone; caution is therefore essential when dealing with sensitive excavations or dewatering programs in till materials.



## Enclosure 1B: Explanation of Terms Used in the Record of Boreholes

### Sample Type

AS	Auger sample
BS	Block sample
CS	Chunk sample
DO	Drive open
DS	Dimension type sample
FS	Foil sample
NR	No recovery
RC	Rock core
SC	Soil core
SS	Spoon sample
SH	Shelby tube Sample
ST	Slotted tube
TO	Thin-walled, open
TP	Thin-walled, piston
WS	Wash sample

### Penetration Resistance

#### Standard Penetration Resistance (SPT), N:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in) required to drive a 50 mm (2 in) drive open sampler for a distance of 300 mm (12 in).

PM – Samples advanced by manual pressure

WR – Samples advanced by weight of sampler and rod

WH – Samples advanced by static weight of hammer

#### Dynamic Cone Penetration Resistance, $N_d$ :

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in) to drive uncased a 50 mm (2 in) diameter, 60° cone attached to “A” size drill rods for a distance of 300 mm (12 in).

#### Piezo-Cone Penetration Test (CPT):

An electronic cone penetrometer with a 60 degree conical tip and a projected end area of 10 cm<sup>2</sup> pushed through ground at a penetration rate of 2 cm/s. Measurement of tip resistance ( $Q_t$ ), porewater pressure (PWP) and friction along a sleeve are recorded electronically at 25 mm penetration intervals.

### Textural Classification of Soils (ASTM D2487)

Classification	Particle Size
Boulders	> 300 mm
Cobbles	75 mm - 300 mm
Gravel	4.75 mm - 75 mm
Sand	0.075 mm – 4.75 mm
Silt	0.002 mm-0.075 mm
Clay	<0.002 mm(*)

(\*) Canadian Foundation Engineering Manual (4<sup>th</sup> Edition)

### Coarse Grain Soil Description (50% greater than 0.075 mm)

Terminology	Proportion
Trace	0-10%
Some	10-20%
Adjective (e.g. silty or sandy)	20-35%
And (e.g. sand and gravel)	> 35%

### Soil Description

#### a) Cohesive Soils(\*)

Consistency	Undrained Shear Strength (kPa)	SPT “N” Value
Very soft	<12	0-2
Soft	12-25	2-4
Firm	25-50	4-8
Stiff	50-100	8-15
Very stiff	100-200	15-30
Hard	>200	>30

(\*) Hierarchy of Shear Strength prediction

1. Lab triaxial test
2. Field vane shear test
3. Lab. vane shear test
4. SPT “N” value
5. Pocket penetrometer

#### b) Cohesionless Soils

Compactness Condition (Formerly Relative Density)	SPT “N” Value
Very loose	<4
Loose	4-10
Compact	10-30
Dense	30-50
Very dense	>50

### Soil Tests

w	Water content
w <sub>p</sub>	Plastic limit
w <sub>l</sub>	Liquid limit
C	Consolidation (oedometer) test
CID	Consolidated isotropically drained triaxial test
CIU	consolidated isotropically undrained triaxial test with porewater pressure measurement
D <sub>R</sub>	Relative density (specific gravity, G <sub>s</sub> )
DS	Direct shear test
ENV	Environmental/ chemical analysis
M	Sieve analysis for particle size
MH	Combined sieve and hydrometer (H) analysis
MPC	Modified proctor compaction test
SPC	Standard proctor compaction test
OC	Organic content test
U	Unconsolidated Undrained Triaxial Test
V	Field vane (LV-laboratory vane test)
γ	Unit weight

PROJECT: Phase One and Limited Phase Two ESA					DRILLING DATA											
CLIENT: Stantec Consulting Limited					METHOD: Continuous Flight Auger - Auto Hammer					DIAMETER: 155 mm						
PROJECT LOCATION: Living Arts Drive Extension, City of Mississauga, ON					FIELD ENGINEER: GH					DATE: 2017-10-06						
DATUM: N/A					SAMPLE REVIEW: DX					REF. NO.: 17-1798G						
BH LOCATION: See Borehole Location Plan					CHECKED: JY					ENCL. NO.: 2						
SOIL PROFILE			SAMPLES		GROUND WATER	DYNAMIC PENETRATION TEST				Natural Moisture Content			UNIT WT (kN/m <sup>3</sup> )	REMARKS AND GRAIN SIZE DISTRIBUTION (%)		
ELEV DEPTH (m)	DESCRIPTION	STRATA PLOT	NUMBER	TYPE		SHEAR STRENGTH (kPa)				Plastic Limit w <sub>p</sub>	Natural Moisture Content w	Liquid Limit w <sub>L</sub>				
						○ SPT 20	≧ Cone 40	blows/0.3m 60	blows/0.3m 80							
					● Unconfined    ✕ Field Vane & Sensitivity ▲ Quick Triaxial    ✕ Penetrometer + Lab Vane				WATER CONTENT (%)			GR   SA   SI   CL				
0.0	ASPHALT CONCRETE: (110 mm)															
0.1	GRANULAR BASE/SUBBASE: (430 mm)		1A	AS										36 48 16		
0.5	FILL: sandy silt, some clay, trace gravel, layers of clayey silt, containing shale fragments, brown, moist		1B	AS												
			2A	SS												
0.9	CLAYEY SILT TILL: some sand, trace gravel, containing shale fragments, containing cobbles and boulders, brown, moist, very stiff		2B	SS	21											
1.5	CLAYEY SILT TILL/SHALE COMPLEX: some sand, trace gravel, containing shale fragments, containing rock fragments, containing cobbles and boulders.		3	SS	72 / 230 mm									14 17 43 26		
1.9	brown, moist, hard --- auger grinding <b>END OF BOREHOLE DUE TO AUGER REFUSAL</b>  Notes: 1) Borehole was open and dry upon completion of drilling. 2) 51 mm dia. monitoring well was installed in borehole upon completion of drilling.  Water Level Readings (mBGS) Date            W. L. Depth Oct. 13, 2017    1.17 m Oct. 18, 2017    1.15 m															

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GROUND NOTES

+ 3, x 3: Numbers refer to Sensitivity

▲ s=3% Strain at Failure

PROJECT: Phase One and Limited Phase Two ESA						DRILLING DATA														
CLIENT: Stantec Consulting Limited						METHOD: Continuous Flight Auger - Auto Hammer						DIAMETER: 155 mm								
PROJECT LOCATION: Living Arts Drive Extension, City of Mississauga, ON						FIELD ENGINEER: GH						DATE: 2017-10-06								
DATUM: N/A						SAMPLE REVIEW: DX						REF. NO.: 17-1798G								
BH LOCATION: See Borehole Location Plan						CHECKED: JY						ENCL. NO.: 3								
SOIL PROFILE			SAMPLES			GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST								UNIT WT (kN/m <sup>3</sup> )	REMARKS AND GRAIN SIZE DISTRIBUTION (%)			
ELEV. DEPTH (m)	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS/0.3m			SPT				Cone						Plastic Limit w <sub>p</sub>	Natural Moisture Content w	Liquid Limit w <sub>L</sub>
								blows/0.3m				blows/0.3m								
						SHEAR STRENGTH (kPa)								WATER CONTENT (%)						
						● Unconfined    ✕ Field Vane & Sensitivity														
						▲ Quick Triaxial    ⊠ Penetrometer + Lab Vane														
						20    40    60    80								10    20    30    40						
0.0	ASPHALT CONCRETE: (150 mm)																			
0.2	GRANULAR BASE/SUBBASE: (510 mm)		1A	AS																
0.7	FILL: sandy silt, some clay, trace gravel, trace organics, containing shale fragments, containing wood fragments, brown, moist		1B	AS																
0.9	CLAYEY SILT TILL: some sand to sandy, trace gravel, containing shale fragments, containing rock fragments, containing cobbles and boulders, brown, moist, hard		2A	SS																
1.5	CLAYEY SILT TILL/SHALE COMPLEX: some sand to sandy, trace gravel, containing shale fragments, containing rock fragments, containing cobbles and boulders, brown, moist, hard		2B	SS	57															
2.3	PROBABLE WEATHERED SHALE: containing rock fragments, brown to grey  --- auger grinding		3	SS	43															
3.1	END OF BOREHOLE  Note: 1) Borehole was open and dry upon completion of drilling.		4	SS	50 / 100 mm															

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3, × 3: Numbers refer to Sensitivity

▲ s=3% Strain at Failure

PROJECT: Phase One and Limited Phase Two ESA

## DRILLING DATA

CLIENT: Stantec Consulting Limited

METHOD: Continuous Flight Auger - Auto Hammer

DIAMETER: 155 mm

PROJECT LOCATION: Living Arts Drive Extension, City of Mississauga, ON

FIELD ENGINEER: GH

DATE: 2017-10-06

DATUM: N/A

SAMPLE REVIEW: DX

REF. NO.: 17-1798G

BH LOCATION: See Borehole Location Plan

CHECKED: JY

ENCL. NO.: 4

SOIL PROFILE			SAMPLES		GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST				Plastic Limit Natural Moisture Content Liquid Limit			UNIT WT (kN/m <sup>3</sup> )	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
ELEV. DEPTH (m)	DESCRIPTION	STRATA PLOT	NUMBER	TYPE			○ SPT 20	≥ Cone 40	blows/0.3m 60	blows/0.3m 80	W <sub>p</sub>	W	W <sub>L</sub>		
0.0	ASPHALT CONCRETE: (125 mm)														
0.1	GRANULAR BASE/SUBBASE: (515 mm)		1A	AS											25 49 26
0.6	FILL: sandy silt, trace to some clay, trace gravel, brown, moist		1B	AS											
			2A	SS											
0.9	CLAYEY SILT: some sand to sandy, trace gravel, layers of sandy silt, containing shale fragments, brown, moist, very stiff		2B	SS	23										
1.4	CLAYEY SILT/SHALE COMPLEX: some sand, trace gravel, layers of sandy silt, containing shale fragments, containing rock fragments, brown, moist, hard		3	SS	37										
			4	SS	60										6 16 46 32
			5	SS	50 / 75										
3.3	END OF BOREHOLE														
Notes: 1) Borehole was open and dry upon completion of drilling. 2) 51 mm dia. monitoring well was installed in borehole upon completion of drilling.  Water Level Readings (mBGS) Date W. L. Depth Oct. 13, 2017 Dry Oct. 18, 2017 Dry															

### GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

### GRAPH NOTES

+<sup>3</sup>, ×<sup>3</sup>: Numbers refer to Sensitivity

▲ s=3% Strain at Failure



GeoPro Consulting Limited

Geotechnical-Hydrogeology-Environmental-Materials-Inspection

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## **APPENDIX H**

CLIENT NAME: GEOPRO CONSULTING LTD  
40 VOGELL ROAD UNIT 25-27  
RICHMOND HILL, ON L4B3N6  
(905) 237-8336

ATTENTION TO: Bujing Guan

PROJECT: 17-1798GHE

AGAT WORK ORDER: 17T270428

SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Coordinator

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Oct 19, 2017

PAGES (INCLUDING COVER): 10

VERSION\*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

\*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

**AGAT** Laboratories (V1)

Member of: Association of Professional Engineers and Geoscientists of Alberta (APEGA)  
Western Enviro-Agricultural Laboratory Association (WEALA)  
Environmental Services Association of Alberta (ESAA)

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from [www.cala.ca](http://www.cala.ca) and/or [www.scc.ca](http://www.scc.ca). The tests in this report may not necessarily be included in the scope of accreditation.

*Results relate only to the items tested and to all the items tested  
All reportable information as specified by ISO 17025:2005 is available from AGAT Laboratories upon request*



## Certificate of Analysis

AGAT WORK ORDER: 17T270428

PROJECT: 17-1798GHE

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GEOPRO CONSULTING LTD

SAMPLING SITE:

ATTENTION TO: Bujing Guan

SAMPLED BY:

### O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2017-10-11

DATE REPORTED: 2017-10-19

		SAMPLE DESCRIPTION:			BH7 SS2	BH8 SS2	BH9 SS2+SS3
		SAMPLE TYPE:			Soil	Soil	Soil
		DATE SAMPLED:			2017-10-06	2017-10-06	2017-10-06
Parameter	Unit	G / S: A	G / S: B	RDL	8806821	8806822	8806826
Antimony	µg/g	1.3	40	0.8	<0.8[<A]	<0.8[<A]	<0.8[<A]
Arsenic	µg/g	18	18	1	8[<A]	7[<A]	9[<A]
Barium	µg/g	220	670	2	40[<A]	60[<A]	56[<A]
Beryllium	µg/g	2.5	8	0.5	1.1[<A]	1.1[<A]	1.2[<A]
Boron	µg/g	36	120	5	14[<A]	14[<A]	13[<A]
Boron (Hot Water Soluble)	µg/g	NA	2	0.10	0.30[<B]	0.20[<B]	0.16[<B]
Cadmium	µg/g	1.2	1.9	0.5	<0.5[<A]	<0.5[<A]	<0.5[<A]
Chromium	µg/g	70	160	2	26[<A]	25[<A]	26[<A]
Cobalt	µg/g	21	80	0.5	15.8[<A]	15.3[<A]	15.6[<A]
Copper	µg/g	92	230	1	57[<A]	59[<A]	53[<A]
Lead	µg/g	120	120	1	6[<A]	6[<A]	9[<A]
Molybdenum	µg/g	2	40	0.5	<0.5[<A]	<0.5[<A]	<0.5[<A]
Nickel	µg/g	82	270	1	31[<A]	30[<A]	31[<A]
Selenium	µg/g	1.5	5.5	0.4	<0.4[<A]	<0.4[<A]	<0.4[<A]
Silver	µg/g	0.5	40	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]
Thallium	µg/g	1	3.3	0.4	<0.4[<A]	<0.4[<A]	<0.4[<A]
Uranium	µg/g	2.5	33	0.5	1.2[<A]	0.8[<A]	0.7[<A]
Vanadium	µg/g	86	86	1	31[<A]	30[<A]	34[<A]
Zinc	µg/g	290	340	5	76[<A]	71[<A]	72[<A]
Chromium VI	µg/g	0.66	8	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]
Cyanide	µg/g	0.051	0.051	0.040	<0.040[<A]	<0.040[<A]	<0.040[<A]
Mercury	µg/g	0.27	3.9	0.10	<0.10[<A]	<0.10[<A]	<0.10[<A]
Electrical Conductivity	mS/cm	0.57	1.4	0.005	1.57[>B]	0.975[A-B]	0.599[A-B]
Sodium Adsorption Ratio	NA	2.4	12	NA	7.13[A-B]	7.14[A-B]	4.57[A-B]
pH, 2:1 CaCl2 Extraction	pH Units			NA	7.76	7.68	7.61

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use, B Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.  
8806821-8806826 EC & SAR were determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio.

Certified By:

*Amanjot Bhela*

# Certificate of Analysis

AGAT WORK ORDER: 17T270428

PROJECT: 17-1798GHE

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GEOPRO CONSULTING LTD

SAMPLING SITE:

ATTENTION TO: Bujing Guan

SAMPLED BY:

## O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2017-10-11

DATE REPORTED: 2017-10-19

SAMPLE DESCRIPTION:					BH7 SS2	BH8 SS2	BH9 SS2+SS3
SAMPLE TYPE:					Soil	Soil	Soil
DATE SAMPLED:					2017-10-06	2017-10-06	2017-10-06
Parameter	Unit	G / S: A	G / S: B	RDL	8806821	8806822	8806826
Naphthalene	µg/g	0.09	9.6	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Acenaphthylene	µg/g	0.093	0.15	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Acenaphthene	µg/g	0.072	21	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Fluorene	µg/g	0.12	62	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Phenanthrene	µg/g	0.69	12	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Anthracene	µg/g	0.16	0.67	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Fluoranthene	µg/g	0.56	9.6	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Pyrene	µg/g	1	96	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Benz(a)anthracene	µg/g	0.36	0.96	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Chrysene	µg/g	2.8	9.6	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Benzo(b)fluoranthene	µg/g	0.47	0.96	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Benzo(k)fluoranthene	µg/g	0.48	0.96	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Benzo(a)pyrene	µg/g	0.3	0.3	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.76	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Dibenz(a,h)anthracene	µg/g	0.1	0.1	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Benzo(g,h,i)perylene	µg/g	0.68	9.6	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
2-and 1-methyl Naphthalene	µg/g	0.59	30	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Surrogate	Unit	Acceptable Limits					
Chrysene-d12	%	50-140			78	75	73

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use, B Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

8806821-8806826 Results are based on the dry weight of the soil.  
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&(j)Fluoranthene isomers because the isomers co-elute on the GC column.

Certified By:



# Certificate of Analysis

AGAT WORK ORDER: 17T270428

PROJECT: 17-1798GHE

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GEOPRO CONSULTING LTD

ATTENTION TO: Bujing Guan

SAMPLING SITE:

SAMPLED BY:

## O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2017-10-11

DATE REPORTED: 2017-10-19

SAMPLE DESCRIPTION:					BH7 SS2	BH8 SS2	BH9 SS2+SS3
SAMPLE TYPE:					Soil	Soil	Soil
DATE SAMPLED:					2017-10-06	2017-10-06	2017-10-06
Parameter	Unit	G / S: A	G / S: B	RDL	8806821	8806822	8806826
Benzene	µg/g	0.02	0.32	0.02	<0.02[<A]	<0.02[<A]	<0.02[<A]
Toluene	µg/g	0.2	6.4	0.08	<0.08[<A]	<0.08[<A]	<0.08[<A]
Ethylbenzene	µg/g	0.05	1.1	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
Xylene Mixture	µg/g	0.05	26	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]
F1 (C6 to C10)	µg/g	25	55	5	<5[<A]	<5[<A]	<5[<A]
F1 (C6 to C10) minus BTEX	µg/g	25	55	5	<5[<A]	<5[<A]	<5[<A]
F2 (C10 to C16)	µg/g	10	230	10	<10[<A]	<10[<A]	<10[<A]
F2 (C10 to C16) minus Naphthalene	µg/g			10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	1700	50	<50[<A]	<50[<A]	<50[<A]
F3 (C16 to C34) minus PAHs	µg/g			50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	3300	50	<50[<A]	<50[<A]	<50[<A]
Gravimetric Heavy Hydrocarbons	µg/g	120	3300	50	NA[<A]	NA[<A]	NA[<A]
Moisture Content	%			0.1	18.0	12.0	13.0
Surrogate	Unit	Acceptable Limits					
Terphenyl	%	60-140			97	102	85

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use, B Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

8806821-8806826 Results are based on sample dry weight.  
The C6-C10 fraction is calculated using toluene response factor.  
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.  
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.  
The chromatogram has returned to baseline by the retention time of nC50.  
Total C6 - C50 results are corrected for BTEX and PAH contributions.  
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.  
nC6 and nC10 response factors are within 30% of Toluene response factor.  
nC10, nC16 and nC34 response factors are within 10% of their average.  
C50 response factor is within 70% of nC10 + nC16 + nC34 average.  
Linearity is within 15%.  
Extraction and holding times were met for this sample.

Certified By:



## Guideline Violation

AGAT WORK ORDER: 17T270428

PROJECT: 17-1798GHE

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GEOPRO CONSULTING LTD

ATTENTION TO: Bujing Guan

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
8806821	BH7 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity	mS/cm	0.57	1.57
8806821	BH7 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	7.13
8806821	BH7 SS2	ON T2 S ICC CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity	mS/cm	1.4	1.57
8806822	BH8 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity	mS/cm	0.57	0.975
8806822	BH8 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	7.14
8806826	BH9 SS2+SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity	mS/cm	0.57	0.599
8806826	BH9 SS2+SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	4.57

## Quality Assurance

CLIENT NAME: GEOPRO CONSULTING LTD

PROJECT: 17-1798GHE

SAMPLING SITE:

AGAT WORK ORDER: 17T270428

ATTENTION TO: Bujing Guan

SAMPLED BY:

Soil Analysis															
RPT Date: Oct 19, 2017			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	8804995		<0.8	<0.8	NA	< 0.8	106%	70%	130%	103%	80%	120%	83%	70%	130%
Arsenic	8804995		5	5	0.0%	< 1	97%	70%	130%	97%	80%	120%	106%	70%	130%
Barium	8804995		78	76	2.6%	< 2	95%	70%	130%	95%	80%	120%	90%	70%	130%
Beryllium	8804995		0.8	0.8	NA	< 0.5	82%	70%	130%	94%	80%	120%	110%	70%	130%
Boron	8804995		6	7	NA	< 5	92%	70%	130%	93%	80%	120%	82%	70%	130%
Boron (Hot Water Soluble)	8813885		0.11	0.10	NA	< 0.10	99%	60%	140%	102%	70%	130%	101%	60%	140%
Cadmium	8804995		<0.5	<0.5	NA	< 0.5	94%	70%	130%	93%	80%	120%	98%	70%	130%
Chromium	8804995		21	20	4.9%	< 2	81%	70%	130%	103%	80%	120%	101%	70%	130%
Cobalt	8804995		10.1	10.0	1.0%	< 0.5	85%	70%	130%	92%	80%	120%	97%	70%	130%
Copper	8804995		26	25	3.9%	< 1	86%	70%	130%	99%	80%	120%	90%	70%	130%
Lead	8804995		14	13	7.4%	< 1	94%	70%	130%	94%	80%	120%	95%	70%	130%
Molybdenum	8804995		<0.5	<0.5	NA	< 0.5	87%	70%	130%	95%	80%	120%	98%	70%	130%
Nickel	8804995		22	21	4.7%	< 1	88%	70%	130%	93%	80%	120%	96%	70%	130%
Selenium	8804995		<0.4	<0.4	NA	< 0.4	80%	70%	130%	94%	80%	120%	99%	70%	130%
Silver	8804995		<0.2	<0.2	NA	< 0.2	74%	70%	130%	85%	80%	120%	81%	70%	130%
Thallium	8804995		<0.4	<0.4	NA	< 0.4	83%	70%	130%	90%	80%	120%	93%	70%	130%
Uranium	8804995		0.6	0.6	NA	< 0.5	84%	70%	130%	93%	80%	120%	100%	70%	130%
Vanadium	8804995		29	28	3.5%	< 1	86%	70%	130%	92%	80%	120%	93%	70%	130%
Zinc	8804995		61	60	1.7%	< 5	95%	70%	130%	100%	80%	120%	109%	70%	130%
Chromium VI	8807614		<0.2	<0.2	NA	< 0.2	97%	70%	130%	99%	80%	120%	99%	70%	130%
Cyanide	8806821	8806821	<0.040	<0.040	NA	< 0.040	98%	70%	130%	99%	80%	120%	107%	70%	130%
Mercury	8804995		<0.10	<0.10	NA	< 0.10	88%	70%	130%	89%	80%	120%	96%	70%	130%
Electrical Conductivity	8808760		0.093	0.094	1.1%	< 0.005	97%	90%	110%	NA			NA		
Sodium Adsorption Ratio	8808760		0.592	0.586	1.0%	NA	NA			NA			NA		
pH, 2:1 CaCl2 Extraction	8807895		8.40	8.32	1.0%	NA	101%	80%	120%	NA			NA		

Comments: NA signifies Not Applicable.

Duplicate Qualifier: As the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Certified By:



## Quality Assurance

CLIENT NAME: GEOPRO CONSULTING LTD

PROJECT: 17-1798GHE

SAMPLING SITE:

AGAT WORK ORDER: 17T270428

ATTENTION TO: Bujing Guan

SAMPLED BY:

### Trace Organics Analysis

RPT Date: Oct 19, 2017			DUPLICATE			Method Blank	REFERENCE MATERIAL		METHOD BLANK SPIKE			MATRIX SPIKE			
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

#### O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

Benzene	8802662	< 0.02	< 0.02	NA	< 0.02	72%	60%	130%	83%	60%	130%	107%	60%	130%
Toluene	8802662	< 0.08	< 0.08	NA	< 0.08	76%	60%	130%	74%	60%	130%	101%	60%	130%
Ethylbenzene	8802662	< 0.05	< 0.05	NA	< 0.05	75%	60%	130%	71%	60%	130%	96%	60%	130%
Xylene Mixture	8802662	< 0.05	< 0.05	NA	< 0.05	73%	60%	130%	72%	60%	130%	92%	60%	130%
F1 (C6 to C10)	8802662	< 5	< 5	NA	< 5	70%	60%	130%	86%	85%	115%	77%	70%	130%
F2 (C10 to C16)	8808212	< 10	< 10	NA	< 10	105%	60%	130%	85%	80%	120%	72%	70%	130%
F3 (C16 to C34)	8808212	< 50	< 50	NA	< 50	108%	60%	130%	88%	80%	120%	75%	70%	130%
F4 (C34 to C50)	8808212	< 50	< 50	NA	< 50	90%	60%	130%	87%	80%	120%	118%	70%	130%

#### O. Reg. 153(511) - PAHs (Soil)

Naphthalene	8808305	< 0.05	< 0.05	NA	< 0.05	113%	50%	140%	96%	50%	140%	60%	50%	140%
Acenaphthylene	8808305	< 0.05	< 0.05	NA	< 0.05	106%	50%	140%	82%	50%	140%	79%	50%	140%
Acenaphthene	8808305	< 0.05	< 0.05	NA	< 0.05	105%	50%	140%	82%	50%	140%	62%	50%	140%
Fluorene	8808305	< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	72%	50%	140%	80%	50%	140%
Phenanthrene	8808305	< 0.05	< 0.05	NA	< 0.05	79%	50%	140%	65%	50%	140%	62%	50%	140%
Anthracene	8808305	< 0.05	< 0.05	NA	< 0.05	97%	50%	140%	82%	50%	140%	65%	50%	140%
Fluoranthene	8808305	< 0.05	< 0.05	NA	< 0.05	82%	50%	140%	63%	50%	140%	63%	50%	140%
Pyrene	8808305	< 0.05	< 0.05	NA	< 0.05	81%	50%	140%	63%	50%	140%	63%	50%	140%
Benz(a)anthracene	8808305	< 0.05	< 0.05	NA	< 0.05	69%	50%	140%	75%	50%	140%	67%	50%	140%
Chrysene	8808305	< 0.05	< 0.05	NA	< 0.05	91%	50%	140%	69%	50%	140%	62%	50%	140%
Benzo(b)fluoranthene	8808305	< 0.05	< 0.05	NA	< 0.05	101%	50%	140%	114%	50%	140%	72%	50%	140%
Benzo(k)fluoranthene	8808305	< 0.05	< 0.05	NA	< 0.05	108%	50%	140%	104%	50%	140%	88%	50%	140%
Benzo(a)pyrene	8808305	< 0.05	< 0.05	NA	< 0.05	115%	50%	140%	105%	50%	140%	68%	50%	140%
Indeno(1,2,3-cd)pyrene	8808305	< 0.05	< 0.05	NA	< 0.05	121%	50%	140%	82%	50%	140%	68%	50%	140%
Dibenz(a,h)anthracene	8808305	< 0.05	< 0.05	NA	< 0.05	117%	50%	140%	90%	50%	140%	69%	50%	140%
Benzo(g,h,i)perylene	8808305	< 0.05	< 0.05	NA	< 0.05	113%	50%	140%	88%	50%	140%	66%	50%	140%
2-and 1-methyl Naphthalene	8808305	< 0.05	< 0.05	NA	< 0.05	122%	50%	140%	97%	50%	140%	64%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:



## Method Summary

CLIENT NAME: GEOPRO CONSULTING LTD

AGAT WORK ORDER: 17T270428

PROJECT: 17-1798GHE

ATTENTION TO: Bujing Guan

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Arsenic	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Barium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Beryllium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Boron	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	EPA SW 846 6010C; MSA, Part 3, Ch.21	ICP/OES
Cadmium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Chromium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Cobalt	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Copper	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Lead	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Molybdenum	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Nickel	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Selenium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Silver	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Thallium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Uranium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Vanadium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Zinc	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Chromium VI	INOR-93-6029	SM 3500 B; MSA Part 3, Ch. 25	SPECTROPHOTOMETER
Cyanide	INOR-93-6052	MOE CN-3015 & E 3009 A; SM 4500 CN	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Electrical Conductivity	INOR-93-6036	McKeague 4.12, SM 2510 B	EC METER
Sodium Adsorption Ratio	INOR-93-6007	McKeague 4.12 & 3.26 & EPA SW-846 6010B	ICP/OES
pH, 2:1 CaCl <sub>2</sub> Extraction	INOR-93-6031	MSA part 3 & SM 4500-H+ B	PH METER

## Method Summary

CLIENT NAME: GEOPRO CONSULTING LTD

AGAT WORK ORDER: 17T270428

PROJECT: 17-1798GHE

ATTENTION TO: Bujing Guan

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Acenaphthylene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Acenaphthene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Fluorene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Phenanthrene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Anthracene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Fluoranthene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Pyrene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benz(a)anthracene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Chrysene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benzo(a)pyrene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Chrysene-d12	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benzene	VOL-91-5009	EPA SW-846 5035 & 8260	P & T GC/MS
Toluene	VOL-91-5009	EPA SW-846 5035 & 8260	P & T GC/MS
Ethylbenzene	VOL-91-5009	EPA SW-846 5035 & 8260	P & T GC/MS
Xylene Mixture	VOL-91-5009	EPA SW-846 5035 & 8260	P & T GC/MS
F1 (C6 to C10)	VOL-91-5009	CCME Tier 1 Method	GC / FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	CCME Tier 1 Method	GC / FID
F2 (C10 to C16)	VOL-91-5009	CCME Tier 1 Method	GC / FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	CCME Tier 1 Method	GC / FID
F3 (C16 to C34)	VOL-91-5009	CCME Tier 1 Method	GC / FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	CCME Tier 1 Method	GC / FID
F4 (C34 to C50)	VOL-91-5009	CCME Tier 1 Method	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	CCME Tier 1 Method	BALANCE
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009		GC/FID

