



February 2018

REPORT ON

Phase One Environmental Site Assessment 411-425 Ravenhill Avenue, 566-576 Byron Avenue and 436-440 Roosevelt Avenue Ottawa, Ontario

Submitted to:

Antilia Homes
326 Churchill Avenue
Ottawa, Ontario
K1Z 5B9

REPORT



Report Number: 1793155-1000

Distribution:

1 e-copy - Antilia Homes
1 e-copy - Golder Associates Ltd.





Executive Summary

The Executive Summary highlights key points from the report only; for complete information and findings, as well as the limitations, the reader should examine the complete report.

Golder Associates Ltd. ("Golder") was retained by Antilia Homes, Falsetto Homes Inc., J&M Investments Inc. and Caruso Investments Inc. (the Client) to conduct a Phase I Environmental Site Assessment (Phase I ESA) of a parcel of land consisting of multiple municipal addresses including 411-425 Ravenhill Avenue, 566-576 Byron Avenue and 436-440 Roosevelt Avenue in Ottawa, Ontario (the "Site" or "Phase One Property"). The Site location is provided on Figure 1. A Site plan is provided on Figure 2.

The Site currently consists of multiple municipal addresses with different owners and consists of residential/commercial land uses.

The primary objective of the Phase I ESA was to identify, insofar as possible based on readily available information and without an intrusive investigation, former or current practices at the Site that may represent issues of actual or potential environmental concern.

The Phase I ESA was completed in general accordance with Ontario Regulation 153/04 for the purpose of identifying actual and potential contamination at the Site. The Phase One ESA was not completed to support any potential future Record of Site Condition. Authorization to proceed with this investigation was received from Mr. Ravi Shanghavi (President) of Antilia Homes on December 18, 2017. This report contains the methodology and findings of the Phase I ESA. This Executive Summary should be read in conjunction with the complete Phase I ESA report.

During the Site visit, a heating oil aboveground storage tank (AST) (909L capacity) was observed on the exterior of the southwest corner of the commercial building on 566 Byron Avenue. The AST was installed in 2014 on a concrete pad and based on limited (due to snow cover on ground) visual observation, no evidence of stains or spills were observed in the vicinity of the AST nor were there any reported spills in the regulatory review. Therefore the presence of AST is an on-site PCA but for the purpose of this report has not contributed to an APEC on the Site due to the absence of any evidence of historical releases.

Based on the information obtained as part of this Phase One ESA, none of the identified PCAs were considered to represent an APEC for the Site and a Phase Two ESA is not recommended.



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APPENDIX A

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Site Photographs

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Aerial Photographs



1.0 INTRODUCTION

1.1 Phase One Property Information

Golder Associates Ltd. ("Golder") was retained by the Client to conduct a Phase One Environmental Site Assessment (Phase One ESA) of a parcel of land consisting of multiple municipal addresses including 411-425 Ravenhill Avenue, 566-576 Byron Avenue and 436-440 Roosevelt Avenue in Ottawa, Ontario (the "Site" or "Phase One Property"). The Site location is provided on Figure 1. A Site plan is provided on Figure 2.

The Site currently consists of multiple municipal addresses with different owners and consists of mostly residential land uses with one commercial property as shown in table below.

Address	Owned by	PIN	Description
411 Ravenhill Avenue	Caruso Investments Inc.	040090152	Residential apartment building
415 Ravenhill Avenue	Caruso Investments Inc.	040090151	Residential (redevelopment for residential apartment)
419 Ravenhill Avenue	Antilia Homes Corp.	040090149	Residential (redevelopment construction for residential apartment)
423 Ravenhill Avenue	Antilia Homes Corp.	040090150	Residential apartment building
425 Ravenhill Avenue	J & M Investment Ontario Inc.; JLG Development Inc.	040090017	Single Family Residence
566 Byron Avenue	Westboro Dental Centre Limited	040090025	Commercial (Dentist's Office)
570 Byron Avenue	Anderson, Josephine	040090024	Single Family Residence
576 Byron Avenue	Falsetto Homes Inc.	040090023	Residential (redevelopment construction for residential apartment)
436 Roosevelt Avenue	Roca Land Holdings Inc.	040090026	Residential apartment building
440 Roosevelt Avenue	Lusk-Morin, Colleen	040090014	Single Family Residence

Authorization to proceed with this investigation was received from Mr. Ravi Shanghavi (President) of Antilia Homes on December 18, 2017. The contact information for the Site is:

Client	Address	Contact Information
Antilia Homes	326 Churchill Avenue Ottawa, Ontario K1Z 5B9	Mr. Ravi Shanghavi Cell: 613-261-3708 Email: ravi@antiliahomes.ca



2.0 SCOPE OF INVESTIGATION

A Phase One ESA is a preliminary qualitative assessment of the environmental condition of a property, based on a review of current activities and historical information for the Site and a review of relevant and readily available environmental information for the surrounding properties located within a 250 metre (“m”) radius of the boundary of the Site (collectively referred to as the “Phase One Study Area”). The boundary of the Phase One Study Area is presented in Figure 2.

According to Ontario Regulation (“O.Reg.”) 153/04 *Records of Site Condition*, the objectives of a Phase One ESA are to:

- 1) Develop a preliminary determination of the likelihood that one or more contaminants have affected any land or water on, in or under the Site;
- 2) Determine the need for a Phase Two Environment Site Assessment (“ESA”);
- 3) Provide a basis for carrying out a Phase Two ESA;
- 4) Provide adequate preliminary information about environmental conditions in the land or water on, in or under the Site for the conduct of a risk assessment following completion of a Phase Two ESA; and,
- 5) Identify and report on evidence of actual and/or potential contamination on the Site from current and historical activities at the Site or from adjacent properties.

In this instance the Phase One ESA was undertaken to support zoning and site plan control and was not done in records review

2.1 General

2.1.1 Phase One Study Area Determination

For the purpose of this Phase One ESA, the Phase One Study Area is the area within a 250 m radius of the boundary of the Site. Based on Golder’s review of the historical and current information compiled as part of this Phase One ESA for the area surrounding the Site and observations of neighbouring properties made during the Site visit, it was concluded that an assessment of information pertaining to properties within 250 m of the boundary of the Site was sufficient to achieve the objectives of the Phase One ESA.

2.1.2 First Developed Use Determination

The date of first developed use of the Phase One Property was determined based on review of the aerial photographs, fire insurance plans (FIPS), City of Ottawa HLUI and information provided by the Site representative. The Phase One Property was developed in 1920s for residential purposes. Therefore, primary land use for the Site since development has been residential. With the one exception being the dental office at 566 Byron Avenue.



2.1.3 Fire Insurance Plans

A review of the FIP from 1956 was completed and is described below.

Phase One Property

- 1956: Site consisted of seven (7) residential homes with six detached car garages.

Surrounding Area

- 1956: the surrounding properties within the Phase One Study Area consists primarily of residential properties to the east, south and west sides with some commercial (auto repairs shops and printing shops) and community (churches and lawn bowling club) land uses. Properties to the north of the Site consists primarily of commercial land uses along Danforth Avenue and Richmond Road. Noteworthy commercial properties on the surrounding properties north and northeast of the Site are as follows:
 - An auto repair shop, is located at 433 Roosevelt Avenue adjacent to the east of the Site (across Roosevelt Avenue);
 - An auto service garage with four associated fuel USTs is located at 424 Richmond Road, approximately 60 m north of the Site;
 - A retail fuel outlet and autobody shop with six associated fuel USTs is located at 415 Richmond Road, approximately 100 m north of the Site;
 - Oil storage tanks is located at 382 Richmond Road, approximately 120 m northeast of the Site;

Based on the review of the FIPs, the former presence of automotive garages and retail fuel outlets with fuel USTs within the Phase One Study Area are off-Site PCAs, however are located downgradient or cross gradient to the Phase One Property with respect to groundwater flow and are also separated from the Site by roadways, as such are not considered to represent APECs to the Phase One Property.

2.1.4 Chain of Title

No chain of title was provided to Golder for review for this Phase I ESA.

2.1.5 City Directories

A significant amount of information for the Site and surrounding properties was obtained from the aerial photographs previously discussed and provided in the Ecolog ERIS report and the City of Ottawa Historical Land Use Inventory (HLUI) discussed in Sections 3.4 and 4.2, respectively. As such, street directories for the Site (with the exception of 566 Byron Avenue) and surrounding lands were not reviewed as they would not likely provide any further information.

A review of historical city directories for the years 1956, 1961, 1966, 1971, 1976, 1981-82, 1987, 1992, 1996-97, 2001-02, 2006-07, and 2011 was completed by ERIS (Appendix B) on behalf of Golder Associates for 566 Byron Avenue and indicates that 566 Byron Avenue has been used as Dental Office since 1961 (not listed in 1956).

2.1.6 Environmental Reports

No previous environmental reports related to the Phase One Study Area were available for review.



2.2 Environmental Source Information

2.2.1 Ministry of the Environment and Climate Change

The Ottawa District Office of the Ontario Ministry of the Environment and Climate Change ("MOECC") was asked to respond in writing to the following questions:

- Has the MOECC ever issued any approvals, permits or licences for the Site?
- Has the MOECC ever issued any control orders or violation notices with respect to the Site?

A response from Jehanne Hurlbut (Administrative Assistant) of MOECC was received dated December 27, 2017 which indicates no active orders are outstanding for the Site. In addition, no Environmental Compliance Approvals (ECA) have been issued for the Site.

2.2.2 City of Ottawa

Golder completed a review of the City of Ottawa HLUI for the Site and surrounding area. Based on the review of the City of Ottawa HLUI, the noteworthy record for properties within 150 m of the Site are as follows:

- Retail fuel outlet at 372 Richmond Road between 1980 and 1994, located approximately 190 m northeast in a down and/or cross-gradient location;
- Retail fuel outlet at 415 Richmond Road, located approximately 100 m northeast in a down and/or cross-gradient location;
- Autobody repair shop located at 433 Roosevelt Avenue, adjacent to the east of the Site (across Roosevelt Avenue) in cross-gradient location;
- Commercial auto sales, servicing and repair shops on 382, 415, 416 and 424 Richmond Road (from 1940s to late 1990s) which consists of 10 USTs, located approximately 80 m to 130 m in a down and/or cross-gradient location;
- Palmer Cleaners (1980) at 384 Richmond Road, located approximately 130 m in a cross-gradient location;
- Other commercial land uses included funeral services (2001 – present), plumbing and related mechanical work (2001), hardware and interior finishing work (1948-2005), agricultural supplies wholesale (2005);
- Industrial properties consisted of activities including printing (1970-2001), hardware and office products (1930-2001) and rubber products (2001-2005);

The City of Ottawa HLUI review of the Site and surrounding area did not identify any on-Site PCAs; however, it did indicate off-Site PCAs related to former automotive garages and associated USTs located on Richmond Road and retail fuel outlets at 372 and 415 Richmond Road. Given the distance, underground infra-structure beneath roadways and hydraulically down/cross-gradient between the Site and above mentioned commercial/industrial land uses with respect to the Site, the likelihood of potential environmental concern for the Site is low and the off-site PCAs are not considered to contribute to APECs on the Site.



2.2.3 Technical Standards and Safety Authority, Fuel Safety Division Records

The Technical Standards & Safety Authority ("TSSA") Fuels Safety Division maintains records related to registered fuel storage tanks and other petroleum-related infrastructure. The TSSA was contacted on December 21, 2017 to identify whether any active, decommissioned, or in-service storage tanks were present on the Site, and to search for outstanding instructions, incident reports, spills, or contamination records.

A representative of the TSSA replied on January 10, 2017 and indicated that the TSSA had no records of current or former fuel storage tanks in their database regarding the addresses provided.

2.3 Physical Setting Sources

2.3.1 Aerial Photographs

Aerial photographs for 1928, 1958, 1965, 1976, 1999, 2002, 2005, 2007, 2008, 2011, 2014, 2015 and 2017 from the City of Ottawa geo-map (<http://maps.ottawa.ca/geoOttawa/>) were reviewed on-line. Golder selected aerial photographs based on availability and date intervals to help develop an understanding of the history of the development of the Phase One Property and Phase One Study Area. The information obtained from the aerial photographs was limited by the quality and scale of the available aerial photographs. The earliest aerial photograph available was from 1928.

Information obtained from the review of the aerial photographs is summarized in the following table:

Year	Site	Surrounding Area
1928	The Site is occupied by some building structures likely used for residential uses and vacant land covered with trees in the northeast and southeast corners of the Site.	North (across Byron Avenue): Primarily commercial buildings mainly located along Richmond Road and Danforth Avenue. East (across Roosevelt Avenue): Primarily residential buildings with some commercial buildings. South (across Ravenhill Avenue): Primarily residential buildings with some community land uses (churches). West: Primarily residential buildings with a community land use (Highland Park Lawn Bowling Club).
1958	The Site is occupied by eight building structures likely used for residential purposes. Some of the residences consist of detached single car garages and grass covered front and backyards. The dental office building at 566 Byron Avenue is first noted.	North (across Byron Avenue): Similar to 1928 with increasing commercial developments. East (across Roosevelt Avenue): Similar to 1928 with increasing residential and commercial developments. South (across Ravenhill Avenue): Similar to 1928 with increasing residential developments and two churches (Westminster Presbyterian Church and Highland Park Baptist Church). West: Similar to 1928 with increasing residential developments.



**411-425 RAVENHILL AVENUE, 566-576 BYRON AVENUE AND
436-440 ROOSEVELT AVENUE, OTTAWA, ONTARIO**

Year	Site	Surrounding Area
1965, 1976, 1999, 2002, 2005, 2008, 2011 and 2014 City of Ottawa geomaps	As per 1958.	North (across Byron Avenue): No major changes until 2011 when immediately adjacent properties were developed with residential apartments. East (across Roosevelt Avenue): No major changes since 1958. South (across Ravenhill Avenue): No major changes since 1958. West: No major changes since 1958.
2015 City of Ottawa geomap	No significant changes with the exception of 436 Roosevelt Avenue which is vacant land.	North (across Byron Avenue), East (across Roosevelt Avenue), South (across Ravenhill Avenue) and West: As per 2014.
2017 City of Ottawa geomap	Construction of multi-tenant residential homes on 436 Roosevelt Avenue, 415 and 419 Ravenhill Avenue.	North (across Byron Avenue), East (across Roosevelt Avenue), South (across Ravenhill Avenue) and West: No major changes since 2015.

Based on the aerial photographs, the Phase One Property appears to have been developed with some building structures likely used for residential purposes in 1920s, some of which included detached single car garages. Additional residential developments on the Site is observed in 1958 aerial and it remains primarily unchanged till 2014, according to aerial photos from 1965, 1976, 1999, 2002, 2005, 2007, 2008 and 2011. Aerial photographs from 2015 and 2017 indicate re-developments of single family homes into multi-tenant residences on 415 and 419 Ravenhill Avenue as well as 436 Roosevelt Avenue. The current commercial building housing the dental office at 566 Byron Avenue is first observed in 1958 which is consistent with the street directories.

The surrounding properties of the Site have been developed prior to 1928 and since development they have residential properties (east, south and west sides) and commercial properties that were mainly located along Richmond Road. Several retail fuel outlets and automotive garages were in operation on Richmond Road within Phase One Study Area from 1950s till early 2000s. The community land use in the form of Lawn Bowling Club is observed in the earliest available aerial photograph of 1928 and still remains in a similar footprint.

2.3.2 Topography, Hydrology and Geology

The following records were reviewed to identify topographic, geologic and hydrogeological conditions at the Site. A topographic map (Ontario Base Map) showing the Site and the Phase One Study Area and the location of any water bodies is provided in Figure 3. Additional information on Site features, as observed at the time of the Site visit, is provided in Section 6.



**411-425 RAVENHILL AVENUE, 566-576 BYRON AVENUE AND
436-440 ROOSEVELT AVENUE, OTTAWA, ONTARIO**

Topic	Conditions	Comment / Source
Topography of Site and Surrounding Area	The topography of the Site and surrounding area is sloped to the west.	Site and surrounding area observations and Figure 3 – Topographic Map and Areas of Natural Significance
Overburden Soils	Till: stone-poor, sandy silt to silty sand- textured till on Paleozoic terrain (<5 metres).	Bélanger, J. R. 2008 Urban Geology of the National Capital Area, Geological Survey of Canada, Open File 5311, 1 DVD.
Type of Bedrock	The Site primarily consists of Gull River Formation with limestone, with dolostone beds towards base with central portion consisting of Rockcliffe formation with sandstone, shale, limestone and dolostone.	Armstrong, D.K. and Dodge, J.E.P. 2007. Paleozoic Geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release – Data 219
Depth to Bedrock	The depth to bedrock is expected to be between 1 and 5 metres below ground surface (mbgs).	2010 Bélanger, J. R., Urban Geology of the National Capital Area, Geological Survey of Canada, Open File D3256, 2001
Inferred Near Surface Groundwater Flow	Local groundwater is anticipated to flow north towards the Ottawa River.	Site and surrounding area observations, Figure 1 – Key Plan and Figure 3 – Topographic Map and Areas of Natural Significance
Site Grade Relative to the Adjoining Properties	The Site appears to follow the topography of the area and inclines below the grade of the surrounding properties east of the Site, above the grade of the surrounding properties west of the Site and is generally at grade with surrounding properties north and south of the Site.	Site and surrounding area observations and Figure 3 – Topographic Map and Areas of Natural Significance
Depth to Groundwater	Not identified.	N/A

It should be noted that local groundwater flow may be influenced by underground utilities (i.e., service trenches) and building structures. For example, the gravel pack used around utilities, such as a water line, can act as interceptors and redirect groundwater flow along the direction of the pipe. If a more accurate description of geology, groundwater flow and groundwater quality is required, a subsurface investigation would be necessary.



2.3.3 Fill Materials

Topic	Conditions	Comment / Source
Fill Materials	No fill materials were observed or reported. No piles of fill material were observed on the Site. Fill material may have been used for construction purposes (backfill around residential building and parking lot sub-grade material).	Site observations

2.3.4 Water Bodies and Areas of Natural Significance

Topic	Conditions	Comment / Source
Nearest Open Water Body	The nearest permanent watercourse is the Ottawa River located approximately 460 m northwest of the Site.	Site observations and Figure 1– Key Plan
Areas of Natural Significance	No areas of natural and scientific interest (ANSI) are known to be located on the Site or on the Phase One Study Area.	Figure 3 (Topographic Map and Areas of Natural Significance)

2.3.5 Well Records

Topic	Conditions	Comment / Source
Water Wells on Site (location, stratigraphy of the overburden, from ground surface to bedrock, depth to bedrock, depth to water table, drilling date, use)	No water wells were observed.	Site observations
Water Wells on the Neighbouring Properties (location, stratigraphy of the overburden, from ground surface to bedrock, depth to bedrock, depth to water table, drilling rate, use)	No water wells were observed.	Site observations

2.4 Site Operating Records

At the time of the Site visit, the Phase One Property was developed with residential buildings (single and multi-tenant), under-construction residential buildings and a commercial building (occupied by a Dentist's office). No Site operating records were provided to Golder for review.



3.0 INTERVIEWS

At the time of the Site visit, Golder conducted an interview with Mr. Ravi Shanghavi (President) of Antilia Homes (hereinafter referred to as the “Site Representative”) to discuss information about the historical and current activities carried out on the Site.

Relevant information obtained during the interview and Site visit is provided in Section 6.0.



4.0 SITE RECONNAISSANCE

4.1 General Requirements

On behalf of Golder, Mr. Shihan Chowdhury visited the Site for approximately two hours on January 4, 2018 and was accompanied Mr. Ravi Shanghavi of Antilia Homes (Site Representative). The Site visit consisted of a walk-around the Site along with a cursory inspection of surrounding properties from the Site and publicly accessible areas. Access to the interior of the buildings was only available for basement units of 411 and 423 Ravenhill Avenue; with information regarding the remaining interiors based on information provided from the Site Representative. The weather conditions were cloudy and snowing and the temperature was approximately -10°C. The Site was occupied by three single family homes, four multi-tenant residential buildings, a single storeyed commercial building (occupied by dentist's office), a single car garage and four under-construction residential apartments. All open areas on the Site and surrounding areas were snow covered.

Photographs of relevant features noted during the Site visit are provided in Appendix C.

4.2 Specific Observations at Phase One Property

The specific observations made during the Site visit are presented in the following sections.

Topic	Observations	Source
Structures Number, Age and General Description of Buildings on the Site	<p>411 Ravenhill Ave.: One three-storied multi-tenant residential building and one basement level.</p> <p>415 Ravenhill Ave.: Currently vacant and undergoing construction for one three-storied multi-tenant residential building and one basement level with a similar footprint to that completed on 411 Ravenhill Ave.</p> <p>419 Ravenhill Ave.: Currently vacant and undergoing construction for one three-storied multi-tenant residential building and one basement level with a similar footprint to that completed on 423 Ravenhill Ave.</p> <p>423 Ravenhill Ave.: One three-storied multi-tenant residential building and one basement level.</p> <p>425 Ravenhill Ave.: Single family residence constructed in 1950s with detached single car garage. Construction consists of frame structure with composite sidings.</p> <p>436 Roosevelt Ave.: Two two-storied multi-tenant residential buildings constructed in December 2017 with municipal address 330,332, 334 and 336 Roosevelt Avenue.</p> <p>440 Roosevelt Ave.: Single family residence constructed in 1950s with attached double car garage. Construction consists of brick and rough cast concrete.</p> <p>566 Byron Ave.: One storied commercial building occupied by dentist's office (Westboro Dental Center).</p>	Site observations, FIP and aerial photographs



**411-425 RAVENHILL AVENUE, 566-576 BYRON AVENUE AND
436-440 ROOSEVELT AVENUE, OTTAWA, ONTARIO**

Topic	Observations	Source
	<p>570 Byron Ave.: Single family residence constructed with brick in 1920s and detached single car garage.</p> <p>576 Byron Ave.: Two three-storied multi-tenant residential buildings under construction.</p>	
Building Areas	Not known at the time of the Site visit.	Site observations
Number of Floors (include all levels, whether above or below ground)	<p>The residential buildings have three levels, two of which are aboveground and one of which is below ground.</p> <p>The commercial building is a single storey.</p>	Site observations and Site Representative
Number, Age, and Depth of Levels Below Ground Level	The Site Representative indicated that the residential buildings have one level below ground (commercial property has no basement level).	Site observations and Site Representative
Number and Details of all Aboveground Storage Tanks (“ASTs”)	<p>There were one AST located on the outside at the southwest corner of the commercial building on 566 Byron Avenue. The Site Representative indicated that the AST was used as a heating source for backup power for the dentist’s office. The AST was single wall non-metallic with a capacity of 909L and installed in 2014 (three-quarter full at the time of the Site visit) on a concrete pad. No evidence of stains or spills were observed in the vicinity of the AST based on limited visibility (snow cover on the ground).</p> <p>A suspect vent pipe was observed at a residential property within Phase One Study Area (located southwest of the Site) which may have been associated with a former AST in the basement of the building, likely installed on a concrete floor.</p> <p>Based on the age of the buildings within the Phase One Study Area, there is a potential that they formerly had, or still have, fuel oil storage tanks that were most likely ASTs.</p>	Site observations
Number and Details of all Underground Storage Tanks (“USTs”)	No other evidence (fill/vent pipes extending through walls or slabs/ground surface, no staining or any obvious odours) was observed during the Site visit to indicate the current or former presence of fuel or chemical USTs on the Site. However, based on the age of the adjacent buildings within the Phase One Study Area, there is a potential that they formerly had, or may still have, fuel oil storage tanks. Although the storage tanks would have likely been ASTs, this could not be confirmed.	Site observations



**411-425 RAVENHILL AVENUE, 566-576 BYRON AVENUE AND
436-440 ROOSEVELT AVENUE, OTTAWA, ONTARIO**

Topic	Observations	Source
Polychlorinated Biphenyls (PCB) Containing Materials and Equipment	No evidence was observed during the Site visit to indicate the current or former presence of PCB containing materials or equipment. Two pole-mounted transformers were noted adjacent to Ravenhill Avenue within the Phase One Study Area. No evidence of spills or leaks was noted in the area of the transformers at the time of the Site visit, although visibility was limited due to snow cover on the ground. No labels indicating whether the transformers are PCB-containing or not were noted on any of the transformers.	Site observations
<u>Underground Utilities</u> Potable and Non-Potable Water Sources	The Site is connected to the municipal water supply. There were no non-potable water sources identified at the Site at the time of the Site visit.	Site observations and Site Representative
Utility Lines Present (i.e. Electrical, Natural Gas, other)	Various running overhead electrical lines were present along Ravenhill Avenue and Roosevelt Avenue on the southern portion of the Site. It ran from a hydro pole located southwest of the Site.	Site observations
Sanitary/Process Wastewater Receptor	Sanitary wastewater is generated on-Site and discharged to the municipal sanitary sewer. No process wastewater is generated on-Site.	Site observations
Sanitary Sewer Connection	The Site is connected to the municipal sanitary sewer.	Site observations and Site Representative
Septic Systems	None identified.	Site observations and Site Representative
Storm Water Flow	Storm water run-off is through natural soil infiltration.	Site observations
Storm Sewer Connection	The Site is connected to the municipal storm sewer.	Site observations
<u>Interior of Structures</u> Entry and Exit Points for Site Buildings	The residential buildings have multiple entry and exit points as observed during the Site visit.	Site observations
Existing and Former Heating System(s) (include fuel type / source)	All the buildings on the Site is heated via natural gas.	Site observations and Site Representative
Existing and Former Cooling System(s) (include fuel type / source)	None identified.	Site observations
Drains, Pits, and Sumps (include current use, if any, and former use)	None identified.	Site observations
Unidentified Substances	None identified.	Site observations



Topic	Observations	Source
Floor Stains or Corrosion Located near a Potential Discharge Location	None identified.	Site observations
Miscellaneous Exterior Location of any Current and Former Wells	None identified.	Site observations
Ground Cover (i.e., grass, gravel, soil, or pavement, etc.)	The majority of the Site exterior consists of a snow covered front yards/backyards A paved driveway was associated with each of the buildings on Site.	Site observations
Current or Former Railway Lines or Spurs	None observed.	Site observations.
Presence of Stained Soil, Vegetation, or Pavement	None observed, based on limited visibility due to snow cover on the ground.	Site observations
Presence of Stressed Vegetation	None observed, based on limited visibility due to snow cover on the ground.	Site observations
Areas Where Fill and/or Debris Materials Appear to Have Been Placed	No piles of fill material or debris were observed during the Site visit.	Site observations
Potentially Contaminating Activity	A fuel oil AST was located on the exterior of the southwest corner of the commercial building on 566 Byron Avenue. The presence of an AST on the Phase One Property is an on-Site PCA.	Site observations and Site Representative
Unidentified Substances	None identified.	Site observations

4.2.1 Enhanced Investigation Property

The Site is occupied by three single family residences, four multi-tenant residential buildings, four under-construction multi-tenant residential buildings, a commercial building (occupied by a dental office) and a detached single car garage. The exterior portion of the Site consists of snow covered front yards and backyards. The Site has been developed in 1920s and since been used primarily for residential use. As such, the Site is not considered to be an enhanced investigation property as defined by O. Reg. 153/04.

4.3 Surrounding Land Use

During the Site visit, a visual reconnaissance of the outdoor operations in the Phase One Study Area was carried out from the Site and publicly accessible areas.

The properties surrounding the Site have various property uses including residential, commercial and community land.



The Site Assessor made the following observations of neighbouring properties:

West (inferred to be hydraulically cross-gradient of the Site): Immediately west of the Site is a series of single family residential homes followed by Highland Park Lawn Bowling Club.

North (inferred down-gradient): Multi-tenant residential apartments across Byron Avenue. Further north on Richmond Road, properties included variety of commercial land uses including Tubman Funeral Services, TD Canada Trust and Starbucks Coffee.

South (inferred up-gradient): Residential homes (across Ravenhill Avenue) primarily consisting of single family residences.

East (inferred cross-gradient): Residential land uses (across Roosevelt Avenue) consisting primarily of single family homes and some apartment buildings.

4.4 Written Description of Investigation

The Site consists of a parcel of land which includes multiple municipal addresses (411-425 Ravenhill Avenue, 566-576 Byron Avenue and 436-440 Roosevelt Avenue) and is located to the west of Roosevelt Avenue between Byron Avenue and Ravenhill Avenue. At the time of the Site visit, conducted on January 4, 2018, the Site consisted of several 0.22 acre parcels of land with residential buildings (single family and multi-tenant) and one commercial property (occupied by dentist's office) on 566 Byron Avenue. Three of the properties on the Site were under construction to be redeveloped from single family residences to multi-tenant residential buildings. The surrounding properties within the Phase One Study Area included residential, commercial and community (Highland Park Lawn Bowling Club) land uses.

During the Site visit, a fuel oil AST (909L capacity) was observed on the exterior of the southwest corner of the commercial building on 566 Byron Avenue. The AST was installed in 2014 on a concrete pad and based on limited visual observation, no evidence of stains or spills were observed in the vicinity of the AST. It is noted that the presence of staining in the vicinity of the AST could not be observed due to snow cover on the ground, and therefore may still be present. Therefore the presence of AST is an on-site PCA but for the purpose of this report has not contributed to an APEC on the Site due to the absence of any evidence of historical releases.



5.0 REVIEW AND EVALUATION OF INFORMATION

5.1 Current and Past Uses of the Site

The following summarizes the current and past uses of the Phase One Property:

Year(s)	Name of Owner(s)	Description of Property Use	Property Land Use according to Reg.153/04	Other Observations from Aerial Photographs, Fire Insurance Plans, etc.
Prior to 1928	Unknown	Unknown	Agricultural or other use	No aerial or other information available.
1928 to 1958	Multiple owners	Residential dwellings	Residential and Commercial (566 Byron Avenue)	The Site consisted of 7 residential buildings with 6 detached parking garages.
1958 to Present (2018)	Currently owned by multiple enterprises listed in Section 1.1	Residential buildings (single family and multi-tenant)	Residential and Commercial (566 Byron Avenue)	The Site consists primarily of residential homes and multi-tenant residences as well as one dentist office (commercial) at 566 Byron Avenue as listed since 1961.

5.2 Potentially Contaminating Activity

Potentially contaminating activities, which if currently or historically carried out at a Site, may contribute to an area of potential environmental concern ("APEC"). Based on the information obtained as part of this Phase One ESA, the following PCAs were identified within the Phase One Study Area:

Location	Potentially Contaminating Activity	Information Source	Rationale for Potential Contribution of the PCA to an APEC
Phase One Property	#28. Gasoline and Associated Products Storage in Fixed Tanks – Fuel oil AST present on the Site, located southwest corner of commercial building on 566 Byron Avenue. (PCA 1)	Site observations and Site Representative	The PCA is located on the Phase One Property. However, given that the AST was located on a concrete pad floor in the exterior of the commercial building and that there are no documented and/or observed spills or leaks, it is not considered to represent an APEC on the Site.



Location	Potentially Contaminating Activity	Information Source	Rationale for Potential Contribution of the PCA to an APEC
Phase One Study Area	#28. Gasoline and Associated Products Storage in Fixed Tanks and #10. Commercial Autobody Shops – Former auto service garage at 424 Richmond Road and associated 4 USTs located approximately 60 m north of the Site in downgradient location. (PCA 2)	FIPs, City of Ottawa HLUI and aerial photographs	Given that this facility was located hydraulically down-gradient with respect to the Site and was separated from the Site by 60 m including Byron Avenue and its underlying services, it is not considered to be a PCA that will result in an APEC on the Site.
	#28. Gasoline and Associated Products Storage in Fixed Tanks and #10. Commercial Autobody Shops – Former auto service garage and retail fuel outlet at 415 Richmond Road and associated 6 USTs located approximately 100 m north of the Site in downgradient location. (PCA 3)	FIPs, City of Ottawa HLUI and aerial photographs	Given that this facility was located hydraulically down and cross-gradient with respect to the Site and was separated from the Site by Byron Avenue and Richmond Road along with its underlying services, it is not considered to be a PCA that will result in an APEC on the Site.
	#10. Commercial Autobody Shops – Former presence of auto service garage located at 433 Roosevelt Avenue; adjacent to the east of the Site across Roosevelt Avenue. (PCA 4)	FIPs and City of Ottawa HLUI	No UST or AST was reported at this facility. Based on the amount of infrastructure between the Site and this facility as well as hydraulically cross-gradient location with respect to the Site, it is not considered to be a PCA that will result in an APEC on the Site.
	#28. Gasoline and Associated Products Storage in Fixed Tanks – Former presence of a gasoline UST located approximately 60 m north of the Site at 416 Richmond Road. (PCA 5)	FIPs and City of Ottawa HLUI	Given that this facility was located hydraulically down-gradient with respect to the Site and was separated from the Site by 60 m including Byron Avenue and its underlying services, it is not considered to be a PCA that will result in an APEC on the Site.



Location	Potentially Contaminating Activity	Information Source	Rationale for Potential Contribution of the PCA to an APEC
Phase One Study Area	#28. Gasoline and Associated Products Storage in Fixed Tanks – Former presence of a gasoline storage tank located approximately 120 m northeast of the Site at 382 Richmond Road. (PCA 6)	FIPs and City of Ottawa HLUI	Given the distance and amount of infrastructure between the Site and this facility and that was it was located hydraulically cross-gradient with respect to the Site, it is not considered to be a PCA that will result in an APEC on the Site.
	#37. Operation of Dry Cleaning Facility (where chemicals are used) – Former laundry and cleaning facility located approximately 115 m northeast of the Site at 384 Richmond Road. (PCA 7)	FIPs and City of Ottawa HLUI	Given the distance and amount of infrastructure between the Site and this facility and that was it was located hydraulically cross-gradient with respect to the Site, it is not considered to be a PCA that will result in an APEC on the Site.
	#10. Commercial Autobody Shops – Former presence of auto service garage located at 567 Byron Avenue; adjacent to the north of the Site across Byron Avenue. (PCA 8)	FIPs and City of Ottawa HLUI	No UST or AST was reported at this facility. Based on the amount of infrastructure (underneath Byron Avenue) between the Site and this facility as well as hydraulically down and cross-gradient location with respect to the Site, it is not considered to be a PCA that will result in an APEC on the Site.
	#18. Electricity Generation, Transformation and Power Stations – Two pole-mounted transformers were located southwest of the Site along Ravenhill Avenue. (PCA 9)	Site observations	No evidence of spills or leaks was noted in the area of the transformers at the time of the Site visit, although visibility was limited due to snow cover on the ground. Based on the age (reported as being installed in 2017) of the transformers, they are unlikely to be PCB containing. The presence of relatively new transformers is a PCA that will not result in and APEC on the Site.

5.3 Areas of Potential Environmental Concern

Based on the information obtained as part of this Phase One ESA, none of the PCAs identified were considered to represent an APEC on the Phase One Property.



5.4 Conceptual Site Model

A Conceptual Site Model of the Phase One Study Area (as required by O.Reg. 153/04) is presented in a series of Figures 1 to 8 (Figure 1: Key Plan, Figure 2: Site Plan, Figure 3: Topographic Map and Areas of Natural Significance, Figure 4: Surficial Geology, Figure 5: Bedrock Geology, Figure 6: Drift Thickness, Figure 7: Soil Survey Complex (Ontario Soils), and Figure 8: Physiography Map).

The combined set of figures shows:

- Existing buildings and structures;
- Water bodies and Areas of Natural Significance (if present) located in the Phase One Study Area;
- Drinking water wells on the Phase One Property;
- Roads (including names) within the Phase One Study Area;
- Uses of properties adjacent to the Phase One Property; and,
- Location of identified PCAs in the Phase One Study Area (including any storage tanks).

The following describes the Phase One ESA Conception Site Model (CSM) for the Site based on the information obtained and reviewed as part of this Phase One ESA:

- At the time of the Site visit, the Site consisted of a 1.4 acres (0.57 hectare) parcel of residential and commercial land occupied by three single family residences, four multi-tenant residential buildings, four under-construction multi-tenant residential buildings, a commercial building and a detached single car garage. The exterior ground of the Site was completely snow covered area. The single family residences were constructed between 1920 and 1950 whereas the multi-tenant residential buildings were constructed in 2017;
- No water wells were observed on the Site at the time of the Site visit. Also, since municipal water mains service the Site and surrounding properties within Phase One Study Area, it is unlikely that any water wells are present;
- No piles of fill were observed on the Site at the time of the Site visit;
- The nearest water body is the Ottawa River located approximately 460 m northwest of the Site;
- No areas of natural and scientific interest (ANSI) are known to be located on the Site or on the Phase One Study Area;
- At the time of the Phase One ESA, the surrounding properties within the Phase One Study Area were mainly comprised of residential and commercial land uses with some community land uses;
- The following roads were located within the Phase One Study Area at the time of the Site visit:
 - Dominion Avenue, Berkley Avenue, Winston Avenue, Richmond Road, Kenwood Avenue, Madison Avenue, Danforth Avenue, Byron Avenue, Ravenhill Avenue, Edison Avenue, Highland Avenue, Brierwood Avenue, Golden Avenue, Cole Avenue.



- Soil at the Site consists of till, plain with local relief (< 5 m) and the bedrock at the Site is primarily of the Gull River Formation with limestone, with central portion consisting of Rockcliffe formation with sandstone, shale, limestone and dolostone; and
- Groundwater is anticipated to flow north towards the Ottawa River.

5.4.1 Uncertainty and Absence of Information

At the time of preparation of this report, Golder was unable to access all of the interior portions of the on-site residential buildings during the Site visit. However, based on the body of information acquired, it is considered that the absence of this information should not likely affect the final conclusion of the Phase One ESA. In addition, snow cover on the ground prevented inspection of the ground surface for possible stains or stressed vegetation across the Site. There were no material deviations to the Phase One ESA requirements set out in O.Reg. 153/04 that would cause uncertainty or absence of information that would affect the validity of the Phase One Conceptual Site Model or the findings of this Phase One ESA.



6.0 CONCLUSIONS

Given that no APECs were identified on the Site during the Phase One ESA, a Phase Two ESA is not recommended to be carried out at the Site at this time.



7.0 REFERENCES

The following documents and/or data were cited in this report:

Source	Date
Previous Environmental Reports (refer to Section 3.1.6)	N/A
Ontario Regulation 153/04 as amended	October 31, 2011
Bélanger, J. R. 2008 Urban Geology of the National Capital Area, Geological Survey of Canada, Open File 5311, 1 DVD.	2008
Armstrong, D.K. and Dodge, J.E.P. 2007. Paleozoic Geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 219	2007
2010 Bélanger, J. R., Urban Geology of the National Capital Area, Geological Survey of Canada, Open File D3256, 2001	2010
Aerial Photograph Images – geoOttawa (http://maps.ottawa.ca/geoOttawa/)	1928, 1958, 1965, 1976, 1999, 2002, 2005, 2007, 2008, 2011, 2014, 2015 and 2017
Ontario Ministry of the Environment and Climate Change	December 27, 2017
Technical Standards and Safety Authority	January 10, 2018



8.0 LIMITATIONS AND USE OF REPORT

This report (the “Report”) was prepared for the exclusive use of Antilia Homes, Falsetto Homes Inc., J&M Investments Inc. and Caruso Investments Inc. (the Client) for the express purpose of providing advice with respect to the environmental condition of the Site. In evaluating the Site, Golder Associates Ltd. (“Golder”) has relied in good faith on information provided by others as noted in the Report. We have assumed that the information provided is factual and accurate. We accept no responsibility for any deficiency, misstatement or inaccuracy contained in this Report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted, or incomplete or inaccurate historical information from the various agencies. Any use which a third party makes of this Report, or any reliance on or decisions to be made based on it, is the sole responsibility of such third party. If a third party requires reliance on this Report, prior written authorization from Golder is required. Golder disclaims any responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The scope and the period of Golder’s assessment are described in this Report, and are subject to restrictions, assumptions and limitations. Except as noted herein, the work was conducted in accordance with the scope of work and terms and conditions of Golder’s proposal. Golder did not perform a complete assessment of all possible conditions or circumstances that may exist at the Site referenced in the Report. Conditions may therefore exist which were not detected given the limited nature of the assessment Golder was retained to undertake with respect to the Site and additional environmental studies and actions may be required. In addition, it is recognized that the passage of time affects the information provided in the Report. Golder’s opinions are based upon information that existed at the time of the writing of the Report. It is understood that the services provided for in the scope of work allowed Golder to form no more than an opinion of the actual conditions at the Site at the time the Site was visited, and cannot be used to assess the effect of any subsequent changes in any laws, regulations, the environmental quality of the Site or its surroundings. Asbestos and mould surveys were not performed. If a service is not expressly indicated, do not assume it has been provided.

The results of an assessment of this nature should in no way be construed as a warranty that the Site is free from any and all contamination from past or current practices.



411-425 RAVENHILL AVENUE, 566-576 BYRON AVENUE AND
436-440 ROOSEVELT AVENUE, OTTAWA, ONTARIO

9.0 CLOSURE

We trust that the information presented in this report meets your current requirements. Should you have any questions or concerns, please do not hesitate to contact the undersigned.

GOLDER ASSOCIATES LTD.

Shihan Chowdhury, EIT
Junior Environmental Consultant

Keith Holmes, P.Geo., PMP, QP_{ESA}
Associate

SAC/KPH/hw

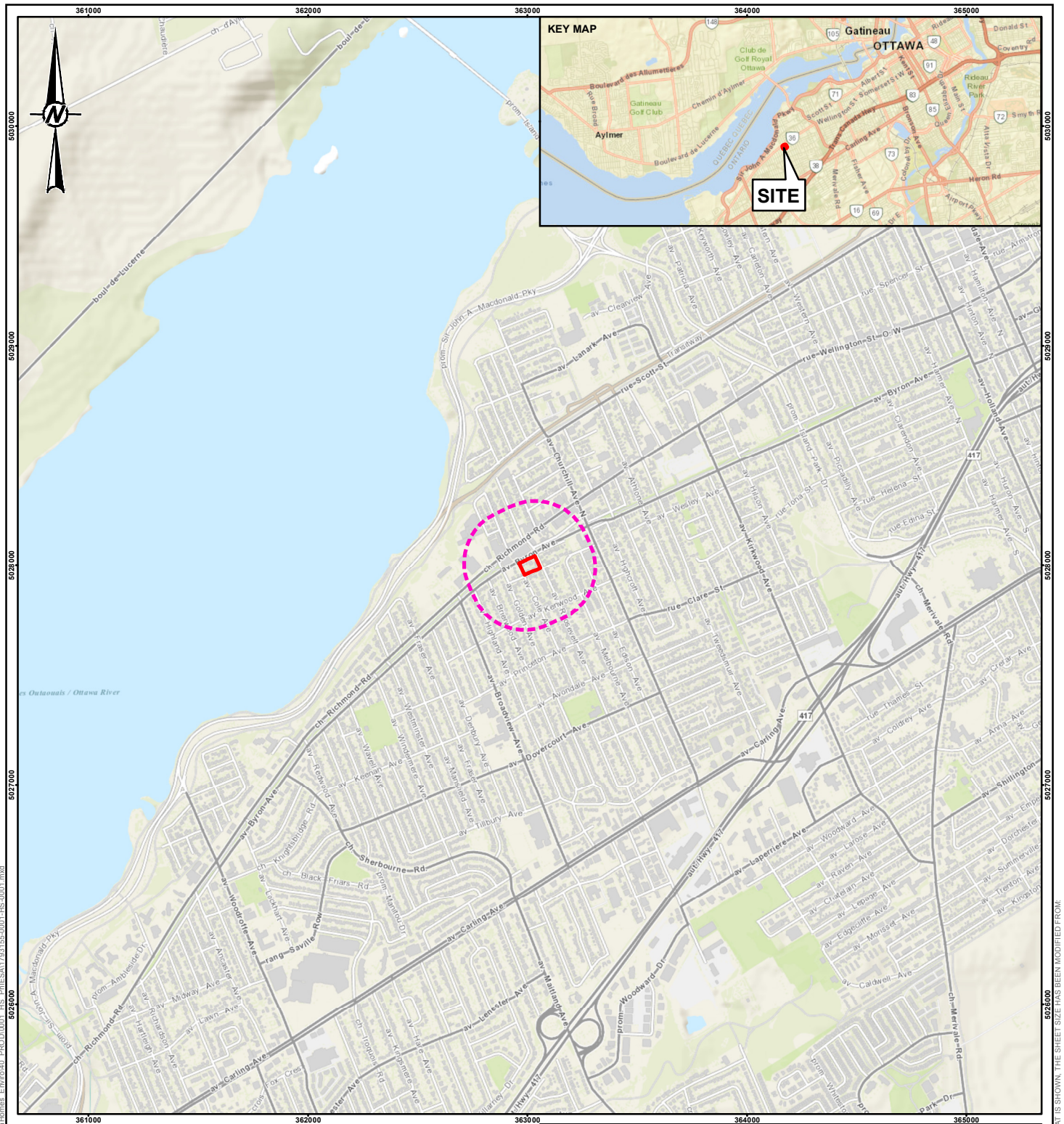
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411-425 RAVENHILL AVENUE, 566-576 BYRON AVENUE AND
436-440 ROOSEVELT AVENUE, OTTAWA, ONTARIO

FIGURES



LEGEND

-  PHASE ONE SITE BOUNDARY
-  PHASE ONE STUDY AREA



NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. SERVICE LAYER CREDITS: CITY OF OTTAWA
SOURCES: ESRI, HERE, DELORME, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI (THAILAND), MAPMYINDIA, NGCC, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
2. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: MTM ZONE 9 VERTICAL DATUM: CGVD28

CLIENT

ANTILIA HOMES

PROJECT

PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
411, 415, 419 & 525 RAVENHILL AVENUE, 436 & 440 ROOSEVELT AVENUE, AND 566, 570 & 576 BYRON AVENUE, OTTAWA, ON

TITLE

KEY PLAN

CONSULTANT



YYYY-MM-DD 2018-02-01

DESIGNED ---

PREPARED BR

REVIEWED SAC

APPROVED KPH

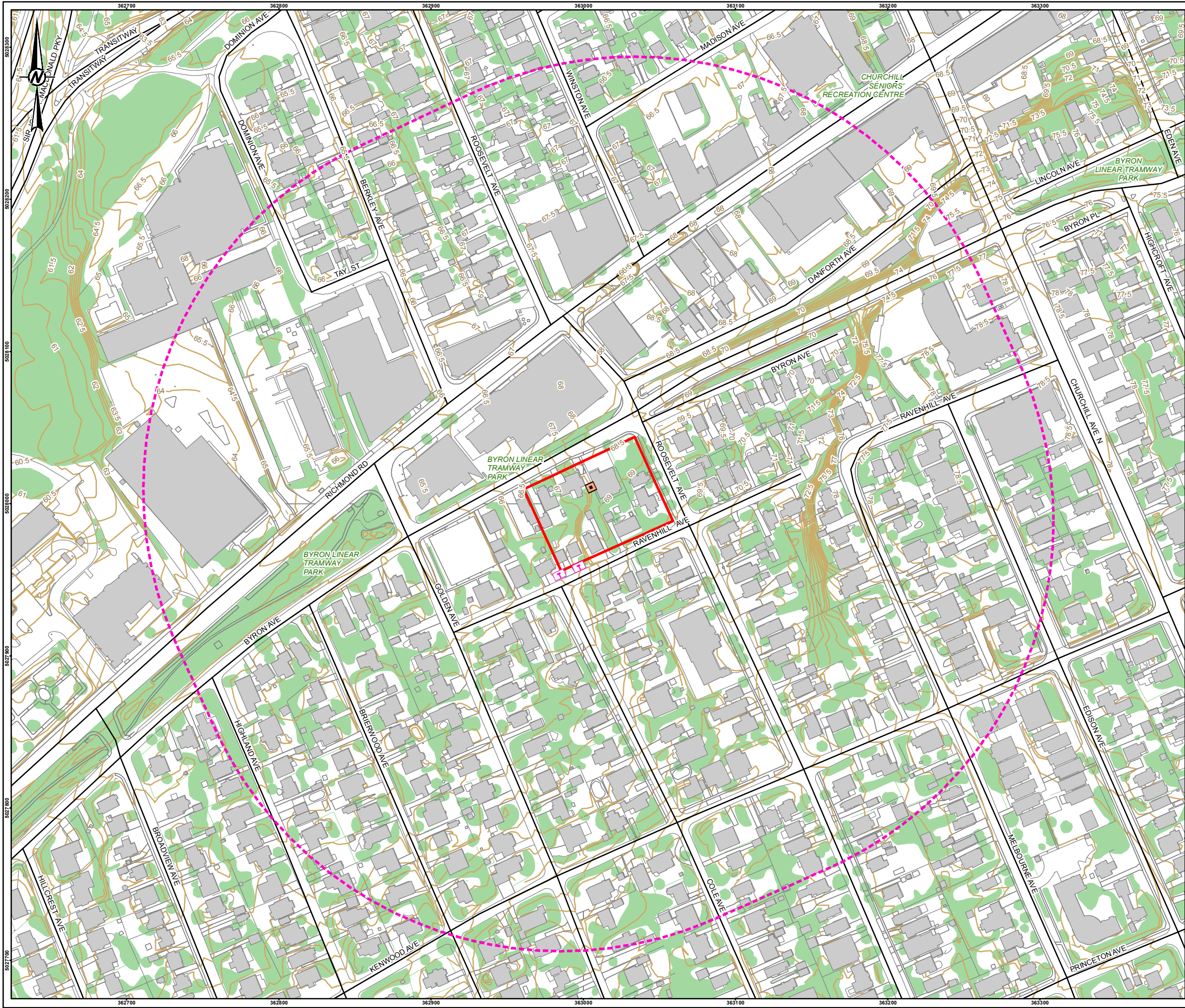
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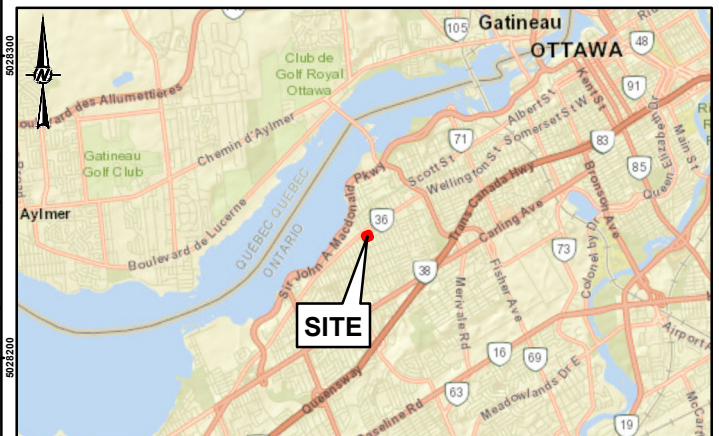
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FIGURE
1

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KEY MAP



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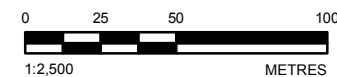
- PHASE ONE SITE BOUNDARY
- PHASE ONE STUDY AREA
- POLE MOUNTED TRANSFORMER
- SINGLE WALL NON-METALLIC AST
- ROADWAY
- TOPOGRAPHIC CONTOUR
- BUILDING FOOTPRINT
- WOODED AREA/OPEN SPACE

NOTE(S)

- ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

- CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE – CITY OF OTTAWA.
- LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
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PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
411, 415, 419 & 525 RAVENHILL AVENUE, 436 & 440 ROOSEVELT AVENUE, AND 566, 570 & 576 BYRON AVENUE, OTTAWA, ON

TITLE

TOPOGRAPHIC MAP AND AREAS OF NATURAL SIGNIFICANCE

CONSULTANT



YYYY-MM-DD	2018-02-01
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REVIEWED	SAC
APPROVED	KPH

PROJECT NO.
1793155

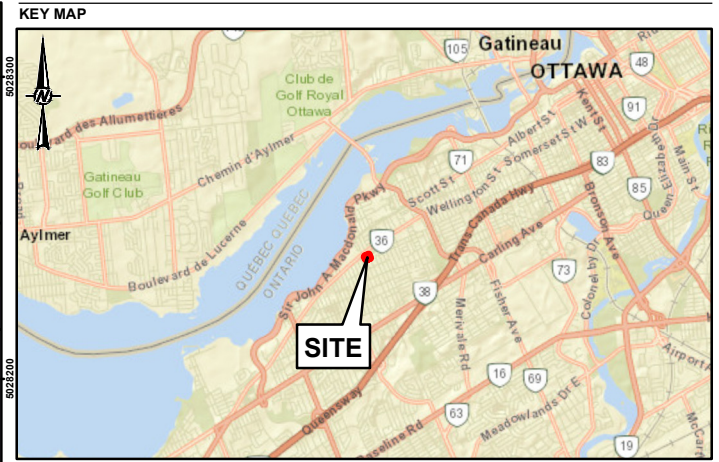
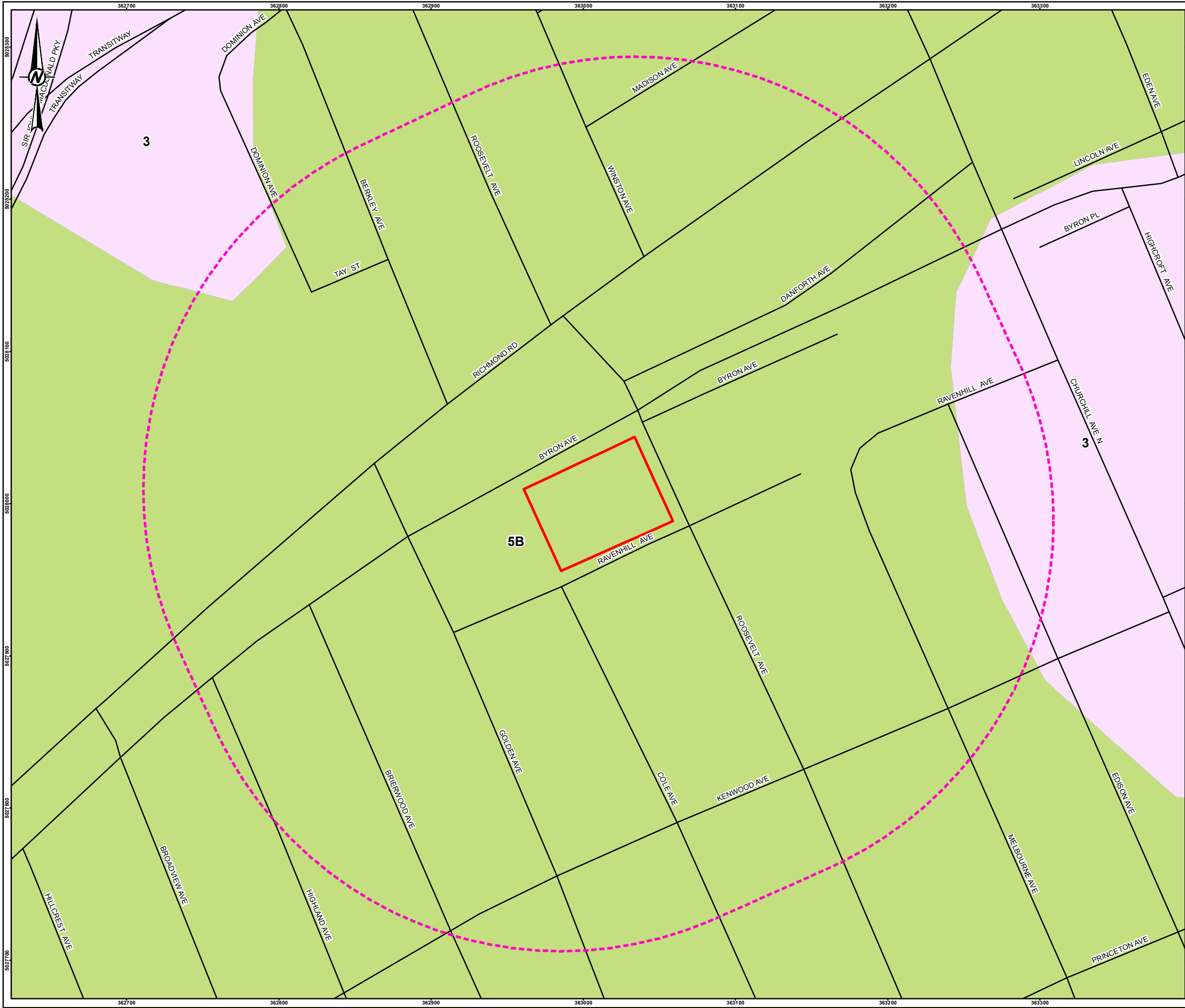
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FIGURE
3

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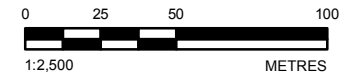
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LEGEND

- PHASE ONE SITE BOUNDARY
- PHASE ONE STUDY AREA
- ROADWAY
- 3. PALEOZOIC BEDROCK
- 5B. TILL: STONE-POOR, SANDY SILT TO SILTY SAND-TEXTURED TILL ON PALEOZOIC TERRAIN

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. ONTARIO GEOLOGICAL SURVEY 2010. SURFICIAL GEOLOGY OF SOUTHERN ONTARIO; ONTARIO GEOLOGICAL SURVEY, MISCELLANEOUS RELEASE--DATA 128-REV
2. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - CITY OF OTTAWA.
3. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
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**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
411, 415, 419 & 525 RAVENHILL AVENUE, 436 & 440 ROOSEVELT AVENUE, AND 566, 570 & 576 BYRON AVENUE, OTTAWA, ON**

TITLE
SURFICIAL GEOLOGY

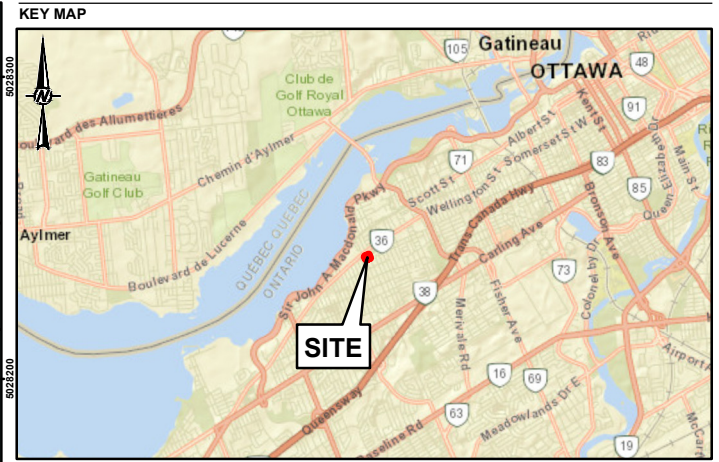
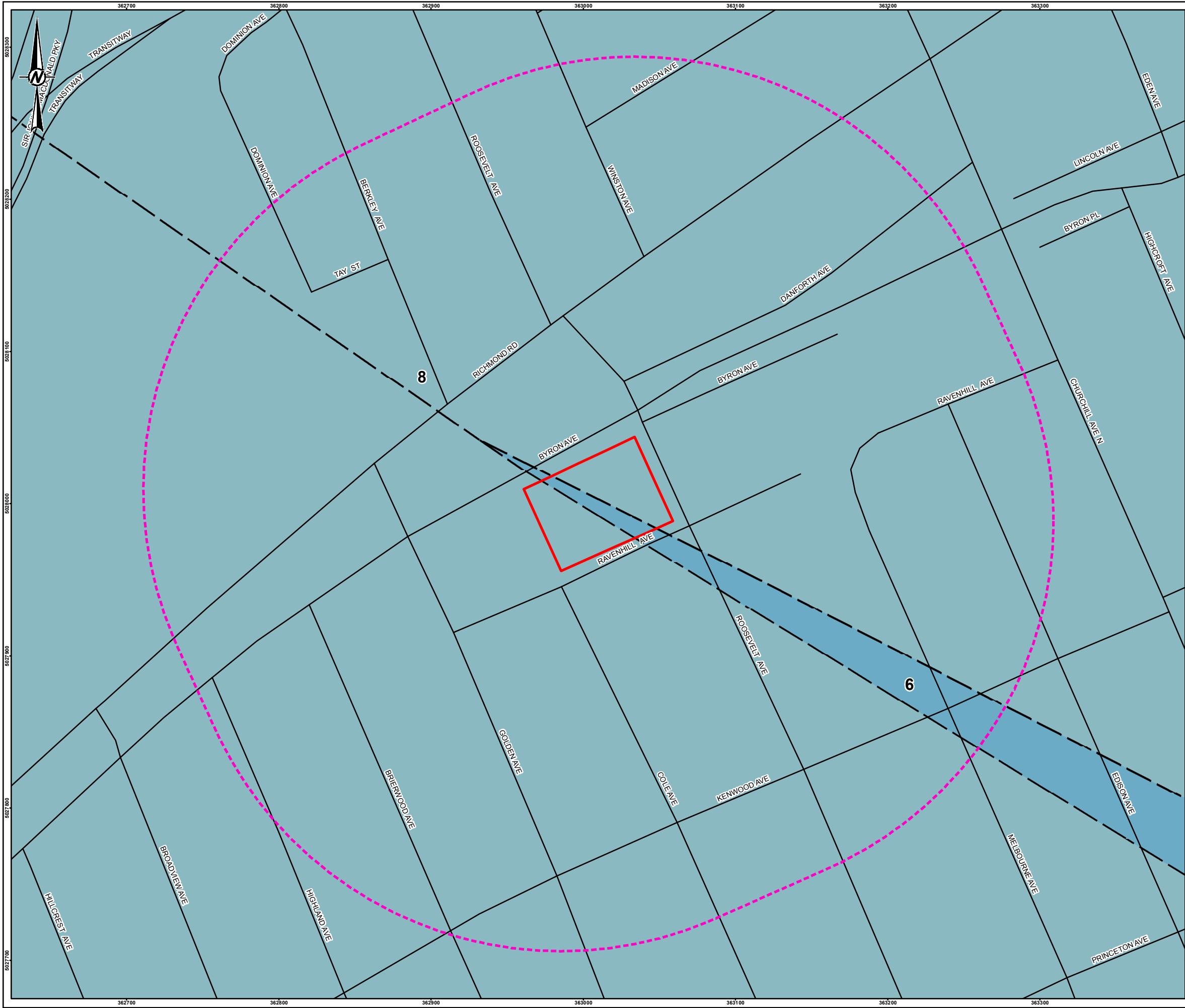
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PREPARED	BR	
REVIEWED	SAC	
APPROVED	KPH	

PROJECT NO. 1793155 CONTROL 0001 REV. 0 FIGURE 4



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SCALE 1:150,000

LEGEND

- PHASE ONE SITE BOUNDARY
- PHASE ONE STUDY AREA
- ROADWAY
- FAULT
- 8: GULL RIVER FORMATION - LIMESTONE, WITH DOLOSTONE BEDS TOWARDS BASE
- 6: ROCKCLIFFE FORMATION - SANDSTONE, SHALE, LIMESTONE, DOLOSTONE

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. ARMSTRONG, D.K. AND DODGE, J.E.P. 2007. PALEOZOIC GEOLOGY OF SOUTHERN ONTARIO; ONTARIO GEOLOGICAL SURVEY, MISCELLANEOUS RELEASE--DATA 219
2. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - CITY OF OTTAWA.
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PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
411, 415, 419 & 525 RAVENHILL AVENUE, 436 & 440 ROOSEVELT AVENUE, AND 566, 570 & 576 BYRON AVENUE, OTTAWA, ON**

TITLE
BEDROCK GEOLOGY

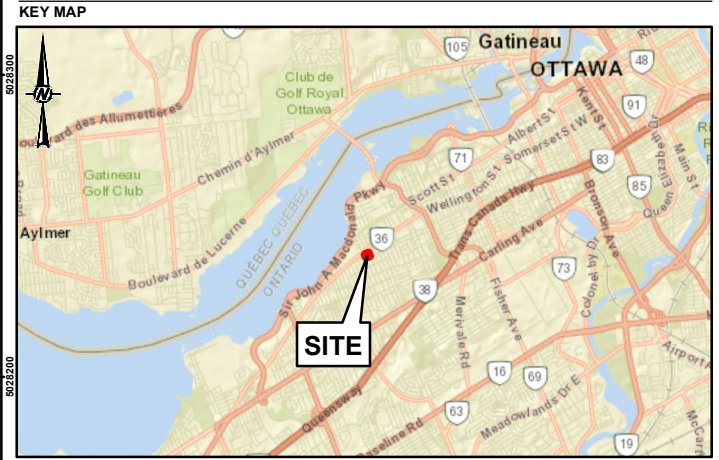
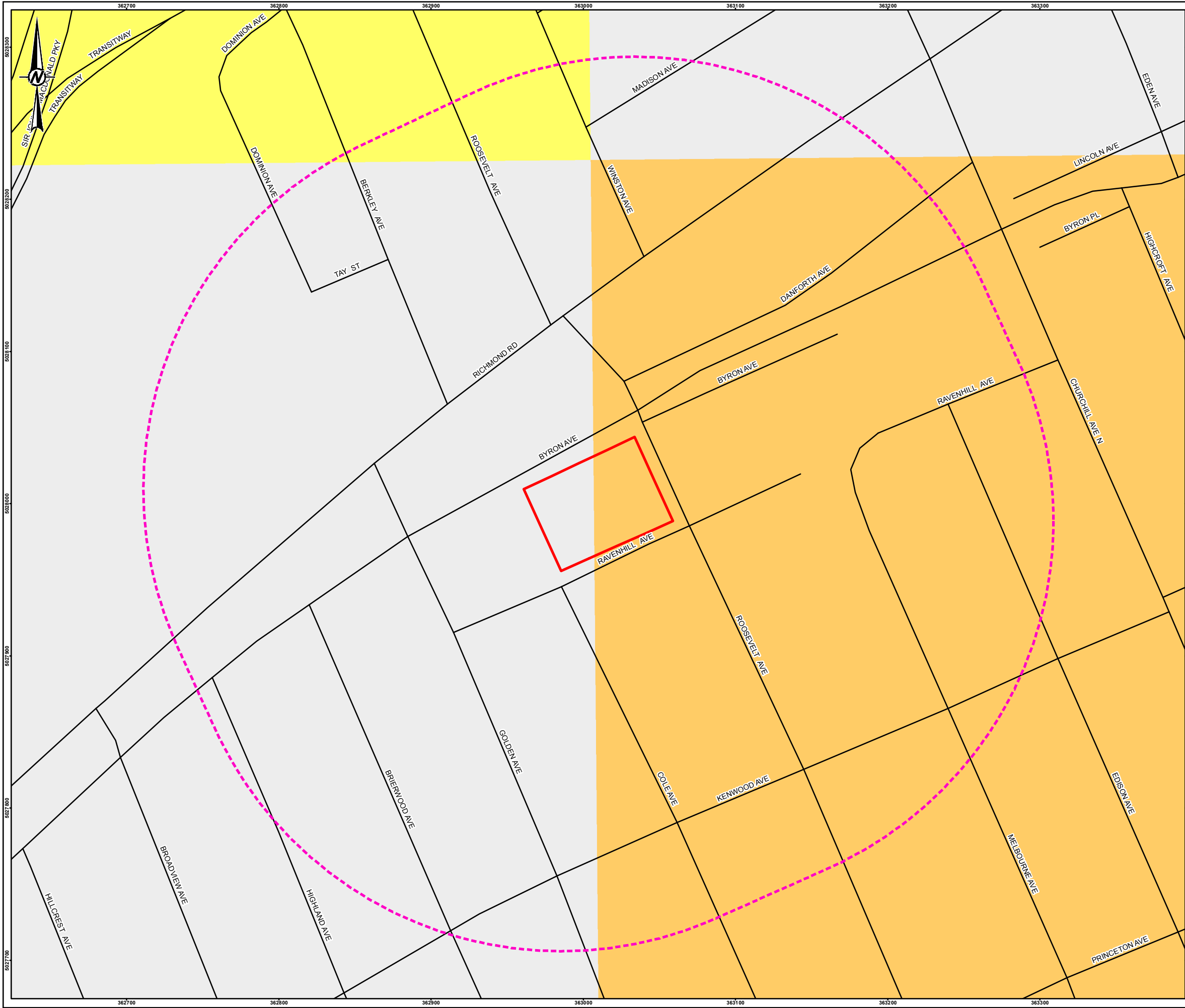
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PREPARED	BR	
REVIEWED	SAC	
APPROVED	KPH	

PROJECT NO. 1793155 CONTROL 0001 REV. 0 FIGURE **5**



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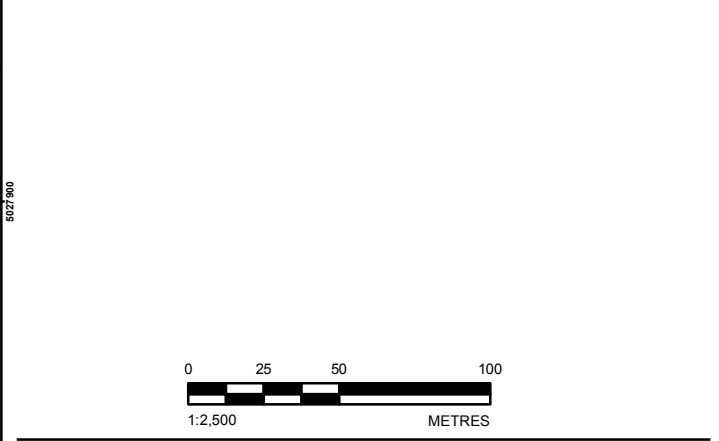
LEGEND

- PHASE ONE SITE BOUNDARY
- PHASE ONE STUDY AREA
- ROADWAY

0
2 - 3
3 - 5

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. BEDROCK TOPOGRAPHY AND OVERBURDEN THICKNESS MAPPING, SOUTHERN ONTARIO, ONTARIO GEOLOGICAL SURVEY, MISCELLANEOUS RELEASE - DATA 207
2. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - CITY OF OTTAWA.
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ANTILIA HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
411, 415, 419 & 525 RAVENHILL AVENUE, 436 & 440 ROOSEVELT AVENUE, AND 566, 570 & 576 BYRON AVENUE, OTTAWA, ON**

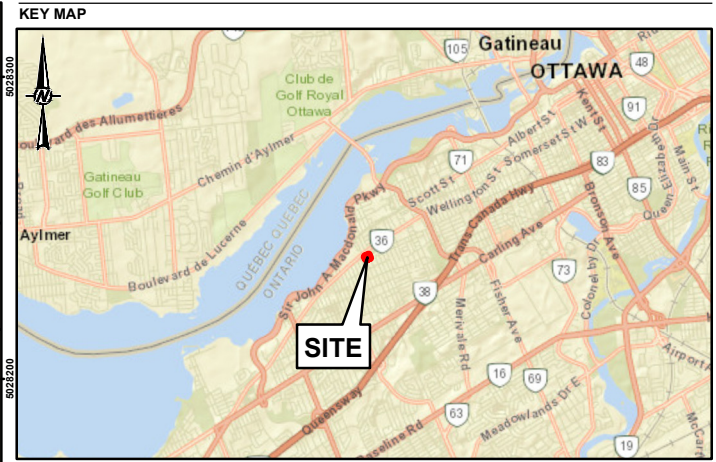
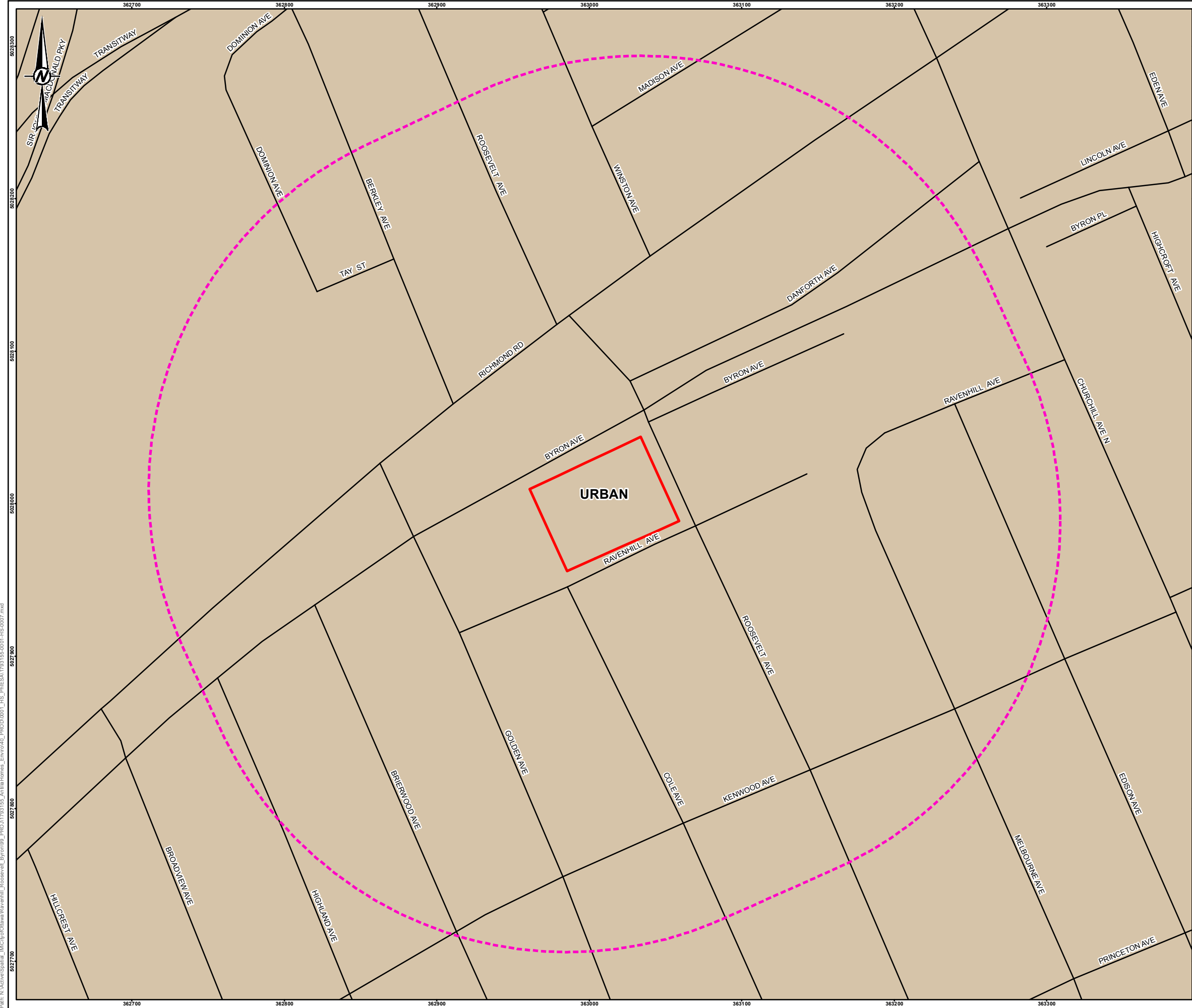
TITLE
DRIFT THICKNESS

CONSULTANT	YYYY-MM-DD	2018-02-01
DESIGNED	---	
PREPARED	BR	
REVIEWED	SAC	
APPROVED	KPH	

PROJECT NO. 1793155 CONTROL 0001 REV. 0 FIGURE 6

 **Golder Associates**

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LEGEND

- PHASE ONE SITE BOUNDARY
- PHASE ONE STUDY AREA
- ROADWAY

SOIL SURVEY COMPLEX

- URBAN

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

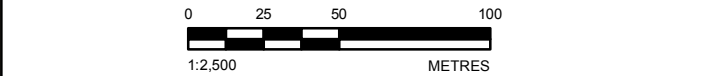
REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE – CITY OF OTTAWA.

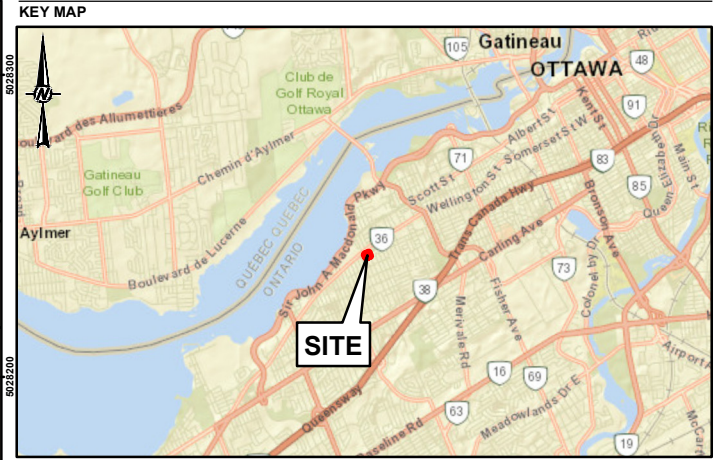
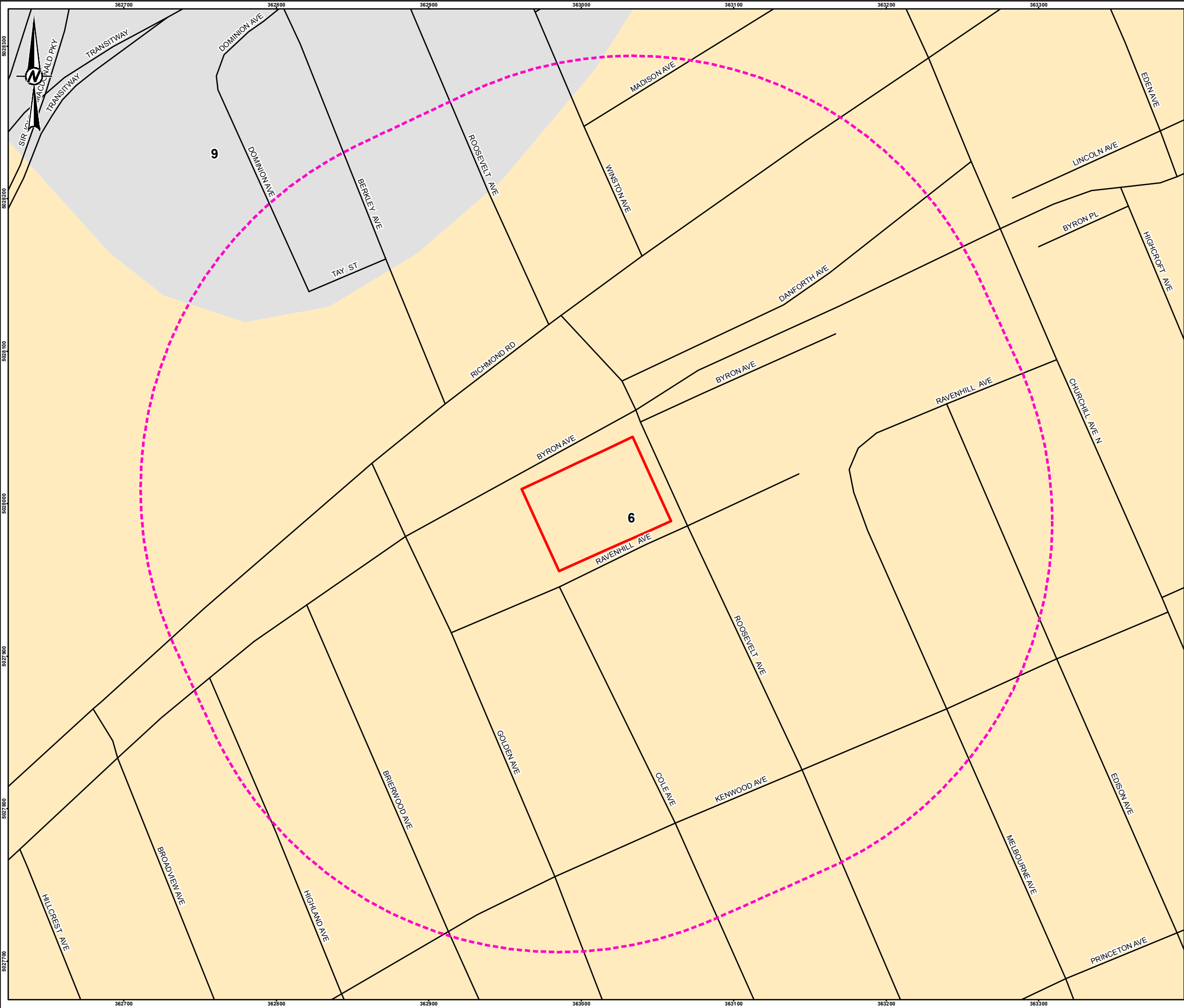
2. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014

3. SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, DELORME, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI (THAILAND), MAPMYINDIA, NGCC, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

4. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28



CLIENT			
ANTILIA HOMES			
PROJECT			
PHASE ONE ENVIRONMENTAL SITE ASSESSMENT			
411, 415, 419 & 525 RAVENHILL AVENUE, 436 & 440 ROOSEVELT AVENUE, AND 566, 570 & 576 BYRON AVENUE, OTTAWA, ON			
TITLE			
SOIL SURVEY COMPLEX (ONTARIO SOILS)			
CONSULTANT		YYYY-MM-DD	2018-02-01
		DESIGNED	---
		PREPARED	BR
		REVIEWED	SAC
		APPROVED	KPH
PROJECT NO.	CONTROL	REV.	FIGURE
1793155	0001	0	7



SCALE 1:150,000

LEGEND

- PHASE ONE SITE BOUNDARY
- PHASE ONE STUDY AREA
- ROADWAY

PHYSIOGRAPHY DESCRIPTION

- 6: TILL PLAINS (DRUMLINIZED)
- 9: LIMESTONE PLAINS

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

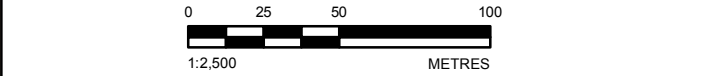
1. CHAPMAN, L.J. AND PUTNAM, D.F. 2007. PHYSIOGRAPHY OF SOUTHERN ONTARIO; ONTARIO GEOLOGICAL SURVEY, MISCELLANEOUS RELEASE-DATA 228

2. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - CITY OF OTTAWA.

3. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014

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5. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28



CLIENT
ANTILIA HOMES

PROJECT
**PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
411, 415, 419 & 525 RAVENHILL AVENUE, 436 & 440 ROOSEVELT
AVENUE, AND 566, 570 & 576 BYRON AVENUE, OTTAWA, ON**

TITLE
PHYSIOGRAPHY

CONSULTANT	YYYY-MM-DD	2018-02-01
DESIGNED	---	
PREPARED	BR	
REVIEWED	SAC	
APPROVED	KPH	

PROJECT NO. 1793155 CONTROL 0001 REV. 0 FIGURE 8



411-425 RAVENHILL AVENUE, 566-576 BYRON AVENUE AND
436-440 ROOSEVELT AVENUE, OTTAWA, ONTARIO

APPENDIX A

Regulatory Responses

Ministry of the Environment
and Climate Change
Ottawa District Office
2430 Don Reid Drive, Suite 103
Ottawa Ontario
K1H 1E1
613-521-3450 or 1-800-860-2195
Fax: 613-521-5437

Ministère de l'Environnement et de
l'Action en matière de changement climatique
Bureau du district d'Ottawa
2430, promenade Don Reid, Unité 103
Ottawa (Ontario)
K1H 1E1
613-521-3450 ou 1-800-860-2195
Télec. : 613-521-5437



OTT File No: **91**

**INDEX REVIEW REPORT
COMMERCIAL/INDUSTRIAL/AGRICULTURAL**

Attention: Shihan A. Chowdhury Golder Associates	Your File: Date Received: December 21, 2017
---	--

Thank you for your inquiry requesting a search of records from the Ministry of the Environment and Climate Change (ministry). The ministry encourages you to use the available on-line resources to access publically-available information which may assist with your inquiry.

PROPERTY OWNER AND LOCATION

Location: Municipality: **Ottawa**

Address: **411, 415, 419, 425 Ravenhill Avenue; 436, 440 Roosevelt Avenue; 566, 570, 576 Byron Avenue**

INDEX OF NAMES FOR ORDERS

We have searched the Ottawa District Index Record of Active Orders under the Environmental Protection Act (EPA), Ontario Water Resources Act (OWRA) and the Pesticides Act (PA) issued to:
and the following information has been found:

☒ No Active Orders are outstanding

Please Note: For information related to any ministry Orders issued to the property in question, **please request this information from the property owner.** If you would like further information regarding a specific Order issued, please contact the Ottawa District Office.

Date of Search: December 27, 2017

RECORD OF SITE CONDITION

For information on **Records of Site Condition** filed on the Environmental Site Registry since October 1, 2004, please use the following links:

For records of site condition filed between October 1, 2004 and June 30, 2011

<https://www.lrcsde.lrc.gov.on.ca/besrWebPublic/generalSearch> and for records of site condition filed since July 1, 2011 <https://www.ontario.ca/environment-and-energy/records-site-condition>

INDEX REVIEW REPORT COMMERCIAL/INDUSTRIAL/AGRICULTURAL

INDEX OF NAMES FOR APPROVALS ISSUED SINCE 1999

A search of the Index Record of names of all persons to whom approvals have been issued, maintained by the Director, Approvals Branch and the Regional Director, *Eastern Region*, and the District Manager, *Ottawa District*, under Section 19 EPA and Section 13 OWRA and the following information has been provided :

<u>Type</u>	<u>Number</u>	<u>Issued To</u>	<u>Issue Date</u>
Section 9 EPA (Air)			
Section 39 EPA (Waste Management)			
Section 52 OWRA (Water)			
Section 53 OWRA (Municipal/Private/ Industrial Sewage)			
Other			

The **ministry's Access Environment** is an on-line, map-based search tool designed to allow the public, quick and easy access to the ministry approvals and registration information from December 1999 onward. Access Environment currently displays Environmental Compliance Approvals (ECA), Renewable Energy Approvals (REA) and registrations on the Environmental Activity and Sector Registry (EASR). ECAs include all Certificates of Approval (CofAs) previously issued under the Environmental Protection Act (EPA) and approvals previously issued under s.53 of the Ontario Water Resources Act (OWRA). You can access this information from the ministry website or at the following link:

www.accessenvironment.ene.gov.on.ca/AEWeb/ae/GoSearch.action?search=basic&lang=en

Copies of **ECAs issued before January 1, 2000** can be obtained by submitting a Request for a Copy of an Environmental Compliance Approval

Please Note:

- 1) The information provided above is based solely on the address(es) and name(s) of the present and past owners provided by you.
- 2) The Index Record of Names to whom approvals have been issued, maintained by the Regional Director and District Manager, has been searched back to 1999.
- 3) A search of our records does **NOT** indicate whether there are:
 - other uses for which an approval may have been required, **nor**
 - other uses on the property or in the vicinity that may affect the suitability of the property, for the use proposed to be made of it.If a comprehensive knowledge of the property and the nearby lands and their environmental condition is required, you must examine them and other relevant records yourself, with the aid of a qualified person, if needed.

☒ No Approvals have been issued.

Date of Search: December 27, 2017

INDEX REVIEW REPORT COMMERCIAL/INDUSTRIAL/AGRICULTURAL

Additional site information related to the **location of landfill sites** in the province can be found at the following link:

<http://www.ontario.ca/environment-and-energy/small-landfill-sites>

<http://www.ontario.ca/environment-and-energy/map-large-landfill-sites>

The **ministry's Hazardous Waste Information Network (HWIN)** can also be accessed to search for information on generators, carriers, and receivers of subject waste in the province at the following link: www.hwin.ca

The **ministry's Environmental Compliance Reports** provide information about contaminant discharges to water and emissions to air that exceed limits found in legislation, environmental approvals, orders and/or policies/guidelines and can be accessed at the following link:
<http://www.ontario.ca/environment-and-energy/environmental-compliance-reports>

Information on **Environmental Penalties**, which are monetary penalties that can be imposed by the ministry for some industrial spills, can be assessed at the following link:
<https://www.ontario.ca/search/search-results?query=environmental%20penalties>

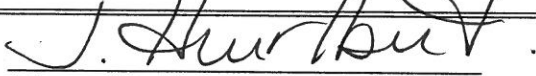
Additional ministry information can be accessed through the **Government of Ontario's Open Data Catalogue**: <http://www.ontario.ca/government/open-data-ontario>

The ministry also encourages you to consider best practices and standards of care used within the legal community and through your associations as a guide to obtaining information related to specific property for any legal purpose.

We trust this information will help meet your requirements quickly and effectively.

Please advise your colleagues that responses to requests for searches always take some time. As a result the Ministry of the Environment and Climate Change may not be able to meet deadlines imposed by other parties on real estate and other transactions.

Thank you for your inquiry.

Signature:		
Contact Name:	Jéhanne Hurlbut	
Title:	Administrative Assistant	
Address:	Ministry of the Environment and Climate Change 2430 Don Reid Drive, Unit 103 Ottawa, ON K1H 1E1	
Phone:	(613) 521-3450 Ext 221	Date: December 27, 2017
		E&OE

Please Note: If you would like to receive an email with all the environmental links above, please contact me at jehanne.hurlbut@ontario.ca and I will be pleased to send them to you.

From: Chowdhury, Shihan
Sent: December-21-17 2:12 PM
To: 'jehanne.hurlbut@ontario.ca'
Subject: Request for Info on Properties in Downtown Ottawa

Hi Jéhanne,

Hope this email finds you well.

I am working to complete a Phase I Environmental Site Assessment for a location that includes multiple municipal addresses in downtown Ottawa. Requesting you to kindly check for any approvals and orders for these addresses listed below:

- 411, 415, 419 and 425 Ravenhill Avenue
- 436 and 440 Roosevelt Avenue
- 566, 570 and 576 Byron Avenue

Let me know if you have queries.

Appreciate your assistance in this regard.

Have a great holidays.

Best regards,

Shihan A. Chowdhury, EIT | Junior Environmental Consultant | **Golder Associates Ltd.**

1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7

T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **C:** +1 (613) 406-6892 | **E:** Shihan_Chowdhury@golder.com

www.golder.com

Work Safe, Home Safe

From: Chowdhury, Shihan
Sent: December-21-17 11:49 AM
To: 'publicinformationservices@tssa.org'
Subject: Request for TSSA Search for Properties on Ravenhill Ave., Roosevelt Ave. and Byron Ave.

Good afternoon,

Could you please perform a TSSA database search for any underground storage tanks, registered fuel tanks, outstanding instructions, incident reports, fuel oil spills or contaminations records for the properties located at:

- 411, 415, 419 and 425 Ravenhill Avenue;
- 436 and 440 Roosevelt Avenue;
- 566, 570 and 576 Byron Avenue; and
- 439 Golden Avenue

Let me know if you have any queries.

Best Regards,

Shihan A. Chowdhury, EIT | Junior Environmental Consultant | **Golder Associates Ltd.**

1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7

T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **C:** +1 (613) 406-6892 | **E:** Shihan_Chowdhury@golder.com

www.golder.com

Work Safe, Home Safe

From: Public Information Services <publicinformationsservices@tssa.org>
Sent: January-10-18 11:51 AM
To: Chowdhury, Shihan
Subject: RE: Request for TSSA Search for Properties on Ravenhill Ave., Roosevelt Ave. and Byron Ave.

Hello Shihan,

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 complete our release of public information form found at https://www.tssa.org/en/about-tssa/release-of-public-information.aspx?_mid_=392 and email the completed form to 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 you and have a great day,

Sherees

From: Chowdhury, Shihan [mailto:Shihan_Chowdhury@golder.com]
Sent: December 21, 2017 11:49 AM
To: Public Information Services <publicinformationsservices@tssa.org>
Subject: Request for TSSA Search for Properties on Ravenhill Ave., Roosevelt Ave. and Byron Ave.

Good afternoon,

Could you please perform a TSSA database search for any underground storage tanks, registered fuel tanks, outstanding instructions, incident reports, fuel oil spills or contaminations records for the properties located at:

- 411, 415, 419 and 425 Ravenhill Avenue;
- 436 and 440 Roosevelt Avenue;
- 566, 570 and 576 Byron Avenue; and
- 439 Golden Avenue

Let me know if you have any queries.

Best Regards,

Shihan A. Chowdhury, EIT | Junior Environmental Consultant | **Golder Associates Ltd.**

1931 Robertson Road, Ottawa, Ontario, Canada, K2H 5B7

T: +1 (613) 592 9600 | **F:** +1 (613) 592 9601 | **C:** +1 (613) 406-6892 | **E:** Shihan_Chowdhury@golder.com
www.golder.com

Work Safe, Home Safe

This electronic message and any attached documents are intended only for the named recipients. This communication from the Technical Standards and Safety Authority may contain information that is privileged, confidential or otherwise protected from disclosure and it must not be disclosed, copied, forwarded or distributed without authorization. If you have received this message in error, please notify the sender immediately and delete the original message.



411-425 RAVENHILL AVENUE, 566-576 BYRON AVENUE AND
436-440 ROOSEVELT AVENUE, OTTAWA, ONTARIO

APPENDIX B

EcoLog ERIS Report, City Directories

City Directory Information Source
Vernon's Ottawa & Area, Ontario City Directory

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 2011	
Site Listing:	-Medical Office

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 2006-07	
Site Listing:	-Medical Office

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 2001-02	
Site Listing:	-Medical Office

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 1996-97	
Site Listing:	-Medical Office

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 1992	
Site Listing:	-Medical Office

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 1987	
Site Listing:	-Westboro Dental Centre

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 1981-82	
Site Listing:	-Westboro Dental Centre

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 1976	
Site Listing:	-Westboro Dental Centre

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 1971	
Site Listing:	-Dental Office

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 1966	
Site Listing:	-Dental Office

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 1961	
Site Listing:	-Dental Office

PROJECT NUMBER: 20180110165	
Site Address:	566 Byron Avenue, Ottawa, Ontario
Year: 1956	
Site Listing:	-Address Not Listed

-All listings for businesses were listed as they are in the city directory.

-Listings that are residential are listed as “residential” with the number of tenants. The name of the residential tenant is not listed in the above city directory



411-425 RAVENHILL AVENUE, 566-576 BYRON AVENUE AND
436-440 ROOSEVELT AVENUE, OTTAWA, ONTARIO

APPENDIX C

Site Photographs



ATTACHMENT C

Site Photographs



Photo 1: Looking northwest at the Site, elevation of the buildings on Ravenhill Avenue.



Photo 2: Looking southwest at the Site, elevation of the buildings on Byron Avenue.



ATTACHMENT C

Site Photographs



Photo 3: Looking southwest at the Site, elevation of the buildings on Roosevelt Avenue.



Photo 4: Looking northeast, construction of residential apartments on 415 and 419 Ravenhill Avenue.



ATTACHMENT C

Site Photographs



Photo 5: Looking southwest, construction of residential apartments on 576 Byron Avenue.



Photo 6: Looking northeast, a typical residential home (425 Ravenhill Avenue) at the Site.



ATTACHMENT C

Site Photographs



Photo 7: Looking northeast, a typical residential apartment (411 Ravenhill Avenue) at the Site.



Photo 8: Looking southeast, view of the commercial property (Dental Office) on Site located at 566 Byron Avenue



ATTACHMENT C

Site Photographs



Photo 9: View of the AST located southwest of the Dental Office building on 566 Byron Avenue.



Photo 10: View of the visible portion of the concrete pad underneath AST showing no evidence of stain/spills.



ATTACHMENT C

Site Photographs



Photo 11: View of the under construction basement unit in 411 Ravenhill Avenue.



Photo 12: View of an off-site pole mounted transformer to the southwest of the Site.



ATTACHMENT C

Site Photographs



Photo 13: View of a pole mounted transformer on the southwest portion of the Site.



Photo 14: Looking northwest, at the residential apartments north of the Site (across Byron Avenue).



ATTACHMENT C

Site Photographs



Photo 15: Looking northeast, at the residential properties east of the Site (across Roosevelt Avenue).



Photo 16: Looking northeast, at the residential properties east of the Site (across Roosevelt Avenue).

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

For more information, visit golder.com

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

Golder Associates Ltd.
1931 Robertson Road
Ottawa, Ontario, K2H 5B7
Canada
T: +1 (613) 592 9600

