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Phase I Environmental Site Assessment

The Salvation Army Barrhaven Church
102 Bill Leathem Drive
Ottawa, Ontario

Prepared For

The Governing Council of the
Salvation Army in Canada

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Table of Contents

EXECUTIVE SUMMARY.....	ii
1.0 INTRODUCTION.....	1
2.0 PHASE I PROPERTY INFORMATION.....	2
3.0 SCOPE OF INVESTIGATION	3
4.0 RECORDS REVIEW	4
4.1 General.....	4
4.2 Environmental Source Information	5
4.3 Physical Setting Sources	7
5.0 INTERVIEWS	10
6.0 SITE RECONNAISSANCE.....	10
6.1 General Requirements.....	10
6.2 Specific Observations at Phase I property.....	10
7.0 REVIEW AND EVALUATION OF INFORMATION	12
7.1 Land Use History	12
7.2 Conceptual Site Model.....	13
8.0 CONCLUSIONS	16
9.0 STATEMENT OF LIMITATIONS	18
10.0 REFERENCES.....	19

List of Figures

- Figure 1 - Key Plan
- Figure 2 - Topographic Map
- Drawing PE3779-1 - Site Plan
- Drawing PE3779-2 - Surrounding Land Use Plan

List of Appendices

- Appendix 1 Current Plan of Survey
 - Aerial Photographs
 - Site Photographs
- Appendix 2 MOE Freedom of Information Response
 - TSSA Correspondence
 - MOECC Well Records
 - City of Ottawa HLUI Search Results
- Appendix 3 Qualifications of Assessors

EXECUTIVE SUMMARY

Assessment

Paterson Group was retained by The Governing Council of the Salvation Army in Canada, to conduct a Phase I Environmental Site Assessment (ESA) of the vacant property addressed 102 Bill Leathem Drive, in the City of Ottawa, Ontario. The purpose of this Phase I ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

According to the historical research, the Phase I property and surrounding lands were historically vacant and/or used for agricultural purposes. No concerns were identified with the historical use of the Phase I property or the Phase I study area.

Following the historical research, a site visit was conducted for the Phase I property and properties in the Phase I ESA study area were viewed from publicly accessible locations. The subject land is currently vacant and covered with brush and small trees, with a small area of apparent fill material on the southeastern portion of the site.

A geotechnical investigation was carried out concurrently with the Phase I ESA. Based on the findings of the field program, fill material was not identified in the boreholes placed in the vicinity of the suspected fill observed at the time of the site visit. This material is considered to occupy a small, localized area on the site and based on the findings of a previous geotechnical investigation (2008) discussed in the body of the report, is not considered to represent a concern to the Phase I property. No Potentially Contaminating Activities (PCAs) were identified on the Phase I property.

Properties surrounding the Phase I property consisted of a stormwater management pond and pumping station, RCMP headquarters, JDS Uniphase, Enbridge and Canada Post, as well as vacant, undeveloped land.

The JDS Uniphase property to the north of the subject land was considered to be a potentially contaminating activity (PCA), although it is not considered to represent an area of potential environmental concern (APEC) on the subject land. No other PCAs were identified in the Phase I study area.

Conclusion

The results of the historical research, personal interviews, and the site inspection did not identify any areas of potential environmental concern (APECs) on the Phase I property. Based on the results of the assessment, **it is our opinion that a Phase II Environmental Site Assessment is not required.**

1.0 INTRODUCTION

At the request of The Governing Council of the Salvation Army in Canada (Salvation Army), Paterson Group (Paterson) conducted a Phase I Environmental Site Assessment (Phase I ESA) of the vacant property addressed 102 Bill Leathem Drive, in the City of Ottawa, Ontario. The purpose of this Phase I ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

Paterson was engaged to conduct this Phase I ESA by Ms. Michaela Jones with the Salvation Army. Ms. Jones can be reached by telephone at (416) 422-6135.

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

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

2.0 PHASE I PROPERTY INFORMATION

Address:	102 Bill Leathem Drive, Ottawa, Ontario.
Legal Description:	Part of Lots 17 and 18, Concession 1 Rideau Front (Geographic Township of Nepean), City of Ottawa.
Property Identification Number:	04733-3045
Location:	The subject site is located at the southwest corner of the intersection of Bill Leathem Drive and Leikin Drive in the City of Ottawa. The subject site is shown on Figure 1 - Key Plan following the body of this report.
Latitude and Longitude:	45° 17' 40" N, 75° 42' 39" W.
Site Description:	
Configuration:	Irregular.
Site Area:	2.0 hectares (approximate).
Zoning:	IL9 – Light Industrial Zone.
Current Use:	The subject site is currently vacant.
Services:	The Phase I property is not currently serviced, although it is situated in a municipally serviced area and will be provided with municipal services upon development.

3.0 SCOPE OF INVESTIGATION

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

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

4.0 RECORDS REVIEW

4.1 General

Phase I-ESA Study Area Determination

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

First Developed Use Determination

According to the aerial photographs reviewed, the subject site has been vacant undeveloped land since at least 1962 (earliest photo available). The Phase I property is therefore considered to have always been vacant, undeveloped land.

Fire Insurance Plans

Fire Insurance Plans (FIPs) are not available for the subject site.

City of Ottawa Street Directories

City directories are not available for the subject site.

Previous Engineering Reports

Paterson has conducted several Phase I ESAs and geotechnical investigations for properties in the immediate vicinity of the Phase I property, one of which included the subject land.

Based on the findings of the Phase I ESAs, there are no on or off-site potentially contaminating activities (PCAs) that represent areas of potential environmental concern (APECs) on the Phase I property. Fill material was previously observed on adjacent and neighbouring properties and also identified on the eastern portion of the subject site during a geotechnical investigation. The fill material consisted of native silty clay with some sand and gravel, and is considered to have resulted from the construction of the storm water management pond and pathway to the south and the construction of the adjacent roadways. The fill material was not considered to represent an APEC on the Phase I property.

Current Plan of Survey

A draft plan of survey, prepared by Stantec Geomatics Limited, was reviewed as part of this assessment. The plan shows the RSC property in its current configuration.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on March 16, 2016. The Phase I property and adjacent lands were not listed in the NPRI database. No records of pollutant release were listed in the database for properties located within the Phase I Study Area.

PCB Inventory

A search of national PCB waste storage sites was conducted. No PCB waste storage sites are located within the Phase I study area.

Ontario Ministry of Environment and Climate Change (MOECC) Instruments

A request was submitted to the MOECC Freedom of Information office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MOECC issued instruments for the site. According to the MOECC response dated March 30, 2016, no records were identified for the Phase I property. A copy of the response letter is provided in the appendix.

MOECC Coal Gasification Plant Inventory

The Ontario Ministry of Environment document titled "Municipal Coal Gasification Plant Site Inventory, 1991" was reviewed to reference the locations of former plants with respect to the site. No coal gasification plants were identified within 1 km of the subject site.

MOECC Incident Reports

A request was submitted to the MOECC Freedom of Information office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MOE for the site or adjacent properties. The MOECC search results did not identify any incident reports for the Phase I property. A copy of the response letter dated March 30, 2016, is provided in Appendix 2.

MOECC Waste Management Records

A request was submitted to the MOE Freedom of Information office for information with respect to waste management records. Based on the MOECC response letter appended to this report, no waste management records were identified for the Phase I property.

MOECC Submissions

A request was submitted to the MOECC Freedom of Information office for information with respect to reports related to environmental conditions that have been submitted to the MOECC. According to the response letter provided by the MOECC, the search results did not identify any records pertaining to the subject property. A copy of the response letter is provided in Appendix 2.

MOECC Brownfields Environmental Site Registry

A search of the MOECC Brownfields Environmental Site Registry was conducted as part of this assessment for the site, neighbouring properties and the general area of the site. No Records of Site Condition (RSCs) were filed for the Phase I property or for other properties within the Phase I study area.

MOE Waste Disposal Site Inventory

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

Areas of Natural Significance

According to the Ontario Ministry of Natural Resources' electronic mapping website there are no areas of natural significance on the Phase I property or within the Phase I study area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on March 15, 2016, to inquire about current and former underground storage tanks, spills and incidents for the subject land and neighbouring properties. According to the TSSA records search, there are no records for the Phase I property.

The TSSA records identified an active underground storage tank (UST) at 73 Leikin Drive, the RCMP National Headquarters, located east of the subject land across Leikin Drive. Based on the distance of over 250 m between the Phase I property and the closest structure on the RCMP property the UST location is not considered to be within the Phase I study area and therefore not a concern to the Phase I property based on the significant separation distance. A copy of the TSSA correspondence is included in Appendix 2.

City of Ottawa Landfill Document

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

City of Ottawa Historical Land Use Inventory (HLUI)

A search of the City of Ottawa’s Historical Land Use Inventory (HLUI) database was conducted as part of this assessment. Based on the response from the City of Ottawa dated April 4, 2016, a search of the HLUI database did not reveal any activities associated with the subject property. The HLUI database revealed three (3) activities associated with properties located within 50 m of the subject property: JDS Uniphase (3000 Merivale Road), Leduc Electric Limited (3000 Merivale Road) and Enbridge Consumers Gas (90 Bill Leathem Drive). The response letter and a site map showing the location of the Phase I property and the aforementioned activities is included in the Appendix.

As discussed further below, these activities are not considered to pose a concern to the Phase I property.

4.3 Physical Setting Sources

Aerial Photographs

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

1962 The Phase I property and neighbouring lands are vacant and appear to be used for agricultural purposes at this time. What appears to be a ditch or creek is present to the southwest of the subject property, with a densely treed area further west. What appears to be a farmstead is present further to the south.

-
- 1967 No significant changes appear to have been made to the Phase I property or surrounding properties since the previous photo.
- 1979 No apparent changes have been made to the Phase I property. What appears to be a pathway is present further to the south of the subject land. The roadway extends in an easterly direction from the aforementioned creek (clearly seen in this photo) to Queen Anne Crescent. Otherwise the adjacent and neighbouring properties appear to remain unchanged.
- 1986 The Phase I property remains unchanged from the previous photo. A second pathway is now present southwest of the site, extending in a southeasterly direction from the treed area to the roadway first seen in the 1979 photo. It appears as though construction activities may be related to the future construction of a stormwater management pond.
- 1995 A large portion of the Phase I property appears to have been either stripped of topsoil, or covered with fill material. Fill material is present on the vacant land to the north. The fill material is considered to be related to the construction of Bill Leathem Drive and Leiken Drive, which is underway at this time, or to the construction of the stormwater ponds which are complete in this photo.
- 2002 The Phase I property appears as it currently exists. The construction of Bill Leathem Drive and Leiken Drive is now completed. A commercial property has been developed on the adjacent property to the west of the Phase I property, while JDS has been constructed on the adjacent property to the west. A residential subdivision is now present further to the south of the subject land.
- 2007 (City of Ottawa Website) No changes have been made to the Phase I property. A portion of the adjacent land to the north has been developed with the current JDS Uniphase building. No other significant changes appear to have been made to the adjacent and neighbouring properties.
- 2014 (City of Ottawa Website) The Phase I property and lands within the Phase I study area appear as they currently exist.

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

Topographic Maps

Topographic maps were obtained from Natural Resources Canada – The Atlas of Canada website and from the City of Ottawa website. The topographic maps indicate that the regional topography in the general area of the site slopes gently downward towards the north and the east. According to the maps, the closest body of water is Barrhaven Creek, located approximately 120 m southwest of the subject land, which flows through the stormwater management ponds located immediately south of the Phase I property before heading east towards the Rideau River. An illustration of the referenced topographic map is presented on Figure 2 – Topographic Map, appended to this report.

Physiographic Maps

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

Geological Maps

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on this information, bedrock in the area of the site consists of interbedded sandstone and dolostone of the March Formation. Overburden soils are shown as glacial till consisting of clay and/or silt, with a drift thickness on the order of 15-25 m.

Water Well Records

A search of MOECC’s online water well records database was completed on March 16, 2016, for all drilled wells within 250 m of the Phase I property. No water well records were identified on the subject land. The search identified one well record for a property within the Phase I ESA study area. The well was situated approximately 600 m west of Merivale Road, just north of Prince of Wales Drive and approximately 200 m north of the Phase I property. The well was installed at a depth of approximately 19 m below ground surface within granite bedrock and was used to provide water to cattle. A copy of the water well record is appended to this report.

Water Bodies and Areas of Natural Significance

There are no areas of natural significance on the Phase I property or within the Phase I study area. Two stormwater management ponds are situated immediately south and southeast of the subject property, across Bill Leahman Drive. Barrhaven Creek is present further to the south and east. The Rideau River, the most significant body of water in the vicinity of the Phase I property, is present approximately 600 m to the east.

5.0 INTERVIEWS

Property Owner Representative

Mr. Jesse Juha with Minto Properties Inc., the current owner of the subject land, was interviewed as part of this assessment. The interview was conducted by e-mail on March 17, 2016. Mr. Juha indicated that to his knowledge, the subject site has always been vacant. Mr. Juha was not aware of any environmental concerns with respect to the subject site or adjacent and neighbouring properties. The information provided by Mr. Juha is considered to be reliable and consistent with information from other sources.

The information obtained in this interview is consistent with site information obtained from other sources and is considered to be valid.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

The site assessment was conducted on March 17, 2016. Weather conditions consisted of a mix of sun and cloud, with a temperature of approximately 10° C. Personnel from the Environmental Department of Paterson Group conducted the site investigation. In addition to the site, the uses of neighbouring properties within the Phase I study area were also assessed at the time of the site investigation.

6.2 Specific Observations at Phase I property

Buildings and Structures

There are currently no buildings/structures on the subject property. No above ground storage tanks (ASTs) or evidence of underground storage tanks (USTs), or evidence of fuels or chemical storage was observed on the subject site.

Site Features

The subject site is currently vacant and predominantly grass/brush covered. A small treed area was observed on the north-central portion of the site. Site drainage consists of infiltration. There was ponded water on the property at the time of the site visit. The water was clear with no signs of contamination. No areas of stained soil, vegetation or stressed vegetation, soil disturbance, or grading were observed on-site. Several small areas remained snow covered at the time of the site visit.

There were no underground structures observed during the site visit. No wells or private sewage systems were observed on the subject property, nor are any expected to be present, as the site is located in a municipally-serviced area. No evidence of current or former railway or spur lines on the subject property was observed at the time of the site visit. There were no unidentified substances observed on the Phase I property.

Fill Material

A small amount of fill material was noted on the southeastern portion of the site at the time of the site visit. As discussed previously, fill material was noted on adjacent and neighbouring properties during a previous Phase I ESA and also identified on the eastern portion of the subject site during a previous Geotechnical Investigation. The fill material consisted of native silty clay with some sand and gravel, and was considered to have resulted from the construction of the storm water management pond and pathway to the south and the construction of the adjacent roadways. The fill material was not considered to represent an APEC on the Phase I property.

Based on the findings of a current Geotechnical Investigation carried out for the Phase I property by Paterson in March of 2016, fill material was not identified in boreholes placed in the vicinity of the material noted above, or in any of the remaining boreholes placed on the site. The fill material discussed above is considered to be limited in quantity.

Neighbouring Properties

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

- North - Bill Leathem Drive followed by JDS Uniphase and vacant, undeveloped land;

- South - Recreational pathway and pumping station, followed by a stormwater management pond;
- East - Leikin Drive followed by RCMP National Headquarters;
- West - Commercial (Enbridge and Canada Post – 90 Bill Leatham Drive).

The current uses of the immediately adjacent properties are not considered to pose an environmental concern to the Phase I property.

The property to the north occupied by JDS Uniphase, a laser and electronic component manufacturer was also considered to be a PCA. Based on the distance of the building from the Phase I property, its recent construction (2006/2007) and information contained in our files, it is not considered to represent an APEC on the subject land. Current land use in the Phase I Study area is illustrated on Drawing: PE3779-2 – Surrounding Land Use Plan in the Figures section of this report, following the text.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Land Use History

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

Table 1 - Land Use History – 102 Bill Leatham Drive			
Time Period	Land Use	Potentially Contaminating Activities	Potential Environmental Concerns
1962 (earliest air photo available for review) to circa 1999	Agricultural	None	None
1999 – present	Vacant, undeveloped land	None	None

Potentially Contaminating Activities (PCAs)

No Potentially Contaminating Activities were identified on the subject property. As per Column A of Table 2 outlined in O.Reg 153/04 and amended by O.Reg 279/11, one potentially contaminating activity identified within the Phase I study area is the JDS Uniphase building addressed 61 Bill Leatham Drive (Item 19 – Electronic and Computer Equipment Manufacturing) located approximately 90 m north of the Phase I property and the. Based on the recent construction of the building (2006/2007), its distance and orientation with respect to the Phase I property, this PCA is not considered to pose an environmental concern to the subject land.

Areas of Potential Environmental Concern (APECs)

No Potentially Contaminating Activities were identified on the subject land. As discussed above, the JDS property north of the site is not considered to pose a concern to the subject land. As a result, there are no areas of potential environmental concern (APECs) on the Phase I property.

Contaminants of Potential Concern

No Contaminants of Potential Concern (CPCs) were identified on the Phase I property.

7.2 Conceptual Site Model

Geological and Hydrogeological Setting

The recent Geotechnical Investigation conducted by Paterson identified overburden soils consisting of topsoil over silty clay. According to information from the Geological Survey of Canada, drift thickness in the area of the subject site is estimated to be on the order of 15-25 m and underlying bedrock is reported to consist of interbedded sandstone and dolostone of the March formation. Based on regional topography, inferred groundwater flow is in an east-northeasterly direction, towards the Rideau River.

Contaminants of Potential Concern

As per Section 7.1 of this report, no Contaminants of Potential Concern (CPCs) were identified on the Phase I property.

Existing Buildings and Structures

No buildings or structures are present on the Phase I property.

Water Bodies

There are no water bodies on the Phase I property. Barrhaven Creek flows through a two-celled stormwater management pond situated immediately south-southeast of the Phase I property, before heading east to the Rideau River, approximately 600 m east of the Phase I property.

Areas of Natural Significance

No areas of natural significance were identified on the Phase I property or on other properties within the Phase I study area.

Drinking Water Wells

No drinking water wells are located on the Phase I property or within the Phase I study area.

Fill Material

Some fill material was noted in a localized area on the southeastern portion of the site at the time of the site visit. Fill material consisting of native silty clay with some sand and gravel, was identified in a borehole on this portion of the site during a previous Geotechnical Investigation conducted by Paterson (2008). The fill material was considered to have resulted from the construction of the storm water management pond and pathway to the south and/or the construction of the adjacent roadways. The fill material was not considered to represent an APEC on the Phase I property. Fill material was not identified during the current Geotechnical Investigation.

Neighbouring Land Use

Neighbouring land use in the Phase I study area consists of commercial/light industrial properties, the aforementioned stormwater management facility (including a pump house adjacent the Phase I property) and vacant, undeveloped land. The current uses of the neighbouring properties are not considered to pose an environmental concern to the subject land.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

No historical or current PCAs were identified on the Phase I property. As per Column A of Table 2 outlined in O.Reg 153/04 and amended by O.Reg 279/11, potentially contaminating activities identified within the Phase I study area include the following:

☐ Item 19 – Electronic and Computer Equipment Manufacturing (PCA 1)

JDS Uniphase, a laser and component manufacturer (PCA 1) is located approximately 90 m north of the Phase I property. Based on the separation distance in combination with the inferred direction of groundwater flow east-northeast, the recent construction (2006/2007) and information contained in our files, this property is not considered to represent an APEC on the subject property.

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Phase I ESA is considered to be sufficient to conclude that there are no on- or off-site PCAs that would result in APECs on the Phase I property. A variety of independent sources were consulted as part of this assessment, and as such, the conclusions of this report are not affected by uncertainty which may be present with respect to the individual sources.

8.0 CONCLUSIONS

Assessment

Paterson Group was retained by The Governing Council of the Salvation Army in Canada, to conduct a Phase I Environmental Site Assessment (ESA) of the vacant property addressed 102 Bill Leathem Drive, in the City of Ottawa, Ontario. The purpose of this Phase I ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

According to the historical research, the Phase I property and surrounding lands were historically vacant and/or used for agricultural purposes. No concerns were identified with the historical use of the Phase I property or the Phase I study area.

Following the historical research, a site visit was conducted for the Phase I property and properties in the Phase I ESA study area were viewed from publicly accessible locations. The subject land is currently vacant and covered with brush and small trees, with a small area of apparent fill material on the southeastern portion of the site.

A geotechnical investigation was carried out concurrently with the Phase I ESA. Based on the findings of the field program, fill material was not identified in the boreholes placed in the vicinity of the suspected fill observed at the time of the site visit. This material is considered to occupy a small, localized area on the site and based on the findings of a previous geotechnical investigation (2008) discussed in the body of the report, is not considered to represent a concern to the Phase I property. No Potentially Contaminating Activities (PCAs) were identified on the Phase I property.

Properties surrounding the Phase I property consisted of a stormwater management pond and pumping station, RCMP headquarters, JDS Uniphase, Enbridge and Canada Post, as well as vacant, undeveloped land.

The JDS Uniphase property to the north of the subject land was considered to be a potentially contaminating activity (PCA), although it is not considered to represent an area of potential environmental concern (APEC) on the subject land. No other PCAs were identified in the Phase I study area.

Conclusion

The results of the historical research, personal interviews, and the site inspection did not identify any areas of potential environmental concern (APECs) on the Phase I property. Based on the results of the assessment, **it is our opinion that a Phase II Environmental Site Assessment is not required.**

9.0 STATEMENT OF LIMITATIONS

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


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

This report was prepared for the sole use of The Governing Council of the Salvation Army in Canada (Salvation Army). Permission and notification from the Salvation Army and Paterson will be required to release this report to any other party.

Paterson Group Inc.



Karyn Munch, P.Eng.,QP_{ESA}



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



Report Distribution:

- The Governing Council of the Salvation Army in Canada
c/o Ms. Beth Henderson (7 copies)
- Paterson Group (1 copy)

10.0 REFERENCES

Federal Records

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

Provincial Records

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

Municipal Records

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

Local Information Sources

Draft Plan of Survey, prepared by Stantec Geomatics Limited.
Personal Interviews.
Concurrent Geotechnical Investigation conducted by Paterson, March 2016.

Public Information Sources

Google Earth.
Google Maps/Street View.

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE3799-1 – SITE PLAN

DRAWING PE3799-2 – SURROUNDING LAND USE PLAN

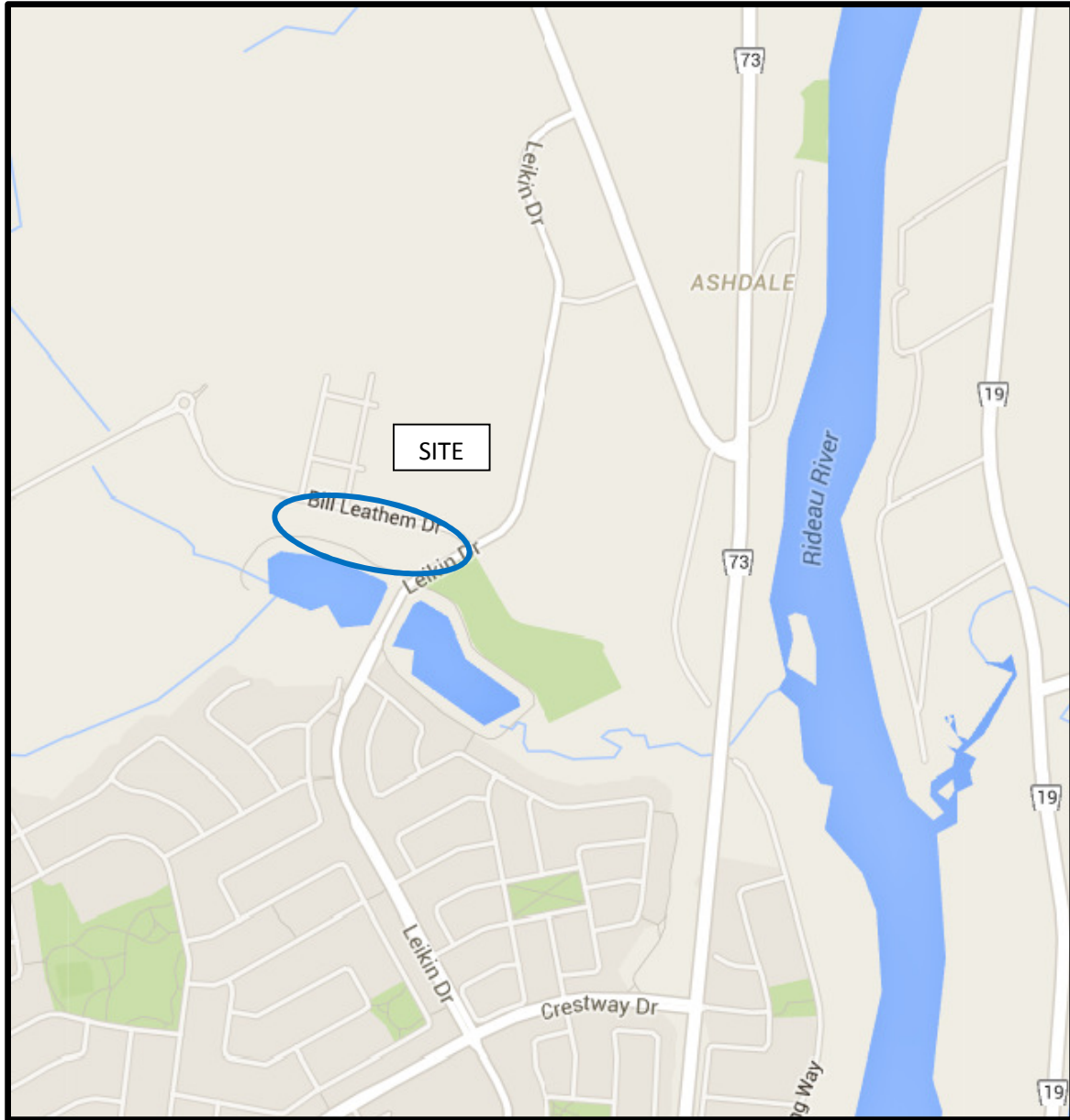


FIGURE 1
KEY PLAN

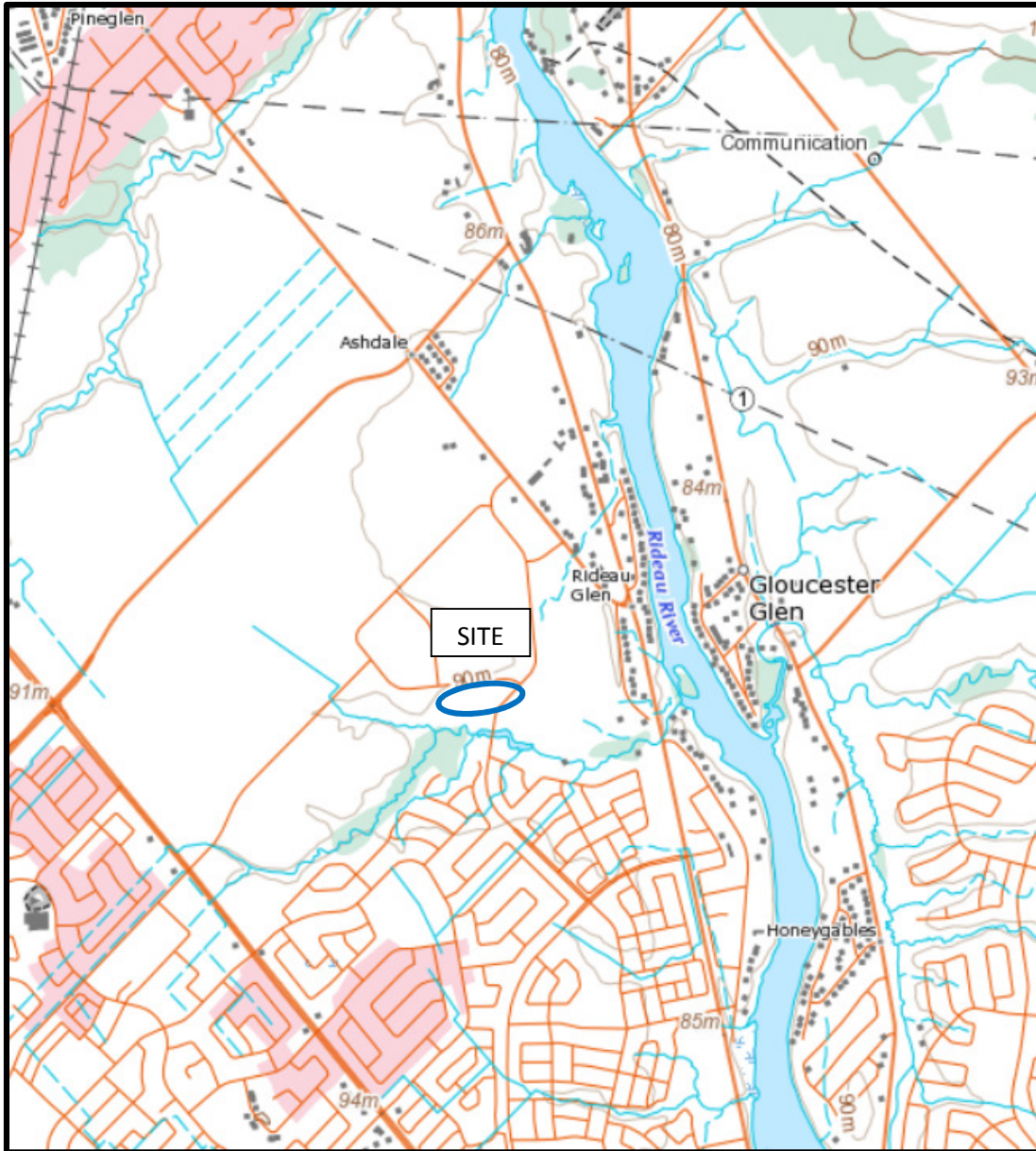
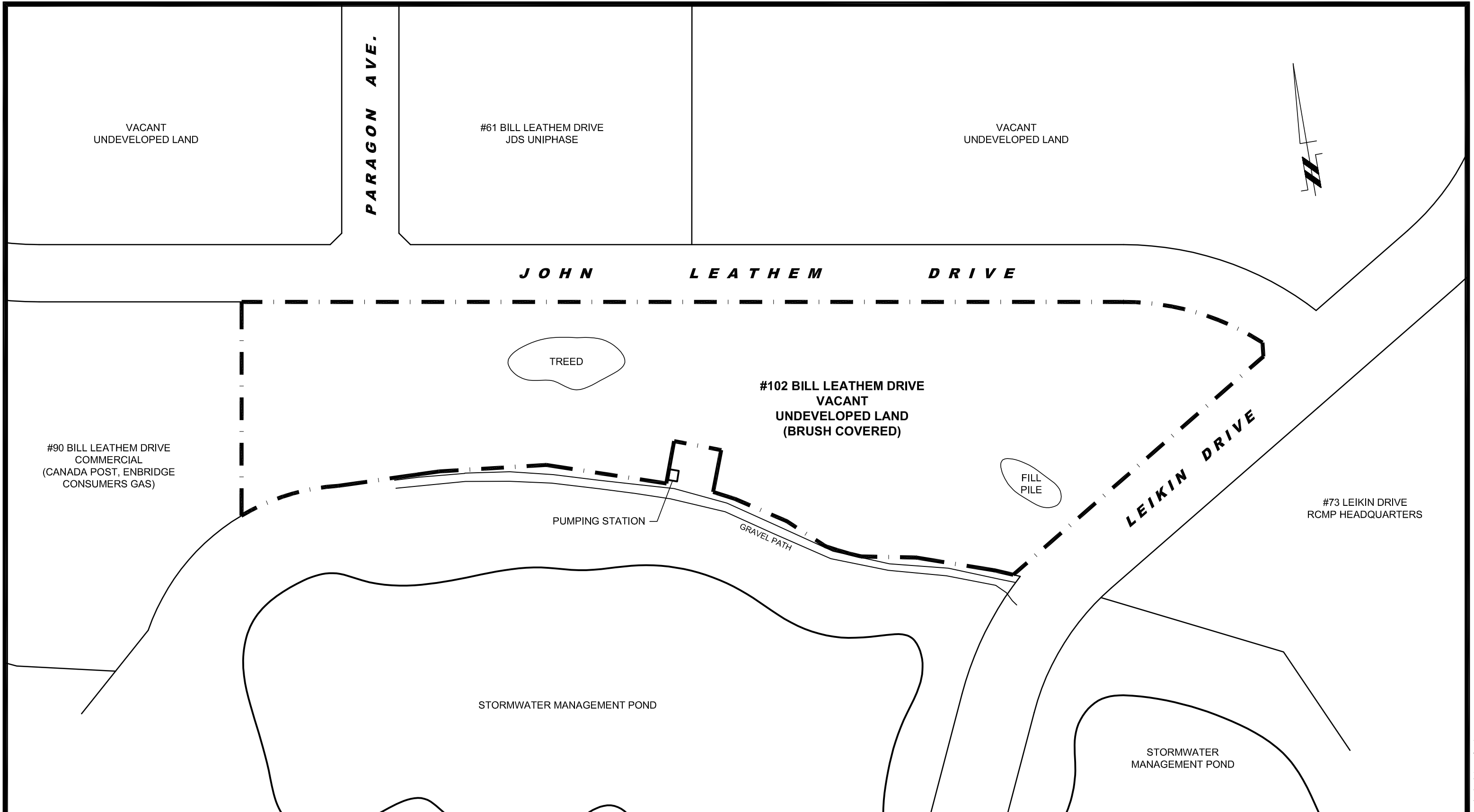


FIGURE 2
TOPOGRAPHIC MAP



patersongroup
consulting engineers

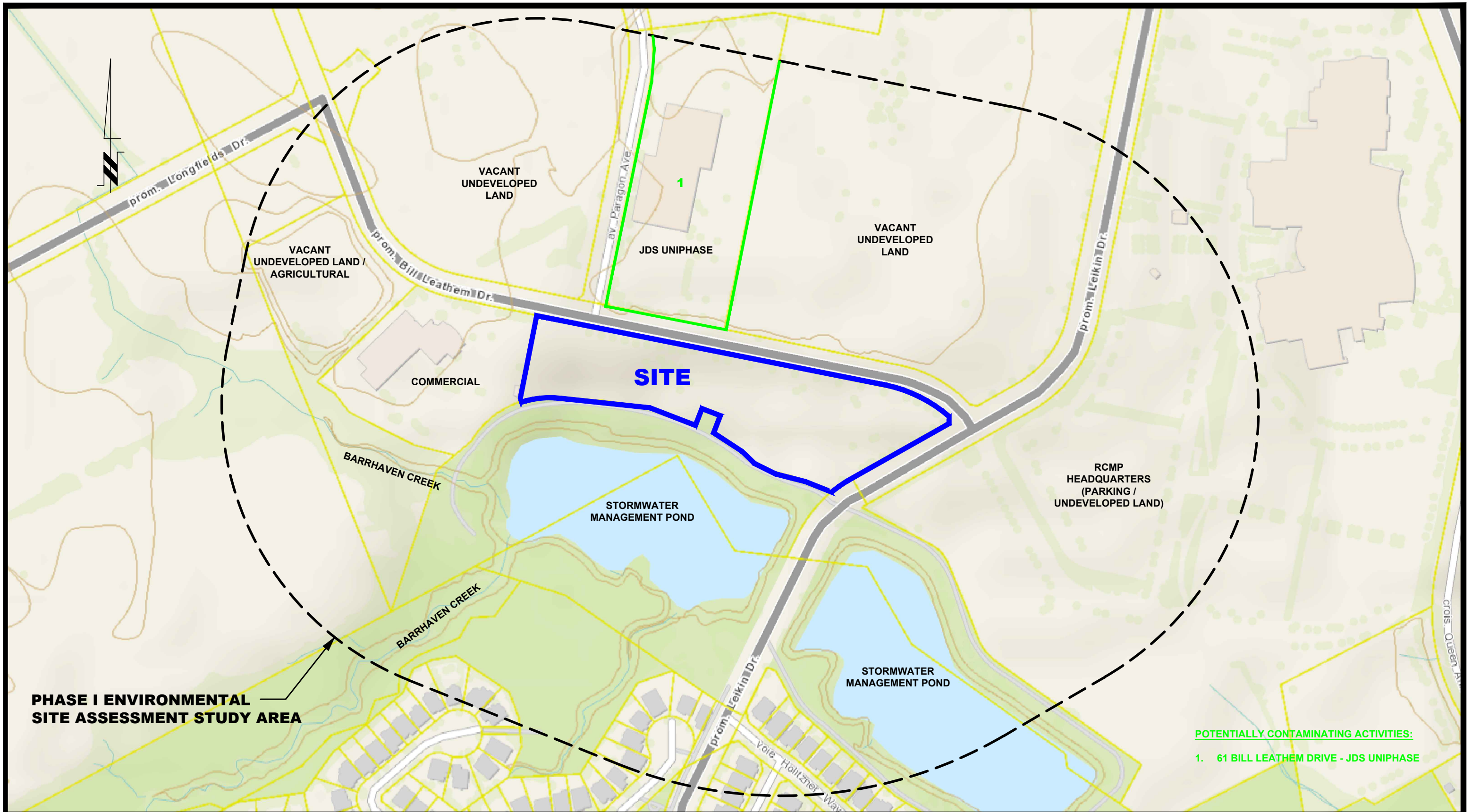
154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

THE GOVERNING COUNCIL OF THE SALVATION ARMY IN CANADA
PHASE I - ENVIRONMENTAL SITE ASSESSMENT
THE SALVATION ARMY BARRHAVEN CHURCH - 102 BILL LEATHEM DRIVE
 OTTAWA, ONTARIO
 Title: **SITE PLAN**

Scale: 1:1250
 Drawn by: MPG
 Checked by: KM
 Approved by: MSD

Date: 04/2016
 Report No.: PE3779-1
 Dwg. No.: **PE3779-1**
 Revision No.: 0



POTENTIALLY CONTAMINATING ACTIVITIES:
 1. 61 BILL LEATHEM DRIVE - JDS UNIPHASE

patersongroup
 consulting engineers

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

NO.	REVISIONS	DATE	INITIAL
0			

THE GOVERNING COUNCIL OF THE SALVATION ARMY IN CANADA
 PHASE I - ENVIRONMENTAL SITE ASSESSMENT
 THE SALVATION ARMY BARRHAVEN CHURCH - 102 BILL LEATHEM DRIVE
 OTTAWA, ONTARIO
 Title:
SURROUNDING LAND USE PLAN

Scale:	1:3000	Date:	04/2016
Drawn by:	MPG	Report No.:	PE3779-1
Checked by:	KM	Dwg. No.:	PE3779-2
Approved by:	MSD	Revision No.:	0

APPENDIX 1

CURRENT PLAN OF SURVEY

AERIAL PHOTOGRAPHS

SITE PHOTOGRAPHS

TOPOGRAPHIC SKETCH OF
PART OF LOTS 17 & 18
CONCESSION 1 (RIDEAU FRONT)
 (GEOGRAPHIC TOWNSHIP OF NEPEAN)
CITY OF OTTAWA

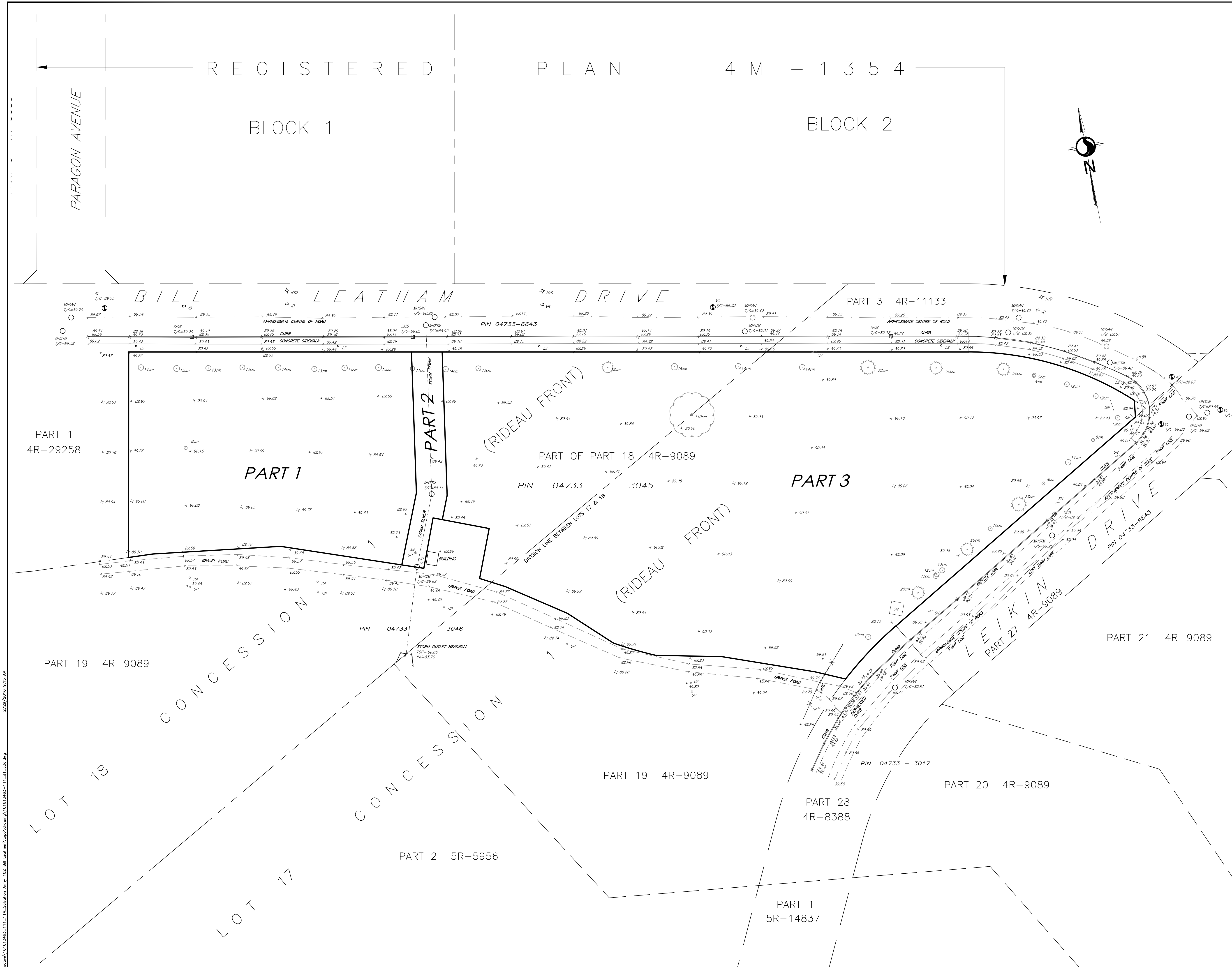


LEGEND (IF APPLICABLE)

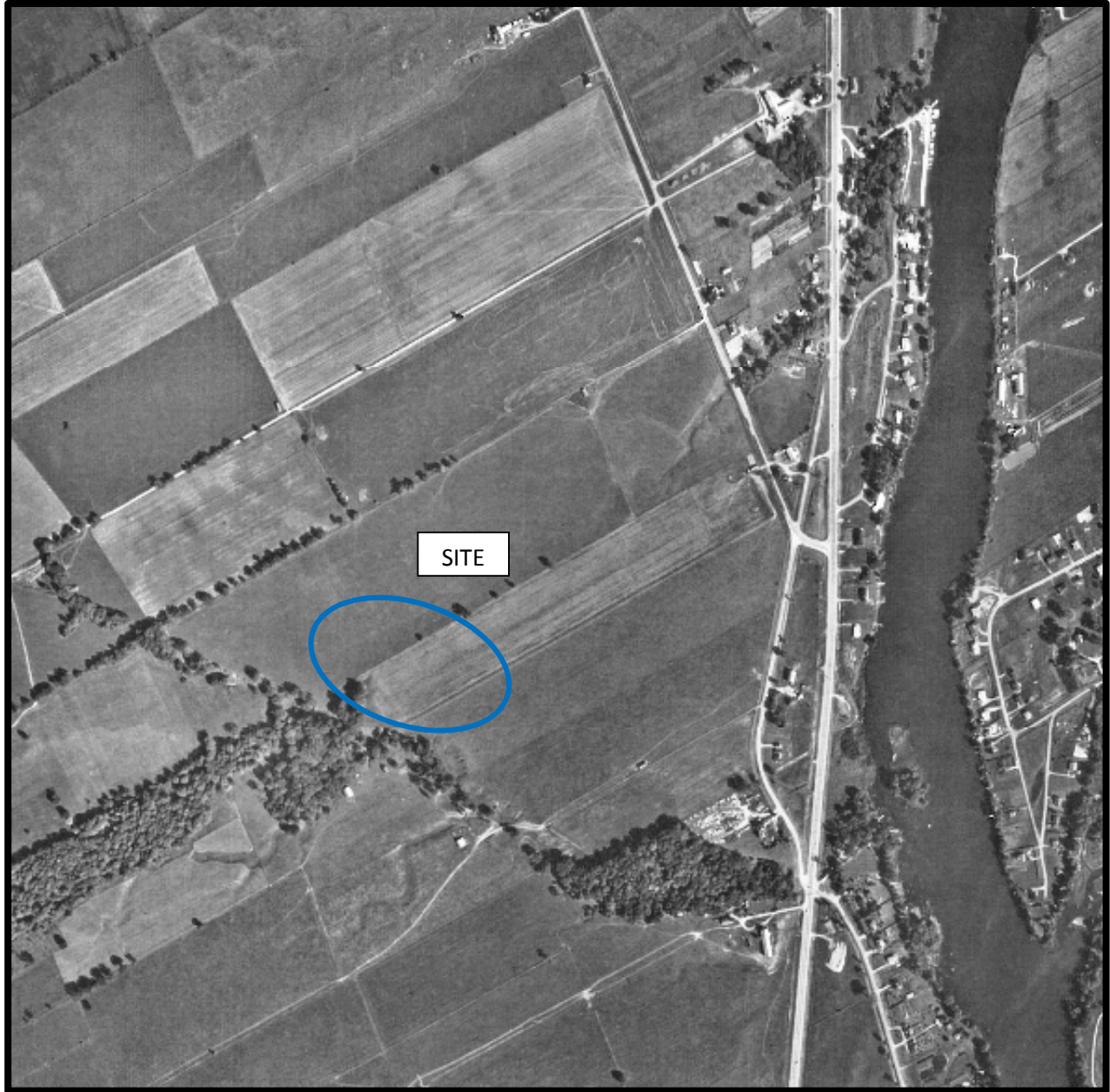
ACU	AIR CONDITIONING UNIT
AN	ANCHOR
AP	AIR PUMP
ANT	ANTENNA
BH	BORERHOLE
BB	HOSE BIB
BKR	BIKE RACK
BENCH	BENCH
BOLL	BOLLARD
BOUL	BOULDER
CB	CATCH BASIN
DCB	DOUBLE CB
CBMH	CB MANHOLE
DCBMH	DOUBLE CB MANHOLE
SICB	SIDE INLET CB
CHM	CHIMNEY
CSV	VALVE CURB STOP
DRN	DRAIN
EPOST	ELECTRICAL OUTLET
FP	FLAG POLE
FL	FLOOD LIGHT
FTF	FUEL TANK FILLER CAP
GC	GARBAGE CAN
GMARK	GAS MARKER
GFL	PIPE FLANGE (GAS)
GFP	GAS FUEL PUMP
GP	POLE GUYWIRE
GSR	GAS SERVICE REGULATOR
GV	GAS VALVE
HCB	HICKSBOTTOM
HES	HEADSTONE
HLS	LIGHT STANDARD HYDRO
HM	HYDRO METER
HTN	HYDRO TRANSFORMER
HW	HAND WELL
HYD	FIRE HYDRANT
JBX	JUNCTION BOX
MB	MAILBOX
MP	MONITORING PIN
MH	MAINTENANCE HOLE UNIDENTIFIED
MHB	MAINTENANCE HOLE BELL
MHF	MAINTENANCE HOLE FIBRE OPTIC
MHW	MAINTENANCE HOLE HYDRO
MHI	MAINTENANCE HOLE INVERT
MHS	MAINTENANCE HOLE SANITARY
MHSM	MAINTENANCE HOLE STORM
MHT	MAINTENANCE HOLE TRAFFIC
MW	MONITORING WELL
NPB	NEWS PAPER BOX
OLP	LIGHT STANDARD ORNAMENTAL
OW	OBSERVATION WELL
PIN	PROPERTY IDENTIFICATION NUMBER
PLBX	PULL BOX
PLQ	PLAQUE
PLR	PILLAR
POST	POST
PZ	PIEZOMETER
RLC	RED LIGHT CAMERA
RWSL	RAILWAY SIGNAL LIGHT
RWSS	RAILWAY SWITCH STAND
SAT	SATELLITE DISH
SCLP	SCULPTURE
SCP	SUMP/CATCH PIT
SCV	SPRINKLER CONTROL VALVE
SHB	SPRINKLER HEAD
SIA	SIAMSE CONNECTION
SN	SIGN
SICB	SIDE INLET CATCHBASIN
SPAN	SOLAR PANEL
SPT	SEPTIC TANK
TABLE	TABLE
TB BELL	TERMINAL BOX - BELL
TB CAB	TERMINAL BOX - CABLE
TCB	TRAFFIC CONTROL BOX
TPIT	TEST PIT
TCM	TREE CONIFEROUS (DIAMETER CENTIMETRES)
TD	TREE DECIDUOUS (DIAMETER CENTIMETRES)
TRS	TREE STUMP
TSL	TRAFFIC SIGNAL LIGHT
UMB	MARKER BELL UNDERGROUND
UMC	MARKER CABLE UNDERGROUND
UMG	MARKER GAS UNDERGROUND
UMO	MARKER OIL UNDERGROUND
UP	UTILITY POLE
VB	VALVE BOX
VC	VALVE CHAMBER
WV	WATER VALVE
WELL	WELL
	PROPERTY LINE

VERTICAL DATUM NOTE
 ELEVATIONS SHOWN HEREON ARE GEODETIC (CGVD-1928:1978) AND ARE DERIVED FROM THE CAN-NET VRS NETWORK MONUMENT; OTTAWA ELEVATION=95.205.

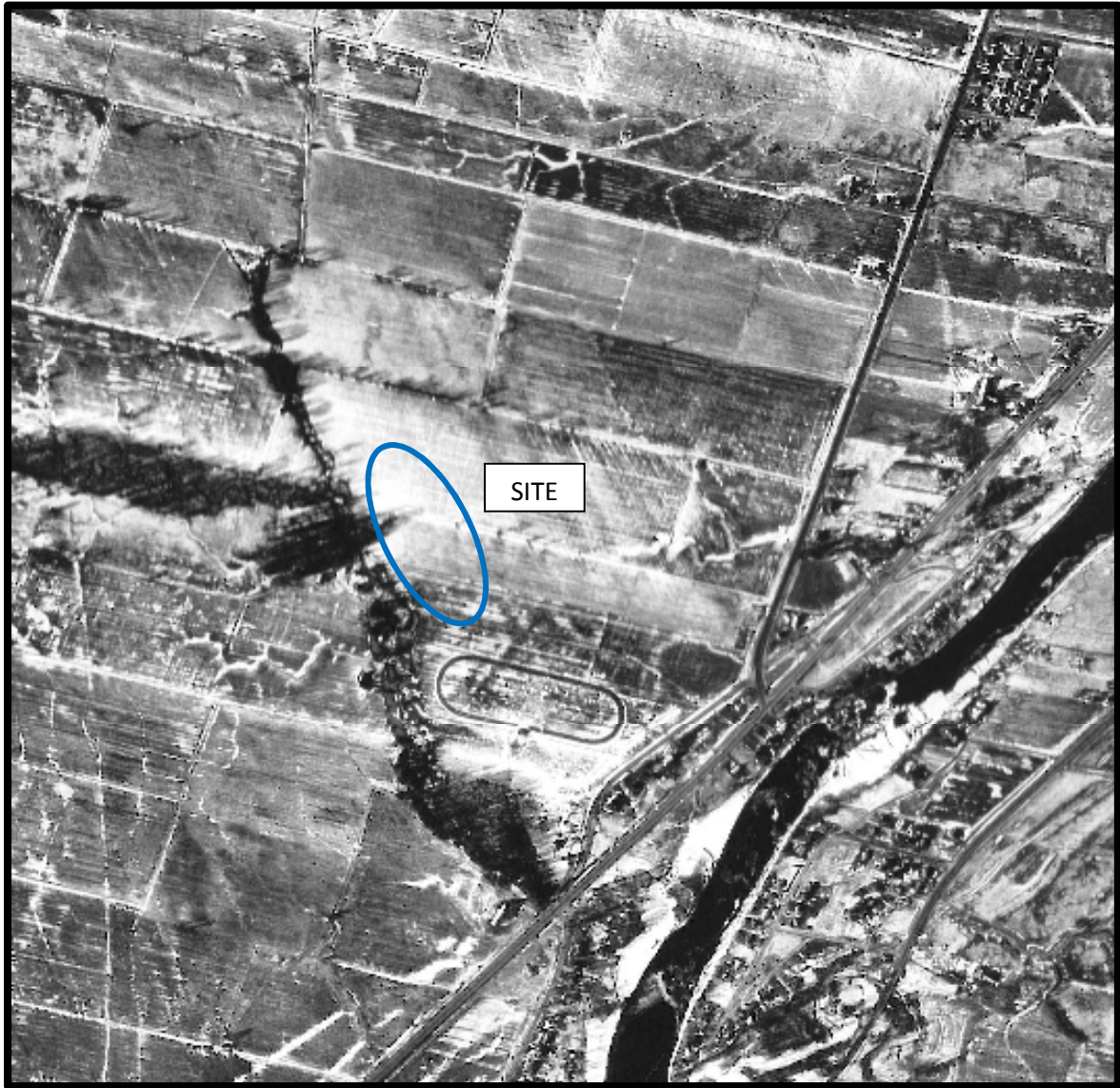
HORIZONTAL DATUM NOTE
 PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
 (MUTL ZONE 9, CM7690W)
 DATUM: NAD 83 (ORIGINAL)



2/29/2016 9:15 AM
 W:\clients\161613463-111-114_Solution Army_102_Bill Leatham\topo\topo.dwg
 161613463-111-114.dwg



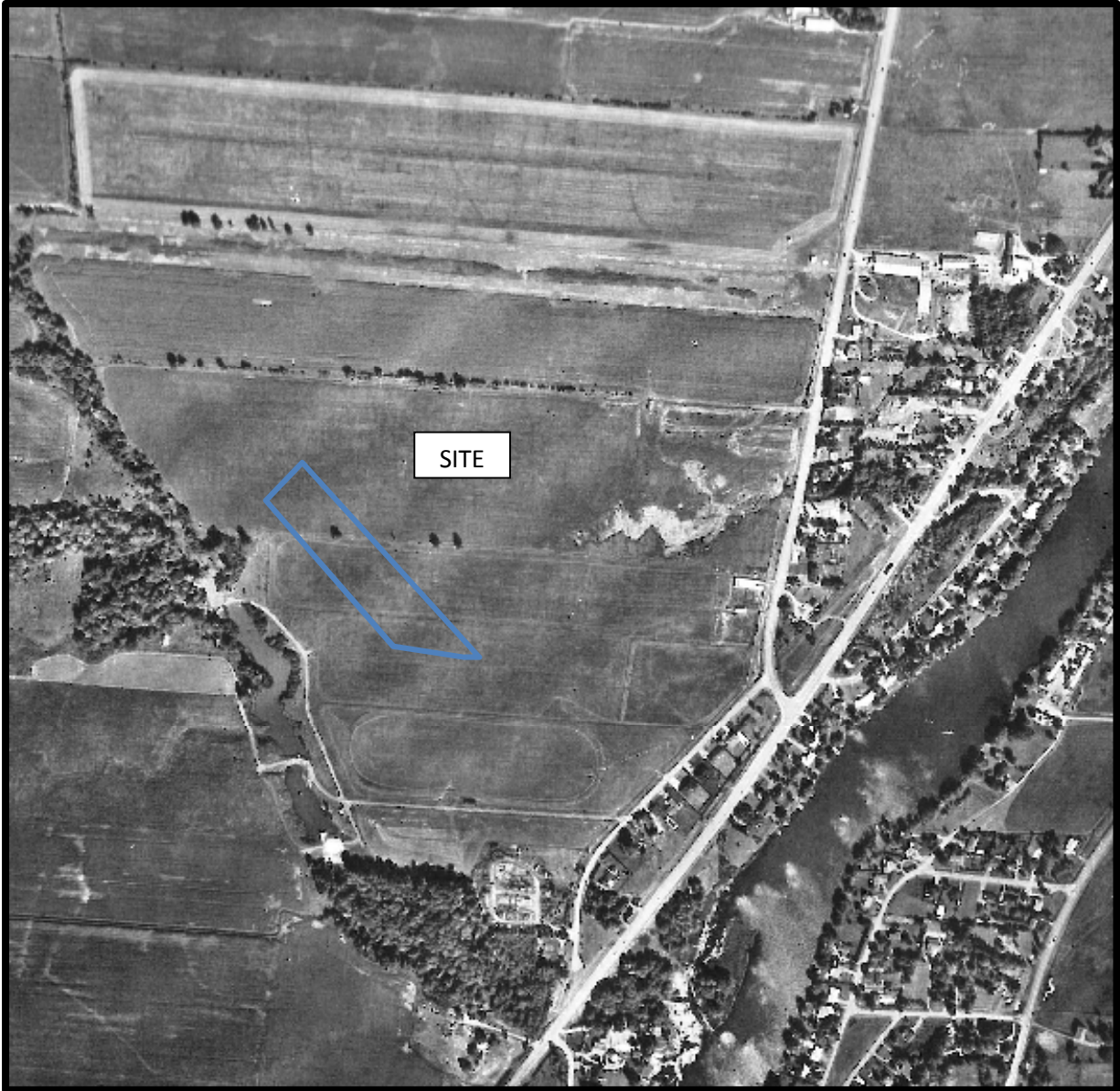
AERIAL PHOTOGRAPH
1962



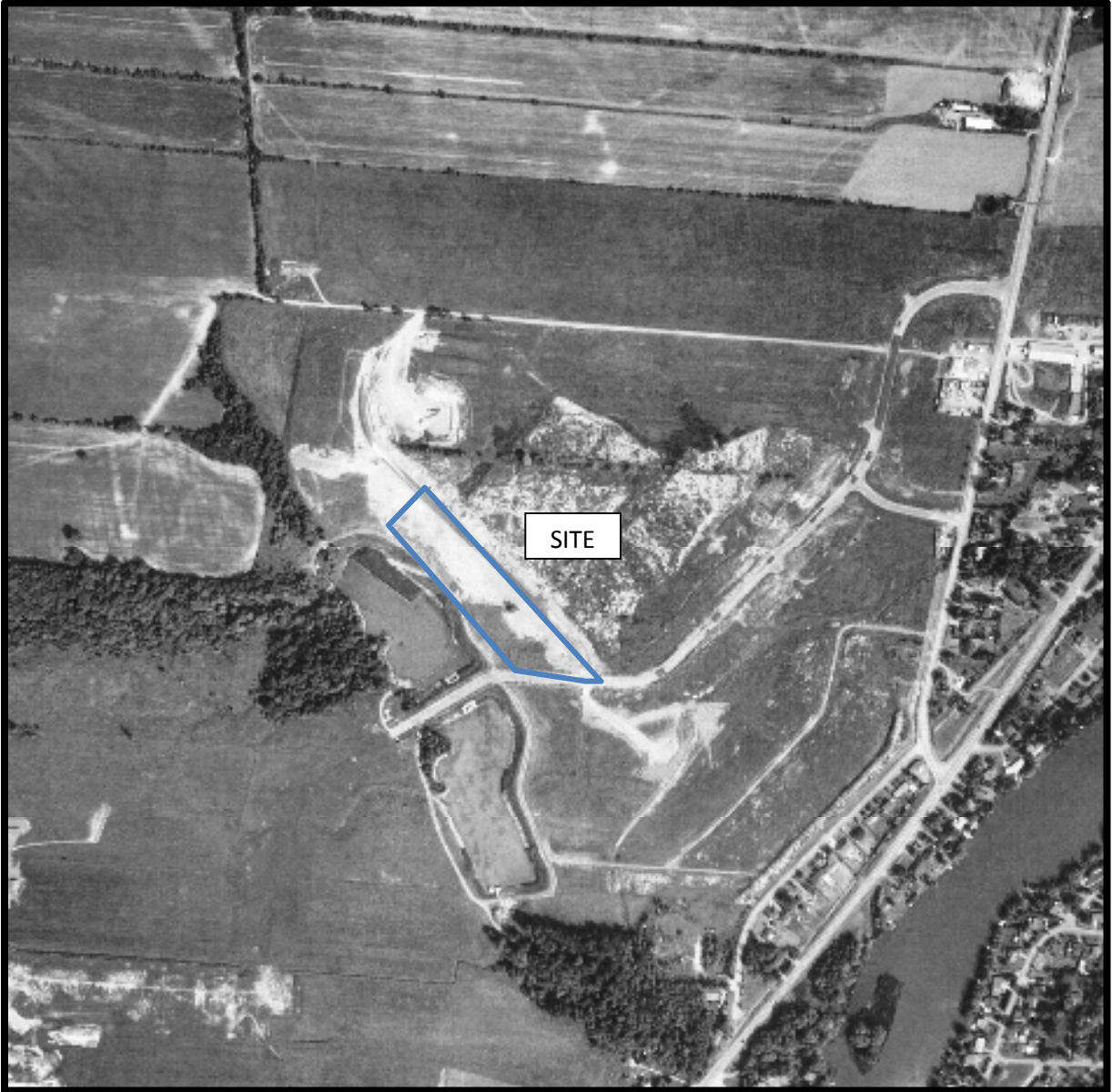
AERIAL PHOTOGRAPH
1967



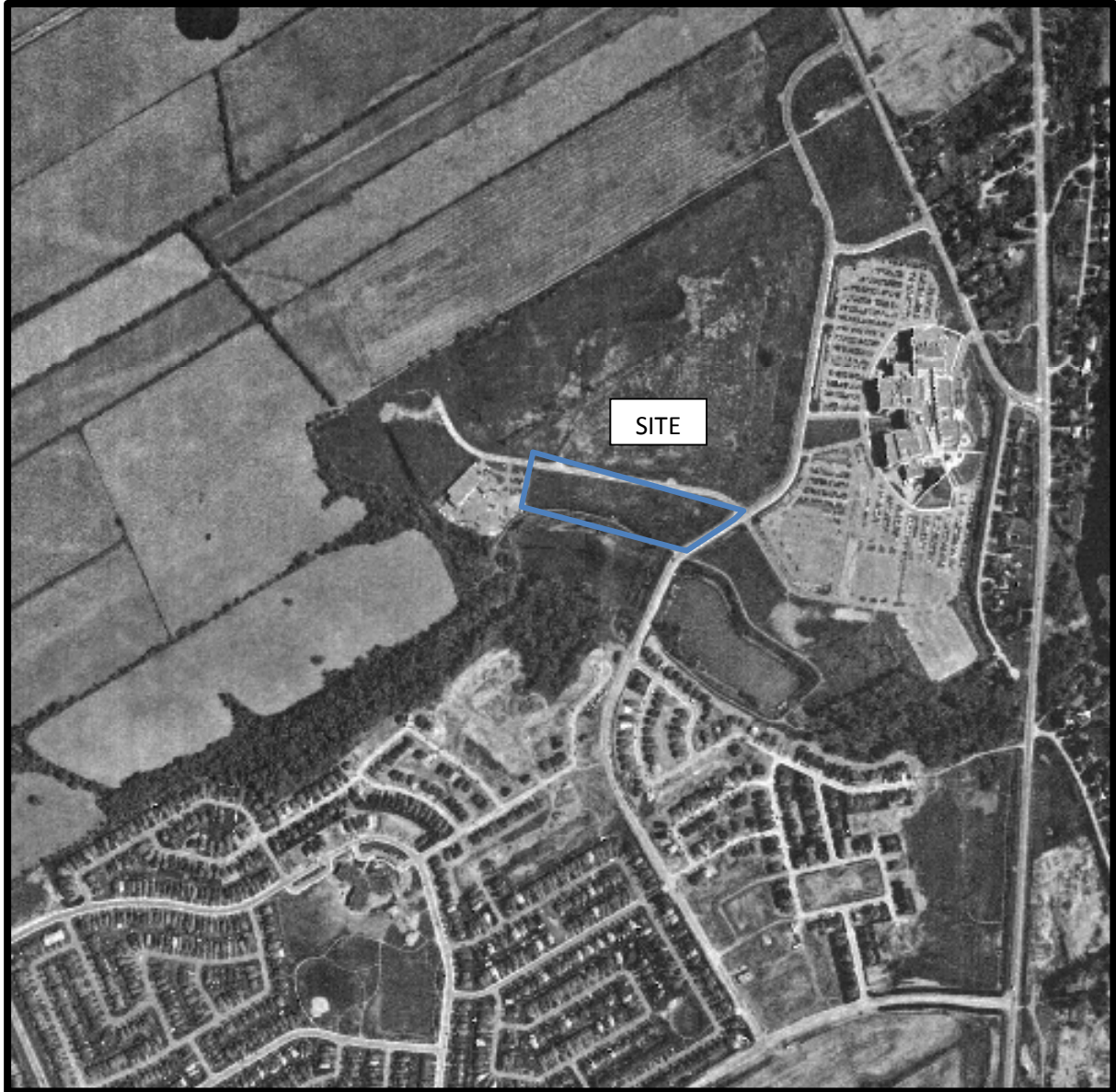
AERIAL PHOTOGRAPH
1979



AERIAL PHOTOGRAPH
1986



AERIAL PHOTOGRAPH
1995



AERIAL PHOTOGRAPH
2002

Site Photographs

PE3779

102 Bill Leathem Drive – Ottawa

March 18, 2016



Photograph 1: View of eastern portion of the site and some fill material, facing northwest.



Photograph 2: View of the southeastern portion of the site, the adjacent path to the south, and the pumping station situated on the south-central portion of the property (not part of the subject property), facing east.

Site Photographs

PE3779

102 Bill Leathem Drive – Ottawa

March 18, 2016



Photograph 3: View of eastern and central portions of site, facing northwest. Photo also shows JDS Uniphase building to the north, across Bill Leathem Drive.



Photograph 4: View of treed area on central portion of site, facing north.

Site Photographs

PE3779

102 Bill Leathem Drive – Ottawa

March 18, 2016



Photograph 5: View of western portion of site and some remaining snow, facing north.



Photograph 6: View of ponded water on north-central portion of site, facing southwest.

Site Photographs

PE3779

102 Bill Leathem Drive – Ottawa

March 18, 2016



Photograph 7: View of stormwater pond adjacent to the south.



Photograph 8: View of RCMP property adjacent to the east, across Leikin Drive.

Site Photographs

PE3779

102 Bill Leathem Drive – Ottawa

March 18, 2016



Photograph 9: View of eastern property line and RCMP Headquarters to the northeast.



Photograph 10: View of Canada Post/Enbridge property adjacent to the east.

APPENDIX 2

MOECC FREEDOM OF INFORMATION RESPONSE

TSSA CORRESPONDENCE

MOECC WELL RECORDS

CITY OF OTTAWA HLUI SEARCH RESULTS

Ministry of the Environment
and Climate Change

Freedom of Information and
Protection of Privacy Office

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

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

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

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



March 30, 2016

Karyn Munch
Paterson Group Inc.
154 Colonnade Road
Ottawa, ON K2E 7J5

Dear Karyn Munch:

RE: ***Freedom of Information and Protection of Privacy Act Request
Our File # A-2016-01728, Your Reference PE3779***

This letter is in response to your request made pursuant to the *Freedom of Information and Protection of Privacy Act* relating to 102 Bill Leathem Drive, Ottawa.

After a thorough search through the files of the Ministry's Ottawa District Office, Investigations and Enforcement Branch, Environmental Approvals Branch, Environmental Monitoring and Reporting Branch, Sector Compliance Branch and Safe Drinking Water Branch, no records were located responsive to your request. To provide you with this response and in accordance with Section 57 of the *Freedom of Information and Protection of Privacy Act*, the fee owed is \$30.00 for 1 hour of search time @ \$30.00 per hour. **We have applied the \$30.00 for this request from your initial payment. This file is now closed.**

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 Emily Hallford at (416) 314-1225 or emily.hallford@ontario.ca.

Yours truly,

Jacqueline Gallacher
FOI Manager (A)

Karyn Munch

From: Prem Lal <plal@tssa.org> on behalf of Public Information Services <publicinformationservices@tssa.org>
Sent: March-16-16 9:28 AM
To: Karyn Munch
Subject: RE: Records Search Request - PE3779

Hi Karyn:

Thank you for your inquiry.

I have searched the below noted address (addresses) and I have located the following record:

73 Leikin Drive, Ottawa has record of 1 registered underground fuel oil tank.

For a more detailed report including underground fuel storage tank details and copies of all inspection reports, please submit your request in writing to Public Information Services via e-mail (publicinformationservices@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

Thank you

Prem



Public Information Services

Facilities & Business Services

3300 Bloor Street West

Center Tower, 16th Floor

Toronto, Ontario, M8X-2X4

Tel: 1-877-682-8772 Fax: (416) 734-3568 E-mail: publicinformationservices@tssa.org

www.tssa.org



From: Karyn Munch [mailto:KMunch@patersongroup.ca]

Sent: Tuesday, March 15, 2016 3:58 PM

To: Public Information Services

Subject: Records Search Request - PE3779

Good afternoon,

Could you please search your records for the following properties in the City of Ottawa (Nepean)?

2, 61, 90, 99, 102 Bill Leathem Drive

20, 50, 73, 129 Leikin Drive

Thank-you very much for your time!

Best Regards,
Karyn Munch

patersongroup
solution oriented engineering

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

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.

UTM | 18 | 2 | 44412410 | B

| 9 | R | 501159105 | N

Elev. | 9 | R | 0 | 295 |
RIDEAU FRONT
Basin | 25 |
CON-1

LOT 18



The Water-well Drillers Act, 1954
Department of Mines

31G5b

GROUND WATER BRANCH
15 N. 4702
AUG - 5 1958
ONTARIO WATER
RESOURCES COMMISSION

Water-Well Record

Ship, Village, Town or City..... NEPEAN
in Village, Town or City).....
Address

Date completed 20 JUNE 58
(day) (month) (year)

Pipe and Casing Record		Pumping Test	
Casing diameter (s)	5"	Static level	18
Length (s)	40	Pumping rate	300 GPM
Type of screen	NONE	Pumping level	24
Length of screen		Duration of test	2 HRS

Well Log	Water Record				
Overburden and Bedrock Record	From ft.	To ft.	Depth (s) at which water (s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
HARZARD DOUBTS	0	48			
GRAY GRANITE	48	62	55	44	FRESH

For what purpose(s) is the water to be used?
CATTLE

Is water clear or cloudy? CLEAR

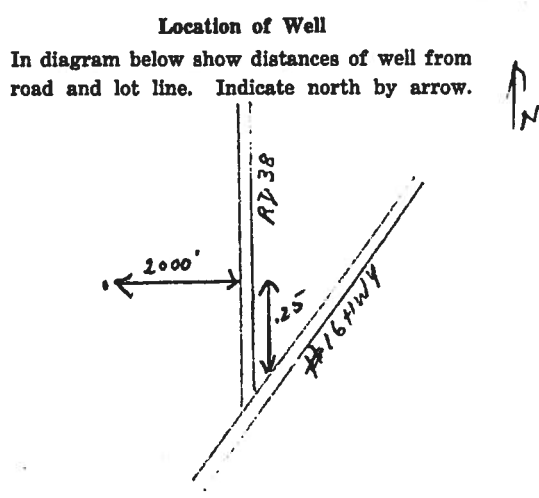
Is well on upland, in valley, or on hillside?

Drilling firm SAM MULLIGAN
Address OTTAWA

Name of Driller SAIZE

Address

Licence Number.....



I certify that the foregoing statements of fact are true.

Date July 26 1958
Signature of Licensee [Signature]



File Number: C10-01-16-0086

April 4, 2016

Karyn Munch
Paterson Group
154 Colonnade Road South
Ottawa, Ontario
K2E 7J5

Sent via email [KMunch@patersongroup.ca]

Dear Karyn,

**Re: Information Request
102 Bill Leathem Drive, Ottawa, Ontario (“Subject Property”)**

Internal Department Circulation

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

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

Search of Historical Land Use Inventory

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

A search of the HLUI database revealed the following information:

- There are no activities associated with the Subject Property.

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

- There are three activities associated with properties located within 50m of the Subject Property: Activity Numbers 4508, 7175, and 8420.

*Shaping our future together
Ensemble, formons notre avenir*

City of Ottawa
Infrastructure Services and Community
Sustainability Department
Planning and Growth Management Branch

110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1
Tel: (613) 580-2424 ext. 24856
Fax: (613) 560-6006
www.ottawa.ca

Ville d'Ottawa
Services d'infrastructure et Viabilité des
collectivités
Direction de l'approbation des demandes
d'aménagement et d'infrastructure

110, avenue Laurier Ouest, 4e étage
Ottawa (Ontario) K1P 1J1
Tél.: (613) 580-2424 ext. 24856
Télééc: (613) 560-6006
www.ottawa.ca

A site map has been included to show the location of the Subject Property as well as the location of all the activities noted above.

Additional information may be obtained by contacting:

Ontario's Environmental Registry

The Environmental Registry found at <http://www.ebr.gov.on.ca/ERS-WEB-External/> contains "public notices" about environmental matters being proposed by all government ministries covered by the Environmental Bill of Rights. The public notices may contain information about proposed new laws, regulations, policies and programs or about proposals to change or eliminate existing ones. By using key words i.e. name of proponent/owner and the address one can ascertain if there is any information on the proponent and address under the following categories: Ministry, keywords, notice types, Notice Status, Acts, Instruments and published date (all years).

The Ontario Land Registry Office

Registration of real property is recorded in the Ontario Land Registry Office through the Land Titles Act or the Registry Act. Documents relating to title and other agreements that may affect your property are available to the public for a fee. It is recommended that a property search at the Land Registry Office be included in any investigation as to the historic use of your property. The City of Ottawa cannot comment on any documents to which it is not a party.

Court House
161 Elgin Street 4th Floor
Ottawa ON K2P 2K1
Tel: (613) 239-1230
Fax: (613) 239-1422

Please note, as per the HLUI Disclaimer, that the information contained in the HLUI database has been compiled from publicly available records and other sources of information. The HLUI may contain erroneous information given that the records used as sources of information may be flawed. For instance, changes in municipal addresses over time may introduce error. Accordingly, all information from the HLUI database is provided on an "as is" basis with no representation or warranty by the City with respect to the information's accuracy or exhaustiveness in responding to the request.

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

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

If you have any further questions or comments, please contact Ellen Potts at 613-580-2424 ext. 24856 or HLUI@ottawa.ca

Sincerely,

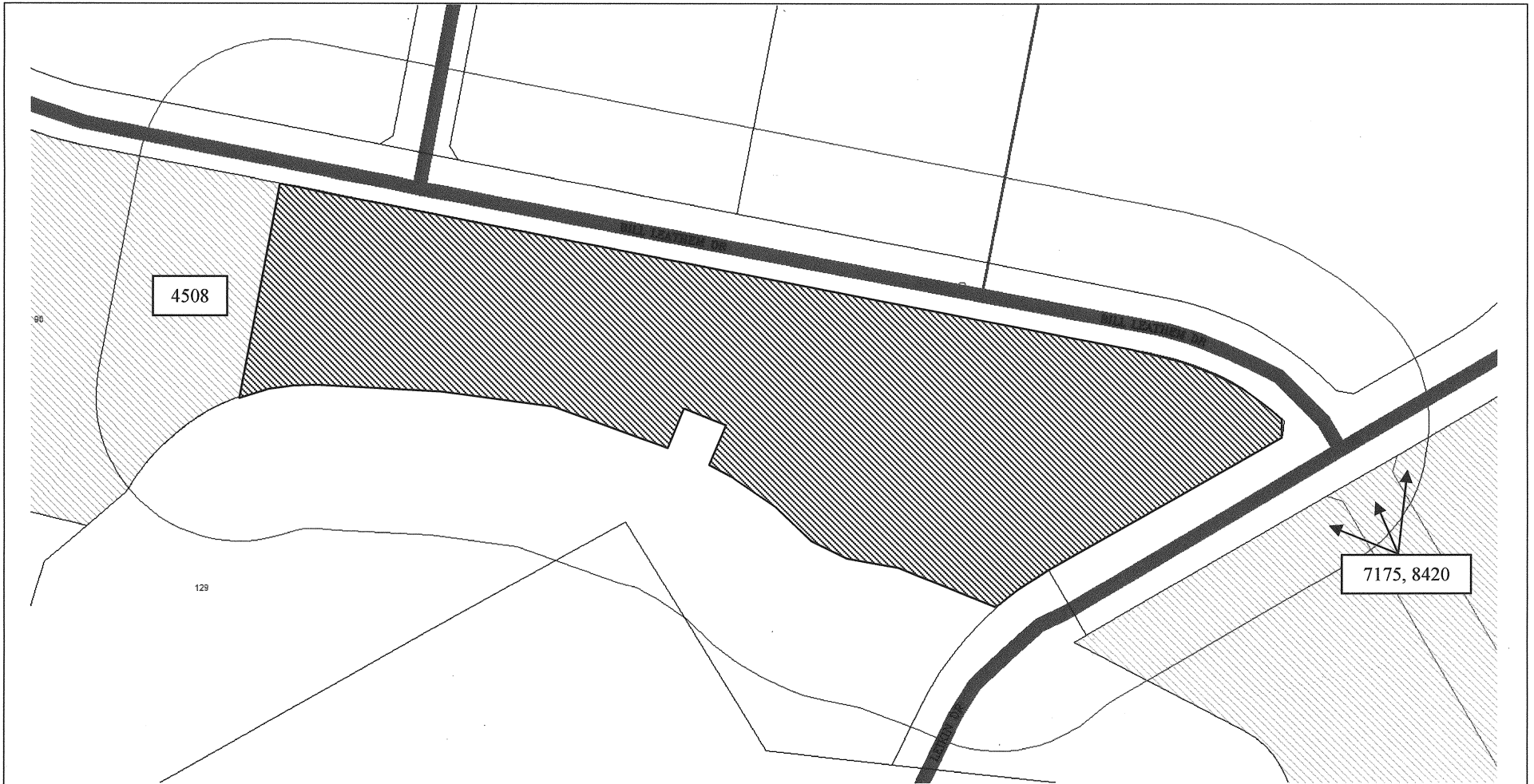
A handwritten signature in black ink, appearing to read 'David Wise', with a stylized flourish extending to the right.

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

DW /EP

Attach: 4

cc: File no. C10-01-16-0086



Scale 1: n/a

102 Bill Leathem Drive
Ottawa, ON
File # C10-01-16-0086
Ellen Potts



ID# = Activity Identification Number

 = Subject Site

Overview



CITY OF OTTAWA

HLUI ID: __679AOT

AREA (Square Metres): 38599.990

Report: RPTC_OT_DEV0122

Run On: 17 Mar 2016 at: 08:28:37

Study Year
2005

PIN
047330024

Multi-NAIC
N

Multiple Activities
N

Activity ID: 7175 Multiple PINS: Y
 PIN Certainty: 1 Previous Activity ID(s) :
 Related PINS: 047330024
 Name: JDS UNIPHASE CORPORATION
 Address: 3000 MERIVALE ROAD, NEPEAN
 Facility Type: Communication and Other Electronic Equipment Industries
 Comments 1:
 Comments 2:
 Generator Number: ON1312004
 Storage Tanks:
 HL References 1:
 HL References 2:
 HL References 3: 2000 PID

NAICS	SIC
334511	0
334210	0
334290	0

Company Name	Year of Operation
JDS UNIPHASE CORPORATION	c. 2000
JDS UNIPHASE CORPORATION	c. 2001
JDS UNIPHASE CORPORATION	c. 2003



CITY OF OTTAWA
HLUI ID: __679AOT
AREA (Square Metres): 38599.990

Report: RPTC_OT_DEV0122

Run On: 17 Mar 2016 at: 08:28:37

Study Year
2005

PIN
047330024

Multi-NAIC
N

Multiple Activities
N

Activity ID: 8420 **Multiple PINS:** Y

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

Related PINS: 047330024

Name: LEDUC ELECTRIC LIMITED

Address: 3000 MERIVALE ROAD, OTTAWA

Facility Type: Mechanical Specialty Work

Comments 1:

Comments 2:

Generator Number:

Storage Tanks:

HL References 1:

HL References 2:

HL References 3: 2001 Employment Survey

NAICS **SIC**

238210 0

Company Name

LEDUC ELECTRIC LIMITED

Year of Operation

c. 2001



CITY OF OTTAWA
HLUI ID: __679G80

Report: RPTC_OT_DEV0122
 Run On: 17 Mar 2016 at: 08:27:30

AREA (Square Metres): 16125.958

Study Year
1998

PIN
047331450

Multi-NAIC
Y

Multiple Activities
N

Activity ID: 4508 **Multiple PINS:** N
PIN Certainty: 1 **Previous Activity ID(s) :** 6283
Related PINS: 047331450
Name: ENBRIDGE CONSUMERS GAS
Address: 90 BILL LEATHEM DRIVE, NEPEAN
Facility Type: Gas Distribution Systems Industry
Comments 1:
Comments 2:
Generator Number: ON0060850
Storage Tanks:
HL References 1: City of Nepean File D15-03-SMB
HL References 2:
HL References 3: 2000 PID

NAICS	SIC
221210	0
454310	511
412110	511
419120	511

Company Name	Year of Operation
ENBRIDGE CONSUMERS GAS	c. 2003
Enbridge Consumers Gas	c. 1991
ENBRIDGE CONSUMERS GAS	c. 2000
ENBRIDGE CONSUMERS GAS	c. 2001

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

POSITION

Intermediate Environmental Engineer

EDUCATION

Carleton University, B.Eng. 2002
Environmental Engineering

MEMBERSHIPS AND AWARDS

Professional Engineers of Ontario
Ottawa Geotechnical Society

EXPERIENCE

2011-present

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

2009-2010

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

2003 to 2009

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

2002 to 2003

Dessau Soprin Inc.
Consulting Engineers
Environmental Division
Junior Engineer

SELECT LIST OF PROJECTS

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

**Environmental
Engineering**

**Geotechnical
Engineering**

**Materials Testing
Quality Control**

Building Sciences

Hydrogeology

Archeological Services

POSITION

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

EDUCATION

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

MEMBERSHIPS

Ottawa Geotechnical Group
Professional Engineers of Ontario
Consulting Engineers of Ontario

EXPERIENCE

1991 to Present

Paterson Group Inc.

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

SELECT LIST OF PROJECTS

Mary River Exploration Mine Site - Northern Baffin Island
Rideau Centre Expansion project - Ottawa
Agricultural Supply Facilities - Eastern Ontario
Laboratory Facility – Edmonton (Alberta)
Ottawa International Airport - Contaminant Migration Study - Ottawa
Investigation and Remediation – Cotton Mill Redevelopment, Cornwall
Billings Hurdman Interconnect - Ottawa
Bank Street Reconstruction - Ottawa
Environmental Review – Various Laboratories across Canada - CFIA
Dwyer Hill Training Centre – Ottawa
Nortel Networks Environmental Monitoring - Carling Campus – Ottawa
Remediation Program - Block D Lands – Kingston
Investigation of former landfill sites – City of Ottawa
Record of Site Condition for Railway Lands – North Bay
Assessment and Remediation - North Bay Airport
Commercial Properties – Guelph and Brampton
Brownfields Remediation – Alcan Site - Kingston
PWGSC Building – 90 Elgin Street - Ottawa
Remediation Program - Ottawa Train Yards
MHLH Facility – CFB Petawawa
Ottawa Congress Centre
Lansdowne Park Redevelopment - Ottawa

**Environmental
Engineering**

**Geotechnical
Engineering**

**Materials Testing
Quality Control**

Building Science

Hydrogeology

**Archaeological
Services**