



Geotechnical
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Hydrogeology

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Materials Testing

Building Science

Phase I – Environmental Site Assessment

140 Lusk Street
Ottawa, Ontario

Prepared For

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April 12, 2022

Report: PE5694-1

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EXECUTIVE SUMMARY

Assessment

Paterson Group conducted a Phase I-Environmental Site Assessment (ESA) for the property addressed 140 Lusk Street, in the City of Ottawa, Ontario. The purpose of this Phase I-ESA was to research the past and current use of the subject property and neighbouring lands and to identify any environmental concerns with the potential to have impacted the subject site.

According to the historical research, the subject property has historically been vacant agricultural land. The property appeared to have been graded with fill material during the construction of Highway 416 and the realignment of Fallowfield Road and Strandherd Drive in the late 1990's. Two previous subsurface investigation completed for the subject site and neighbouring lands, were reviewed as part of this assessment. The findings of these investigations identify the presence of a fill layer ranging from 0.3 - 2.7m in thickness on the subject site. Based on the historical research, the subject site is likely to have been graded with fill material of unknown quality in the late 1990's, which is considered to be a potential environmental concern to the subject site.

Neighbouring lands historically have been primarily used for agricultural lands with the exception of the residential development to the northeast. As noted above, the neighbouring lands were graded as a result of the Highway 416 construction and Fallowfield Road realignment in the late 1990's. A commercial hotel was constructed to the southeast in approximately 1999. No potential environmental concerns were identified with the past use of the neighbouring lands with the exception of the grading of the subject site and neighbouring lands in the late 1990's as noted above.

Following the historical research, a site inspection of the Phase I Property and neighbouring lands was conducted to assess potential areas of concern. The subject property is currently vacant with grass and treed areas. Large boulders and mounds of fill material were found present throughout the site. A service road, accessible from O'Keefe Court, crossed onto the property.

Recommendations

Based on the findings of the Phase I - ESA, it is our opinion that the subject site has received a significant quantity of imported fill material due to historical road construction activities. It is recommended that a fill quality assessment for the subject site be conducted.

1.0 INTRODUCTION

At the request of Dr. Sandra Iroakazi, Paterson conducted a Phase I - Environmental Site Assessment (ESA) at 140 Lusk Street, in the City of Ottawa, Ontario. The purpose of this Phase I - ESA was to research the past and current use of the subject property and study area and to identify any environmental concerns with the potential to have impacted the subject site.

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

2.0 SITE INFORMATION

Address:	140 Lusk Street, Ottawa, Ontario.
Legal Description:	Part of Lot 20, Concession 4, Geographic Township of Nepean in The City of Ottawa
Location:	The subject property is located on the north side of, Lusk Street, south of O'Keefe Court. Refer to Figure 1 - Key Plan in the Appendix for the site location.
Latitude and Longitude:	45° 16' 26" N, 75° 47' 24" W

Site Description:

Configuration:	Irregular
Site Area:	0.52ha
Zoning Code:	IP - Business Park Industrial Zone
Current Use:	The subject property is currently vacant.
Services:	The property is located in a municipally serviced area.

3.0 SCOPE OF WORK

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

- Investigate the existing conditions present at the subject site by carrying out a field study and historical review in general accordance with CSA Z768-01 (reaffirmed 2016).
- Present the results of our findings in a comprehensive report.
- Provide a preliminary environmental site evaluation based on our findings.
- Provide preliminary remediation recommendations and further investigative work if contamination is encountered or suspected.

4.0 METHOD OF INVESTIGATION

4.1 Historical Research

The methodology for the Phase I - Environmental Site Assessment program was carried out in two segments. The first consisted of a historical review which included a brief research of the past use of the site. This portion of the program was carried out by Paterson personnel from the Environmental Division. The following is a list of the key information sources reviewed by our firm.

Federal Records

- Maps and photographs (Geological Survey of Canada surficial and subsurface mapping).
- Air photos at the Energy Mines and Resources Air Photo Library.
- National Archives.
- PCB Waste Storage Site Inventory.

Provincial Records

- MECP document titled "Waste Disposal Site Inventory in Ontario".
- MECP Brownfields Environmental Site Registry.
- Office of Technical Standards and Safety Authority, Fuels Safety Branch.

Municipal Records

- The Corporation of the City of Ottawa.
- City of Ottawa document entitled "Old Landfill Management Strategy; Phase 1- Identification of Sites, City of Ottawa, Ontario"; finalized October 2004.

Local Information Sources

- Previous Engineering Reports

4.2 Field Assessment

The second segment of the Phase I-ESA consisted of a site visit which included a walk-through inspection and detailed visual assessment of the environmental conditions of the subject property. The site visit was carried on April 4, 2022 by personnel from our Environmental Division.

As part of the field assessment, the site was inspected for signs of the following:

- Evidence of previous or existing fuel storage tanks.
- On-site use or storage of hazardous materials.
- On-site handling or disposal of liquid or solid waste materials.
- Aboveground piping systems, including pumps, valves, and joints.
- Truck or rail loading or unloading areas.
- Electrical conduits, abandoned pipelines or pumping stations.
- Remnants of old buildings.
- Signs of surficial contamination (i.e. staining, distressed vegetation).
- Unnaturally discoloured, ponded, or flowing waters.
- Surficial drainage, wetlands, natural waterways, or watercourses through the property (i.e. ditches, creeks, ponds, poor drainage).
- Any evidence of potable water supply wells or groundwater monitoring wells (such as leak detection monitoring wells for underground storage tank systems or abandoned systems).
- Any abnormal odours associated with the site, whether from on-site or off-site sources.
- The presence of any recent soil disturbances such as soil removal, filling, tilling, grading, etc.
- Asbestos containing materials (ACMs).
- Urea formaldehyde foam insulation (UFFI).
- Products containing Polychlorinated Biphenyls (PCBs).
- Ozone depleting substances (ODS).
- Lead-containing materials.
- Current use of neighbouring properties.

5.0 FINDINGS OF THE ENVIRONMENTAL ASSESSMENT

5.1 Historical Review

Air Photo Research

Historical air photos from the National Air Photo Library were reviewed in approximate ten (10) year intervals. Based on the review, the following observations have been made:

- | | |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1945 | The subject and surrounding properties appear to be vacant and used for agricultural purposes. A treed area is present to the southeast of the site. Fallowfield Road is present to the north of the site. |
| 1955 | No significant changes have been made to the subject site or neighbouring properties. |
| 1963 | No significant changes have been made to the subject site or neighbouring properties. |
| 1968 | No significant changes have been made to the subject site or neighbouring properties. |
| 1988 | Residential development is apparent to the north of Fallowfield Road and further east of the site. No significant changes have been made to the subject site or neighbouring properties to the south and west. |
| 1988 | Residential development is apparent to the north of Fallowfield Road and further east of the site. No significant changes have been made to the subject site or neighbouring properties to the south and west. |
| 1999 | Highway 416 was constructed further to the west of the subject site which resulted in the realignment of Fallowfield Road and Strandherd Drive. O'Keefe Drive is now present to the north of the subject site. Fill material has been placed on the subject site and the adjacent properties to the east, south and west. Additional residential development to the north has been constructed. |
| 2002 | Increased residential development is apparent to the north of O'Keefe Drive. The subject site appears vacant grassland. No significant changes have been made to the neighbouring properties. |

2019 (City of Ottawa) Additional fill placement has occurred on site. Lusk Street is now present, while a commercial building is under construction to the southeast. A stormwater management pond appears to have been constructed to the southwest of the subject site. Residential development has been constructed further to the east and a commercial building has been constructed further to the south.

Copies of selected aerial photographs reviewed are included in the Appendix.

National Archives

No Fire Insurance Plans or City directories are available for the area of the subject site.

Natural Resources Canada (NRCAN)

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on the information from NRCAN, the subject property is situated in an area where bedrock consists of interbedded sandstone and dolomite of the March Formation. The surficial geology consists of offshore marine sediments including clay and silt, with a drift thickness on the order of 3 to 5 m.

PCB Inventory

A search of provincial PCB waste storage sites was conducted as part of our assessment. No PCB waste storage sites were identified on the subject site or within the Phase I study area.

City of Ottawa Old Landfill Document

The document prepared by Golder Associates entitled "Old Landfill Management Strategy, Phase I - Identification of Sites, City of Ottawa", was reviewed. No landfill sites were identified within a 150 m study area of the subject property.

Ministry of Environment, Conservation and Parks (MECP)

The Ontario Ministry of Environment and Climate Change document entitled "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 this document, there are no active or closed waste disposal sites or above-mentioned industrial sites within the vicinity of the subject property.

MECP Brownfields Environmental Site Registry

A search of the MECP Brownfields Environmental Site Registry was conducted electronically for the subject site and for properties located within the Phase I study area. No Records of Site Condition (RSCs) were filed for the subject site or within the Phase I study area.

Previous Engineering Reports

A previous Preliminary Subsurface Investigation completed by Kollaard Associates Engineers (Kollaard) in 2006 was reviewed as part of this assessment. This report was completed for the lands between O'Keefe Court and Fallowfield Road. The purpose of the investigation was to assess the subsurface conditions to provide engineering guidelines for geotechnical aspects related to a proposed residential and commercial development. The investigation consisted of twenty test pits across the site to depths ranging from 0.6 to 3.8m. Fill material was identified exclusive to the test pits conducted on the west and central portion of the lands between O'Keefe Court and Fallowfield Road. The fill material ranged in thickness from 0.3 to 2.7m and consisted of grey-brown silty clay, sand, gravel, cobbles with topsoil, concrete, asphaltic concrete, brick and wire. The fill material was underlain by silty sand, silty clay layers followed by glacial till.

Based on our review of the previously completed engineering reports, fill material of unknown quality is present in significant thickness on the subject site. The presence of the fill material is considered to represent an environmental concern to the subject site.

Personal Interviews

The property owner was not available to conduct an interview regarding the Phase I Property.

5.2 Exterior Assessment

The Phase I - ESA site visit was conducted on April 4, 2022, by Paterson personnel from the environmental division. The site visit included a review of the subject site and adjacent lands, including their current use.

Site

The subject site is currently vacant, and grass covered. No stressed vegetation was observed at the time of the site assessment. The site slopes downward to the west on the western portion of the property and downward to the north elsewhere on the site. The regional topography is undulating. Drainage consists of infiltration and runoff to the drainage ditches located to the west of the site and along O'Keefe Court to the north of the site. No environmental concerns were identified on the subject site at the time of the assessment.

Potential Environmental Concerns

Fuels and Chemical Storage

No aboveground storage tanks (ASTs) or signs of underground storage tanks (USTs) were observed at the time of the assessment. No fuels or chemicals were observed on the exterior of the property.

Waste Management

No waste is currently being produced on site, nor was any observed on the subject land. No concerns with respect to waste management are expected with respect to the subject site.

Polychlorinated Biphenyls (PCBs) and Transformer Oil

No transformers were identified on or nearby the subject property.

5.3 Adjacent Properties

Land use adjacent to the subject site was as follows:

- North – O'Keefe Court followed by residential dwellings and vacant (treed) land;
- South – Lusk Street, followed by vacant land and a commercial hotel;
- West – Drainage ditch, followed by vacant land;
- East – Vacant land, followed by Lusk Street.

No concerns were identified regarding the current use of the adjacent properties. The current land uses adjacent to the subject site are illustrated on Drawing PE5694-1 – Site Plan in the Appendix.

6.0 CONCLUSION

6.1 Assessment

Paterson Group conducted a Phase I-Environmental Site Assessment (ESA) for the property addressed 140 Lusk Street, in the City of Ottawa, Ontario. The purpose of this Phase I-ESA was to research the past and current use of the subject property and neighbouring lands and to identify any environmental concerns with the potential to have impacted the subject site.

According to the historical research, the subject property has historically been vacant agricultural land. The property appeared to have been infilled with fill material of unknown quality in the late 1990's. A previous subsurface investigation completed for the subject site and neighbouring lands was reviewed as part of this assessment. The findings of these investigations identify the presence of a fill layer ranging from 0.3 - 2.7m in thickness on the subject site. The fill material is considered to pose a potential environmental concern to the subject site.

Neighbouring lands historically have been primarily used for agricultural lands with the exception of the residential development to the northeast. As noted above, the neighbouring lands to the west and south were also infilled the late 1990's. No potential environmental concerns were identified with the past use of the neighbouring lands.

Following the historical research, a site inspection of the Phase I Property and neighbouring lands was conducted to assess potential areas of concern. The subject property is currently vacant with grass and treed areas. Large boulders and mounds of fill material were found present throughout the site. A service road, accessible from O'Keefe Court, crossed onto the property.

6.2 Recommendations

Based on the findings of the Phase I - ESA, the subject site has received a significant quantity of imported fill material of unknown quality. It is recommended that a fill quality assessment be conducted for the subject site to assess the quality of the fill and determine any impact on future site development.

7.0 STATEMENT OF LIMITATIONS

This Phase I-Environmental Site Assessment report has been prepared in general accordance with the requirements of CSA Z768-01 (reaffirmed 2016). The conclusions presented herein are based on information gathered from a limited historical review along with a field inspection program. The findings of the Phase I 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 Dr. Sandra Iroakazi. Permission and notification from Dr. Sandra Iroakazi and Paterson Group will be required to release this report to any other party.

Paterson Group Inc.



Mark St Pierre, P.Eng.



Mark D'Arcy, P.Eng.

Report Distribution:

- Dr. Sandra Iroakazi
- Paterson Group

APPENDIX

AERIAL PHOTOGRAPHS

TSSA CORRESPONDENCE

FIGURE 1 – KEY PLAN

DRAWING: PE5964-1 – SITE PLAN



AERIAL PHOTOGRAPH
1945



AERIAL PHOTOGRAPH
1955



AERIAL PHOTOGRAPH
1963



AERIAL PHOTOGRAPH
1968



AERIAL PHOTOGRAPH
1988



AERIAL PHOTOGRAPH
1999



AERIAL PHOTOGRAPH
2002



AERIAL PHOTOGRAPH
2019

Mark St. Pierre

From: Public Information Services <publicinformationsservices@tssa.org>
Sent: April 5, 2022 12:28 PM
To: Mark St. Pierre
Subject: RE: Records search request for 140 Lusk Street in Ottawa, Ontario

Please refrain from sending documents to head office and only submit your requests electronically via email along with credit card payment. We are all working remotely and mailing in applications with cheques will lengthen the overall processing time.

NO RECORD FOUND

Hello,

Thank you for your request for confirmation of public information.

- We confirm that there are no records in our database of any fuel storage tanks at the subject 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 along with a fee of \$56.50 (including HST) per location. The fee is payable with credit card (Visa or MasterCard).

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

Kind regards,

Sherees



Public Information Agent

Facilities and Business Services
345 Carlingview Drive
Toronto, Ontario M9W 6N9

Tel: +1-416-734-6222 | Fax: +1-416-734-3568 | E-Mail: publicinformationsservices@tssa.org

www.tssa.org



From: Mark St. Pierre <MStPierre@patersongroup.ca>
Sent: April 5, 2022 8:59 AM
To: Public Information Services <publicinformationsservices@tssa.org>
Subject: Records search request for 140 Lusk Street in Ottawa, Ontario

[CAUTION]: This email originated outside the organisation.
Please do not click links or open attachments unless you recognise the source of this email and know the content is safe.

Good morning,

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

140 Lusk Street
120 Lusk Street
135 Lusk Street
125 Lusk Street
4401 Fallowfield Road
6 Burdock Grove
4401 O'Keefe Court
100 Lusk Street
7 Burdock Grove
115 Lusk Street

Regards,

Mark St Pierre, P.Eng.

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solution oriented engineering
over 60 years serving our clients

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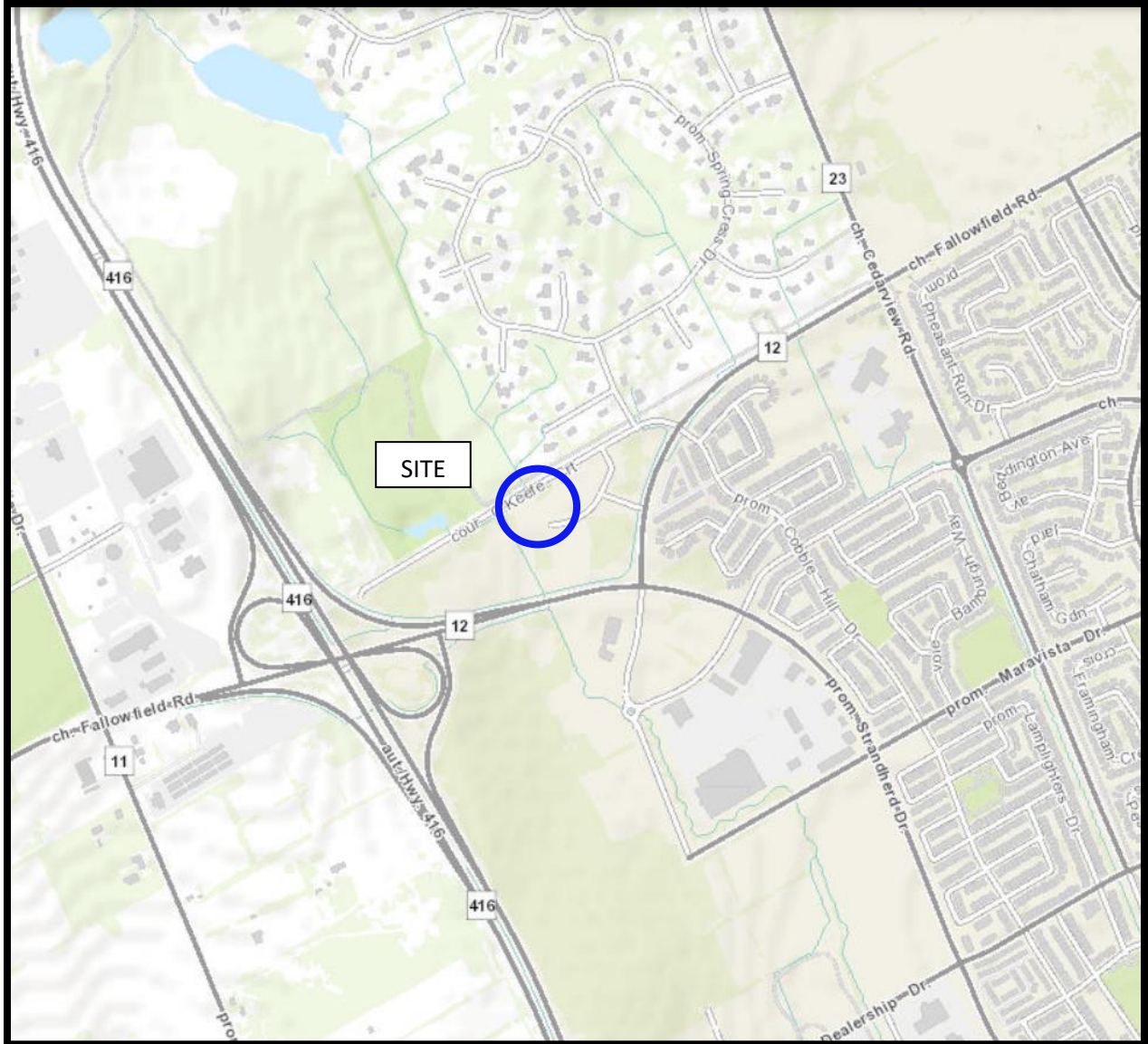
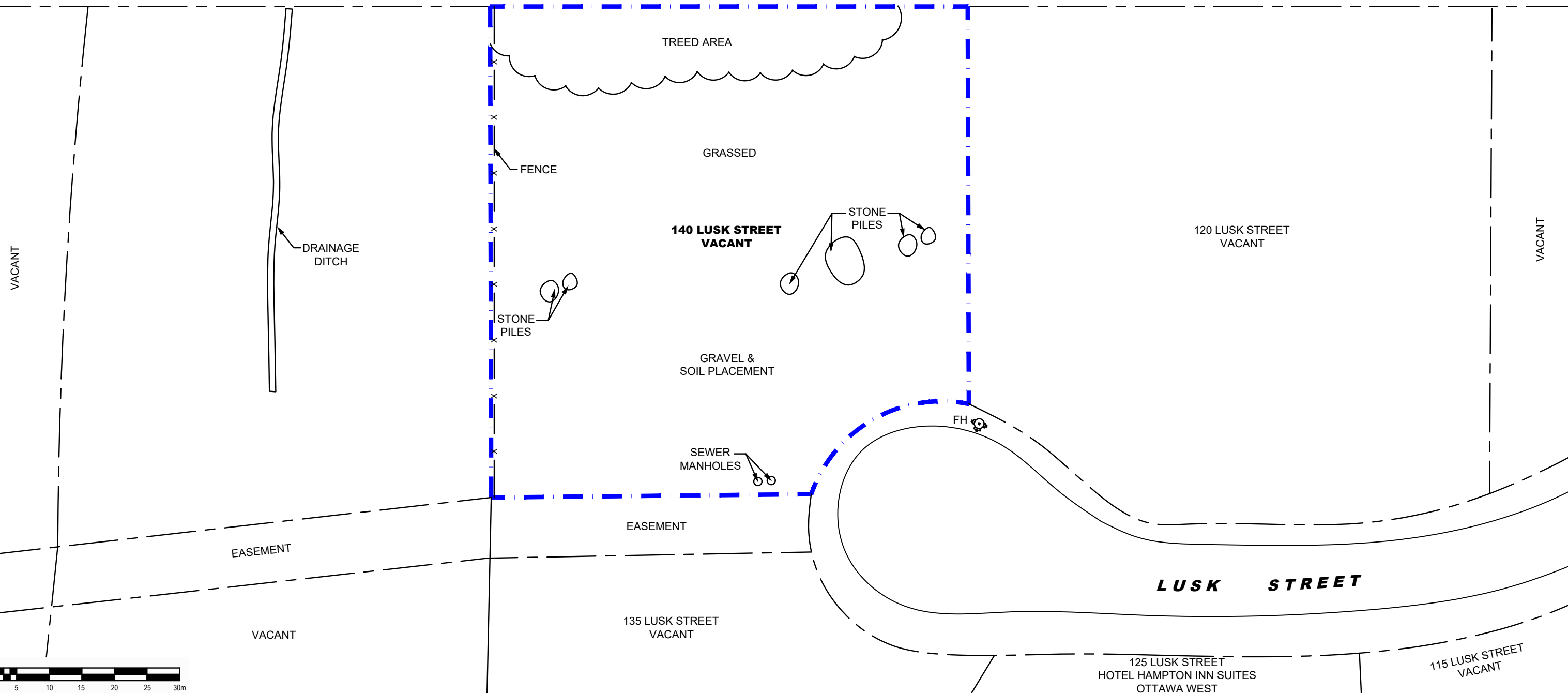
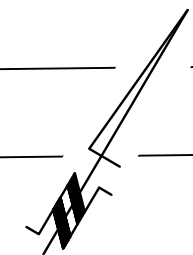


FIGURE 1
KEY PLAN

O'KEEFE COURT



patersongroup
consulting engineers

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

NO.	REVISIONS	DATE	INITIAL

DR. SANDRA IROAKAZI
PHASE I - ENVIRONMENTAL SITE ASSESSMENT
 140 LUSK STREET
 OTTAWA, ONTARIO
SITE PLAN

Scale:	1:600	Date:	04/2022
Drawn by:	JM	Report No.:	PE5694-1
Checked by:	MSP	Dwg. No.:	PE5694-1
Approved by:	MSD	Revision No.:	