

patersongroup

Geotechnical
Engineering

Environmental
Engineering

Hydrogeology

Geological
Engineering

Materials Testing

Building Science

Phase 1 - Environmental Site Assessment
1730 Wilhaven Drive
Ottawa (Cumberland), Ontario

Prepared For:

2183144 Ontario Ltd.

Paterson Group Inc.
Consulting Engineers
28 Concourse Gate - Unit 1
Ottawa (Nepean), Ontario
Canada K2E 7T7

Tel: (613) 226-7381
Fax: (613) 226-6344
www.patersongroup.ca

December 10, 2009

Report: PH1236-REP.01

TABLE OF CONTENTS

	PAGE
EXECUTIVE SUMMARY	ii
1.0 INTRODUCTION	1
2.0 SITE INFORMATION	1
3.0 SCOPE OF WORK	2
4.0 METHOD OF INVESTIGATION	
4.1 Historical Research	3
4.2 Field Assessment	4
5.0 FINDINGS OF THE ENVIRONMENTAL ASSESSMENT	
5.1 Historical Review	5
5.2 Exterior Assessment	7
5.2 Interior Assessment	7
5.4 Adjacent Properties	8
6.0 ASSESSMENT AND RECOMMENDATIONS	
6.1 Assessment	9
6.2 Recommendations	9
7.0 STATEMENT OF LIMITATIONS	10

APPENDICES

- Appendix Aerial Photographs
- Drawing PH1236-FIG1 - Site Location Plan

EXECUTIVE SUMMARY

Assessment

A Phase I - Environmental Site Assessment was carried out for the parcel of land located at 1730 Wilhaven Drive, in the City of Ottawa, Ontario. The purpose of this environmental assessment was to research the past and current uses of the site and adjacent properties and identify any environmental concerns with the potential to impact the subject property.

The subject property is located south of the Village of Cumberland, Ontario, along the south side of Wilhaven Drive, east of Frank Kenney Road and immediately west of O'Toole Road. An old farmstead, consisting of a small bungalow, shed and medium sized wood clad barn, is presently situated on the central quadrant of the site with pasture lands to the west and east. A heavily treed area is present immediately south of the building area and extends as a narrow treeline along the southern property limits from east to west. The individual pasture lands are separated by narrow groupings of trees, also.

The subject property encompasses a total area of approximately 21.85 hectares (49.3 acres), based on available property information provided by the City of Ottawa, and is proposed to be developed into 21 individual lots. The average minimum lot size for each of the proposed lots has been assigned at 0.8 hectares (1.98 acres). It is proposed that the subdivision will be serviced by individual onsite wells and septic systems.

Our historical research has indicated that the subject site has contained a farmstead for well over 75 years. The apparent land uses, based on the available information suggest historical agricultural uses.

Neighbouring properties, historically, have been utilized for agricultural purposes until the areas to the immediate west and north of the subject property was developed as residential estates. No environmental concerns were identified during the historical review for the subject property.

Following the historical review, a site visit was conducted. The subject property is vegetated in a manner consistent with an under-utilized agricultural property. The southern portions of the central quadrant are treed and reflect poor site drainage in that area. No significant concerns were identified with the subject or neighbouring lands.

Based on the results of the assessment, **it is our opinion that a Phase II - Environmental Site Assessment will not be required for the property at this time.**

A designated substance survey should be carried out on the existing bungalow and associated outbuildings at the time of demolition. Moreover, the existing furnace oil AST, located in the basement of the bungalow, should be properly decommissioned prior to demolition of the dwelling.

1.0 INTRODUCTION

At the request of 2183144 Ontario Ltd., Paterson Group (Paterson) conducted a Phase I - Environmental Site Assessment (ESA) of the parcel of land located at 1730 Wilhaven Drive, in the City of Ottawa, Ontario. The ESA has been carried out in conjunction with a Terrain Analysis and Hydrogeological Study (Hydrogeological Study) for a proposed 21 lot residential subdivision. The findings of the Hydrogeological Study are summarized under separate cover and can be found in Paterson Report No. PH1236-REP.02.

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.

2.0 SITE INFORMATION

Location: The site is located at 1730 Wilhaven Drive, Ottawa (Cumberland), Ontario (Refer Key Plan in the Appendix for the site location and site description information).

Site Description:

Configuration: Irregular

Legal Description: Concession 7, North Part of Lots D & E, RP 50R844, Part 2, formerly the Township of Cumberland, now City of Ottawa.

Current Use: The subject property consists of a farmstead containing a small bungalow and three (3) outbuildings. The outbuildings consist of two(2) small sheds and a modest sized barn. The south central quadrant is wooded and undeveloped. The remainder of the property is presently being utilized for agricultural purposes.

Services: The subject property is located in a privately serviced (water wells and onsite sewage systems) area. The existing bungalow is serviced by a drilled water well and a Class 4 sewage system.

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 accordance with CSA Z768-01.
- 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 uses of the site. This portion of the program was carried out by Paterson personnel from the Hydrogeology Division. The following is a list of the key information sources reviewed by this 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

- MOE document titled "Waste Disposal Site Inventory in Ontario".
- MOE 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"; finalised October 2004.

Local Information Sources

- Site plan provided by the client.
- Personal Interviews.
- Terrain Analysis and Hydrogeological Study (Report PH1236-REP.02).

4.2 Field Assessment

The second segment of the Phase I - ESA consisted of a site visit which included a cursory assessment of the environmental conditions of the subject property. The field assessment was carried out November 6, 2009, by personnel from the Hydrogeology Division.

As part of the field assessment, the site and existing structures were 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.
- Above-ground 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 (ie. staining, distressed vegetation).
- Unnaturally discoloured, ponded or flowing waters.
- Surficial drainage, wetlands, natural waterways or watercourses through the properties (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 and not associated with an ongoing hydrogeological study associated with the proposed residential development).
- 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).
- PCB containing products.
- 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. Based on the review, the following observations have been made:

- | | |
|------|---|
| 1926 | What appears to be a farmhouse and related outbuildings were present in the western half of the subject site. The remainder of the property was vacant and used for agricultural purposes. Adjacent properties were also used for agricultural purposes or vacant forested lands. |
| 1946 | No significant changes were made to the use of the subject site or adjacent properties. |
| 1950 | No significant changes were made to the use of the subject site or adjacent properties. |
| 1960 | No significant changes were made to the use of the subject site or adjacent properties. |
| 1970 | No significant changes were made to the use of the subject site or adjacent properties. |
| 1980 | No significant changes were made to the use of the subject site or adjacent properties although some of the fields present on the subject site appear to have been abandoned and tree growth is visible. |
| 1993 | No significant changes were made to the use of the subject site or adjacent properties. |
| 2008 | (City of Ottawa Website) No significant changes were made to the use of the subject site or adjacent properties. |

Laser copies of some of the aerial photographs reviewed are included in the appendix.

National Archives

City directories and Fire Insurance Plans (FIPs) are not available for the area of the subject property.

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, bedrock in the area of the site consists of limestone of the Bobcaygeon Formation. Based on available mapping, the overburden consists of offshore marine sediments (clay and silt) and ranges in thickness from 0 to 4m.

PCB Inventory

A search of national PCB waste storage sites was conducted. No PCB waste storage sites are located in the immediate vicinity of the subject property.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto, was contacted electronically on December 8, 2009 to inquire about current and former underground storage tanks, spills and incidents for the subject site and neighbouring properties. A response from the TSSA had not been received at the time of issuance of this report. The TSSA findings will be forwarded to the client, should they reveal concerns with respect to the subject property.

Ontario Ministry of Environment (MOE)

The Ontario Ministry of Environment 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. No closed waste disposal sites or any of the other listed sites were identified in the immediate vicinity of the subject site.

A search of the MOE Brownfields environmental site registry was conducted electronically on December 3, 2009. No record of site conditions (RSC) were listed in the data base for properties within a 1 km radius of the subject site.

City of Ottawa Landfill Document

The document prepared by Golder Associates entitled "Old Landfill Management Strategy, Phase I - Identification of Sites, City of Ottawa", was reviewed. No closed landfills were identified in the vicinity of the subject site.

Terrain Analysis and Subsurface Investigation

A series of test holes and test pits were put down across the subject property associated with the Terrain Analysis and Hydrogeological Study carried out by Paterson. Reference should be made to Paterson Report No. PH1236-REP.02 for the comprehensive findings of the terrain analysis.

With respect to the scope of work associated with the Phase 1 ESA, the subsurface investigation did not reveal any deleterious fill materials within the limits of excavation. Furthermore, there was no visible evidence of possible contamination observed in the test holes.

Personal Interviews

No personal interviews were carried out as part of this assessment.

5.2 Exterior Assessment

The site inspection was conducted on December 8, 2009.

Buildings

The central quadrant of the subject property is occupied by a small bungalow, two (2) small sheds and a modest sized wood clad barn. The bungalow is heated with an oil fired furnace. The barn and one of the sheds are clad with old barn-board. The other shed is wood clad and painted with an exterior paint.

Site

The subject property is located in a rural area of the former township of Cumberland. The site topography slopes at a modest grade from west to east towards the central to south central quadrant of the site. Drainage is imperfect to fair in the western quadrant.

From the central quadrant, which is heavily treed, the site is flat and the drainage is imperfect to poor. The existing land surface is primarily grassed, with three of the smaller parcels along the eastern quadrant of the site being utilized for field crops

(soybeans). The poor crop performance noted during the field investigation in these fields corroborates the poor surficial drainage in this area.

Potential Environmental Concerns

Fuels and Chemical Storage

No apparent signs of underground storage tanks (USTs) were observed at the time of the assessment. Vent and fill pipes connected to basement aboveground storage tanks (ASTs) were observed on the exterior of the bungalow. No fuels or chemicals were observed on the exterior of the property.

Waste Management

Domestic waste and recycling is collected by the City of Ottawa in the area of the subject site.

Polychlorinated Biphenyls (PCBs)

No potential sources of PCBs were observed on site.

5.3 Interior Assessment

A general description of the interior of the buildings is as follows:

Small Bungalow

- Floors consist of a combination of carpet, vinyl tile, ceramic tile and poured concrete. The carpet was underlain by vinyl tile;
- The walls consist of gypsum board, plaster, painted brick or wood panels.
- The ceilings consist of gypsum board, plaster or stippled plaster;
- Lighting throughout the building is provided by incandescent and high efficiency fluorescent fixtures.

The building is heated with an oil fired furnace located in the basement. An AST was visually verified to be present in the basement.

Remaining Outbuildings (metal clad shed locked at time of inspection)

- Earthen floors present in outbuildings;
- barn-board cladding present on one shed, metal on other;
- Lighting consists of incandescent fixtures.

Potentially Hazardous Building Products

Asbestos-Containing Materials (ACMs)

Based on the age of the small bungalow, it is possible that asbestos containing materials may be present within the structure, however no such materials were identified at the time of the site visit.

Lead-Based Paint

Based on the age of the bungalow, lead-based paint may be present beneath more recent non-lead based products and on any remaining original surfaces. The painted surfaces were in good condition at the time of the assessment.

Polychlorinated Biphenyls (PCBs)

No concerns with respect to PCBs were identified within the subject structures.

UFFI

No signs indicating the presence of UFFI were observed during the site visit

Other Potential Environmental Concerns

Fuels and Chemical Storage

A furnace oil aboveground storage tank (AST) is present in the basement of the bungalow. The AST was in good condition at the time of the site visit. The AST feeds an oil-fired furnace via an unprotected copper line.

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

Wastewater Discharges

The subject site is serviced by a private septic system.

5.4 Adjacent Properties

Land use adjacent to the subject site was as follows:

- North* - Wilhaven Drive followed by residential and forested lands;
- East* - O'Toole Road followed by agricultural land;
- South* - Agricultural land followed by Hydro transformer station;
- West* - Residential

The current use of the immediately adjacent properties and neighbouring sites is not considered to pose a concern to the subject site. The transformer station is not considered to represent a significant concern based on the distance of the facility from the subject site (180 m) and the recent construction of the facility (between 1993 and 2002). Current land use adjacent to the subject property is illustrated on Drawing No. PH1236- FIG1 in the Appendix.

6.0 ASSESSMENT AND RECOMMENDATIONS

6.1 Assessment

A Phase I - Environmental Site Assessment was carried out for the vacant parcel of land located at 1730 Wilhaven Drive, in the City of Ottawa, Ontario. The purpose of this environmental assessment was to research the past and current uses of the site and adjacent properties and identify any environmental concerns with the potential to impact the subject property.

The subject property is located south of the Village of Cumberland, Ontario, along the south side of Wilhaven Drive, east of Frank Kenney Road and immediately west of O'Toole Road. An old farmstead, consisting of a small bungalow, shed and medium sized wood clad barn, is presently situated on the central quadrant of the site with pasture lands to the west and east. A heavily treed area is present immediately south of the building area and extends as a narrow treeline along the southern property limits from east to west. The individual pasture lands are separated by narrow groupings of trees, also.

The subject property encompasses a total area of approximately 21.85 hectares (49.3 acres), based on available property information provided by the City of Ottawa, and is proposed to be developed into 21 individual lots. The average minimum lot size for each of the proposed lots has been assigned at 0.8 hectares (1.98 acres). It is proposed that the subdivision will be serviced by individual onsite wells and septic systems.

Our historical research has indicated that the subject site has contained a farmstead for well over 75 years. The apparent land uses, based on the available information suggest historical agricultural uses.

Neighbouring properties, historically, have been utilized for agricultural purposes until the areas to the immediate west and north of the subject property were developed as residential estates. No environmental concerns were identified during the historical review for the subject property.

Following the historical review, a site visit was conducted. The subject property is vegetated in a manner consistent with an under-utilized agricultural property. The southern portions of the central quadrant are treed and reflect poor site drainage in that area. No significant concerns were identified with the subject or neighbouring lands. The existing small bungalow is presently occupied. The fuel oil tank noted in the interior assessment summarized elsewhere in this report is presently in operations and appears to be in satisfactory condition.

6.2 Recommendations

Based on the results of the assessment, the following recommendations can be made:

1. A Phase II - Environmental Site Assessment will not be required for the property at this time.
2. A designated substance survey should be carried out on the existing bungalow and associated outbuildings at the time of demolition. Moreover, the existing furnace oil AST, located in the basement of the bungalow, should be properly decommissioned prior to demolition of the dwelling.


7.0 STATEMENT OF LIMITATIONS

This Phase I - Environmental Site Assessment report has been prepared in general accordance with the agreed scope-of-work and 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.

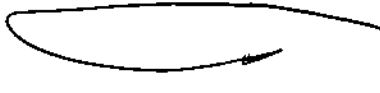
Should any conditions be encountered at the subject site and/or historical information that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of 2183144 Ontario Ltd. Permission and notification from 2183144 Ontario Ltd. and Paterson Group will be required to release this report to any other party.

Paterson Group Inc.


Robert A. Passmore, P.Eng.




Mark D'Arcy, P. Eng.

Report Distribution:

- 2183144 Ontario Ltd. c/o Cavanagh Construction (6 copies)
- Paterson Group Inc. (1 copy)

APPENDIX

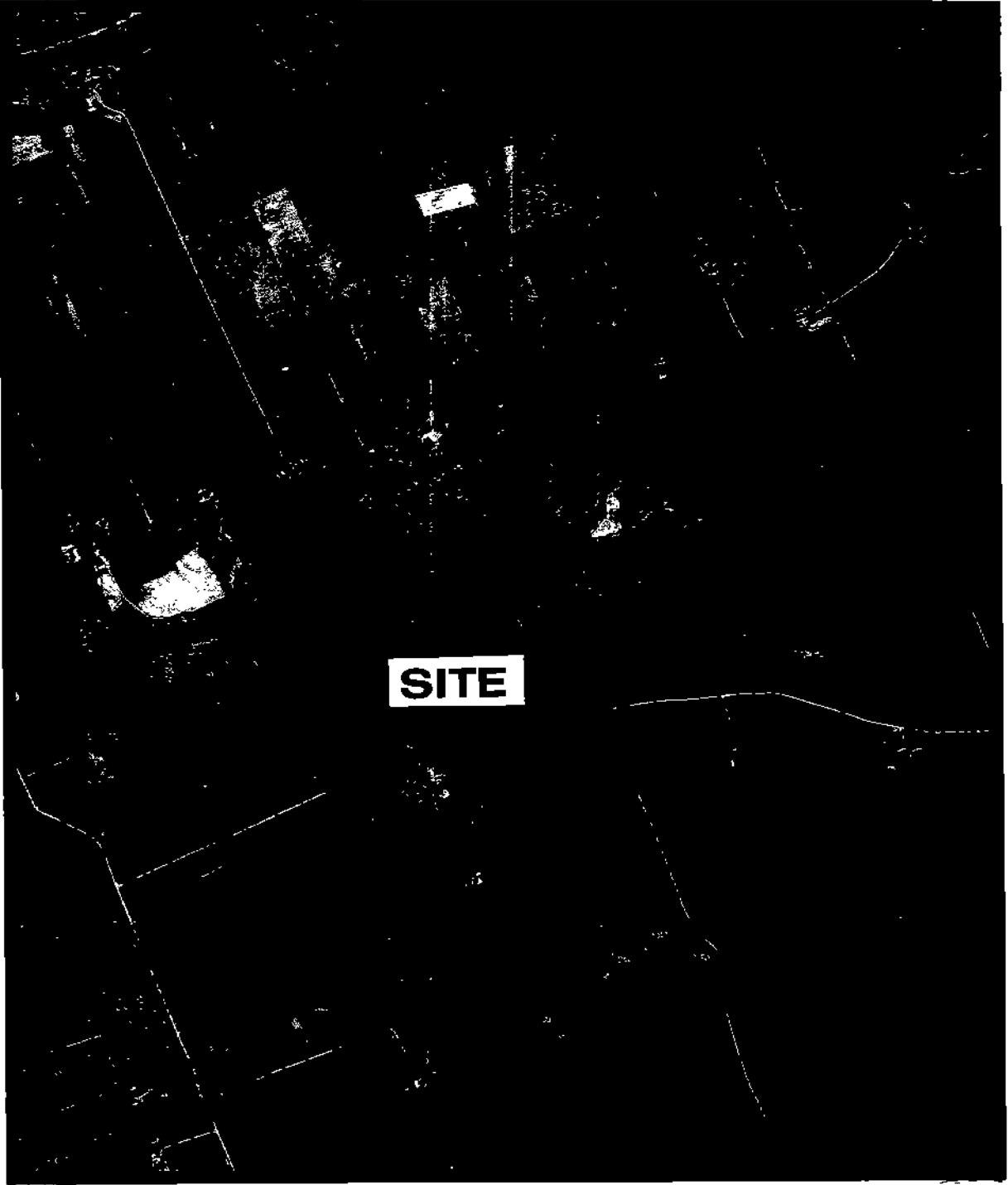
AERIAL PHOTOGRAPHS

FIGURE 1- KEY PLAN

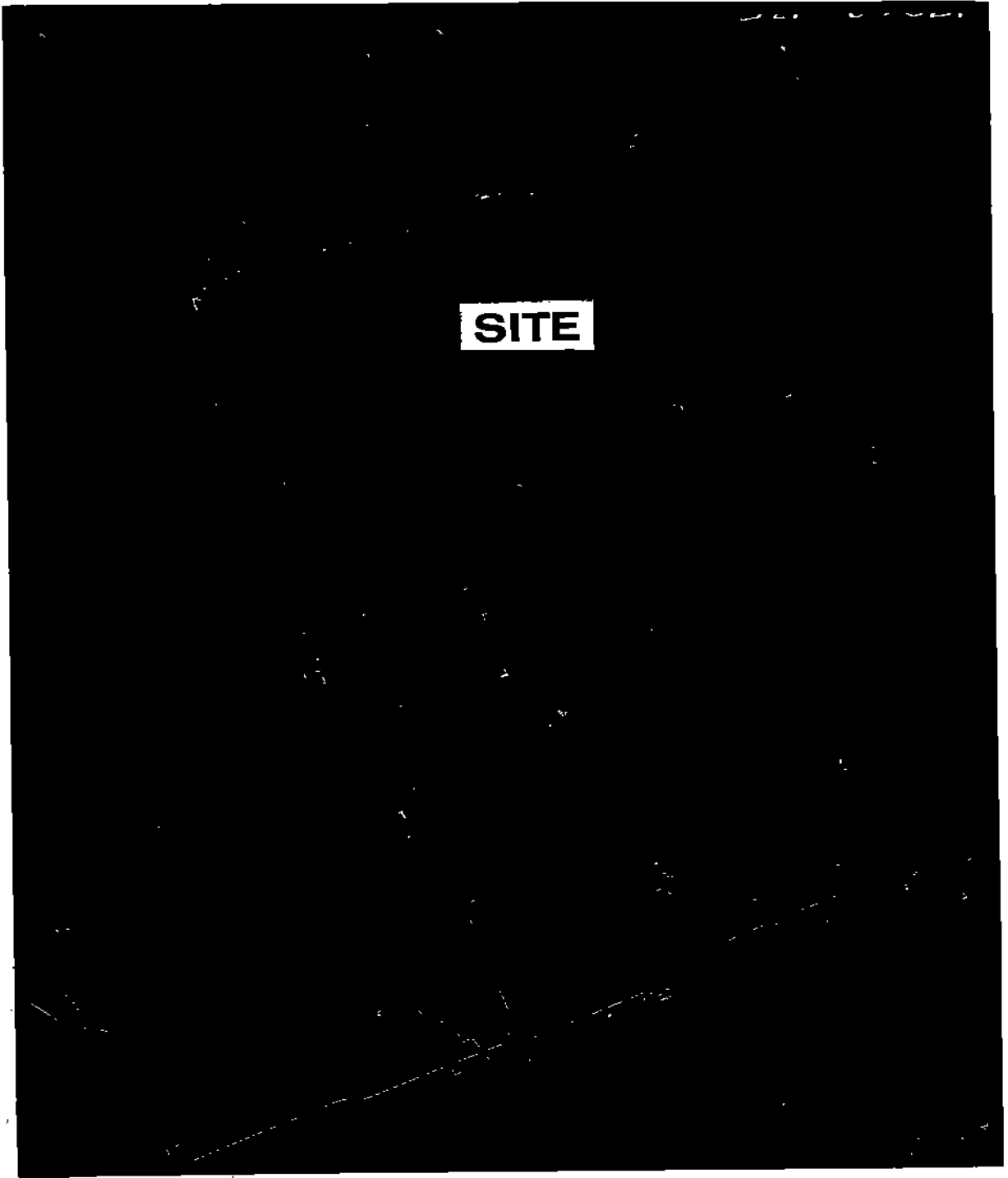
DRAWING PH1236-FIG1- SITE LOCATION PLAN



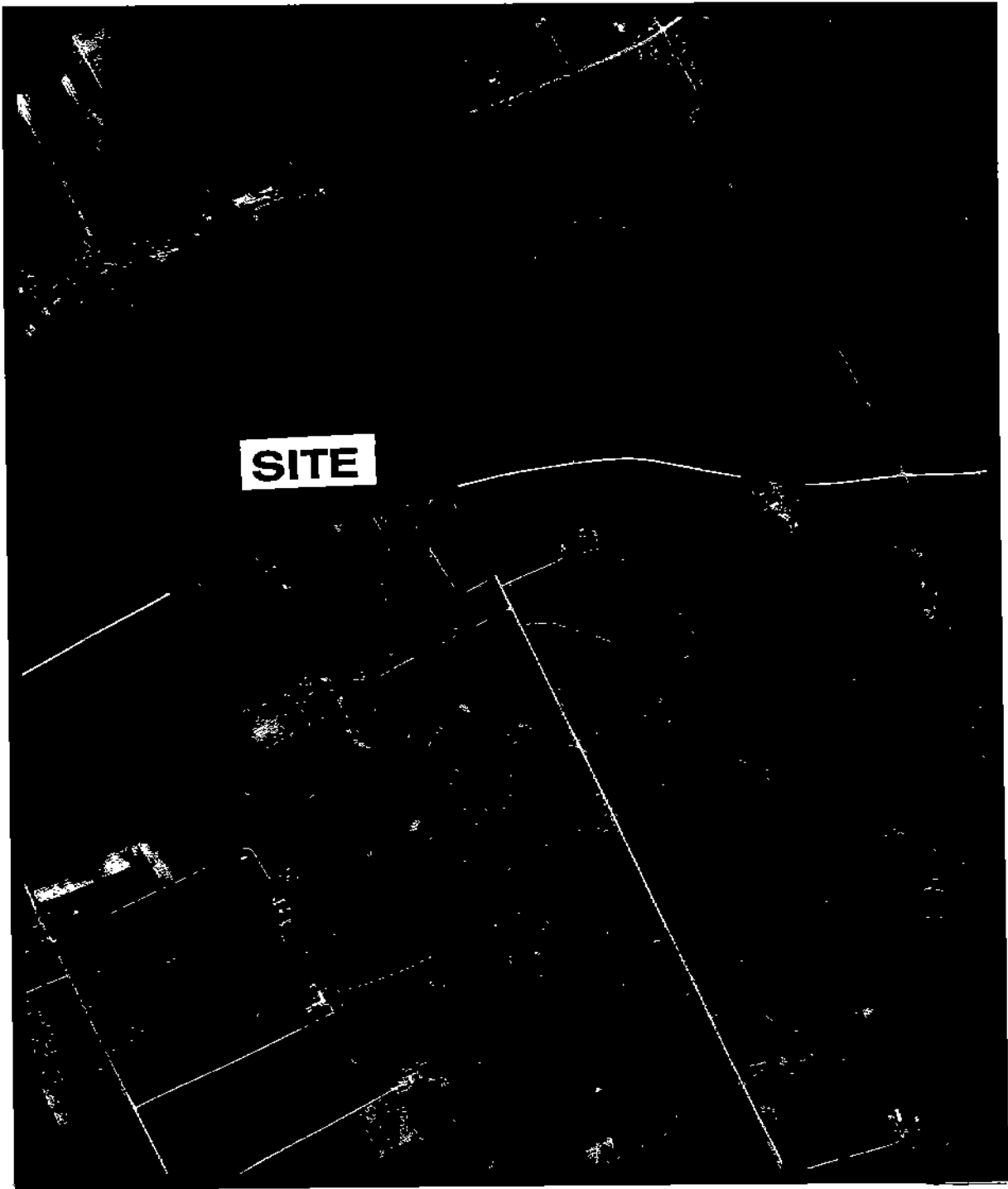
AERIAL PHOTOGRAPH
1926



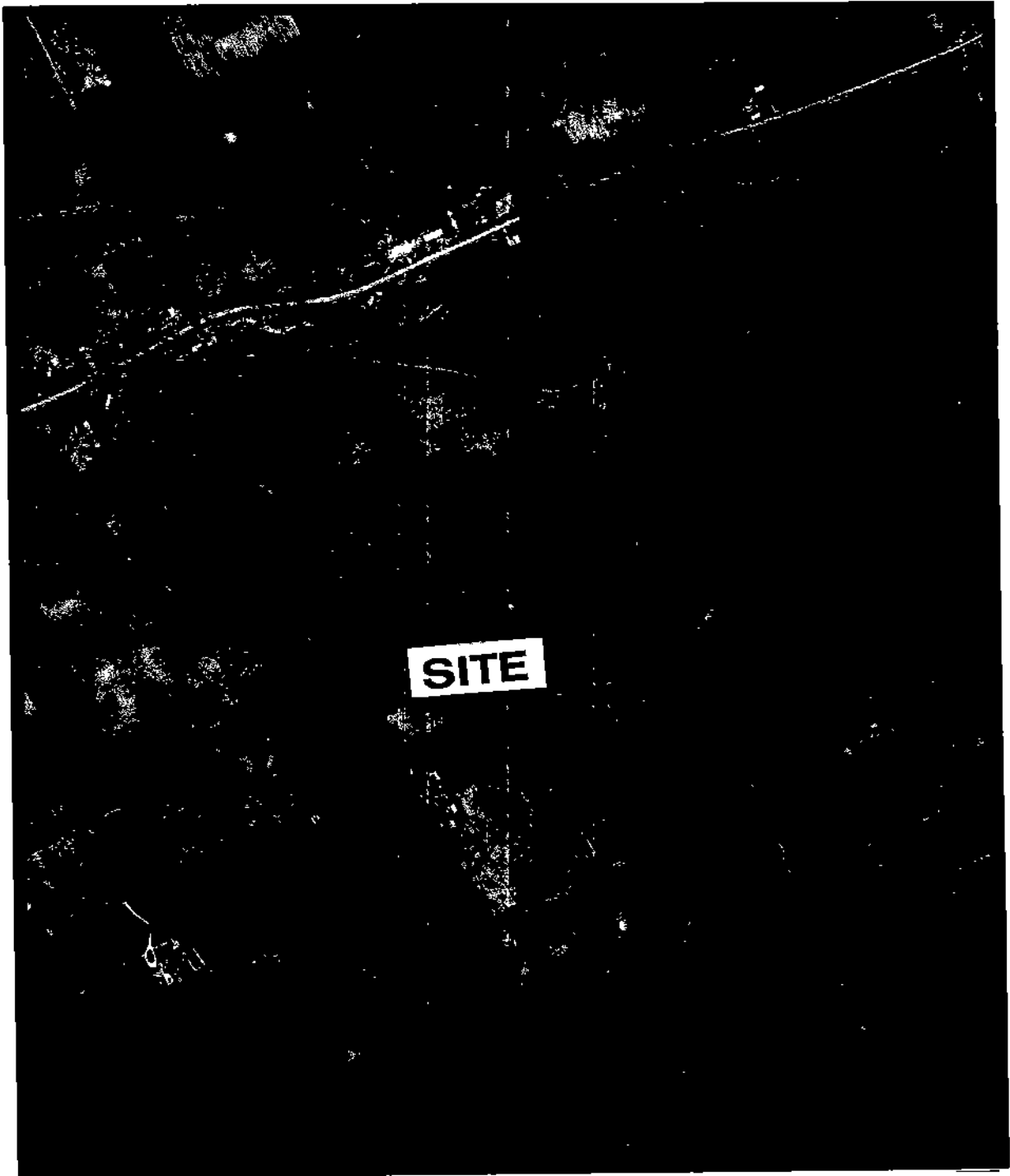
AERIAL PHOTOGRAPH
1946



AERIAL PHOTOGRAPH
1960



AERIAL PHOTOGRAPH
1970



AERIAL PHOTOGRAPH
1980

26/92

000°51.3

SITE

AERIAL PHOTOGRAPH
1993

patersongroup

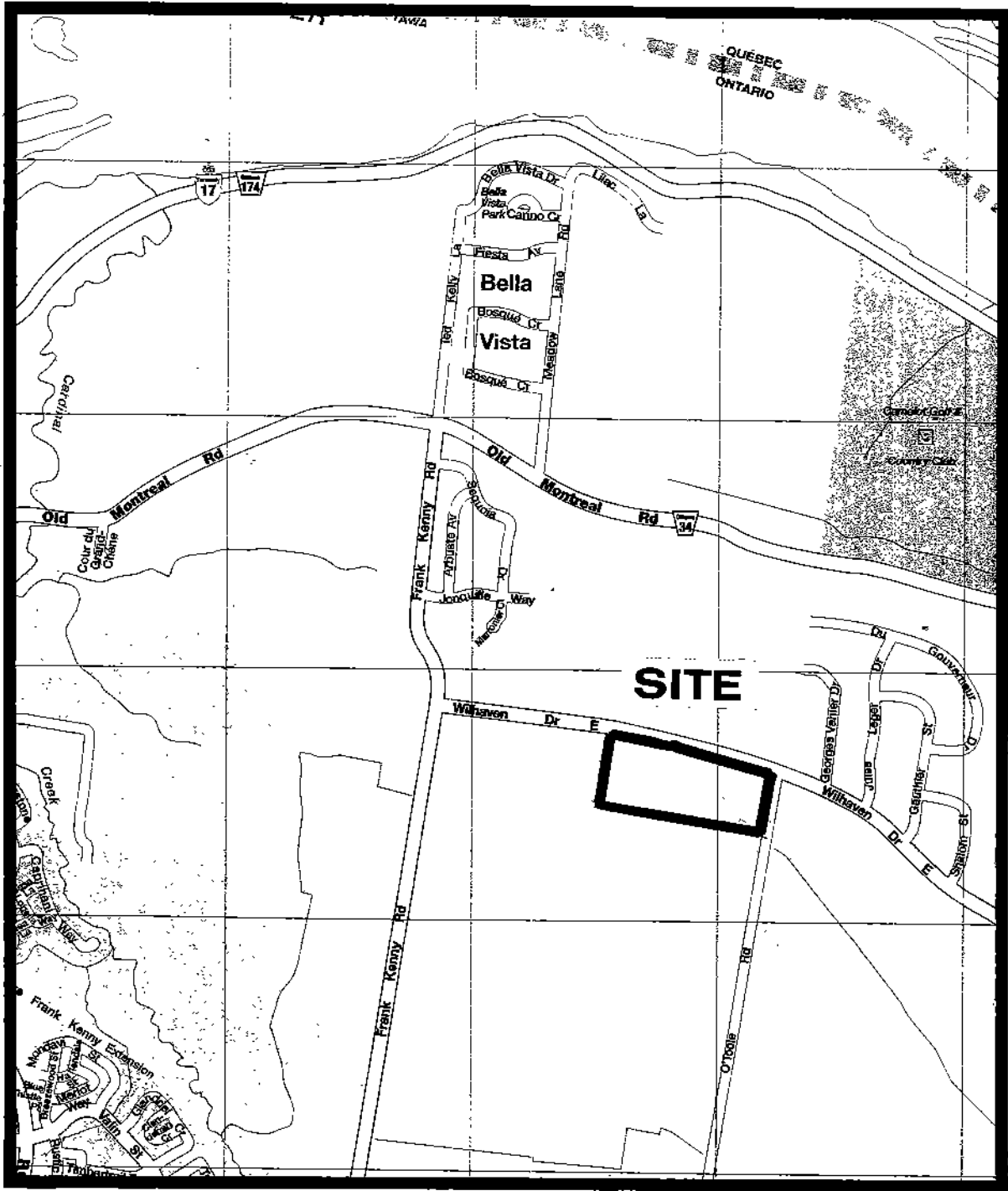
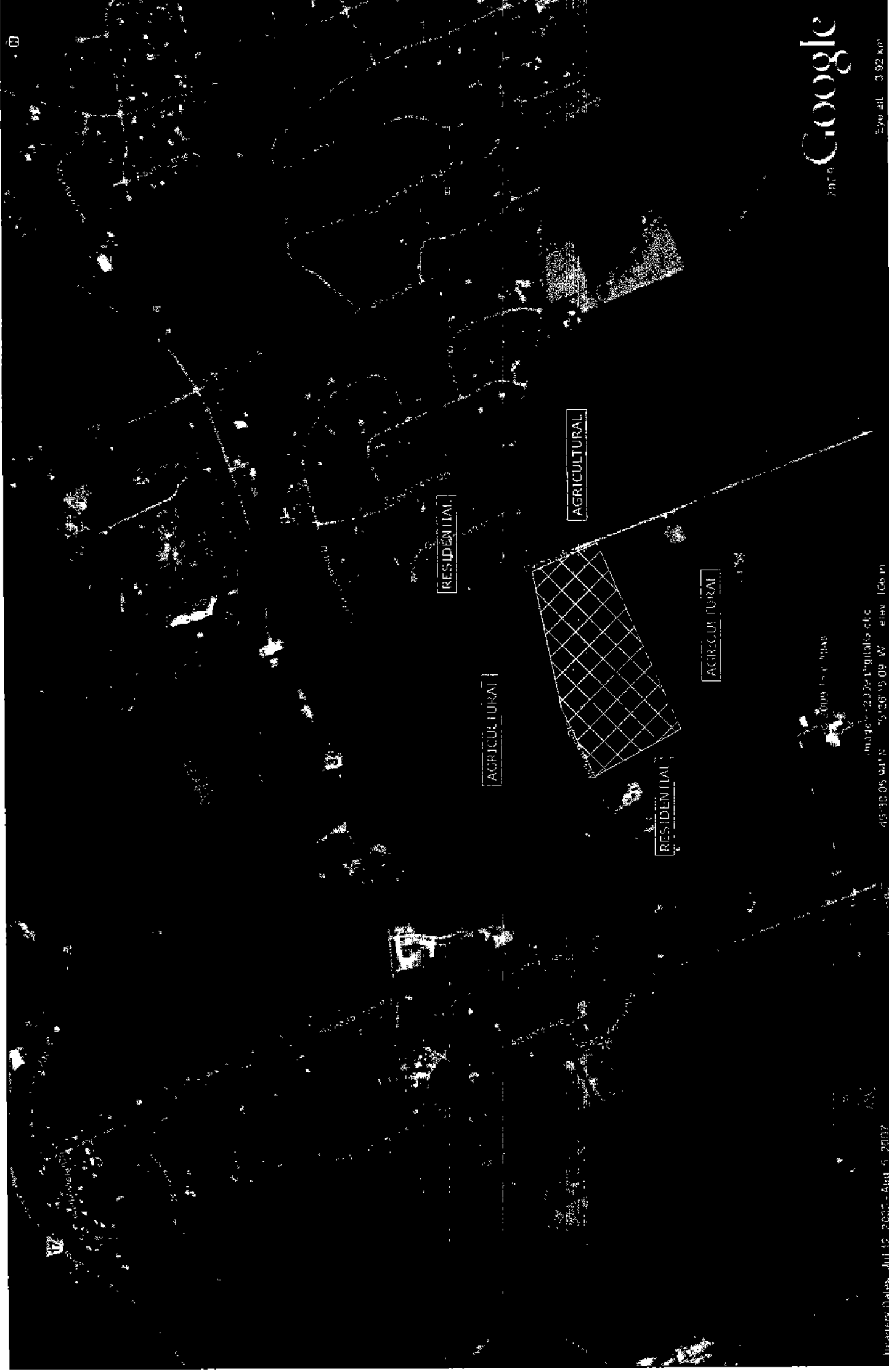


FIGURE 1
KEY PLAN



Dwg. No. PH1236-FIG1
 Report No. PH1236-REP.02
 Date: 12/2009

SITE LOCATION PLAN

2183144 ONTARIO LTD.
 TERRAIN ANALYSIS & HYDROGEOLOGICAL STUDY
 1730 WILHAVEN DRIVE
 OTTAWA (CUMBERLAND), ONTARIO

Scale:	1:15,000
Des.:	RAP
Dwn:	BA
Chkd:	RAP

paterson **g**roup
 consulting engineers
 28 Concourse Gate, Unit 1, Ottawa, Ontario K2E 7T7

Part 1. ENVIRONMENTAL SITE ASSESSMENT

Affidavit of Principal Consultant Concerning Environmental Site Assessment

I, Robert A. Passmore, of the City of Ottawa (Nepean).
(Consultant's name)

MAKE OATH AND SAY AS FOLLOWS:

I am the Associate of Paterson Group Inc.
(position/title) (firm/company)
and have personal knowledge of the matters set out below.

I, Paterson Group Inc. was retained or
(or name of firm/company)
employed as the principal environmental consultant to undertake or supervise a Phase 1 Environmental Site Assessment of the site located at:
1730 Wilhaven Drive, (formerly Township of Cumberland) now City of Ottawa.
(site/property address)

The assessment activities at the site have been completed in accordance with the Canadian Standards Association's *Phase 1 Environmental Site Assessment, CAN/CSA Z768-01, as amended*. (Or alternately, the "Standard Practice for Environmental Assessments: *Phase 1 Environmental Site Assessment Process*" ASTM E1527-00, ASTM International and "Standard Practice for Environmental Site Assessments: *Transaction Screen Process*", ASTM E1528-00, ASTM International).

I am/am not (strike out and initial that which does not apply) employed or retained by the site owner/agent of the owner, or the company operating on the site in any other capacity.

Findings of the said Phase 1 Environmental Site Assessment are that:

RAP

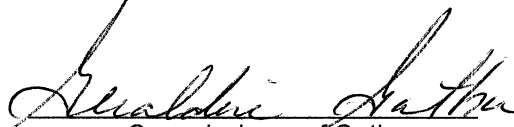
- There are no issues of actual or potential environmental concern with respect to soil and/or groundwater quality and a Phase 2 Environmental Site Assessment will not be required; or
- There are issues of actual or potential environmental concern with respect to soil and/or groundwater quality and a Phase 2 Environmental Site Assessment is required to investigate the identified issues.

SWORN (Or Declared) BEFORE ME

At the City of (Nepean) Ottawa,

In the Province of Ontario,

This 8th day of December, 2009,


Commissioner of Oaths


Signature of Consultant

28 Concourse Gate, Unit #1
Address
(613) 226 - 7381
Phone Number