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Phase I - Environmental Site Assessment
146 Mountshannon Drive
Ottawa, Ontario

Prepared For
Richcraft Homes

June 10, 2004
Report: PE0248-1

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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 Current Land Use	6
5.3 Adjacent Properties	7
6.0 ASSESSMENT AND CONCLUSION	
6.1 Assessment	8
6.2 Conclusion	8
7.0 STATEMENT OF LIMITATIONS	9

APPENDICES

- Appendix 1 Regulatory Documents
- Appendix 2 Aerial Photographs
 - Figure 1 - Key Plan
 - Drawing No. PE0248-1 - Site Plan

EXECUTIVE SUMMARY

On June 3, 2004, Paterson Group conducted a Phase I- Environmental Site Assessment of the property located at 146 Mountshannon Drive, in the City of Ottawa (Nepean), Ontario.

Our findings regarding environmental issues pertaining to the subject property and any recommendations are summarized below. Further details are provided in Section 6.0 of this report.

Summary of Findings and Recommendations				
Potential Environmental Issue(s)	Level of Concern	Findings	Recommendation	Reference Section(s)
Historical Land Use				
Subject Property	low	Vacant & agricultural	none	5.1
Adjacent Properties	low	Vacant & agricultural	none	5.1
Current Land Use				
Fuels and Chemicals	none	None Observed	none	5.2
PCBs	none	None Observed	none	5.2
Waste Management	none	Some soil fill material observed near perimeters of property. No apparent concern with this material	none	5.2
Waste Discharges	none	No concerns	none	5.2
Adjacent Land				
Adjacent Properties (current use)	none	Residential & educational land use	none	5.3

1.0 INTRODUCTION

At the request of Richcraft Homes, Paterson Group (Paterson) conducted a Phase I - Environmental Site Assessment (ESA) of 146 Mountshannon Drive, in the City of Ottawa (Nepean), Ontario. Authorization to proceed with the project was received on May 31, 2004.

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

Address: 146 Mountshannon Drive
Ottawa (Nepean), Ontario

Location: Southeast of Mountshannon Drive, north of Daventry Crescent and west of Whitegate Crescent and St. Luke Catholic Elementary School. Refer to Figure 1 - Key Plan in Appendix 2 for the site location.

Legal Description: Block 108, Registered Plan 4M-889 formerly City of Nepean, now City of Ottawa.

Site Description:

Configuration: Irregular

Total Site Area: 13,658 m²

Current Use: The subject site is vacant and covered with grass areas.

Services: The subject site is currently unserved, but it is situated in a fully serviced neighbourhood.

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 use of the site. This portion of the program was carried out by personnel from our environmental division. The following is a list of the key information sources reviewed by this firm, along with other regulatory documents listed in Appendix 1 of this report.

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

Provincial Records

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

Local Information Sources

- Site plan provided by Richcraft Homes.
- Previous geotechnical and environmental projects completed by our firm in the area of the subject site.

4.2 Field Assessment

The second segment of the assessment consisted of a field investigation which included a cursory inspection and assessment of the environmental conditions of the subject property. The field investigation was carried out on June 3, 2004, 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.
- 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 property (ie. 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 (ACM).
- 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 of the subject site were reviewed at the National Air Photo Library. Based on the review, the following observations have been made:

- 1953 The subject site was used for agricultural purposes. A railway is present to the northwest of the property. Adjacent properties were also vacant with the exception of three residential dwellings with several barns to the northeast and east of the subject property. Mountshannon Drive was not present at that time.
- 1963 No significant changes have been made to the subject or neighbouring properties, however, a residential dwelling with barns now exists north of the railway line.
- 1975 No significant changes have been made to the subject or neighbouring properties.
- 1988 No significant changes have been made to the subject or neighbouring properties. A residential development now can now be seen across the railway line in the northwest corner of the air photo.
- 1993 No significant changes have been made to the subject property. The area to the northeast and east of the subject site is in the process of development with residential housing and a school.
- 1996 Much of the land around the subject property has been developed with residences and school. The subject property is vacant.

Laser copies of some of the aerial photographs taken in the above years are included in Appendix 2 of this report.

National Archives

No information was obtained from the national archives that was relevant to the environmental assessment of the property.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto, formerly the Ontario Ministry of Consumer and Commercial Relations was contacted by fax on June 2, 2004. No records were identified by TSSA for the subject property or any neighbouring properties.

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. Based on this document, there are no active or abandoned waste disposal sites in the vicinity of the subject property. The document does not indicate the presence of former industrial sites in the vicinity of the subject site.

5.2 Current Land Use

The subject site is vacant and grass covered. A drainage ditch originating from the northeast corner runs along the school property toward the southeast corner of the site. The site is primarily flat.

Several separate fill areas were identified on the subject site. All of the larger piles of fill (> 10 m³) were covered in grass and were located in the northwest, northeast, and southwest corners of the subject property. Smaller quantities of fill (< 2 m³) consisting mostly of topsoil and sod with some building waste (wood and red brick) have been recently deposited along the western edge of the site.

A wire fence runs across the property from the northeast corner towards the southwest corner. A small pile of scrap wood has been dumped in the southern most extent of the ditch in the southeast corner of the site. One (1) used tire was noted to be disposed of in the ditch. A small pit (> 1.5 m across and 0.5 m deep) was noted beside the ditch with a 1.5 m length of broken metal pipe filled with concrete in it.

Drainage on site consists of surface infiltration and surficial drainage. There was no ponding of water or any signs of surficial contamination at the time of the investigation.

Potential Environmental Concerns

Fuels and Chemical Storage

There were **no** above ground or underground fuel storage tanks observed on the subject property at the time of the investigation. There was **no** evidence of vent or fill pipes indicating the possibility of underground storage tanks.

There were **no** hazardous chemicals, spills or stains observed at the time of the investigation.

Waste Management

There was **no** waste observed on the subject property at the time of the investigation.

Wastewater Discharges

There were **no** signs of wastewater emerging or entering the subject property at the time of the investigation.

5.3 Adjacent Properties

Land use adjacent to the subject site was as follows:

- North - Playground followed by a park;
- South - Residential housing followed by Daventry Crescent;
- East - St. Luke Catholic Elementary School;
- West - Mountshannon Drive followed by residential housing.

The environmental impact of the neighbouring properties upon the subject site was considered to be low. Land use adjacent to the subject site is illustrated on Drawing No. PE0248-1 - Site Plan in Appendix 2.

6.0 ASSESSMENT AND CONCLUSION

6.1 Assessment

A Phase I - Environmental Site Assessment was carried out at 146 Mountshannon Drive in the City of Ottawa (Nepean), Ontario. The purpose of this environmental assessment was to research the past use of the site and identify any potential concerns associated with the site or adjacent properties that could potentially impact the subject property.

The historical data research for this site did not indicate any areas of concern relative to the past uses of the subject and adjacent properties.

Following the historical research, a site inspection was conducted to assess any potential areas of concern. No significant environmental concerns were identified during the site visit with the current conditions of the site or surrounding properties. No olfactory or visual signs of contamination were noted during the site inspection.

6.2 Conclusion

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

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 Richcraft Homes. Permission and notification from the above noted party and this firm will be required to release this report to any other party.

Paterson Group Inc.

James McEwen, B. Eng.

Mark S. D'Arcy, P. Eng.

Report Distribution:

- Richcraft Homes (9 copies)
- Paterson Group Inc. (1 copy)

APPENDIX 1

REGULATORY DOCUMENTS

APPENDIX 1 REGULATORY FRAMEWORK

FEDERAL

Legislation:

Canadian Environmental Protection Act, 1988:

- Chlorobiphenyl Regulation, 1991
- Regulation for the Registration of Underground Storage Tank Systems Containing Petroleum Products or Allied Petroleum Products
- Storage of PCB Material Regulations, 1992

Pest Control Products Act, 1985

Transportation of Dangerous Goods Act/Regulations, 1992

Canada Labour Code

- Occupational Safety and Health Regulations

Hazardous Products Act, 1988

- Controlled Products Regulations
- Hazardous Products Regulations

Canadian Environmental Assessment Act, 1994

Canadian Council of Ministers of the Environment (CCME)

National Action Plan for the Environmental Control of Ozone Depleting Substances and their Halocarbon Derivatives, 1997

Environmental Code of Practice for Reduction of Solvent Emissions from Dry Cleaning Facilities, 1992

Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks, 1995

Canadian Soil Quality Guidelines for Copper: Environmental and Human Health, 1997

Canadian Soil Quality Guidelines for Pentachlorophenol: Environmental and Human Health, 1997

APPENDIX 1
REGULATORY FRAMEWORK

FEDERAL (CONTINUED)

Environmental Code of Practice for Aboveground Storage Tank Systems
Containing Petroleum Products, 1994

Environmental Code of Practice for Underground Storage Tank Systems
Containing Petroleum Products and Allied Petroleum Products, 1993

A Framework for Ecological Risk Assessment: General Guidance, 1996

Guidance Document on the Management of Contaminated Sites in Canada,
1997

Guidance Manual for Developing Site-specific Soil Quality Remediation
Objectives for Contaminated Sites in Canada, 1996

Guidance Manual on Sampling , Analysis and Data Management for
Contaminated Sites, 1993

National Classification System for Contaminated Sites, 1992

Recommended Canadian Soils Quality Guidelines, 1997

Subsurface Assessment Handbook for Contaminated Sites, 1994

PCB Transformer Decontamination: Standards and Protocols, 1995

Canadian Water Quality Guidelines, 1997

APPENDIX 1
REGULATORY FRAMEWORK

PROVINCIAL - ONTARIO

Legislation:

Environmental Protection Act, 1990

- General: Air Pollution Regulation Reg. 346, 1990
- Sulphur Content of Fuels Regulation Reg. 361, 1990
- Boilers Regulation Reg 338, 1990
- General Waste Management Regulation Reg. 347, 1990
- Waste Management PCBs Regulation Reg. 362, 1990

General Regulation - Reg. 914

Spills Regulation - Reg 360

Boilers and Pressure Vessels Act, 1997

Dangerous Goods Transportation Act - Reg. 261/90

Gasoline Handling Act, 1990

- Gasoline Handling Code, 1993

Energy Act

- Ontario Fuel Oil Code Regulation 288

Fish and Wildlife Conservation Act, 1997

Occupational Health and Safety Act

- Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations - Reg. 838, 1990
- Regulation Respecting Lead

Ontario Water Resources Act

Conservation Authorities Act

Planning Act

Pesticides Act

Environmental Assessment Act, R.S.O. 1990

APPENDIX 1
REGULATORY FRAMEWORK

PROVINCIAL - ONTARIO (CONTINUED)

Municipal Board Act

Management of Underground Petroleum Storage Tanks at Federal Facilities in Ontario, Environment Canada, 1991

Policies, Guidelines and Codes:

Guidelines for Use at Contaminated Sites in Ontario, June 1996

Ontario Drinking Water Objectives, Revised 1994

Ontario Fire Code, 1998

Environmental Site Assessments, CMHC, 1993

Phase I Environmental Site Assessment, CSA - Z768-94, 1994

Identification of Lamp Ballasts Containing PCBs, Environmental Protection Series, 1991

PCB Site Listings - Ottawa-Carleton, Ontario Ministry of the Environment, 1998

Mapping and Assessment of Former Industrial Sites - City of Ottawa, Intera Technologies Limited, 1988

Waste Disposal Site Inventory, Ontario Ministry of the Environment, 1991

APPENDIX 1
REGULATORY FRAMEWORK

MUNICIPAL

Chapter 5 Sewer and Waste Disposal, Part 5.2 Sewers, Sewer Treatment Works
& Discharge of Industrial Waste into Municipal Sewers.

Sewer Use By-Law number 163-73

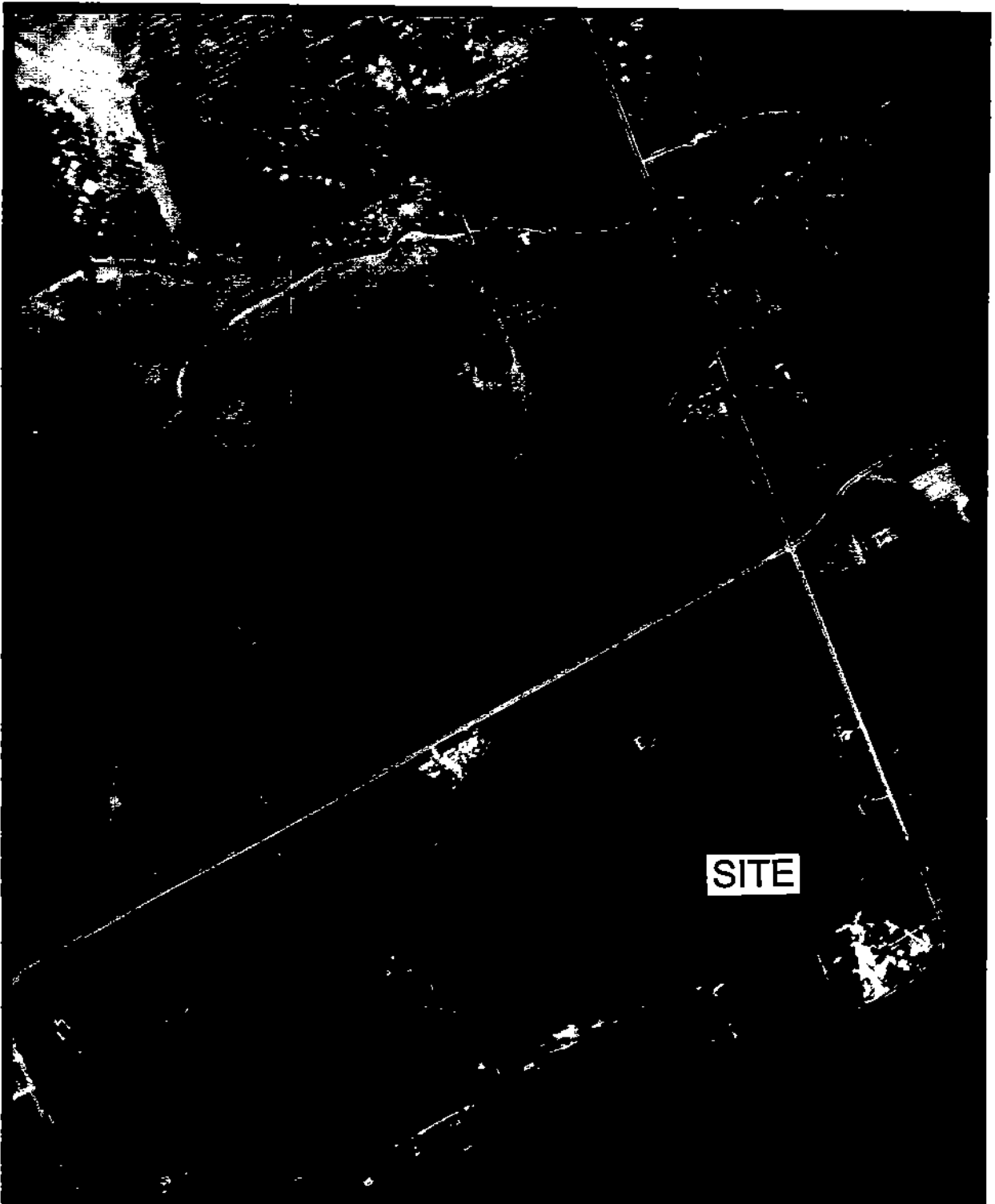
Zoning By-Law number Z2-K



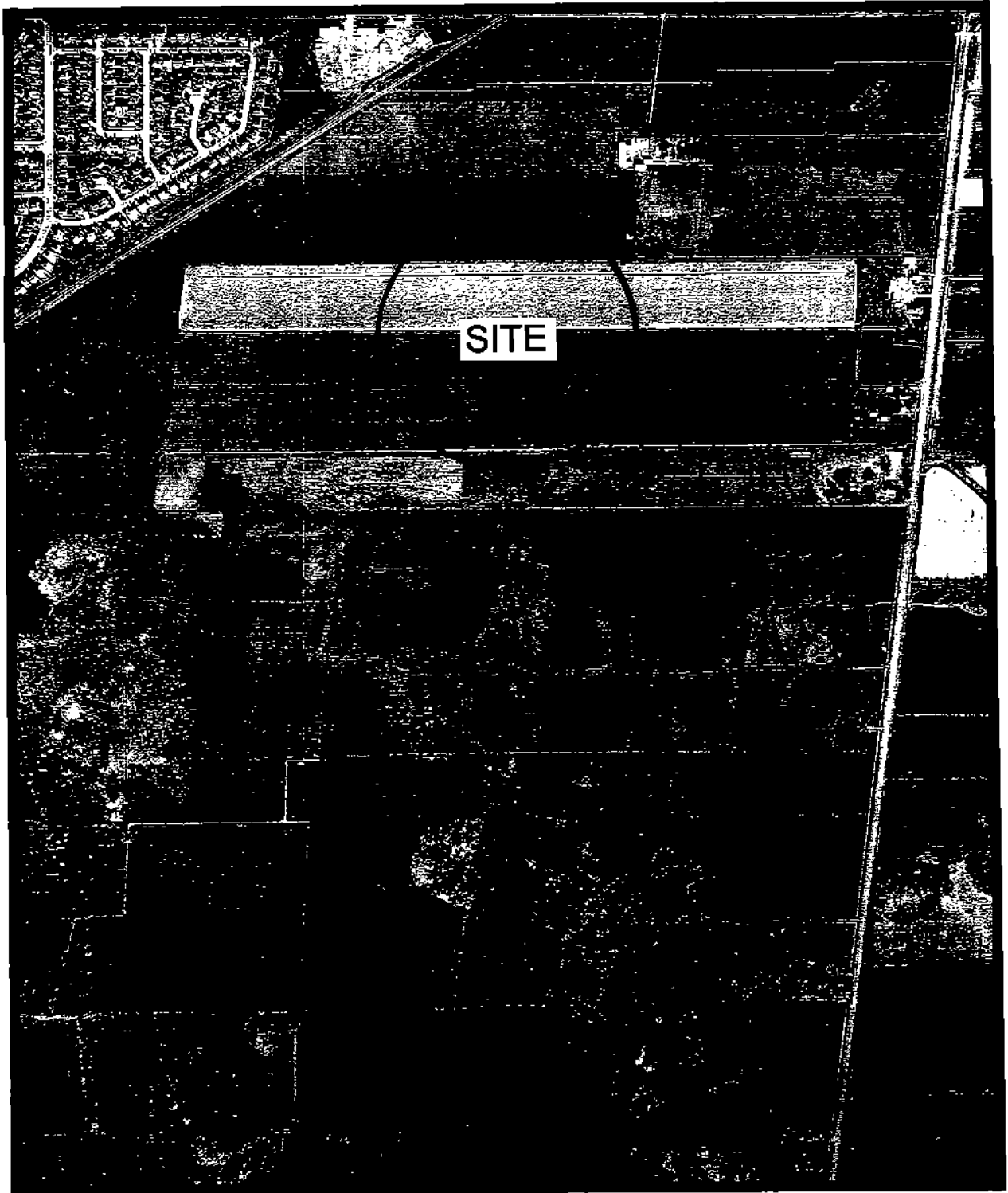
AERIAL PHOTOGRAPH
1953



AERIAL PHOTOGRAPH
1963



AERIAL PHOTOGRAPH
1975



AERIAL PHOTOGRAPH
1988



AERIAL PHOTOGRAPH
1996

APPENDIX 2

AERIAL PHOTOGRAPHS

FIGURE 1 - KEY PLAN

DRAWING NO. PE0248-1 - SITE PLAN

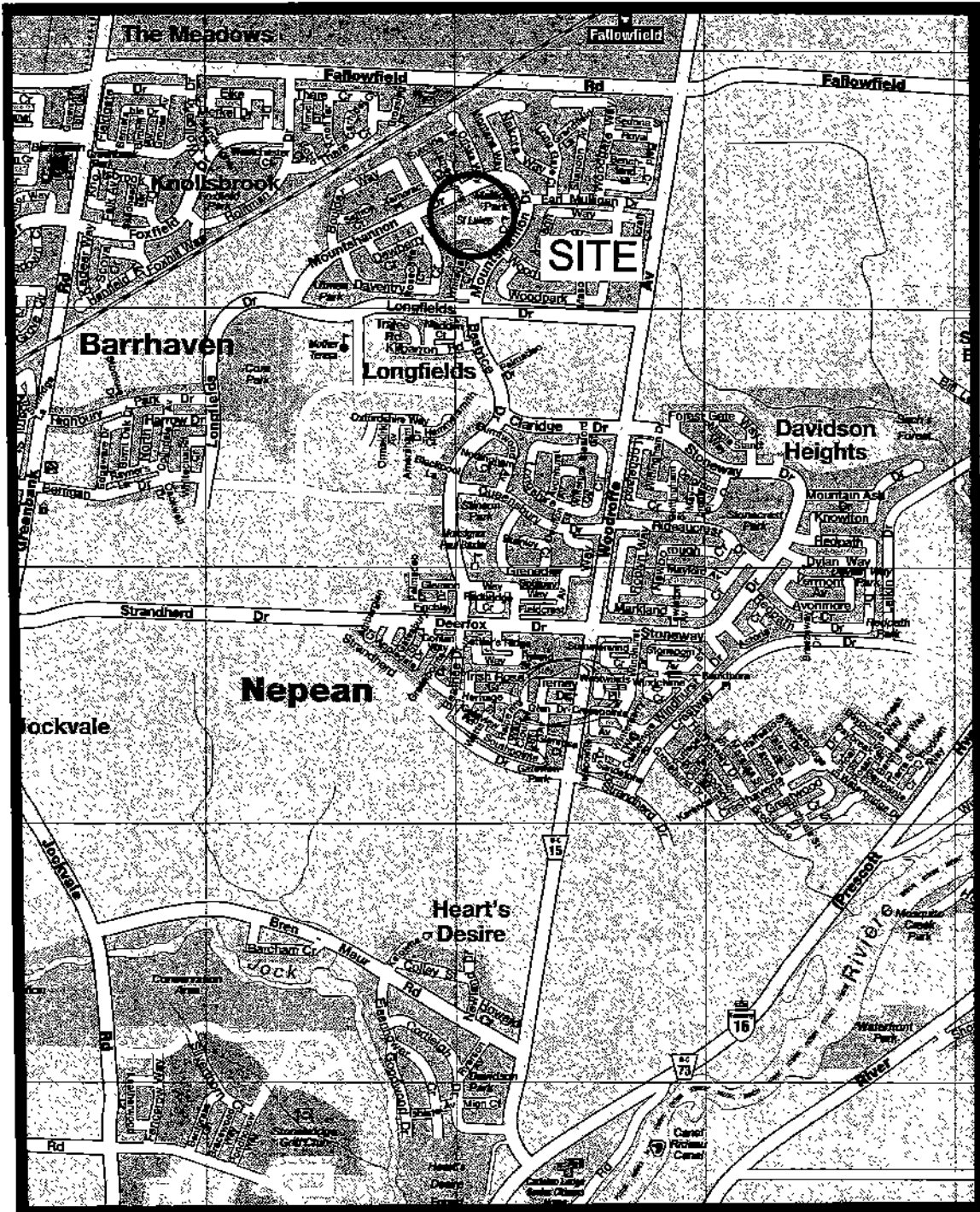


FIGURE 1
KEY PLAN