



Phase I Environmental Site Assessment 1500 Industrial Park Drive, Cornwall, ON

Prepared For:
The Corporation of the City of Cornwall
360 Pitt Street,
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K6H 5T9



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P1 – Phase One per Ont Reg 153/04

POP – Phase One Property

POSA – Phase One Study Area

RSC – Record of Site Condition (per Ont Regulation 153/04)

FOI – Freedom of Information

VOC – Volatile Organic Compounds (e.g. degreasers, glue components)

PHC – Petroleum Hydrocarbons (e.g. gasoline, oil, See F1 to F4 Ont Reg 153/511)

PCBs – Polychlorinated biPhenyls

Heavy Metals – elements like lead, copper, mercury, arsenic, chromium

Dioxins – Chemicals resulting from burning, particularly materials with plastics and chlorinated compounds

PAH – coal tar, creosote

1. Executive Summary

1.1 Location

The Site, 1500 Industrial Park Drive, Cornwall, ON, K6H 7M4 is located just northeast of the Industrial Park Drive and 10th Street East intersection and southwest of the 401 highway on-ramp from Boundary Road. The Site is in the City of Cornwall, Ontario.

1.2 Scope

The scope of this Phase I Environmental Site Assessment is limited to discussing actual, probable or possible environmental concerns related to the subject Site. The investigation and report are made in general to 511/09 and to CSA Z768-01.

1.3 Assumptions, Limitations, and Exceptions

This work was completed for the Client, EAL, and the EAL Team members. Others, including future owners, city officials, etc. with an interest in the Site shall undertake their own work and investigations to determine how or if the Site conditions affect them, their plans, costs, etc. pre-purchase phase with the limitations described below, all of which are integral parts of this Report. The EAL Team has performed this project as the technical arbiter with respect to methods and recommendations. Others may reach different conclusions if they use different data and methods. EAL were the arbiter as to the extent of the work, it solely deems as completing the scope, following the direction of the Client.

EAL defined the standard of good commercial and customary practice for conducting the work relying on its' experience, site knowledge and investigation, subcontractors and the Client's direction. The goal of the processes established by this practice is to identify condition based on budgets available. The report is not intended to include de minimus conditions (i.e. conditions which may be present but which do not normally cause health and safety or other problems that generally do not present themselves in project reports, but which may nonetheless be present (for example insects/rodents being present)).

EAL relies completely on the information, whether written, graphic, or verbal, provided by the Project Site contact or as shown on any documents reviewed, developed or received from the Project Site contact, owner or agent, or municipal sources, or researched documents and assumes that information to be true and correct. Although there may have been some degree of overlap in the information provided by these various sources, EAL or the Team, did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of these services.

The visual observations in this Report are valid on the date of the field work or dates of desktop studies, which has been taken herein to be the effective date of the work. Areas and volumes of soil, contaminants, etc. that are behind wall or cover materials, under slabs, under surfaces, inside pipes, etc. are only accessible by deconstructive opening and inspection and as such the Team cannot know all conditions below, beneath, or behind all surfaces or hidden in walls and pipes or under the ground, even in the case where limited deconstruction is part of the work. For the present project only, visual surface work was anticipated by the Team in the scope. As such, the Team cannot know, nor does it represent it knows, if all beams, all columns, all connections, all slabs, or all environmental, electrical, structural, geotechnical or other conditions are safe or adequate to: The Client's requirements, current, future building codes, regulations, current practice, or to past practice. Only full deconstruction and testing could allow "full" knowledge. The Team renders a limited opinion based solely on information obtained as part of this report but note conditions may be different.

It is acknowledged that Team's judgments shall not be based on scientific or technical tests or procedures beyond the scope of the Services or beyond the time and budgetary constraints imposed by the Client. It is acknowledged further that Team's conclusions may not rest only on pure science but on such considerations as economic feasibility and available alternatives. The Client also acknowledges that, because built or natural conditions may not be according to design or anticipated process/conditions, that an element of inherent randomness, variability, and indeterminateness, remains so that the services and opinions provided under this Agreement with respect to such Services are not guaranteed to be a representation of actual conditions on the Project Site, which are also subject to change as a result of natural or man-made processes, including water permeation, improper manufacture, improper maintenance, improper modification, illegal acts, etc. In performing the Services, the Team used that degree of care and skill ordinarily exercised by engineers performing similar services as the Team determined feasible within the budget. The standard of care shall be determined solely by the Team at the time and for the budget the Services are rendered and not according to standards utilized at other or later dates. The Services shall be rendered without any other warranty, expressed or implied, including, without limitation, the warranty of merchantability and the warranty of fitness for a particular purpose.

The Client and Team agree that to the fullest extent permitted by law, the Team shall not be liable to the Client for any special, indirect or consequential damages whatsoever, whether caused by the Team's negligence, errors, omissions, strict liability, breach of contract, breach of warranty or other cause or causes whatsoever. The assessment was conducted, in the Team's opinion, in a manner consistent with the level of care and skill ordinarily exercised by members of the profession, and in accordance with generally accepted practices of other consultants currently practicing as understood by the Team. No other representation, expressed or implied, and no warranty or guarantee is included or intended. The Report speaks only as of its date, in the absence of a specific written update of the Report, signed and delivered by the Team.

Additional information that becomes available after our survey and submission concerning the Project Site should be provided to the Team so that our conclusions may be revised and modified if necessary, at additional cost. This Report has been prepared in accordance with our Standard Conditions for Engagement, which is an integral part of this Report. This work was completed for the Client, the Team members, and EAL in a Spring 2018 Site investigation time period. Others, including future owners, city officials, etc. with an interest in the Site shall undertake their own work and investigations to determine how or if the site conditions affect them, their plans, costs, etc. None of the Client, team, or EAL warrant or represent the report has found, detected, or reported on all site conditions important to parties using the report or future owners or buyers.

1.4 Special Terms and conditions

The report has been prepared to assist the Client in understanding the Site. The Report can be relied upon by only the client and EAL and its team members. The EAL liability to the user of the Report is limited to the cost of the Report, but in no case shall parties not part of the original work Spring 2018 have any claim, and the report cannot be used by these others. Amendments to any Team limitations as stated herein that may occur after issuance of the Report are considered to be included in this Report. Payment for the Report is made by, and the Team's contract and Report extends to Client and Team only, in accordance with the agreement in place with Client on the date of this Report.

1.5 Data Gaps

Any data gaps identified or not herein, as defined by the EAL Team, may limit or alter the conclusions of this Report once gaps are filled in. Data gaps exist on matters that include building, structure, infrastructure, environmental, hydrogeology, geotechnical, electrical, and other conditions as most of the work was of a cursory and desktop nature.

1.6 Use

Historically the land was divided into a number of lots, each it is thought being used as farmland.

In 2011 Site preparations, including utilities and grading were apparently undertaken in the first phase of the Site development

At the time of the report the Site was vacant land apparently designed to be industrial land.

The Site was accessible during the walkover on March 2, 2018.

The POP is surrounded by industrial uses; Walmart Canada Logistics to the north of the Site, Matrix Logistics and Gensteel Doors northeast. The Olymel Bacon Cornwall Plant was east of the Site.

Further northeast a closed gymnastics club and commercial truck fuel pumps are found south of Highway 401.

Fuel pumping for commercial trucks were found south of the POP along with storage areas for commercial trucks and other industrial buildings and tanks.

The Donihee Drain passes through the Site on the northeast side towards the pond directly east of the Site. To the south, Fly Creek Drain is found near the rail tracks. Both Fly Creek Drain and the Donihee Drain flow southwest towards Grays Creek which flowed into the St Lawrence River (Lake St Francis).

Summerstown Swamp was northwest of the POP.

Eight to ten (8 to 10) ponds or lagoons were on the central portion of the Site, as part of Lot 1, Concession 2, Cornwall in the past, apparently being filled in about mid 2010. EAL have not been able to ascertain the use of the ponds/lagoons, but it may be these were used to for temporary decanting of sewage.

It appears that a fuel oil supplier and possibly sewage removal firm were on the Site (J&G Warden Petroleum) starting in possibly 1987. That firm was on Parcel 4 and 5 we understand but cannot verify herein. The firm may have been the originator of the ponds/lagoons.

EAL also identified several firms on Site including Mansil Company, Shearman Holdings. Elm Hill Company Limited, R Flaro Cartage, but we have not been able to determine their site activities.

1.7 History Ownership

EAL undertook a Site history using a number of sources including review of historical mapping and other sources (including records provided by the client) as available. Historically the Site was surrounded by residential, farms, the Grand Trunk Rail to the south and South Branch Rail to Raisins River to the north.

The Site was farmland in 1862 owned by several persons: Mrs. McMartin, J. Gauthier, W. Mattice, D. Mc Iver Est., J. Bergin and A.G McArthur. A probable orchard was noted on the Site in some historical mapping. EAL found that for much of the time the Sites were farm land. Trans Northern Pipelines were present north of the Site by about 1949. Montreal

Power - Cedar Rapids Manufacturing were present as early as about 1912 providing power. Ontario Hydro was present by about 1956.

Mapping as early as 1909 shows buildings at the Site, though none were present during the Site visit.

At the time of the effective date of the report March 2, 2018, the Site was owned by The Corporation of the City of Cornwall and the Site was vacant, except for part of the stormwater drain connecting to the Donihee Drain to the east.

1.8 Field and Office Work

EAL office work consisted of a review of selected historical documents, aerial photographs, neighbour letters, government requests and other information. A walkover was completed on the land and no environmental samples were taken. Not all information requested was available for review by the time of reporting.

1.9 Opinion

EAL are of the engineering opinion and judgment that the following engineering conclusions or recommendations may be reached for the Site based on the information and observations made during the Phase I ESA:

- Saturated clays and silts in the near surface and an upward gradient in the deep-water table and the near surface aquifer in the clays and silts, together with the hydraulic isolation of the Site by Donihee and Fly Drains, should limit the movement of most contaminants, especially those lighter than water.
- The presence of a former petroleum firm suggests the Site would need a Phase II. While the geotechnical report indicated no issues, one should consider test holes in at least Parcel 4 and 5.
- Records indicate Trans Northern carried out Pipeline repairs at the Site (probable NW Property line). Test holes should be considered near the active line.
- The ponds/lagoons are of unknown use and were filled by others. It is not known how these were filled. One would have to find and then sample the fills by a Phase II. As the fills are unknown tests would need to be conducted for at least heavy metals and VOCs. Allow that about 20 holes would be needed.
- Impacts due to onsite uses are likely small if present. Such matters could include former fuel tanks for homes or farms formerly on or near the Site. One might consider placing 2 test holes near each house or building that can be located from the records to look for evidence of oil tank spills.
- EAL anticipates between 0m and 2m of fill was placed at the Site, and that the fill may be engineered fill in some cases. EAL were not able to obtain information on the fill or its source. One would need to test the fill to determine if there are environmental issues. Metals and hydrocarbons/VOCs would be tested for, 25 test holes to 3m, with 1 or 2 samples per hole would be reasonable start. From that further work could be planned or stopped. A rail line south and north of the Site may have historically resulted in heavy metals, hydrocarbons, or PAHs reaching the Site. Two (2) test holes near the surface would be adequate to start.
- Onsite orchards could impact on the Site but appeared to be for the most part on the downstream portion of the POP.
- Contaminants of Concern (COC) from the uses or could include:
 - Metals (fill, rail, orchard (Arsenic compounds), rail).
 - PAHs (e.g. creosote) (rail) but are expected to be limited if present.
 - Metals VOCs (fill in lagoons or on surface).

- Petroleum Hydrocarbons – from fueling operation, home heating oils.
- Metals, VOCs lagoons.
- EAL recommend that a Phase 2 ESA be completed prior to selling.

2. Introduction

The Phase One Property is shown in Drawings 1 to 47, as well as in Appendix 1 to 10.

a) Phase One Property (POP) Investigation

2.1 Site Description

The overall Site currently consists of vacant land with the Donihee Drain flowing near the northeast corner of the Site. The Site was accessible during the walkover on March 2, 2018.

The Site is open space with about 2 to 3m of fill being present. We understand storm and sewage systems exist at the Site.

The POP neighbours include mostly industrial plants and warehouses consisting of; Walmart Canada Logistics, Gensteel Doors, Matrix Logistics, Olymel Bacon Cornwall Plant, Donihee Drain were all north, west and or east of the POP. A fuel storage tank next and pumps and rail line were south of the Site.

Fly Creek Drain south of the rail line flows into Grays Creek to the east which flows to the south into the St Lawrence River.

2.2 Phase One Property (POP) Identification

The overall project address is 1500 Industrial Park Drive, Cornwall (Drawing 1,2). The downtown City of Cornwall is southwest of the Site.

2.3 Legal Description

The Site is Plan 52R-7356 Dec 22, 2010, Part of Lots 1, 2, A and B, Concession 2, Geographic Township of Cornwall, City of Cornwall, County of Stormont (Drawing 2).

The POP was centered on approximately 18T 523,573m east, 4,988,158m north based on data derived from Google Earth.

The POP was at a surface elevation of approximately 56m above sea level (ASL) based on local topographic mapping (Drawing 3 to 6). For actual topographic elevations, site plans, and legal plans a legal surveyor shall be engaged.

2.4 Owner

The POP was owned by the Corporation of the City of Cornwall.

2.5 Client

The Corporation of the City of Cornwall
360 Pitt Street,
P.O. Box 877
Cornwall, Ontario
K6H 5T9

2.6 Assessor

The geo-environmental engineering consulting firm of:

Egmond Associates Ltd
9601 Winston Churchill Blvd., Brampton, ON, L6X 0A4
Telephone: 416-782-7227
Facsimile: 416-782-7227
Attention: John Van Egmond, P. Eng., P.E., Q.P.

3. Scope

3.1 Introduction

The client engaged EAL to carry out a Phase One Environmental Site Assessment (P1) of the POP identified as 1500 Industrial Park Drive, Cornwall, ON (Drawing 1 to 47). The Site is shown in context in Drawings 1 to 9.

The client authorized the project on March 7, 2018 (Appendix 10). All information reviewed by EAL was up to the date May 8, 2018 as collected.

3.2 Terms of Reference

The terms of reference for determining the scope of work for the project were:

- Carry out a P1 to investigate the potential environmental legacy of the POP according to general procedures set out in the CSA document Z768-01 (updated 2003), Z769-00 and Z773-03 as determined by EAL herein.
- Carry out investigations from sources such as existing historical maps, historical documents and other information in consideration of various protocols, and other sources as could be developed within the investigation time frame.
- Carry out a Site walkover.
- Prepare a P1 report outlining the findings and provide comments based on the findings, as well as using information available to EAL received on or before the completion date of the report.
- The scope of this Phase I Environmental Site Assessment was limited to discussing actual, probable or possible environmental concerns related to the subject Site for real estate purposes. The investigation and report were not intended to be used for the filing of a Record of Site Condition under O. Reg. 153/04 or 511/09.
- All matters not listed in the terms of reference or general conditions were specifically excluded from EAL's responsibilities and reporting.

3.3 Use of the Report

The report is for the use of the client, Corporation of the City of Cornwall and EAL only in accordance with the terms of reference in the Spring of 2018 site evaluation stage. The study was part of the client's work to complete an environmental assessment of the POP for real estate transaction purposes as we understood it. Additional studies may be required as a result of this report to address issues not specifically identified in the terms of reference of the report.

3.4 Applicability

Further as to use, the report may omit or not consider issues which may be important to the reader or deal with issues to the extent sought by the reader. Neither EAL, nor the client warrant or represent that the engineering work, opinion and judgment, as prepared herein, has dealt with all important features including any or all important environmental features. Others with an interest in the Site must undertake their own investigations and studies when considering Site conditions discussed in this report. Neither EAL nor its officers know of any conflicts of interest EAL has, respecting the Site or the owner of the Site.

3.5 Follow Up

The report was prepared on the understanding and assumption that any work recommended or required and any materials found will be completed and dealt with in accordance with any applicable law.

3.6 Limitations

The report was completed for the sole use of EAL and the client as per the terms of reference and scope of work. Others with an interest in the Site must decide on the Site conditions and conduct their own investigation to determine how or if the Site affects them.

3.7 Phase I ESA Format

The P1 Environmental Site Assessment (ESA), as prepared herein, for those portions completed for the project followed the requirements Regulation 153/04 and of the Canadian Standards Association (CSA) Z768-01, adjusted at the sole discretion of EAL based on the findings, budgetary and reporting requirements expressed by the client as reflected herein and the scope of work.

4. Methods and Agency Requests

4.1 General

This P1 investigation has followed the general procedures set out in the CSA document Z768-01 and MOE 153/04 – 511.

4.1.1 Phase I Study Area

EAL have considered the Site and its environs to determine the extent of the study area. While the data are set out further in the report the Phase I Study Area (POSA) used a radius of 250m. The Site is shown in Drawings 1 to 47.

4.1.2 First Development - Historical Time Period for Environmental Legacy

EAL have considered the history of the POP Study area.

The records reviewed showed the lands were divided into 100-acre parcels in the era between about 1780 to 1810. The lands were occupied by settlers as early as about 1800.

Records (Drawing 37 for example) show farms on Site in 1862. The owners shown include Mrs McMartin, J. Gauthier, W. Mattice, D. Mc Iver Est., J. Bergin and A.G McArthur. In 1862, the neighbouring sites were farms possibly with orchards and the railroad. Cornwall downtown was to the southwest of the Site.

By 1879 Ives, Mattice, Gauthier, McMartin and McDonald were at the Site, with buildings shown on all but one of the lots. These appeared to be farms.

Ownership at the time of the report was by The Corporation of the City of Cornwall.

Surrounding uses in recent years were mostly commercial and industrial lands including rail lands.

4.1.3 Fire Insurance Plans

Limited Fire insurance plans found show the Site was outside of the City, which is southwest from the POP. This suggests to EAL low probability industrialization at the POP.

4.1.4 Chain of Title

EAL have considered the history of the POP (Drawing 1,2) study area. EAL acquired a title search (Appendix 2) for Concession 2, Lot 1, 2, A and B.

A county map from 1862 shows the area was rural and the property was most likely farmland with an Orchard on the south eastern portion of the POP. It appears to EAL that the various owners in the chains of title for the Site are mainly farmers till the modern era.

Of particular interest to EAL for this Phase I, was Parcel 5 of the modern Site configuration, which had about 10 ponds/lagoons in the 1980's. Parcel 5 was part of the west ½ of Concession 2, Lot 1. A record for Parcel 5 is in Table 4-3. Most of the records show the historical uses for the POP as likely to have been farmland (no dumps, factories, gravel pits were identified).

J&G Petroleum appear in the Chain of Title for Parcel 4 and 5. J&G may also have carried out sewage disposal.

The electric power firms appear in the chain of title by 1912 under Cedar Rapids Manufacturing and by 1956 as Ontario Hydro.

Trans Northern Pipelines appears in the chain of title by 1949. It appears that Parcel 5 may have been part of a fuel site in the past.

EAL also identified (Appendix 1) several firms on Site including Mansil Company, Shearman Holdings. Elm Hill Company Limited, R Flaro Cartage, but we have not been able to determine their site activities.

Table 4-3 Title Search Owner Results (Parcel 5 in detail)		
Date of Transfer	Owner	Comments
1787	Anderson	Settler
1848 to 1862 County Atlas	Matrice (P5) Wood McEwen Mcdonald Martin	Farms
1876	MacDonald	Farm
1879s County Atlas	Mrs McMartin J. Gauthier (Parcel 5,1883) W. Mattice, D. Mc Iver., J. Bergin A.G McArthur. N/A	Farms
1883	Kettle, Chisholm	Farm, to sell timber. Tree clearing
1885- Pioneer Settler, Ontario Genealogy Researchs	Wm Kettle (Lot 1, ConII) D. McCrackent (Lot 1, Con II) A McDermid (Lot 2, Con II) No other listing	Farm
1904	Kettle Family Members	Farm
1912	Lefebre and Cedar Rapids Manufacturing	Farm – Electrical Power Transmission to present
1919	George William McIntosh	Farm
1943	Frederick Basil Kerr	Farm
1946	Joseph Albert Cadieux	Farm
1953	Joseph A. Villeneuve	Farm
1957	Shear	Farm
1957	Shearman Holdings	Investment, no detail
1987	J&G Petroleum	Fuel, Septics currently on Boundary Road?
1990	M Villeneuve, Joseph Villeneuve, Gail Dugas, Shirley Lapensee, Dinah Nelson & Linda Tranchemontagne	Boundary Properties?
2003	The Corporation of the City of Cornwall	Vacant Land

4.1.5 Directory Search

A Directory Search was conducted (Appendix 3). A search of the surrounding sites reveals commercial and industrial uses but the search did not provide detail with respect to the pond owner of Parcel 5. Instead EAL also conducted an internet search. Then internet search (Table 4-2) shows various types of industries near the Site.

The directory indicates that south of the Site trucking operations, small engine repairs, and a chemical facility once existed.

Based on the directory and internet search there were rural residential/farms till the time of the present subdivision.

Since about the late 1980s' development has occurred with in particular manufacturing and logistics being close to the Site.

It may be that a petroleum supplier was on Parcel 5 and the Site.

Source	Comment	Year
4.1.6.1 Tenth Street search	Vir Chem of Canada Limited (pesticides), B&D Engines (fuel, repair, marine), SL Structures (roof trusses) Possibly J&G Petroleum	Vir Chem 1984, 1988 J&G 1987
Boundary Road	Commercial Truck Repair	
Virginia Drive	-	
4.1.6.1 Industrial Park Drive	Walmart – distribution centre Matris Logistics – Walmart Olymel Bacon Gensteel Doors	

4.1.6 Environmental Reports by Others

No previous environmental reports were found, received or reviewed.

A draft geotechnical report (2010), construction report (storm and sanitary completion Plan) and plumbing permits for the Site (about 2011) obtained from the City of Cornwall can be found in Appendix 5.

4.1.6.1.1 Geotechnical

The 2006 draft geotechnical report by others finds:

- Ponds or lagoons that were backfilled between July of 2010 and September 2010,
- Silty soft clays at the Site,
- A high groundwater table,
- Fill stockpiles (250m by 25m), and
- Soil improvement or other methods are needed to build to overcome the soft soils issues.

The report considers surcharging the Site (that is placing temporary fill) to cause the soft soils to settle and gain strength. The fill EAL observed on Site may be in part such a surcharge, though we have no record of this case. Neither do we have a record of the nature of the fill in the ponds.

But the report makes no mention of environmental issues associated with the fill, backfilled lagoons, or water. EAL have received nor located any other information on the environmental nature of the fills.

The high groundwater table may be indicative of upward gradients in the subsurface, which would tend to prevent the downward movement of contaminants (LNAPLs such as petroleum products).

4.1.6.1.2 Plumbing – Storm / Sanitary

The plumbing permits and the completion plans suggest sanitary and storm sewers have been placed on the lands. The storm water system, leads to a storm water management pond. The sediment in the pond is of unknown environmental quality.

4.1.7 Site Use

The overall Site consisted of vacant land with the Donihee Drain flowing near the northeast corner. The Site was accessible during the walkover on March 2, 2018.

The Site appears to be unused, with 2 to 3m of fill and to be grass covered. Storm water management ponds are on the east part of the Site. Storm and sanitary sewers exist.

The POP neighbours include mostly industrial plants and warehouses consisting of; Wal-Mart Canada Logistics, Gensteel Doors, Matrix Logistics, Olymel Bacon Cornwall Plant, and the Donihee Drain bound the Site on the north, west, and east. Fuel storage and pumps and the CN Rail line were found to the south.

Fly Creek Drain was south of the tracks. Fly Creek flows into Grays Creek to the east which flows to the south into the St Lawrence River.

4.2 Environmental Source Information

4.2.1 Site Documents

EAL obtained from a private search firm related to various government and archives related to the environmental legacy at the Site.

EAL further reviewed select historical mapping and aerial photographs.

EAL reviewed select data from the internet on the county and/or local website.

Appendix 1 presents the legal plans, as available to EAL.

The titles search such as completed is in Appendix 2.

The results of searches in town or other directories such as completed are in Appendix 3.

Appendix 5 Lab Results (none conducted for Phase 1).

Appendix 5 is for historical reports, and water well logs.

Appendix 6 provides agency request letters and responses.

A private search is in Appendix 8.

Walkover questionnaire, if mailed, delivered or completed such as received are in Appendix 8.

On-site records, where obtained, are in Appendix 9.

The work authorization is in Appendix 10.

4.2.2 Published Information

Information considered included: aerial photographs (Table 4-3), historical published commercial/government mapping, government responses, results by private search other records (Appendix 6 and 7), and other information as shown below. EAL also considered well reports.

4.2.3 Government/Utility Records

EAL contacted a number of government agencies and utilities (Trans Northern Pipelines) as presented in Appendix 6.

The Ministry of Labour (MOL) records indicate that pipe line repairs were completed by Trans Northern, which line is adjacent to the NW corner of the Site (see Appendix 1, Appendix 6 which show pipeline on NW boundary). The repair record does not indicate if there was a spill making the repair necessary.

Government Records searched to date provided no other records on the Site at the Ministry of Transportation, Ministry of the Environment and Climate Change, Environment Canada, Cornwall Fire Services, Ministry of Natural Resources and Forestry, Raisin Region Conservation Authority, and the Technical Standards and Safety Authority. Further Government records received, if found to affect the opinion or conclusions of this Phase I ESA, will be sent as an addendum.

4.2.4 Private Search

The results of the private search with EcoLog ERIS, includes information on government records and provide internet searches for others (Appendix 7). The records reviewed included the Ontario government records for water well records, fuel tanks, spills reporting and environmental infringements. The search included the Site and adjacent lands to a radius of 250m. Not all databases searched are listed below, but all those searched are presented in Appendix 8. The EcoLog search found three records on the Site of 1500 Industrial Park Drive, Cornwall, for an EcoLog historical search.

Over 170 other records are found for adjacent and nearby properties.

The Ecolog Eris report provided details on surface elevations at nearby sites. All lower surface elevation records were found to the south, east and west. Sites at these lower elevations would likely have had an environmental affect to the POP based on overland flow.

It appears that ground water may flow in to the southwest towards Fly Creek Drain which flows into Grays Creek.

Surrounding Uses

The POP is surrounded by industrial type uses.

Wal-Mart Canada Logistics was to the north of the Site.

Matrix Logistics and Gensteel Doors were northeast of the Site.

Olymel Bacon Cornwall Plant was east of the Site and east of the Donihee Drain.

The Donihee Drain was to the east of the Site.

Fuel pumps for commercial trucks are found south of the POP along with storage areas for commercial trucks and other industrial buildings and tanks.

A national petroleum product pipeline is on or near the northwest property line. When working within 30m of the line one must notify the pipeline company. The pipeline is with the hydraulically isolated areas bounded by the Donihee Drain and Fly Creek, is upgradient of the Site, so that spills from it could reach the Site.

Further northeast of the Site an old closed gymnastics club was found and commercial truck fuel pumps south of Highway 401.

Summerstown Swamp was found northwest of the POP.

Fly Creek Drain was found south of the rail lands.

Both Fly Creek Drain and the Donihee Drain flow southwest towards Gray's Creek. Gray's Creek flows into the St Lawrence River.

Coal Gasification Wastes

EAL reviewed the applicable document sites kept by the government. The Site and surrounding sites were not listed in the 1991 Inventory of Waste or Disposal sites.

Coal Tar Wastes

The EAL review included the applicable document sites kept by the government as listed in the 1991 Inventory of Waste or Disposal Sites. The Site and adjacent sites were not listed.

4.2.5 Privately Sourced Records

It is possible the private search did not find all records or any record for specific features.

EAL reviewed well records (Appendix 7) and Ecolog records (Appendix 7) related to the Site. One well was noted on the POP for use with livestock in 1967 and bedrock/limestone found around 18m depth (within the EcoLog ERIS search), and 4 were within 250 meters of the POP. The soil profile in the wells was found to consist of clays, hardpan and limestone at shallow depths. It is not likely potable wells remain on the Site given the extensive site reworking. EAL found no record of the wells being decommissioned.

National PCB Inventory

The commercial search found no PCB records for the Site or surrounding lands within 250m of the Site.

Fuel Storage Tanks on Site

The TSSA Fuels Safety Division did not register any private underground or aboveground fuel tanks prior to January 1990 or furnace oil tanks prior to May 1, 2002. The Fuels Safety Division did not register waste oil tanks in apartments, office buildings, residences, etc. or above ground gas or diesel tanks.

The commercial search found no evidence of fuel tanks on the Site, but 3 fuel storage tanks and 9 expired TSSA facilities to the south. TSSA records were searched and no records found on Site. The absence of records does not mean tanks did not historically exist on the Site.

Private Fuel Storage Tanks

The commercial search found no private fuel storage tank records for the Site.

Waste Generators

No waste generators were found on the POP and 60 were found close to the POP. The waste generators that were at higher elevation to the northwest, could have potential environmental impacts on the Site. For example, issues from 1501 Industrial Park Drive, Cornwall, could reach the Site as the water would flow towards the POP towards the storm system and from there to the storm water management pond.

All the other waste generators identified in the search were at lower elevations and found on the southern side of the Site and should not create an environmental legacy at the POP, as the surface and groundwater would not reach the POP, rather the surface waters should drain to Fly Creek that flows into the St Lawrence River.

Ontario Spills

The commercial search found no spills recorded at the Site, but 4 within 250m of the POP; most are either south of the POP flowing into the St. Lawrence River or northwest of the POP and flowing to Fly Creek Drain, so there should be no environmental issues at the POP from these spills.

Waste Disposal Sites

The ERIS report did not identify any waste disposal sites.

Scott's Manufacturing Directory

The Scott's manufacturing Directory record found no records directly on the POP and 23 were found within 250m of the POP, but at lower elevation.

Environmental Registry (EBR)

The commercial search found no records for the Site, but eight nearby the POP, mostly at lower elevations down gradient from our POP and the one at higher elevation to the north was a release of air and would not affect our Site.

The commercial search found no records for the POP, but 17 sites had C of A's but were at lower elevations or down gradient of the POP and should not affect the POP.

National Pollutant Release Registry (NPRI)

The commercial search found no records on the POP, but 21 NPRI within 250 meters of the Site, all down gradient and at a lower elevation of the POP so that the POP should not be impacted.

Pesticide Registry (PES)

The commercial search found no records for the Site and one record northwest of the POP that may affect the Site, but the records do not state what type of pesticide or the amounts and the release methods. EAL note that the directory search show VIR Chemicals, found in other records, was near but south of the Site and that they did amk/handle pesticides.

4.3 Physical Setting Sources

4.3.1 Aerial Photos

EAL reviewed aerial photographs and historical birds eye photographs for the POSA as shown in Drawings 10 to 21 and in Table 4-3. The aerial photos show structures at the Site as early as 1957. EAL obtained or held all photos listed.

Table 4-3 Aerial Photographs			
Date	ID and Drawing ID	Comment	Environmental concern
1924	City of Cornwall.	Site consists of farmland no apparent activity. Farmland to the east, south and west. St. Lawrence River to the south.	Possible agricultural.
1954	UofT Aerials	Farmland, Buildings cut line visible. Donihee Drain not constructed.	Possible agricultural
1957	National Air Photo Library 1091-312-15.	Farmland on Site. Rail to the south and drawing tributary that flows through the eastern portion of the Site. Donihee Drain constructed and forms a hydraulic barrier against LNAPL impacts from the north and east	Possible agricultural.
1986	National Air Photo Library 86109-63.	Similar to 1957. New ponds/lagoons through the west portion of the Site at Parcel 5 and a possible orchard on the southeast portion of the Site.	Possible agricultural.
2006	Google Earth.	Ponds from 1986 removed. Tributary or drain through Site still apparent, two or three farm houses on Site. CN rail to the south, orchard is gone. Fly Creek Drain to the south of the CN tracks. New industrial and commercial developments surrounding the Site.	Possible agricultural, commercial and industrial.
2007	Google Earth.	Similar to 2006.	Possible agricultural, commercial and industrial.
2008	Google Earth.	Similar to 2007.	Possible agricultural, commercial and industrial.
2009	Google Earth.	Similar to 2008, outline of drain is starting to be visible.	Possible agricultural, commercial and industrial
2013	Google Earth	Site to the northwest adjacent to the POP, developed as a Wal-Mart Warehouse and POP has all houses removed and a drain to the east; one on Site and one directly east of the Site (Donihee). The POP is in Phase 1 for construction, fill may have been placed on Site. Petro Pass Truck Stop is to the northeast and a commercial truck repair is also to the northeast of the POP. Gymnastics club to the east	Possible commercial/industrial
2014	Google Earth	Similar to 2013.	Possible commercial/industrial
2018	Google Earth	Similar to 2014, but construction area looks grown over on POP.	Possible commercial/industrial

4.3.2 Topography, Hydrology, Geology

The Site topographic and historical setting is further explored in Drawings 3 to 8. The Site surface was investigated by a walkover and by reviewing of historical topographic mapping. Further historical topographic details can be inferred from other mapping such as geological mapping.

All years reviewed on the NTS topographic maps revealed buildings at the POP, likely a number of farm buildings which seemed to be “continuous” from at least 1909 to 1973 (Drawing 4 to 6) and possibly earlier (Drawing 30)

Site Topography

The parent parcel Site is sloping down towards the south portion of the POP, slightly undulating in some areas. The Site is covered by fill grass, field shrubs and some gravel.

The Site and surrounding lands are relatively sloped towards Fly Creek Drainage. Fly Creek originates north and west of the POP.

The eastern part of the site drains to Donihee Drainage.

The Site is northwest of Grays Creek. Both Fly Creek and the Donihee Drain discharge to it.

The drainage by the Donihee Drain and Fly Creek channels while remaining relatively stable was improved between 1937 and 1973 and again with urbanization (Drawing 3).

Note that Fly Creek and Donihee Drain, together with the wetlands, form a nearly continuous hydraulic barrier zone to water movement on the surface in the subsurface from reaching the Site from the north, south, east and west. Most of surface and groundwater from the two creeks, likely eventually reaches the St. Lawrence River. Only sites within the hydraulic barrier of the creeks could “easily” reach the Site.

4.3.3 Geological Conditions

The geological conditions at the Site were investigated using local records and government mapping (Drawings 22 to 28).

Bedrock

The bedrock near the Site slopes south towards the St. Lawrence River. The Ottawa and Simcoe Group or Shadow Lake Formation of limestone, shale, arkose, sandstone and dolostone, is anticipated. Water supplies historically were from a potable water wells found on the POP.

Native Surficial Soils

Based on the findings of various geological maps (See Drawing 22 to 28) and resources reviewed, native surficial soils are expected to consist of glaciomarine and marine deposits, silt and clay and quiet water deposits. Sandy loam shows for imperfect drainage with outwash over lacustrine deposits. These soils were reflected in a geotechnical report (Appendix 5) prepared by others as discussed above. The soils do not appear to have pH values (7.9 to 8.6), based on the report which would cause the Site to be a sensitive site.

Such soils are not suitable for drainage and are more of a barrier to contaminants when compared to sands.

Features such as manmade trenches for utilities and wells could provide pathways for contaminates. At depth saturated tills are expected and may act as a hydraulic barrier to movement of contaminants.

History

The geological mapping did not provide further information on site uses, though we note no quarries are indicated.

4.3.4 Groundwater

Well Records

Well records, as held in MOECC archives, reviewed do not show any current wells on Site. One well was found in the records which was likely on Site historically for potable use on a farm (Drawing 27 – Well 5800030 clays to 1.5m, hardpan overburden to 18m underlain by limestone). Various wells near the Site report conditions that are different from soft clays to hard tills. The soft clays may represent local depressional impacts. The clays and till should resist movement of contaminants. Other wells likely existed for former farm use but their locations are unknown to the MOECC well records and in the records reviewed and may be north of the Site as most farm buildings were north of the Site.

There appears to be a bedrock aquifer at over 20m depth with an upward gradient on it. The upward gradient should resist downward movement of many contaminants.

The geotechnical report indicates a high groundwater table and that dewatering could be complicated.

4.3.5 Water Body

The Site is currently to the northeast of the St. Lawrence River, the Donihee Drain is directly east of the Site, but extends north and west of the Site. The Fly Creek Drain to the south originates north and west of the Site in wetlands. The Donihee Drain and Fly Creek Drain may be considered with 30m of the Site.

Deeper groundwater flow in the area is most likely to the south into the St Lawrence capture zone, while shallow groundwater maybe to the southwest towards Fly Creek Drain or south east towards the Donihee Drain and then to Grays Creek. Actual groundwater flow direction cannot be predicted without further investigation, which is outside the scope of work. The groundwater flow would tend to keep southern and western waters from the Site.

4.3.6 Municipal Potable Water Use

The Site is in the industrial area. EAL consider the Site should use a non-potable water condition unless further studies are completed indicating on site water well use will be the norm (unlikely).

4.3.7 Water and Site Sensitivity

The Site should be deemed a “sensitive site” in accordance with Regulation 153/04 in regards to nearness to an open water body as it does include a body of water that runs into the Donihee Drain directly through the eastern portion of the Site, which drains into the Donihee Drain. There are also storm water ponds on Site.

4.3.8 pH and Bedrock Depth

Anticipated bedrock depths and pH values are outside the range to trigger a sensitive site.

4.3.9 Commercial Mapping

Commercial maps were reviewed selectively (Drawings 29 to 36). The earliest mappings include county atlas data (1862 and 1879) which show lots and owners. These maps suggest farm uses.

Fire insurance mapping (Drawing 31) shows the Site is not part of the fire insurance mapping, suggesting to EAL the Site was not industrialized or important.

Drawing 32 shows the drains were different than later. It appears the map used outdated information. It also appears that houses may be north of the POP.

Drawing 33 and 34 show the Site in 1984 and 2015 respectively, indicating Industrial Park Drive was built in that time period.

4.4 Site Operations Records

Site plans and utility plans have been placed in Appendix 1 and Drawings 2 and 9. If other such records are found they will be placed in Appendix 1.

4.4.1 Areas of Natural Significance

EAL searched the Local Conservation Authority maps that were available via the internet. No natural features, Ravine & Natural Feature Protection By-law or Archaeological Potential areas were shown on the Site (Drawing 7). The Site is in Ecoregion 6E. A woodland area was found on the Site in between the east and western portions. A wetland to the northeast of

the POP, also known as Summerstown Swamp. Note that the ponds shown in Drawing 7 were not present in earlier mapping and aerial photos, suggesting the data set used was older.

4.4.2 Legacy Chemicals

Based on information uncovered above, legacy chemicals are possible on the Site from adjacent/nearby lands. EAL expect possible Pesticides from orchards, hydrocarbons from roads or the nearby pipeline, hydrocarbons from an on-site fueling use, hydrocarbons, heavy metals or other contaminants in sewage sludges possibly placed into the former lagoons of Parcel 5, heavy metals and PAH's from the CN rail and heavy metals from neighbouring industries could have reached the Site.

4.4.3 First Nations

EAL found no First Nations tribes or reservations or treaties within the POP according to Drawings 35- 36. The closest to the POP was the Mohawks of Akwesasne to the south of the POP.

5. Interviews

EAL conducted interviews of the neighbouring Sites through phone calls and mailed letters where found and willing. If letters are returned they will be added as an addendum to this report.

Letters were mailed to; 1670 Tenth Street East, 1660 Tenth Street East, 1648 Tenth Street East, 1440 Tenth Street East, 1400 Tenth Street East, 1499 Industrial Park Drive, 2121 Industrial Park Drive and 2330 Industrial Park Drive. Most were returned with no one at the address. Several letters sent were to unresponsive or unreachable addresses. These are included in Appendix 8. No responsive letters were received.

EAL spoke with Dick Budge, from Olymel Cornwall Bacon Plant on March 22, 2018 over the phone regarding his late MOECC representative that dealt with all his environmental work with his building; Lisa Thomers. He sent her direct line 613-933-7403, though we have already sent a Freedom of Information request to the MOECC. Dick mentioned his company deals with food processing a lot and uses Ammonia for many processes within his factory. His Site is located east from the POP and should not affect the environment of the POP as the Site is at a lower elevation and would drain into the Donihee Drain before the POP or into Grays Creek directly.

Given the former farm lot configuration was largely eliminated from the Site and given the recent development of the area, EAL would be surprised if those contacted had information of environmental issues, of course such information could come forward or be found with additional study.

6. Site Visit

a) General Requirements

- i. The Site walkover was completed on March 2 and April 22, 2018.
- ii. The weather was cloudy with snow and a temperature of about -6°C . The property was vacant with field shrubs.
- iii. EAL spent about 4 hours in site reconnaissance and on-site record review.
- iv. There were no buildings on Site.
- v. Nicole Millette, C.Chem, carried out the Site walkover and reconnaissance.
- vi. Photographs taken during the Site walkover are in Drawings 37-47.

b) Specific Observations at POP

6.1 Site Walkover

6.1.1 Walkover or Site Impediments

EAL were able to access the whole POP. The land was vacant. Portions of the Site were soft or under water.

6.1.2 Denial of Access

EAL were not denied access which would prevent a proper Phase One Investigation from being completed.

6.2 Walkover Findings

6.2.1 Exterior

- i. **Underground Structures**
No ASTs or USTs were found or evidence of them. A piece of large pipe was found on the Site and may relate to a petroleum pipeline repair reported north of the Site.
- ii. **Sewage Works**
No buildings were on the Site. Plumbing permits were done for Phase I Construction in 2011 to allow for municipal sewage works to be installed and connected to municipal systems. Evidences of such construction included the presence of access holes, drains and ditches, and stormwater management facilities.
- iii. **Tanks**
EAL found no evidence for ASTs or USTs.
- iv. **Potable/ Non-Potable Water /Wells**
EAL found evidence of a past water well on the POP. Other records noted surrounding sites within 250 meters have a few wells. The Site seems to be a non-potable water condition for RSC purposes in EAL's opinion.
- v. **Exterior - Ground Cover**
Grass, shrubs and gravel.
- vi. **Surface Stains**
No surface stains were noted.
- vii. **Distressed Vegetation**
EAL did not note any distressed vegetation during the walkover. The surface was snow covered in March and vegetation was not yet greened in April.
- viii. **Tanks**
 - a. **Above Ground Storage Tanks (AST)**
No ASTs were found on the POP.
 - b. **Under Ground Storage Tanks (UST)**
No USTs were found on the POP.
- ix. **Water, Storm Water, Waste Water**
No water was used on Site during the visit. No waste water was generated (no structures). Storm water is likely overland to adjacent ditches and drains.
- x. **Fill**
EAL expects 2m to 4m of unknown fill on parts of the POP.
- xi. **Wastes and Disposal**
Solid waste would likely be removed by the municipality. The Site does not appear to be a solid waste facility.
- xii. **Barrels/Wastes**
No barrels were noted on Site. Scraps around the Site of dumped garbage and a large pipe were noted.
- xiii. **PCBs and Transformers**
No transformers on Site.

xiv. Railways

No railways were noted on Site, but a CN railway directly south of the Site.

xv. Ponds

There were pond/lagoons on Site in 1986. A geotechnical report indicates these were filled. There was a sediment pond close to the Donihee Drain on the eastern portion of the Site and in Drawing 9 a water course and storm sewers lead directly to Donihee Drain. Tributaries to the south of the Site flow to Grays Creek into the St. Lawrence River. EAL did not witness the former ponds or structures on the Site.

xvi. Fires

No evidence of fires was noted on Site.

6.2.2 Interior

xvii. Interior - Structures

N/A.

6.2.3 Building Construction

N/A.

6.2.4 Parking

N/A.

6.2.5 Facility Services

N/A.

6.2.6 Above Ground Storage Tanks (AST)

No ASTs were noted.

6.2.7 Under Ground Storage Tanks (UST)

No USTs were noted.

6.2.8 Basements

N/A.

6.2.9 Laundry Facilities

N/A.

6.2.10 Asbestos

N/A.

6.2.11 PCBs and Transformers

N/A.

6.2.12 Lead Paint

N/A.

6.2.13 Urea-Formaldehyde Foam Insulation (UFFI)

N/A.

6.2.14 Heating

N/A.

6.2.15 On-Site Record Review

N/A.

6.2.16 Adjacent Properties

A cursory visual review of the outside of the adjacent buildings, from the Site and public vantages was undertaken as part of the walkover.

More industrial land is to the west, south, and north. Large fuel tanks on surrounding sites to the east used to fill commercial trucks. Donihee Drain is directly adjacent to the east. The Fly Drain is south of the Site and seems connected to some Site or near site drainage under the rail.

7. Conclusion

7.1 Phase I ESA

EAL found information on the Site during the historical review and the Site walkover that was provided by the client. Information from private reports not received as of the reporting date will be reviewed and Addenda forwarded to the client as they are received, if relevant. This study is limited to the terms of reference noted in Section 3.

7.2 Natural Setting

Soils at the Site are likely Glaciomarine and marine deposits, which are generally; silts and clays. Nearby was till underlain, probable limestone type bedrock. The surface soils appear to be saturated clays.

The POP and a few neighbours, seem hydraulically isolated from in surroundings by the Donihee and Fly Drains. An upward gradient in the limestone may further hydraulically isolate the Site.

Low lands are near the Site.

7.3 Historical Uses

The Site visit and information reviewed to date provided an insight into the environmental history of the Site. The Site was likely farmland/residential prior to 2000 EAL found evidence of a petroleum and sewage firm on Site as well as other business.

Nearby sites include a former pesticide facility, a logistics center, a door maker, a truck repairs center, fueling sites, a possible marine shop, and food processing. It is not clear if the old homes used gas or oil for heating.

Walkover

The Site walkover revealed a vacant Site within an industrial area, with environmental concerns from the fill placed on the Site. Environmental concerns from surrounding uses of the POP were noted from the rail, industrial plants and buildings and roads and commercial tank fill up stations.

7.4 Findings

Farms and homes have been on the Site since 1860's or earlier. The more recent houses were built between 1927 and 1956 and these remained until about 2013.

Initial construction phases for a warehouse were underway in 2011 but were not completed.

The Site has contained storm water ponds in the past and currently has a sediment pond on the eastern portion of the Site.

The Donihee Drain is to the east of the Site and a water tributary flows through the eastern portion of the Site into the drain. The Fly drain is south of the Site. The Donihee and Fly Drains hydraulically isolate the Site to a significant extent against contaminants from the north, south, east and west. A probable confined aquifer at depth likely isolates the Site vertically from being prone to many contaminants that move.

There are large amounts of fill from the construction, which would be most of the environmental concerns.

Surrounding sites consist of the CN rail, Wal-Mart Canada Logistics and food processing plants and other industrial plants, all at higher elevation to the north or to the east or south at lower elevations. These may minorly affect the Site and could cause hydrocarbons, VOC's, heavy metals as probably contaminants.

On Site there may have been a petroleum and sewage operator, who may have built the lagoons on Parcel 5.

A recent petroleum pipeline repair occurred at the Site (EAL expect adjacent to the Site) based on records from the MOL. A petroleum pipeline carries hydrocarbons and has done so for over 50 years.

Further testing is advised. Heavy metals would be expected the nearby rail and old orchards (mainly possibly old arsenic-based pesticides).

The most probable contaminants in our view based on the findings are hydrocarbons a, VOC's, heavy metals and PAHs.

7.5 Engineer's Opinion and Judgment

EAL are of the engineering opinion and judgment that the following engineering conclusions or recommendations may be reached for the Site based on the information and observations made during the Phase I ESA:

- Saturated clays and silts in the near surface and an upward gradient in the deep-water table and the near surface aquifer in the clays and silts, together with the hydraulic isolation of the Site by Donihee and Fly Drains, should limit the movement of most contaminants, especially those lighter than water.
- The presence of a former petroleum firm suggests the Site would need a Phase II. While the geotechnical report indicated no issues, one should consider test holes in at least Parcel 4 and 5.
- Records indicate Trans Northern carried out Pipeline repairs at the Site (probable NW Property line). Test holes should be considered near the line.
- The ponds/lagoons are of unknown use and were filled by others. It is not known how these were filled. One would have to find and then sample the fills by a Phase II. As the fills are unknown tests would need to be conducted for at least heavy metals and VOCs. Allow that about 20 holes would be needed.
- Impacts due to onsite uses are likely small if present. Such matters could include former fuel tanks for homes or farms formerly on or near the Site. One might consider placing 2 test holes near each house or building that can be located from the records to look for evidence of oil tank spills.
- EAL anticipates between 0m and 2m of fill was placed at the Site, and that the fill may be engineered fill in some cases. EAL were not able to obtain information on the fill or its source. One would need to test the fill to determine if there are environmental issues. Metals and hydrocarbons/VOCs would be tested for, 25 test holes to 3m, with 1 or 2 samples per hole would be reasonable start. From that further work could be planned or stopped. A rail line south and north of the Site may have historically resulted in heavy metals, hydrocarbons, or PAHs reaching the Site. Two (2) test holes near the surface would be adequate to start.
- Onsite orchards could impact on the Site but appeared to be for the most part on the downstream portion of the POP.
- Contaminants of Concern (COC) from the uses or could include:
 - Metals (fill, rail, orchard (Arsenic compounds), rail).
 - PAHs (e.g. creosote) (rail) but are expected to be limited if present.
 - Metals VOCs (fill in lagoons or on surface).
 - Petroleum Hydrocarbons – from fueling operation, home heating oil's.
 - Metals, VOCs lagoons.
- EAL recommend that a Phase 2 ESA be completed prior to selling.

7.6 History of EAL and its Qualifications

EAL is an engineering firm operating in Canada and the United States of America. Through its ownership since 1987 EAL have completed over 2000 projects in real estate and mortgage type environmental issues, contaminants, soils, rock, concrete, and groundwater.

7.7 Associates of EAL

EAL Principal is John Van Egmond, P. Eng. who has over 35 years of engineering and contaminated sites experience.

Nicole Millette, Chartered Chemist has over 8 years of environmental experience.

8. References

EAL used or considered selected portions and selected years of the documents, maps, records, etc. set out above and also the following materials respecting the work reported herein (see Tables for details):

1. CSA Environmental Site Assessment, Z768-94, Canadian Standards Association Generally Accepted Standards for Environmental Investigations, Consulting Engineers of Ontario, 2003
2. Ontario Regulation 153/04, 511/09
3. Selected Topographical Maps, Ministry of Natural Resources and EMR
4. Selected geological and soils maps, federal and provincial
5. Selected Aerial Photographs from Google, NAPL
6. Quaternary Geology of Ontario
7. Chapman, Physiography of Southern Ontario
8. Geological Map of Southern Ontario
9. Commercial Maps
10. Guideline for Use at Contaminated Sites in Ontario, (as of April 2011), MOE
11. Various directories and Local Site Histories
12. Owner information and photographs
13. Web sourced information

9. Closure and Limitations

9.1 Contract

The client authorized EAL to carry out the work set out in the report in accordance with the scope of work as set out herein.

9.2 CSA Z768

EAL are of the opinion the investigation and report above meet the general requirements for Phase I ESAs. As additional information becomes available the information, and if relevant will be forwarded to the client in the form of an addendum(s). EAL do not represent this report meets any standard, however, EAL consider the report suitable to the scope of work and intent of the client.

9.3 Limitations

The present work is for the sole use of EAL, and the client in the Spring 2018 Site evaluation. Others with an interest in the Site such as contractors, purchasers, etc., must undertake their own investigations respecting the Site, and are advised that the work is to the terms of reference only. Neither EAL nor the client warrant or represent the report has found, detected or reported on all Site conditions or Site environmental conditions. All documents cited, photos other than taken by EAL, drawings reviewed and reproduced are provided at no mark up cost beyond 5% to cover insurances and are provided at original cost only. Copyright belongs to the original source. Refer and obtain to original documents at libraries, publishers, etc. for use of these materials, as the present work using the materials for ease of reference using artistic standards in not intended to negate any commercial use or value of the works by others.

9.4 Statement of Qualified Person

This is not applicable for this study.

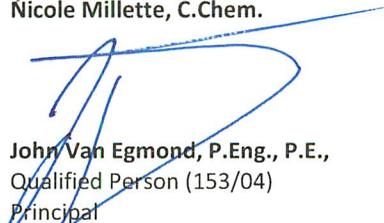
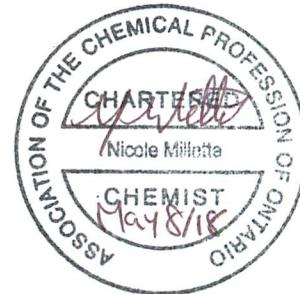
9.5 Thanks

The client is thanked for retaining EAL for the present project. Please call us if you have questions regarding the report.

Egmond Associates Ltd
Environmental & Geotechnical Engineers



Nicole Millette, C.Chem.



John Van Egmond, P.Eng., P.E.,
Qualified Person (153/04)
Principal



Egmond Associates Ltd – Terms of Engagement

GENERAL

Egmond Associates Ltd (EAL or The Consultant herein and may include subcontractors) shall render the Services, as specified in the attached Scope of Services or set out in the final report to the Client, and agreed by the Client for project in accordance with the following terms of engagement. If required, in EAL's opinion, to respond to a subpoena, EAL, its staff, etc. will be paid at their normal charge out rates by the Client. The Client will pay for the amounts invoiced by the consultant on receipt of the invoice.

COMPENSATION

Charges for the service(s) rendered will be made in accordance with the Consultant's Schedule of Fees and Disbursements as the services are rendered. Consultant's current schedule of fees is as published to Clients periodically and available on request or as attached hereto. All Charges will be payable in Canadian Dollars unless specified. Invoices will be due and payable on receipt from the date of the invoice without holdback. Interest on overdue accounts is prime plus 10%, collection fees being extra and payable on collection (where allowed). If the account is not paid the reports may not be used or released, and if released all liabilities are the sole responsibility of the Client and the reader and user of the report and he/she/they shall bear all liability and shall save and hold harmless EAL, its staff, shareholders, suppliers, etc. against any and all costs, claims, etc. EAL's limitations shall apply.

REPRESENTATIVES

Each party shall designate a representative who is able to act on behalf of that party and receive notices under this Agreement (default President, if individual then individual).

TERMINATION

Either party may terminate the contract without cause upon thirty (30) days' notice in writing, the engagement terminating by default after 180 days following the final report, unless extended by ongoing work (storing of samples extends lien rights). Payment is due for all costs and expenses to the consultant immediately upon termination. If either party breaches this contract, the non defaulting party, may terminate the agreement after giving seven (7) days' notice (email, writing, verbal) to remedy or begin remediation of the breach. Payment is due for all costs and expenses to the consultant immediately on termination of the contract if the consultant elects to exercise termination under this paragraph.

COOPERATION

The consultant's field, laboratory and other work and engineering do not include herein a duty or duty of care to deal with issues other than those set out in the terms of engagement, or as stated in the final report submitted by the Consultant. The Consultant will co-operate, as the Consultant deems appropriate, with the Client's other team members as applicable during portion of work which coincide.

LIMITATION OF LIABILITY

The consultant shall not be responsible for the costs, consequences, etc. of:

- (1) the failure of others, retained by the Client, to perform work to the satisfaction of the Client;
- (2) the design, use or defects of reports, equipment, etc. supplied by the Client;
- (3) interactions of other systems, damage to other systems resulting from investigations;
- (4) damages to utilities, which were identified and located, or which were not identified by the Client;
- (5) any decisions made by the Client (if for example made contrary to the Consultant's advice);
- (6) any consequential loss, injury, or damages suffered by the Client, including but not limited to loss of use, earnings and or business interruption.
- (7) the unauthorized distribution of any confidential document or report prepared by or on behalf of the Consultant for the exclusive use of the Consultant and the Client.
- (8) the EAL limitations, general soils terms, and report further set out in the limitations. The total amount of all claims the Client may have against the Consultant or any present or former partner, executive, shareholder, employee, or employee thereof under this engagement, including, but not limited to claims for

negligence, negligent misrepresentation and breach of contract, shall be strictly limited to half the amount of any professional or other liability insurance the Consultant may have available for such claims. If the client has not paid its bills in full the limitation shall be the unpaid amount only as at the date of the last invoice. The Client agrees its claims can only be against the Consultant under this contract, and not against the employees, shareholders, executives, etc. No claim may be brought against the Consultant in contract or tort by the Client or those who rely on the report more than (2) years after the services were completed or terminated under this engagement. Those who may not rely on the report have no rights in contract or under tort.

DOCUMENTS

All of the documents prepared by the Consultant or on behalf of the Consultant in connection with the Project are instruments of service for the execution of the Project. The Consultant retains the property and copyright in these documents, whether the Client advances to further projects on the matter of the engineering or not. These documents are not for use on other projects or in ways contrary to the report.

FIELD SERVICES DURING CONSTRUCTION

Where applicable, field services where recommended by the Consultant for the Client's project are the minimum thought necessary by the Consultant, whether the Consultant is retained or not. If not retained, EAL shall have no liability, and those responsible for engaging and or providing the field services shall be responsible. Where the Consultant's services are limited, the extent of such limitations may be in the report, or as set out in the limitations, or as set out herein, or as set out in subsequent correspondence, but in no event shall EAL be liable for field services beyond the extent retained by the Client nor for any actual or other damages if subsequent work shows the material conditions were not as expected or work was done improperly, and EAL shall not be a proximate cause of failure, if others fail to carry out any portion of their work or responsibilities.

DISPUTE RESOLUTION

If requested in writing by either the Client or the Consultant, the Client and the Consultant shall attempt to resolve any dispute between them arising out of or in connection with these Terms of Engagement or other vehicle for services between the Client and the Consultant, by entering into structured non binding negotiations with a mediating party (Bill Kort of Sopinka and Kort) on a without prejudice basis. The mediating party shall be appointed by agreement of the parties. If the matter cannot be settled within a period of thirty (30) calendar days with the mediator, the dispute shall be finally resolved by arbitration under the rules of Ontario or by an arbitrator appointed by agreement of the parties or by reference to a Judge of the Courts in Mississauga, Ontario, Canada.

SCHEDULE OF FEES (Base year is September 2015, rates will be adjusted based on inflation):

Principals - \$300/hr
Engineers/Technical Consultants - \$180/hr
Junior Engineer - \$120/hr
Scientists - \$180/hr
Technicia Staff - \$95/hr
Others on Payroll x 3

Expenses - over \$10,000 per invoice, payable directly by the Client
Expenses - cost plus 15 % (except as agreed by the Client)
Travel Cost (Portal to Portal) - regular airline or car (0.5 x price of gasoline x kilometres) plus expenses

Court Time Multiply by 4
Minimum Contract \$1000

Rates in Canadian Dollars.
Other rates available as needed upon request.

Initial here

Egmond Associates Ltd – Limitations

This document describes the limitations of the report and contract, which may have impact on the use and reading of the documents provided by Egmond Associates Ltd (EAL herein), regarding interpretations, uses, liabilities, etc. Others than EAL and the Client are notified that use of the EAL reports, etc. by said same others, may be or is subject to the restrictions of use, limitations of liabilities, etc. as set out in the contract and its general conditions.

SECTION 1: RESPONSIBILITIES

1.1 Technical Arbitrator - EAL was retained to provide the Professional Services described as outlined in the report. Tests and observations were conducted using standard test procedures and laboratory protocols as defined and applied by EAL or its suppliers. EAL are the sole arbitrator of technical matters pertaining to the work undertaken in the contract.

1.2 Terms of Reference - EAL provided the Client with written reports meeting the terms of reference as outlined in the report for the use of EAL and the Client in the period identified in the report, or for six months after completion of the report, whichever is shorter. The normal EAL Terms of Engagement shall apply. Any contract by the Client, which uses absolute terms that would negate insurance coverage, etc., shall be taken to mean "reasonable" as defined by EAL periodically. Contracts written by the Client or almost exclusively, that is where the Client input is over 5% of the document or where absolute terms are used, shall be subject to completion and interpretation as determined solely by EAL periodically for either the contract or the technical matters pertaining thereto, particularly as the contract may include any absolute terms.

1.3 Reference Points - Where reference points are used by EAL, EAL has referenced its data and observations to reference points set as part of surveying or construction staking by others.

1.4 Directing Work - Except as specifically provided for in the contract, the Client has not made EAL responsible for directing the work of contractors or others.

1.5 Safety - Nothing in EAL's responsibilities or work shall construe to make EAL responsible for job or site safety after the EAL field work or for other than its own activities when on site. Site safety is the sole responsibility of others, for example the contractor controlling the site. Where EAL makes recommendations for safety in the case of imminent danger as determined by EAL, others than EAL shall pay for such actions as may be required and agree to hold and save harmless the Client and EAL against any and all costs, etc.

1.6 Performance - EAL was not, is not, and will not be responsible for the failure of others to perform in accordance with their particular contract documents. EAL services shall in no way relieve others of their (i.e. the others) responsibilities.

1.7 Change in Information - The Client (and others) using the EAL report was and is responsible to provide EAL with all known information regarding existing and proposed conditions of the site and undertaking. Any new information, which becomes available to the Client (and others), which differs materially from that used to prepare any reports and information by EAL, in the EAL report and documents it prepared will also be provided. The Client holds harmless EAL, its affiliates, and the respective directors, officers, employees, agents and subcontractors, from all claims, damages, losses, related expenses, etc., involving subterranean structures, movements, contamination, etc. which were not called to EAL's attention, that were not shown on plans, or that were shown in documents not provided to EAL.

1.8 Agreements with Contractors - EAL must be a beneficiary in any hold harmless or indemnity agreements, etc. between the Client and its contractors.

1.9 Approvals - The Client agreed that public officials and authorities and even codes may be interpreted differently by public officials etc., than interpreted by EAL or the Client, and that this difference is neither predictable or within responsibility of EAL and shall not be cause for claim or extras.

1.10 Tender Period - Contractors bidding work shall normally be given not less than 45 days for carrying out their own investigations on matters pertaining to the site, and when changed in the contract, shall notify the contractors and EAL.

1.11 Valid Reports - Valid EAL reports are embossed and signed and stamped as original, and other reports are not valid for any purpose.

1.12 Error - The Client and EAL agreed that design professionals strive to be correct when developing reports, plans and designs, and that even so errors, etc. may arise where there is no negligence, etc., and as such no error is actionable in that circumstance. Others, by making use of EAL reports outside of the contract accept this agreement as binding and valid. Others using the report do so then at their sole risk. The reader of our reports, acknowledge that engineering judgment, based on given data, may vary from individual to individual, and may change with time, and that changing engineering judgment and opinion and that varied engineering judgment and opinion can be different without implying error. Also, that an engineering judgment or opinion is defined facts, which like judicial judgment, is a weighing of facts and reaching a conclusion, and that such EAL judgments and opinions and resultant impacts on schedules, costs, etc. are not actionable.

SECTION 2: REPORTS AND RECORDS

2.1 Copies - As agreed, EAL furnished copies of each report to the Client. If no comments were received from the Client within 15 days of the issuing of a report, it was agreed and understood, without further comment, that the report was entirely satisfactory for the Client's use and for its intended purpose, and this limits comments in any post completion phase without further engineering consideration and investigation.

2.2 Use of Report in Event of Non Payment - The Client and EAL agreed, if the Client does not pay for EAL services as agreed (in whole and in part), that the Client would return all reports and other work to EAL on demand, and that reports and other work will not be used by the Client or its suppliers or others for any purpose whatsoever. Use of these materials by others than EAL in the event of non payment, are at the sole and total risk of the user.

2.3 Reports - The Client and EAL agreed that the reports, notes, and other documents, as instruments of service, remain the property of EAL.

2.4 Disclosure Required by Law - Nothing in this project shall make EAL liable in law to report any or all conditions, except those conditions which EAL believes in capacity pertains to items of imminent danger.

SECTION 3: CONTINUITY OF SERVICES, DISPUTES, CARE

3.1 Continuity - It is customary for the consultant, EAL in this case, who provides recommendations to be retained, to provide observation and related services during further, construction, etc. If EAL is not retained to provide continuing services the Client agreed to hold EAL harmless from all claims, damages, losses and expenses, including attorneys' fees, arising out of any interpretations, clarifications, substitutions or modifications provided by the Client or others. Others using the report do so at their total and sole liability, and by using the report agree to save and hold harmless EAL and the Client against all and any consequences of the use of the report, etc.

3.2 ADR - The Client and EAL agree that the Client will use Alternative Dispute Resolution (ADR) in its contracts and disputes with contractors on the project. When disputes result, due to use by others, the dispute shall be submitted to EAL and its legal provider for binding resolution using their prevailing rates.

3.3 Care - The Client and EAL agreed that EAL used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession, as interpreted and determined by EAL periodically, and that this standard is determined solely by EAL for this project.

3.4 Risk - The Client and EAL agreed, many risks potentially affect EAL by virtue of entering into an agreement to provide services on behalf of the Client. For the Client to obtain the benefit of a fee, which included a reasonable allowance for dealing with EAL liability, the Client agreed to limit the liability as fully as allowed by law of EAL to the Client and to all others for claims arising out of the services. Further, others than the Client and EAL, by making use of the report accept all risks, liabilities, etc. that may arise from that use.

3.5 Contractor - The Client and EAL agreed, that if EAL are retained to provide for job site services during construction, the Client agreed that it is good practice that the contractor (subcontractor) is completely and solely responsible for maintaining and implementing legal working conditions methods, means, techniques sequences, procedures, acts, etc., as the contractor controls the site. EAL's work is not intended to be, nor is it, a review of the safety practices or compliance to any particular code. EAL's presence does not relieve the contractor from adhering to all applicable laws, codes and good practice.

3.6 Life - The Client and EAL agreed that if imminently hazardous or potentially hazardous conditions or chemical conditions are found or interpreted by EAL during the provision of EAL services, EAL shall be entitled, without liability and without concern for claims by the Client or others for damages, to take all steps it solely deems reasonable to protect human life first, and the environment second, and will be reimbursed for such activities as needed. Others using the report by that non allowed use agree to fully protect and save harmless EAL and the Client.

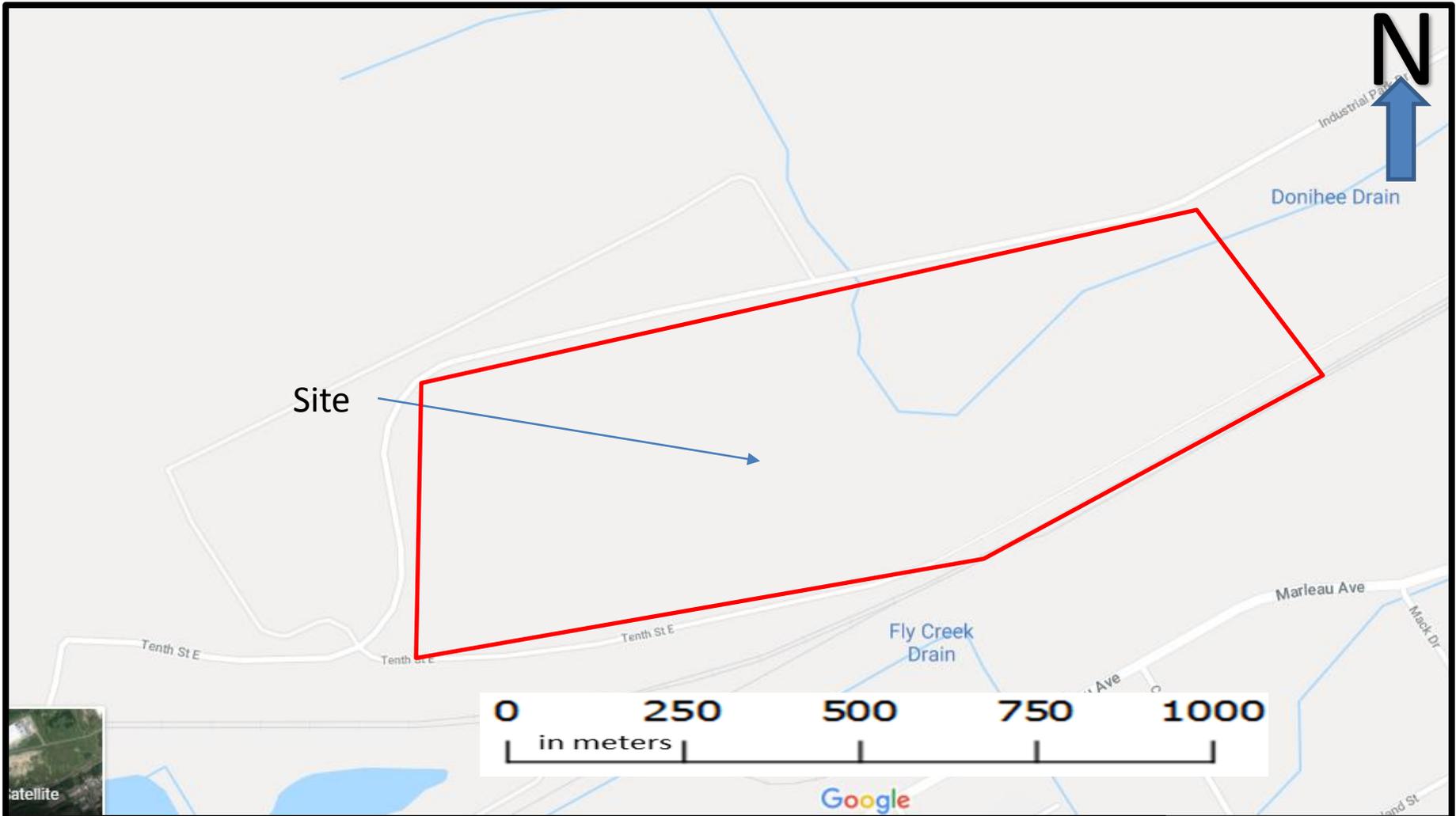
3.7 Extras and Extra Work - For work in excess of the contract, the EAL standard Fee Schedule in the Terms of Engagement will apply (prices subject to change).

SECTION 4: WORK INCLUDED

4.1 Work included shall be as set out by EAL in the report or proposal, and shall be as interpreted by EAL. Not covered are moulds, asbestos, soils, environmental matters, structural matters, etc. unless specifically part of the project. Further, some issues which are specifically part of the project may be costly or intractable to resolution and the client shall not hold EAL responsible for the successful resolution.

SECTION 5: SUMMARY OF LIMITATIONS

5.1 The user/reader of the EAL report are warned that the Client and EAL have agreed to specific limitations on liabilities, etc. Others than EAL and the Client, agree their use or release of the report is at their sole risk, costs, etc. In general the Client and EAL agreed that EAL is the sole arbitrator of technical matters pertaining to the project and methods for the purpose of the report. The report may set out further limitations. Any clauses found non enforceable in the contract or above, may be severed without impacting the applicability of the rest of the contract or the above by EAL at its discretion.



Source: Google Maps. 2018.

Phase One Property (POP) location.

While scales are shown on all Drawings herein, note these scales are not for estimating, construction, or exact definition, given the drawings use various data with various viewing angles and other distortions (for example not to scale drawings).

30574
 1500 Industrial Park Driver
 Cornwall, ON
 General Site Configuration
 ON

Drawing 1

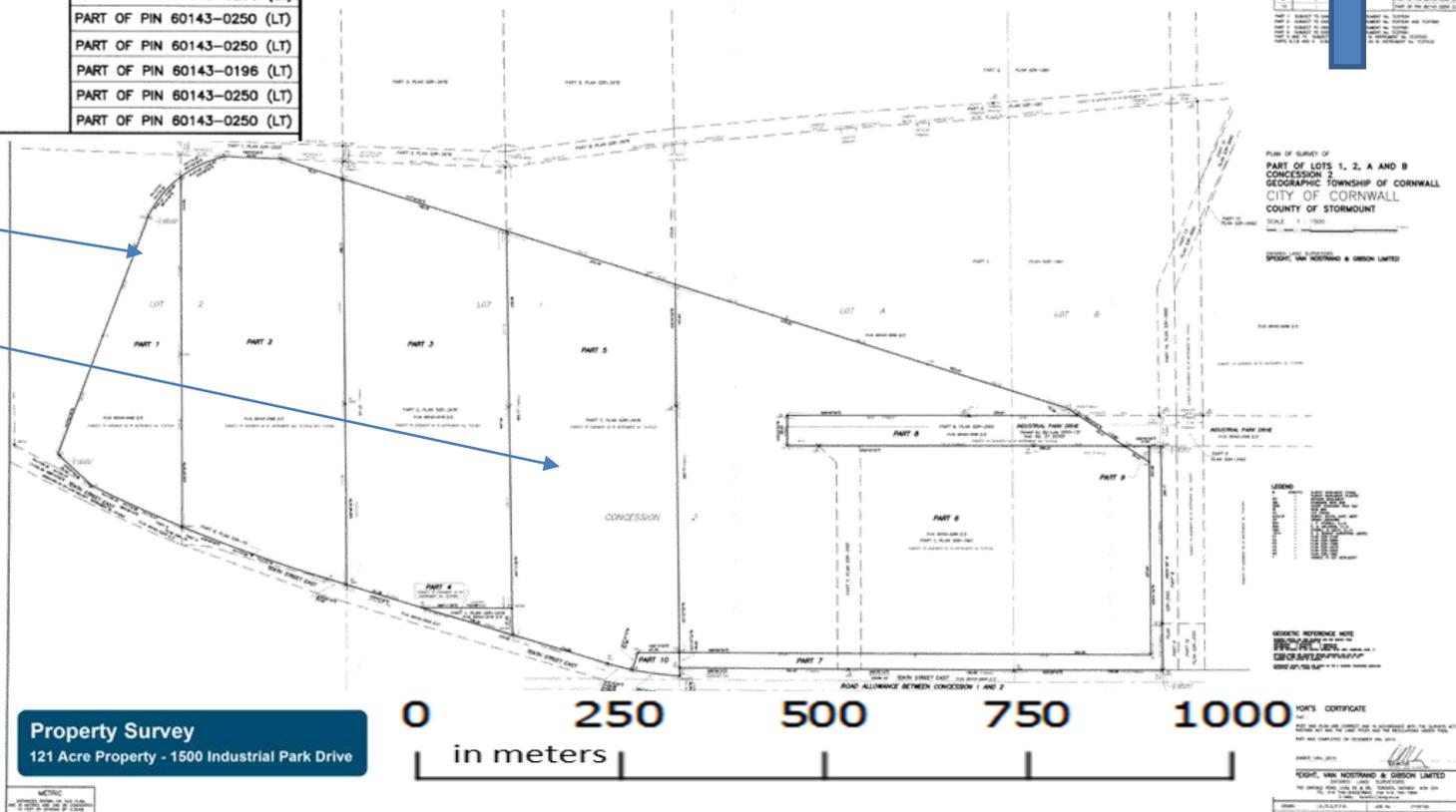
SCHEDULE

PART	PART OF LOT	CONCESSION	PIN
1	2	2	PART OF PIN 60143-0165 (LT)
2	2		PART OF PIN 60143-0168 (LT)
3	1		PART OF PIN 60143-0175 (LT)
4	1		ALL OF PIN 60143-0176 (LT)
5	1		PART OF PIN 60143-0250 (LT)
6	A AND B		PART OF PIN 60143-0250 (LT)
7	A AND B		PART OF PIN 60143-0250 (LT)
8	A AND B		PART OF PIN 60143-0196 (LT)
9	B		PART OF PIN 60143-0250 (LT)
10	1		PART OF PIN 60143-0250 (LT)

PLAN 52R-7356
 SCHEDULE
 SPEIGHT VAN NOSTRAND & GIBSON LTD.



Site
 Part 5

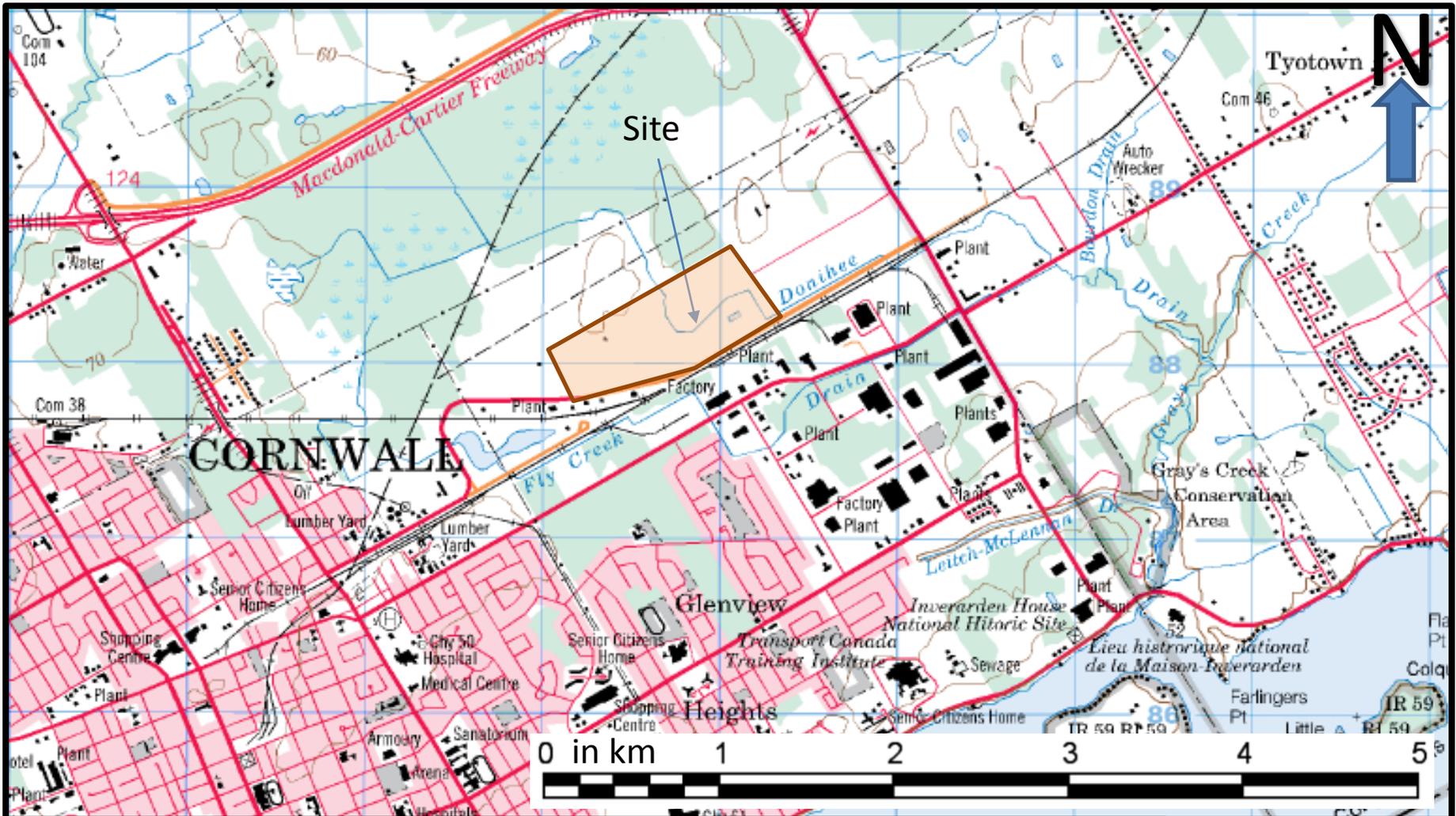


Source: Speight Van Nostrand & Gibson, Plan 52R-7356 Dec 22, 2010
 Refer to Original. Sourced Internet and client. For legal plan contact an OLS.

Phase One Property (POP) showing former parcels. Part 5 was formerly part of lands with about 8 to 10 ponds on site.

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 1500 Industrial Park Driver
 Cornwall, ON
 Legal Site Details
 ON





Source: Toporama, 2018. 31G

Swamp and the Donahee Drain, Fly Creek Drain. Note possible farming uses, and rail to north and south. Power Line to north and feeder line to west is shown. Cut Line to north.

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1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 3



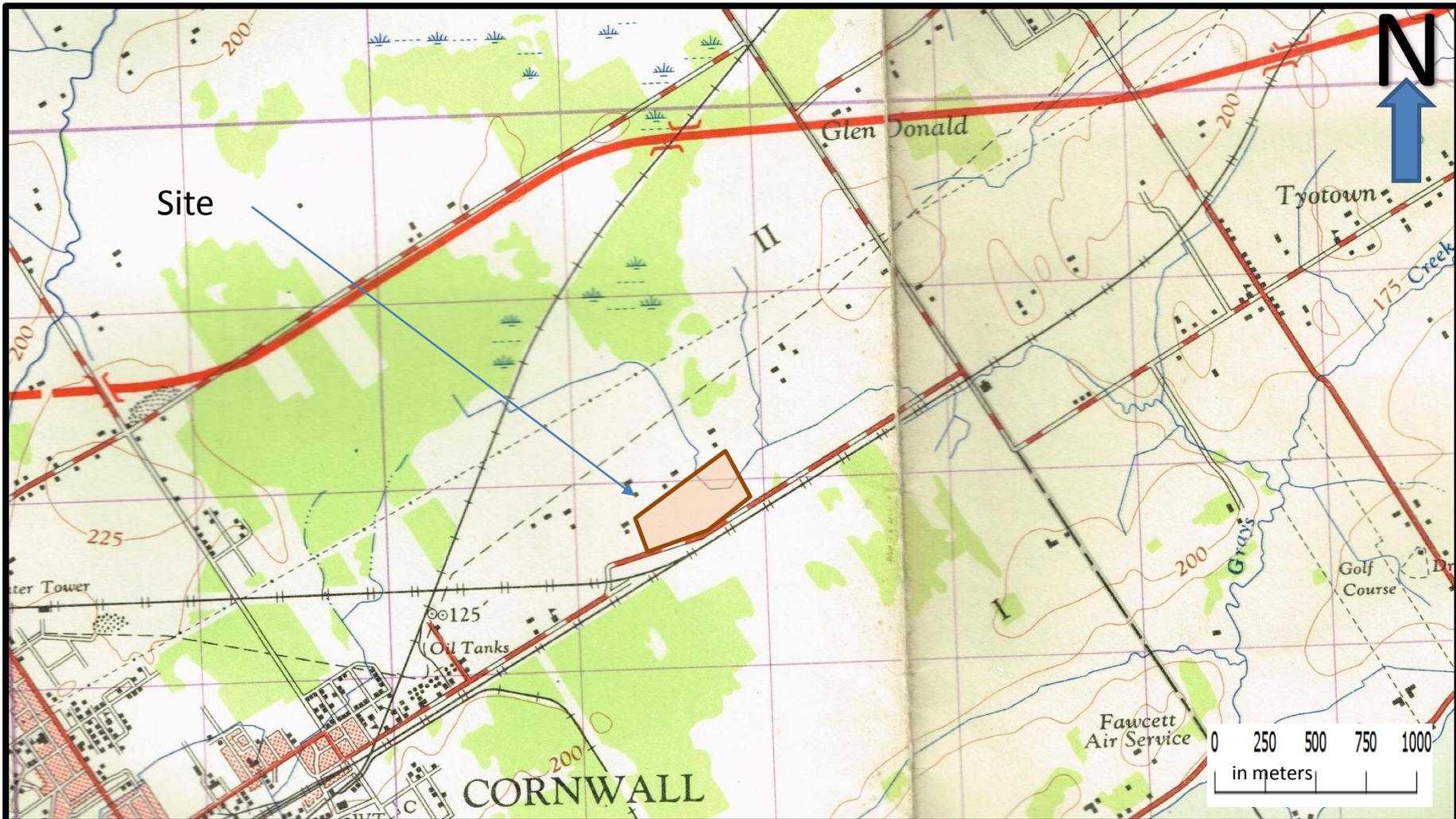
Source: NTS, 1972.31G

Note drain through area and nearby low lands. Note ponds in 1980's aerial not present at site.

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1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 4



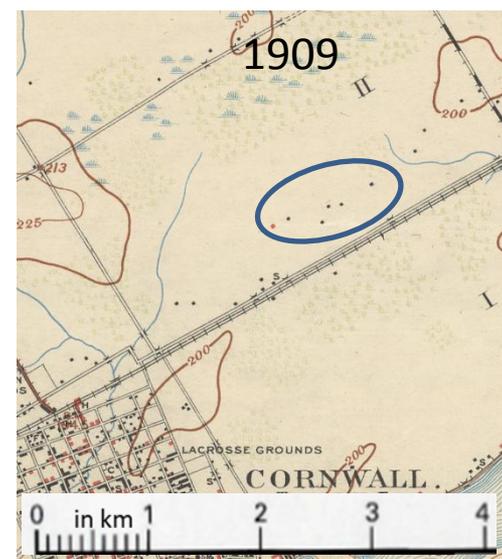
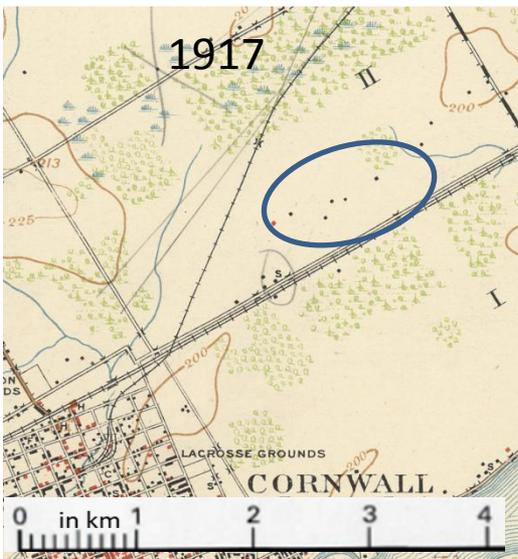
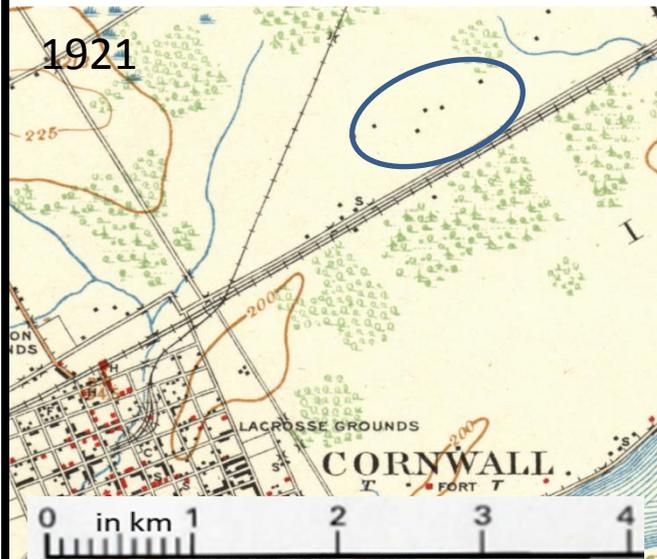
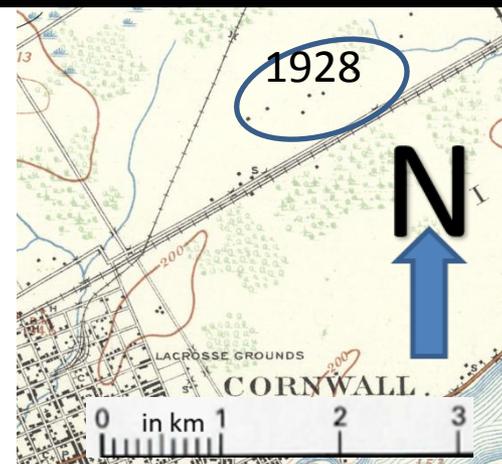
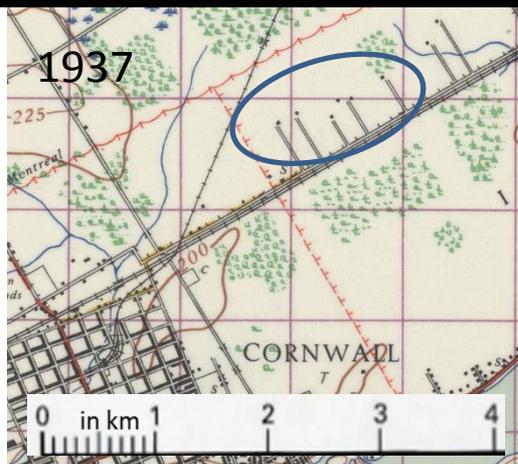
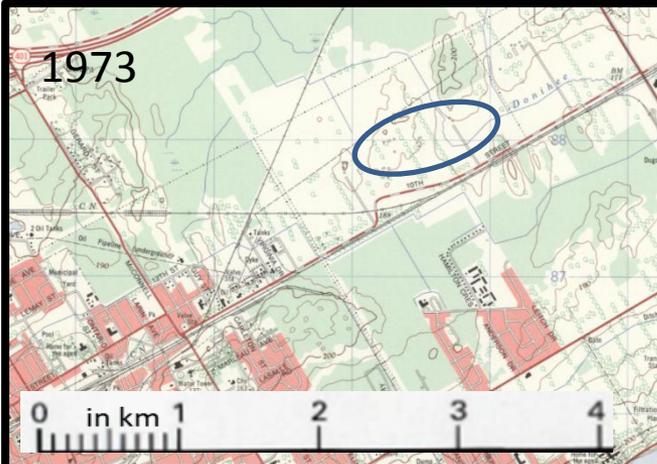
Source: NTS, 1963.31G – based on 1905

Note drain through east part of area and nearby low lands. Note ponds in 1980's aerial not present at site. Industrial Park Drive not built. Tenth Street does not go through. Probable arm use. Oil tanks west of site are "far" from site. Power line shown north of site but connector from south in 1937 mapping not shown. A cut line is shown north of site. South of tracks likely farm land. Virginia Drive which Industrial Park is attached to is present.

30574
1500 Industrial Park Drive
Cornwall, ON

ON

Drawing 5

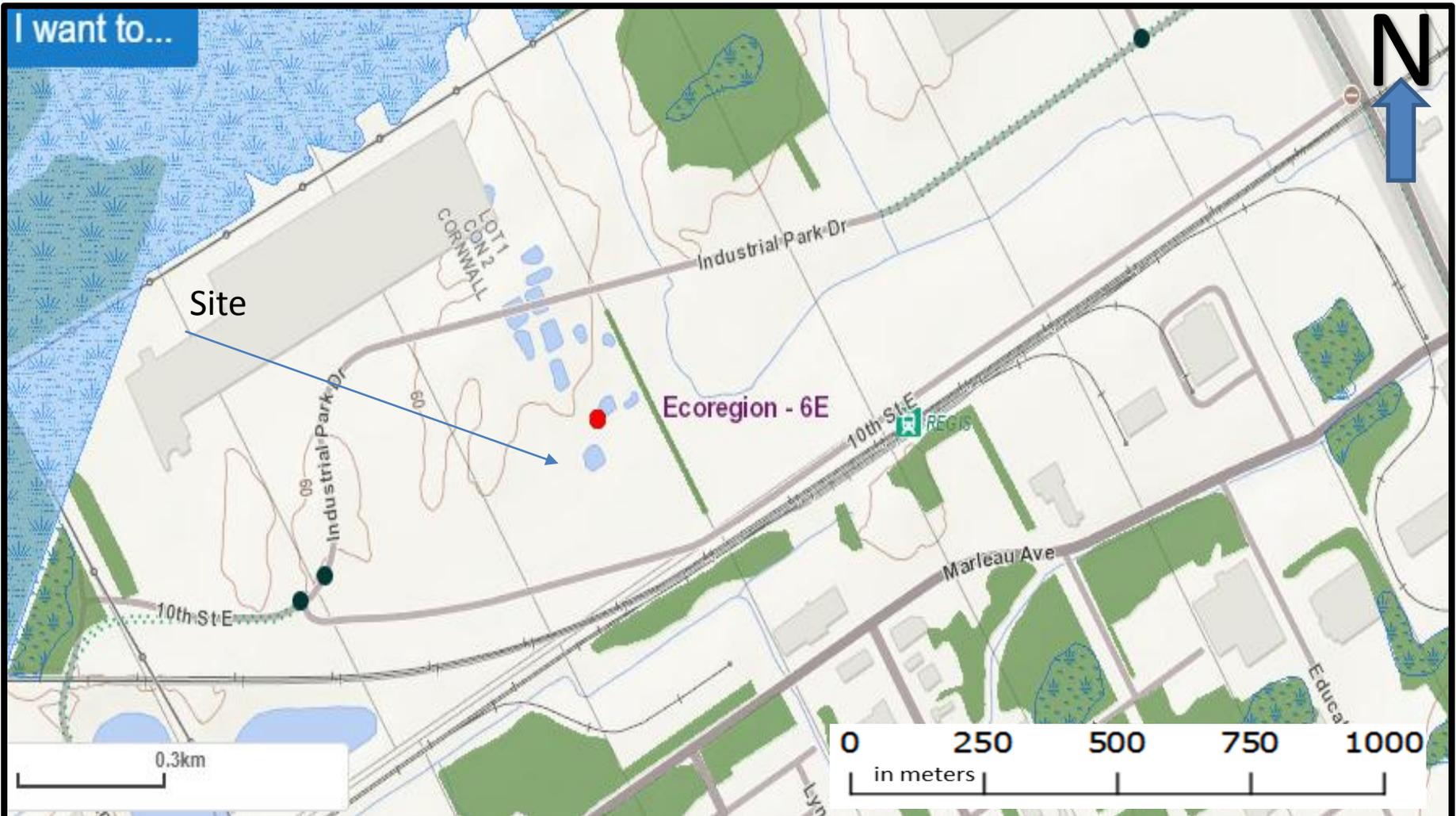


Source: Ontario Topo Preservation Society, NTS 31G/2 (DND and EMR) 1909 to 1973.
 Note : 1909 – Natural Drainage to south west and south east. Rail to north not present. Note ponds in 1980's aerial not present at site. 1917 note rail to north build. Note low area east part of site. 1921 similar to 1917. 1928 similar to 1917. 1937 Note power lines (Montreal Light and Power) , possible orchard, and access lanes shown.. 1973 old farm homes and buildings still shown with no ponds at Part 5 (see Drawing 2).

Site

30574
 1500 Industrial Park Driver
 Cornwall, ON
 ON
 Drawing 6

I want to...



Source: Ministry of Natural Resources and Forestry. Natural Heritage Areas. 2018.

None identified within the POP. Ecoregion- 6E. Slight woodland area throughout middle of the POP. Note numerous ponds on site in this map. This map shows the site was historically at about 60m ASL and the background data likely precedes fill placement The use of these former ponds is not known to EAL.

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1500 Industrial Park Driver
Cornwall, ON
ON

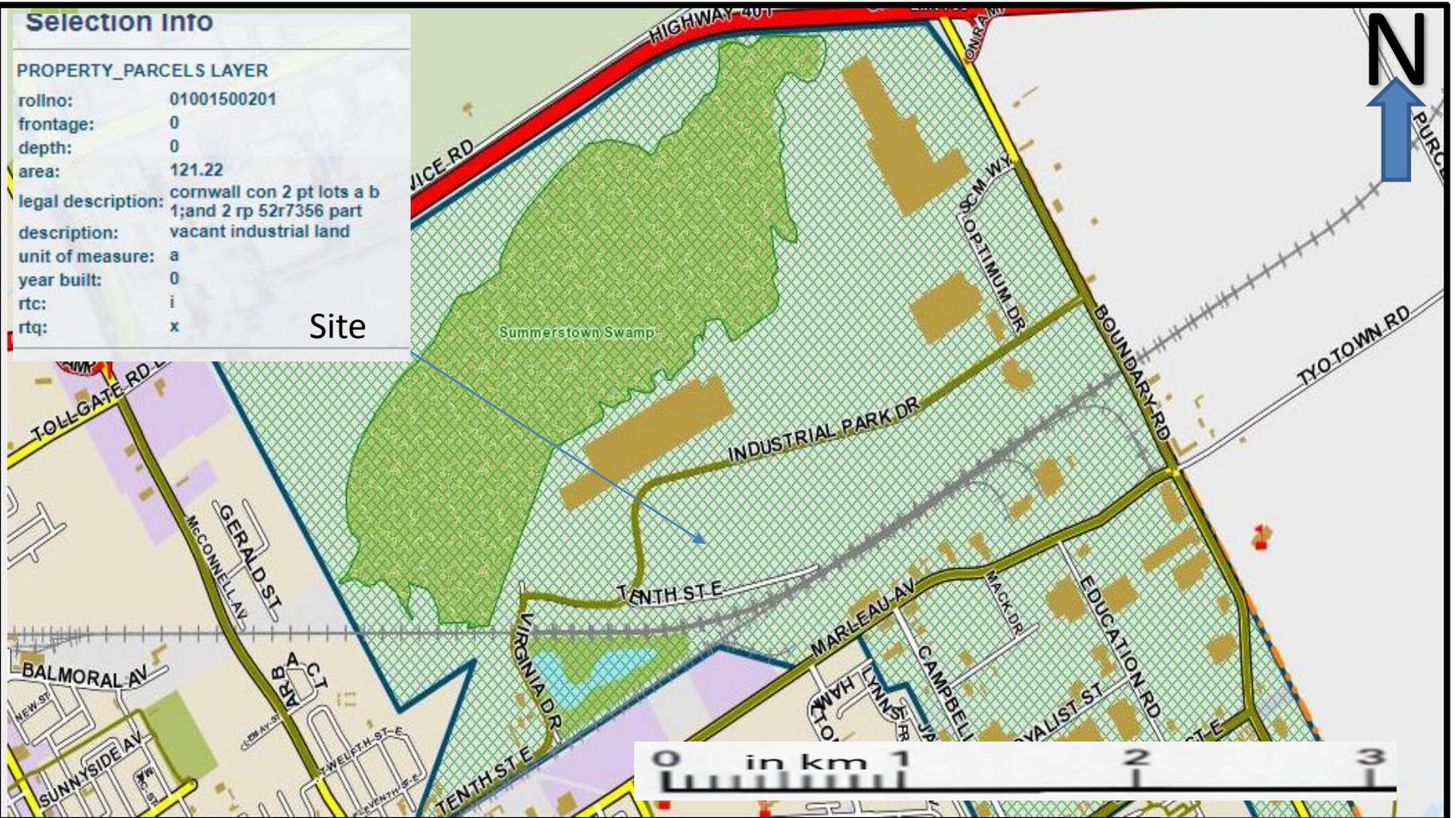
Drawing 7

Selection Info

PROPERTY_PARCELS LAYER

rollno: 01001500201
 frontage: 0
 depth: 0
 area: 121.22
 legal description: cornwall con 2 pt lots a b
 1;and 2 rp 52r7356 part
 description: vacant industrial land
 unit of measure: a
 year built: 0
 rtc: i
 rtq: x

Site



Source: Cornwall Maps, 2018. OSGeo.

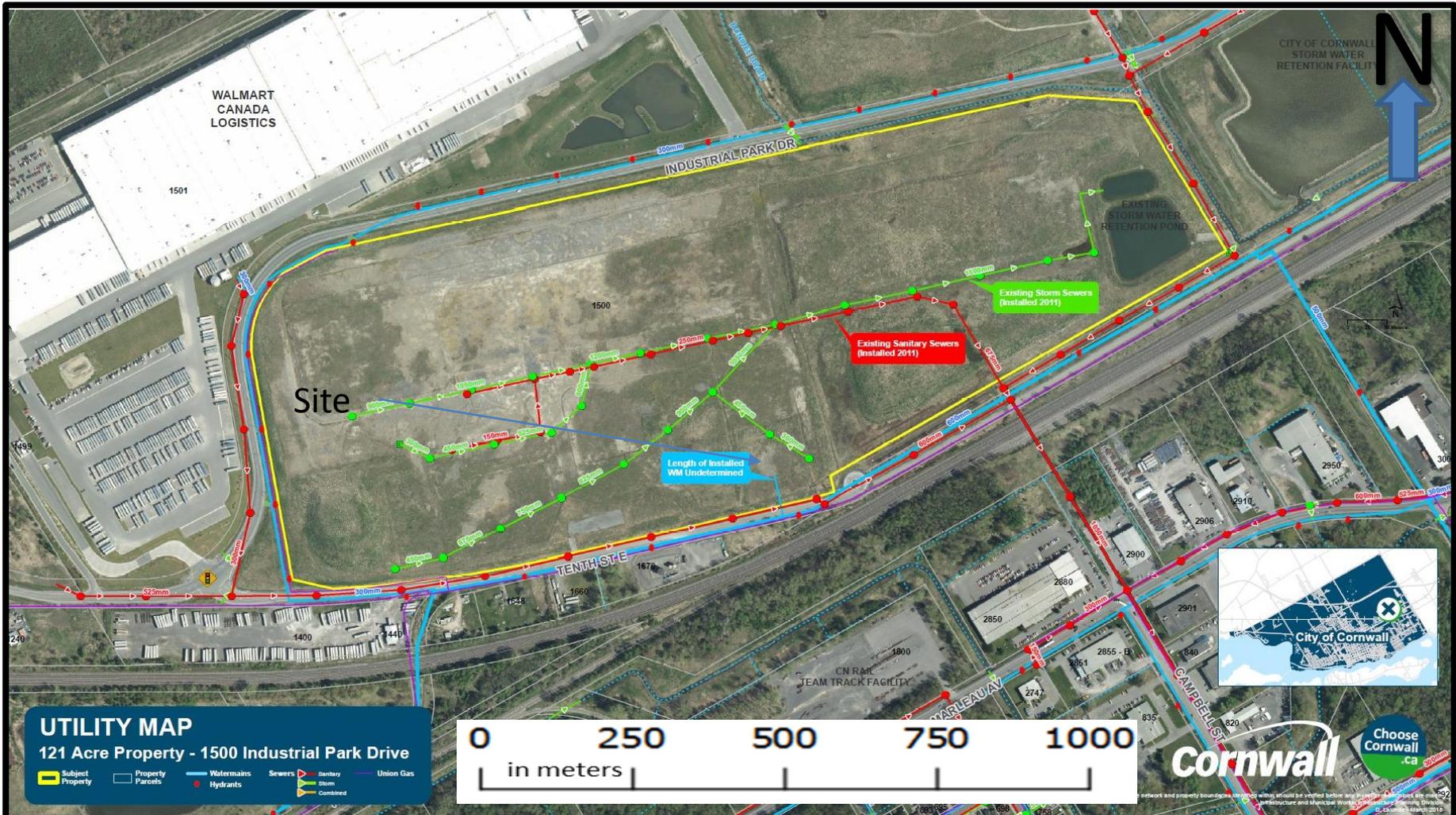
Within the Industrial Park Area of Cornwall, south of the Summerstown Swamp and industrial buildings, also northwest of the track and residential/commercial area. South of Highway 401. Manufacturing zoning 30 on west side and 40 on the east side.

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1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 8





Source City Of Cornwall. Source Internet.

Phase One Property (POP) location. Note existing utilities in 2011. The utility trenches likely intersect the former natural drainage channels or the Donihee Drain. Note storm water ponds on Site.
Sediment quality unknown in Storm Pond.

30574
1500 Industrial Park Driver
Cornwall, ON
Utilities
ON

Drawing 9





Site

0 250 500 750 1000
in meters

Source: Google Earth Aerial. 2018.

Area for where construction may have begun on the POP has been grown over. The surrounding areas remain similar to 2014.

30574
1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 10





Source: Google Earth Aerial. 2014.

Similar to 2013.

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1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 11



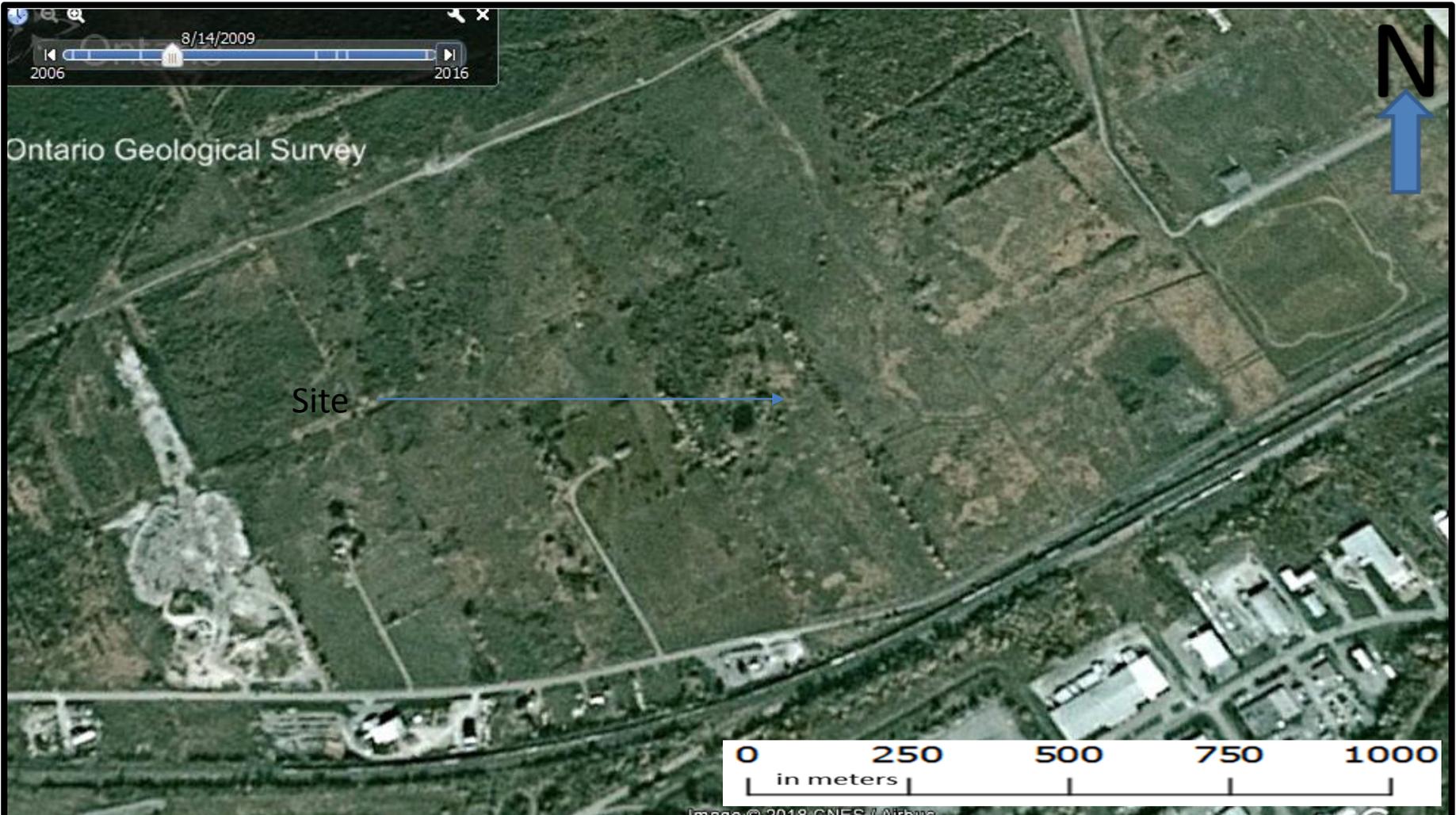
Source: Google Earth Aerial. 2013.

Site to the northwest adjacent to the POP, developed as a Wal-Mart Warehouse and POP has all houses removed and a drain to the east; one on Site and one directly east of the Site (Donihee). The POP is in Phase 1 for construction, fill may have been placed on Site. Petro Pass Truck Stop is to the northeast and a commercial truck repair is also to the northeast of the POP. Gymnastics club to the east.

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1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 12



Source: Google Earth Aerial. 2009.

Similar to 2008.

30574
1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 13



Source: Google Earth Aerial. 2008.

Similar to 2007.

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1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 14



Source: Google Earth Aerial. 2007.

Similar to 2006.

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1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 15





Source: Google Earth Aerial. 2006.

Ponds from 1986 gone from Site, drain and residences/farms still on Site. New developments to the south both north and south of the rail and to the east of the Site; commercial/industrial. Fly Creek Drain to the south of the rail tracks.

30574
1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 16





Source: Cornwall Maps NAPL 86109-63. 1986.

Rail to the south, drain through the Site. Farms and residences throughout the Site. Ponds to the west on the Site use unknown at present by EAL. Orchard bottom southeast corner of Site. Note numerous ponds on Parcel 5.

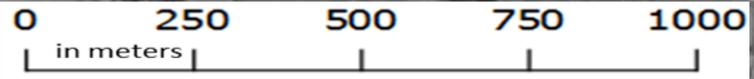
30574
1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 17



Site



Source: City of Cornwall, Aerial, 1091-312-15 – 1957.

Note train and farmlands.

30574
1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 18



Source: U of T , Aerial- 1954

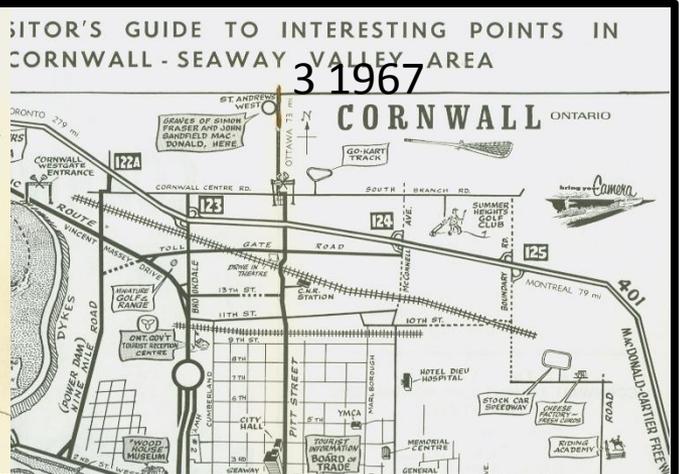
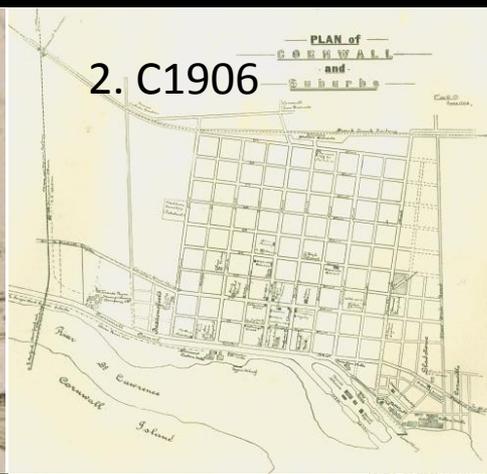
Note train and farmlands. Cut line shown on old topos is visible. Virginia and Track Road not yet built. No industry.

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1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 19

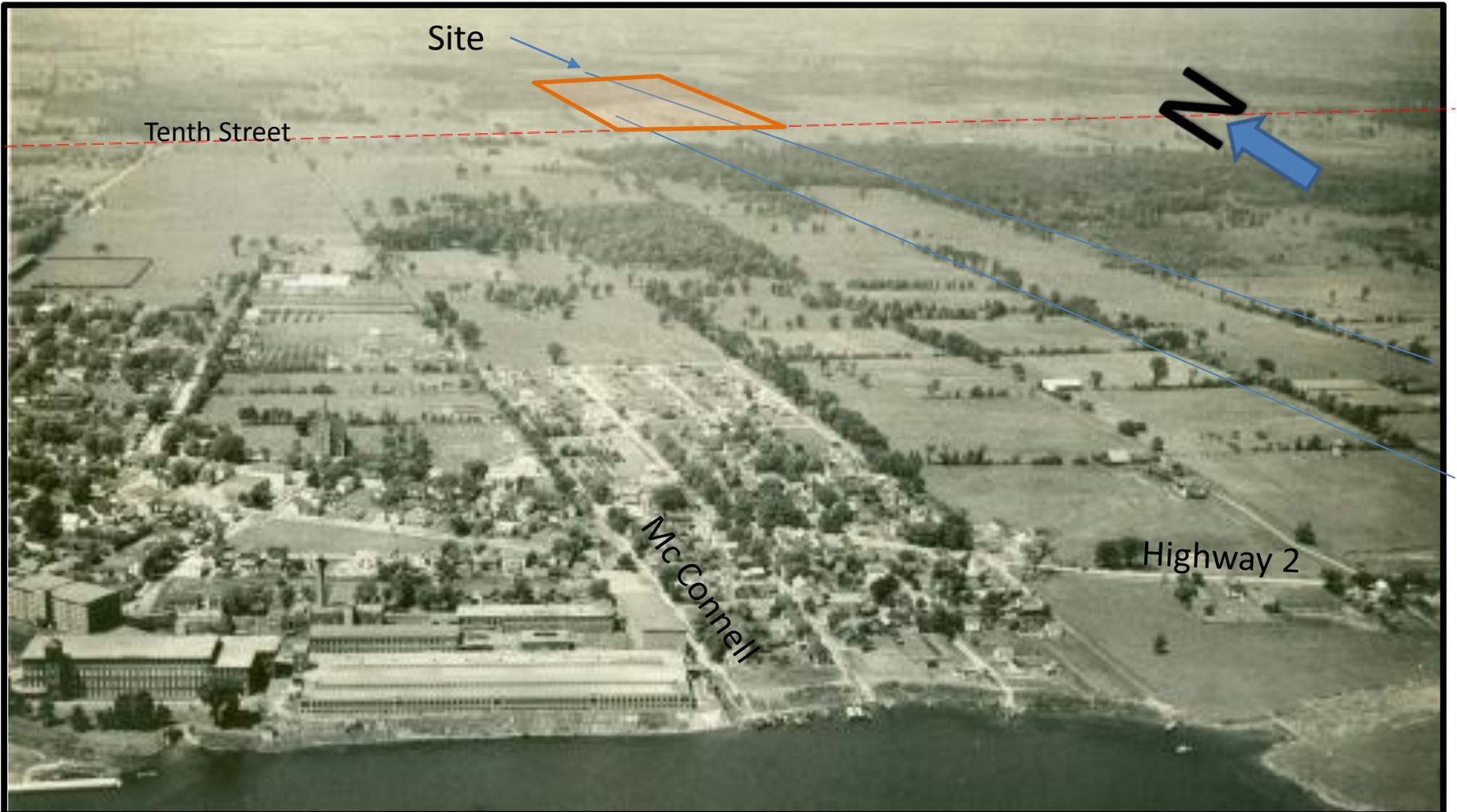




Source: Internet, Local History sites, .

- 1,2 Site not likely factory – outside urban area
3. Note train and farmlands.
4. Former Loblaws. Note client site has ponded waters, and apparent engineering fills.
5. Scale Not provided

30574
1500 Industrial Park Driver
Cornwall, ON
ON
Drawing 20



Site

Tenth Street

Mc Connell

Highway 2

Source: City of Cornwall, Aerial, NE Cornwall, 1924.

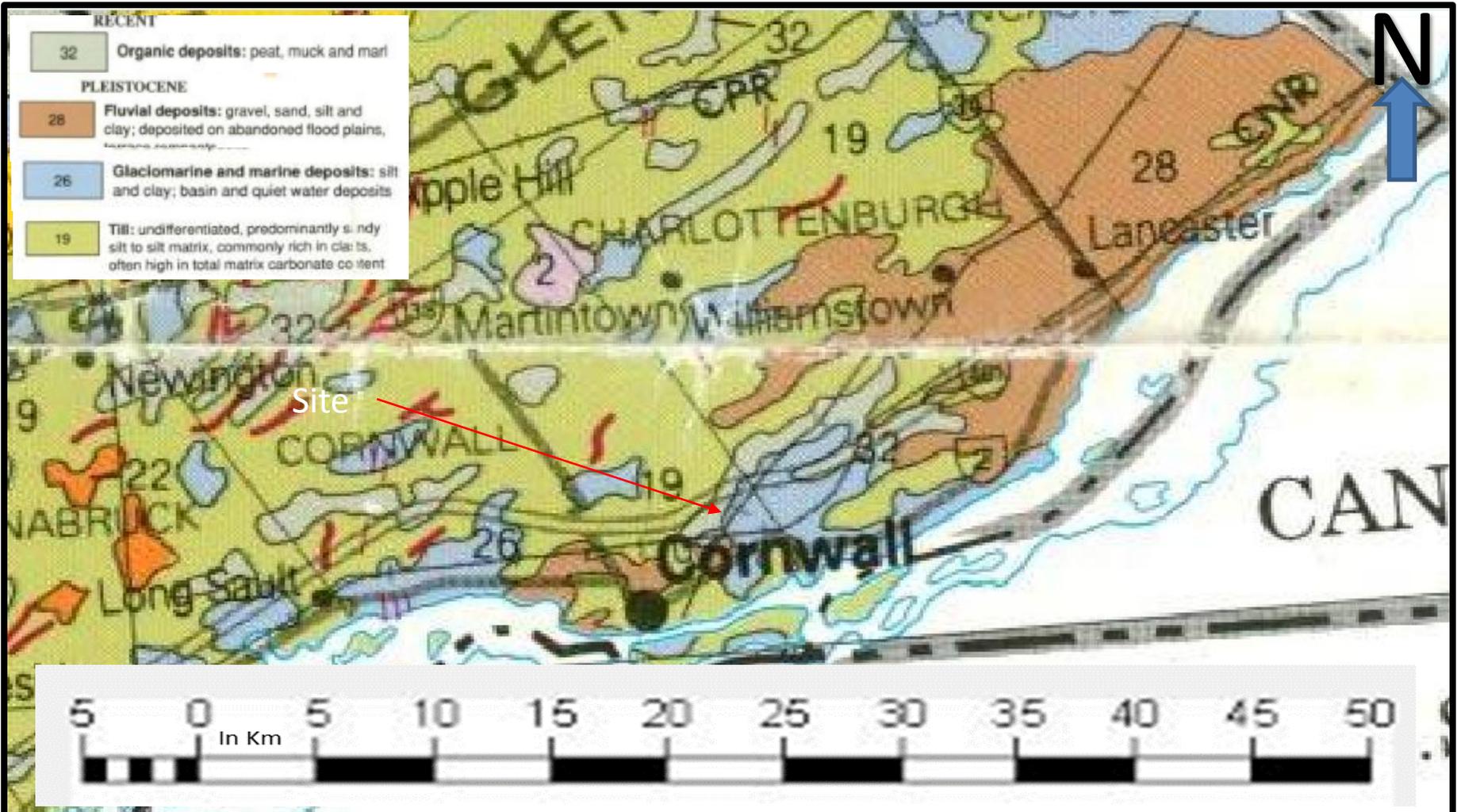
No apparent activity.
Scaling not provided

30574
1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 21





Source: Map 2556. Quaternary Geology of Ontario. Southern Sheet. MNDM 1991.

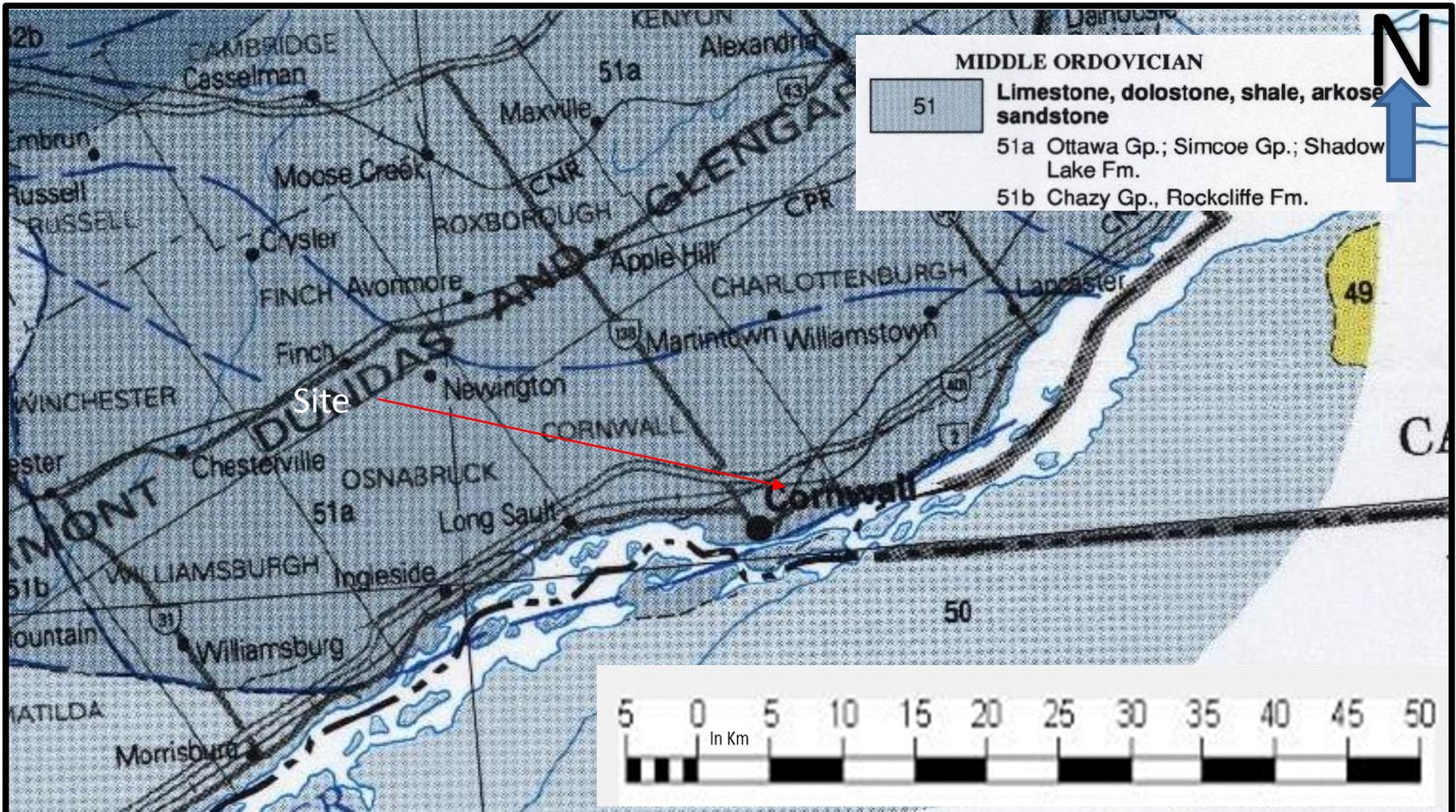
The Site sits within Glaciomarine and marine deposits of silt and clay, but also fluvial deposits of gravel sand and silt clay and organic deposits may be found. Surrounded by undifferentiated Till; predominantly sandy silt to silt.

30574
1500 Industrial Park Drive
Cornwall, ON

ON

Drawing 22





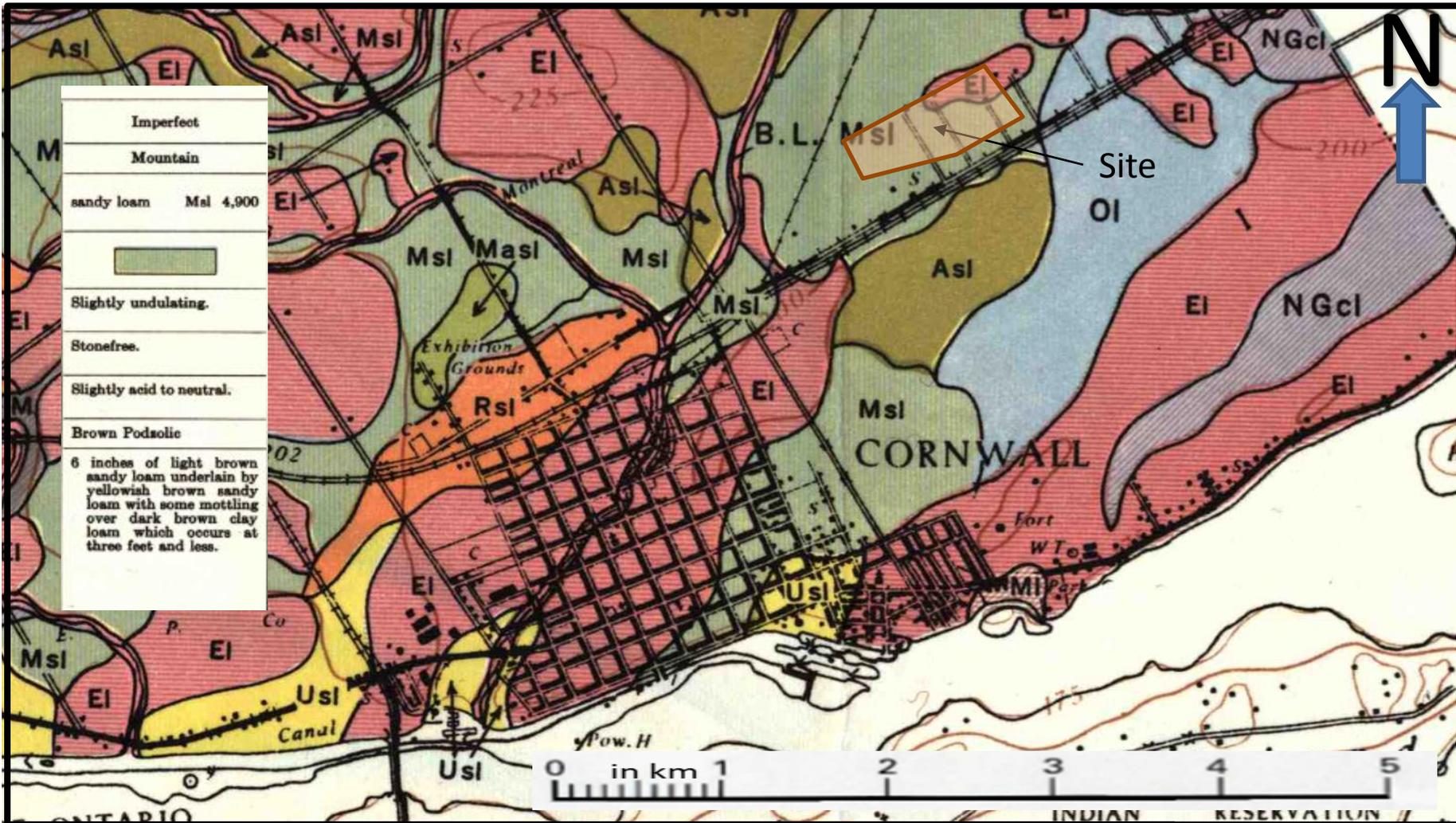
Source: Map 2544. Bedrock Geology of Ontario. Southern Sheet. 1991.

The Site consists of the Ottawa Group, Simcoe Group and Shadow Lake Formation, which consists of; limestone, dolostone, shale, arkose and sandstone.

30574
1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 23



Source: Soil Map ON20 – Agriculture Canada, 1954.

Shows possible houses and school off of 10st East, Cornwall. Note Tenth Street North of Rail Road. Outwash over lacustrine. Imperfect drainage, sandy loam slightly undulating. No industry shown.

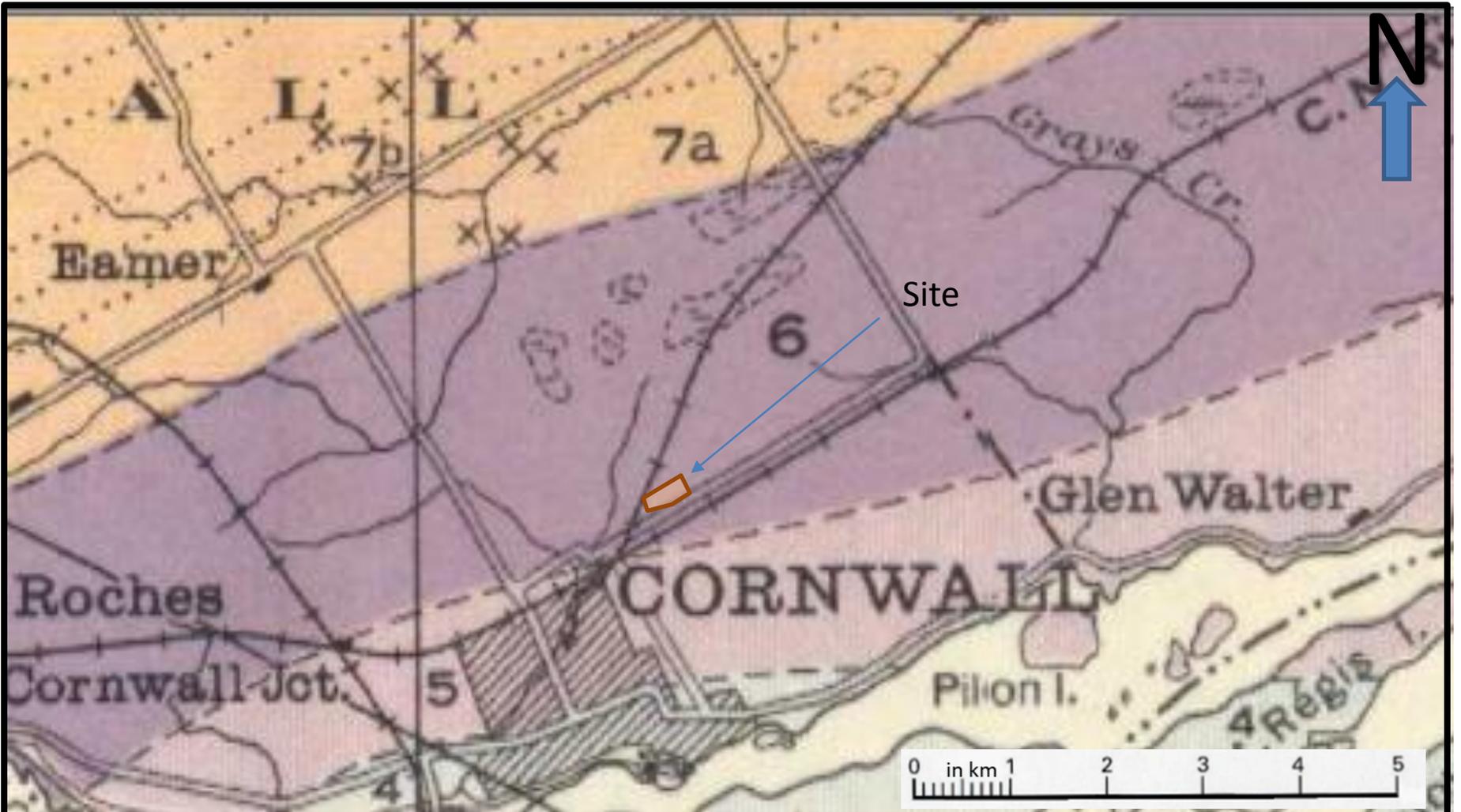
Note houses or structures shown on or near site.

30574

1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 24



Source: Map 852a – 1946 – Site outside of town.

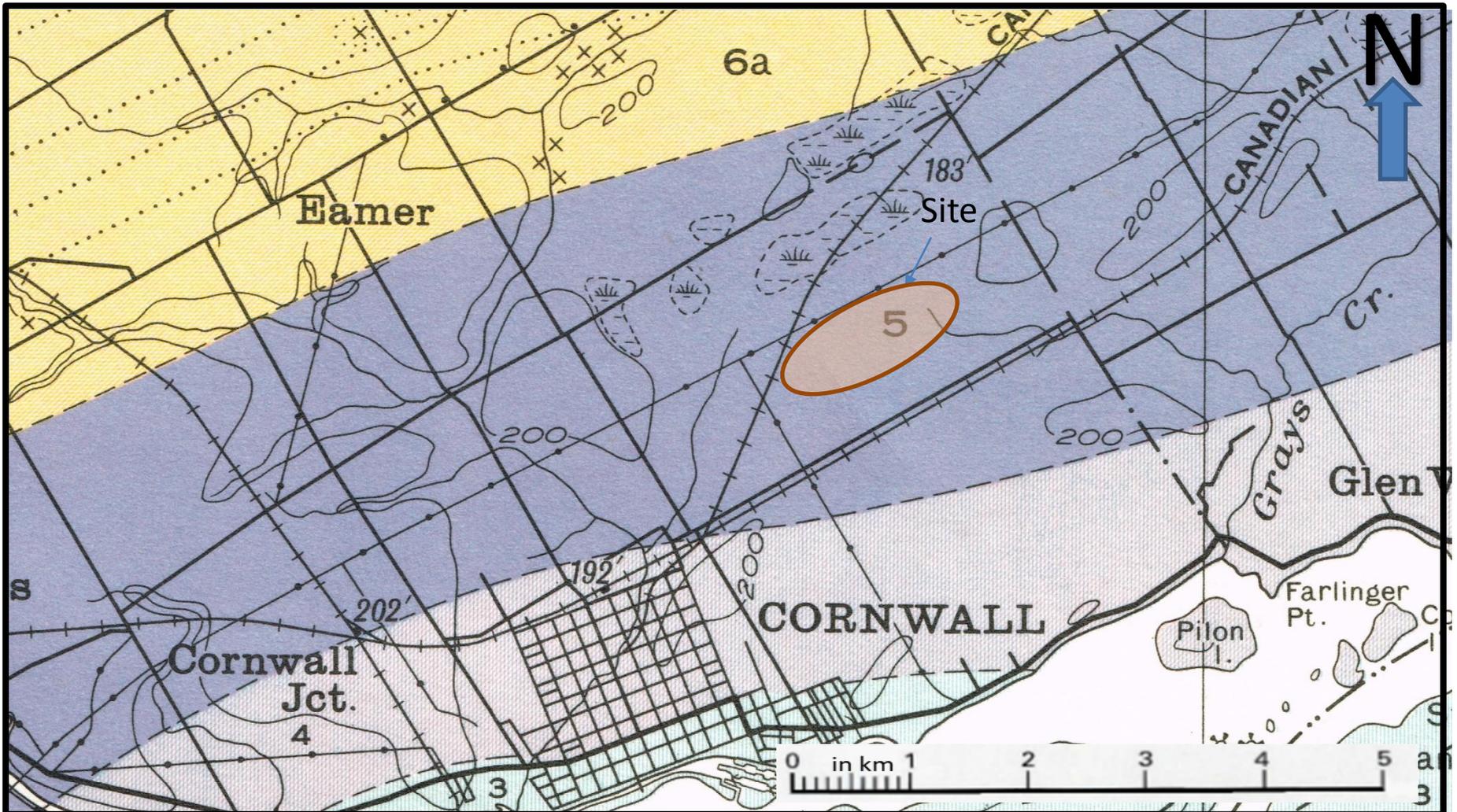
No industry. No mining operations near Site. Marsh north of Site. Rail north and south of Site.

30574
1500 Industrial Park Drive
Cornwall, ON

ON

Drawing 25





Source: Map 611A – 1941 – Canada Department of Mines and Resources, Maxwell Sheet

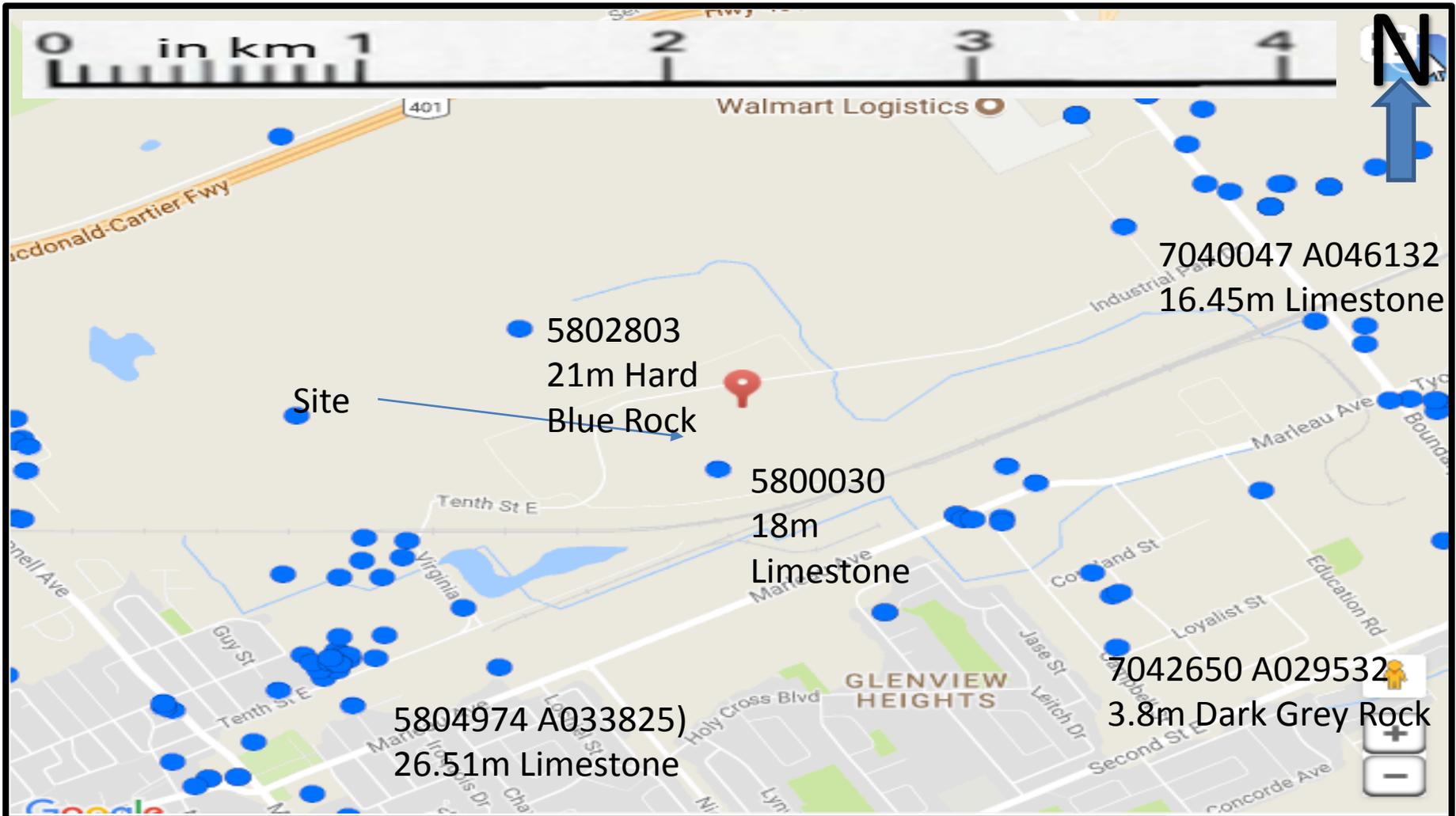
No industry. No mining operations near Site. Note former power line north and west of site. Note rail north and south of site. Marsh north of Site. Note drains are natural and not as shown in later years. Underlying bedrock indicated to be the St. martin Formation, a limestone. 10th Street East is continuous past sire.

30574
1500 Industrial Park Driver
Cornwall, ON

ON

Drawing 26



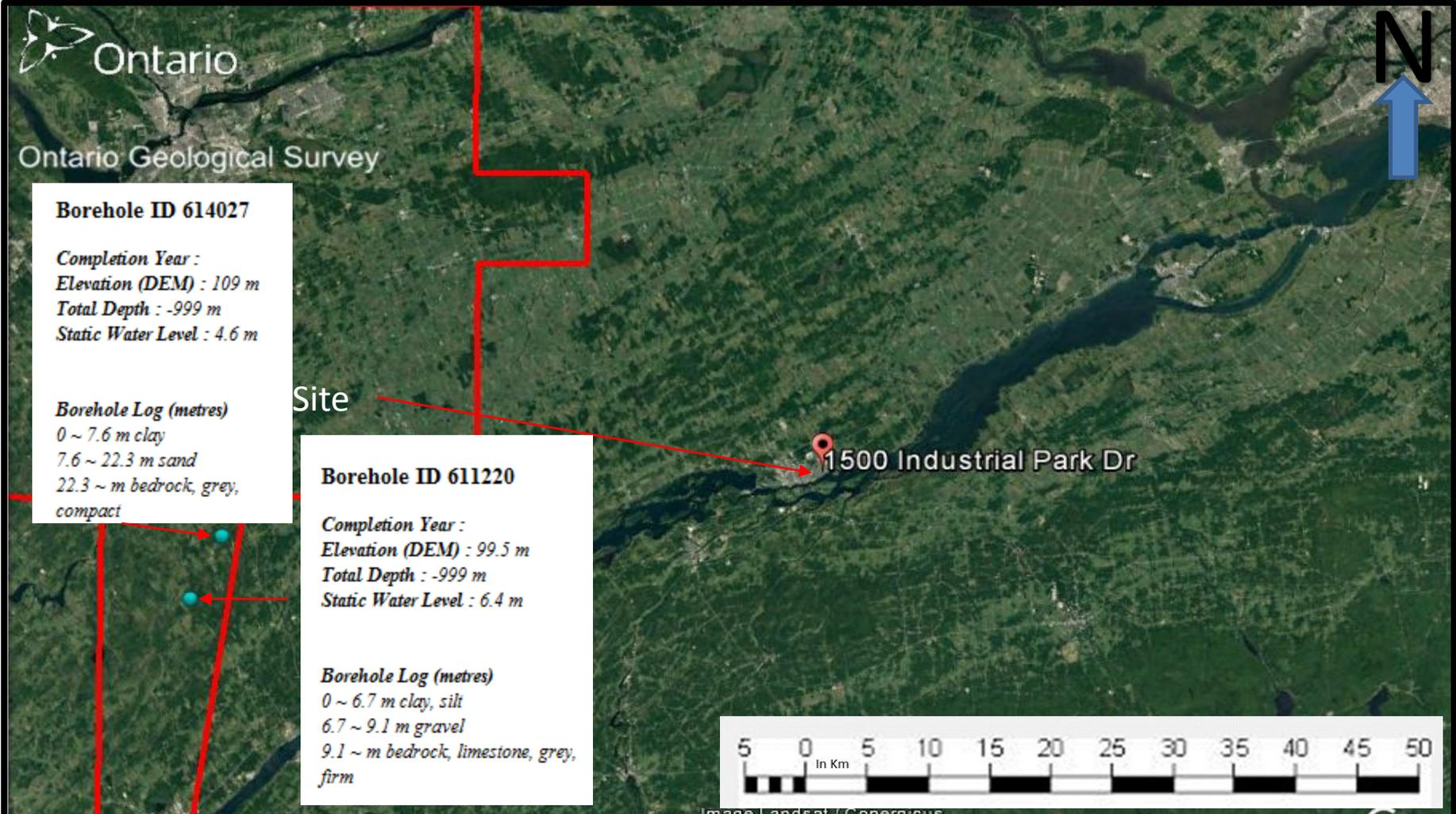


Source: Ontario Water Wells.

According to nearby groundwater wells the groundwater flow would seem to be south towards the Saint Lawrence River and Lake Ontario. Limestone is found in the area with clay or till as overburden. Soft clays are found in some locations. At 5800030 on site, clay was to 1.5m and then hardpan was encountered.

30574
1500 Industrial Park Driver
Cornwall, ON
Water Well
ON





Borehole ID 614027

Completion Year :
Elevation (DEM) : 109 m
Total Depth : -999 m
Static Water Level : 4.6 m

Borehole Log (metres)
 0 ~ 7.6 m clay
 7.6 ~ 22.3 m sand
 22.3 ~ m bedrock, grey, compact

Borehole ID 611220

Completion Year :
Elevation (DEM) : 99.5 m
Total Depth : -999 m
Static Water Level : 6.4 m

Borehole Log (metres)
 0 ~ 6.7 m clay, silt
 6.7 ~ 9.1 m gravel
 9.1 ~ m bedrock, limestone, grey, firm



Source: Ontario Geological Survey. 2018. Google Earth.

Outside the Region containing reported government geotechnical boreholes.

Closest boreholes to the west both contain clay, silt or sand and bedrock between 9-22m of grey limestone.

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Drawing 28



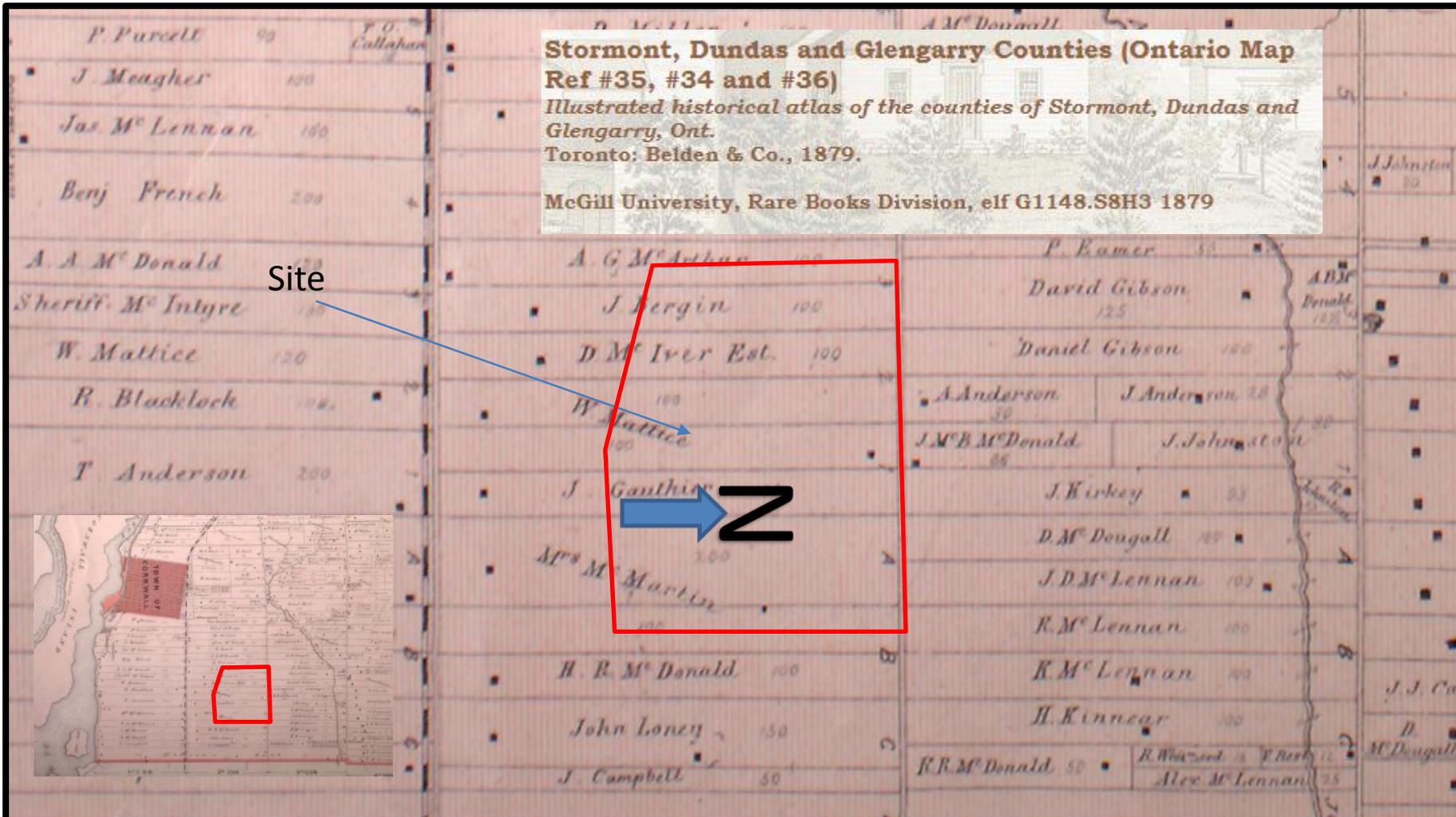
Source: County Atlas 1862.

Farm Land.

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Drawing 29



Source: Township of Cornwall. Map of Stormont County. 1879.

Mrs McMartin, J. Gauthier, W. Mattice, D Mc Iver Est., J. Bergin and A.G McArthur cover most of the Site and consist of farmlands.
 Scale not provided

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Drawing 30



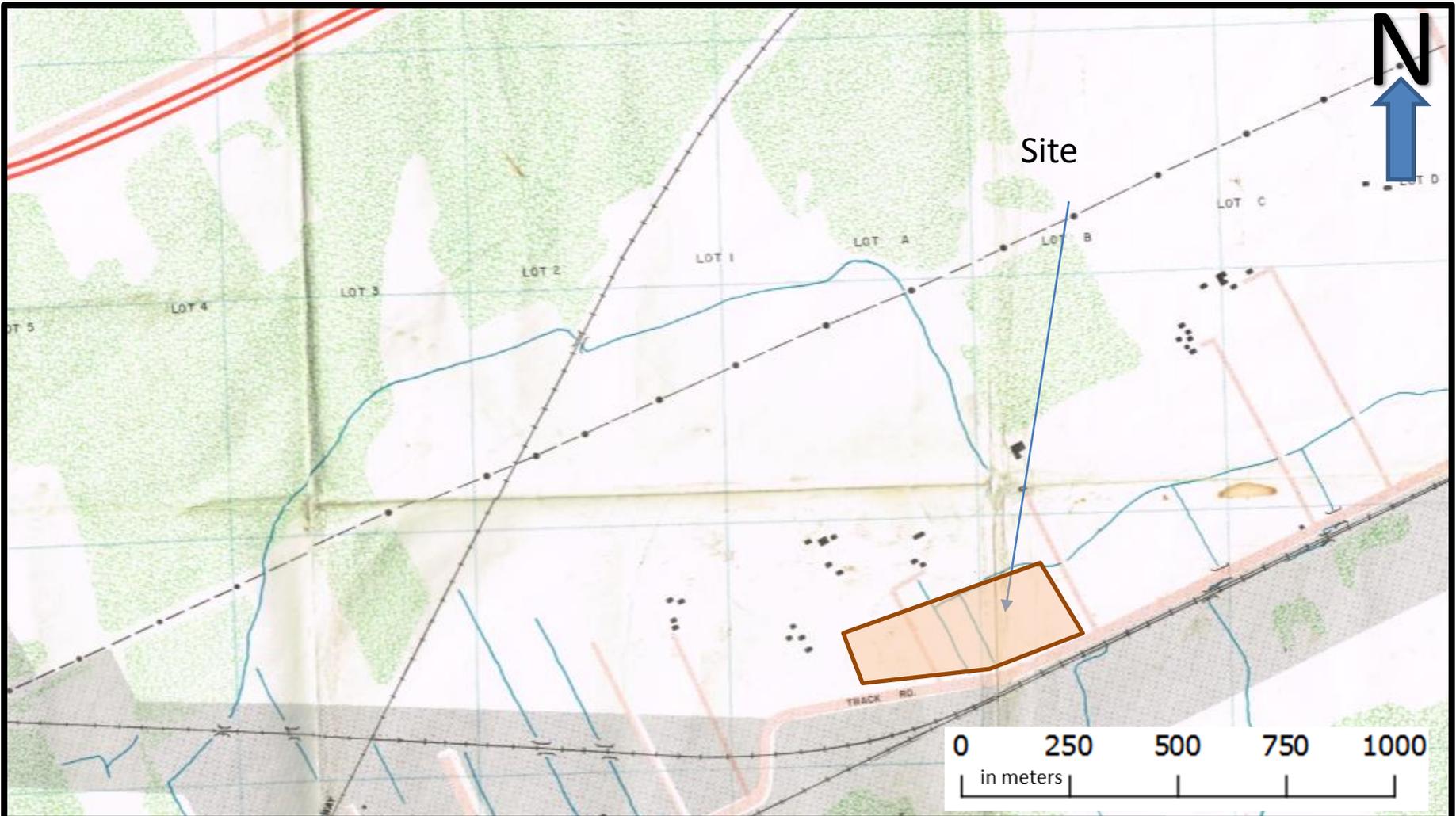
Source: County IAO – Key Plan 1947 – Site outside of town.

No industry.

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Drawing 31



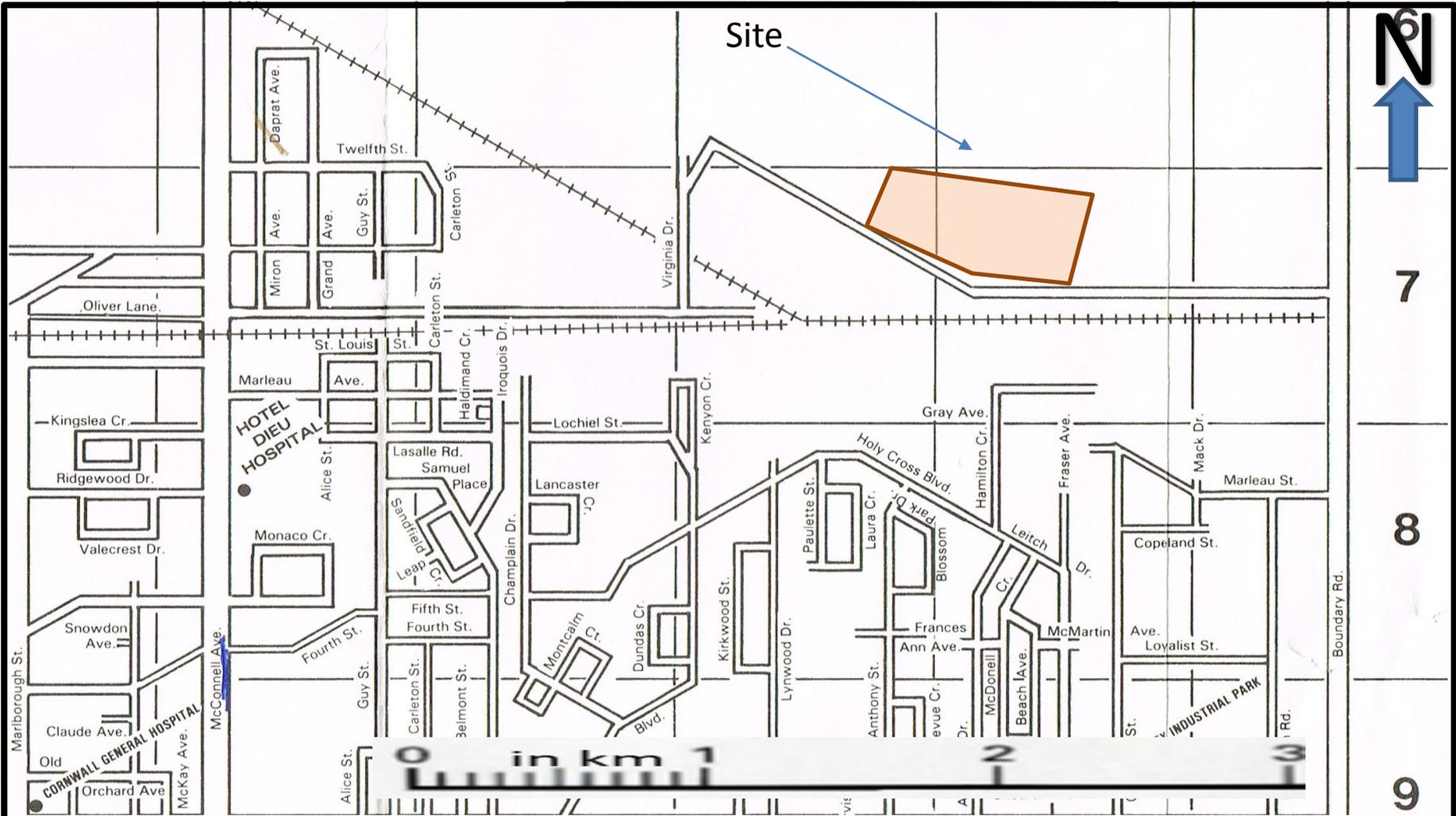
Source: Pathfinder Map, 1971, City of Cornwall
 Shows what appears to be farms. Not drain configuration different than later years. Site hydraulically isolated from impacts to north. Industrial Park Drive not present. There are two rail lines shown and a gas pipeline north of the site. No power line shown north or west of site.

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Drawing 32





Source: Cornwall and District Map, 1984 – Bicentennial.

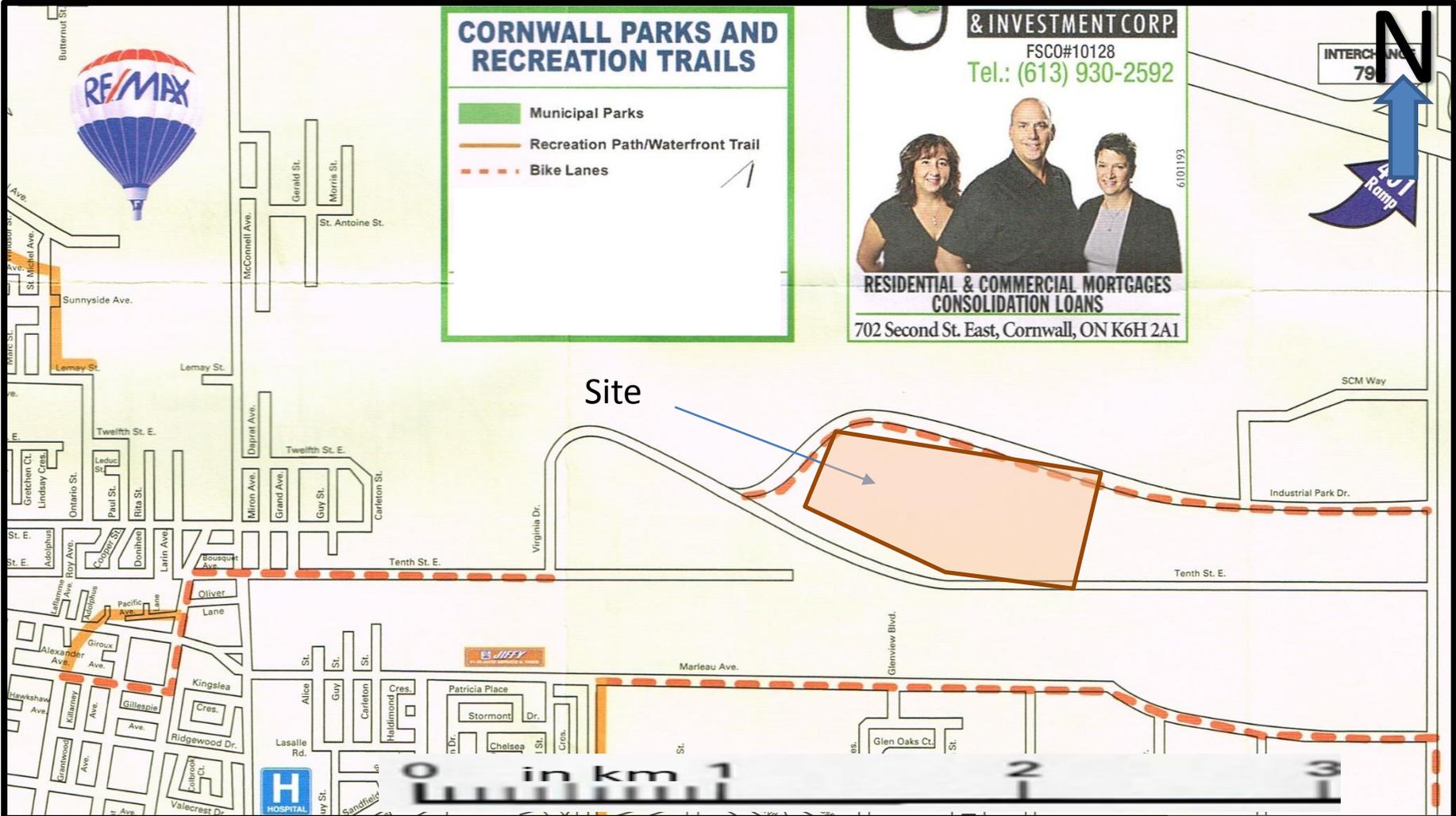
Industrial Park Drive not present in 1984. Rail to north not present. Unchanged in 1985 and 1995..

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Drawing 33





Source: Cornwall and District, 2015

Industrial Park Drive Present.

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Drawing 34

73 ZHIIBAAHAASING FIRST NATION
74 MAGNETAWAN
75 WIKWEMIKONG UNCEDED
INDIAN RESERVE



Site

MOHAWKS OF AKWESASNE *

25 12.5 0 In Km 25 50 75 100



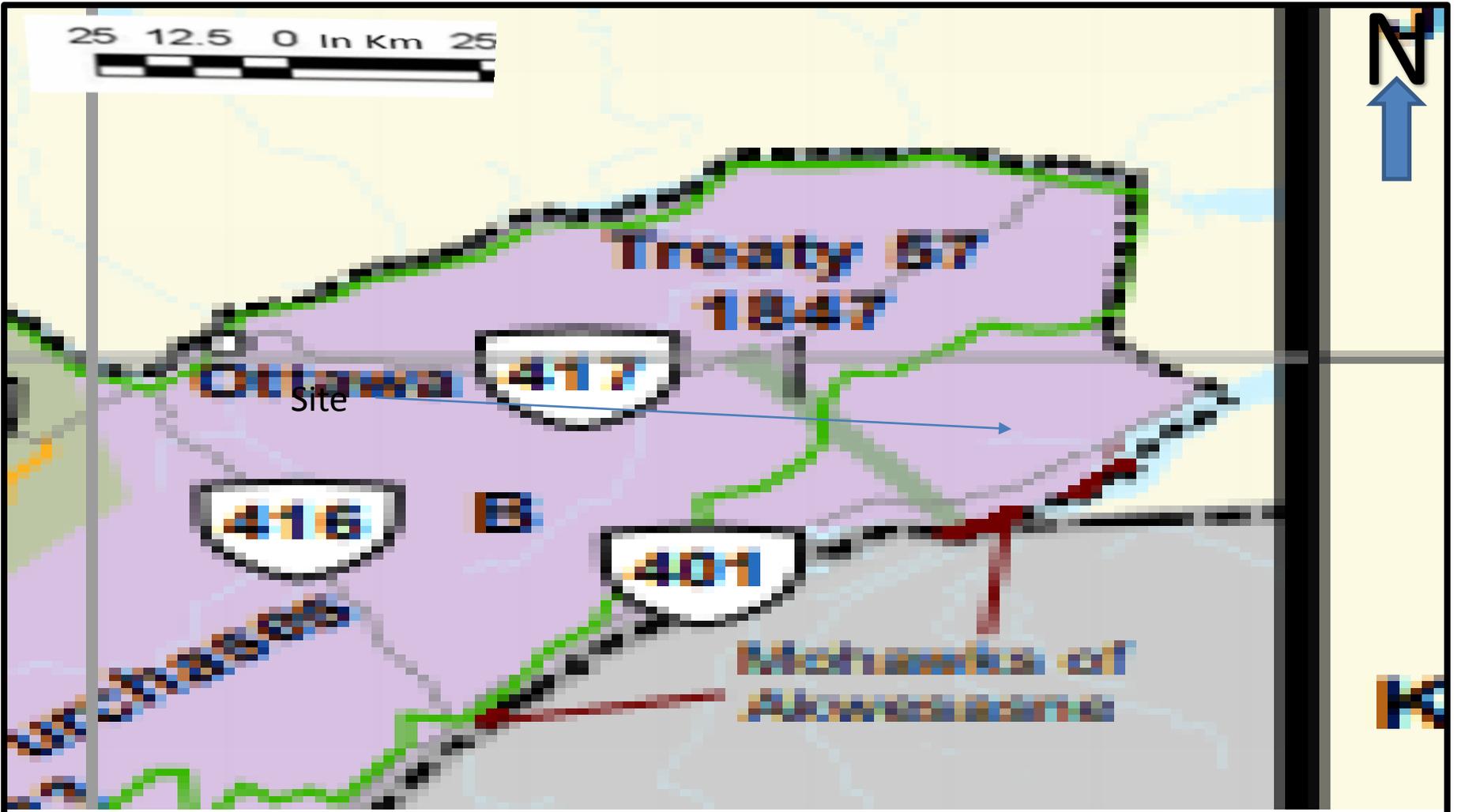
Source: Ontario Aboriginal. 2011.

Mohawks of Akwesasne are located south of the Site. No current consultation expected to be needed re environment.

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Drawing 35



Source: Treaties Map. 2017 Queens Printer for Ontario. Ministry of Indigenous Relations and Reconciliation.

Mohawks of Akwesasne located south of the Site. Treaty 57 of 1847 is located north of the Site.

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Drawing 36

N ←



Source: Walkover Photos EAL. March 2, 2018.

Photo from Tenth Street East looking northwest. Open field. Apparent fill. Debris noted on the POP. Wal-Mart Logistics warehouse noted north of the POP.
Scale not provided

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Drawing 37



Source: Walkover Photos EAL. March 2, 2018.

Photo from Tenth Street East facing south towards the rail track. Power lines noted and the track not far from the POP.

Scale Not provided

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Drawing 38



Source: Walkover Photos EAL. March 2, 2018.

Along Tenth Street East, facing south from the POP. Above ground storage tanks for fuel and storage for tractor trailers and piles of unknown scraps.
Scale Not Provided

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Drawing 39



Source: Walkover Photos EAL. March 2, 2018.

Commercial and industrial companies along Tenth Street East and Industrial Park Drive adjacent to the POP. Scale not provided

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Drawing 40



Source: Walkover Photos EAL. March 2, 2018.

Facing west from north property line of the POP on Industrial Park Drive, ditch and the warehouse shown. POP is higher elevation than the Wal-mart warehouse to the north. Note apparent 2m to 3m of fill.

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Drawing 41





Source: Walkover Photos EAL. March 2, 2018.

Site mostly cleared, but overgrown with fill piled on the outsides of the property. Fire hydrants surrounding the POP on the road side ditches. Scale not provided.

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Drawing 42



Source: Walkover Photos EAL. April 22, 2018.

Mounds of fill, catch basins for storm water system and drain for septic/sewage shown. Clayey soil with gravel throughout the area of the filled ponds. Scale not provided.

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Drawing 43



Source: Walkover Photos EAL. April 22, 2018.

Empty part of a pipeline on the northeast corner of the Site. Scale not provided.

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Drawing 44



Source: Walkover Photos EAL. April 22, 2018.

Site mostly cleared, but overgrown with fill piled on the outsides of the property. Fire hydrants surrounding the POP on the road side ditches. Scale not provided.

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Drawing 45





Source: Walkover Photos EAL. April 22, 2018.

Storm water pond and Donihee Drain shown; Donihee Drain is the larger pond to the east with a creek in between the two that connect them. Scale not provided.

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Drawing 46





Source: Walkover Photos EAL. April 22, 2018.

Storm water pond found on the southeast portion of the Site. Plastic pipe was floating, which could be connections to the creek that leads to the Donihee Drain. Scale not provided.

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Drawing 47

